May 29, 2015

Fredrikson & BYRON, P.A.



VIA HAND DELIVERY

Mr. Darrell Nitschke
Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480

RE: NST Express, LLC's Consolidated Application for a Certificate of Corridor Compatibility and Route Permit, and Waiver Application
Case No. PU-15-____

Dear Mr. Nitschke:

NST Express, LLC respectfully submits herewith an original and ten (10) copies of the following documents in connection with the above-referenced matter:

1. Application for Waiver or Reduction of Procedures and Time Schedules (separate original; copies included in consolidated application);
2. Consolidated Application For a Certificate of Corridor Compatibility and a Route Permit; and
3. Affidavit of Service.

Also enclosed herewith is a CD containing the same in electronic format, as well as a check in the amount of $100,000.00 for the filing fee required pursuant to Section 49-22-22 of the North Dakota Century Code.

By copy of this letter, the McKenzie County Auditor is being served with a copy of the enclosed documents in accordance with Section 69-06-05-01(4) of the North Dakota Administrative Code.

If you have questions or need additional information, please advise.

Sincerely,

MOLLIE M. SMITH

MMS/rg
Enclosures
55998159_1.DOC
cc: Ms. Linda Svihovec, McKenzie County Auditor (w/encl. via Federal Express)

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Minneapolis, Minnesota
55402-1425

MEMBER OF THE WORLD SERVICES GRO
A Worldwide Network of Professional Service Provide

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF NORTH DAKOTA

IN THE MATTER OF THE APPLICATION OF NST EXPRESS, LLC, FOR A CERTIFICATE OF CORRIDOR COMPATIBILITY AND ROUTE PERMIT FOR THE NST EXPRESS PIPELINE PROJECT IN MCKENZIE COUNTY, NORTH DAKOTA

CASE NO. PU-15-_____

Application of NST Express, LLC,
for Waiver or Reduction of Procedures and Time Schedules

In connection with its submission of a consolidated application for a Certificate of Corridor Compatibility and Route Permit ("Consolidated Application") for the construction of a 12-inch crude oil pipeline, approximately 23 miles in length, and associated facilities, all of which will be located in McKenzie County, North Dakota (the "Project"), NST Express, LLC ("NST Express"), submits to the North Dakota Public Service Commission ("Commission") this application for a waiver or reduction of procedures and time schedules set forth in Chapter 49-22 of the North Dakota Century Code and Article 69-06 of the North Dakota Administrative Code. In accordance with Section 49-22-07.2 of the North Dakota Century Code and Chapter 69-06-06 of the North Dakota Administrative Code, NST Express requests that the Commission waive the following requirements:

1. The requirements to hold a separate hearing on a waiver request, a Certificate of Corridor Compatibility ("Corridor Certificate") application and a Route Permit application, as may be required by Sections 49-22-07.2, 49-22-08, 49-22-08.1, and 49-22-13 of the North Dakota Century Code and Chapter 69-06-01-02 of the North Dakota Administrative Code. NST Express requests that the Commission hold a single consolidated hearing on this waiver request and NST Express's

Consolidated Application. NST Express also requests that the Commission shorten the three-month period specified in Section 49-22-08(5) of the North Dakota Century Code, and the six-month period specified in Section 49-22-08.1(5) of the North Dakota Century Code.

2. The requirements of Sections 49-22-08 and 49-22-08.1 of the North Dakota Century Code insofar as these sections may require the separate filing of applications for a Corridor Certificate and a Route Permit, and insofar as they require separate publication of notices for said applications.

Consistent with the Section 69-06-06-01(2) of the North Dakota Administrative Code, NST Express provides the following information in support of its waiver requests:

A. <u>Description of Proposed Project</u>.

1. **<u>Type</u>**: The Project will require installation of an underground steel pipeline that will transport crude oil from a new gathering facility located approximately 9 miles north of Alexander, North Dakota (the "NST Express Alexander Facility") to the existing NST Transload Operating Company, LLC facility located approximately 0.5 mile north of East Fairview, North Dakota (the "NST Transload East Fairview Facility"). The Project may be constructed with unilateral flow from the NST Express Alexander Facility or bidirectional flow from either the NST Express Alexander Facility or the NST Transload East Fairview Facility, based on commercial demand.

Surface facilities installed at the NST Express Alexander Facility site will include four truck Lease Automatic Custody Transfer offload skids, up to six pipeline connections, up to three aboveground storage tanks with a capacity of 50,000 barrels each, a tank booster, a pig launcher, a turbine meter run, and a pump station. Surface facilities installed at the existing NST

Transload East Fairview Facility will include a scraper receiving trap, a pig receiver, one new turbine meter, piping to interconnect with existing tanks, and equipment and panels for Programmable Logic Controller/Open Multi-Network Integration (PLC/OMNI) Control Equipment and SCADA communications. If the Project is designed for bidirectional flow, additional facilities will include a booster pump, a horizontal mainline pump, electrical upgrades, a piping manifold and a valve addition.

2. **Product**: The Project will transport Light Sweet Crude Oil.

3. **Capacity and Design**: The Project will require installation of a 12-inch outside diameter steel pipeline with a nominal wall thickness of 0.375. The nominal wall thickness will increase to 0.50 inches for specific locations, such as water body and road crossings. The pipe material will be AP5L CS X52. The pipeline is designed for a maximum operating pressure ("MOP") of 1,440 pounds of pressure per square inch gauge ("psig") and maximum temperature of 120 degrees Fahrenheit. The maximum design flow rate for the new pipeline is 100,000 barrels per day ("bpd"). The steel pipeline utilized for the Project will meet United States Department of Transportation regulations, specifically the design criteria outlined in 49 C.F.R. Part 195, Subpart C. The Project will be constructed, operated, and maintained in accordance with 49 C.F.R. Part 195.

The NST Express Alexander Facility would be located on approximately 42 acres of land and would consist of the components described in Section A.1 above.

At the NST Transload East Fairview Facility, the Project interconnection facilities described in Section A.1 above would be constructed on an approximately 300-by-260-foot section of land within the existing facility site.

For additional analysis of the capacity and design for the proposed Project, please see Sections 1.0 and 9.0 of NST Express's Consolidated Application, which accompanies this waiver application.

4. **Location**: The total length of the Project is approximately 23 miles, all of which is located in McKenzie County, North Dakota. The pipeline will originate at the NST Express Alexander Facility, and will extend westward and southward to the NST Transload East Fairview Facility. Maps of the proposed Project are provided in Appendix A to the Consolidated Application provided herewith.

5. **Geographical Service Area**: As noted above, the Project is entirely located in McKenzie County and will transport crude oil between the NST Express Alexander Facility, located approximately 9 miles north of Alexander, North Dakota and the NST Transload East Fairview Facility, located approximately 0.5 mile north of East Fairview, North Dakota. The immediate area served by the Project will be western North Dakota; however, the final destination of the crude oil transported by the Project will be refining markets throughout the United States, which will be accessed via interconnections with the Project or by rail via the NST Transload East Fairview Facility.

6. **Time Schedule**: NST Express proposes to develop the Project on the following schedule:

- May 2015 — NST Express files with the Commission a consolidated application for a Corridor Certificate and Route Permit.
- September 2015 — The Commission issues a Corridor Certificate and Route Permit for the Project.
- October 2015 — NST Express will begin construction of the Project.
- Third Quarter 2016 — NST Express will have completed construction of the Project.

- Commissioning and restoration activities will commence immediately following construction of the Project, and the Project will be in-service by December 2016.

7. **Future Plans**: NST Express is exploring the potential to interconnect with producers and other transmission facilities; however, NST Express has no specific plans for additions to or modifications of the Project at this time.

8. **Need for the Facility and Alternatives Considered.**

The development of hydrocarbon production in the Williston Basin has increased significantly in recent years due to advancements in deep horizontal directional drilling techniques and subsequent oil extraction in the Bakken and Three Forks shale formations. Studies conducted by the North Dakota Department of Mineral Resources (NDDMR) and North Dakota Geological Survey (NDGS) in 2008 on the Bakken formation[1] and in 2010 on the Three Forks formation[2] indicate that that between 2.1 and 6.3 billion barrels of recoverable reserves are available in the Bakken and Three Forks formations within the State of North Dakota, with 4.0 billion barrels described as the most likely amount. A more recent U.S. Geological Survey assessment estimated there may be 7.4 billion barrels of undiscovered recoverable oil in the entire U.S. portion of the Bakken and Three Forks formations, spanning Montana, North Dakota and South Dakota.[3] Information from the North Dakota Department of Mineral Resources

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[1] Bohrer, M., Fried, S., Helms, L., Hicks, B., Juenker, B., McCusker, D., Anderson, F., LeFever, J., Murphy, E., and Nordeng, S. North Dakota Department of Mineral Resources. State of North Dakota Bakken Resources Study Project 23 (2008).

[2] Helms, L. and Nordeng, S. North Dakota Department of Mineral Resources. Bakken Source System, Three Forks Formation Assessment (2010).

[3] United States Geological Survey. Assessment of Undiscovered Oil Resources in the Bakken and Three Forks Formations, Williston Basin Province, Montana, North Dakota, and South Dakota (2013). Web access in March 2015 at: http://pubs.usgs.gov/fs/2013/3013/.

(NDDMR) indicates that oil production has increased dramatically over the past eight years from nearly 110,000 bpd in 2007 to nearly 1,230,000 bpd in December, 2014.[4]

Insufficient pipeline infrastructure exists to gather and transport crude oil from the proposed NST Express Alexander Facility site to the existing NST Transload East Fairview Facility. Transporting crude oil in western North Dakota currently involves significant movement of crude oil by tanker truck over public roadways, with resulting public safety and roadway infrastructure impacts. The Project will help address these issues by providing the safe, efficient, and reliable transport of up to 100,000 bpd of crude oil via pipeline to be distributed to markets located throughout the United States via interconnections with the Project or by rail via the existing NST Transload East Fairview Facility.

For additional analysis of the need for the proposed Project, including a discussion of alternatives evaluated, please see Sections 3.0 and 13.0 of NST Express's Consolidated Application, which accompanies this waiver application.

9. **Ten Year Plan.**

The Project is consistent with NST Express's Ten Year Plan for 2015-2025, which was filed with the Commission on May 28, 2015.

10. **Cost.**

NST Express estimates that it will cost between approximately $60 million to $80 million to develop the Project.

B. Waiver Request.

NST Express requests that the Commission grant the waivers requested herein because these waivers are needed to prevent potentially significant delays to the Project. As noted above,

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[4] North Dakota Department of Mineral Resources. North Dakota Monthly Oil Production Statistics. Web access in March 2015 at: https://www.dmr.nd.gov/oilgas/stats/historicaloilprodstats.pdf.

the Project is needed to provide a safe and economical means of gathering crude oil and transporting it between the NST Express Alexander Facility and the NST Transload East Fairview Facility for ultimate distribution to crude oil to markets located throughout the United States. Utilizing the proposed Project will eliminate the need to transport crude oil between the two locations via truck which, in turn, will reduce truck traffic and associated impacts on North Dakota roads and highways. Without the waivers of time schedules and procedures requested, completion of NST Express's proposed Project will be delayed and the Project will not be able to satisfy the immediate need for a safer, more efficient means of gathering and transporting crude oil to the NST Transload East Fairview Facility, which has access to major markets.

Section 49.22-07.2 of the North Dakota Century Code provides that the Commission may waive procedures and time schedules upon a finding that "the proposed facility is of such length, design, location, or purpose that it will produce minimal adverse effects." Based upon the investigation and analysis set forth in NST Express's Consolidated Application, granting the waivers requested is appropriate because the proposed facility will produce minimal adverse effects due to its length (approximately 23 miles), its design (an underground, small-diameter pipeline with limited above-ground appurtenances, a portion of which are co-located within the boundaries of an existing facility site), its location (located in rural McKenzie County and avoiding Exclusion and Avoidance Areas, as set forth in Section 69-06-08-02 of the North Dakota Administrative Code), and its purpose (underground transportation of crude oil).

In determining whether the proposed facility will result in adverse impacts on the environment, NST Express evaluated the impacts of the Project considering the siting criteria set forth in Section 69-06-08-02 of the North Dakota Administrative Code and the factors set forth in Section 49-22-09 of the North Dakota Century Code. Impacts associated with the Project, and

mitigation measures that will be taken with respect to said impacts, are summarized in Sections 11.0 and 14.0 through 19.0 of the Consolidated Application. Based upon NST Express's siting criteria evaluation, the proposed facility will have minimal adverse effects.

Accordingly, NST Express respectfully requests that the Commission grant the requested waivers and render an expeditious decision.

Dated this 29th day of May 2015.

FREDRIKSON & BYRON, P.A.

By _____
MOLLIE M. SMITH, ND Bar #06714
Attorney for NST Express, LLC
200 South Sixth Street, Suite 4000
Minneapolis, MN 55402-1425
(612) 492-7270

STATE OF MINNESOTA)
) ss.
COUNTY OF HENNEPIN)

MOLLIE M. SMITH, of lawful age, being first duly sworn, on oath deposes and says:

That she is the duly elected and qualified attorney for Applicant in the foregoing application; that she executed the foregoing application for and on behalf of said Applicant and as its said attorney that she has read said application and knows the contents thereof, and that the statements made and contained therein are, to the best of her knowledge and belief, true and correct.

_____
MOLLIE M. SMITH

Subscribed and sworn to before me this 29th day of May, 2015.

_____
Notary Public

ROXANNE M. GANGL
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2020

52954627_8.DOC


ROXANNE M. GANGL
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2020

NST EXPRESS, LLC'S CONSOLIDATED APPLICATION FOR A CERTIFICATE OF CORRIDOR COMPATIBLITY AND ROUTE PERMIT, AND WAIVER APPLICATION CASE NO. PU-15-__

May 29, 2015

SUBMITTED TO

North Dakota Public Service Commission
600 E. Boulevard
Department 408
Bismarck, North Dakota 58505-0480

SUBMITTED BY

SWCA Environmental Consultants
116 North 4th Street
Suite 200
Bismarck, North Dakota 58501

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B Ten-Year Plan
C Environmental Mitigation Plan
D Natural Resources Report
E Agency Correspondence/Consultation
F Cultural Resources Report

Acronyms and Abbreviations

ANS	Aquatic Nuisance Species
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe
BOR	Bureau of Reclamation
bpd	barrels per day
CFR	Code of Federal Regulations
Commission	North Dakota Public Service Commission
Consolidated Application	Consolidated Certificate of Corridor Compatibility and Route Permit Application
dB	decibel
E	Endangered
GIS	geographic information system
HDD	horizontal directional drilling
NDAC	North Dakota Administrative Code
NDCC	North Dakota Century Code
NDDTL	North Dakota Department of Trust Lands
NDGF	North Dakota Game and Fish Department
NDPRD	North Dakota Parks and Recreation Department
NDSWC	North Dakota State Water Commission
NRHP	National Register of Historic Places
NST Express	NST Express, LLC
NST Transload	NST Transload Operating Company, LLC
PHMSA	Pipeline Hazardous Materials Safety Administration
Project	NST Express Pipeline Project
ROW	right-of-way
SCADA	supervisory control and data acquisition system
SHPO	State Historic Preservation Office
SWCA	SWCA Environmental Consultants
T	Threatened
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service

Checklist for Combined Corridor Compatibility and Route Permit Application

Authority	Description	Section(s)
***Chapter 49-22* CENTURY CODE – Title 49**		
49-22-08	Application for a Certificate for a Corridor (CC)	
1.a.	Description of size and type of facility	1.0, 9.0
1.b.	Summary of any studies of environmental impacts	14.0
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, 13.0
1.g.	Mitigating measures	19.0
1.h.	Corridor evaluation pursuant to 49-22-09 and 49-22-05.1	16.1, 16.2, 17.0
49-22-08.1	Application for Route Permit (RP)	
1.a.	Description of size and type of facility	1.0, 9.0
1.b.	Description of the location	2.0
1.c.	Route evaluation relative to 49-22-09 and 49-22-05.1	16.1, 16.2, 17.0
1.d.	Mitigating measures	19.0
1.e.	Right-of-way preparation, construction, and reclamation	11.0
1.f.	Statement identifying how: 1) landowners informed of right-of-acquisition; and 2) how landowners will be compensated	10.0
1.g.	Other relevant information	18.0
49-22-09	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
ADMINISTRATIVE CODE – ARTICLE 69-06		
69-06-05-01	Application for a Transmission Facility Permit (CC)	
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

Authority	Description	Section(s)
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	9.0
2.a.(7)(a)	The width of right-of-way	9.1.1
2.a.(7)(b)	The approximate length of facility	9.1.2
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 associate facilities	9.2.1
2.a.(7)(g)	The estimated distance between pipeline surface structures	9.2.2
2.a.(7)(h)	The pipe size	9.1.3
2.a.(7)(i)	The maximum design for pipeline operating pressure and temperature	9.1.4
2.a.(7)(j)	The maximum design pipeline flow rate	9.2.3
2.a.(7)(k)	The number and general location of compressor or pumping stations	9.2.4
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 E
2.d.	Need for facility	3.0
2.e.	Description of alternatives	13.0
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, 14.0, 17.0
2.h.	Discussion of factors in Century Code 49-22-09 to aid Commission's evaluation	17.0
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 lead to route location	Appendix A
2.k.	Discuss relative value of each criteria and how the location was selected; how operation will affect criteria	2.0, 14.0, 16.0, 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

Authority	Description	Section(s)
2.o.	8½ × 11 black and white map suitable for newspaper publication	Appendix A
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	
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, archeological 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, 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
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	16.3.1
3.a.(2)	Family farms and ranches	16.3.2
3.a.(3)	Land economically suitable for irrigation	16.3.3
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3.b.(1)	Sound sensitive land uses	16.3.5
3.b.(2)	Visual effect on adjacent area	16.3.6
3.b.(3)	Extractive and storage resources	16.3.7
3.b.(4)	Wetlands, woodlands, and wooded areas	16.3.8
3.b.(5)	Radio and TV reception and other communication or electronic facilities	16.3.9

Authority	Description	Section(s)
3.b.(6)	Human health and safety	16.3.10
3.b.(7)	Animal health and safety	16.3.11
3.b.(8)	Plant life	16.3.12
4	Policy criteria	16.4
4.a.	Location and design	16.4.1
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Introduction

NST Express, LLC (NST Express) proposes to construct an approximately 23-mile-long crude oil pipeline and associated facilities in McKenzie County, North Dakota. The pipeline will originate at a proposed gathering facility north of Alexander, North Dakota, and terminate at an existing rail loading terminal located north of East Fairview, North Dakota. The proposed pipeline and associated facilities are referred to as the NST Express Pipeline Project (Project). The Project is entirely located in McKenzie County, North Dakota (Figures 1 and 2).

NST Express is submitting a Consolidated Certificate of Corridor Compatibility and Route Permit Application (Consolidated Application) to the North Dakota Public Service Commission (Commission) requesting a Certificate of Corridor Compatibility and Route Permit for construction of the proposed Project. In addition, NST Express is also submitting the enclosed Application for a Waiver or Reduction of Procedures and Time Schedules.

The Project will allow crude oil producers in North Dakota's Bakken production region to safely and efficiently transport crude oil to an existing rail terminal from which the crude oil can reach major U.S. markets via the Burlington Northern Santa Fe (BNSF) Railway. The Project will have a capacity of up to 100,000 barrels per day (bpd).

This Consolidated Application supports NST Express' request for a Certificate of Corridor Compatibility and Route Permit and complies with Chapter 49-22 of the North Dakota Century Code (NDCC) and Chapters 69-06-05 and 69-06-08 of the North Dakota Administrative Code (NDAC).

1.0 Facility Type

The proposed Project is comprised of an underground pipeline and associated facilities for the storage and transport of crude oil. The underground, 12-inch pipeline will be approximately 23 miles long and will commence at a proposed gathering facility located approximately 9 miles north of Alexander, North Dakota (NST Express Alexander Facility). The proposed NST Express Alexander Facility will be located on approximately 42 acres of land and will serve as a market hub, receiving Bakken crude oil from offloading tanker trucks and up to six inbound pipelines.

At its terminus, the Project will interconnect to an existing NST Transload Operating Company, LLC (NST Transload) rail loading terminal (NST Transload East Fairview Facility) located approximately 0.5 mile north of East Fairview, North Dakota.

The new 12-inch pipeline will extend west and south between the NST Express Alexander Facility on the east and the NST Transload East Fairview Facility on the west. The Project will provide a maximum flow rate of 100,000 bpd. The Project may be constructed with unilateral flow from the NST Express Alexander Facility or bidirectional flow from either the NST Express Alexander Facility or the NST Transload East Fairview Facility, based on commercial demand.

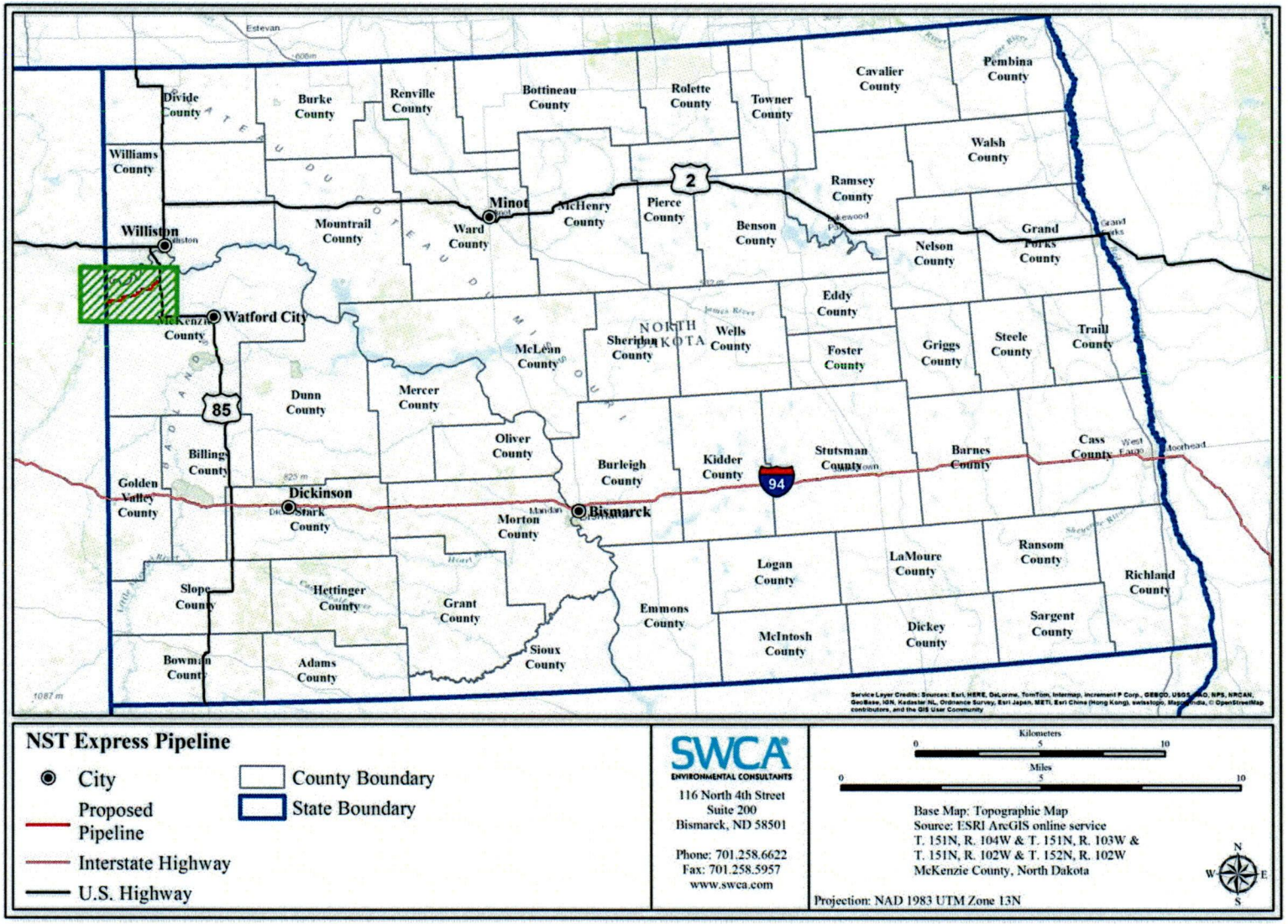


Figure 1. Overview of NST Express Project Route

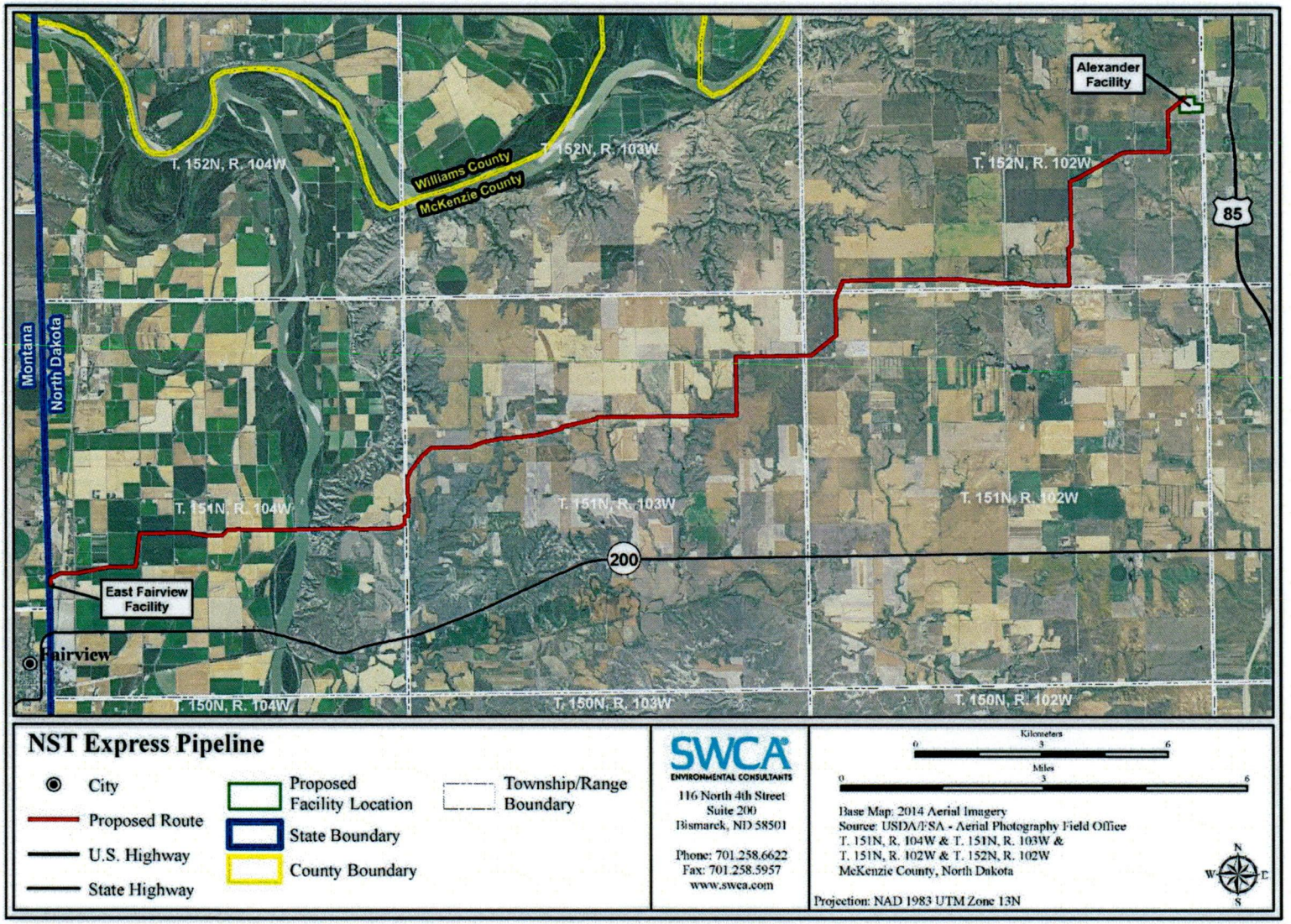


Figure 2. NST Express Project Route

To accommodate the Project's unilateral flow design, the NST Express Alexander Facility would consist of four truck Lease Automatic Custody Transfer offload skids, up to six pipeline connections, up to three aboveground storage tanks with a capacity of 50,000 barrels each, a tank booster, a pig launcher, a turbine meter run, and a pump station. Upon receipt of crude oil at the NST Express Alexander Facility, the crude oil would be transferred to the NST Express Alexander Facility's aboveground storage tanks and then transported by the proposed pipeline to the NST Transload East Fairview Facility.

At the NST Transload East Fairview Facility, the Project interconnection facilities to be constructed would include a scraper receiving trap, a pig receiver, one new turbine meter, piping to interconnect with existing tanks, and equipment and panels for Programmable Logic Controller/Open Multi-Network Integration Control Equipment and Supervisory Control and Data Acquisition (SCADA) communications. The Project interconnection facilities would be constructed on an approximately 300- by 260-foot section of land within the existing NST Transload East Fairview Facility.

Five mainline valves would be located along the pipeline, with one located within the Alexander Facility site, and one located within the NST Transload East Fairview Facility site.

To accommodate bidirectional flow at the NST Express Alexander Facility, a design similar to that for unilateral flow would be required. A booster pump and horizontal mainline pump would be required to be installed within the existing NST Transload East Fairview Facility. Additional electrical upgrades and piping manifold and valve additions would be needed to reverse the flow from the NST Express Alexander Facility to the NST Transload East Fairview Facility.

2.0 Location

2.1 Project Study Area

With the exception of the cultural resource literature search, NST Express defined its study area as a 2.3-mile-wide corridor from the NST Express Alexander Facility to the NST Transload East Fairview Facility, which incorporated the site at the NST Transload East Fairview Facility, and a 1-mile-wide radius surrounding the proposed NST Express Alexander Facility (Study Area). For the cultural resource literature search, the study area was 0.5 mile on either side of the proposed centerline, which incorporated the proposed facility sites (Cultural Resource Study Area).

2.2 Preferred Location of Project Corridor and Route

NST Express is seeking approval of a corridor that aligns with the survey corridor used for conducting environmental field surveys. The survey corridor is 200 feet wide, centered on the proposed alignment, an approximate 42-acre block for the NST Express Alexander facility, and an approximate 2-acre block for installation of Project facilities at the NST Transload East Fairview Facility (Corridor). The location and width of the proposed Corridor are illustrated on the aerial maps in Appendix A. The location of proposed route (Route) within the proposed Corridor is also depicted on the aerial maps provided in Appendix A.

NST Express dedicated a significant amount of work to selecting its Corridor and the Route. NST Express first obtained and analyzed public and proprietary information to identify sensitive areas and features within the Study Area, such as exclusion and avoidance areas, populated areas, wetlands, waterbodies, natural resources, areas of cultural significance, and public lands. Furthermore, NST Express considered existing rights-of-way (ROWs) (e.g., pipelines, roads, railroads, and power lines) in an effort to maximize co-location with other utilities.

Once an initial corridor and route were selected, NST Express sought input from affected landowners, agencies, local governments, and owners of existing infrastructure regarding the proposed corridor and route, and further refined the corridor and route based on input received. In addition, NST Express completed civil and environmental field surveys and additional constructability reviews to further refine its route. Ultimately, the result is the Corridor and Route, which meet the needs of the Project, 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 Section 13.0 of this Consolidated Application.

3.0 Purpose and Need of the Facility

The purpose of the Project is to transport crude oil from the proposed market hub at the NST Express Alexander Facility near Alexander, North Dakota, through the NST Express pipeline to the existing NST Transload East Fairview Facility near East Fairview, North Dakota. The NST Transload East Fairview Facility transports crude oil via the BNSF Railway to the west, east, and potentially Gulf Coast markets, thus providing producers with greater options for markets and pricing. The Project will also provide producers with the ability to reduce or eliminate truck haul distances.

The Project will directly benefit North Dakota producers that interconnect with or offload tanker trucks at the NST Express Alexander Facility. The Project will allow for the efficient aggregation of volumes of crude oil from within McKenzie County and adjacent counties for shipment to major U.S. markets, thereby offering producers the potential for better netbacks.

The Project will also provide direct benefits to local communities through temporary construction employment, jobs to operate and maintain the pipeline and associated facilities, easement compensation, and additional tax revenues via property taxes and sales taxes from the sale of goods and services during both Project construction and operation. Additional indirect benefits will result from Project-related purchases of local goods and services, such as the purchase of local gravel for access roads, purchase of fuel, and restaurant and hotel expenditures by Project construction and operations personnel.

Finally, the Project will improve overall safety to the public and the environment by reducing crude oil shipments by truck along the pipeline route. Pipelines provide a safe and efficient means of transporting crude oil, and federal regulation of pipelines subjects them to considerable scrutiny and oversight.

4.0 Product

4.1 Type of Product to be Transmitted

The Project will transmit Light Sweet Crude Oil.

4.2 Source of Product

The anticipated sources of the crude oil to be transported by the Project are formations in the Williston Basin region.

4.3 Final Destination of Product

The final destination of the crude oil transported by the Project will be refining markets throughout the United States, which will be accessed via interconnections with the Project or by rail via the NST Transload East Fairview Facility.

5.0 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 the following.

- Use of an external protective coating and cathodic protection to prevent external pipeline corrosion.
- Regular internal pipeline inspection using in-line inspection tools to detect internal anomalies, including corrosion or denting.
- Regular aerial and foot patrols of the permanent ROW.
- Installation of a SCADA monitoring and alarm system that continuously monitors the flow and pressure of the system and triggers alarms for anything outside normal operating conditions.
- Installation of mainline valves with remote actuators on either side the Yellowstone River, allowing remote closure of valves in the event of an emergency.

Construction and installation of the pipeline will use different techniques to avoid or minimize impacts to sensitive areas and identified road/railroad crossings, such as trenchless construction methods (horizontal directional drilling [HDD] and boring). These techniques are discussed further in Section 11.0 below.

6.0 Estimated Total Cost for Construction

The estimated total cost for construction is $60–$80 million.

7.0 Schedule

7.1 Obtaining Certificate of Corridor Compatibility

NST Express requests a Certificate of Corridor Compatibility and Route Permit from the Commission in September 2015.

7.2 Obtaining Route Permit

NST Express requests a Certificate of Corridor Compatibility and Route Permit from the Commission in September 2015.

7.3 Completing Right-of-Way Acquisition

NST Express initiated ROW acquisition on April 27, 2015, with expected completion by mid- to late summer of 2015.

7.4 Starting Construction

Construction for the NST Express Alexander Facility is scheduled to begin in October 2015.

7.5 Completing Construction

NST Express expects to complete construction of the Project by September 2016.

7.6 Testing Operations

NST Express expects to conduct testing of the pipeline and associated site facilities during the fall of 2016.

7.7 Commencing Operations

The Project is anticipated to be operational no later than October 2016.

8.0 Ten-Year Plan

NST Express filed its Ten-Year Plan for 2015 through 2025 with the Commission on May 28, 2015. The proposed Project is consistent with NST Express' Ten-Year Plan (Appendix B).

9.0 Facility Size and Design

The following provides a description of the Project design, including the pipeline infrastructure, aboveground facilities, the NST Express Alexander Facility, and the interconnection to the existing NST Transload East Fairview Facility.

9.1 Pipeline

9.1.1 Width of Right-of-Way

In general, the Project pipeline will be installed using a 100-foot-wide construction ROW. Refer to the Topsoil Salvage Trench and Spoil Side schematic in Appendix A for an overview of the proposed Project ROW. The construction ROW will expand to 150 feet in some areas, depending on topography or other constraining land features, such as at river, road, irrigation ditch, and railroad crossings. The Project pipeline will require a 50-foot-wide permanent easement and access driveways/roads for operations and maintenance.

9.1.2 Length of Facility

The pipeline route is approximately 23 miles long, originating at the proposed NST Express Alexander Facility and terminating at the NST Transload East Fairview Facility.

9.1.3 Pipe Size

The Project will require installation of a 12-inch outside-diameter steel pipeline with a nominal wall thickness of 0.375 inch. The nominal wall thickness will increase to 0.50 inch for specific locations, such as waterbody and road crossings. The pipe material will be AP5L CS X52.

9.1.4 Maximum Design Operating Pressure and Temperature

The maximum operating pressure for the pipeline is 1,440 pounds per square inch gauge throughout the Project. The pipeline will be designed to operate at a maximum of 120 degrees Fahrenheit.

9.2 Aboveground Facilities

9.2.1 General Location of New Associated Facilities

The proposed NST Express Alexander Facility will be located on approximately 42 acres of land, an estimated 9 miles north of Alexander, North Dakota, in Section 24, Township 152 North, Range 102 West. The facility will be accessible via Highway 16 (39th Street NW). See Appendix A for a map showing the NST Express Alexander Facility layout.

The currently existing NST Transload East Fairview Facility is located approximately 0.5 mile north of East Fairview, North Dakota, in Section 30, Township 151 North, Range 104 West. The Project interconnection facilities will be constructed on an approximately 300- by 260-foot section of land within the western portion of the existing NST Transload East Fairview Facility. Appendix A includes a map identifying the NST Transload East Fairview Facility layout.

A pig launcher and receiver for pipeline in-line integrity inspections will be located within the fenced areas of the NST Express Alexander Facility and the NST Transload East Fairview Facility, respectively.

Five mainline valves will be located throughout the pipeline. Two automated valves will be located at the Yellowstone River crossing, with one valve on each side of the crossing. The remaining three valves will be manual valves, with one located at the NST Express Alexander Facility trap (within the fenced area of the facility), one located at approximately milepost 9.5 (referred to as the Dore Junction valve), and one located at the NST Transload East Fairview Facility trap (within the fenced area of the facility).

9.2.2 Estimated Distance between Surface Structures

The estimated distance between the NST Express Alexander Facility and the NST Transload East Fairview Facility is 23 miles. See Table 1 below for the approximate distances between the surface structures associated with the Project.

Table 1. Distance between Surface Structures

From	To	Approximate Mileage
NST Express Alexander Facility	Dore Junction Valve	9.4 miles
Dore Junction Valve	Yellowstone River Valve #1	7.3 miles
Yellowstone River Valve #1	Yellowstone River Valve #2	2.0 miles
Yellowstone River Valve #2	NST Transload East Fairview Facility	4.0 miles

Pipeline markers will also be placed at designated locations along the route (e.g., public road crossings).

9.2.3 Maximum Design Flow Rate for Pipeline Facilities

The maximum design flow rate for the new pipeline is 100,000 bpd.

9.2.4 Number and Location for Compressor and/or Pumping Stations

One pumping station will be located within the fenced area of the NST Express Alexander Facility. The pumping station will contain one vertical booster pump and one horizontal pump. An additional booster and horizontal pump will be required at the NST Transload East Fairview Facility to accommodate bidirectional flow.

10.0 Easement Acquisition

10.1 Informing Landowners of Easement Acquisition

Upon identifying the preliminary route, NST Express used publically available information to identify landowners along the proposed route. NST Express sent introductory mailings to identified landowners and then contacted landowners via telephone to schedule in-person visits. During in-person meetings with landowners, NST Express land agents presented proposed route maps for landowner review and input. NST Express used landowner input for route planning purposes and, when possible, made adjustments in the proposed route to accommodate landowner concerns. When landowners were located out of state, NST Express provided Project information via telephone and mail.

NST Express obtained preliminary approval from all landowners along the Route and has obtained all necessary survey permissions. NST Express has commenced negotiations with landowners for acquisition of option agreements to obtain ROW easements.

NST Express has acquired the Alexander Facility site in fee, and will use land owned in fee by NST Transload Operating Company, LLC, for Project-related facilities at the NST Transload East Fairview Facility.

10.2 Compensation for Easement

Landowners will be compensated for Project-required interests at or above their fair market values. Compensatory offers for easements and fee acquisitions will be based on careful analysis of comparable property values. All offers will be presented to landowners in writing with appropriate legal descriptions and depictions identifying the parameters and location of the permanent pipeline ROW easement and temporary construction easements. NST Express' land agents are trained and tasked to negotiate respectfully and in good faith with all landowners and governing entities. NST Express stresses to its land agents its preference for all negotiations, when possible, to be conducted with each landowner in person and as often as necessary to reach a mutually beneficial agreement.

NST Express will compensate landowners for permanent easement rights and temporary workspace use. NST Express uses a formula for compensation relating to incidental damages incurred as a result of its pipeline construction activity, such as loss of marketable trees or crop losses. Anticipated damages, such as crop loss, will be calculated and included in the original compensation amount. If additional damage claims are made at a later date, NST Express will address the claims as they arise.

11.0 Right-of-Way Preparation, Construction, and Reclamation Procedures

11.1 Description of Right-of-Way Preparation and Construction

The proposed Project will be designed, constructed, tested, operated, and maintained in accordance with applicable requirements under the USDOT regulations in Title 49 Code of Federal Regulations (CFR) Part 195, U.S. Department of Labor regulations, Occupation Safety and Health Administration requirements, and other applicable federal and state regulations. Among other design standards, 49 CFR Part 195 specifies pipeline material selection; minimum design requirements; protection from internal, external, and atmospheric corrosion; and qualification procedures for welding and operations personnel.

Prior to mobilization, a pre-construction safety and environmental orientation will be held on-site. The orientation will review safety compliance; incident reporting; protocols for determining, correcting, and documenting safety non-compliance; and expectations for compliance enforcement. All construction personnel will be briefed and trained on all construction and environmental requirements, including laws, rules, and regulations applicable to the work. The construction contractor will provide at least one qualified and experienced safety representative, as well as personnel trained in emergency management.

Construction would only take placed during daylight hours. Spill prevention measures would be in place to maintain construction personnel safety and to protect the environment. Access to the ROW would be controlled to allow only authorized vehicles to maintain public and construction personnel safety.

The standard pipeline construction process includes clearing and grading, trenching, pipe stringing, bending, welding, lowering the pipeline, padding and backfilling, hydrostatic testing, and ROW cleanup and restoration (see Pipeline Construction Sequence schematic drawing in Appendix A). Each of these activities is discussed in more detail below.

11.1.1 Clearing and Grading

Once the limits of the approved work area (the construction ROW and temporary workspaces), pipeline centerline, access roads, aboveground facilities, and sensitive areas, such as wetland boundaries and cultural sites, have been staked and flagged, the construction area would be cleared and graded. Prior to removal, trees and shrubs will be inventoried in accordance with the Commission's Tree and Shrub Mitigation Specifications. The ROW will be graded to provide a relatively level surface that is wide enough to allow for the passage of heavy construction equipment.

To prevent soil mixing, topsoil would be removed and segregated from the underlying subsoil. Topsoil would be removed from both the trench and spoil side for the entire length of the pipeline and stored on the temporary construction ROW on the spoil side of the trench. Where topsoil was not stripped on the working side of the ROW, a paraplow or a ripper with shanks will be used to decompact soil resulting from heavy equipment traffic.

After pipeline installation is complete, the subsoil would be replaced in the pipeline trench and the adjacent areas to restore the land's natural contours. Then the topsoil would be replaced in the locations from which it was originally removed. Construction activities would be suspended during abnormally wet conditions to prevent excessive rutting or mixing of topsoil with subsurface soils. Refer to the Pipeline Construction Sequence and Topsoil Salvage Trench and Spoil Side schematic drawings for additional detail.

Fences and gates would be constructed during the clearing and grading operations to allow continuous use of pastures, grazing units, and livestock facilities. Best Management Practices (BMPs) such as silt fences would be installed along the ROW adjacent to wetlands and streams. Temporary erosion controls would be installed after initial disturbance of soils, where necessary, to minimize erosion. Erosion control BMPs would be maintained throughout construction.

11.1.2 Trenching

Trenches would be excavated using a wheel trencher or backhoe to a depth sufficient to provide the minimum cover required by federal, state, and local governments, as well as landowner requirements. If areas of solid rock are encountered, special excavation equipment and/or techniques would be used.

The amount of open trench permitted at any time during the Project would be dependent on the stability of the trench and weather conditions. In areas where livestock is confined or in

cultivated fields, temporary fences, gates, and/or bridges would be installed to provide appropriate restriction or safe access across the open trench.

11.1.3 Pipe Stringing, Bending, and Welding

Pipe would either be stored at storage yards or transported directly to the pipeline ROW. Following trenching, pipe would be strung along the ROW. A stringing crew using special trailers would move the pipe along the ROW. Pipe lengths are typically 40 to 80 feet long.

A pipe-bending machine would be used for making slight bends in the pipe to accommodate variations in the pipeline route or to conform to the topography. Using a series of clamps and hydraulic pressure, the bending machine is used to make a smooth, controlled bend in the pipe. Bending would be in accordance with federal standards to ensure integrity of the bend. Pipe used for sharp bends are bent at the mill. The pipe would be pre-coated with a fusion-bonded epoxy external coating to provide corrosion protection.

The welding process joins the sections of pipe into one continuous length. All welders would be required to pass an approved qualification test; the test would use Project-specific weld procedures developed in accordance with federally adopted welding standards. All field welds would be nondestructively tested to ensure structural integrity and compliance with USDOT regulations. Once welds are approved, the joints would be externally coated and the entire pipeline would be visually and electronically inspected for coating defects, scratches or other damage. Any damage or defects would be repaired before lowering the pipe into the trench.

11.1.4 Pipeline Installation and Trench Backfilling

Several side-boom tractors would simultaneously lift the welded sections of pipe and lower them into the trench. Non-metallic slings would be used to protect the pipe and coating as it is raised and lowered into position. Sand bags or foam blocks would be placed at the bottom of the trench prior to laying the pipe in rocky areas to protect the pipe and coating from damage.

As necessary, trench breakers or water stops would be installed adjacent to wetlands, stream crossings, and in steep topography to eliminate water migration along the trench. When required, the trench would be dewatered prior to lowering in the pipe. Dewatering effluent would pass through sediment filters such as hay bale structures and/or filter base to ensure compliance with applicable water quality requirements.

Once the pipe is installed, the trench would be backfilled. Soil would be returned to the trench in the reverse order of excavation. Subsoil would be returned to the trench first, followed by the topsoil. The trench line would be compacted with a wheeled-roller or other suitable construction equipment. A crown would be left over the trench line to allow for natural subsidence. If the excavated material contains rocks that could damage the pipe and/or coating, a rock shield would be used to protect the pipe. Topsoil would not be used for padding.

11.2 Special Construction Techniques

Boring Method

NST Express will use a slick-bore process for boring under roads and irrigation canal crossings. An entry bore pit and exit bore pit will be excavated on both sides of the crossing. The boring machine shall be placed in the entry pit where it will drill a pilot hole through to the exit pit. This hole will then be widened to accept the carrier pipe by back reaming. A section of pipeline that is already welded together, inspected, and pressure tested is then pulled back through the drilled hole. The minimum depth of cover for these road and irrigation canal crossings shall be 5 feet or greater depending upon the minimum depth as specified by the crossing permit. The bored crossing pipe will extend at least 10 feet beyond either side of the road ROW and 25 feet beyond the toe of the canals. A pipeline marker shall be placed at either end of the bored crossing when completed.

Highway and Road Crossings

Highway and road crossings would be constructed according to applicable crossing permits. When crossing primary roads, paved roads, and highways with large volumes of traffic that have a well-defined traffic lane with shoulders, the Project would be constructed using the conventional bore method. Little or no traffic disruption is expected when using the bore method. Unimproved roads, generally minor roads with minimal traffic and natural earth material surfaces, would be crossed using the open cut method. The open cut method may require temporary road closures, reducing traffic to one lane, and traffic detours. Temporary closures and/or detours would be conducted in accordance with applicable permits and in coordination with local road authorities and landowners. Refer to the Bored Road Crossing schematic drawing in Appendix A.

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. Waterbody crossings would be constructed in accordance with applicable permits. Waterbody crossings would be constructed using open cut trenching and/or HDD technology. The methodology for each waterbody locations would be determined by the crossing size and sensitivity.

The proposed Project stormwater pollution prevention plan would specify measures based on BMPs that would address erosion control, equipment refueling, temporary bridge crossings, construction timing and methods, and restoration. Temporary workspaces are typically required on each side of a waterbody crossing to stage construction, fabricate the pipeline, and store materials. Temporary workspaces would be located within the ROW at upland areas a minimum of 50 feet from the waterbody edge. Trench spoils would be stored at least 10 feet from the waterbody banks (topography permitting). Sediment barriers, such as a silt fence, would be installed to prevent spoil and sediment-laden water from entering the waterbody.

Horizontal Directional Drill Construction

HDD is a trenchless technique for installing pipelines or other linear utilities to avoid or minimize surface or sensitive area disruptions and to install pipe where conventional

installation techniques are unfavorable. NST Express proposes to use the HDD method in two locations along the Project: crossing the Yellowstone River; and an area on the west end of the Project in order to avoid multiple features in close proximity (the BNSF railroad, irrigation canals, and Highway 58).

The first phase of HDD consists of drilling a directionally controlled pilot hole along a predetermined path extending from grade at one end to grade at the opposite end. The entry and exit holes for the HDD are designed to be set-back from the area of avoidance to allow for the geometry of the drill to reach a desired target depth.

The second phase consists of enlarging the pilot hole to a size that would accommodate pulling the pipeline through the enlarged hole, approximately 1.5 to 2.0 times the outer diameter of the pipe. The enlargement of the pilot hole, or reaming, would be accomplished by pulling reaming heads of specific diameters through the hole, in stages if necessary, to create a wider hole. Each stage involves circulating drilling fluid from equipment on the surface through the drill pipe to a downhole bit or reamer, and back to the surface through the annular space between the pipe and the wall of the hole. The circulating fluid primarily consists of bentonite, which is a non-toxic, naturally occurring sedimentary clay composed of weathered and aged volcanic ash. While the hole is being drilled, the pipe is being welded to accommodate the length of the HDD. Once welding is complete, the entire segment of pipe is pressure tested prior to installation.

Once the drilled hole is prepared and stable, the welded section of pipeline is pulled through the hole. Generally, the pipe is laid out and welded on the exit side of the drill. The welded section can be assembled in segments instead of a continuous length; however, pipe pulling operations would cease while the segments are being welded together. Refer to the Typical Waterbody Crossing Horizontal Directional Drill schematic drawing in Appendix A.

Yellowstone River Crossing

As noted above, NST Express plans to use HDD to cross the Yellowstone River between approximately mileposts 17.5 and 18.7. NST Express has implemented or will implement the following design and construction measures to avoid or minimize any potential for impacts.

- Develop a detailed HDD profile and design using subgrade condition data obtained from soil borings obtained from each side of the river at the planned crossing points.
- Develop an accurate profile of the river bed and monitor drilling mud pressure throughout the drilling process to minimize the potential for drilling mud release.
- Increase pipe wall thickness to 0.50 inch to minimize the potential for pipe stress impacts during installation.
- Hydrostatically test the pipe to validate integrity prior to installation.
- Maintain a condition-specific minimum drill bend radius to limit pipe stress during installation.

In addition, NST Express will install automated valves on either side of the river. In the event that monitoring sensors detect a loss of pipeline pressure anywhere along the pipeline, the valves can be shut down remotely to stop flow to and isolate the river crossing.

NST Express will obtain a Section 10 permit from the U.S. Army Corps of Engineers (USACE) for the Yellowstone River crossing. NST Express has been in consultation with the USACE regarding the river crossing, and will continue to coordinate with the USACE throughout construction and operation of the Project.

A Sovereign Lands Permit is required by the North Dakota State Water Commission (NDSWC) for the Yellowstone River Crossing. NST Express has been in consultation with the NDSWC and will complete the Sovereign Lands Permit prior to the construction of the Project.

West End of Project

On the west end of the Project, between mileposts 22.2 and 22.4, NST Express plans to conduct HDD under certain features located in close proximity to one another, including the BNSF railroad, Highway 58, and U.S. Department of the Interior, Bureau of Reclamation (BOR) maintained irrigation ditches (see further discussion of irrigation ditches below). Conducting HDD is the most economical and efficient means of ensuring Project compliance with the various feature depth of cover requirements.

NST Express is aware of potential plans to expand and add turn lanes to Highway 58, which could require relocation of a BOR irrigation ditch on the east side of the highway. NST Express will coordinate with the road authority and BOR regarding, and will adjust its HDD as necessary to accommodate, the road expansion.

Wetland Crossings

Where the Project crosses wetlands, NST Express proposes to open cut these areas. NST Express has implemented or will implement the following design and construction measures to avoid or minimize any potential impacts.

- Use wooden matting to protect the area from disturbance.
- Employ double ditching or segregation of ditch spoils, to the extent possible, to return native fill in same layering in which it was disturbed.
- In cases of potential drainage, trench plugs would be installed.
- Deploy hay, silt fence, or a combination of the two to prevent erosion.
- Remove mitigation measures when construction in the area is completed (i.e., all matting removed, hay/silt fencing removed when ground is stabilized).
- Reseed with native grasses and/or vegetation.
- No fertilizer or lime will be used.

Stream Crossings

Where the Project crosses streams, NST Express will use single matting to bridge stream crossings, when possible. In larger water crossings, NST Express may use wooden bridges, mats, and/or "air bridges" to minimize disturbance.

Irrigation Ditches

The Project will cross drainage ditches, lateral ditches (which deliver water to farm ditches), and farm ditches within the Lower Yellowstone Irrigation District that are managed by the BOR. In coordination with the BOR, NST Express identified the location of and the appropriate depth of cover for each type of BOR ditch to be crossed. The depths of cover that will be maintained are as follows.

- BOR Drain Ditches: Depth of cover of at least 13 feet
- BOR Lateral Ditches: Depth of cover of at least 8 feet
- BOR Farm Ditches: Depth of cover of at least 5 feet

The BOR drain ditches located between mileposts 22.2 and 22.4 will be crossed using HDD (see discussion above). With respect to the remaining ditches, NST Express will bore beneath each ditch.

NST Express will obtain all necessary permits and approvals from the BOR for the crossings, and will continue to coordinate with the BOR as needed throughout Project construction and operation.

11.3 Restoration Procedures

Once construction is complete, the pipeline ROW and temporary workspace will be restored to its prior contour and condition to the extent practicable, except that trees and shrubs will be regularly removed from the ROW to facilitate Project inspection and maintenance. All timber riprap, timber mats, and prefabricated equipment mats and other construction debris will be removed. Topsoil will be replaced and approximate original contours restored. Wetland edges will be stabilized and permanent erosion control measures will be installed. Disturbed areas will be revegetated using seeding requirements specified by the U.S. Department of Agriculture, Natural Resources Conservation Service or as required by the landowner. Specific restoration measures are described in the Environmental Mitigation Plan, which is provided in Appendix C.

12.0 Operation and Maintenance

During Project operation, pipeline pressure, temperature, and flow rate data would be transmitted via satellite to a central SCADA system located at the Fairview Facility. The SCADA system would provide continuous monitoring of measurement data 24 hours a day, 7 days a week. Where changes in the data occur that indicate a potential issue with the pipeline or facilities, alarms would be triggered, notifying the operator of the potential issue. The pipeline operator will develop a Pipeline Integrity Management Plan that complies with

applicable federal regulations and outlines preventive maintenance, inspection, line patrol, leak detection systems, SCADA, and other pipeline integrity procedures to be implemented to ensure the safe operation of the Project.

In the event of an emergency, NST Express would implement emergency response measures to address the situation. NST Express will contract with an experienced emergency response service provider for the Project, whose experience will include implementing emergency response protocols for releases impacting rivers, such as the Yellowstone River. In addition, consistent with federal regulations, NST Express is preparing an Emergency Response Plan, which will outline specific protocols to be implemented in the event of an emergency.

During operations, NST Express would use the permanent ROW to conduct inspections and perform maintenance activities. Maintenance activities would include making any necessary pipeline and facility repairs, and removing any vegetation on the ROW that impacts the safe and reliable inspection and operation of the pipeline. Inspections and maintenance will be performed in compliance with applicable USDOT regulations.

13.0 Alternatives Considered

Project Alternatives

No Action

Under No Action, the proposed Project would not be constructed. Without the Project, crude oil would not be gathered at the Alexander Facility or transported to the existing NST Transload East Fairview Facility for delivery via rail to markets throughout the United States. As such, the purpose and need of the Project, which is to provide Bakken producers with a safe, reliable means of delivering crude oil to an existing rail loading facility with access to a variety of U.S. markets, would not be fulfilled. For these reasons, No Action is not an alternative to the Project.

Other Pipelines

No existing or planned pipeline projects provide a crude oil truck offloading and pipeline interconnection hub near Alexander, with a pipeline connection extending to the existing NST Transload East Fairview Facility. As such, no other pipelines meet the purpose and need of this Project.

Trucking

Crude oil could be transported to the NST Transload East Fairview Facility by commercial trucks. However, trucking crude oil would result in increased traffic on roads, with associated impacts on public safety and infrastructure. For example, between 2004 and 2013, crashes involving trucks increased by approximately 200% in North Dakota.[1] Crashes involving

[1] *See* Truck Safety Facts, North Dakota State University, Upper Great Plains Transportation Institute (Fall 2014); *see also* ND Traffic Safety: Oil Counties, North Dakota State University, Upper Great Plains Transportation Institute (Fall 2013) (noting that "severe injury truck crashes in the oil region increased by more than 1200% from 2008 to 2012").

trucks are 30% more likely to result in injury than non-truck-related crashes. The normal daily throughput of the proposed Project would be approximately 100,000 barrels of crude oil. The average load for a truck carrying crude oil is approximately 178 barrels (approximately 7,500 gallons) per truck. Thus, it would require approximately 560 trucks per day, an average of 23.4 trucks every hour for 24 hours a day to transport the volume of product the pipeline would transport. In addition, transporting crude oil by truck is less reliable than transporting by pipeline due to limited road capacities, seasonal constraints (e.g., snow, overweight road restrictions), increased maintenance issues, and the limited availability of trucks and drivers. For these reasons, trucking is not an alternative to the Project.

Rail

No rail facilities exist or are planned that would provide a means to gather and transport crude oil between the proposed location of the Alexander Facility and the existing NST Transload East Fairview Facility. Given the lack of existing rail infrastructure between the proposed endpoints, construction of permanent, aboveground rail lateral service lines and ancillary facilities would be required. Such facilities would require permanent conversion of agricultural land to an industrial purpose, as well as an above-ground crossing of the Yellowstone River. Thus, rail facilities would have greater permanent environmental and landowner impacts than the Project. For this reason, while the Project will facilitate crude oil transportation to an existing rail loading facility, rail, itself, is not an alternative to the Project.

Route Alternatives

The overall objective of the Project is to safely and reliably transport crude oil gathered at the Alexander Facility to the NST Transload East Fairview Facility for loading on and transport by rail to market. Factors considered in selecting the Route include the following.

- Meeting the Project's geographic requirements (extending from the proposed Alexander Facility to the existing NST Transload East Fairview Facility).
- Complying with Commission siting criteria, including exclusion area, avoidance area, selection and policy criteria.
- Co-locating with existing infrastructure where possible.
- Avoiding and minimizing potential impacts to existing infrastructure, landowners, and environmentally sensitive areas.
- Utilizing constructability and operational efficiencies.
- Minimizing safety concerns.
- Ensuring the ability to acquire ROW from landowners.

During route development, NST Express considered two major alternatives to the Preferred Route:

- Route Alternative #1: The first alternative route began at the Alexander Facility and went in a southwesterly direction following existing pipelines, property lines, and roads; then turned southwest, crossing Highway 16 and continuing until it reached the

ROW of Highway 200; then turned west across the Yellowstone River until it reached its terminus at the NST Transload East Fairview Facility. This alternative was considered due to its proximity to other pipelines, property lines, and roads. However, the alternative was ultimately rejected because of potential impacts to cultural and natural resources along the eastern side of the Yellowstone River, inadequate workspace for HDD at the Yellowstone River, and failure to intersect a potential interconnection point.

- Route Alternative #2: The second alternative route followed the same path as the first route until it reached the junction of Highway 16 and Route 7, at which point it followed the ROW of Route 7 until turning west to cross the Yellowstone River. Once across the river the alternative followed existing pipelines, property lines, and roads until reaching its terminus at the NST Transload East Fairview Facility. This alternative was also considered due to its proximity to other pipelines, property lines, and roads. However, the alternative was ultimately rejected due to inadequate workspace for HDD at the Yellowstone River, inadequate ROW along Route 7, and failure to intersect a potential interconnection point.

In addition to the major route alternatives noted above, NST Express also considered a number of route deviations proposed by landowners or in consultations with agencies and the owners of existing energy infrastructure. Route deviations were typically incorporated into the Project's proposed route, unless they impacted other landowners who were not amenable to the change or resulted in unacceptable impacts to existing features.

The Route best meets the factors set forth above. In addition, landowners along the proposed Route have provided initial approval of the Route, and granted permission to conduct surveys for the Project within the Corridor.

14.0 Environmental Studies

14.1 Cultural Resource Inventory

As part of the initial phase of this investigation, a Class I background search of archaeological and historical literature and records for Cultural Resource Study Area was conducted on November 25, 2014. Results of the background search identified 20 previously recorded cultural resources located in the Cultural Resource Study Area, including 17 sites and 3 isolated finds. Three cultural resources within the Cultural Resource Study Area have been recommended eligible for the National Register of Historic Places (NRHP), while seven remain unevaluated and 10 have been determined not eligible for nomination. Two of the previously recorded cultural resources were located within the Corridor.

The ensuing Class III cultural resource inventory of the Corridor was conducted on January 30; March 15, 16, 17, and 20; and May 1, 2015. During the inventory, a 200-foot-wide corridor centered on the proposed centerline, its reroutes, and facility locations at the east and west ends of the alignment were surveyed, totaling 798.71 acres. SWCA Environmental Consultants (SWCA) revisited two previously recorded cultural resources and newly recorded two sites and one site lead. Both previously recorded resources are historic sites that have been previously recommended eligible for the NRHP. Both of the newly recorded sites have

been recommended not eligible for the NRHP, while the site lead remains unevaluated pending a full recording.

SWCA recommended that the North Dakota State Historic Preservation Office (SHPO) issue a finding of no significant sites affected for the Project based on information in the cultural resources report submitted May 12, 2015. The SHPO concurred with a "No Significant Sites Affected" determination and responded in a letter dated May 21, 2015.

14.2 Wetland and Waterbody Inventory

Prior to conducting surveys, SWCA reviewed National Wetlands Inventory data and National Hydrography Data to determine the location and extent of mapped wetlands and waterbodies within the Study Area. The desktop analysis confirmed 232 streams and 214 wetlands within the Study Area.

Field studies were completed of the Corridor and Route (200-foot-wide corridor centered on the proposed centerline, its reroutes, and facility locations at the east and west ends of the alignment) on January 30; March 15, 17, and 20; and May 1, 2015, to confirm presence and/or absence of wetlands and waterbodies.

Seven wetlands were identified and recorded during the field studies. All seven wetlands were identified as likely USACE jurisdictional wetlands. Please refer to Section 11.2, Special Construction Techniques, for a discussion of the proposed crossing technique for these areas. The Natural Resource Report provided in Appendix D contains additional information on these features and mapped locations.

Five streams and no waterbodies were identified and recorded during the field studies. All five streams were determined to be likely USACE jurisdictional. Four of the five streams are associated with the Lower Yellowstone Irrigation District canal system. Please refer to Section 11.2, Special Construction Techniques, for the proposed crossing techniques for these areas. The Natural Resource Report provided in Appendix D contains additional information on these features and mapped locations

The Project will cross the Yellowstone River. Please refer to Section 11.2, Special Construction Techniques, for the crossing technique of this area. The Natural Resource Report provided in Appendix D contains additional information on these features and mapped locations.

14.3 Habitat Assessment

14.3.1 Tree/Sapling/Shrub Inventory

SWCA used aerial imagery and LANDFIRE (LANDFIRE 2013) to analyze the Study Area for woody vegetation. Approximately 3.5% of the Study Area contains woody vegetation areas.

Field studies were completed of the Corridor and Route (200-foot-wide corridor centered on the proposed centerline, its reroutes, and facility locations at the east and west ends of the

alignment) on January 30; March 15, 17, and 20; and May 1, 2015, to confirm presence and/or absence of woody vegetation areas.

Nine areas of woody vegetation were identified and recorded during the field studies. In total, 165 trees were identified, 22 of which are located in the 100-foot-wide construction ROW. Refer to the Natural Resource Report, Appendix D, for additional information on these features and mapped locations.

14.3.2 Federally Protected Species

In McKenzie County, North Dakota, nine species are listed under the Endangered Species Act: black-footed ferret (*Mustela nigripes*) (Endangered [E]), gray wolf (*Canis lupus*) (E), whooping crane (*Grus americana*) (E), piping plover (*Charadrius melodus*) (Threatened [T]) and its designated critical habitat, interior least tern (*Sterna antillarum*) (E), pallid sturgeon (*Scaphirhynchus albus*) (E), Dakota skipper (Hesperia dacotae) (T), rufa red knot (*Calidris canutus*) (T), and the northern long-eared bat (*Myotis septentrionalis*) (T). Refer to the Natural Resource Report, Appendix D, for additional information on these species.

Black-footed Ferret

Black-footed ferrets have been largely extirpated from the wild primarily because of the rangewide decimation of the prairie dog. The *Black-footed Ferret Survey Guidelines for Compliance with the Endangered Species Act* (U.S. Fish and Wildlife Service [USFWS] 1989) states that ferrets require black-tailed prairie dog (*Cynomys ludovicianus*) towns or complexes greater than 80 acres, and towns of this dimension may be important for ferret recovery efforts (USFWS 1988). It is possible the Study Area contains complexes greater than 80 acres, and may contain suitable habitat for the black-footed ferret.

Field surveys conclude that prairie dog complexes of 80 acres are not within the Corridor or crossed by the Route.

The black-footed ferret is not expected to be impacted by the proposed Project.

Gray Wolf

The gray wolf uses a variety of habitat including forests and grasslands. The corridor contains large tracts of agriculture, some grasslands, and little wooded areas. The corridor generally lacks suitable habitat and the closest known pack of wolves, a Minnesota population, is approximately 17 miles (28 kilometers) from the northeast corner of North Dakota.

Field surveys conclude a lack of suitable habitat for the gray wolf in the Corridor and along the Route.

The re-establishment of gray wolf populations in North Dakota is unlikely. The gray wolf is not expected to be impacted by the proposed Project.

Whooping Crane

The Corridor is within the migratory corridor for the whooping crane, with the nearest sighting being 432 feet from the central portion of the pipeline corridor east of Fairview

(USFWS 2010). Cranes may occasionally pass through the area; however, these individuals or small groups would be expected to visit the area for only a few days before continuing their migration.

Field surveys conclude suitable whooping crane foraging habitat (i.e., cultivated cropland) is present in the Corridor and Route. The whooping crane is not expected to be impacted by the proposed Project if standard construction practices associated with this species are followed. The summary of these practices are provided in Appendix D.

Piping Plover

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. Designated critical habitat for piping plovers consists of all of the Lake Sakakawea shoreline, and bars where the primary constituent elements occur, as well as certain alkali lakes. Desktop analysis confirms that critical habitat for the piping plover is not within the Corridor or crossed by the Route. However, plovers likely use the Yellowstone River and its tributaries within the Corridor. Field surveys conclude that suitable piping plover habitat occurs in the Corridor and along the Route at the Yellowstone River crossing area.

The piping plover is not expected to be impacted by the proposed Project by following the USACE conditions of approval associated with the Yellowstone River HDD permit.

Interior Least Tern

Least terns have distinct breeding areas. Their breeding season is from May 1 through August 31, and breeding birds require the presence of dry, exposed sandbars, with favorable river flows. Desktop analysis confirms the presence of potential habitat for terns using the Yellowstone River and its tributaries within the corridor. Field surveys conclude that suitable tern habitat occurs within the Corridor and along the Route.

The interior least tern is not expected to be impacted by the proposed Project by following the USACE conditions of approval associated with the Yellowstone River HDD permit.

Pallid Sturgeon

The fundamental elements of pallid sturgeon habitat are defined as the bottom of swift waters of large, turbid, free-flowing rivers with braided channels; dynamic flow patterns; flooding of terrestrial habitats; and extensive microhabitat diversity. The pallid sturgeon population occurs from the Missouri River below Fort Peck Dam to the headwaters of Lake Sakakawea and from the lower Yellowstone River up the confluence of the Tongue River, Montana. Desktop analysis confirms the presence of potential habitat for the pallid sturgeon within the Corridor.

Field surveys conclude that suitable pallid sturgeon habitat occurs in Corridor and along the Route.

Potential pollution from construction activities, hydrostatic testing, and pipeline operations is a concern for downstream populations of the pallid sturgeon. However, based on the use of the HDD, these impacts are considered to be very unlikely to occur. Activities associated with the proposed Project are not anticipated to adversely affect water quality and subsequently the pallid sturgeon. The pallid sturgeon is not expected to be impacted by the proposed Project by following the USACE conditions of approval associated with the Yellowstone River HDD permit.

Dakota Skipper

The Dakota skipper is a small butterfly with a 1-inch wingspan. It is found primarily in undisturbed, native tall grass and upland dry northern mixed grass prairie areas with a high diversity of wildflowers and grasses. Desktop analysis confirms the presence of potential habitat for the Dakota skipper within the Corridor. However, the nearest proposed critical habitat (Unit 12) is located 32.6 miles east-northeast from the proposed Project.

Field surveys concluded that cultivated, non-native grass prairie is dominant in the Corridor and along the Route, and therefore not suitable as Dakota skipper habitat.

The Dakota skipper is not expected to be impacted by the proposed Project.

Rufa Red Knot

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. Desktop analysis confirms suitable habitat along Lake Sakakawea is approximately 6 miles north of the Route, and it is possible the rufa red knot may use the Yellowstone River within the Project Corridor.

Field surveys conclude that potential suitable habitat for the rufa red knot may occur along the Yellowstone River.

The likelihood of the rufa red knot occurring in the Corridor or along the Route is low, as only a small number have been reported across the interior United States. The rufa red knot is not expected to be impacted by the proposed Project by following the USACE conditions of approval associated with the Yellowstone River HDD permit.

Northern Long-eared Bat

Northern long-eared bats are not known to occur in the Study Area, and no known hibernacula are in North Dakota because there are either no suitable hibernacula present or because the area has not been surveyed for them (USFWS 2013).

Field surveys conclude that suitable winter habitat for the northern long-eared bat does not occur within the Corridor or along the Route. However, nearby trees and rocky outcrops can act as suitable summer day roosts within the Corridor and along the Route. Also, given the limited amount of clearing of woody vegetation, the northern long-eared bat is not expected to be impacted by the proposed Project.

14.3.3 Migratory Bird Treaty Act

Suitable habitat for migratory birds exists in the Corridor and field surveys conclude the presence of suitable habitat along the Route. Specifically, grassland nesting birds have the potential to occur and nest in the Corridor, especially during the migratory bird breeding season between February 1 and July 15. Suitable woodland nesting habitat occurs in the route, but it is minimal. To minimize or reduce potential impacts of the proposed Project on migratory birds NST Express would utilize standard construction practices associated with migratory birds. The summary of these practices are provided in Appendix D. Migratory birds are not expected to be impacted by the proposed Project.

14.3.4 Bald and Golden Eagle Protection Act Consultation

Bald eagle nesting habitat is typically any mature stands of conifer (*Pinophyta* species) or cottonwood (*Populus* sp.) trees in association with rivers, streams, reservoirs, lakes, or any significant body of water. Desktop analysis confirms potential bald eagle habitat in the Corridor. The nearest known eagle nest is approximately 3 miles northwest of the closest portion of the proposed Project (North Dakota Game and Fish Department [NDGF] 2015).

Field surveys conclude that suitable bald eagle habitat occurs in the Corridor and along the route, especially along the Yellowstone River. One bald eagle was observed during the field surveys; however, no nests were observed during the field surveys.

The golden eagle prefers habitat characterized by open prairie, plains, and forested areas. Usually, golden eagles can be found close to badland cliffs, which provide suitable nesting habitat. Desktop analysis confirms potential golden eagle habitat in the Corridor.

Field surveys conclude that suitable golden eagle habitat occurs in the Corridor and along the Route, especially along the Yellowstone River. No golden eagles or nests were observed during the field surveys.

Bald eagles and golden eagles are not expected to be impacted by the proposed Project.

Refer to the Natural Resource Report, Appendix D, for additional information on these species.

15.0 Consultation

SWCA, on behalf of NST Express, provided consultation letters, emails, phone calls, and additional requests for data to the following agencies: U.S. Fish and Wildlife Service; U.S. Army Corps of Engineers; U.S. Department of Interior, Bureau of Reclamation; U.S. National Park Services; U.S. Department of Agriculture, Natural Resources Conservation Service; U.S. Department of Defense; North Dakota Game and Fish Department; North Dakota Parks and Recreation Department; North Dakota State Historic Preservation Office; North Dakota Department of Health; North Dakota Department of Agriculture; North Dakota State Water Commission; North Dakota Department of Trust Lands; North Dakota State Soil Conservation Committee; County Water Resource Board; and North Dakota County Weed Control Board.

Consultation letters were submitted on March 26, 2015, and included the proposed alignment. A revised consultation letter was submitted on May 6, 2015, to include the proposed facilities (NST Express Alexander Facility and expansion of NST Transload East Fairview Facility) and to correct the entity name (NST Express, LLC). The U.S. Fish and Wildlife consultation letter was submitted on May 7, 2015.

15.1 U.S. Fish and Wildlife Service

SWCA, on behalf of NST Express, submitted an email request for information on USFWS easement data in the NST Express 2.3-mile corridor on March 23, 2015. On March 26, 2015, the USFWS responded there are no existing USFWS easements or fee-title lands within the NST Express 2.3-mile corridor.

SWCA, on behalf of NST Express, submitted a Project consultation letter to the USFWS on May 7, 2015, providing an opportunity to comment on threatened and endangered species, migratory birds, bald and golden eagles, and USFWS easements. To date, no comment has been received from the USFWS. Refer to Appendix E, Agency Correspondence/Consultation, for additional details.

15.2 U.S. Army Corps of Engineers

SWCA, on behalf of NST Express, submitted a Project consultation letter to the USACE on March 27, 2015, and a revised consultation letter on May 6, 2015, providing an opportunity to comment. On March 30, 2015, SWCA received a letter from the USACE on the project discussing preliminary information.

On May 11, 2015, SWCA received a letter from the USACE. The USACE details a Department of the Army permit would be required for portions of the proposed Route. NST Express proposes to complete the proposed Project under requirements in the USACE Nationwide Permit 12. NST Express will submit a Section 10 permit application to directionally bore beneath the Yellowstone River, by HDD. Refer to Appendix E, Agency Correspondence/Consultation, for additional information.

15.3 U.S. Department of Interior, Bureau of Reclamation

SWCA, on behalf of NST Express, submitted a Project consultation letter to the BOR, Dakota Areas Office, on March 27, 2015, providing opportunity to comment. A revised consultation letter was submitted to the BOR, Montana Area Office, on May 6, 2015, providing opportunity to comment.

The BOR, Dakota Area Office, responded to SWCA with an email on March 31, 2015, advising that the Lower Yellowstone Irrigation District relationship is through the Montana Area Office, forwarded the consultation letter (dated March 27, 2015) to the Montana Area Office, and provided contact information for the Montana Area Office officials.

The Montana Area Office responded to SWCA on April 1, 2015, requiring additional details of the proposed NST Project. Due to limited available details at that time, the BOR, Montana Area Office, comment was "This proposed pipeline project appears to cross Reclamation

irrigation facilities located in Township 151 North, Range 104 West. Any irrigation facility crossing by the proposed pipeline will need to follow Reclamations crossing guidelines and will need prior approval by Reclamation."

Contract Land Staff, LLC (CLS), on behalf of NST Express initiated contact with the Lower Yellowstone Irrigation District (LYID) personnel in April 2015. Personnel with the LYID requested a map of the proposed pipeline and a field visit with CLS personnel. A field visit of the proposed canal crossings of the LYID was completed with CLS and LYID personnel on April 24, 2015. NST Express representatives met with LYID in April and May. The result was that crossing depths would be 13 feet on drainages, 8 feet on laterals, and 5 feet on farm laterals.

CLS received a land use authorization form, to be completed, and crossing guidelines from the BOR, from BOR personnel on May 6, 2015.

NST Express will obtain all necessary permits and approvals from the BOR for the crossings, and will continue to coordinate with the BOR as needed throughout Project construction and operation.

15.4 U.S. National Park Service

SWCA, on behalf of NST Express, submitted a Project consultation letter to the U.S. National Park Service, on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment.

On May 15, 2015, SWCA received an email from the National Park Service requesting a shapefile of the proposed NST Project. SWCA submitted an email reply to the National Park Service delivering the requested shapefiles. Refer to Appendix E, Agency Correspondence/Consultation, for additional information.

15.5 U.S. Department of Agriculture, Natural Resources Conservation Service

On March 23, 2015, an email correspondence was submitted to the U.S. Department of Agriculture, Natural Resources Conservation Service, by SWCA, on behalf of NST Express, to confirm existence of Grassland Reserve Program easements, Wetland Reserve Program easements, prime farmland, and farmland of statewide importance.

The Natural Resources Conservation Service responded on March 23, 2015, that no easements under their jurisdiction will be impacted. Please see Appendix E, Agency Correspondence/Consultation, for additional information.

15.6 U.S. Department of Defense

SWCA, on behalf of NST Express, submitted a Project consultation letter to the U.S. Department of Defense on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment and requesting assessment of the area for the presence of any Intercontinental Ballistic Missile related systems.

On April 6, 2015, SWCA received an email from the U.S. Department of Defense that the Minot Air Force Base has no assets near McKenzie County and will have no impact on the proposed Project.

To date, no additional comment has been received from the U.S. Department of Defense regarding the May 7, 2015, consultation letter. Since the Project remains located entirely in McKenzie County, no additional correspondence is anticipated. Refer to Appendix E, Agency Correspondence/Consultation, for additional information.

15.7 North Dakota Game and Fish Department

SWCA, on behalf of NST Express, submitted a Project consultation letter to the NDGF on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment and requesting assessment of the 2.3-mile corridor for presence or absence of State Conservation Priority Species and NDGF PLOTS Lands.

On April 23, 2015, SWCA received a letter from the NDGF. The NDGF discusses the following.

- Requests work within native prairie and wooded draws be avoided and disturbed areas be reclaimed to pre-project conditions.
- Recommends the Yellowstone River, a Class I fishery, be crossed by direction boring. If this method is not feasible, construction should not take place within the waterway between April 15 and June 1, and to implement controls to minimize erosion and sedimentation. Precautions should be taken to prevent leaks or spills from entering the river.
- Requests the Aquatic Nuisance Species (ANS) Coordinator be contacted for equipment inspections or additional information regarding ANS prevention protocols.
- Requests the protection of wetlands that cannot be avoided by the proposed project, no alterations of existing drainage patterns, and no placement of above-ground appurtenances within wetland areas.
- Recommends aerial surveys for raptor nests prior to construction and a 0.5-mile construction buffer be implemented around active eagle nest sites.

With the recommendations above, implemented where appropriate, the NDGF does not believe the Project will have a significant adverse effect on wildlife or wildlife habitat, including species of conservation priority. NST Express through HDD drilling the Yellowstone, siting the Route, and conducting standard construction practices for wetlands will address the issues identified above.

On May 18, 2015, SWCA called and left a message with the ANS Coordinator regarding ANS protocols. To date, no response has been received.

On May 18, 2015, SWCA called and left a message with the Conservation Biologist regarding golden eagle nest locations. To date, no response has been received.

On May 26, 2015, SWCA received an email response from the NDGF that the May 6, 2015 letter has been reviewed and the NDGF has nothing additional to offer and the original comments are still applicable.

Please see Appendix E for Agency Correspondence/Consultation.

15.8 North Dakota Parks and Recreation Department

SWCA, on behalf of NST Express, submitted a Project consultation letter to the NDPRD on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment and requesting assessment of the 2.3-mile corridor for environmental issues relevant to the North Dakota Public Service Commission's siting requirements, State Park Lands, Land and Water Conservation Fund, and the Natural Heritage Inventory.

On April 20, 2015, SWCA received a letter from the NDPRD. The NDPRD recommends that the Project be accomplished with minimal impacts and all efforts be made to ensure that critical habitats are not disturbed in the project area to help secure rare species conservation in North Dakota. Additionally, the NDPRD recommends any impacted areas be revegetated with species native to the project area. The NDPRD indicated six occurrence of rare animal and plant species within the project area including the blue sucker (*Cycleptus elongates*), sturgeon chub (*Macrhybopsis gelida*), sicklefin chub (*Macrhybopsis meeki*), flathead chub (*Platygobio gracilis*), and pallid sturgeon. The occurrence of the species are in the Yellowstone River, to avoid potential impacts to these species, NST Express will cross the Yellowstone River using a HDD.

To date, no additional comment has been received from the NDPRD regarding the May 7, 2015, consultation letter. Please see Appendix E for Agency Correspondence/Consultation.

15.9 North Dakota State Historic Preservation Office

The North Dakota SHPO is responsible for managing the historic and archaeological resources of the state; as such, the SHPO maintains records of all previously recorded cultural resources within the state. The information below is an overview of a combined Class I literature review of SHPO records and a Class III cultural resource inventory conducted for the Project.

As part of the initial phase of this investigation, SWCA conducted a Class I background search of archaeological and historical literature and records for the Cultural Resource Study Area on November 25, 2014. Researchers searched relevant records holdings at the North Dakota State Historical Society for information regarding previously recorded historic and prehistoric sites located within the project area.

Results of the background search identified 20 previously recorded cultural resources located in the Cultural Resource Study Area, including 17 sites and 3 isolated finds. Three cultural resources within the Cultural Resource Study Area have been recommended eligible for the NRHP, while seven remain unevaluated and 10 have been determined not eligible for nomination. Two of the previously recorded cultural resources were located within the Corridor.

The ensuing Class III cultural resource inventory of the Corridor was conducted on January 30; March 15, 16, 17, and 20; and May 1, 2015. During the inventory, SWCA revisited two previously recorded cultural resources and newly recorded two sites and one site lead. Both previously recorded resources are historic sites that have been previously recommended eligible for the NRHP. Both of the newly recorded sites have been recommended not eligible for the NRHP, while the site lead remains unevaluated pending a full recording.

The Project Route avoids the unevaluated resource and the construction ROW will be reduced to avoid impacts during construction. Both NRHP-eligible sites will be avoided by boring under the features. Applying these measures, SWCA recommended that SHPO issue a finding of no significant sites affected for the Project.

On May 12, 2015, the cultural resource report was submitted to the SHPO. The SHPO concurred with a "No Significant Sites Affected" determination and responded in a letter dated May 21, 2015.

Refer to Appendix E for related agency consultations, and Appendix F for the cultural resource survey report abstract.

15.10 North Dakota Department of Health

SWCA, on behalf of NST Express, submitted a Project consultation letter to the North Dakota Department of Health on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment.

To date, no comment has been received from the North Dakota Department of Health. Please see Appendix E for Agency Correspondence/Consultation.

15.11 North Dakota Department of Agriculture

SWCA, on behalf of NST Express, submitted a Project consultation letter to the North Dakota Department of Agriculture on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment.

To date, no comment has been received from the North Dakota Department of Agriculture. Please see Appendix E for Agency Correspondence/Consultation.

15.12 North Dakota State Water Commission

SWCA, on behalf of NST Express, submitted a Project consultation letter to the NDSWC on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment.

On April 2, 2015, SWCA received a telephone call from NDSWC personnel regarding a request for additional information that included a zoomed-in map of the Alexander area in relation to the alignment for floodplain review. Additionally, the NDSWC personnel requested that if any work is to be completed in Montana, that SWCA discuss the proposed Project with Montana state officials.

On April 17, 2015, SWCA received a letter from the NDSWC. The NDSWC provided the following comments.

- A sovereign lands permit will be needed for this Project from the State Engineer's Office.
- A determination regarding floodplains could not be made as not enough detail was included in the information provided.
- Contact the Water Appropriations Division of the Commission if gauging stations or water wells may be affected by the Project or accidently damaged.
- Please contact Western Area Water Supply Authority regarding Project infrastructure located in the project area.
- Ensure local, state, and federal agencies are contacted for any required approvals, permits, and easements.
- All waste material must be disposed of properly and not placed in identified floodway areas.
- No sole-source aquifers have been designated in North Dakota.

SWCA, on behalf of NST Express, will complete a Sovereign Lands Permit.

On May 11, 2015, SWCA sent the requested map to the NDSWC personnel for floodplain identification.

On May 14, 2015, SWCA received a letter from the NDSWC. The NDSWC determined there are no floodplains identified and/or mapped where the project is to take place. No floodplain permit is necessary from the Fort Berthold Indian Reservation relative to the National Flood Insurance Program. Additionally, the comments provided in the letter dated April 17, 2015, still pertain to the project.

On May 21, 2015 SWCA called and left a message with Western Area Water Supply Authority. Personnel at Western Area Water Supply Authority are making a determination for the Yellowstone River as a water source for rural water districts.

Please see Appendix E for Agency Correspondence/Consultation.

15.13 North Dakota Department of Trust Lands

SWCA, on behalf of NST Express, submitted a Project consultation letter to the NDDTL, Minerals Management and Surface Management Divisions, on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment.

SWCA received an email response from the NDDTL on April 7, 2015, requesting a geographic information system (GIS) layer of the proposed pipeline route. SWCA submitted a GIS shapefile of the proposed pipeline route and facilities on May 12, 2015, to NDDTL personnel. The NDDTL personnel responded on May 12, 2015, that the data provided fairly

represents the approximate location of the pipeline route and proximity of minerals interests managed by the office, for use in filing with the Commission in the state of North Dakota.

To date, no comment has been received from the NDDTL, Surface Management Division. Please see Appendix E for Agency Correspondence/Consultation.

15.14 North Dakota State Soil Conservation Committee

SWCA, on behalf of NST Express, submitted a Project consultation letter to the North Dakota State Soil Conservation Committee, on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment.

To date, no comment has been received from the North Dakota State Soil Conservation Committee. Please see Appendix E for Agency Correspondence/Consultation.

15.15 County Water Resource Boards

SWCA, on behalf of NST Express, submitted a Project consultation letter to the McKenzie County Water Resource District on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment.

To date, no comment has been received from the McKenzie County Water Resource Board. Please see Appendix E for Agency Correspondence/Consultation.

15.16 North Dakota County Weed Control Board

SWCA, on behalf of NST Express, submitted a Project consultation letter to the Weed Control Officer, McKenzie County, on March 27, 2015, and a revised consultation letter on May 6, 2015, providing opportunity to comment.

SWCA received a comment on April 7, 2015, from the McKenzie County Weed Control Officer, requesting additional information for the Weed Management Plan. SWCA, on behalf of NST Express, is currently compiling the additional information to submit to the McKenzie County Weed Control Officer.

To date, no additional response has been received from the Weed Control Officer, McKenzie County, regarding the May 7, 2015, consultation letter. Please see Appendix E for Agency Correspondence/Consultation.

16.0 Siting Criteria

16.1 Exclusion Areas

Per N.D.A.C. § 69-06-08-02(1), certain geographical areas shall be excluded from consideration for a transmission facility route. Exclusion areas may be located within a corridor, but at no given point may such an area or areas encompass more than fifty percent of the corridor unless there is no reasonable alternative.

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

No designated or registered national parks, memorial parks, historic landmarks, natural landmarks, monuments, or wilderness areas would be crossed by the Project Corridor or Route.

A Class I background search of archaeological and historical literature and records for the project area and surrounding 1-mile radius was conducted on November 25, 2014. Results of the background search identified 20 previously recorded cultural resources located in the 1-mile study area surrounding the project area, including 17 sites and 3 isolated finds. Three cultural resources within the project area have been recommended eligible for the NRHP, while seven remain unevaluated. The ensuing Class III cultural resource inventory of the project area was conducted on January 30; March 15, 16, 17, and 20; and May 1, 2015. During the inventory, SWCA revisited two previously recorded cultural resources. Both previously recorded resources are historic sites that have been previously recommended eligible for the NRHP. SWCA recommended that SHPO issue a finding of no significant sites affected for the Project based on information in the cultural resources report submitted May 12, 2015. The SHPO concurred with a "No Significant Sites Affected" determination and responded in a letter dated May 21, 2015.

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

No designated or registered state parks, historic sites, monuments, historical markers, or nature preserves would be crossed by the Project Corridor or Route.

A Class I background search of archaeological and historical literature and records for the project area and surrounding 1-mile radius was conducted on November 25, 2014. Results of the background search identified 20 previously recorded cultural resources located in the 1-mile study area surrounding the project area, including 17 sites and 3 isolated finds. Ten sites have been determined not eligible for nomination on the NRHP. The ensuing Class III cultural resource inventory of the project area was conducted on January 30; March 15, 16, 17, and 20; and May 1, 2015. During the inventory, SWCA newly recorded two sites and one site lead. SWCA recommended that SHPO issue a finding of no significant sites affected for the Project based on information in the cultural resources report submitted May 12, 2015. The SHPO concurred with a "No Significant Sites Affected" determination and responded in a letter dated May 21, 2015.

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

No county parks and recreational areas, municipal parks, or parks owned or administered by other governmental subdivisions are crossed by the proposed Project Corridor or Route.

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

Pallid sturgeon (endangered) occurs in the Yellowstone River. Additionally, the interior least tern (endangered) and piping plover (threatened) may use the shorelines of the Yellowstone River. NST Express proposes to use HDD for the river crossing, and therefore no adverse impact is anticipated.

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

No areas where animal or plant species unique or rare to North Dakota would be irreversibly damaged from construction of the proposed Project.

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

On April 6, 2015, SWCA received an email from the U.S. Department of Defense that the Minot Air Force Base has no assets near McKenzie County and will have no impact on the proposed Project. To date, no additional comment has been received from the U.S. Department of Defense. Please see Appendix E for Agency Correspondence/Consultation.

The proposed Project Corridor and Route are not located within 1,200 feet of the geographic center of an intercontinental ballistic missile launch or launch control facility.

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

On April 6, 2015, SWCA received an email from the U.S. Department of Defense that the Minot Air Force Base has no assets near McKenzie County and will have no impact on the proposed Project. To date, no additional comment has been received from the U.S. Department of Defense. Please see Appendix E for Agency Correspondence/Consultation.

The proposed Project Corridor and Route are not located within 30 feet on either side of a direct line between intercontinental ballistic missile launch or launch control facility.

16.2 Avoidance Areas

Per N.D.A.C. § 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 shall be implemented around these areas to protect their integrity, 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 fifty percent of the corridor unless there is no reasonable alternative.

16.2.1 Designated or Registered National Historic Districts; Wildlife Areas; Wild, Scenic, or Recreational Rivers; Wildlife Refuges; and Grasslands

No designated or registered national historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; or grasslands are located within the proposed Project Corridor or crossed by the Route.

16.2.2 Designated or Registered State Wild, Scenic, Recreational Rivers; Game Refuges; Game Management Areas; Management Areas; Forest; Forest Management Lands; and Grasslands

No designated or registered state wild, scenic, recreational rivers; game refuges; game management areas; management areas; forest; forest management lands; or grasslands are within the proposed Project Corridor or crossed by the Route.

16.2.3 Historical Resources Not Specifically Designated as Exclusion or Avoidance Areas

No historical resources which are not specifically designated as exclusion or avoidance areas are within the proposed Project Corridor or crossed by the Route.

16.2.4 Areas Which are Geologically Unstable

The proposed Project Route would not cross any areas of geologically unstable terrain. Landslide-prone areas are scattered throughout the Study Area and the bluff on the east bank of the Yellowstone River. The Project avoids the scattered areas and the HDD adequately addresses any potential for landside issues associated with the bluff on the east bank of the Yellowstone River.

Seismic hazards are associated with faults, seismicity, and ground motion. Faults are dislocations whereby blocks of material on opposite sides of the fault move past each other, causing energy to be released resulting in an earthquake. Seismicity is related to the intensity, frequency, and location of earthquakes in a given area. From 1990 to 2006, almost no seismic events have been recorded in North Dakota (U.S. Geological Survey 2006). Ground motion hazards are the result of energy from an earthquake propagating through the ground. The proposed Project corridor and route would not traverse areas with the potential of seismic hazards.

Subsidence is typically associated with underground mining where underground voids collapse creating sinkhole-type subsidence, fissures, and unstable ground. There are no mining activities or abandoned mines within the proposed Project Corridor; therefore, Project development would not be affected by subsidence-prone terrain.

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

Aerial imagery was used to determine locations of structures within the Corridor and Route. Approximately 43 structures occur within the Study Area. No residences, schools or businesses are located within 500 feet of the Project.

16.2.6 Reservoirs and Municipal Water Supplies

The Yellowstone River provides water for nearby communities. The Project would cross beneath the Yellowstone River using a HDD to avoid impacts to the river.

Sixty-two wells were identified in the Study Area, mainly used for domestic, local, and irrigation purposes. No wells were identified within the Corridor or Route.

16.2.7 Water Sources for Organized Rural Water Districts

SWCA has utilized public information and made inquiries to the North Dakota Rural Water Association as to the use of the Yellowstone River as a source. Information from the agency indicates that the river is not used as a source for organized rural water districts.

16.2.8 Area of Recreational Significance Which Are Not Designated as Exclusion Areas

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

16.3 Selection Criteria – Impact On:

16.3.1 Agricultural Production

Agricultural land use comprises approximately 55% of the Study Area (LANDFIRE 2013).

The Project would temporarily impact approximately 317 acres. Approximately 133 acres are considered prime farmland and/or farmland of statewide importance (Table 2). Dominant crops in the Study Area consist of wheat (*Triticum aestivum*), sugar beets (*Beta vulgaris*), canola (*Brassica napus*), and soybeans (*Glycine max*).

Table 2. Farmland in Study Area

Type of Farmland	Acres in Study Area	Percent of Total Area in Corridor	Acres in Route	Percent of Total Area in Route
Prime Farmland	109.45	0.32	1.41	0.44
Farmland of Statewide Importance	13,581.22	39.2	132.00	41.61
Not Prime Farmland	20,513.93	59.22	183.81	57.94
Prime Farmland if Irrigated	434.76	1.26	0.00	0.00
Total	34,639.36	100.00	317.21	100.00

Once construction is complete, the ROW will be restored to its prior use, including in areas currently used for agricultural production. Thus, impacts along the Route are anticipated to be primarily temporary and minimal.

16.3.2 Family Farms and Ranches

There are 43 family farms and ranches located within the Study Area. Thirteen farm and ranch units are crossed by the route. Construction impacts to family farms and ranches would

be short term and minor. The primary impact on family farms would be the loss of standing crops and use of the land within the work area during construction activities, as well as potential diminished yields following construction. NST Express will implement mitigation measures to minimize potential impacts to family farms and ranches, as outlined in the Environmental Mitigation Plan (Appendix C).

Herbaceous rangeland suitable for livestock grazing comprises approximately 35% of the Study Area (LANDFIRE 2013). The primary impact on family ranches would be temporary prohibition of livestock grazing in the construction ROW, workspace areas, and restrictions on livestock movement across the construction ROW and workspace areas during construction. The ROW is narrow and linear and aligned along property boundaries; therefore, impacts to livestock grazing and livestock movement restrictions would be minor.

No long-term or permanent impacts are expected to family farms and ranches. NST Express has acquired land to build and operate the NST Express Alexander Facility, and this respective acreage would be taken out of production. Post-construction restoration would return the ROW to pre-construction contours, and farming and ranching operations would continue over the operational ROW. NST Express will acquire and compensate landowners for easements for the Project.

16.3.3 Land Economically Suitable for Irrigation

The Lower Yellowstone Irrigation District is crossed by the Project in 12 locations. Based on consultations with the BOR and Superintendent of the Lower Yellowstone Irrigation District, NST Express has identified the specific depth of cover requirements for each crossing and plans to use trenchless construction methods (HDD or bore) for each crossing.

16.3.4 Surface Drainage Patterns and Groundwater Flow Patterns

Surface Drainage

Surface drainage patterns will not be altered by construction of the pipeline. Streams, swales, ditches, and other natural drains will be restored to approximate pre-construction contours after construction is complete. The pipe will be installed to depths that will not interfere with flow or future maintenance efforts by landowners or the drainage authority.

Groundwater Flow Patterns

The Fox Hills and basal Hell Creek Aquifer system of the Late Cretaceous age underlies all of McKenzie County, at 1,100 to 1,800 feet below land surface. The aquifer system is recharged primarily by subsurface inflow from the adjacent areas to the south and by leakage from underlying beds. Groundwater generally moves northeastward; discharge from the aquifer is by outflow to the north and by upward leakage into the overlying aquifer systems. The aquifer system is used as a source for domestic, livestock, and industrial use.

The Ludlow Aquifer system overlies the Fox Hills and Hell Creek System at a depth of more than 500 feet. Overlying the Ludlow system is the Tongue River Aquifer at 140 to 500 feet below land surface. Most of the recharge to the Tongue River Aquifer is from precipitation

and seepage from lakes and streams. These systems are relatively unused except for domestic and livestock supplies.

The Study Area is underlain by the Yellowstone-Missouri Aquifer, a thick blanket of glacial material deposited in the valleys of the Yellowstone and Missouri Rivers. The water in the aquifer system is suitable for irrigation use.

Any construction impacts that may occur to groundwater flow would be in surficial aquifers and would be highly localized and temporary in nature. No permanent impacts to groundwater flow are expected as a result of the Project

16.3.5 Sound Sensitive Land Uses

The proposed Project would be constructed primarily through rural areas, scattered with homesteads primarily west of the Yellowstone River. Existing noise sources in rural areas are predominantly natural (i.e., wind, birds). Other sources of noise in rural and agricultural areas are roadway traffic and farm equipment on a seasonal basis. Generally, background noise levels in rural areas vary between 40 and 50 dBA (McCain and Associates, Inc. 2011). Sound intensity is measured by the decibel (dB); the A-weighted scale, denoted as dBA, is used in most noise ordinances and standards and approximates the range of human hearing by filtering out lower frequency noises, which are not as damaging as higher frequency noises.

Construction-related activities are expected to be short-term and during the daytime; therefore, impacts to local farm residents would be minimal. During operations, noise impacts would be limited to vehicles used to transport maintenance personnel at the ROW and aboveground facilities. The proposed Project would comply with applicable state and local noise requirements during construction and operations.

16.3.6 Visual Effect on Adjacent Areas

Effects of Project development on visual resources are assessed by the degree of modification and contrast to the existing landscape and sensitivity of the viewer. Changes to the line, form, and character of the existing landscape can result in a level of contrast that could attract the attention of the casual viewer and not be acceptable. The number of viewers, their activities, and the extent their activities are related to the visual quality of the area determine the level of viewer sensitivity.

The Project is located in a rural setting that is sparsely populated. Views of the landscape would be limited to residents of homesteads, occasional views from area roadways, and oil and gas personnel; therefore, based on number of viewers and duration of their views, viewer sensitivity is low. The landscape is dominated by agricultural areas and non-native grassland species. Badlands areas are exposed at the Yellowstone River crossings. Very limited recreational activities occur on this portion of the river. With the exception of the aboveground facilities, the pipeline structure would be buried. During construction, removal of vegetation would create contrast within the landscape with the introduction of distinct lines in the landscape. Once vegetation is re-established within the construction ROW, long-term impacts to visual resources from project development would not occur. Painting aboveground

facilities with a color that blends with the existing landscape would help to reduce visual contrast in the existing landscape.

Visual impacts to the NST Express Alexander Facility and the NST Transload East Fairview Facility would be minimal. The landscape at both facility sites has been previously modified with existing infrastructure.

16.3.7 Extractive and Storage Resources

There is only one active extractive resource identified within the Study Area: oil and gas production. Coal and uranium deposits are not present within the Study Area (North Dakota Department of Mineral Resources 2015a, 2015b). Portions of an aggregate quarry are within the Study Area in the western portion of the project area located in Montana, and impacts are not expected.

U.S. oil production has grown rapidly over the last decade, primarily from new production in the Bakken Formation in North Dakota and the Eagle Ford in Texas (U.S. Energy Information Administration 2014). Technological advances have contributed to the Bakken Formation's increased production in recent years. As of May 2014, North Dakota exceeded 1 million barrels per day, approximately 12% of the U.S. crude oil produced by May 2014. Natural gas also is a valuable resource, contributing about 13% of a typical well's economic value (Davies 2013).

The proposed Project is located within the Williston Basin, a major oil and gas producing basin in western North Dakota. According to the North Dakota Department of Mineral Resources, there are approximately 154 total wells within the Study Area; 82 of these wells are active, 5 are currently in drilling operations, 8 wells are shut-in or inactive, and the remaining are plugged and abandoned. There is the potential for the proposed construction ROW to be located near and impact existing oil and gas operating facilities.

To avoid potential impacts to existing oil and gas infrastructures, NST Express performed a centerline survey of the route, and based on that survey, NST Express identified all third-party entities/utilities encountered (e.g., petroleum, water, electric). NST Express then contacted each entity to obtain its respective crossing and encroachment guidelines and requirements. NST Express has incorporated these requirements into the Project design and will work closely with each entity during Project construction and operation to minimize the potential for impacts to existing facilities.

16.3.8 Wetlands, Woodlands, and Wooded Areas

A desktop review was completed of the Study Area and included the review of aerial imagery, National Wetlands Inventory data, and LANDFIRE dataset to determine the presence of wetlands, woodlands, and wooded areas. The desktop review confirmed the presence of these areas in the Study Area. Field surveys completed January 30; March 15, 16, 17, and 20; and May 1, 2015, confirmed the presence of these areas within the route. Please refer to Sections 14.2 and 14.3 for further discussion on the desktop analysis and field surveys of these resources.

16.3.9 Radio and Television Reception and Other Communication or Electronic Facilities

One communication tower is located within the Study Area. No additional radio and television reception and/or other communications and electronic facilities are located within the corridor or route. NST Express does not anticipate the Project will impact radio and television reception and/or other communications and electronic facilities.

16.3.10 Human Health and Safety

Construction of the proposed Project would generate possible elevated risks to public safety from increased traffic (e.g. water trucks, heavy equipment). The increase in truck traffic would be temporary during construction. To additionally minimize risks to local citizens associated with increased traffic, workers housed in temporary accommodations would carpool to the work site ROW using vans and/or buses. The Project would reduce the amount of tanker truck traffic during operations as the pipeline would replace approximately 560 trucks per day from area roadways.

The transmission of oil by pipeline involves some risk to the public in the event of an accident and the release of oil. A spill of crude oil during operation from a pipeline leak could contaminate soil and groundwater if a leak is not properly contained and remediated. The pipeline will be monitored using an electronic system 24 hours a day, as well as by routine aerial patrols. The PHMSA is the primary federal regulatory agency responsible for ensuring that pipelines are safe and reliable. During operations, safety measures would be implemented to comply with 49 CFR Part 195 as regulated by PHMSA.

To address potential impacts during operation, an Emergency Response Plan would be developed, in conjunction with local authorities and first responders, to build site-specific response plans, detail emergency equipment availability and location, and emergency contacts. Additionally, water trucks, portable water pumps, chemical fire extinguishers, hand tools, and heavy equipment would be available to address effects from fire during operation. In addition to the Emergency Response Plan, a Pipeline Integrity Management Plan would be developed to outline pipeline integrity management procedures to be implemented during operation.

16.3.11 Animal Health and Safety

Wildlife currently inhabiting the Corridor is common and likely would not be displaced by the proposed Project. Temporary disturbance would occur during construction of the proposed Project. No direct, long-term impacts to wildlife are anticipated from the Project.

16.3.12 Plant Life

Plants currently inhabiting the Corridor are common. Impacts to plants in the Project area from the Project are anticipated to be minimal.

16.4 Policy Criteria

16.4.1 Location and Design

NST Express selected the proposed Corridor and Route based on a number of factors, including environmental, landowner, engineering, and constructability considerations. The proposed Route provides NST Express the opportunity to utilize tie into existing facilities, and minimize landowner and environmental impacts. The location of the proposed Route also allows NST Express to reach a potential interconnection point.

NST Express engaged landowners, conducted agency consultation, and performed a desktop analysis to identify environmental constraints. These efforts provided information that informed the siting of the proposed Corridor and Route. Field surveys, including natural and cultural resources provided supplemental information in refining the siting process to avoid or minimize impacts to sensitive resources.

16.4.2 Training and Use of In-State Labor

NST Express will use local, in-state labor to the extent practicable; however, construction of the pipeline and facilities requires employment of specialized skilled labor (e.g. licensed welders). If resources for these specialized skilled workers are not available within the state, NST Express may need to extend employment outside of the state. NST Express expects to employ approximately 300 workers and upwards to 400 workers during peak construction.

16.4.3 Economies of Construction and Operation

As discussed in Sections 13.0 and 17.7, the Project will provide direct and indirect economic benefits to North Dakota. Once the Project is constructed and online, NST Express expects annual maintenance and operation costs to be minimal. The Project is the most cost-effective and operationally sound means of delivering light crude oil from the NST Express Alexander Facility to the NST Transload East Fairview Facility.

16.4.4 Use of Citizen Coordinating Committees

NST Express has contacted and worked closely with local officials including municipalities, county, electric utility companies, and irrigation and river authorities throughout development of the proposed Project. Initial contacts were made in November 2014. Project plans and preliminary alignment sheets and maps were provided to facilitate an exchange of information and gather concerns about the Project. The primary concerns expressed were related to crossing requirements, and NST Express engaged in numerous follow-up discussions to address these concerns by incorporating specific requirements from each entity into the Project design and construction plans. Other than one-on-one communication with landowners, no 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 final destination of the crude oil transported by the Project will be refining markets throughout the United States, which will be accessed via interconnections with the Project or

by rail via the NST Transload East Fairview Facility. NST Express provides transportation services and does not determine where the product will ultimately be used.

16.4.6 Labor Relations

NST Express maintains positive labor relations with its staff and contract work force and does not anticipate encountering any adverse labor relations on this Project.

16.4.7 Coordination of Facilities

NST Express has identified utilities that would be affected by the proposed Route and has contacted each party to obtain their crossing/encroachment guidelines and requirements. These requirements have been incorporated into Project design and construction plans. NST Express will continue to work closely with these utilities to safely construct, operate, and maintain the proposed Project located within the vicinity of adjacent existing utilities.

16.4.8 Monitoring Impacts

NST Express is committed to public safety and protection of the environment. NST Express will construct and operate the Project to meet or exceed all applicable federal, state, and local environmental laws, regulations, and standards to protect the environment, human health, wildlife, and natural resources, including regulations stipulated by PHMSA. A contractor will be selected to oversee construction activities and ensure that all mitigation commitments, laws, regulation and standards are implemented. In addition, NST Express will provide construction oversight to confirm contractor compliance with mitigation measures, landowner agreements, and applicable permits. NST Express 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.

Once the Project is in-service, NST Express will use an advance SCADA system to constantly (24/7) monitor and track pressure, temperature, and product flow in order to respond quickly to any potential issues. In addition, NST Express will monitor landowner and community concerns throughout Project operations and respond appropriately.

16.4.9 Using Existing and Proposed Rights-of-Way and Corridors

The NST Express proposed Route was sited to co-locate with existing utility corridors, roads, and other existing linear features to the extent practical. Approximately 8.4 miles of the proposed alignment is adjacent to existing utilities, and approximately 8.9 miles follow road ROWs or property boundaries. In some instances, the proposed ROW does not follow property boundaries due to landowner preferences.

16.4.10 Other Existing or Proposed Transmission Facilities

NST Express is exploring the potential for its Project to interconnect with producers and other transmission facilities; however, NST Express has no specific interconnection plans at this time.

As discussed in Sections 16.3.7 and 16.4.7, NST will continue to work closely with existing and planned facilities and utilities to safely construct and operate the Project and minimize the potential for impacts to existing facilities.

17.0 Evaluation of NDCC Section 49-22-09 Factors

In selecting the corridor and Preferred Route for the Project, NST Express evaluated the factors set forth in NDCC Section 49-22-09. A discussion of each factor is provided below.

17.1 Effects on Public Health, Welfare, Natural Resources, and the Environment

Please see Sections 14.0, 15.0, 16.0, 18.0, and 19.0 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 (HDD/bores) at the Yellowstone River, paved road, railroad and ditch crossings, and boring under or narrowing the construction ROW near cultural resources. 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, the Project will be monitored remotely 24/7 via a SCADA system.

17.3 Potential for Beneficial Uses of Waste Energy from a Proposed Energy Conversion Facility

The Project does not include any energy conversion facilities; therefore, the potential for beneficial uses of waste energy from a proposed energy conversion facility does not apply.

17.4 Unavoidable Adverse Direct and Indirect Environmental Effects

With the exception of aboveground facilities, unavoidable adverse direct and indirect environmental effects of the Project would be temporary and minimized wherever practicable through the use of mitigation measures and BMPs. With the exception of three mainline valves and pipeline markers, aboveground facilities associated with the Project would be located within the boundaries of the proposed Alexander Facility and the existing NST Transload East Fairview Facility; therefore, permanent impacts will be limited primarily to the fee-owned properties at those sites. See Sections 14.0, 15.0, 16.0, 18.0, and 19.0 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

As discussed in Section 13.0 of this Consolidated Application, NST Express analyzed alternatives during selection of its proposed Corridor and Route, and incorporated route deviations proposed by landowners and others in its Route to the extent practicable. As a result, NST Express has identified a Project Corridor and Route that meet 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, NST Express will analyze those alternatives, as necessary.

17.6 Irreversible and Irretrievable Commitments of Natural Resources if Designated

Irreversible or irretrievable commitments of natural resources include: steel for the pipeline, tanks, and ancillary facilities; gravel for improvements to access roads, if required; and petroleum products to power construction equipment, pump stations and other pipeline facilities. The Project will convert approximately 42 acres to industrial use at facility and valve sites.

17.7 Direct and Indirect Economic Impacts of the Facility

The Project's direct and indirect economic impacts include:

- short-term employment opportunities arising from Project construction;
- long-term employment opportunities arising from Project operation;
- increased tax revenue; and
- increased revenue from Project-related local expenditures (such as for gravel, fuel, lodging and food).

Additionally, the Project will provide a safe and efficient means to gather and transport Bakken crude oil to an existing rail facility and other interconnections for transportation to markets throughout the United States, resulting in benefits to North Dakota producers and those with ties to Bakken crude oil production.

17.8 Existing Plans for Other Developments (State, Local, and Private) in the Vicinity of the Project

NST Express has consulted with various federal, state, and local governments, as well as landowners and energy infrastructure owners, regarding the Project, including coordination with respect to both existing and planned developments in the vicinity of the Project. For instance, NST Express is coordinating with the road authority and BOR with respect to potential Highway 58 road expansion plans, and will modify its HDD as necessary in order to accommodate those plans. NST Express has not identified any potential conflicts with existing or planned developments. NST Express will obtain all necessary permits and approvals for the Project from federal, state, and local governments and agencies, and will comply with applicable local land use requirements.

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 14.1, 15.9, 16.0, 17.0, and 19.0 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

Habitat for the pallid sturgeon is located within the Project Corridor and crossed by the Route. Potential habitat for the interior least tern and piping plover may occur on the shoreline of the Yellowstone River, within the Project Corridor and crossed by the Route. Activities associated with the proposed Project are not anticipated to adversely affect water quality and subsequently the pallid sturgeon, interior least tern or piping plover. HDD would be used to cross the Yellowstone River. The NDPRD indicated six occurrence of rare animal and plant species within the project area including the blue sucker, sturgeon chub, sicklefin chub, flathead chub, and pallid sturgeon. The occurrence of the species are in the Yellowstone River, to avoid potential impacts to these species, NST Express will cross the Yellowstone River using a HDD. No additional areas that are unique because of biological wealth or because they are habitats for rare and endangered species are located within the Project Corridor or crossed by the Route; therefore, the Project is not anticipated to impact these resources. For further discussion, please see Sections 14.1, 15.9, 16.0, 17.0, and 19.0 of this Consolidated Application.

17.11 Problems Raised by Federal Agencies, other State Agencies, and Local Entities

Section 15.0 summarizes agency consultations that have occurred to date. NST Express is actively consulting with federal, state, and local agencies and governments, and plans to address any problems or concerns raised.

18.0 Other Factors Considered

18.1 Design Construction Limitations

Specific factors taken into account in the selection of the Project Corridor and Route, including design and construction limitations, are identified in Sections 2.0 and 13.0 of, and discussed throughout, this Consolidated Application. In particular, the Project was designed to facilitate gathering and transportation of crude oil from the Alexander area to the existing NST Transload East Fairview Facility. Additionally, to cross the Yellowstone River, the crossing location had to meet certain requirements (e.g., sufficient workspace) necessary to complete a HDD.

The Project will be designed, constructed, and operated in accordance with USDOT regulations governing the transportation of hazardous liquids by pipeline, which are set forth in 49 CFR Part 195.

18.2 Economic Considerations

In selecting the Project corridor and Preferred Route, one of many factors NST Express considered was facilitating construction of the Project in the most economical and efficient manner. However, corridor and route selection required balancing of a number of factors, as discussed specifically in Sections 2.0 and 13.0 of this Consolidated Application.

Other economic considerations associated with the Project include the positive direct and indirect economic benefits that the Project will provide within and beyond North Dakota. As discussed in Section 17.7 of this Consolidated Application, the Project will provide a number of economic benefits, including short-term and long-term employment opportunities, increased tax revenue, and increased revenue from Project-related local expenditures. Additionally, the Project will facilitate the safe and efficient gathering and transportation of light sweet crude oil to the NST Transload East Fairview Facility for transportation to markets throughout the United States, which benefits North Dakota producers and, in turn, those with ties to crude oil production.

18.3 Present and Future Natural Resource Development

As discussed in Section 16.1.1, there are no national parks, national memorial parks, national historic sites or landmarks, national wilderness areas, or national monuments located within the Project Corridor and Route. Similarly, there are no designated or registered state parks, sites, monuments, or nature preserves along the Project Route. There are also no county parks, recreational areas, municipal parks, or parks owned or administered by other governmental subdivisions along the Project Route.

In addition, as discussed in Section 16.2.1, there are no wildlife areas, wild, scenic, or recreational rivers, wildlife refuges, or grasslands within the Project Corridor or Route. There are also no designated or registered state wild or recreational rivers, game refuges, game management and management area, forests, forest management lands, or grasslands crossed by the Project Corridor or Route.

Moreover, as discussed in Section 15.1, the USFWS has provided comments indicating that the Project avoids all current USFWS fee-title lands easement interests.

The Project would primarily cross land used for agriculture and grazing. Once construction is complete, the ROW will be restored to its prior use, including in areas currently used for agricultural production. Further, as discussed in Sections 16.3.7 and 16.4.7, NST will continue to work closely with existing and planned oil and gas development facilities to safely construct and operate the Project and minimize the potential for impacts to existing facilities. Thus, impacts along the Route are anticipated to be primarily temporary and minimal.

19.0 Applicant's Mitigation Measures and Policies and Commitments to Limit Environmental Impact

NST Express 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. Specifically, the Project has been routed and designed to take advantage of existing infrastructure. In addition, the Project has been designed and will be constructed and operated to meet or exceed federal, state, local, and industry safety, environmental, and operational standards.

In addition to the mitigation measures discussed throughout this Combined Application, NST Express has developed an Environmental Mitigation Plan (Appendix C) that outlines 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. Specifically, the Environmental Mitigation Plan provides a detailed description of the mitigation measures that will be implemented during Project construction, including:

- general mitigation measures;
- spill prevention;
- temporary erosion and sediment control;
- highway, road, and railroad crossings;
- uplands;
- wetland crossings;
- waterbodies and riparian areas; and,
- hydrostatic testing.

NST is also developing specific plans for the Project, including a Stormwater Pollution Prevention Plan and an HDD Contingency Plan.

Site-specific measures that NST Express will implement for crossing the Yellowstone River, which is classified as a jurisdictional waterway under Section 10 of the Rivers and Harbors Act, will be provided in the Section 10 permit from the USACE for the Project. Likewise, mitigation measures for boring irrigation canals associated with the Lower Yellowstone Irrigation Project will be applied as required in the permit issued by the Bureau of Reclamation- Montana Area Office.

20.0 Qualifications of Preparers

Mr. Boe Gregson
Office Director and Senior Project Manager
SWCA Environmental Consultants, 116 N 4th Street, Bismarck, North Dakota 57732

Mr. Gregson as the Office Director for the Bismarck staff and ensure that projects are completed on schedule and within budget. He has worked in the consulting industry for the past nine years with a focus on the oversight of all aspects of oil and gas field permitting/development (i.e., archaeology, wildlife, leasing, operations, survey, geographical information systems (GIS), and environmental permitting – SWPPP, Spill Prevention, Control

and Countermeasure Plan, National Pollutant Discharge Elimination System, etc.). Mr. Gregson has been involved in the Bakken oil and gas development area by completing projects comprising of over a thousand miles of pipeline and hundreds of well sites. His experience spans many states including the Dakotas, Wyoming, Montana, Colorado, and Pennsylvania. B.S. Soil and Crop Sciences – Colorado State University, Fort Collins, Colorado.

Ms. Peggy Roberts
Senior Project Manager
SWCA Environmental Consultants, 2120 South College Avenue, #2, Fort Collins, Colorado 80525

Ms. Roberts is a Senior Project Manager serving in the management role on large-scale NEPA projects across several industries to comply with the NEPA. Her experience includes preparation of permit applications for electric and oil and gas transmission projects for siting authorities including the North Dakota Public Service Commission, the Nevada Utilities Commission, and the Public Utilities Commission of Texas. Ms. Roberts has project experience across the Dakotas, Colorado, New Mexico, Wyoming, Nevada, Texas, and Alaska. BJ Journalism/Public Relations – University of Texas at Austin; M.S. Public Communications and Technology – Colorado State University; M.S. Organizational Leadership – Colorado State University.

Ms. Mollie M. Smith
Attorney at Law
Fredrikson & Byron P.A., 200 South Sixth Street, Suite 4000, Minneapolis, Minnesota 55402

Ms. Smith assists clients with pipeline, transmission line and wind farm permitting matters in North Dakota and Minnesota. Her experience includes representing clients in state and local administrative proceedings, including certificate of corridor compatibility, route permit and certificate of site compatibility proceedings before the North Dakota Public Service Commission, and certificate of need, route permit and site permit proceedings before the Minnesota Public Utilities Commission. B.A. English – Northern State University, Aberdeen, SD; M.A. Literature – Colorado State University, Fort Collins, CO; J.D. – University of Minnesota Law School, Minneapolis, MN.

Ms. Lindsey Remakel
Senior Associate
Fredrikson & Byron P.A., 200 South Sixth Street, Suite 4000, Minneapolis, Minnesota 55402

Ms. Remakel advises and assists clients on pipeline, transmission, wind and solar permitting matters and with the acquisition and development of energy projects. Ms. Remakel also serves as environmental counsel in mergers, acquisitions and real estate transactions and assists energy and industrial clients with permitting and regulatory compliance matters under environmental and health and safety laws. B.A. Environmental Studies and Political Science – Concordia College, Moorhead, MN; M.P.A. Environmental Policy – Indiana University School of Public and Environmental Affairs, Bloomington, Indiana; J.D. – Indiana University Maurer School of Law, Bloomington, IN.

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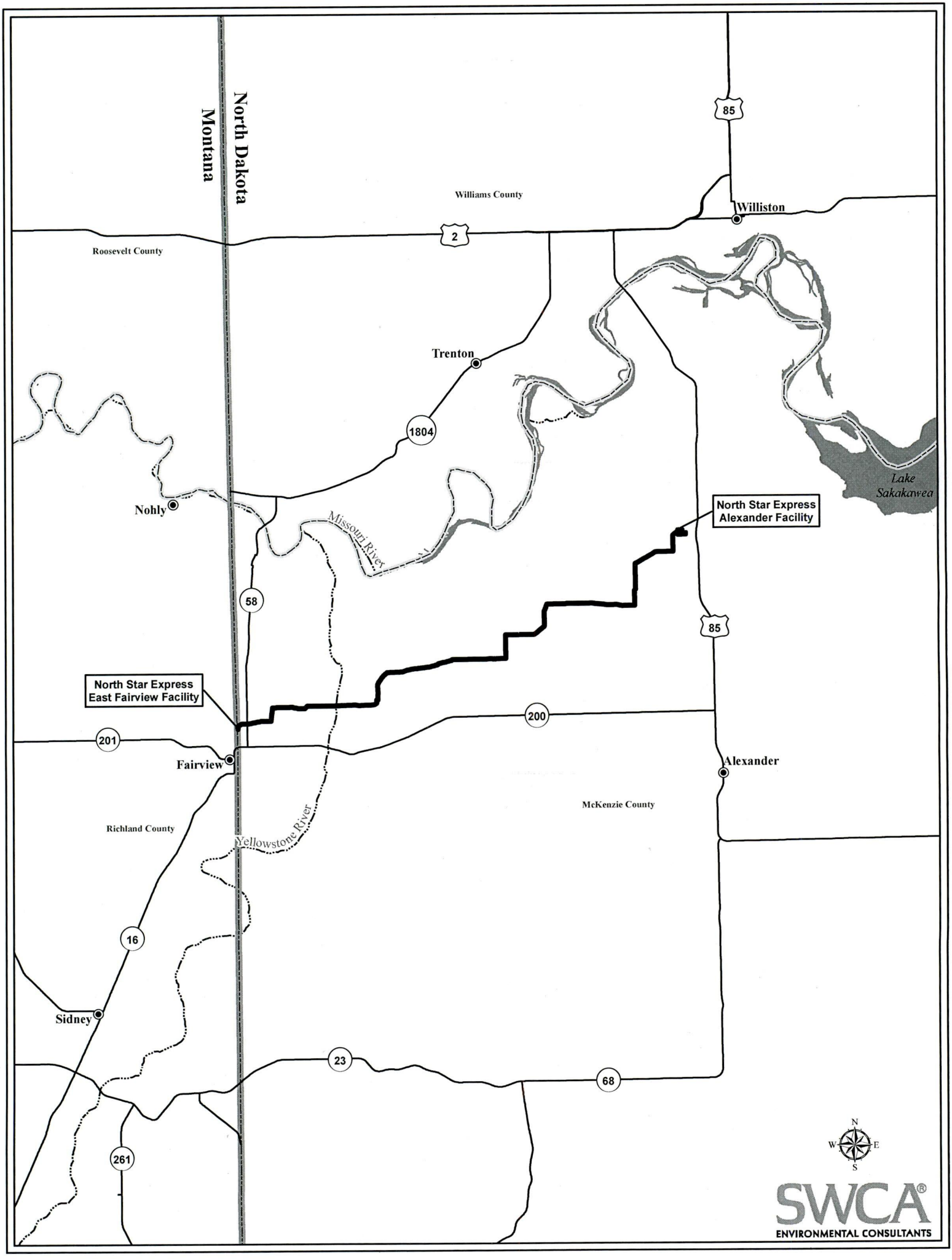
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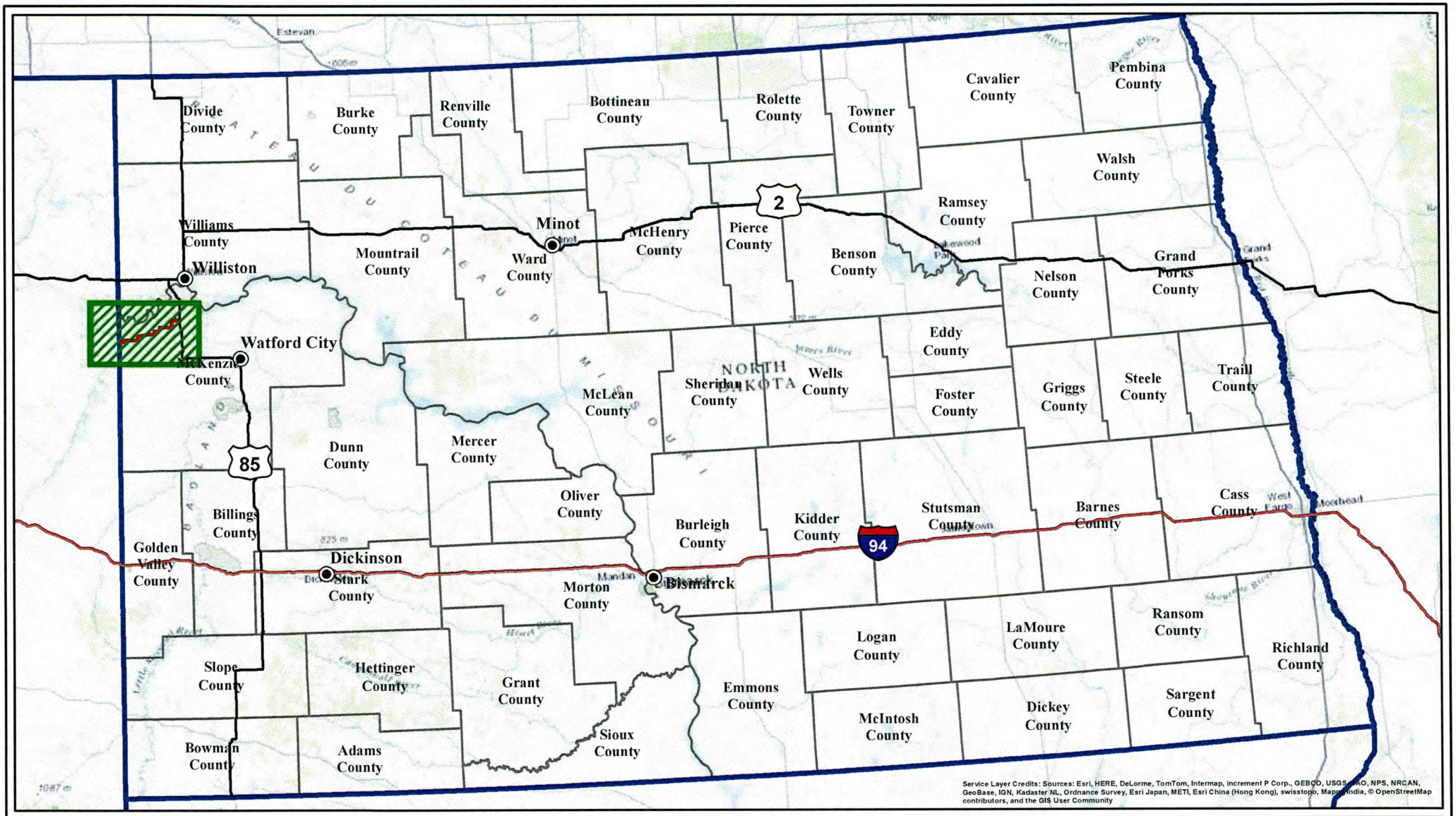
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APPENDIX A

Project Overview Maps and Engineering Drawings


Montana
North Dakota
Williams County
Williston
85
2
Roosevelt County
Trenton
1804
Nohly
Missouri River
Lake Sakakawea
North Star Express Alexander Facility
58
85
North Star Express East Fairview Facility
200
201
Fairview
Alexander
McKenzie County
Richland County
Yellowstone River
16
Sidney
23
68
261
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NST Express Pipeline

- City
- Proposed Route
- Interstate Highway
- U.S. Highway
- County Boundary
- State Boundary

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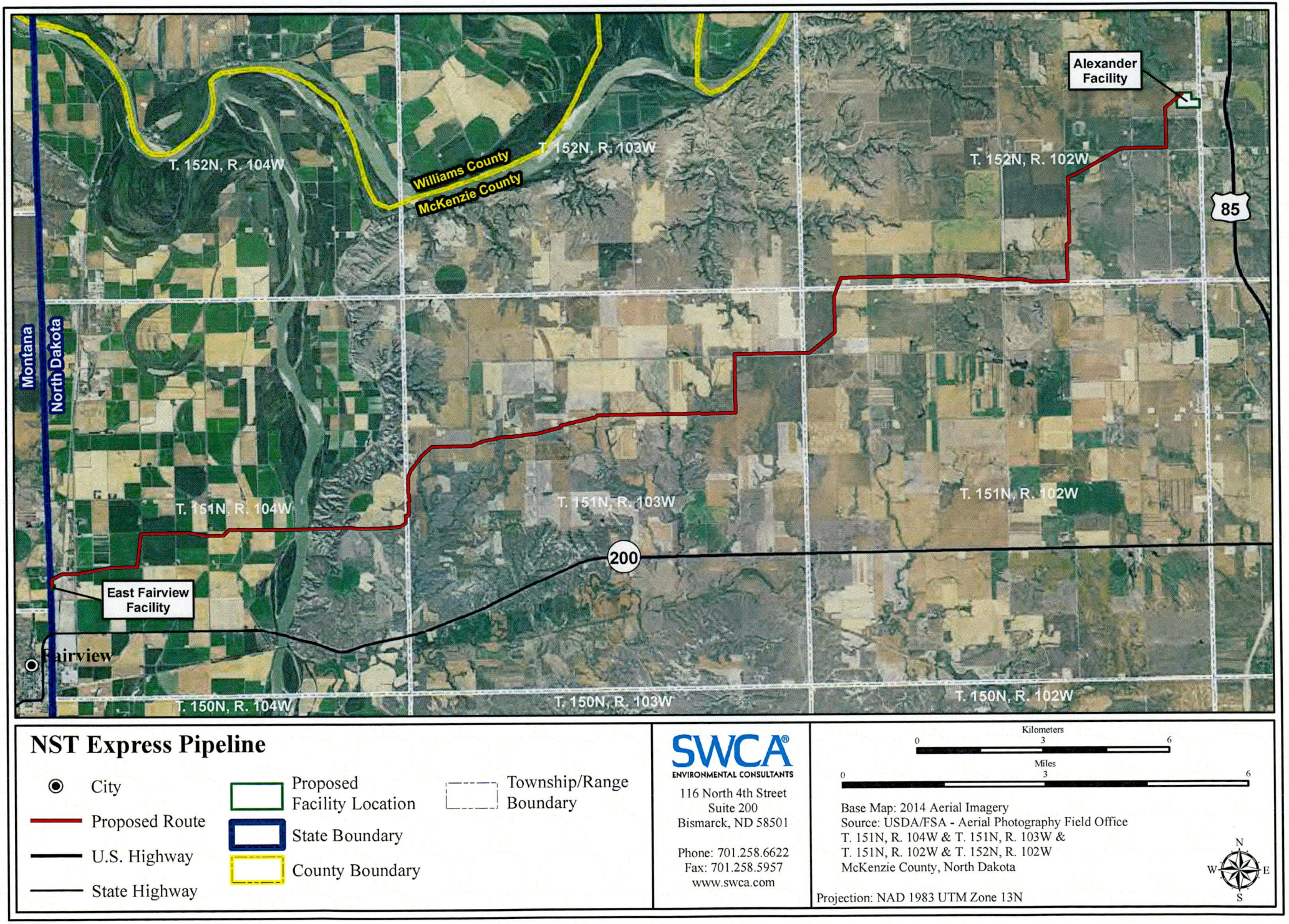
Kilometers
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Miles
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Base Map: Topographic Map
Source: ESRI ArcGIS online service
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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NST Express Pipeline

- City
- Proposed Route
- U.S. Highway
- State Highway
- Proposed Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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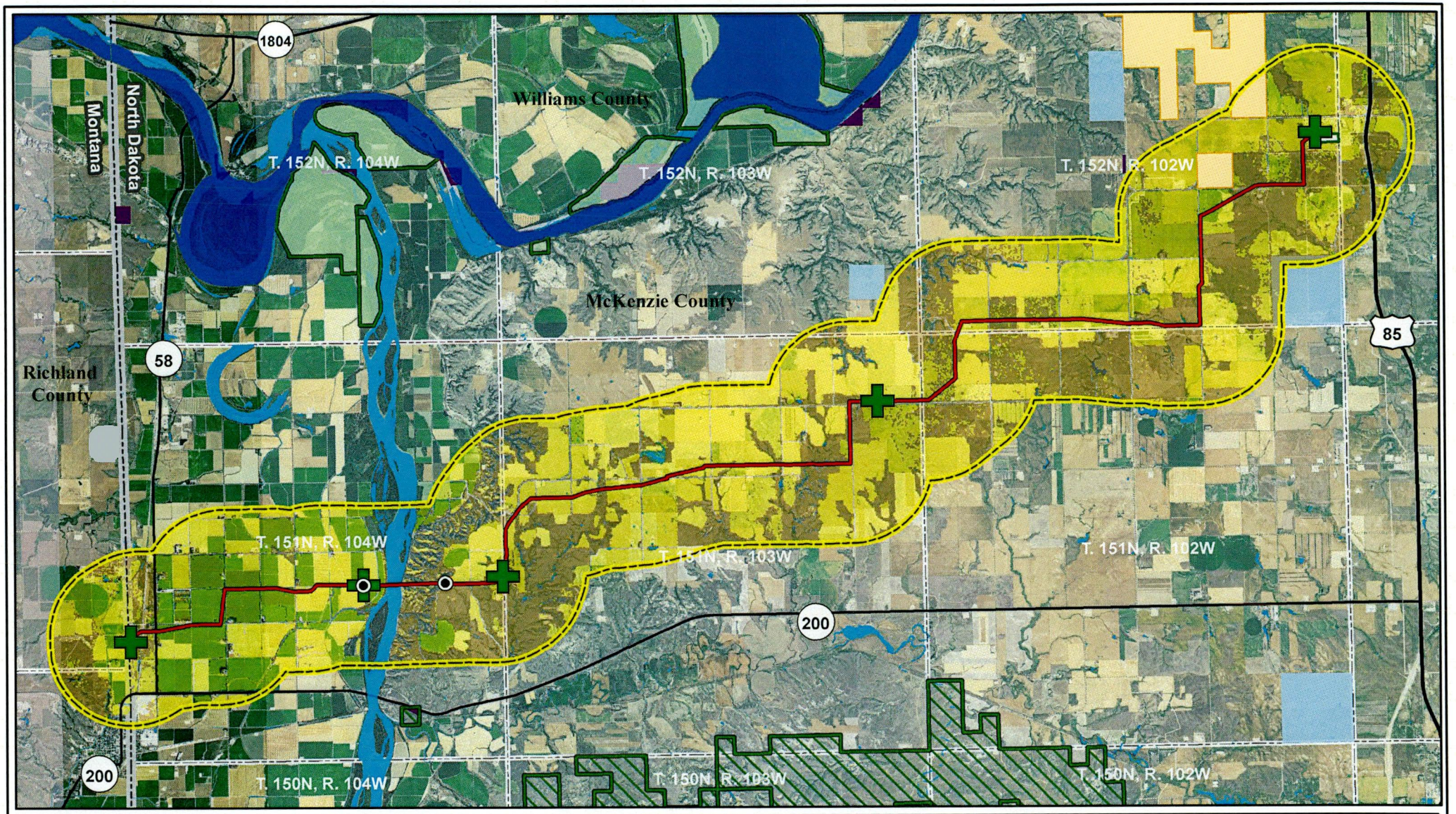
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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
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T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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NST Express Pipeline

- Yellowstone River HDD
- Valve Location
- Proposed Route
- U.S. Highway
- State Highway
- Study Area
- Proposed Facility
- North Dakota Game and Fish PLOTS Land
- Agricultural Land
- Grassland/Pasture
- U.S. Forest Service Land
- North Dakota State Trust Land
- Wildlife Management Area
- Bureau of Land Management
- NWI Wetland
- Designated Critical Habitat
- State Boundary
- Township/Range Boundary

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Miles
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Kilometers
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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
Quadrangle: Fairview (1995), Dore (1991), Buford (1976), Cartwright (1991), Camp Creek West (1978)
Township/Range: T. 151N, R. 104W & T. 151N, R. 103W & T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N



NST Express Pipeline - Exclusion and Avoidance Area

- Yellowstone River HDD
- Valve Location
- Proposed Route
- Existing Road
- 200-foot Corridor
- Proposed Facility Location
- Yellowstone River
- Section Boundary
- Township/Range Boundary

**Disclaimer - Due to the sensitive nature of cultural resources, we are unable to illustrate the avoidance areas in this figure.

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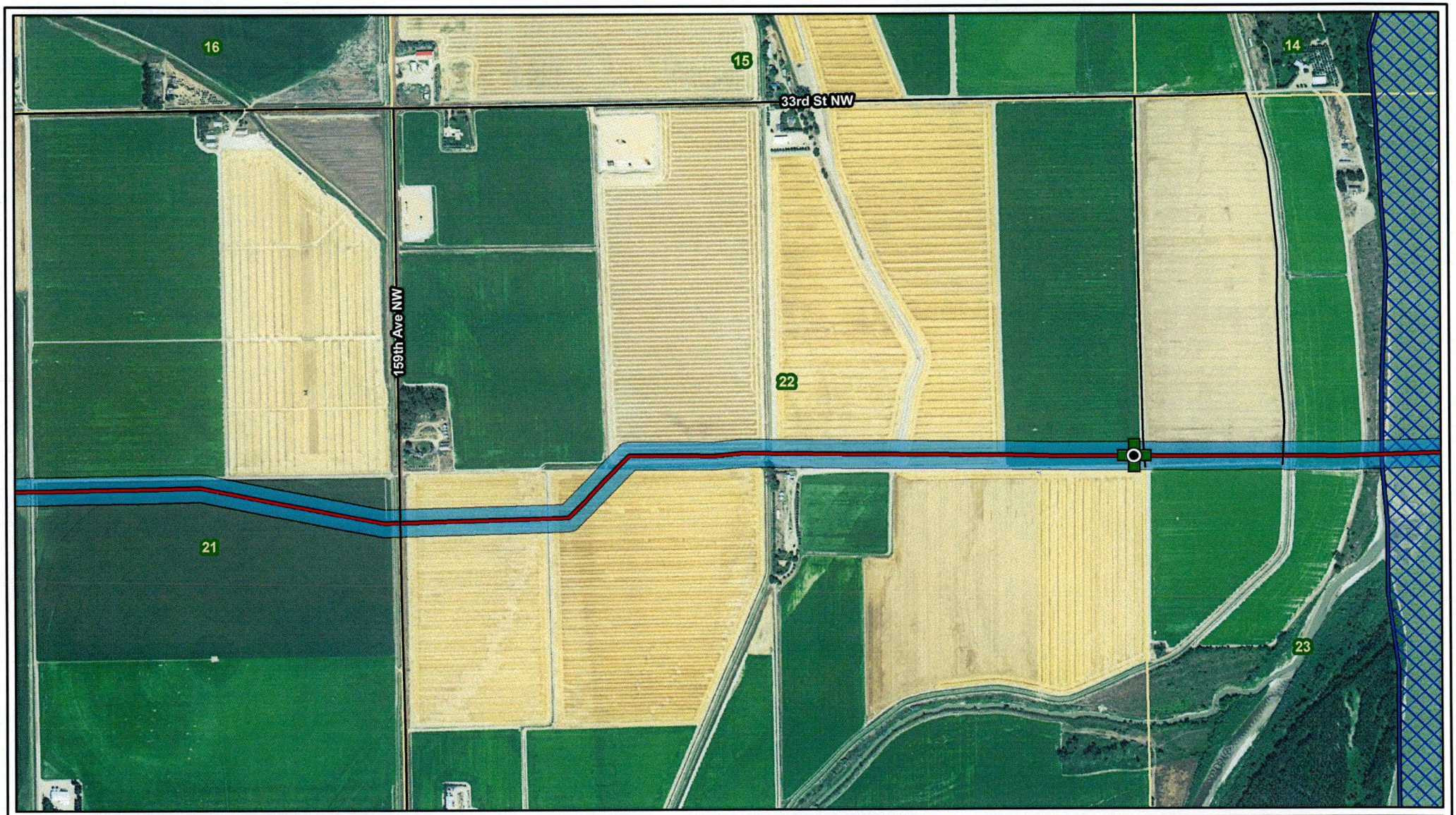
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Quadrangle: Fairview (1995),
Township/Range: T. 151N, R. 104W

McKenzie County, North Dakota
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N W E S



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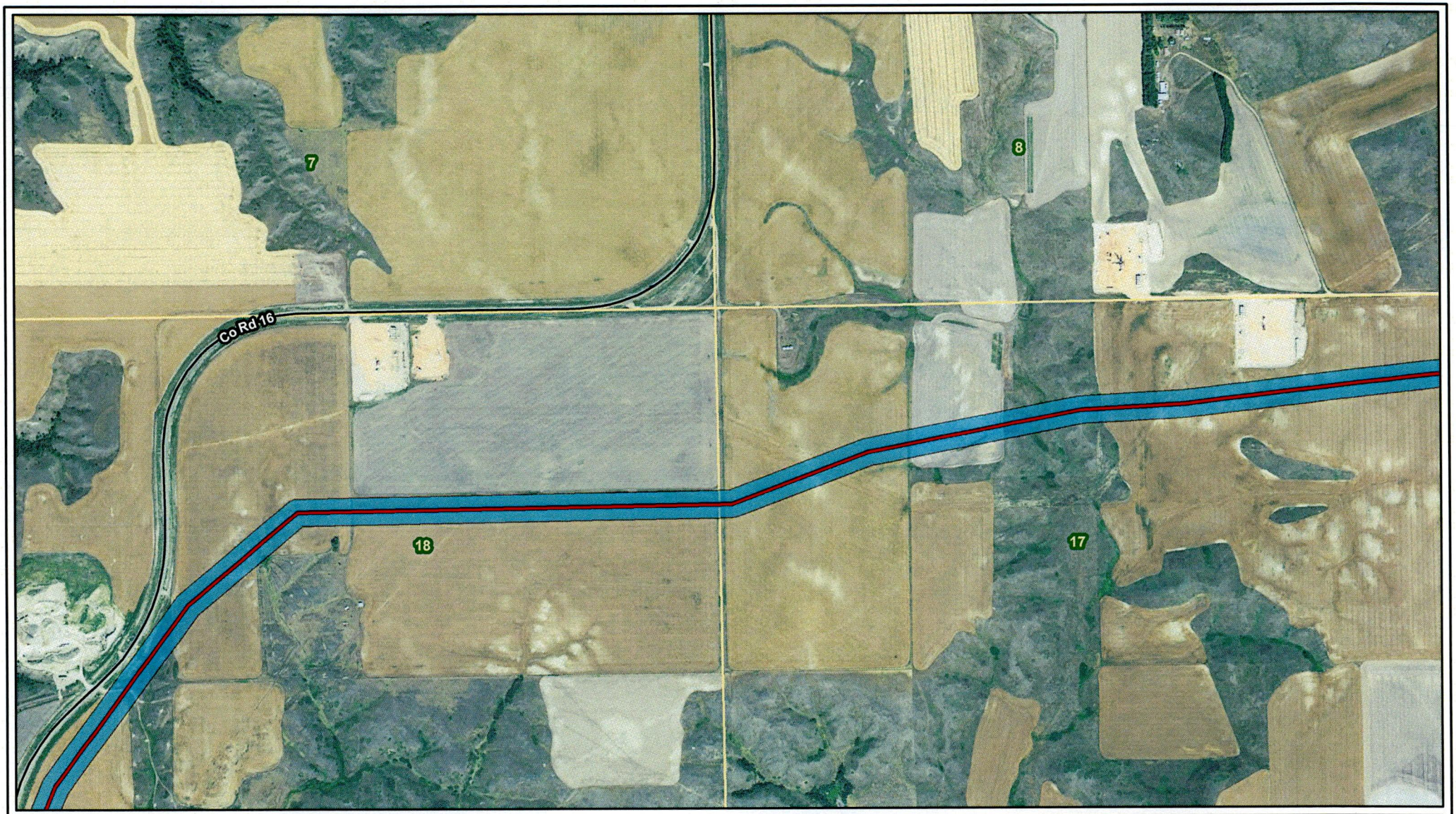
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Township/Range: T. 151N, R. 104W &
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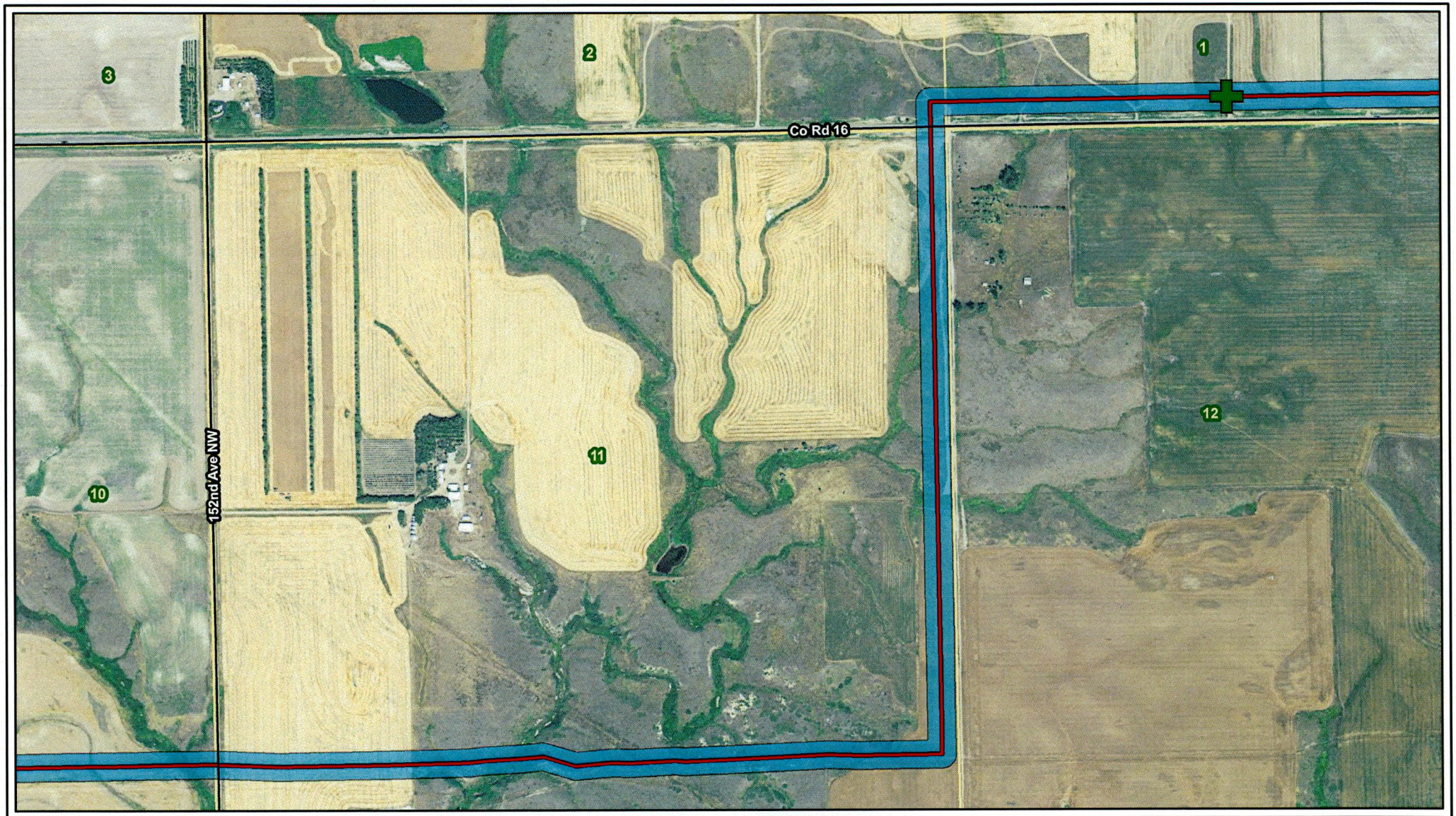
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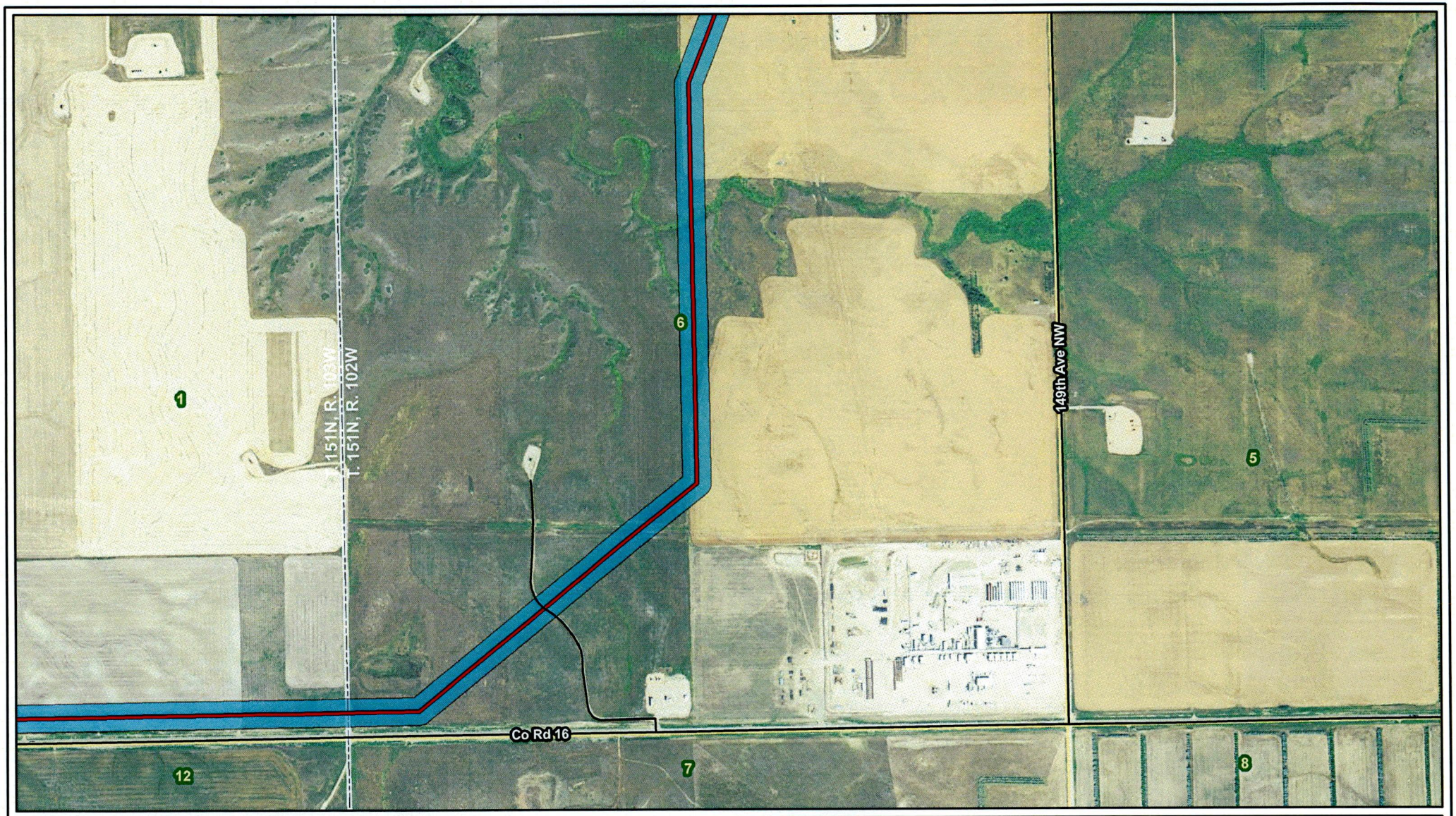
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Township/Range: T. 151N, R. 103W

McKenzie County, North Dakota
Projection: NAD 1983 UTM Zone 13N

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NST Express Pipeline - Exclusion and Avoidance Area

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NST Express Pipeline - Exclusion and Avoidance Area

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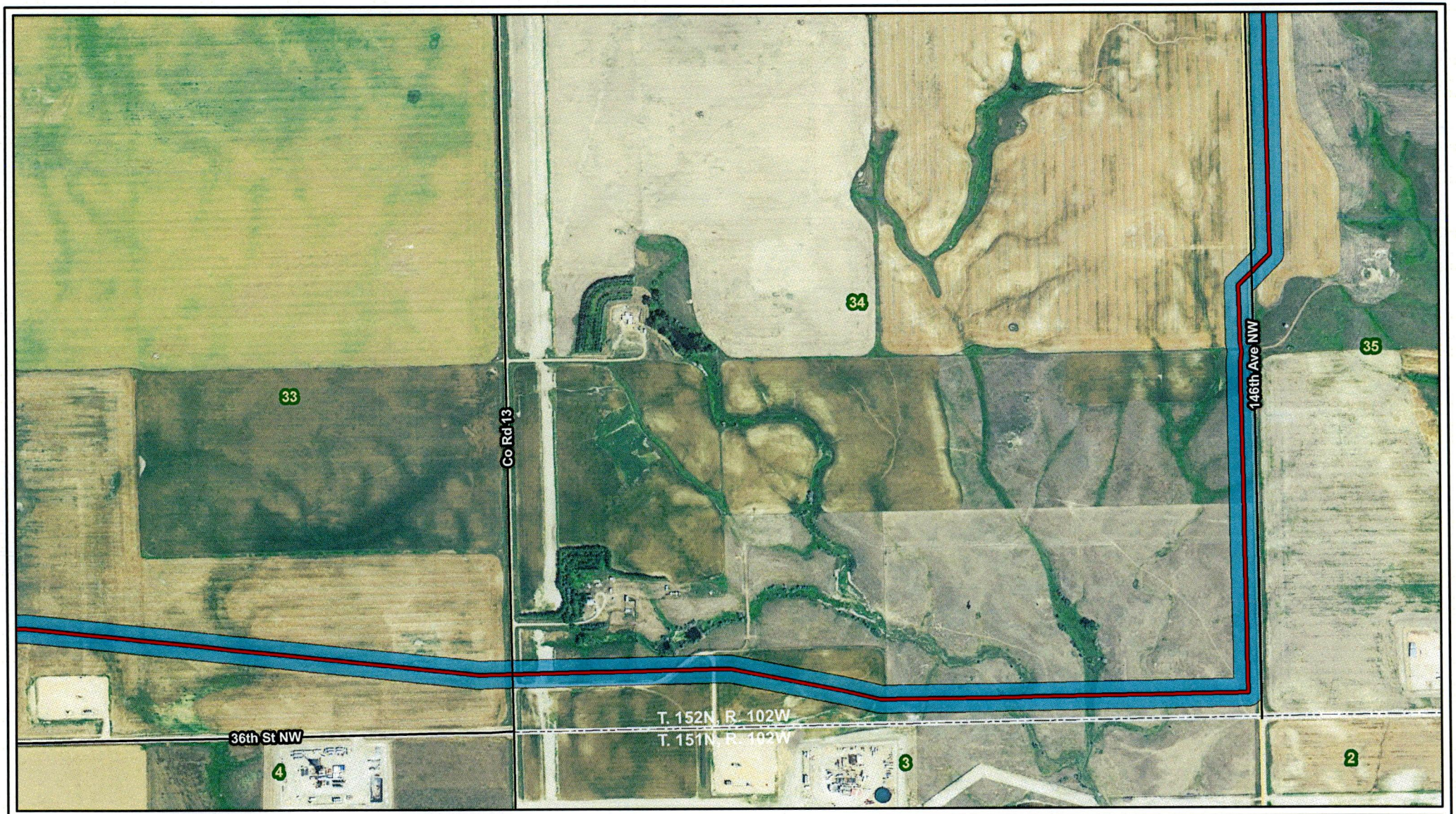
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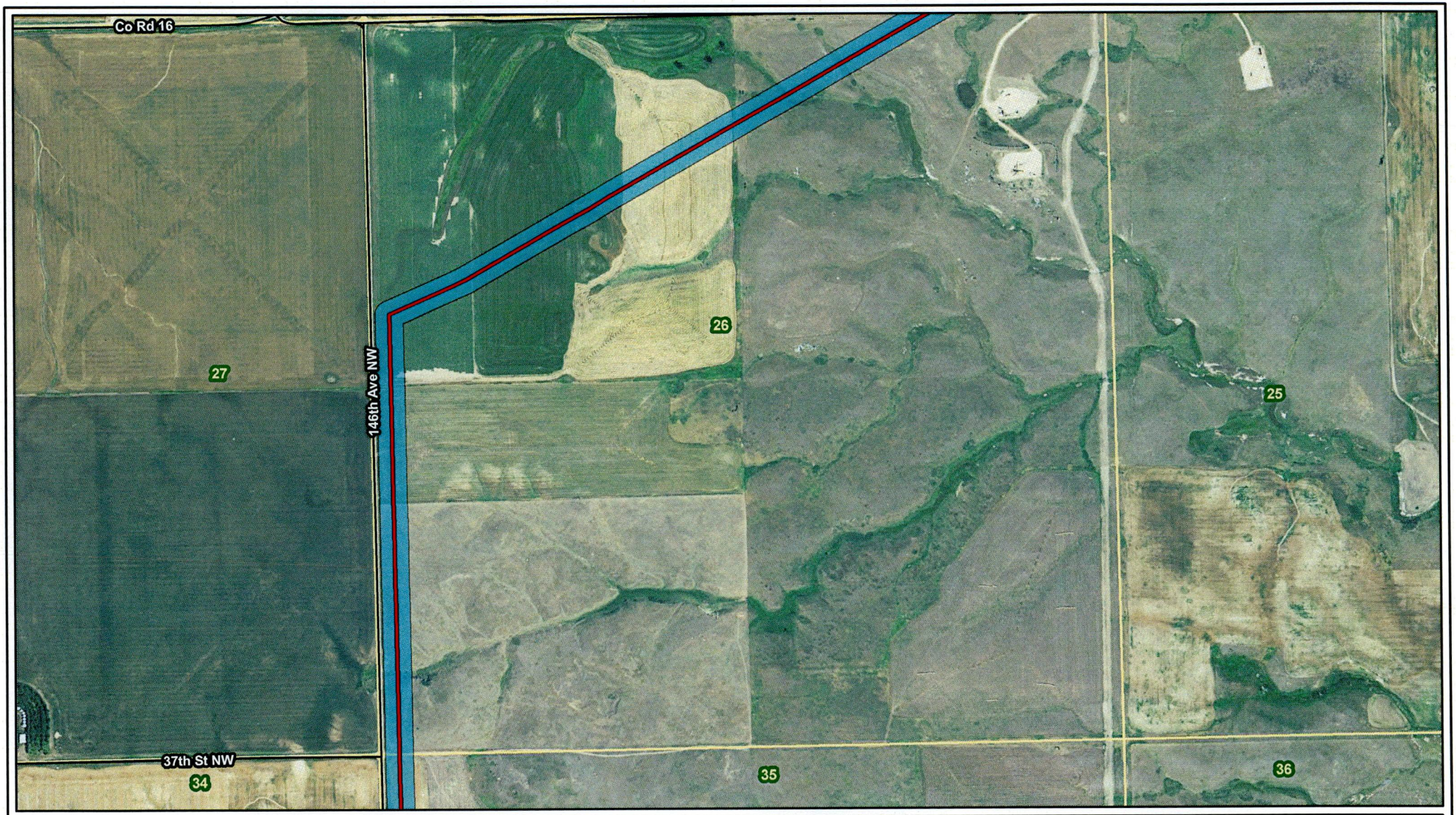
Phone: 701.258.6622
Fax: 701.258.5957
www.swca.com

Kilometers
0 0.25 0.5
Miles
0 0.25 0.5

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
Quadrangle: Camp Creek West (1978)
Township/Range: T. 152N, R. 102W

McKenzie County, North Dakota
Projection: NAD 1983 UTM Zone 13N

N W E S



NST Express Pipeline - Exclusion and Avoidance Area

- Yellowstone River HDD
- Valve Location
- Proposed Route
- Existing Road
- 200-foot Corridor
- Proposed Facility Location
- Yellowstone River
- Section Boundary
- Township/Range Boundary

**Disclaimer - Due to the sensitive nature of cultural resources, we are unable to illustrate the avoidance areas in this figure.

SWCA® ENVIRONMENTAL CONSULTANTS
116 North 4th Street
Suite 200
Bismarck, ND 58501

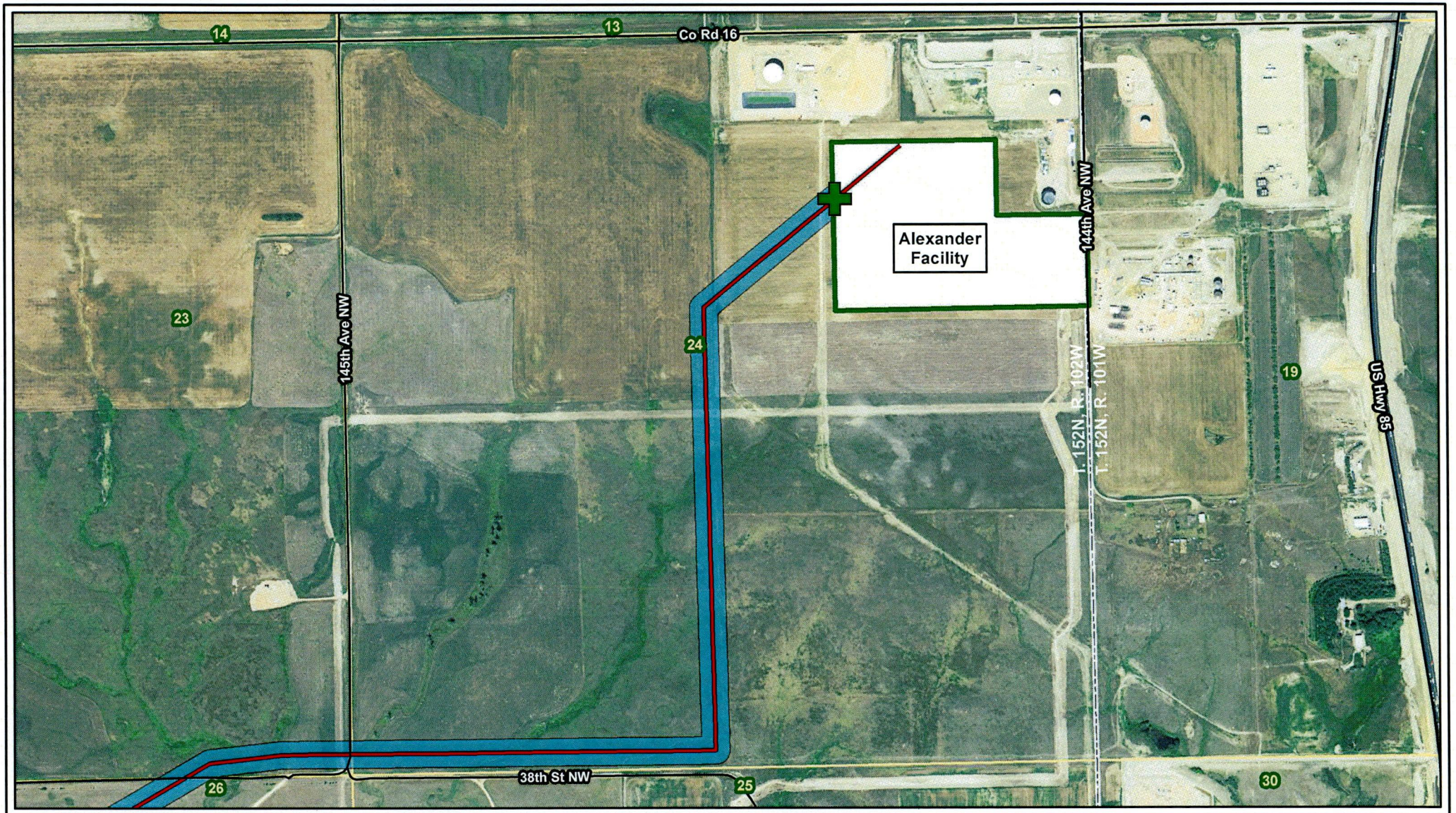
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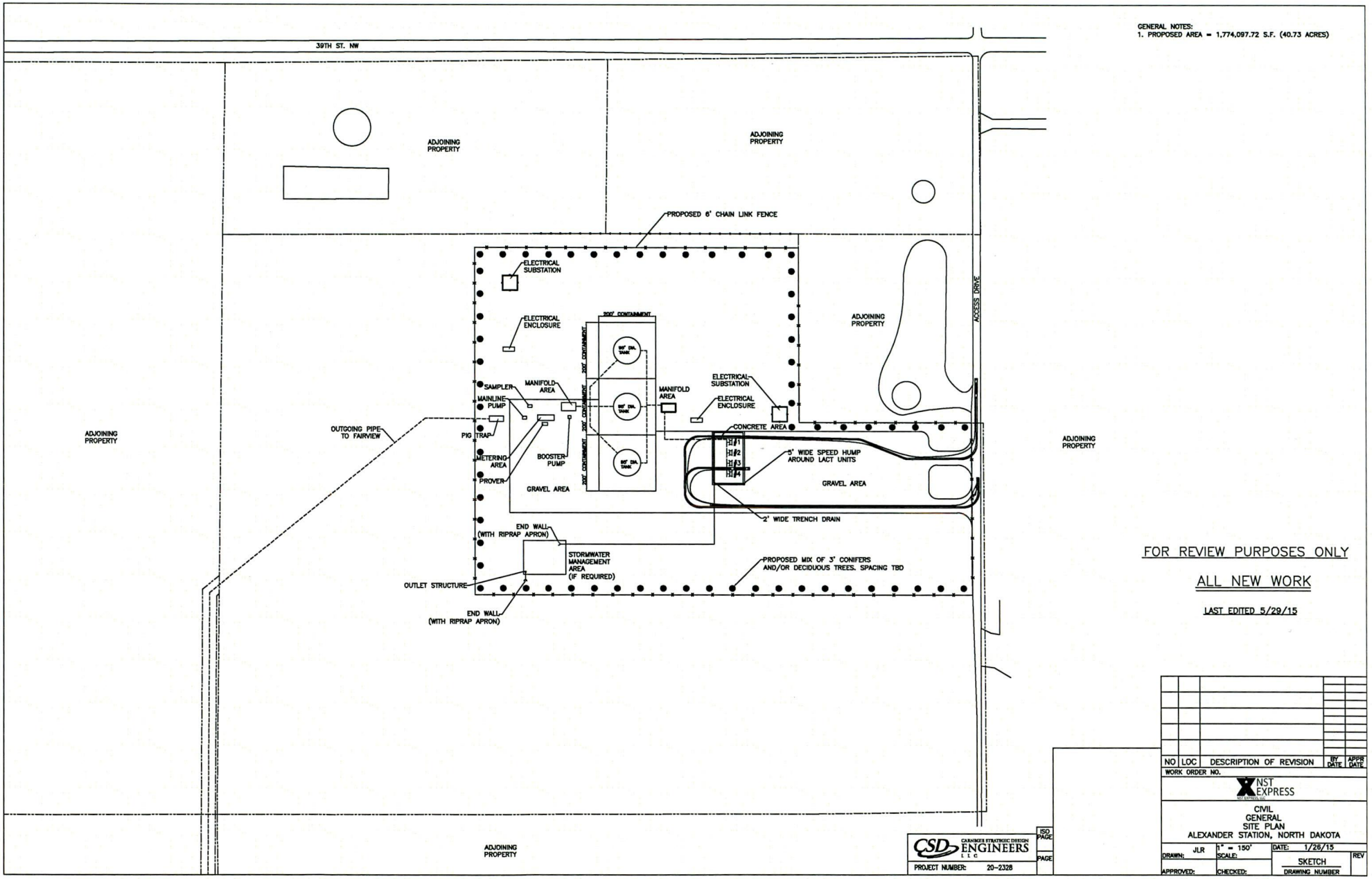
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Kilometers
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Quadrangle: Camp Creek West (1978)
Township/Range: T. 152N, R. 102W

McKenzie County, North Dakota
Projection: NAD 1983 UTM Zone 13N

N W E S



GENERAL NOTES:
1. PROPOSED AREA = 1,774,097.72 S.F. (40.73 ACRES)

FOR REVIEW PURPOSES ONLY

ALL NEW WORK

LAST EDITED 5/29/15

NO	LOC	DESCRIPTION OF REVISION	BY DATE	APPR DATE

WORK ORDER NO.

NST EXPRESS

CIVIL
GENERAL
SITE PLAN
ALEXANDER STATION, NORTH DAKOTA

DRAWN:	SCALE:	DATE:	REV
JLR	1" = 150'	1/26/15	
APPROVED:	CHECKED:	SKETCH (DRAWING NUMBER)	

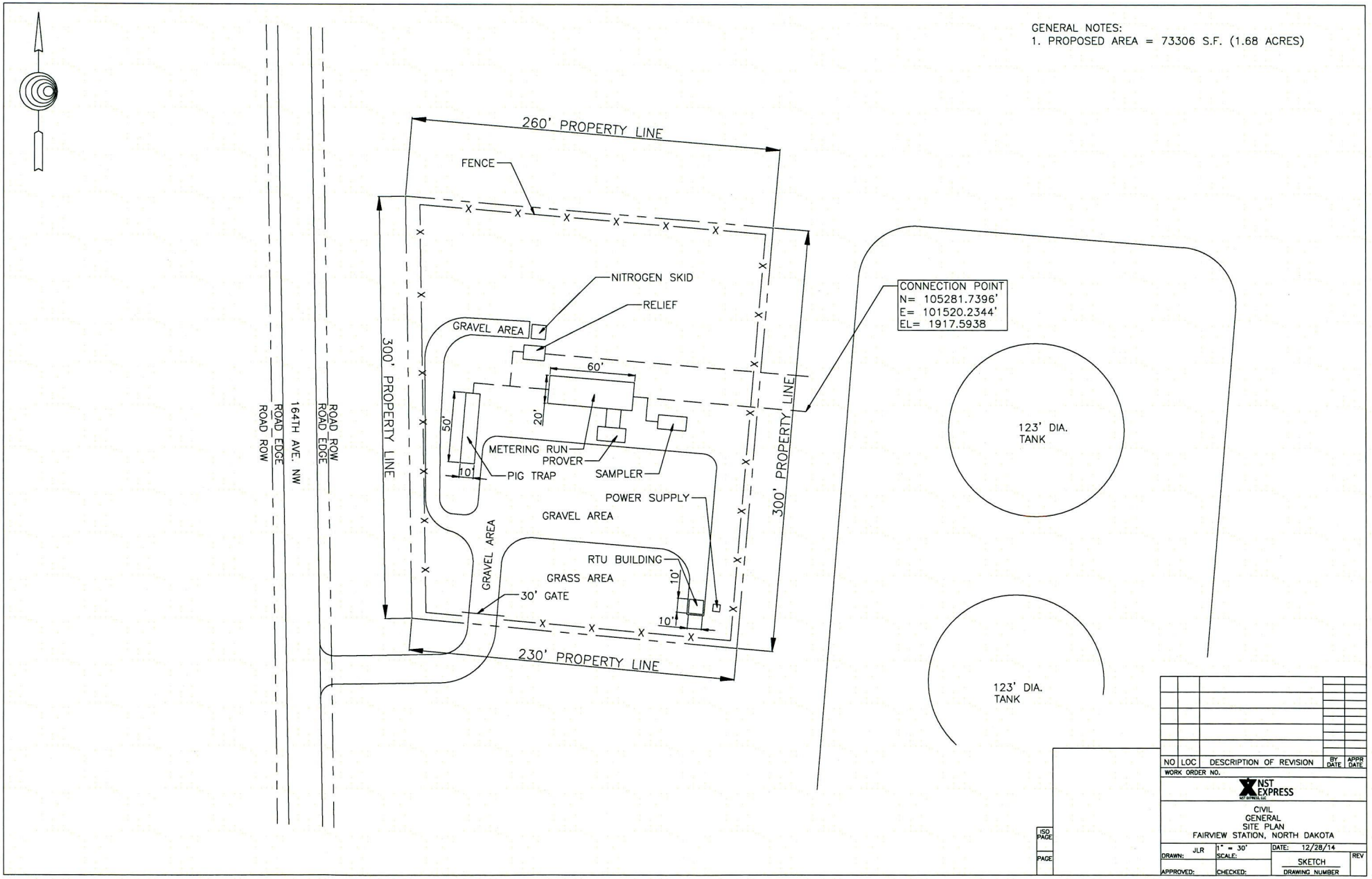
CSD CARNEGIE STRATEGIC DESIGN ENGINEERS LLC

PROJECT NUMBER: 20-2328

ISO PAGE

PAGE

GENERAL NOTES:
1. PROPOSED AREA = 73306 S.F. (1.68 ACRES)



NO	LOC	DESCRIPTION OF REVISION	BY DATE	APPR DATE

WORK ORDER NO.

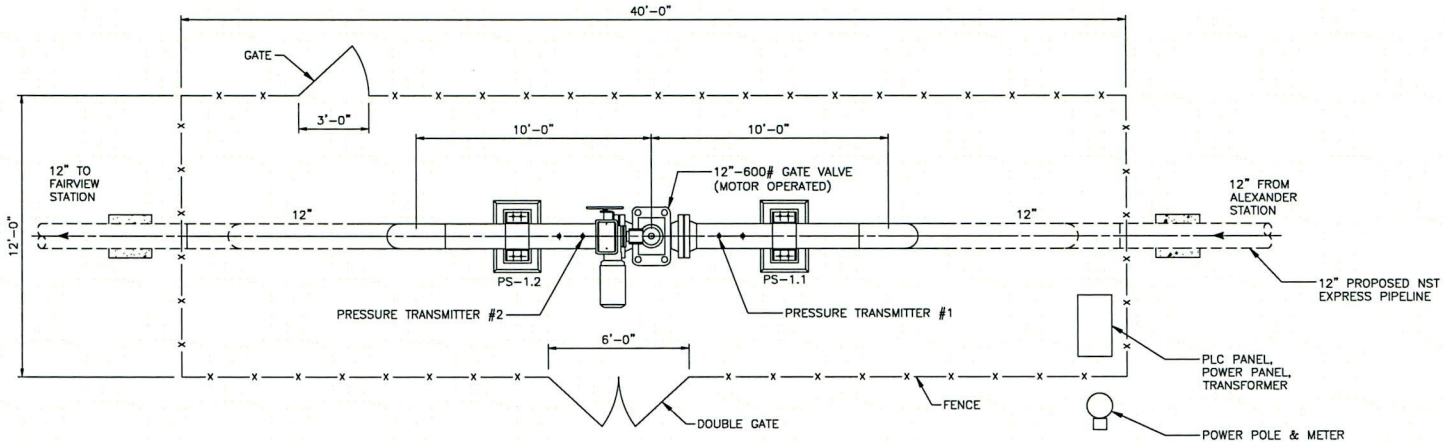
NST EXPRESS

CIVIL
GENERAL
SITE PLAN
FAIRVIEW STATION, NORTH DAKOTA

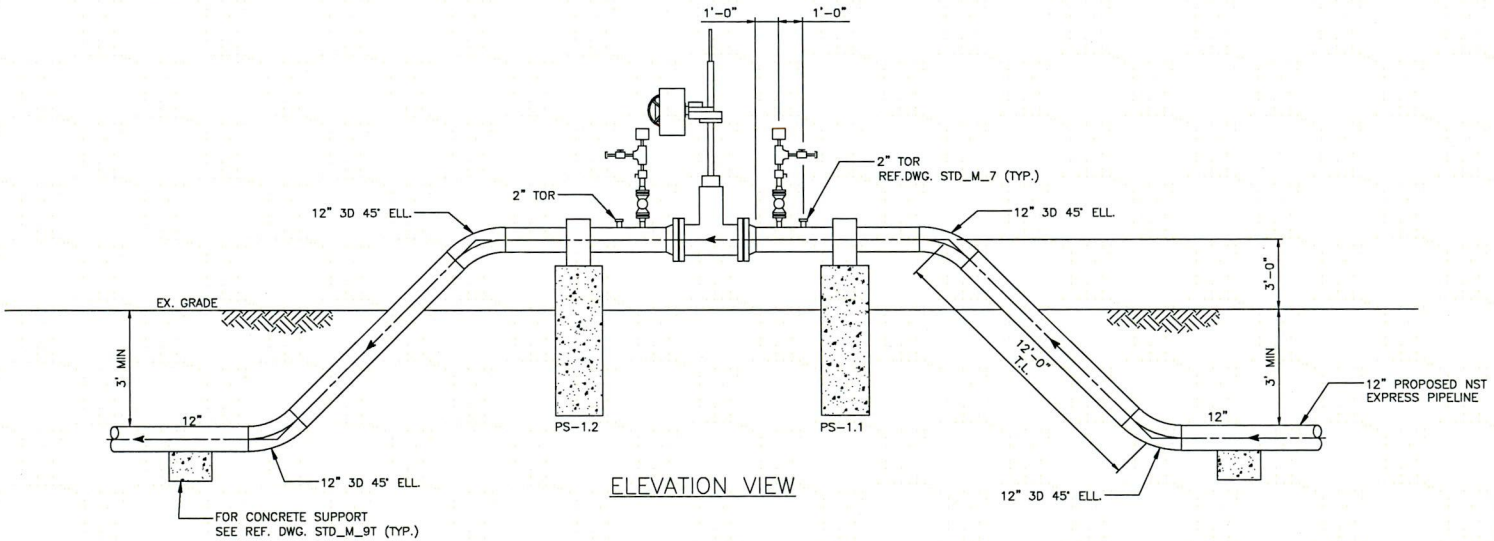
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APPROVED:	CHECKED:	SKETCH DRAWING NUMBER	

ISO PAGE
PAGE

TYPICAL AUTOMATED VALVE SITE



PLAN VIEW



ELEVATION VIEW

B			
A	INITIAL RELEASE	KBI 05/08/15	XXX XX/XX/15

NST EXPRESS, LLC

ENGineering
28100 TORCH PARKWAY
WARRENVILLE, IL 60555
TEL (630) 353-4000
FAX (630) 353-7777
WWW.ENGINEERING.COM

ISO PAGE

PAGE

NO	LOC	DESCRIPTION OF REVISION	BY DATE	APPR DATE
4				
3				
2				
1				
0				

WORK ORDER NO.

NST EXPRESS PIPELINE

TYPICAL VALVE STATION
PLAN AND PROFILE

DRAWN: KBI	SCALE: 3/8"=1'	DATE: 4/27/15	
APPROVED:	CHECKED:	NO. VALVE STATION	REV A

APPENDIX B
Ten-Year Plan

TEN YEAR PLAN: 2015-2025
NST Express, LLC

May 2015

In accordance with Section 49-22-04 of the North Dakota Century Code and Chapter 69-06-02 of the North Dakota Administrative Code, NST Express, LLC ("NST Express"), submits the following Ten Year Plan for years 2015 through 2025.

(1) A description of the general location, size, and type of all facilities to be owned or operated by the utility during the ensuing ten years, as well as those facilities to be removed from service during the ten-year period.

NST Express currently does not own or operate any transmission facilities in North Dakota. NST Express will submit an application for a Certificate of Corridor Compatibility and Route Permit, requesting approval from the North Dakota Public Service Commission ("Commission") for the construction of a 12-inch-diameter crude oil pipeline, approximately 23 miles in length, and associated facilities (the "Project"). The Project pipeline will originate at a new gathering facility located north of Alexander, North Dakota (the "NST Express Alexander Facility") and will terminate at the existing NST Transload East Fairview Facility in East Fairview, North Dakota. The Project will be wholly located in McKenzie County, North Dakota.

NST Express does not own or operate any facilities that it plans to remove from service during the next ten years.

(2) An identification of the location of the tentative preferred site for all energy conversion facilities and the tentative location of all transmission facilities on which construction is intended to be commenced within the ensuing five years and such other information as may be required by the commission. The site and corridor identification shall be made in compliance with the criteria published by the commission pursuant to section 49-22-05.1.

NST Express has evaluated a study area for the Project to determine the best location for the placement of the corridor and route in order to meet the needs of the Project, while minimizing any potential land use and environmental impacts, and taking into consideration landowner input and design and construction limitations. The selected location of the route within the corridor was made in compliance with Section 49-22-05.1 of the North Dakota Century Code. NST Express's Consolidated Application for a Certificate of Corridor Compatibility and Route Permit, which will be filed with the Commission in the near future, will discuss the Project's compliance with the Section 49-22.05.1 criteria in greater detail. NST Express is exploring opportunities to interconnect with other producers but currently has no plans to construct additional transmission facilities within the next five years.

(3) A description of the efforts by the utility to coordinate the plan with other utilities so as to provide a coordinated regional plan for meeting the utility needs of the region.

NST Express performed a centerline survey of the Project route, and based on that survey, NST Express identified all third-party entities/utilities that would be encountered (e.g., petroleum, water, electric). NST Express then contacted each entity to obtain its respective crossing and encroachment guidelines and requirements. NST Express has incorporated these requirements into the Project design, and will work closely with each entity during construction and future operations and maintenance in order to safely construct and operate the Project around these adjacent utilities.

NST Express is exploring the potential for its Project to interconnect with producers and other transmission facilities; however, NST Express has no specific interconnection plans at this time.

(4) A description of the efforts to involve environmental protection and land-use planning agencies in the planning process, as well as other efforts to identify and minimize environmental problems at the earliest possible stage in the planning process.

NST Express has employed a qualified environmental consulting firm to conduct studies of and identify avoidance and exclusion areas within the proposed Project corridor and route, in accordance with Chapter 49-22 of the North Dakota Century Code and Chapter 69-06-08 of the North Dakota Administrative Code. To date, no environmental or siting concerns have been identified that would preclude development of the Project within the study area. NST Express has also developed an Environmental Mitigation Plan that outlines general construction-related mitigation measures to minimize impacts to natural and cultural resources from Project development.

NST Express submitted Project consultation letters to various agencies and governmental units in March and May of 2015. NST Express has consulted, and will continue to coordinate with, federal, state and local agencies and governmental units regarding the Project. NST Express will obtain all required permits for the Project, including a conditional use permit from McKenzie County.

(5) A statement of the projected demand for the service rendered by the utility for the ensuing ten years and the underlying assumptions for the projection, with that information being as geographically specific as possible, and a description of the manner and extent to which the utility will meet the projected demands.

The development of hydrocarbon production in the Williston Basin has increased significantly in recent years due to advancements in deep horizontal directional drilling techniques and subsequent oil extraction in the Bakken and Three Forks shale formations. The

total recoverable amount of Bakken and Three Forks oil reserves is subject to interpretation and speculation. Studies conducted by the North Dakota Department of Mineral Resources ("NDDMR") and North Dakota Geological Survey ("NDGS") in 2008 on the Bakken formation[1] and in 2010 on the Three Forks formation[2] indicate that between 2.1 and 6.3 billion barrels of recoverable reserves are available in the Bakken and Three Forks formations within the State of North Dakota, with 4.0 billion barrels described as the most likely amount. More recently, the U.S. Geological Survey estimated there may be 7.4 billion barrels of undiscovered recoverable oil in the entire Bakken and Three Forks formations, spanning Montana, North Dakota and South Dakota.[3] Statistics from the NDDMR indicate that oil production has increased dramatically over the past eight years from nearly 110,000 bpd in 2007 to nearly 1,230,000 bpd in December, 2014.[4]

Insufficient pipeline infrastructure exists to gather and transport crude oil from the proposed NST Express Alexander Facility site to the existing NST Transload East Fairview Facility. Transporting crude oil in western North Dakota currently involves significant movement of crude oil by tanker truck over public roadways, with resulting public safety and roadway infrastructure impacts. The Project will help address these issues by providing the safe, efficient, and reliable transport of up to 100,000 bpd of crude oil via pipeline to be distributed to markets located throughout the United States via interconnections with the Project or by rail via the existing NST Transload East Fairview Facility.

---

[1] Bohrer, M., Fried, S., Helms, L., Hicks, B., Juenker, B., McCusker, D., Anderson, F., LeFever, J., Murphy, E., and Nordeng, S. North Dakota Department of Mineral Resources. State of North Dakota Bakken Resources Study Project 23 (2008).

[2] Helms, L. and Nordeng, S. North Dakota Department of Mineral Resources. Bakken Source System, Three Forks Formation Assessment (2010).

[3] United States Geological Survey. Assessment of Undiscovered Oil Resources in the Bakken and Three Forks Formations, Williston Basin Province, Montana, North Dakota, and South Dakota (2013). Web access in March 2015 at: http://pubs.usgs.gov/fs/2013/3013/.

[4] North Dakota Department of Mineral Resources. North Dakota Monthly Oil Production Statistics. Web access in March 2015 at: https://www.dmr.nd.gov/oilgas/stats/historicaloilprodstats.pdf.

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Case No. PU-15-___

IN THE MATTER OF THE FILING OF A TEN YEAR PLAN BY NST EXPRESS, LLC

CERTIFICATE OF SERVICE

Mollie Smith, being first duly sworn, does depose and state that on May 28, 2015, the following document was served:

Ten Year Plan: 2015-2025

by placing a true and correct copy of said document in an envelope addressed as follows:

Linda Svihovec
McKenzie County Auditor
201 5th Street NW, Suite 543
Watford City, ND 58854

and depositing the same, with postage prepaid, in the United States mail at Minneapolis, Minnesota.

Mollie M. Smith
MOLLIE M. SMITH

52993059_6

APPENDIX C
Environmental Mitigation Plan



NST Express Pipeline

Environmental Mitigation Plan

ND PSC Case No. PU-xx-xxx

May 2015

1.0 INTRODUCTION

2.0 GENERAL MITIGATION MEASURES
- 2.1 Contractor
- 2.2 Line List and Permits
- 2.3 Third-Party Inspector
- 2.4 Rights-Of-Way
- 2.5 Dust Control
- 2.6 Undesirable Species Control
- 2.7 Non-Hazardous Wastes
- 2.8 Hazardous Wastes
- 2.9 Burning and Fire Prevention
- 2.10 Wet Weather

3.0 SPILL PREVENTION
- 3.1 General
- 3.2 Storage
- 3.3 Refueling
- 3.4 Cleanup and Emergency Notification

4.0 TEMPORARY EROSION AND SEDIMENT CONTROL
- 4.1 General
- 4.2 Sediment Barriers
- 4.3 Temporary Slope Breakers
- 4.4 Temporary Mulching

5.0 HIGHWAY, ROAD, AND RAILROAD CROSSINGS

6.0 UPLANDS
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- 6.2 Grading
- 6.3 Topsoil Removal and Storage
- 6.4 Tree and Shrub Mitigation
- 6.5 Trenching
- 6.6 Pipe Preparation and Installation
- 6.7 Backfilling
- 6.8 Cleanup
- 6.9 Permanent Erosion and Sediment Control
  - 6.9.1 Permanent Slope Breakers
- 6.10 Reclamation and Revegetation
  - 6.10.1 Soil Compaction
  - 6.10.2 Rock Removal
  - 6.10.3 Seeding and Mulching
  - 6.10.4 Fences
  - 6.10.5 Right-of-Way and Pipeline Markers

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- 7.2 Easement and Workspace
- 7.3 Wetland Crossing Methods
- 7.4 Restoration and Reclamation

8.0 WATERBODIES AND RIPARIAN AREAS
- 8.1 General
- 8.2 Easement and Work Space
- 8.3 Vehicle Access and Equipment Crossings
- 8.4 Waterbody Crossing Methods
- 8.5 Clearing
- 8.6 Grading
- 8.7 Trenching
- 8.8 Pipe Installation
- 8.9 Backfilling
- 8.10 Stabilization and Restoration of Stream Banks and Slopes

9.0 HYDROSTATIC TESTING
- 9.1 General
- 9.2 Test Water Source
- 9.3 Water Discharge

Appendix A: Construction Schematics

1.0 INTRODUCTION

NST Express, LLC, (NST) has prepared this Environmental Mitigation Plan (EMP) for the construction of a 23.5-mile, 12-inch-diameter pipeline (NST Express) that will connect two crude oil storage facilities, located near the towns of Alexander and Fairview, located in McKenzie County, North Dakota.

This EMP outlines general construction-related mitigation measures that will be implemented by NST and its construction contractor (Contractor) during construction of the NST Express project. Specific conditions associated with agency permits are not specifically addressed herein.

This EMP has been developed to meet or exceed applicable industry standards and regulatory requirements. Guidance documents used in the preparation of this EMP include North Dakota's Guide to Temporary Erosion-Control Measures for Contractors, Designers, and Inspectors (2001), U.S. Bureau of Reclamation Engineering and O&M Guidelines for Crossings (2008), and several USACE regional conditions for projects operating under Nationwide Permits in North Dakota.

The NST Express will cross the Yellowstone River and irrigation canals associated with the Lower Yellowstone Irrigation Project. NST proposes to cross the Yellowstone River via horizontal directional drilling (HDD). The Yellowstone River is classified as a jurisdictional waterway under Section 10 of the Rivers and Harbors Act. A Section 10 permit from the U.S. Army Corps of Engineers (USACE) will be obtained for the Yellowstone River crossing and site-specific details for that crossing are not included in this EMP.

Crossings of irrigation canals associated with the Lower Yellowstone Irrigation Project will be conducted by boring, as permitted through the Bureau of Reclamation Montana Area Office. Site-specific details for those crossings are not included in this EMP.

2.0 GENERAL MITIGATION MEASURES

2.1 Contractor

NST will make the requirements of this EMP and applicable environmental permits a contractual obligation for the Contractor. The Contractor will ensure that persons engaged in construction of the NST Express are informed of these construction requirements.

2.2 Line List and Permits

NST will provide the Contractor with a construction list that describes special requirements, as agreed upon with private landowners and as required through agency permitting processes (e.g., stream crossing, road crossing permits).

2.3 Third-party Inspector

NST will provide construction oversight to confirm Contractor compliance with the measures of this EMP and any landowner agreements as well as applicable federal, state, and local environmental permits. NST will have third-party inspectors on each construction segment who are knowledgeable of the environmental mitigation requirements for this project. The third-party inspector will have the authority to stop construction activities and order corrective mitigation for actions

that are not in compliance with this EMP, any landowner agreements, or environmental permit requirements. The third-party inspectors will maintain appropriate records to document compliance with these and other applicable environmental permit conditions. At the end of each week, the third-party inspector will summarize daily reports into a weekly report that will be submitted to NST and the North Dakota Public Service Commission.

2.4 Rights-Of-Way

Access to the pipeline construction right-of-way will be from public roadways and private landowner-approved access roads. The Contractor will mark access routes with signs to clearly identify approved access roads.

All construction equipment and vehicles will be confined to approved access roads, the permitted pipeline construction right-of-way, additional temporary workspaces, and to the Alexander and Fairview facility sites.

2.5 Dust Control

Dust control related to construction activities will be accomplished through physical and administrative means.

All construction-related vehicles will adhere to posted speed limits on public roadways and as designated in landowner agreements on private lands. Work hours near residential areas may be limited.

The Contractor may use multiple methods to wet the right-of-way to control airborne dust, including water trucks and sprinklers, or additional measures as appropriate, based on site-specific conditions.

2.6 Undesirable Species Control

NST will require that all construction-related equipment be thoroughly cleaned prior to moving the equipment to the job site to limit the potential for the spread of noxious weeds, insects and soil-borne pests. All equipment will be cleaned with high-pressure washing equipment.

NST will perform a noxious weed survey prior to construction. If a noxious weed species is present within the construction right-of-way, the extent of infestation areas will be clearly demarcated in the field with flagging or staking. Construction crews will be informed of these areas and instructed to minimize the construction equipment and the number of passes by this equipment through infested areas.

During construction, the Contractor will clean the surface area of all vehicles, and construction machinery, including the undercarriage, to remove excess soil and vegetative debris, if that equipment is known to have passed through a weed or soil-borne pest infested area.

Only certified weed free vegetative components (e.g., mulch, straw/hay bales, seed mixes) will be used on the project.

2.7 Non-Hazardous Wastes

The Contractor will handle and dispose of human wastes by use of portable, self-contained toilets. Wastes from these units will be collected by a licensed contractor for disposal only at licensed and approved facilities.

The Contractor will remove all trash from the construction right-of-way on a daily basis unless otherwise approved or directed by NST.

The Contractor will dispose of horizontal directional drilling (HDD) cuttings and drilling mud. Disposal options may include spreading over the construction right-of-way in an upland location approved by the landowner or hauling to an approved licensed landfill. All waste will be properly disposed of per regulatory agency requirements.

2.8 Hazardous Wastes

The Contractor will ensure that all hazardous and potentially hazardous materials are transported, stored, and handled in accordance with all applicable regulations. Workers exposed to or required to handle hazardous materials will have received proper training in use of those materials, in accordance with the applicable regulations and the manufacturer's recommendations.

The Contractor will dispose of all hazardous materials at licensed waste disposal facilities.

If toxic or hazardous waste materials or containers are encountered during construction, the Contractor will stop work immediately and notify NST. The Contractor will not restart work until clearance is granted by NST.

2.9 Burning and Fire Prevention

The Contractor will comply with all federal, state, county, and local fire regulations regarding prevention of uncontrolled fires.

The Contractor will maintain a contact list and information of jurisdictional fire authorities. Fire control equipment, including water and chemical fire extinguishers, will be available at construction sites and construction personnel will be properly trained in the use of such equipment.

Flammable materials kept on a construction site will be stored in approved containers away from ignition sources. All flammable wastes will be removed from construction sites on a regular basis.

Smoking will be prohibited at construction sites, except in designated areas away from flammable materials.

2.10 Wet Weather

The Contractor will restrict certain construction activities and work during excessively wet soil conditions to minimize rutting and soil compaction. Activities may be suspended based on the following conditions:

- type of equipment and nature of construction activity planned for that day;

- potential that rutting may cause mixing of topsoil with subsoil layers;
- extent of surface ponding; and,
- the potential for excessive soil compaction.

If these conditions cannot be appropriately mitigated through equipment rerouting or the use of construction mats, then construction work will be suspended until adequate protection measures, approved by the Commission, are taken to avoid irreparable damage to roads or land.

3.0 SPILL PREVENTION

3.1 General

The Contractor will ensure that all equipment is free of leaks prior to use on the construction right-of-way and access roads. Throughout the period of construction, the Contractor will conduct regular maintenance and inspections of the equipment to reduce the potential for spills or leaks.

All equipment parked overnight will be at least 100 feet from a watercourse or wetland, unless otherwise approved by the EI.

Stationary equipment will be placed within a secondary containment if it will be operated or require refueling within 100 feet of a wetland or waterbody boundary.

3.2 Storage

Fuels and lubricants will be stored only at designated staging areas. Storage of fuel and lubricants will be at least 100 feet away from the edge of any perennial watercourse, wetland, storm drain, or any high consequence area.

No bulk fuel or storage tanks will be placed in the construction right-of-way. Bulk fuel storage at temporary work or construction staging areas will be located in a lined, earthen-berm secondary containment structure.

3.3 Refueling

Refueling and lubrication of equipment will be restricted to upland areas at least 100 feet away from any perennial watercourse, wetland, storm drain, or any high consequence area, except where equipment is required to be within 100 feet of a waterbody (e.g., trench dewatering pump).

Rubber-tired vehicles (e.g., pickup trucks) normally will refuel at the construction staging areas or commercial gas stations. Tracked machinery (e.g., backhoes, bulldozers) will be refueled and lubricated on the construction right-of-way. Equipment maintenance will be conducted in staging areas when practical. When necessary and with EI approval, equipment repairs may be made on the construction right-of-way.

Each fuel truck that transports and dispenses fuel to construction equipment or project vehicles along the construction right-of-way or within equipment staging areas will carry oil spill response equipment and materials onboard at all times. Truck drivers and construction crew personnel will be trained on proper use of this equipment and materials.

3.4 Cleanup and Emergency Notification

Construction activities will be conducted to allow for prompt and effective cleanup of spills of fuel and other hazardous materials. Each construction crew will have sufficient tools and material to stop leaks and supplies of absorbent and barrier materials to allow rapid containment and recovery of spilled materials. Crew members must know and follow the procedure for reporting spills.

Emergency notification procedures between the Contractor and NST will be established in the planning stages of construction. In the event of a spill meeting agency reporting criteria, the Contractor will immediately notify NST who will then promptly notify the appropriate regulatory agency.

4.0 TEMPORARY EROSION AND SEDIMENT CONTROL

4.1 General

Temporary erosion and sediment control measures will be installed as detailed in the Stormwater Pollution Prevention Plan (SWPPP) for this project prior to initial disturbance of the soil, maintained throughout construction, and reinstalled as necessary until replaced by permanent erosion control structures or restoration of the construction right-of-way is complete.

The Contractor will inspect all temporary erosion control measures within 24 hours of each significant rainfall event of 0.25 inches or greater. The Contractor will repair or replace all ineffective temporary erosion control measures as expediently as practicable, but prior to the next rainfall event.

4.2 Sediment Barriers

Sediment barriers will be constructed of silt fence, staked hay or straw bales, fiber rolls, compacted earth (e.g., drivable berms across travel lanes), sand bags, or other appropriate materials.

Sediment barriers will be installed below disturbed areas where there is hazard of offsite sedimentation. Areas where temporary sediment barriers will be placed include: the base of sloped approaches to roadways, flowing streams, and wetlands: along the edge of the construction right-of-way, as needed to prevent downslope siltation of adjacent waterbodies and wetlands; and, along trench or test water discharge locations, as required.

Sections of temporary sediment barriers may be designed to allow passage of construction equipment. Sediment barriers will be reinstalled to their original specifications when equipment passage is no longer required, heavy precipitation is imminent, or at the end of the work day, whichever is sooner.

The Contractor will maintain hay or straw bale/wattle and silt fence sediment barriers by removing collected sediment when it reaches one-half the height of the barrier and replacing the damaged control. If bale filters cannot be replaced due to access problems, the Contractor will place a new row of sediment barriers upslope.

The Contractor will use hay or straw bales that are free of noxious weeds.

The Contractor will remove sediment barriers, except those needed for permanent

erosion and sediment control, during cleanup of the construction right-of-way.

4.3 Temporary Slope Breakers

Temporary slope breakers will be installed to minimize concentrated or sheet flow runoff in disturbed areas at the following recommended spacing:

Slope (%)	Spacing (feet)
1	300
2	200
3-5	150
>5	100

Temporary slope breakers will be constructed of earthen material, silt fence, staked hay or straw bales, fiber rolls, sand bags, or similar materials.

When earthen berms are constructed, they will be constructed of subsoil material, when practical, and have a two to eight percent slope with a 4-foot base and 1.5-foot height, or as site conditions require.

Temporary slope breakers will direct outfall to a stable, well-vegetated area or an appropriate energy-dissipating device (e.g., silt fence, hay or straw bales/wattles) at the end of the slope breaker and off the construction right-of-way. The outfall of each temporary slope breaker will be installed to prevent sediment discharge into wetlands, waterbodies, or other sensitive resources.

A hard plug will be left in place where a slope breaker crosses an open trench.

Temporary slope breakers will not be installed on cultivated land except by landowner request.

4.4 Temporary Mulching

If a disturbed construction work area is inactive for one month or is expected to be inactive for one month or more, the Contractor will apply temporary seed and/or mulch to reduce risk of erosion. The Contractor will not apply temporary mulch in cultivated areas unless specifically requested by the landowner. The Contractor will not apply mulch within wetland boundaries.

Temporary mulch of straw or equivalent applied on slopes will be spread uniformly to cover at least 75 percent of the ground surface at an approximate rate of 2 tons per acre of straw or its equivalent. Mulch application on slopes within 100 feet of waterbodies and wetlands will be increased to an approximate rate of 3 tons per acre.

5.0 HIGHWAY, ROAD, AND RAILROAD CROSSINGS

Construction across paved roads, highways, and railroads will be in accordance with the requirements of the road and railroad crossing permits and approvals obtained by NST. All graded roads will be bored unless the responsible governing agency permits NST to use the open cut crossing method.

Unpaved secondary and tertiary roads will be crossed using the open-cut method where permitted by local authorities or private owners. The open-cut method will require temporary closure of the road to traffic and establishment of detours. The Contractor will take measures, such as posting signs along detour routes, to ensure safety and minimize traffic disruptions.

6.0 UPLANDS

6.1 Clearing

The initial stage of construction will involve clearing the construction right-of-way to allow for a safe operating environment. Clearing of trees, brush, and other vegetation from the right-of-way may be accomplished with hand-held chainsaws, brush hogs, and hydraulic tree-cutting equipment. Woody material will be chipped or mulched onsite or hauled off to an appropriate disposal location, or as otherwise directed by the landowner. No burning will conducted as part of this project.

6.2 Grading

After clearing, the construction right-of-way will be graded to develop a right-of-way that allows for a safe working surface for equipment and meets the bending limitations of the pipe. All work will be conducted in accordance with applicable permits, regulations, or guidelines. All grading will be undertaken with the understanding that original contours and drainage patterns will be re-established to the extent practicable.

6.3 Topsoil Removal and Storage

Measures will be taken to preserve the physical and chemical property integrity of topsoil so it may be used during final reclamation of the construction right-of-way. Generally, these measures will segregate the topsoil from underlying subsoil layers to prevent mixing during construction and to allow for easy retrieval during reclamation. Topsoil will not be used for construction of earthen berms, trench breakers, to fill low areas, or to backfill the trench.

Topsoil, to a maximum depth of 12 inches or topsoil to the depth of cultivation, whichever is greater, will be stripped from the area above the pipeline, unless full construction right-of-way width topsoil segregation is requested by the landowner. Stripped topsoil will be stockpiled in a windrow along the edge of the right-of-way. After backfilling is completed, excess subsoil must be placed over the excavated, blending the grade to the existing topography. Topsoil is replaced to the area of excavation after the subsoil is replaced.

6.4 Tree and Shrub Mitigation

NST will address mitigation, reclamation and remediation measures with individual landowners and comply with any applicable state requirements, including the NDPSC's Tree and Shrub Mitigation Specifications.

NST will inventory all trees and shrubs anticipated to be cleared, including those that are considered invasive species or noxious weeds (e.g., *Caragana arborescens*, *Elaeagnus angustifolia*, *Rhamnus cathartica*, *Tamarix chinensis*, *T. parviflora*, *T. ramosissima*, *Ulmus pumila*) before cutting. The inventory will record the location, number, and species of trees and shrubs.

Two 2-year-old saplings will be planted for every one tree removed. Two shrubs (stem cuttings) will be planted for every one shrub removed.

Except in the case of invasive or noxious species, trees and shrubs will be replaced by the same species or similar species, suitable for North Dakota growing conditions, as recommended by the North Dakota Forest Service. Invasive or noxious species will be replaced by similar non-invasive or non-noxious species suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.

Tree and shrub replacement will not be conducted within a 20- to 30-foot wide path over the pipeline to facilitate visual inspections of the right-of-way in accordance with U.S. Department of Transportation safety regulations.

Landowners will be given the option of having replacement trees and shrubs planted on the landowner's property, either on or off the right-of-way. The landowner will also be given the opportunity to waive those options, in writing, to have replacement trees and shrubs planted off the landowner's property.

6.5 Trenching

Trenching in uplands is typically accomplished with a backhoe excavator or a rotary wheel ditching machine to provide a ditch of sufficient depth and width, with a bottom to continuously support the pipeline. The trench will be excavated to a depth that is in accordance with the NDPSC certifications (i.e. 48 inches in rangeland, 48 inches in cultivated land, 48 inches at the bottom of the ditch for road crossings, and 72 inches across undeveloped section lines). If an increased pipeline depth is requested by a state-level agency, modifications to additional temporary workspace may be necessary to accommodate the increased amount of trench spoil.

Excavated material will be sidecast within the construction right-of-way with consideration for topsoil segregation, as noted in Section 6.3. Excavated material will be stored in a manner to minimize erosion and sedimentation.

Gaps will be left in the right-of-way lateral spoil piles that coincide with breaks in the strung pipe to facilitate natural drainage patterns and to allow the passage of livestock or wildlife.

Trenching operations will be followed as closely as practicable by lower-in and backfill operations to minimize the length of time the ditch is open.

When pumping captured stormwater from the trench, the Contractor will ensure that adequate pumping capacity and sufficient hose is available. The discharge of pumped water will be through filter bags or other method detailed in the SWPPP and in accordance with the environmental mitigation measures outlined throughout this EMP. If shallow groundwater is encountered during trenching that requires more extensive dewatering, a separate dewatering discharge permit will be obtained.

If drain tile is encountered during construction, the Contractor will repair and/or replace the drain tile. Additionally, if any culverts are disturbed during construction the Contractor will repair and/or replace the culverts.

6.6 Pipe Preparation and Installation

Prior to lowering into the trench, pipe section ends are beveled to prepare them for welding. This process produces shavings which will be removed, to the extent practicable, immediately following beveling. Sections are then welded together to form a continuous pipe.

The pipe may be wrapped with a protective shielding (e.g., epoxy powder, urethane epoxy) to protect the pipe coating during backfilling. This process is typically completed prior to pipeline delivery to the right-of-way, except for a 3- to 6-inch section at each end to prevent the coating from interfering with the welding process. This bare section of pipe will be coated with an epoxy powder or liquid protectant. A tarp will be placed under the pipe to collect any overspray of epoxy powder or liquid droppings from the infield shielding application. This residual material is considered hazardous and will be disposed of in accordance with measures outlined in Section 2.8.

Prior to lowering into the trench, the coated and welded pipeline will be inspected to ensure it is free of defects.

6.7 Backfilling

The subsoil excavated during the trenching process is initially used to backfill the trench. Prior to backfilling, the trench will be dewatered and trench breakers (soft plugs) installed on slopes where necessary to minimize the potential for water movement and erosion of the trench after the trench is backfilled. Trench breakers will be constructed of materials such as sand bags, sand/cement bags, bentonite bags, or other suitable materials. Topsoil will not be used to construct trench breakers.

Stormwater accumulated in the trench will be removed and discharged, in accordance with the SWPPP and the environmental mitigation measures outlined throughout this EMP.

Backfill will be comprised of soil material with a maximum particle size of less than 1.5 inches to reduce the risk of damage to the pipeline or pipeline coating.

The lesser of 4 feet or the actual depth of topsoil cover, will not be backfilled with soil containing rocks of any greater concentration or size than existed prior to pipeline construction in the pipeline trench, bore pits, or other excavations.

To reduce the potential for ditch line subsidence, spoil will be replaced and compacted by backhoe bucket or by the wheels or tracks of equipment traversing down the trench.

6.10 Cleanup

Cleanup activities to restore the right-of-way and other disturbed areas to the approximate pre-construction conditions will be conducted immediately following backfilling operations, as weather conditions permit.

All non-hazardous and hazardous materials will be disposed of in accordance with measures outlined in Section 2.7 and Section 2.8.

The right-of-way will be re-contoured with spoil material to approximate pre-construction contours and surface drainage patterns. Loading of slopes with unconsolidated spoil material will be avoided during slope re-contouring. Topsoil will be replaced after re-contouring of the grade with subsoil. The topsoil will be replaced on the subsoil storage area and over the trench so that after settling occurs, the topsoil's approximate original depth and contour (with an allowance for settling) will be achieved. Subsoil will not be placed on top of topsoil.

Temporary sediment barriers will be removed and accumulated sediment will be re-contoured with the rest of the right-of-way. As needed, permanent erosion controls will be installed.

6.9 Permanent Erosion and Sediment Control

After final grading and contouring of upland areas, sloped areas will be stabilized with permanent erosion control structures.

6.9.1 Permanent Slope Breakers

Permanent slope breakers will be installed to minimize concentrated or sheet flow runoff in disturbed areas. Permanent slope breakers will be constructed of earthen material. Slope breakers will divert surface runoff to adjacent stable vegetated areas or to energy-dissipating devices. In general, permanent slope breakers should be installed immediately downslope of all trench breakers. Permanent slope breakers will be installed as specified on the construction drawings or generally with a minimum spacing as shown on the following table:

Slope (%)	Spacing (feet)
<5	125
5-10	100
10-20	75
20-30	50
>30	25

The gradient (fall) for each slope breaker will be two to eight percent unless otherwise modified as required by site-specific conditions.

6.10 Reclamation and Revegetation

Reclamation and revegetation activities are designed to return disturbed areas to approximately pre-construction use and capability. The following mitigation measures will be utilized, unless otherwise modified to address site specific conditions or circumstances.

6.10.1 Soil Compaction

Compacted cultivated land and any other severely compacted or rutted areas within the construction right-of-way will be tilled or chiseled to loosen compacted soils. The subsoil surface will be graded smooth and any subsoil

clumps broken up (disc and harrow) in an effort to avoid topsoil mixing. The Contractor will use a penetrometer (or similar device) to test compaction of the construction right-of-way in agricultural areas for comparison with soils immediately adjacent to the right-of-way in an effort to approximate pre-construction conditions.

Plowing under of organic matter, including wood chips and manure, or planting of a green crop such as alfalfa, to decrease soil bulk density and improve soil structure or any other measures will be considered, in consultation with the NRCS, if mechanical relief of compaction is unsuccessful.

In the first year after construction, NST will inspect the construction right-of-way to identify areas of erosion or settling. Subsequently, NST will monitor erosion and settling through aerial patrols and through landowner reporting.

6.10.2 Rock Removal

On agricultural land, rocks greater than 4 inches in diameter that are exposed on the surface due to construction activity will be removed from the right-of-way prior to and after topsoil replacement.

Clearing of rocks may be conducted with a mechanical rock picker or by manual means, provided that preservation of topsoil is assured. Rock removed from the right-of-way will be hauled off the landowner's premises or disposed of on the landowner's premises at a location that is mutually acceptable to the landowner and to NST.

6.10.3 Seeding and Mulching

The final seed mixture will be based on recommendations from the local Natural Resources Conservation or otherwise specified by the landowner with NDPSC approval.

Certificates of seed analysis are required for all seed mixes to restrict the introduction of noxious weeds.

Seed will be used within 12 months of testing. Seeding will follow cleanup, re-grading, and topsoil replacement as closely as possible. Seed will be applied to all disturbed surfaces, except cultivated fields unless requested by the landowner.

If mulch was applied for temporary erosion control during construction activities, the Contractor will remove and dispose of the excess mulch prior to seedbed preparation to ensure that seedbed preparation equipment and seed drills do not become plugged with mulch. After seeding, the Contractor may evenly re-apply and anchor (straw crimp) the removed temporary mulch on the construction right-of-way.

Seeding will be completed at a rate appropriate for the region and stability of the reclaimed surface. Seeding rates will be based on pure live seed specifications for the seed mix.

The Contractor will use a drill seeder equipped with a cultipacker designed and equipped to apply grass and grass-legume seed mixtures. Equipment will include mechanisms (e.g., seed box agitator) to allow even distribution of all species in each seed mix, an adjustable metering mechanism to accurately deliver the specified seeding rate, and with a mechanism (e.g., depth bands) to accurately place the seed at the specified depth.

The Contractor will plant seed at depths consistent with the local or regional agricultural practices.

Broadcast or hydro seeding, used in lieu of drilling, will require double the recommended seeding rates. Where seed is broadcast, a cultipacker or other equipment will be used immediately following broadcasting to incorporate the seed to the specified depth and to firm the seedbed.

Areas that are too steep or otherwise cannot be safely harrowed or cultipacked will be hand-raked in order to incorporate the broadcast seed to the specified depth.

NST will work with landowners to discourage intense livestock grazing of the construction right-of-way during the first growing season by use of temporary fencing or a decreased grazing regimen.

Immediately after seeding, the Contractor will apply certified weed free mulch on all areas with high erosion potential and on slopes greater than 5 percent. The Contractor will spread mulch uniformly over the area to cover at least 75 percent of the ground surface at an approximate rate of 2 tons per acre of hay or straw or their equivalent. The Contractor will not apply mulch in cultivated areas unless requested by the landowner.

If a mulch blower is used, the majority of strands of the mulching material will not be shredded to less than 8 inches in length to allow anchoring. The Contractor will anchor mulch immediately after application to minimize loss by wind and water. Depending upon the length of straw mulch, a soil tackifier may be applied to the soil before the mulch is blown onto help anchor the mulch.

When anchoring (straw crimping) by mechanical means, the Contractor will ensure that the straw stalks are a minimum of 12 inches in length and will use a tool specifically designed for mulch anchoring with flat, notched disks to properly crimp the mulch to a depth of 2 to 3 inches.

6.10.4 Fences

Upon completion of all backfilling, cleanup, and restoration, including mulching and seeding of the construction right-of-way, permanent repairs will be made to all fences by using either the original material or good quality new material similar to existing fences.

Historic fences will be carefully reassembled by hand from the original material. Where the original material has deteriorated to a state that makes

it unsalvageable, replacement material similar to the original will be used if possible.

6.10.5 Right-of-Way and Pipeline Markers

Upon completion of all cleanup and restoration activities and during the time when the Contractor is making permanent repairs to fences, the Contractor will install pipeline markers on each side of all roads, railroads, section line crossings, fence lines, stream crossings, and other areas where the pipeline markers do not conflict with intended land use.

7.0 WETLAND CROSSINGS

7.1 General

The Contractor will comply with requirements of all permits issued for the wetland crossings by federal, state or local agencies.

Wetland boundaries will be clearly marked in the field with signs and/or highly visible flagging during construction.

In the event a waterbody crossing is located within or adjacent to a wetland crossing, the measures of both Section 7 and Section 8 will be implemented to the extent practicable.

7.2 Easement and Workspace

The Contractor will maintain wetland boundary markers during construction in all areas and until permanent seeding is complete in non-cultivated areas.

The Contractor will locate extra work areas (such as staging areas and additional spoil storage areas) at least 100 feet away from wetland boundaries, where topographic conditions permit.

The Contractor will limit clearing of vegetation between extra work areas and the edge of the wetland to the construction right-of-way and limit the size of extra work areas to the minimum needed to construct the wetland crossing.

7.3 Wetland Crossing Methods

The following general mitigation procedures will be followed by the Contractor in all wetland areas, unless otherwise approved or directed by NST, based on site-specific conditions. All work will be conducted in accordance with applicable permits.

- limit the duration of construction-related disturbance within wetlands to the extent practicable;
- use no more than two layers of timber riprap to stabilize the construction right-of-way;
- cut vegetation off at ground level leaving existing root systems in place and remove it from the wetland for disposal;
- limit pulling of tree stumps and grading activities to directly over the trench line unless safety concerns require the removal of stumps from the working-

side of the construction ROW;

- segregate a maximum of 12 inches of topsoil from the area disturbed by trenching in dry wetlands, where practicable;
- restore topsoil to its approximate original stratum, after backfilling is complete;
- dewater the trench in a manner to prevent erosion and heavily silt-laden flowing directly into any wetland or waterbody;
- remove all timber riprap and prefabricated equipment mats upon completion of construction;
- locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable;
- prohibit storing hazardous materials, chemicals, fuels, lubricating oils, or perform concrete coating activities in a wetland, or within 100 feet of any wetland boundary;
- perform all equipment maintenance and repairs upland locations at least 100 feet from waterbodies and wetlands;
- avoid parking equipment overnight within 100 feet of a watercourse or wetland;
- prohibit washing equipment in streams or wetlands;
- install trench breakers and/or seal the trench to maintain the original wetland hydrology, where the pipeline trench may drain a wetland;
- attempt to refuel all construction equipment in an upland area at least 100 feet from a wetland boundary (otherwise follow the procedures outlined in Section 3); and,
- avoid sand blasting in wetlands to the extent practicable. If sandblasting is performed within a wetland, the Contractor shall place a tarp or suitable material in such a way as to collect as much waste shot as possible and dispose of the collected waste. The Contractor shall clean up all visible deposits of wastes and dispose of the waste at an approved disposal facility.

Specific procedures for each type of wetland crossing method are listed below and shall be designated on the construction drawings but may be modified depending on site conditions at the time of construction. All work shall be conducted in accordance with applicable permits

Dry Wetland Crossing Method

Topsoil shall be segregated. Pipe stringing and fabrication may occur within the wetland adjacent to the trench line or adjacent to the wetland in a designated extra workspace.

The dry wetland crossing procedure shall be used where this type of wetland is identified on the construction drawings. The following are exceptions to standard wetland crossing methods:

- The width of the construction right-of-way for upland construction is maintained through the wetland.
- Where extra work areas (such as staging areas and additional spoil storage areas) are designated on the construction drawings, they may be placed no closer than 100 feet from the wetland's edge.
- If the wetland is cultivated, the topsoil shall be stripped using the trench and spoil side method at the same depth as the adjacent upland areas.
- Seeding requirements for agricultural lands shall be applied to farmed wetlands.

Standard Wetland Crossing Method

Topsoil stripping is impracticable due to the saturated nature of the soil. Pipe stringing and fabrication may occur within the wetland adjacent to the trench line or adjacent to the wetland in a designated extra workspace. Based upon the length of a standard wetland crossing and presence of sufficient water to float the pipe, the Contractor may elect to install a standard wetland crossing utilizing the "push/pull" method.

The standard wetland crossing procedure shall be used where this type of wetland is identified on the construction drawings.

Procedures unique to standard wetlands include:

- limiting construction right-of-way width to a maximum of 75 feet unless site conditions warrant a wider width;
- utilizing low-ground-pressure construction equipment or support equipment on timber riprap or timber mats; and,
- installing sediment barriers across the entire right-of-way where the right-of-way enters and exits the wetland.

7.4 Restoration and Reclamation

All timber riprap, timber mats, and prefabricated equipment mats and other construction debris shall be removed upon completion of construction. As much as is feasible, the Contractor shall replace topsoil and restore original contours with no crown over the trench. Any excess spoil shall be removed from the wetland. The Contractor shall stabilize wetland edges and adjacent upland areas by establishing permanent erosion control measures and revegetation, as applicable, during final clean up.

In the absence of detailed revegetation plans or until the appropriate seeding season for permanent wetland vegetation in standard wetlands, the Contractor shall apply a temporary cover crop on the construction right-of-way at a rate adequate for germination and ground cover unless standing water is present. The Contractor shall apply the temporary cover crop during final cleanup. For farmed wetlands, the Contractor shall apply seeding requirements for agricultural lands or as required by the landowner.

The Contractor shall not use fertilizer, lime, or mulch in wetlands unless required in writing by the appropriate land management agency.

All wetland areas within conservation lands or easements shall be restored to a level consistent with any additional criteria established by the relevant managing agency.

8.0 WATERBODIES AND RIPARIAN AREAS

8.1 General

The Contractor will comply with requirements of all permits issued for the waterbody crossings by federal, state or local agencies.

Waterbody is defined as 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.

NST proposes to utilize a HDD to cross the Yellowstone River, which is classified as a jurisdictional waterway under Section 10 of the Rivers and Harbors Act (33 United States Code [USC] 403). A Section 10 permit from the U.S. Army Corps of Engineers (USACE) will be sought for the Yellowstone River crossing and site-specific details for that crossing are not included in this EMP.

Crossings of irrigation canals associated with the Lower Yellowstone Irrigation Project will be conducted by HDD and/or bore as permitted through the Bureau of Reclamation Montana Area Office. Site-specific details for those crossings are not included in this EMP.

In the event a waterbody crossing is located within or adjacent to a wetland crossing, the measures of both Section 7 and Section 8 will be implemented to the extent practicable.

The use and storage of chemicals, fuels, lubricating oils, or other hazardous materials will be performed according to measures outlined in Section 2 and Section 3.

NST will complete site-specific crossing plans for waterbody crossings if required by the applicable regulatory agencies during federal or state permitting processes.

NST may allow modification of the following specifications as necessary to accommodate specific situations or procedures. Any modifications must comply with all applicable regulations and permits.

8.2 Easement and Work Space

Extra work areas will be limited to the minimum size needed to construct the stream crossing. Construction activities will be contained within these areas and the construction right-of-way.

The Contractor will locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet from the water's edge taking into account engineering and topographic constraints. If conditions do not allow for a

50-foot setback, extra work areas will be located no closer than 10 feet from the water's edge.

At all waterbody crossings, the Contractor will install flagging across the construction right-of-way at least 10 feet from the water's edge prior to clearing and ensure that riparian cover is maintained where practicable during construction.

8.3 Vehicle Access and Equipment Crossings

Equipment bridges, long wood mats used as air bridges, designed to withstand the maximum foreseeable flow of the stream will be installed at all flowing waterbodies. Bridges will not restrict flow or pool water while the bridge is in place.

The Contractor will maintain equipment bridges to prevent soil from entering the waterbody.

Equipment crossings will be perpendicular to drainage bottoms wherever possible.

Erosion and sediment control barriers will be installed and maintained around vehicle access points as necessary to prevent sediment from reaching the waterway.

8.4 Waterbody Crossing Methods

Construction methods pertinent to waterbody crossings are presented below.

- Horizontal Directional Drill Crossing

In conjunction with the appropriate jurisdictional agency, NST will develop specific crossing plans for major water bodies that contain recreationally or commercially important fisheries, or are classified as special use. NST will consult with state fisheries agencies with respect to applicable construction windows for each crossing.

Where required, the HDD method shall be utilized for designated major and sensitive waterbodies, including the Yellowstone River crossing. The Contractor shall construct each directional drill waterbody crossing in accordance with a site specific plan as shown in the construction drawings.

Drilling fluids and additives utilized during implementation of a directional drill shall be non-toxic to the aquatic environment.

The Contractor shall develop a contingency plan to address a frac-out during a directional drill. The plan shall include instructions for monitoring during the directional drill and mitigation in the event that there is a release of drilling fluids. Additionally, the waterbody shall be monitored downstream by the Contractor for any signs of drilling fluid.

The Contractor shall dispose of all drill cuttings and drilling mud at a NST-approved location. Disposal options may include spreading over the construction right-of-way in an upland location approved by NST or hauling to an approved licensed landfill or other site approved by NST.

- Boring Crossing Method

NST Express will utilize a slick-bore process for boring under roads and irrigation canals crossings. An entry bore pit and exit bore pit will be excavated on both sides of the crossing. The boring machine shall be placed in the entry pit where it will drill a pilot hole through to the exit pit. This hole will then be widened to accept the carrier pipe by back reaming. A section of pipeline that is already welded together, inspected, and pressure tested is then pulled back through the drilled hole. The minimum depth of cover for these road and irrigation canal crossings shall be 5 feet or greater depending upon the minimum depth as specified by the crossing permit. The bored crossing pipe will extend at least 10 feet beyond either side of the road right-of-way and 25 feet beyond the toe of the canals. A pipeline marker shall be placed at either end of the bored crossing when completed.

9.0 HYDROSTATIC TESTING

9.1 General

The Contractor will provide for the safety of all pipeline construction personnel and the general public during hydrostatic test operations by placing warning signs in populated areas.

Staging and work areas for filling the pipeline with water will be located a minimum of 100 feet from a waterbody or wetland boundary if topographic conditions permit.

The Contractor will locate hydrostatic test manifolds 100 feet outside wetlands and riparian areas to the extent practicable.

9.2 Test Water Source

NST will provide the Contractor with a copy of the appropriate withdrawal/discharge permits for hydrostatic test water. The Contractor will keep water withdrawal/discharge permits on site at all times during testing operations.

In some instances sufficient quantities of water may not be available from the permitted water sources at the time of testing. Withdrawal rates may be limited as stated by the permit. If the quantity of water from the permitted source is insufficient to allow for hydrostatic testing of the pipeline, an alternative source will be identified and permit authorization sought by NST.

The Contractor will be responsible for obtaining any required water analyses from each source to be used in sufficient time to have a lab analysis performed prior to any filling operations. The analysis will determine the pH value and total suspended solids and other parameters that may be required by the North Dakota Department of Health.

No chemicals will be used in the test water.

9.3 Water Discharge

The Contractor will comply with state-issued National Pollutant Discharge Elimination System permits for discharging test water.

The Contractor will not discharge any water containing oil or other substances that are in sufficient amounts as to create a visible color film ("sheen") on the surface of the receiving water.

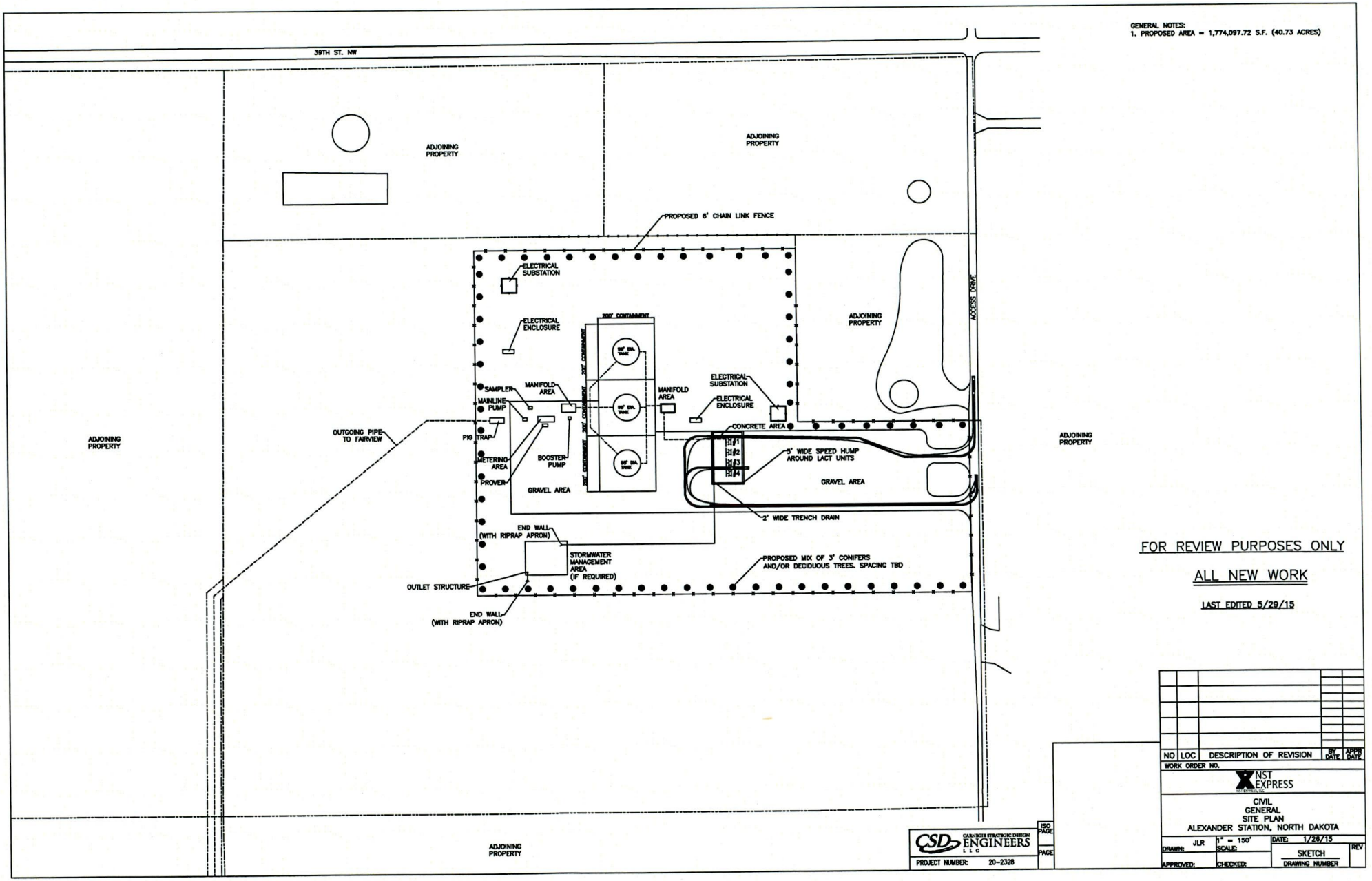
The Contractor will not discharge into state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and local permitting agencies grant written permission. To avoid impacts from introduced species, no inter-basin transfers (discharge) of hydrostatic test water will occur.

The discharge operation will be monitored and water samples will be collected and analyzed prior to the beginning of the discharge to ensure that it complies with the project and permit requirements. If required by state permits, additional water quality testing will be conducted during discharge, in accordance with permit conditions.

The Contractor will regulate the PIG velocity discharge rate (3,000 gpm maximum), use energy dissipation devices, and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive stream flow. Water must be disposed of using good engineering judgment so that all federal, state, and local environmental standards are met. Dewatering lines will be of sufficient strength and be securely supported and tied down at the discharge end to prevent whipping during this operation.

Selected road, railroad, and river crossing pipe sections may be specified to be pre-tested for a minimum of 4 hours. The water for pre-testing of any road and railroad crossings will be hauled by a tanker truck from an approved water source. Since the volume of water utilized in these pre-tests will be relatively small, the water will be discharged overland along the construction right-of-way and allowed to soak into the ground utilizing erosion and sediment control measures.

Appendix A: Construction Schematics



GENERAL NOTES:
1. PROPOSED AREA = 1,774,097.72 S.F. (40.73 ACRES)

FOR REVIEW PURPOSES ONLY

ALL NEW WORK

LAST EDITED 5/29/15

NO	LOC	DESCRIPTION OF REVISION	BY DATE	APPR DATE

WORK ORDER NO.

NST EXPRESS

CIVIL
GENERAL
SITE PLAN
ALEXANDER STATION, NORTH DAKOTA

DRAWN: JLR | SCALE: 1" = 150' | DATE: 1/26/15 | REV

APPROVED: | CHECKED: | DRAWING NUMBER: SKETCH

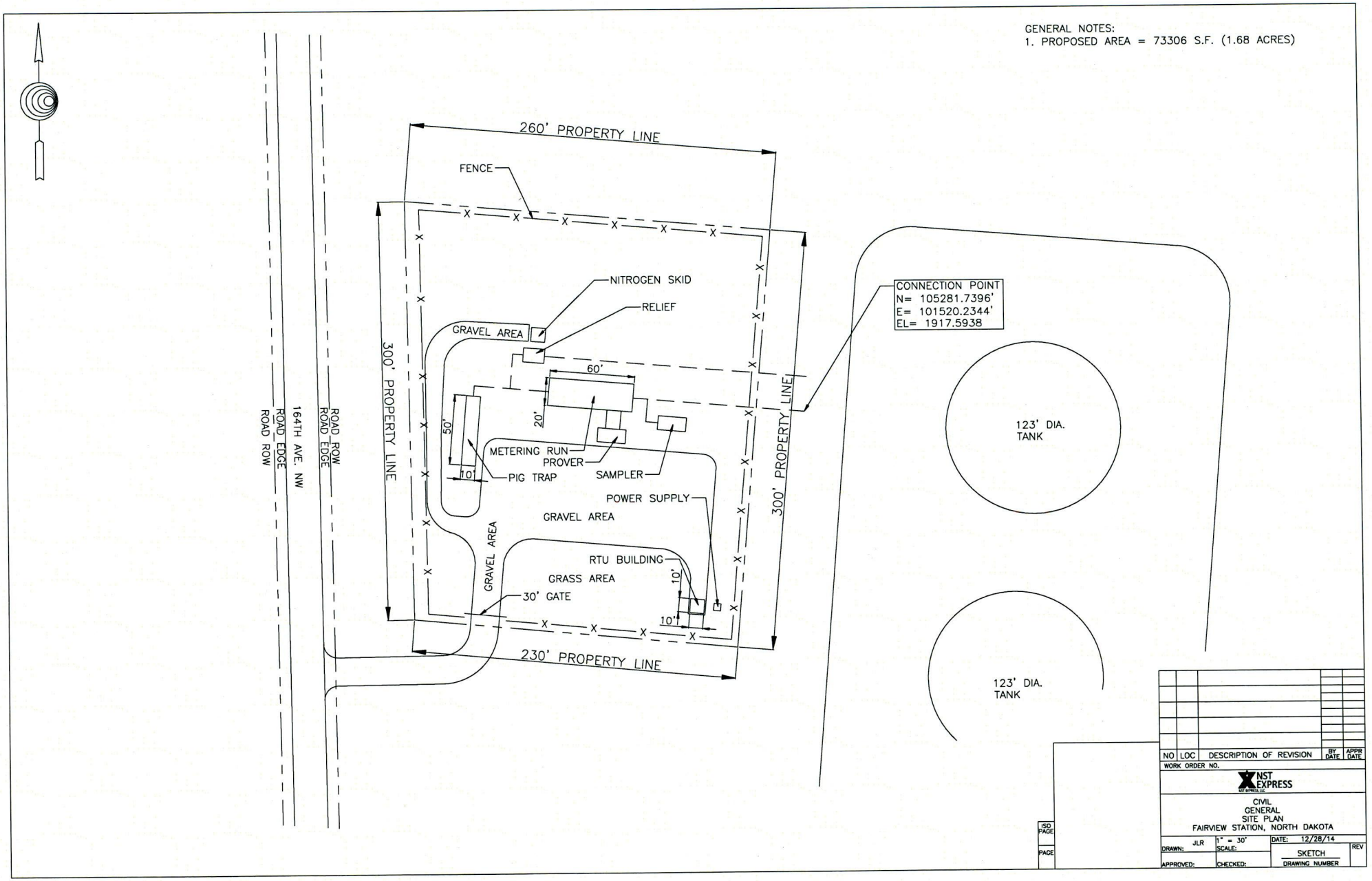
CSD CARLSBAD STRATEGIC DESIGN ENGINEERS LLC

PROJECT NUMBER: 20-2328

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GENERAL NOTES:
1. PROPOSED AREA = 73306 S.F. (1.68 ACRES)



NO	LOC	DESCRIPTION OF REVISION	BY DATE	APPR DATE

WORK ORDER NO.

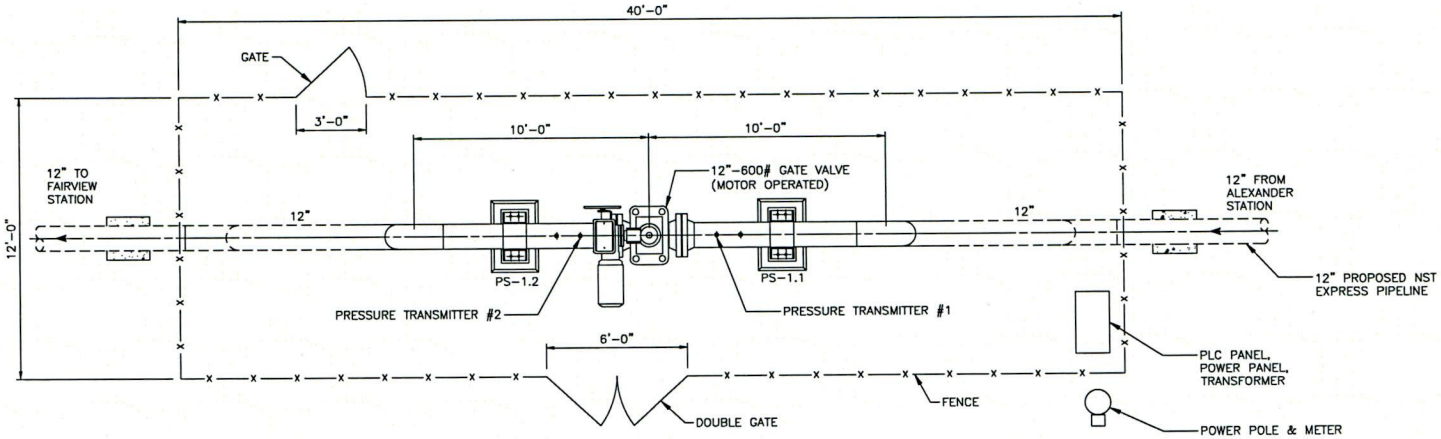
NST EXPRESS

CIVIL
GENERAL
SITE PLAN
FAIRVIEW STATION, NORTH DAKOTA

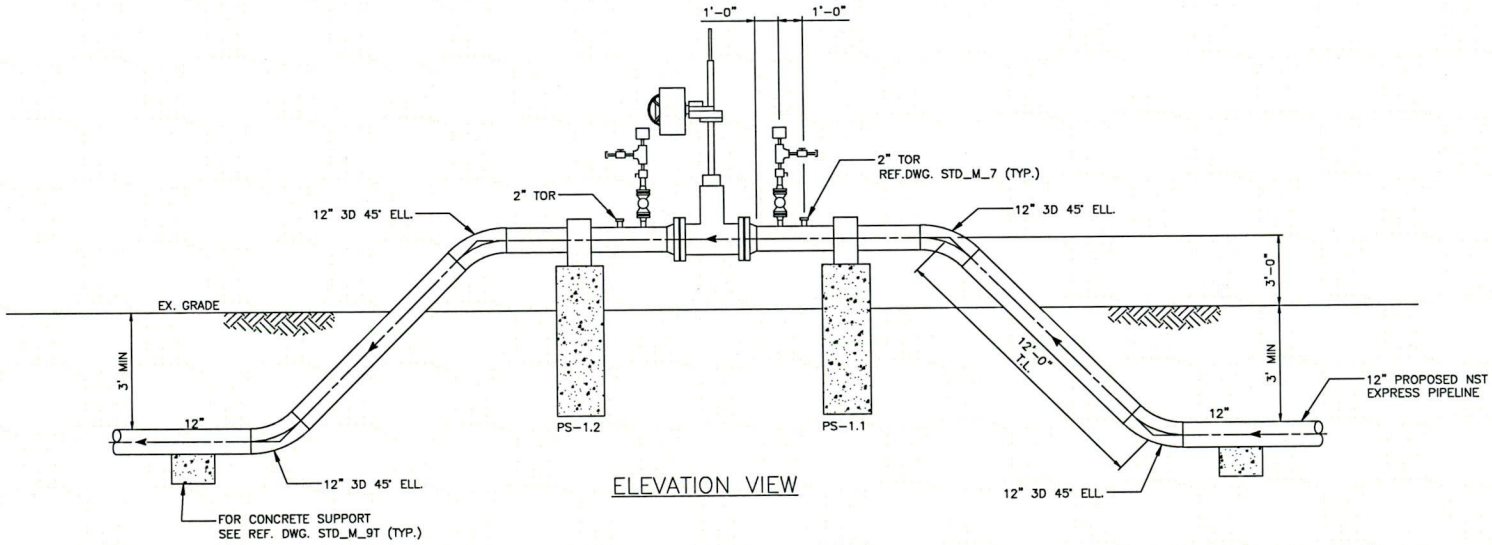
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TYPICAL AUTOMATED VALVE SITE



PLAN VIEW



ELEVATION VIEW

B			
A	INITIAL RELEASE	KBI	XXX
		05/08/15	XX/XX/15

NST EXPRESS
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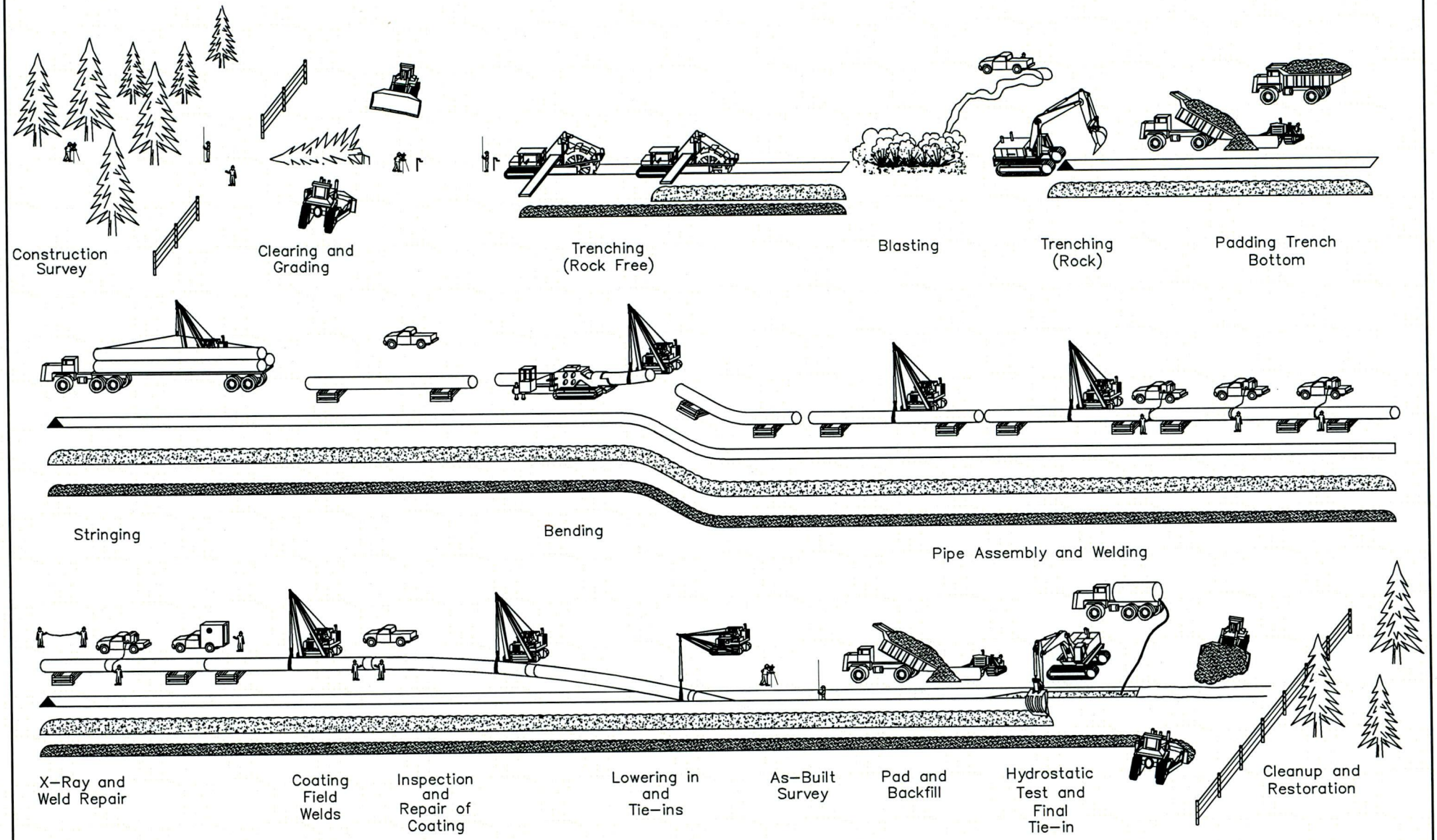
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WORK ORDER NO.

NST EXPRESS PIPELINE

TYPICAL VALVE STATION
PLAN AND PROFILE

DRAWN: KBI	SCALE: 3/8"=1'	DATE: 4/27/15	
APPROVED:	CHECKED:	NO. VALVE STATION	REV A



DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND OPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

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REV LEVEL	DATE	BY	DESCRIPTION	CK.	APP.
A	04/17/15	KBW	ISSUED FOR PERMIT	DK	JN

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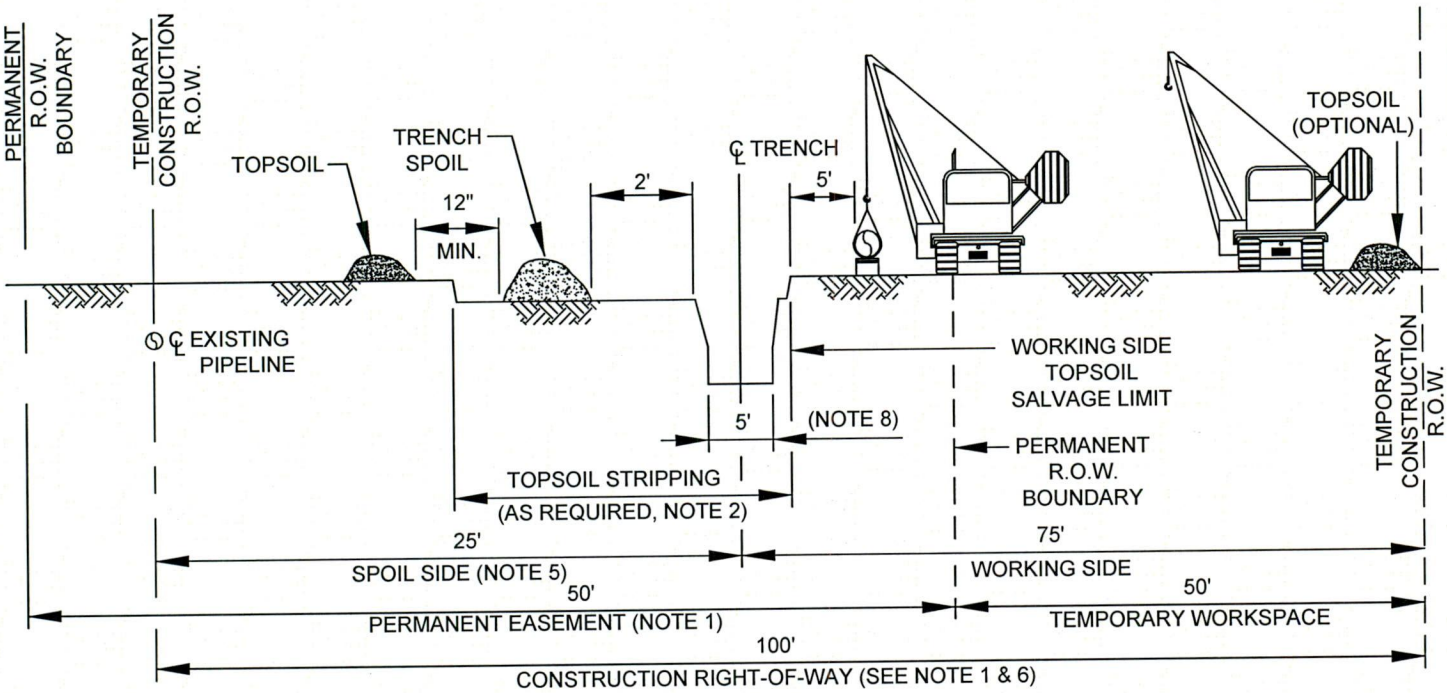
NST EXPRESS
NST EXPRESS, LLC

NST EXPRESS PIPELINE

PIPELINE CONSTRUCTION SEQUENCE

MCKENZIE COUNTY — NORTH DAKOTA

DATE	PLOT DATE	DRAWN BY	CHK. NO.	DRAWING NUMBER	SHEET NO.	REV.
04/13/15	–	KBW	-	CS	-	A



PROFILE
NOT TO SCALE

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100' WIDE CONSISTING OF 50' OF PERMANENT EASEMENT AND 50' OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE. SALVAGE TOPSOIL OVER TRENCH AND UNDER THE SPOIL PILE AT LOCATIONS IDENTIFIED ON THE CONSTRUCTION ALIGNMENT SHEETS, OR AS DIRECTED BY THE COMPANY INSPECTOR. DEPTH OF TOPSOIL STRIPPING IS NOT TO EXCEED 12".
3. STOCKPILE TOPSOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE COMPANY INSPECTOR. KEEP TOPSOIL AND SPOIL PILES CLEAN OF ALL CONSTRUCTION DEBRIS. MAINTAIN A MINIMUM OF 12" OF SEPARATION BETWEEN TOPSOIL AND TRENCH SPOIL PILES.
4. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.
5. THE OFFSET FROM EXISTING PIPELINE, WHERE APPLICABLE, WILL BE 25', BUT MAY BE INCREASED OR DECREASED DEPENDING ON THE SITE SPECIFIC CONSTRUCTION REQUIREMENTS.
6. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING EXCESSIVELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.
7. BOTTOM OF TRENCH WIDTH WILL BE AN AVERAGE OF 5' (TYPICAL) HOWEVER, UNDER CERTAIN CIRCUMSTANCES, THE TRENCH MAY BE A MAXIMUM OF 10' WIDE.
8. TOPSOIL AND TRENCH SPOIL RELATIVE POSITIONS CAN, AS DIRECTED BY THE COMPANY INSPECTOR, BE REVERSED.

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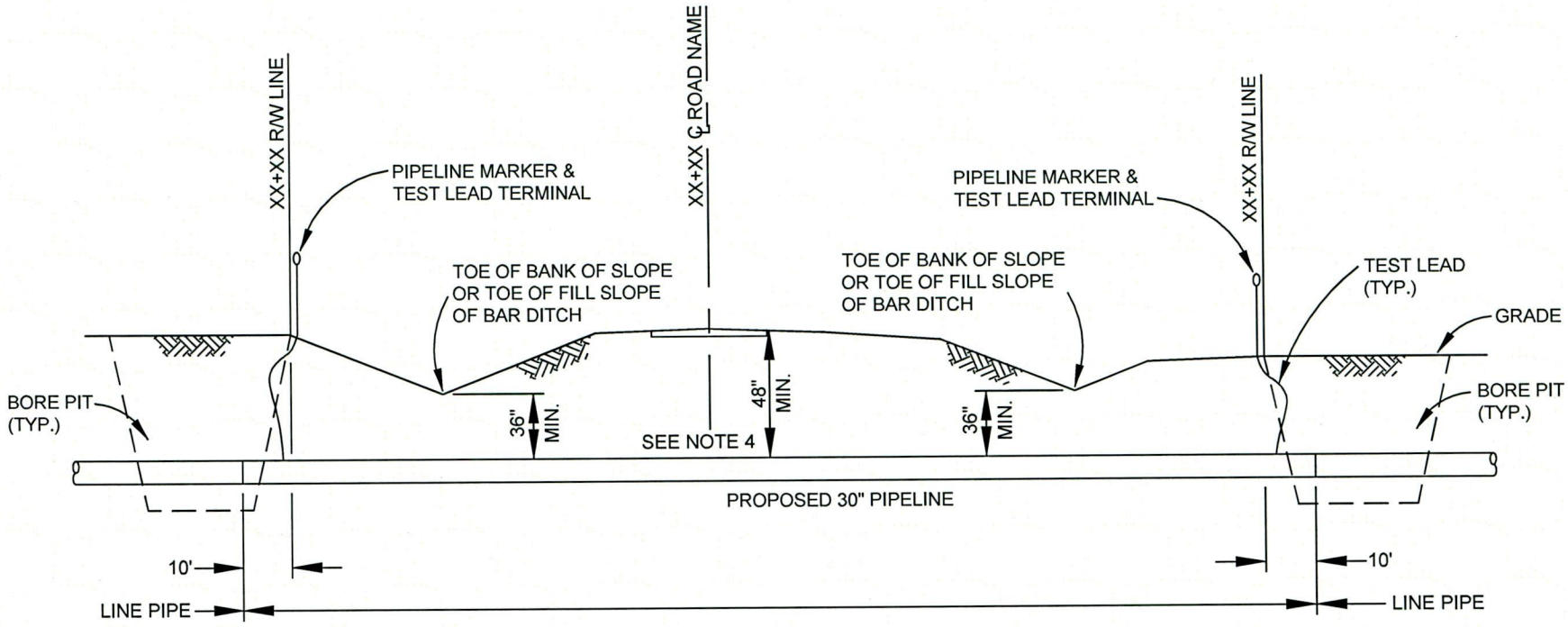
REVISIONS

NST EXPRESS
NST EXPRESS, LLC

NST EXPRESS PIPELINE

TOPSOIL SALVAGE
TRENCH AND SPOIL SIDE

MCKENZIE COUNTY, NORTH DAKOTA						
DATE:	PLOT DATE:	DRAWN BY:	LOC. NO.:	DRAWING NUMBER:	SHEET NO.:	REV.
04/13/15	--	KBW	-	R3A	-	A



IMPROVED UNCASED ROAD - CROSSING BORING METHOD

NOTES:

1. DESIGN FACTOR: IN ACCORDANCE WITH ALIGNMENT SHEETS
2. 100% X-RAY INSPECT ALL WELDS ON CARRIER PIPE IN ACCORDANCE WITH API STANDARD 1104 AND CONTRACT DOCUMENTS.
3. CONTRACTOR TO SLICK BORE CARRIER PIPE WITH A PROCEDURE SUBMITTED BY CONTRACTOR AND APPROVED BY THE COMPANY.
4. MINIMUM DEPTH OF COVER UNDER ROAD TO TOP OF PIPE SHALL BE 4'-0" OR SHALL CONFORM TO THE ROAD CROSSING PERMIT, WHICHEVER IS GREATER. ROAD CROSSING PIPE TO EXTEND 10' BEYOND ON EITHER SIDE OF DESIGNATED ROAD RIGHT-OF-WAY.
5. CATHODIC TEST STATION TO BE INSTALLED (IF REQUIRED), SEE CST-P-1085-B030.
6. PIPELINE MARKER TO BE INSTALLED PER DRAWING STD-P-0100-A200 AND STD-P-0100-A205.
7. PIPELINE MARKER & TEST STATIONS TO BE INSTALLED ON ROW LINE NEXT TO FENCE IF POSSIBLE.
8. CARRIER PIPE IS TO BE COATED WITH APPROVED EXTERNAL PROTECTIVE COATING, SEE ENGINEERING SECTION #M8380.
9. CROSSING TO BE AS NEAR TO 90° TO THE CENTERLINE OF ROADWAY AS PRACTICAL.
10. CONTRACTOR TO COMPLY TO THE SPECIFICATION REQUIREMENTS.

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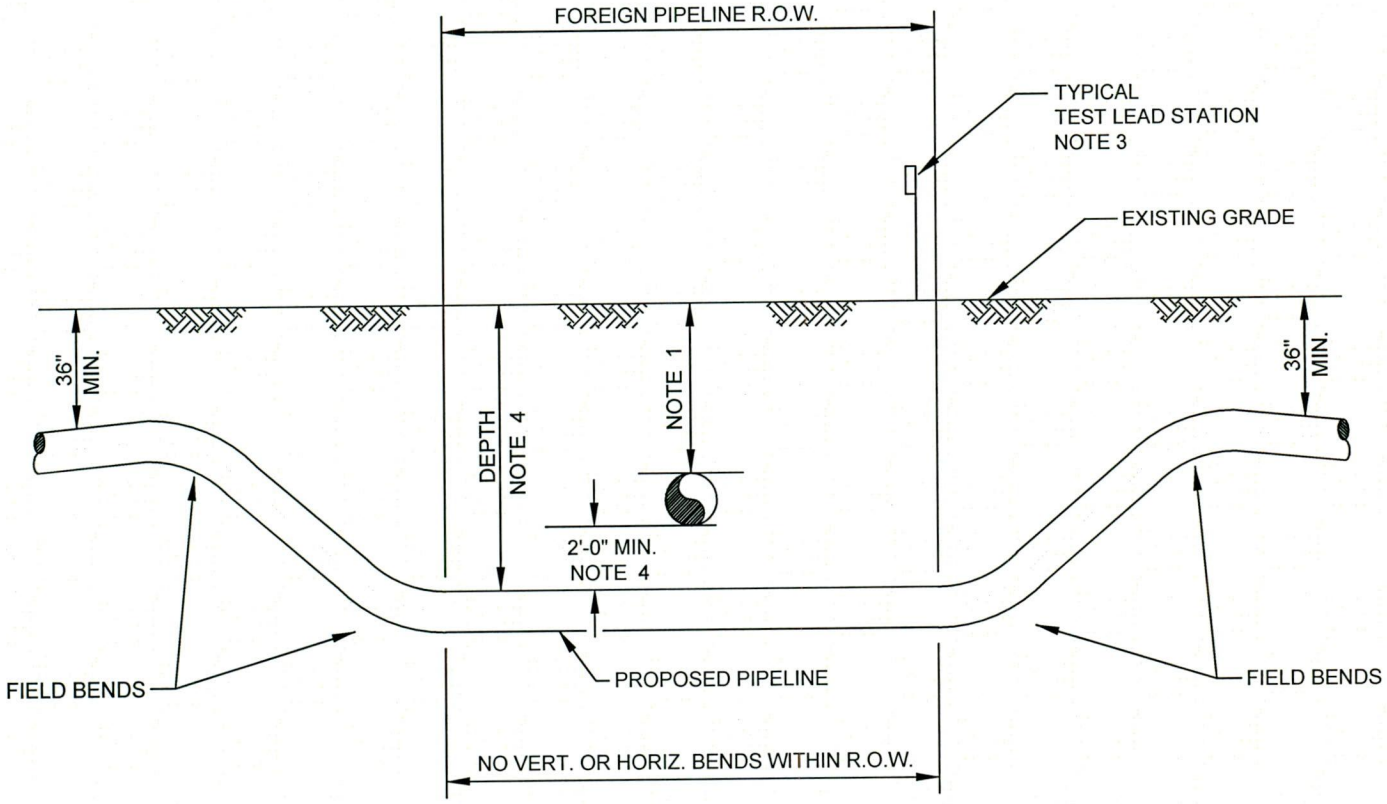
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NST EXPRESS PIPELINE

BORED ROAD CROSSING

MCKENZIE COUNTY NORTH DAKOTA

DATE	PLOT DATE	DRAWN BY	LOC. NO.	DRAWING NUMBER	SHEET NO.	REV.
04/13/15	–	KBW	-	BRC	-	A



CROSS SECTION OF FOREIGN P/L R.O.W.

NOTES:

1. FOREIGN PIPELINE LOCATIONS & DEPTHS TO BE DETERMINED BY ELECTRONIC MEANS IN ADVANCE OF PIPELINE CONSTRUCTION AND CONFIRMED BY CAREFULLY EXPOSING BY HAND DIGGING WITHIN 24" IN ANY DIRECTION FROM THE PIPELINE.
2. OWNER OF FOREIGN PIPELINE(S) SHALL BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF EXCAVATION OF CROSSING.
3. TEST LEAD STATION TO BE INSTALLED WHERE PRACTICAL AT THE NEAREST FENCE, HEDGE ROW OR FIELD EDGE, AND WHERE READILY ACCESSIBLE. INSTALL COMPANY-SUPPLIED PERMANENT REFERENCE CELL AND EXTEND CELL LEAD TO TEST LEAD STATION.
4. DEPTH OF PIPELINE INCLUDING 2'-0" MIN. CLEARANCE SHALL BE MAINTAINED FOR ALL FULL ANGULAR WIDTH OF FOREIGN PIPELINE R.O.W.
5. PROPOSED PIPELINE MAY CROSS ABOVE THE FOREIGN PIPELINE(S) ONLY WHERE REQUESTED BY OR APPROVED BY FOREIGN OWNER IN WRITING.

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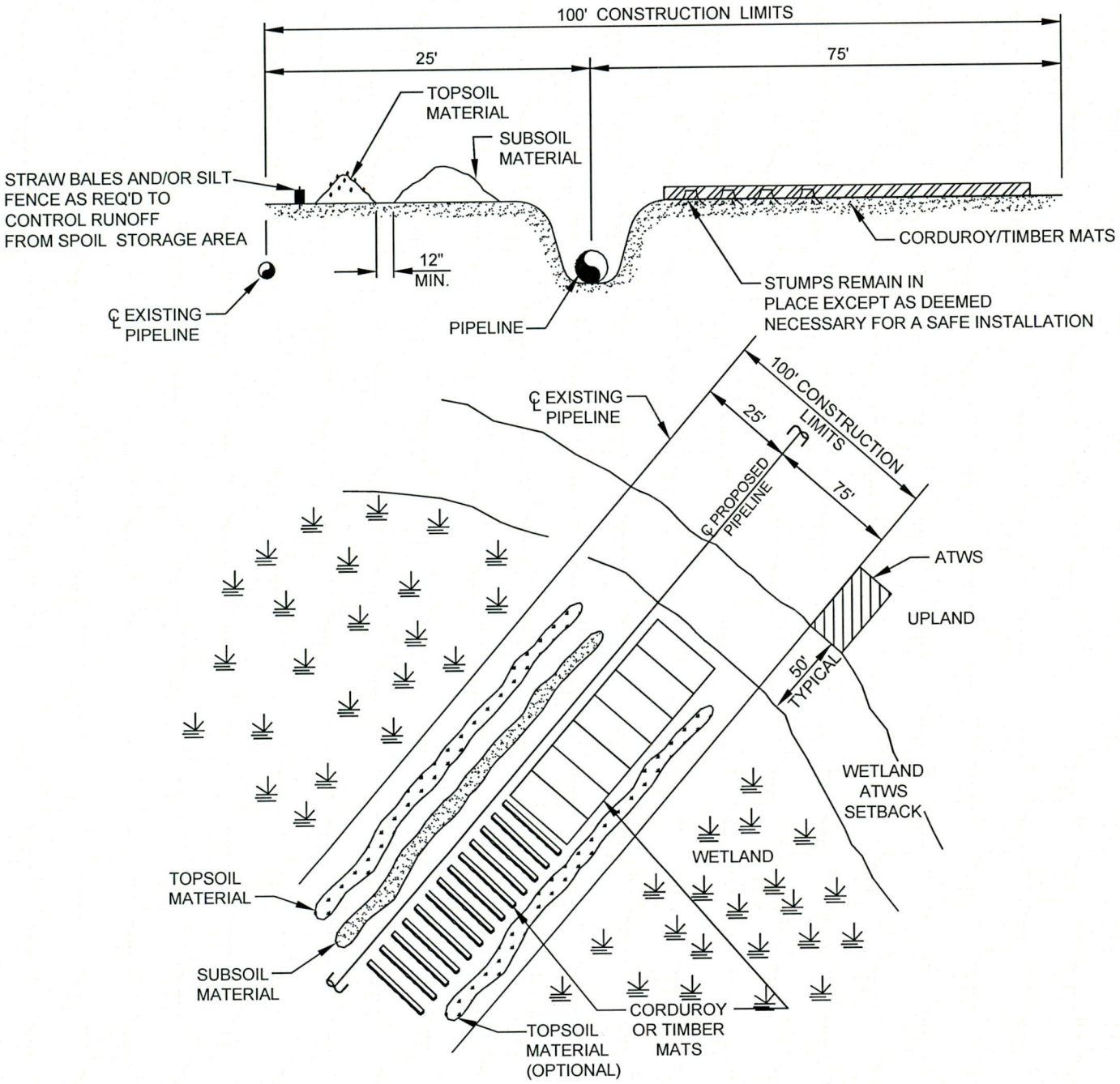
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NST EXPRESS PIPELINE

FOREIGN
PIPELINES CROSSING

MCKENZIE COUNTY					NORTH DAKOTA	
DATE:	PLOT DATE:	DRAWN BY	LOC. NO.	DRAWING NUMBER:	SHEET NO.	REV.
04/13/15	--	KBW	-	FPC	-	A



NOTES:

1. SEGREGATE TOPSOIL FROM THE AREA DISTURBED BY TRENCHING, EXCEPT IN AREAS WHERE STANDING WATER IS PRESENT OR SOILS ARE SATURATED OR FROZEN.
2. RE-SEED WITH ANNUAL RYEGRASS @ 40 LBS/ACRE (NOT TO EXCEED 48 LBS/ACRE) IN ALL AREAS WITHOUT STANDING WATER UNLESS ALTERNATIVES HAVE BEEN APPROVED BY MANAGING AGENCY.
3. NO FERTILIZER OR LIME SHALL BE USED.
4. INSTALL TRENCH PLUGS & WATERBAR ON BOTH SIDES OF WETLAND IF THE HYDROLOGICAL CONDITIONS WOULD DRAIN THE WETLAND.
5. DO NOT USE LIQUID MULCH BINDERS WITHIN 100' OF WETLANDS OR WATERBODIES.
6. IT IS ACCEPTABLE FOR E&S BMPS TO BE TEMPORARILY REMOVED FROM EQUIPMENT CROSSING PATHWAYS DURING PERIODS OF ACTIVE CONSTRUCTION IF THESE CONTROLS WILL BE PROPERLY REINSTALLED AT THE END OF EACH WORK DAY.
7. WETLAND MATS WILL BE PERMANENTLY REMOVED AFTER CLEAN UP/RESTORATION
8. MATS WILL BE 12' WIDE AND LENGTH IS DEPENDENT ON THE WETLAND CROSSING LENGTH FROM START TO END.

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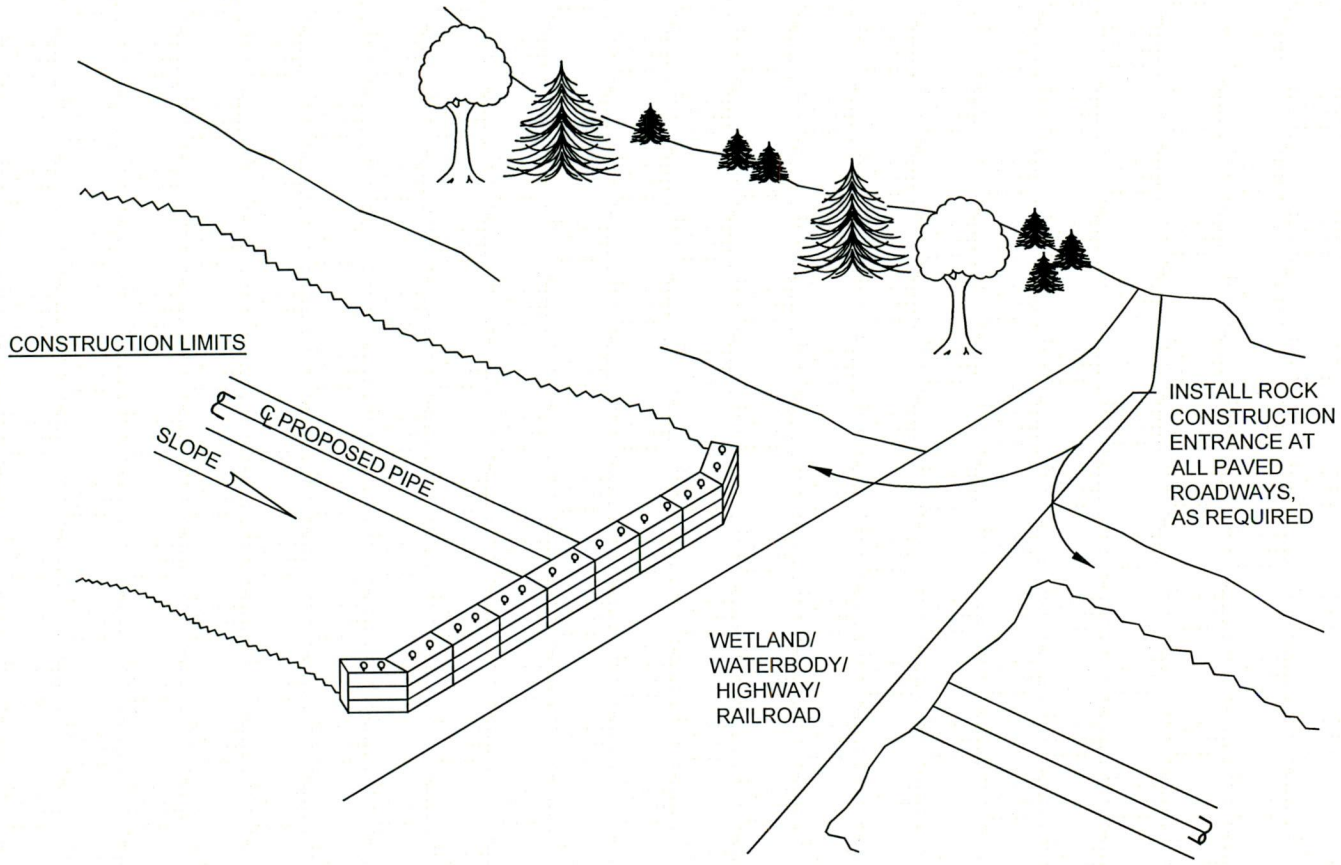
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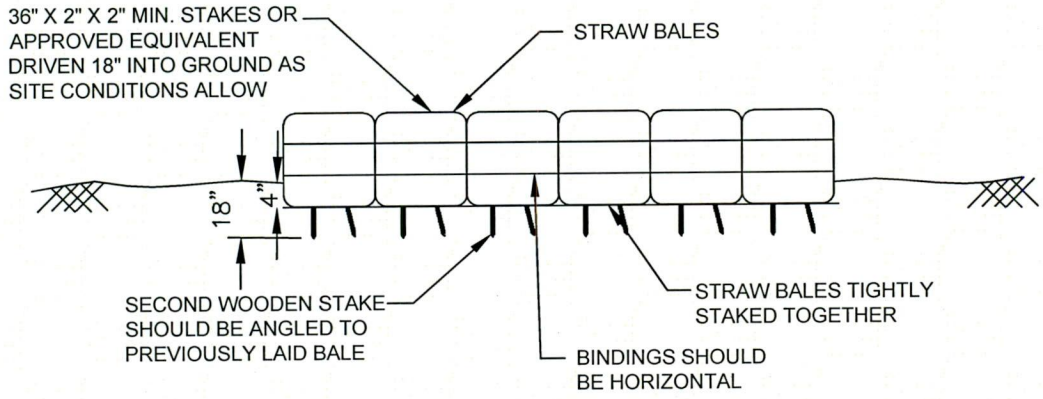
NST EXPRESS PIPELINE

TYPICAL
WETLAND CONSTRUCTION

MCKENZIE COUNTY					NORTH DAKOTA	
DATE: 04/13/15	DEPT DATE: --	DRAWN BY: KBW	LOC. NO.: -	DRAWING NUMBER: WW2A	SHEET NO.: -	REV: A



FRONT VIEW



NOTES:

1. STRAW BALES TO BE EMBEDDED 4" MIN. INTO GROUND AS SITE CONDITIONS ALLOW.
2. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE ABOVE GROUNDS HEIGHT OF THE BARRIER.
3. STRAW BALES REMOVED FOR ACCESS PURPOSES DURING THE DAY MUST BE REINSTALLED AFTER THE CONSTRUCTION ACTIVITY HAS PASSED THROUGH OR BY THE END OF THE DAY.
4. STRAW BALES SHOULD NOT BE USED FOR PROJECTS LASTING MORE THAN 3 MONTHS.
5. STAKES TO BE DRIVEN FLUSH WITH THE TOP OF THE BALE. BOTH ENDS OF THE BARRIER TO BE EXTENDED AT LEAST 8' UP SLOPE AT 45 DEGREES TO MAIN BARRIER ALIGNMENT.
6. STRAW BALE BARRIERS THAT ARE UNDERMINED OR TOPPED SHALL BE REPLACED WITH A ROCK FILTER OUTLET.
7. BALES WILL BE REMOVED WHEN PERMANENT STABILAZATION IS ACHIEVED.
8. COMPACTED BACKFILL WILL BE PLACED ON DISTURBED SIDE.

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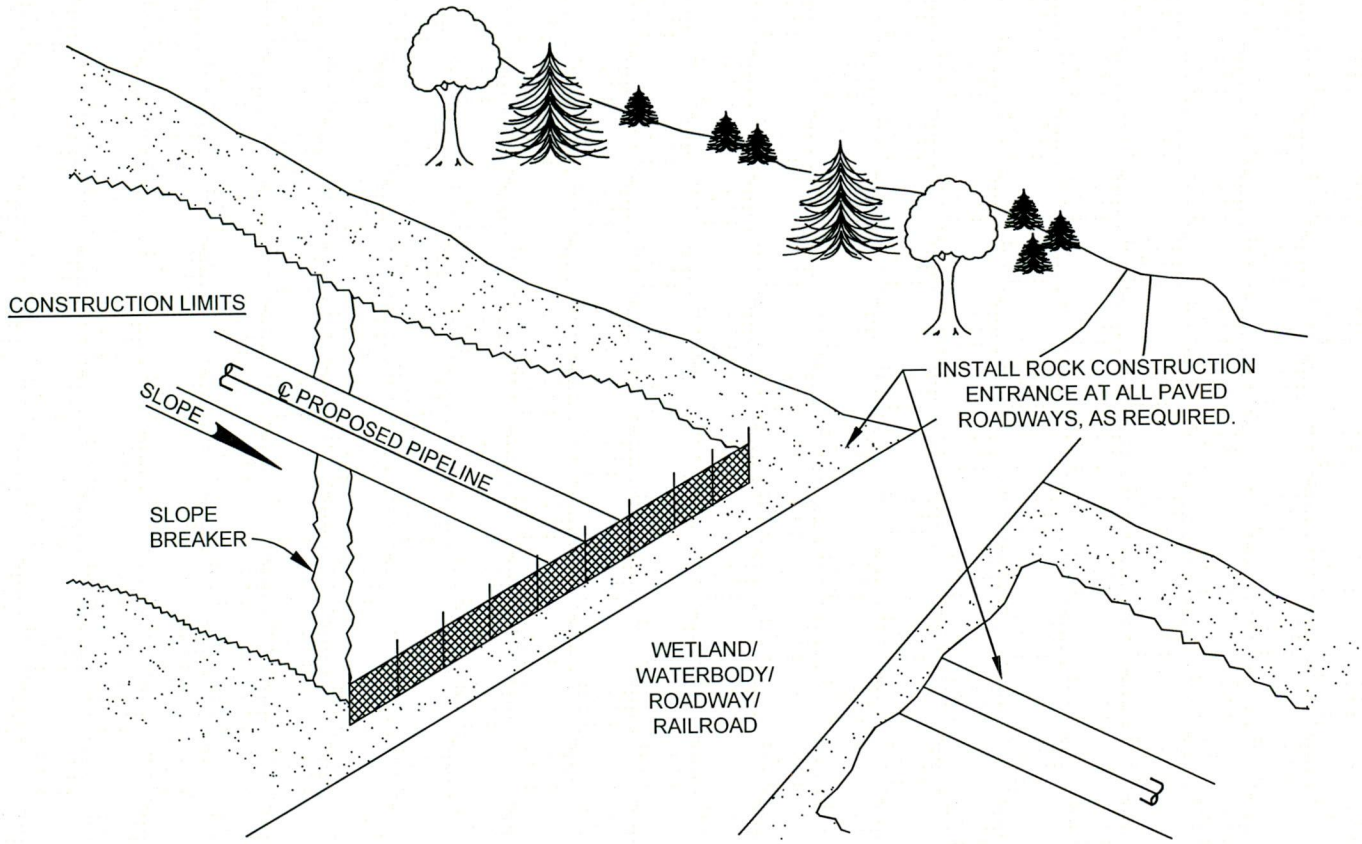
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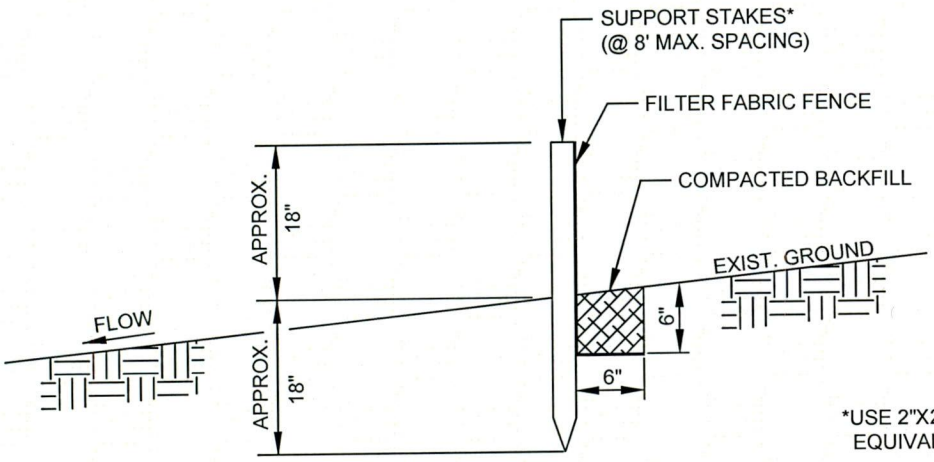
TYPICAL STRAW BALE INSTALLATION

MCKENZIE COUNTY NORTH DAKOTA

DATE	PLOT DATE	DRAWN BY	LOC. NO.	DRAWING NUMBER	SHEET NO.	REV.
04/14/15	--	KBW	-	ST1	-	A



NOTES:



*USE 2"X2" WOOD OR EQUIVALENT STEEL STAKES

PERMANENT STABILIZATION IS DEFINED AS MINIMUM, UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION.

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NST EXPRESS PIPELINE

TYPICAL STANDARD
18" SILT FENCE INSTALLATION
(SHEET 1 OF 2)

MCKENZIE COUNTY					NORTH DAKOTA	
DATE:	TEST DATE:	DRAWN BY	LOC. NO.:	DRAWING NUMBER:	SHEET NO.	REV.
04/14/15	–	KBW	-	SF1	-	A

NOTES:

1. SILT FENCE MUST BE LEFT IN PLACE UNTIL PERMANENT STABILIZATION.
2. FILTER FABRIC FENCE MUST BE INSTALLED AT EXISTING LEVEL GRADE.
3. SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.
4. ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET.
5. AT A MINIMUM, THE FABRIC SHOULD HAVE THE FOLLOWING PROPERTIES:

FABRIC PROPERTY	MINIMUM ACCEPTABLE VALUE	TEST METHOD
GRAB TENSILE STRENGTH (lb)	120	ASTM D1682
ELONGATION AT FAILURE (%)	20% MAX.	ASTM D1682
MULLEN BURST STRENGTH (lb)	200	ASTM D3786
TRAPEZOIDAL TEAR STRENGTH (lb)	50	
PUNCTURE STRENGTH (lb)	40	ASTM D 751 (MODIFIED)
SLURRY FLOW RATE (gal/min/sf)	0.3	
EQUIVALENT OPENING SIZE	30	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY (%)	80	ASTM G-26

6. SILT FENCE MUST BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER WILL BE EXTENDED 8' UPSLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.

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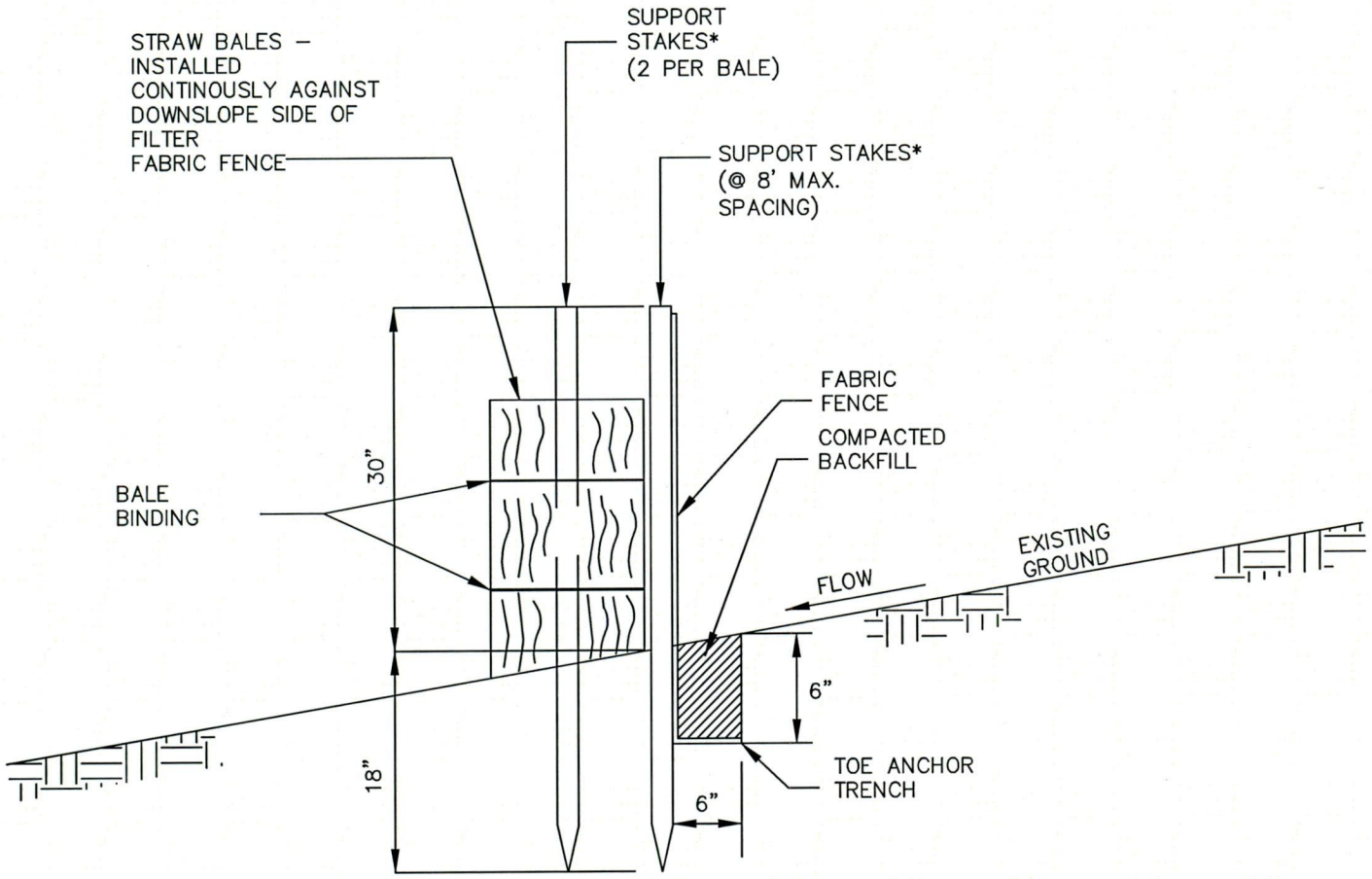
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TYPICAL STANDARD
18" SILT FENCE INSTALLATION
(SHEET 2 OF 2)

MCKENZIE COUNTY, NORTH DAKOTA

DATE	PLOT DATE	DRAWN BY	LOC. NO.	DRAWING NUMBER	SHEET NO.	REV.
04/14/15	--	KBW	-	SF1	-	A



*USE 2"X2" WOOD OR EQUIVALENT STEEL STAKES.

REPLACE BALES AT LEAST EVERY 3 MONTHS.

FILTER FABRIC FENCE MUST BE INSTALLED AT EXISTING LEVEL GRADE. BOTH ENDS OF EACH FENCE SECTION MUST BE EXTENDED AT LEAST 8' UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.

PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON–VEGTATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION.

SILT FENCE MUST BE LEFT IN PLACE UNTIL PERMANENT STABILIZATION.

ANY FENCE SECTION THAT HAS BEEN UNDERMINED OR TOPPED MUST BE REPLACED WITH A ROCK FILTER OUTLET.

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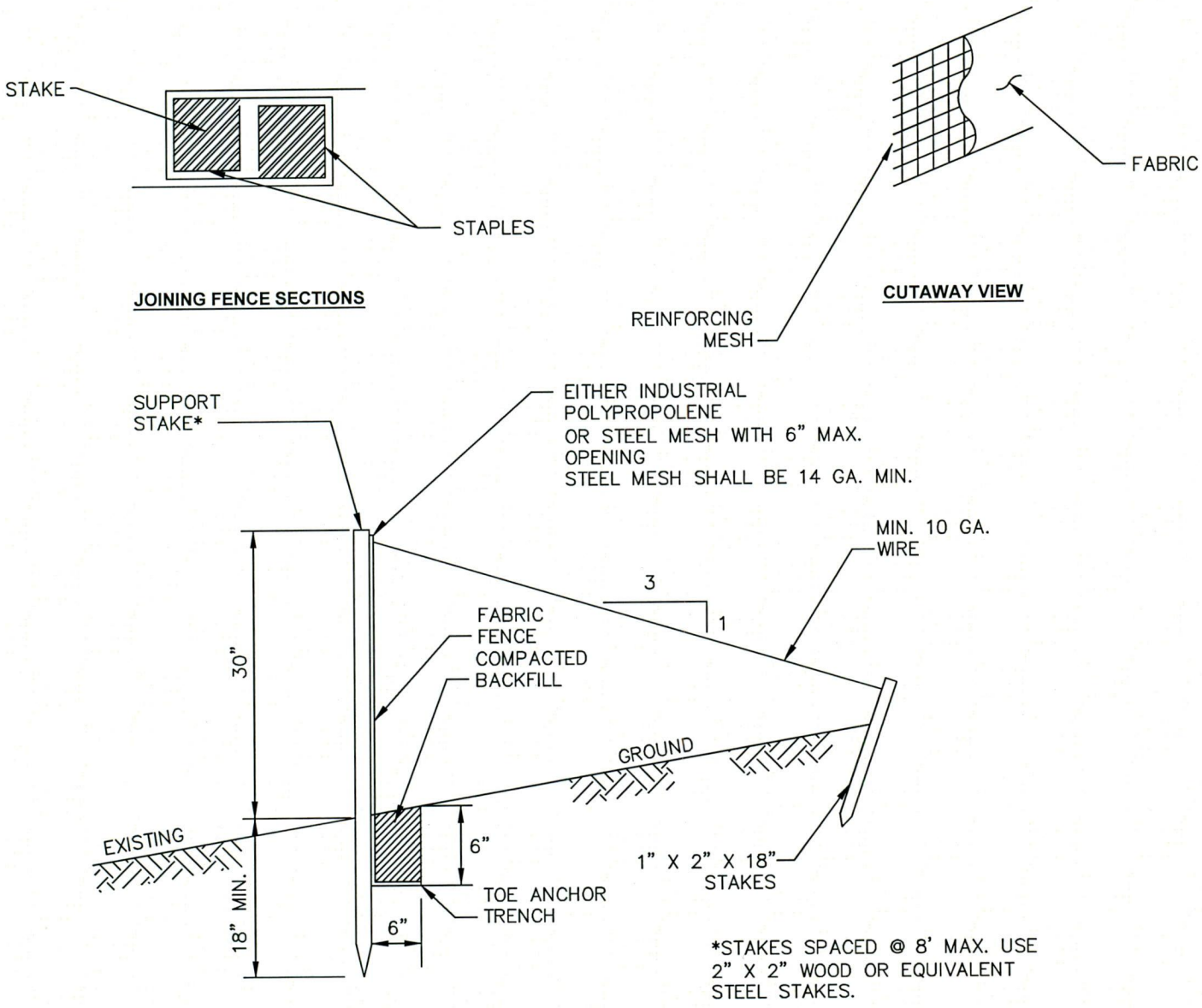
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NST EXPRESS PIPELINE

STANDARD CONSTRUCTION DETAIL
REINFORCED 30" SILT FENCE INSTALLANTION
(SHEET 1 OF 3)

MCKENZIE COUNTY, NORTH DAKOTA

DATE	PLOT DATE	DRAWN BY	LOC. NO.	DRAWING NUMBER	SHEET NO.	REV.
04/14/15	–	KBW	-	SF2	-	A



FILTER FABRIC FENCE MUST BE INSTALLED AT EXISTING LEVEL GRADE. BOTH ENDS OF EACH FENCE SECTION MUST BE EXTENDED AT LEAST 8' UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.

PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGTATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION.

SILT FENCE MUST BE LEFT IN PLACE UNTIL PERMANENT STABILIZATION.

ANY SECTION OF SILT FENCE THAT HAS BEEN UNDERMINED OR TOPPED MUST BE REPLACED WITH A ROCK FILTER OUTLET.

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NST EXPRESS PIPELINE

STANDARD CONSTRUCTION DETAIL
REINFORCED 30" SILT FENCE INSTALLANTION
(SHEET 2 OF 3)

MCKENZIE COUNTY, NORTH DAKOTA

DATE	PIPOT DATE	DRAWN BY	LOC. NO.	DRAWING NUMBER	SHEET NO.	REV.
04/14/15	--	KBW	-	SF2	-	A

AT A MINIMUM THE FABRIC SHALL HAVE THE FOLLOWING PROPERTIES:

FABRIC PROPERTY	MINIMUM ACCEPTABLE VALUE	TEST METHOD
GRAB TENSILE STRENGTH (lb)	120	ASTM D1682
ELONGATION AT FAILURE (%)	20% MAX.	ASTM D1682
MULLEN BURST STRENGTH (lb)	200	ASTM D3786
TRAPEZOIDAL TEAR STRENGTH (lb)	50	
PUNCTURE STRENGTH (lb)	40	ASTM D 751 (MODIFIED)
SLURRY FLOW RATE (gal/min/sf)	0.3	
EQUIVALENT OPENING SIZE	30	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY (%)	80	ASTM G-26

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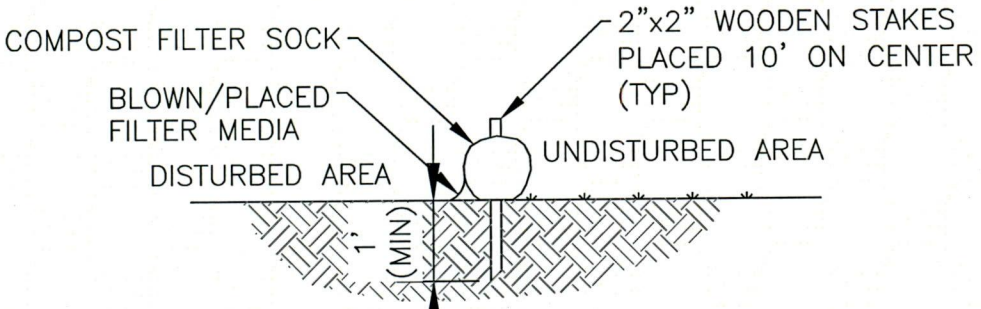
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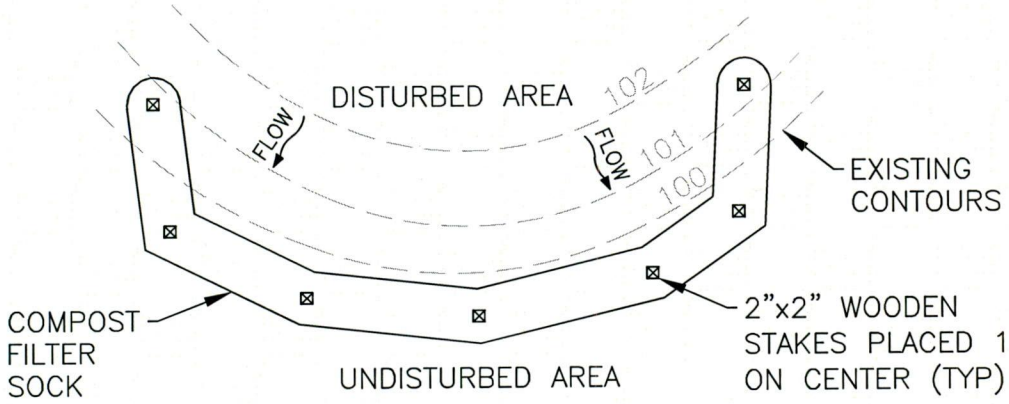
STANDARD CONSTRUCTION DETAIL
REINFORCED 30" SILT FENCE INSTALLANTION
(SHEET 3 OF 3)

MCKENZIE COUNTY NORTH DAKOTA

DATE	PROJ. DATE	DRAWN BY	LOC. NO.	DRAWING NUMBER	SHEET NO.	REV.
04/14/15	--	KBW	-	SF2	-	A



SECTION VIEW



PLAN VIEW

NOTES:

1. SOCK FABRIC AND COMPOST MATERIAL SHALL MEET ALL STATE STANDARDS.
2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
5. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
6. BIO-DEGRADEABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTO-DEGRADEABLE SOCKS AFTER 1 YEARS. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS SOIL SUPPLEMENT.

COMPOST FILTER SOCK DETAIL

SCALE: NOT TO SCALE

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

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REV LEVEL	DATE	BY	DESCRIPTION	CK.	APP.
A	04/17/15	KBW	ISSUED FOR PERMIT	DK	JN

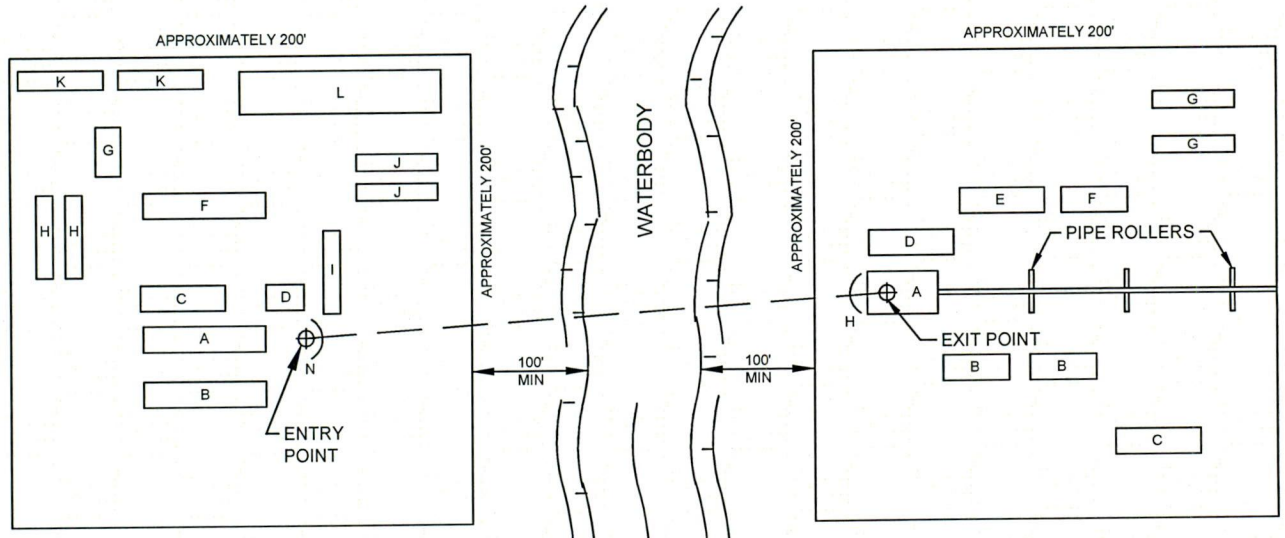
REVISIONS

NST EXPRESS, LLC

NST EXPRESS PIPELINE

COMPOST FILTER SOCK DETAIL

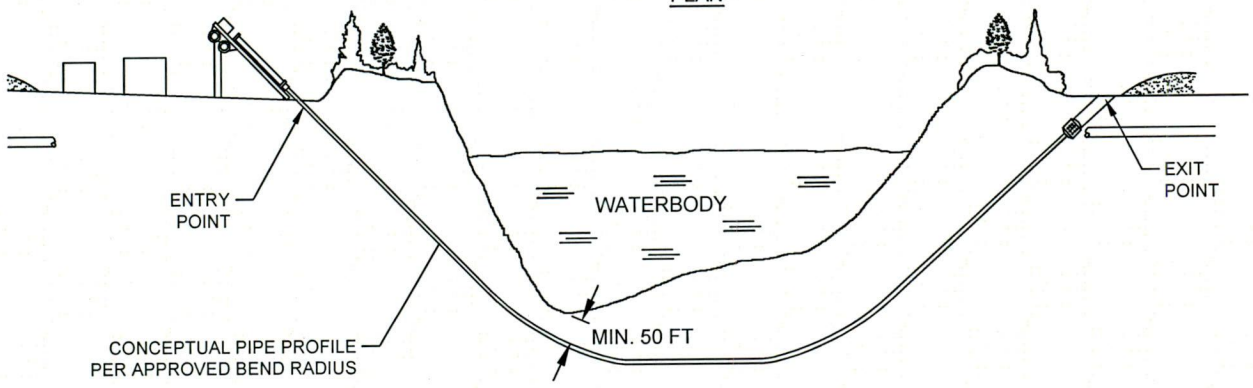
MCKENZIE COUNTY					NORTH DAKOTA	
DATE	PLOT DATE	DRAWN BY	LOC. NO.	DRAWING NUMBER	SHEET NO.	REV.
04/14/15	--	KBW	-	CFS	-	A



A - DRILL RIG
B - DRILLER'S CONSOLE GENERATOR
C - DRILL PIPE
D - CRANE
E - PARTS VAN
F - MUD CLEANING UNIT
G - MUD MIXING TANK
H - MUD PUMPS
I - MUD PIT
J - FRAC TANKS
K - DRILLING MUD (PALLETS)
L - PARKING
M - OFFICE TRAILER
N - CONTAINMENT BERM

A - EXIT PIT
B - LIFT EQUIPMENT
C - WELDING AREA
D - MUD PIT
E - MUD CLEANING
F - GENERATOR
G - FRAC TANKS
H - CONTAINMENT BERM

PLAN



PROFILE

NOTES:

1. SET UP DRILLING EQUIPMENT A MINIMUM OF 300 FEET FROM THE EDGE OF THE WATERCOURSE. DO NOT CLEAR OR GRADE WITHIN THE 100 FOOT ZONE.
2. ENSURE THAT ONLY BENTONITE BASED DRILLING MUD IS USED. DO NOT ALLOW THE USE OF ANY ADDITIVES TO THE DRILLING MUD WITHOUT THE APPROVAL OF COMPANY'S INSPECTOR.
3. INSTALL SUITABLE DRILLING MUD TANKS OR SUMPS TO PREVENT CONTAMINATION OF WATERCOURSE.
4. INSTALL BERMS DOWNSLOPE FROM THE DRILL ENTRY AND ANTICIPATED EXIT POINTS TO CONTAIN ANY RELEASE OF DRILLING MUD.
5. DISPOSE OF DRILLING MUD IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AUTHORITY REQUIREMENTS.

DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

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REV LEVEL	DATE	BY	DESCRIPTION	CK.	APP.
A	04/17/15	KBW	ISSUED FOR PERMIT	DK	JN

REVISIONS

NST EXPRESS, LLC

NST EXPRESS PIPELINE

TYPICAL WATERBODY CROSSING
HORIZONTAL DIRECTIONAL DRILLING

MCKENZIE COUNTY					NORTH DAKOTA	
DATE:	PLOT DATE:	DRAWN BY:	LOC. NO:	DRAWING NUMBER:	SHEET NO.	REV.
04/14/15	--	KBW	-	WCHDD	-	A

APPENDIX D
Natural Resources Report

SWCA®
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

Natural Resources and Wetland Determination Report for the NST Express Pipeline System, McKenzie County, North Dakota

Prepared for

NST Express, LLC

Prepared by

SWCA Environmental Consultants

May 2015



Natural Resources and Wetland Determination Report for the NST Express Pipeline System, McKenzie County, North Dakota

Prepared for:

NST Express, LLC

Prepared by:

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Reviewed by:

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SWCA Project No. 30320

May 28, 2015

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1.0 INTRODUCTION

1.1 BACKGROUND

NST Express, LLC (NST Express) is proposing to construct and operate the proposed NST Express oil pipeline system in McKenzie County, North Dakota. SWCA Environmental Consultants (SWCA) conducted natural resources field surveys in order to identify exclusion and avoidance areas as specified in North Dakota Administrative Code 69-06-08-02 for the proposed NST Express pipeline project.

As proposed, the NST Express pipeline is approximately 23.5 miles long, spanning privately owned lands, in North Dakota (Appendix A). NST Express proposes to bore the Yellowstone River, which is classified as a jurisdictional waterway under Section 10 of the Rivers and Harbors Act (33 United States Code [USC] 403).

SWCA conducted field surveys of a 200-foot-wide survey corridor (100-foot-wide right-of-way [ROW]), including reroutes, a 2-acre survey block of the Fairview rail facility, and a 42-acre block of the proposed Alexander facility on January 30; March 15, 17, 20; and May 1, 2015, to determine the potential presence and extent of wetlands and waterbodies, including jurisdictional waters of the U.S., within the proposed survey area. Concurrently with the wetland determinations, SWCA conducted a cursory threatened and endangered species survey and habitat assessment; a tree, sapling, and shrub enumeration survey; and a noxious weed survey. Site layout maps of the survey area and natural resource features identified during the field surveys are provided in Appendix A.

This report outlines the methodology used by SWCA's biologists to complete each of the aforementioned surveys. Additionally, this report presents the results of the completed field surveys and regulatory recommendations to ensure compliance with the North Dakota Public Service Commission and the U.S. Army Corps of Engineers (USACE) Nationwide Permit 12.

1.2 REGULATORY BACKGROUND

1.2.1 Clean Water Act, Section 404

Section 404 of the Clean Water Act prohibits the discharge of dredged or fill material into waters of the U.S., also known as jurisdictional waters, without a permit from the USACE.

1.2.2 USACE Nationwide Permit 12

The USACE Nationwide Permit 12 authorizes the construction of utility lines and associated facilities in waters of the U.S., provided the activity does not result in the permanent loss of greater than 0.5 acre of waters of the U.S., including wetlands.

Nationwide Permit 12 requires that the permittee submit a pre-construction notification prior to commencing construction if any of the following criteria are met.

- The activity involves mechanized land clearing in a forested wetland.
- A Section 10 permit is required to cross a navigable waterbody (Rivers and Harbors Act). Compliance with Section 10 of the Rivers and Harbors Act (33 USC 403) is

required for the passage under the Yellowstone River.

- The utility line exceeds 500 feet in length through any single crossing of a water of the U.S.
- The utility line is placed within a jurisdictional area (i.e., water of the U.S.) and it runs parallel to a stream bed that is within that jurisdictional area.
- Discharges result in the permanent loss of greater than 0.1 acre of waters of the U.S.
- Permanent access roads are constructed above grade in waters of the U.S. for a distance of more than 500 feet.
- Permanent access roads are constructed in waters of the U.S. with impervious materials.

1.2.3 USACE Regional Conditions

The USACE has published several regional conditions for projects operating under Nationwide Permits in North Dakota. The regional conditions apply to wetlands classified as "fens," waters adjacent to natural springs, the Missouri River, historic properties, and fish spawning areas.

2.0 METHODS

2.1 SURVEY AREA

Overall, northwest North Dakota is characterized by a moderate to cool climate, with cold, dry winters and mild to warm summers. Mean annual precipitation for the area is 14 to 16 inches (Bryce et al. 1998).

The proposed project is located in the Great Plains (level I ecoregion), the West-Central Semi-Arid Prairies (level II ecoregion), and the Northwestern Great Plains (level III ecoregion). Further, the western extent of the alignment is located in the River Breaks (level IV ecoregion) and the eastern extent of the alignment is located in the Missouri Plateau (level IV ecoregion).

The Northwestern Great Plains encompasses the Missouri Plateau section of the Great Plains and consists of semiarid rolling plains of shale, siltstone, and sandstone punctuated by buttes and badlands (Bryce et al. 1998) (Figures 1 and 2). The River Breaks ecoregion forms broken terraces and uplands that descend to the Missouri River and its major tributaries (Bryce et al. 1998). The Missouri Plateau ecoregion was largely unaffected by glaciation and retains its original soils and complex stream drainage pattern (Bryce et al. 1998).



Figure 1. Overview of the general topography towards the eastern portion of the pipeline corridor, facing west (photo taken March 20, 2015).



Figure 2. Overview of the general topography towards the western portion of the pipeline corridor, facing east (photo taken March 15, 2015).

The inventoried area for the project area discussed herein is situated on the U.S. Geological Survey Fairview (1975), Dore (1971), Buford (1971), Cartwright NE (1971), and Camp Creek West (1979), North Dakota, quadrangles. The proposed NST Express project corridor that was surveyed in 2015 encompasses portions of 25 sections within 4 townships and ranges.

- Section 6, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1, 2, 9, 10, 11, 16, 17, 18, and 19, T151N, R103W
- Sections 20, 21, 22, 23, 24, 29, and 30, T151N, R104W
- Sections 23, 24, 26, 31, 32, 33, 34, and 35, T152N, R102W

2.2 WETLANDS

National Wetlands Inventory mapping for the region indicates the presence of wetlands (U.S. Fish and Wildlife Service [USFWS] 2012a). SWCA biologists conducted wetland determinations within the survey area based on the principles and guidelines provided in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Manual) (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Determination Manual: Great Plains Region Version 2.0* (Supplement) (USACE 2010). According to the Manual, an area is a wetland if three mandatory wetland indicators are present in a given area, with special exceptions. These criteria include the presence of hydrophytic vegetation, wetland hydrology, and hydric soils. All wetlands and waterbodies geographically referenced within the survey area during field survey are depicted on the site layout maps in Appendix A.

2.2.1 Hydrophytic Vegetation

Biologists recorded all plants within the vegetative community based on the respective stratum each species occupied. A tree is defined by the Supplement to be a woody-stemmed plant with a trunk diameter at breast height (DBH) of equal to or greater than 3 inches, regardless of height. The sapling and shrub stratum is defined by the Supplement to be composed of woody-stemmed plants with a trunk DBH of less than 3 inches, regardless of height. The herbaceous stratum includes all non-woody-stemmed plants regardless of height. Finally, the woody vine stratum includes all woody-stemmed vines, regardless of diameter.

SWCA recorded the binomial scientific name and percent cover of all plants within a 30-foot radius for the tree stratum, a 15-foot radius for the sapling/shrub stratum, a 5-foot radius for the herbaceous stratum, and a 30-foot radius for the woody vine stratum. SWCA biologists noted each plant species' respective USFWS indicator status (i.e., upland [UPL], facultative upland [FACU], facultative [FAC], facultative wetland [FACW], and obligate [OBL]). Vegetation communities met the hydrophytic vegetation criterion for wetlands if greater than 50% of dominant species had an indicator status of FAC, FACW, and OBL.

2.2.2 Wetland Hydrology

A wetland was determined to contain wetland hydrology if at least one primary indicator or at least two secondary indicators of wetland hydrology were present, as defined by the Manual and Supplement. Common hydrologic indicators include the presence of surface water, high

water table, soil saturation, water marks on trees or other objects, sediment deposits, water-stained leaves, and oxidized rhizospheres on living roots.

2.3 WATERBODIES

Waterbodies (i.e., ponds, creeks, streams, lakes) were identified by the presence of an ordinary high water mark (OHWM). Common identifiable indicators of an OHWM include open water or evidence of a clear, natural line visible on the bank; shelving; changes in soil characteristics; the destruction of terrestrial vegetation; the presence of litter and debris; and watermarks on structures that are inundated during normal high water conditions. The OHWM typically represents the potential limits of the USACE jurisdiction. Please note that the USACE has full discretion in determining the jurisdictional status of referenced wetlands and waterbodies.

SWCA classified streams as perennial, intermittent, or ephemeral based on field observations. During a typical year, a perennial stream contains flowing water year-round and the water table is located above the stream bed. Groundwater is the primary water source for stream flow while precipitation runoff is supplemental. Biologists classified streams that showed significant flow during the field survey as perennial. Additionally, the U.S. Geological Survey topographic maps were used as reference.

An intermittent stream has flowing water for only portions of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

2.4 TREE, SAPLING, AND SHRUB COUNT

SWCA biologists determined the total number of trees, saplings, and shrubs present within the survey area using several different techniques depending on the type of woody vegetation habitat (i.e., forested upland, shrubland, or shelterbelt) encountered and the overall extent of each habitat within the ROW. The boundary of all forested upland, shrubland, and shelterbelt habitat was geographically referenced using a Trimble GeoXT series handheld global positioning system (GPS) unit. In forested upland and shrubland habitat, SWCA counted the number of all woody-stemmed vegetation with a DBH of $\geq$1 inch. In shelterbelt areas, all woody-stemmed vegetation, regardless of DBH, was inventoried via direct count. Biologists taxonomically identified all recorded individuals to the species level within each habitat type.

2.5 NOXIOUS WEED SURVEYS

SWCA conducted a noxious weed survey of all populations of North Dakota state- or county-listed noxious weeds within the project area. Surveys were conducted early in the growing season and it is possible that small isolated patches of noxious weeds could have been missed

or could emerge in other areas in the spring. NST Express will monitor and control noxious weeds within their ROW prior to and subsequent to construction.

2.6 WILDLIFE INCLUDING THREATENED AND ENDANGERED SPECIES

Prior to conducting field surveys, SWCA reviewed information obtained from the USFWS list of threatened and endangered species by North Dakota county (USFWS 2014a) regarding the presence of threatened or endangered species that may occur within the survey area. This document does not represent a comprehensive survey, but rather acknowledges the past and/or current presence of listed species. The lack of discovery of threatened or endangered species does not signify their non-existence within the area, but only that no primary or secondary indications of these species were recorded. SWCA completed a random survey for all listed species and suitable habitat.

A line-of-sight binocular survey for raptor species was also conducted for a distance of approximately 0.5 mile. SWCA biologists noted all wildlife observed during the field survey. Wildlife sightings can involve primary observations (i.e., actual sighting of an animal) or secondary observations (i.e., observation of scat, tracks, or fur deposits).

2.7 MAPPING

The boundaries of each wetland, waterbody, woody vegetation habitat, and noxious weed assemblage were geographically recorded using a Trimble GeoXT GPS unit. The aforementioned GPS unit is capable of recording geographic data with sub-meter accuracy. SWCA used Universal Transverse Mercator Zone 13 North as the projected coordinate system and North American Datum 1983 as the datum. ArcGIS v10.0 (ESRI Redlands, California) was used to analyze recorded features, calculate areas, and generate the maps provided in Appendix A and B. Please note that all data collected using the GPS unit, and displayed on the attached maps, are for review purposes only and do not represent a professional civil survey.

3.0 RESULTS

3.1 VEGETATION

During the field survey, SWCA biologists identified four general types of vegetative communities within the survey area. These vegetative communities were classified as herbaceous upland, shrubland and upland woody vegetation, cropland, and palustrine emergent (PEM) wetland. PEM wetlands are characterized by the presence of herbaceous hydrophytic or submergent aquatic macrophytes. Photographs of the survey area are provided in Appendix C.

Vegetation communities met the hydrophytic vegetation criterion for wetlands if greater than 50% of dominant species had an indicator status of FAC, FACW, or OBL. The upland communities failed to meet at least one of the three assessed wetland criteria.

3.1.1 Herbaceous Upland

The herbaceous upland community consists of areas dominated by non-woody vegetation such as grasses and forbs. Two types of herbaceous upland communities were observed during the survey. The dominant herbaceous community within the proposed pipeline survey area includes non-native grasses and forbs including smooth brome (*Bromus inermis*), crested wheatgrass (*Agropyron cristatum*), and Kentucky bluegrass (*Poa pratensis*). The remaining herbaceous upland consisted of mixed-grass prairie comprised of blue grama (*Bouteloua gracilis*), little bluestem (*Schizachyrium scoparium*), junegrass (*Koeleria macrantha*), purple coneflower (*Echinacea angustifolia*), and common yarrow (*Achillea millefolium*).

3.1.2 Shrubland and Woody Vegetation

Shrubland communities occurring throughout the survey area consisted of upland areas dominated by woody-stemmed vegetation including primarily silver buffaloberry (*Shepherdia argentea*).

Forested upland vegetation consisted of eastern cottonwood (*Populus deltoides*), Siberian elm (*Ulmus pumila*), green ash (*Fraxinus pennsylvanica*), and Russian olive (*Elaeagnus angustifolia*).

3.1.3 Cropland

Cropland was confirmed in the survey area and classified as wheat (*Triticum aestivum*). Other common crops in the area include sugar beets (*Beta vulgaris*), canola (*Brassica napus*), and soybeans (*Glycine max*).

3.1.4 Hydrophytic Vegetation

Aquatic vegetation species confirmed during the survey included prairie cordgrass (*Spartina pectinata*), curly dock (*Rumex occidentalis*), Baltic rush (*Juncus balticus*), American sloughgrass (*Beckmannia syzigachne*), and broad-leaf cattail (*Typha latifolia*).

3.2 HYDROLOGY

Wetland communities observed during the determination effort displayed at least one primary or two secondary indicators of wetland hydrology, as defined by the Manual and Supplement. Upland communities either failed to display hydrologic indicators or failed to meet the hydrophytic vegetation and hydric soils criterion, as defined by the Manual and Supplement. In some instances, the presence of above average precipitation obscured the wetland/waterbody boundary and OHWM usually present during normal hydrologic conditions. Common indicators of wetland hydrology observed during field surveys include Surface Water (A1), Inundation Visible on Aerial Imagery (B7), Drainage Patterns (B10), Saturation Visible on Aerial Imagery (C9), and Geomorphic Position (D2)

According to National Weather Service preliminary climatological data for Williston, North Dakota, 2.34 inches of precipitation were recorded from November 1, 2014, through May 1, 2015 (Table 1). This amount is 1.72 inches below normal for this time period. Williston is approximately 12 miles north of the project area.

Table 1. Monthly Recorded Rainfall at National Weather Service Station in Williston, North Dakota

Month	Recorded Precipitation (inches)	Normal Precipitation (inches)	Difference (inches)
November 2014	0.63	0.65	-0.02
December 2014	0.03	0.62	-0.59
January 2015	0.48	0.59	-0.11
February 2015	0.46	0.39	0.07
March 2015	0.47	0.71	-0.24
April 2015	0.27	1.00	-0.73
May 1, 2015	0.00	0.10	-0.10
Total	**2.34**	**4.06**	**-1.72**

Source: National Oceanic and Atmospheric Administration 2014.

Although precipitation data are not available for the exact project area, it is likely analogous to the precipitation data for Williston for that same timeframe.

3.3 WETLANDS

SWCA recorded seven PEM wetlands within the survey area, totaling approximately 1.50 acres. In total, approximately 0.58 acre of PEM wetland is within the 100-foot-wide construction ROW (Table 2). All recorded wetlands are potentially jurisdictional; however, the USACE has the final authority to determine jurisdictional status.

Table 2. PEM Wetland Acreage within the Survey Area

Feature ID	Type	USACE Jurisdiction*	Total Recorded Size (acres)	Wetland Area within 100-foot-wide ROW (acres)	Length of Required Crossing (feet)
WET1	Seasonal	Likely Jurisdictional	0.32	0.00	0
WET2	Semipermanent	Likely Jurisdictional	0.07	0.03	17
WET3	Seasonal	Likely Jurisdictional	0.13	0.05	25
WET4	Semipermanent	Likely Jurisdictional	0.28	0.14	66
WET5	Seasonal	Likely Jurisdictional	0.25	0.12	70
WET6	Seasonal	Likely Jurisdictional	0.14	0.08	43
WET7	Seasonal	Likely Jurisdictional	0.31	0.16	76
Total			**1.50**	**0.58**	

*The USACE has the final authority on the jurisdictional status of a waterbody.
ROW = right-of-way
USACE = U.S. Army Corps of Engineers

3.4 WATERBODIES

SWCA identified five waterbodies, all classified as intermittent streams, within the survey area (Table 3). All recorded streams are potentially jurisdictional; however, the USACE has the final authority to determine jurisdictional status. STR1, STR2, STR3, STR4 are associated with the Yellowstone Irrigation Canal System, and NST Express proposes to bore these streams.

Upland data points were recorded at potential high risk run-off areas which did not show an OHWM and contained dominantly upland vegetation (Appendix A). However, these areas should be considered when developing a stormwater pollution prevention plan.

NST Express proposes to bore the pipeline beneath the Yellowstone River, which is classified as a jurisdictional waterway under Section 10 of the Rivers and Harbors Act. Nationwide Permit 12 requires that the permittee submit a pre-construction notification prior to commencing construction for passage under a Section 10 waterway.

Table 3. Streams within the Survey Area

Feature ID	Description	USACE Juridisction*	Total Area (acres)	100-foot-wide ROW Temporary Impact (acres)	Length of Required Crossing (feet)
STR1	Intermittent	Likely Jurisdictional	0.05	0.03	11
STR2	Intermittent	Likely Jurisdictional	0.06	0.03	15
STR3	Intermittent	Likely Jurisdictional	0.09	0.04	20
STR4	Intermittent	Likely Jurisdictional	0.08	0.04	17
STR5	Intermittent	Likely Jurisdictional	0.11	0.05	25
Total			**0.39**	**0.19**	

* The USACE has the final authority on the jurisdictional status of a waterbody.
ROW = right-of-way
USACE = U.S. Army Corps of Engineers

3.5 SOILS

Based on Natural Resources Conservation Service (NRCS) mapping (NRCS 2014), 31 soil types are present in the project construction corridor and proposed facilities. The project area analyzed for soils covers the 100-foot-wide construction corridor and proposed Fairview facility expansion and proposed Alexander facility. Table 4 lists all soil units within the project area. The following soil component descriptions represent the most prevalent soil series found within the survey area (NRCS 2014).

Table 4. NRCS Derived Soil Series Present within the Survey Area

Soil Types	Map Unit Symbol	Slopes (%)	Acres within 100-foot-wide ROW	Percent within Map Unit
NST Express Pipeline 100-foot-wide Construction Corridor				
Williams-Zahl loams	E3541C	6 to 9	35.61	13.02
Williams-Zahl loams	E3541B	3 to 6	27.70	10.12
Temvik-Wilton-Williams silt loams	E3763B	3 to 6	23.67	8.65
Havrelon silty clay, slightly wet, occasionally flooded	E4132A	0 to 2	21.14	7.72
Temvik-Wilton silt loams	E3755A	0 to 3	17.19	6.28
Temvik-Williams silt loams	E3761A	0 to 3	14.62	5.34
Zahl-Cabba-Maschetah complex	E3609F	6 to 70	13.41	4.90
Zahl-Williams loams	E3555D	9 to 15	13.36	4.88
Havrelon loam, occasionally flooded	E4121A	0 to 2	12.95	4.73
Havrelon loam, slightly wet, occasionally flooded	E4122A	0 to 2	12.46	4.55
Zahl-Williams-Cabba complex	E3639C	6 to 9	11.55	4.22
Zahl-Max loams, dissected	E3567F	15 to 45	9.23	3.37
Temvik-Zahl complex	E3769B	3 to 6	7.84	2.87
Beisigl-Flasher-Telfer loamy fine sands	E1403D	6 to 15	7.32	2.68
Williams-Bowbells loams	E3527B	3 to 6	7.03	2.57
Cabba-Badland complex	E3107F	6 to 70	6.36	2.33
Zahl-Cabba-Williams complex	E3641D	9 to 15	6.27	2.29
Zahl-Tally-Williams complex	E3635C	6 to 9	5.65	2.07
Farnuf loam	E2120B	2 to 6	5.17	1.89
Williams-Bowbells loams	E3527A	0 to 3	2.43	0.89
Water	E4999	0	2.24	0.82
Lohler silty clay, slightly wet, occasionally flooded	E4106A	0 to 2	2.23	0.81
Ridgelawn silt loam, occasionally flooded	E4153A	0 to 2	1.97	0.72
Arnegard loam	E2107A	0 to 2	1.41	0.51
Zahl-Cabba-Arikara complex	E3607F	9 to 70	1.23	0.45
Zahl-Max loams	E3559E	15 to 25	0.91	0.33
Dooley-Zahl complex	E3703B	3 to 6	0.75	0.27
Belfield-Grail clay loams	E0605A	0 to 2	0.63	0.23
Banks fine sandy loam, slightly wet, occasionally flooded	E4202A	0 to 2	0.56	0.20
Lehr-Bowdle loams	E4542B	2 to 6	0.46	0.17
Zahl-Beisigl-Tally complex	E3637D	9 to 15	0.32	0.12
		Total	**273.67**	**100.00**

Soil Types	Map Unit Symbol	Slopes (%)	Acres within 100-foot-wide ROW	Percent within Map Unit
Alexander Facility				
Williams-Zahl loams	E3541C	6 to 9	23.88	57.18
Williams-Zahl loams	E3541B	3 to 6	8.59	20.58
Williams-Bowbells loams	E3527B	3 to 6	6.66	15.95
Williams-Bowbells loams	E3527A	0 to 3	2.63	6.29
		Total	41.76	100.00
Fairview Facility Expansion				
Havrelon loam, occasionally flooded	E4121A	0 to 2	1.15	70.12
Havrelon silty clay, slightly wet, occasionally flooded	E4132A	0 to 2	0.49	29.88
		Total	**1.64**	**100.00**

Source: Natural Resources Conservation Service 2014.
ROW = right-of-way

3.5.1 Williams

The Williams series consists of very deep, slowly permeable, well-drained soils found on glacial till plains and moraines with slopes at approximately 0% to 35%. The mean annual precipitation found throughout the spatial extent of this soil type is approximately 14 inches and mean annual air temperature is approximately 42 degrees Fahrenheit (°F). This soil type is largely used for cultivation. Native vegetation species common to this soil type include western wheatgrass (*Pascopyrum smithii*), needle and thread (*Hesperostipa comata*), blue grama, and green needlegrass (*Nasella viridula*) (NRCS 2014).

3.5.2 Zahl

The Zahl series consists of very deep, slowly permeable, well-drained soils found on glacial till plains, moraines, and valley side slopes at approximately 1% to 60%. The mean annual precipitation found throughout the spatial extent of this soil type is approximately 14 inches and mean annual air temperature is approximately 40°F. This soil type is largely used for rangeland foraging. Native vegetation species common to this soil type include western wheatgrass, little bluestem, and needle and thread (NRCS 2014).

3.5.3 Temvik

The Temvik series consists of very deep, moderately permeable, well-drained soils that formed in a silty loess mantle overlying glacial till. These soils are on upland plains with slopes that range from 0% to 15%. The mean annual precipitation found throughout the spatial extent of this soil type is 16 inches and mean annual air temperature is 42°F. Soils are commonly cropped to flax (*Linum usitatissimum*), small grains, and corn (*Zea mays*); some areas are used for hay and pasture. Native vegetation is green needlegrass, needle and thread, western wheatgrass, blue grama, upland sedges (*Carex* sp.), and forbs (NRCS 2014).

3.5.4 Wilton

The Wilton series consists of very deep, well-drained soils that formed in a silty loess mantle overlying till. These soils are on uplands and have slopes of 0% to 9%. The mean annual precipitation found throughout the spatial extent of this soil type is 16 inches and the mean annual air temperature is 40°F. Cultivated areas are used for growing small grains including flax and corn. Native grasses include western wheatgrass, green needlegrass, bearded wheatgrass (*Elymus caninus*), junegrass, needle and thread, and a variety of forbs (NRCS 2014).

3.5.5 Havrelon

The Havrelon series consists of very deep, well- and moderately well-drained, moderately permeable soils that formed in loamy alluvium. These soils are on floodplains of major streams and tributaries and have slopes of 0% to 6%. The mean annual precipitation found throughout the spatial extent of this soil type is 16 inches and the mean annual air temperature is 42°F. Cultivated areas are used for pasture and for growing small grains, hay, and corn. Some areas are irrigated and cropped to sugar beets, potatoes (*Solanum tuberosum*), corn, and alfalfa (*Medicago sativa*). Native grasses include big bluestem (*Andropogon gerardii*), green needlegrass, and western wheatgrass. Trees, including green ash, eastern cottonwood, boxelder (*Acer negundo*), and chokecherry (*Prunus virginiana*), are along the stream channels (NRCS 2014).

3.6 TREE, SAPLING, AND SHRUB COUNT

During SWCA's field survey, nine tree and shrubland areas were geographically referenced within the survey area. Table 5 summarizes the number of trees SWCA counted that may be impacted by the project as currently proposed. The North Dakota Public Service Commission requires a 2:1 post- to pre-construction mitigation for all trees, saplings, and shrubs impacted during the construction of the proposed pipeline. Therefore, SWCA estimates approximately 44 2-year-old sapling individuals would need to be replanted in order to fulfill the 2:1 mitigation requirement.

Table 5. Tree, Sapling, and Shrub Count

Woody Vegetation (WV) ID	Species	Type	Number of Trees		Estimated Mitigation Commitment
			Survey Corridor	100-foot-wide Construction ROW	
WV1	Eastern cottonwood (*Populus deltoids*)	Tree	1	0	0
WV2	Russian olive (*Elaeagnus angustifolia*)	Tree	40	0	0
WV3	Green ash (*Fraxinus pennsylvanica*)	Tree	1	0	0
WV4	Siberian elm (*Ulmus pumila*)	Tree	40	6	12

Woody Vegetation (WV) ID	Species	Type	Number of Trees		Estimated Mitigation Commitment
			Survey Corridor	100-foot-wide Construction ROW	
WV5	Silver buffaloberry (*Shepherdia argentea*)	Shrub	51	0	0
WV6	Silver buffaloberry	Shrub	15	0	0
WV7	Green ash	Tree	1	1	2
WV8	Silver buffaloberry	Shrub	14	13	26
WV9	Green ash	Tree	2	2	4
Total			**165**	**22**	**44**

ROW = right-of-way

3.7 NOXIOUS WEEDS

North Dakota Century Code Chapter 63-01.1 and the North Dakota Department of Agriculture recognize 11 species as noxious weeds. The species include absinth wormwood (*Artemisia absinthium*), Canada thistle (*Cirsium arvense*), diffuse knapweed (*Centaurea diffusa*), leafy spurge (*Euphorbia esula*), musk thistle (*Carduus nutans*), purple loosestrife (*Lythrum salicaria*), Russian knapweed (*Acroptilon repens*), spotted knapweed (*Centaurea stoebe*), yellow toadflax (*Linaria vulgaris*), dalmatian toadflax (*Linaria dalmatica*), and salt cedar (*Tamarix ramosissima*). McKenzie County has five county-listed species including black henbane (*Hyoscyamus niger*), common burdock (*Arctium minus*), houndstongue (*Cynoglossum officinale*), halogeton (*Halogeton glomeratus*), and baby's breath (*Gypsophila paniculata*). SWCA did not identify any areas of state-listed or county-listed noxious weeds within the survey corridor.

3.8 WILDLIFE

Several wildlife species that may exist in McKenzie County are listed as threatened or endangered under the Endangered Species Act (ESA) (16 USC 1531 et seq.). According to the USFWS, ESA-listed endangered species in McKenzie County, North Dakota, include the black-footed ferret (*Mustela nigripes*), gray wolf (*Canis lupus*), whooping crane (*Grus americana*), interior least tern (*Sterna antillarum*), and pallid sturgeon (*Scaphirhynchus albus*). Threatened species include the piping plover (*Charadrius melodus*) and its designated critical habitat, Dakota skipper (*Hesperia dacotae*), and rufa red knot (*Calidris canutus rufa*). In addition, Sprague's pipit (*Anthus spragueii*) is a candidate species and the northern long-eared bat (*Myotis septentrionalis*) is currently listed as threatened pending final ruling on May 4, 2015 (USFWS 2014a). SWCA conducted a cursory threatened and endangered species survey concurrently with the wetland determination. Biologists did not observe any primary (i.e., actual sighting) or secondary (i.e., tracks, scat, fur) indication of the presence of threatened or endangered species.

3.8.1 Black-footed Ferret

Federal Status: Endangered

Black-footed ferrets are nocturnal, solitary carnivores of the weasel family that have been largely extirpated from the wild primarily due to range-wide decimation of the prairie dog (*Cynomys* sp.) ecosystem (Kotliar et al. 1999). They have been listed by the USFWS as endangered since 1967, and have been the object of extensive re-introduction programs (USFWS 2013a). Ferrets inhabit extensive prairie dog complexes of the Great Plains, typically composed of several smaller colonies in proximity to one another that provide a sustainable prey base. The *Black-footed Ferret Survey Guidelines for Compliance with the Endangered Species Act* (USFWS 1989) states that ferrets require black-tailed prairie dog (*Cynomys ludovicianus*) towns or complexes greater than 80 acres in size, and towns of this dimension may be important for ferret recovery efforts (USFWS 1988a). Prairie dog towns of this size were not observed during the field survey. Therefore, the black-footed ferret is not expected to be impacted by the proposed project.

3.8.2 Gray Wolf

Federal Status: Endangered

The gray wolf, listed as endangered in the United States in 1978, was believed extirpated from North Dakota in the 1920s and 1930s, with only sporadic reports from the 1930s to present (Licht and Huffman 1996; USFWS 1978). The presence of wolves in most of North Dakota consists of occasional dispersing animals from Minnesota and Manitoba (Licht and Fritts 1994; Licht and Huffman 1996). Most documented gray wolf sightings within western North Dakota are believed to be young males seeking to establish territory (Hagen et al. 2005). The Turtle Mountain region of north-central North Dakota provides marginal habitat that may be able to support a very small population of wolves. The closest known pack of wolves is the Minnesota population located approximately 17 miles (28 kilometers [km]) from the northeast corner of North Dakota.

The gray wolf uses a variety of habitats that support a large prey base, including montane and low-elevation forests, grasslands, and desert scrub (USFWS 2013b). Due to a lack of forested habitat and distance from Minnesota and Manitoba populations, as well as the troubled relationship between humans and wolves and their vulnerability to being shot in open habitats (Licht and Huffman 1996), the re-establishment of gray wolf populations in North Dakota is unlikely. Additionally, habitat fragmentation may further act as a barrier against wolf recolonization in western North Dakota. The gray wolf is not expected to be impacted by the proposed project.

3.8.3 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).

The July 2010 total wild population was estimated at 383 (USFWS 2013c). 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% of the wild nesting sites occur (Canadian Wildlife Service and USFWS 2007; USFWS 2013c). McKenzie County, including the project area, is within the primary migratory flyway of whooping cranes.

Whooping cranes probe the soil subsurface with their bills for foods 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 0.6 mile (1 km) 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).

It is well-documented that migrating whooping cranes use habitats in the vicinity of the proposed project for roosting and feeding. The project area is located within the migratory corridor for the whooping crane, with the nearest sighting being 432 feet from the central portion of the pipeline corridor east of Fairview (USFWS, M. Tarcha, unpublished data). Suitable whooping crane stop over foraging habitat (i.e., cultivated cropland and wetlands >0.04 hectare) was observed within the survey area. Whooping cranes also use sandbars in large streams such as the Yellowstone and Missouri Rivers as stopover roosting habitat. To mitigate any behavioral disturbance that may occur to migrating whooping cranes, if a whooping crane is sighted within 1 mile of the construction area work should be suspended until the species has vacated the area, typically not more than 2 to 3 days. The USFWS should be contacted if any whooping cranes are observed within one mile of the construction right-of-way. If the proposed activity follows these recommendations, the whooping crane is not expected to be impacted by the proposed project.

3.8.4 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 9 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 2013d).

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 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 2013d).

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 1990a, 2013d). Approximately 100 pairs breed in North Dakota (USFWS 2013d). Details of their migration are not known, but their winter range is reported to include the Gulf of Mexico and Caribbean Islands (USFWS 1990a, 2013d).

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 1990a). Critical habitat has not been designated for the species (USFWS 2013d). 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 2013d).

Lake Sakakawea is approximately 6.0 miles from the edge of the project area. Endanger interior least terns are known to use the Yellowstone River, which is in the project area, for breeding and feeding. To minimize or reduce potential impacts of the proposed project on the tern, construction should be scheduled to avoid the breeding season to the extent practicable. If the breeding season cannot be avoided, a qualified biological monitor should be deployed on a daily basis for the duration of the construction phase to assess presence/absence of breeding terns. The USACE, in conjunction with the river bore permit, could require monitoring during the tern breeding season. If terns are observed within 0.5 mile of the construction right-of-way at the Yellowstone River, construction should be suspended, and the USFWS should be notified. HDD would be considered as a low-impact crossing technique to reduce or minimize impacts to breeding birds, if present. The interior least tern is not expected to be impacted by the proposed project by following these recommendations or the USACE conditions of approval associated with the Yellowstone River bore permit.

3.8.5 Pallid Sturgeon

Federal Status: Endangered

The pallid sturgeon was listed as endangered in 1990 in the United States by the USFWS (1990b). The primary factor leading to the decline of this species is the alteration of habitat through river channelization, creation of impoundments, and alteration of flow regimes (USFWS 1990b). These alterations within the Missouri River have blocked movements to spawning, feeding, and rearing areas; destroyed spawning habitat; altered flow conditions which can delay spawning cues; and reduced food sources by lowering productivity (USFWS 2007). The fundamental elements of pallid sturgeon habitat are defined as the bottom of swift waters of large, turbid, free-flowing rivers with braided channels, dynamic flow patterns, flooding of terrestrial habitats, and extensive microhabitat diversity (USFWS 1990b).

The pallid sturgeon populations occur in the Missouri River below Fort Peck Dam to the headwaters of Lake Sakakawea and the lower Yellowstone River up the confluence of the Tongue River, Montana (USFWS 2007). This population consists of approximately 136 wild adult pallid sturgeon (USFWS 2007). Hatchery-reared sturgeon have also been stocked since 1998. The pallid sturgeon has been found to use the 15.5 miles (25 km) of riverine habitat that would be inundated by Lake Sakakawea at full pool (Bramblett 1996 per USFWS 2007). Larval pallid sturgeons have also been found to drift into Lake Sakakawea. While the majority of pallid sturgeons are found in the headwaters of Lake Sakakawea, the North Dakota Game and Fish Department has caught and released pallid sturgeon in nets set in 80 to 90 feet of water between the New Town and Van Hook areas. Based on this information, pallid sturgeon could be found throughout Lake Sakakawea (personal communication, email from Steve Krentz, Pallid Sturgeon Project Lead, USFWS, to SWCA, September 3, 2010).

Desktop analysis concluded that suitable habitat may be present in the project area. Potential pollution from construction activities, hydrostatic testing, and pipeline operations is a concern for downstream populations of the pallid sturgeon. Activities associated with the proposed project are not anticipated to adversely affect water quality and subsequently the pallid sturgeon. HDD would be considered as a low and/or no impact alternative to traditional wet trench or open-cut methods to cross the Yellowstone River. A USACE Section 10 permit is being completed for the bore of the Yellowstone River. The pallid sturgeon is not expected to be impacted by the proposed project by following these practices or the USACE conditions of approval associated with the Yellowstone River HDD permit.

3.8.6 Piping Plover

Federal Status: Threatened

The piping plover is a small shorebird which 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, 2012b). The shorelines of lakes of the Missouri River constitute significant nesting areas for the bird. Piping plovers nest on the ground, making shallow scrapes in the sand, which they line with small pebbles or rocks (USFWS 1988b). 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, 2012b). 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 1988b, 2012b).

Desktop analysis concluded that critical habitat for the threatened piping plover is not present in the project area. However, piping plovers are known to use the Yellowstone River for feeding and breeding, which is in the project area. To minimize or reduce potential impacts of the proposed project on the plover, construction should be scheduled to avoid the breeding season to the extent practicable. If the breeding season cannot be avoided, a qualified biological monitor should be deployed on a daily basis for the duration of the construction phase to assess presence/absence of breeding piping plovers. The USACE, in conjunction with the river bore permit, could require monitoring during the piping plover breeding season. If piping plovers are observed within 0.5 mile of the construction right-of-way at the Yellowstone River, construction should be suspended, and the USFWS should be notified. HDD would be considered as a low-impact crossing technique to reduce or minimize impacts to breeding birds, if present. The piping plover is not expected to be impacted by the proposed project by following these recommendations or the USACE conditions of approval associated with the Yellowstone River HDD permit.

3.8.7 Designated Critical Habitat of Piping Plover

The USFWS has designated critical habitat for the Great Lakes and Northern Great Plains populations of piping plover (USFWS 2002). Designated critical habitat for the piping plover includes 183,422 acres and 1,207.5 river miles of habitat including the shoreline of Lake Sakakawea in Mountrail and McKenzie Counties, North Dakota (USFWS 2002).

The proposed project would not modify, alter, disturb, or affect the shoreline of Lake Sakakawea or the Missouri River, but is within the same watershed as Lake Sakakawea and the Missouri River and bores under the Yellowstone River.

3.8.8 Dakota Skipper

Federal Status: Threatened

The Dakota skipper is a small butterfly with a 1-inch wingspan. The male wing ranges from a tawny-orange to brown and the female wing is darker brown with tawny-orange spots and faint white spots (USFWS 2011a). The Dakota skipper was found to be warranted for protection under the ESA, was precluded for higher-priority species in 1995, and was the subject of a proposed rule for listing as threatened under the ESA, in addition to a proposed rule for designation of critical habitat in October 2013 (78 *Federal Register* 63625; 78 *Federal Register* 63573). On October 24, 2014, the USFWS determined a threatened species status for the Dakota skipper, and the final rule became effective November 24, 2014 (USFWS 2014b). Of the three North Dakota units of proposed critical habitat, Dakota unit 10 (Eagle Nest Butte) is located in the southwest corner of the Fort Berthold Indian Reservation in McKenzie County. The other two proposed locations are within the U.S. Forest Service lands to the north of Charlson, North Dakota.

The primary cause for the decline of this species includes the loss of high-quality native prairie habitat due to overgrazing, conversion to agriculture, and disruption of natural prairie fire cycles (USFWS 2011a). 'Type A' habitat is low wet-mesic prairie with little topographic relief occurring near-shore glacial lake deposits (Royer and Marrone 1992). Three plants species dominate 'Type A' habitat and include wood lily (*Lilium philadelphicum*), bluebell bellflower (*Campanula rotundifolia*), and mountain deathcamas (*Zigadenus elegans*)

(McCabe 1981). 'Type B' habitat of the Dakota skipper occurs on rolling terrain over gravelly glacial moraine deposits and is dominated by big bluestem, little bluestem, and needlegrasses (*Stipa* spp.), and may include bluebell bellflower and wood lily (USFWS 2014c). Additionally, 'Type B' habitat supports extensive stands of purple coneflower, upright prairie coneflower (*Ratibida columnifera*), and common gaillardia (*Gaillardia artistata*) (USFWS 2014c). During the surveys cultivated, non-native grass prairie was dominant in the proposed project area and included species such as smooth brome, crested wheatgrass, and western wheatgrass. Dakota skippers are not known to occur in the project area. Additionally, field surveys concluded that cultivated, non-native grass prairie is dominant in the project area, and therefore not suitable as Dakota skipper habitat. The nearest proposed critical habitat (Unit 12) is located 32.6 miles east-northeast from the proposed project. The Dakota skipper is not expected to be impacted by the proposed project.

3.8.9 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 (Bureau of Indian Affairs 2014). 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 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 2013e). 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.

Suitable habitat along Lake Sakakawea is approximately 6.0 miles from the edge of the project area, and it is possible the rufa red knot may use the Yellowstone River. However, the likelihood of the rufa red knot occurring in the project area is low. The rufa red knot is not expected to be impacted by the proposed project.

3.8.10 Sprague's Pipit

Federal Status: Candidate

The Sprague's pipit is a small passerine, 10 to 15 centimeters in length, endemic to the Northern Great Plains (USFWS 2011b). The Sprague's pipit requires large tracts of native prairie habitat, unplowed, throughout their life cycle. Because native grasslands are disturbance-dependent, Sprague's pipit prefers grassland habitats that are regularly disturbed. The frequency of disturbance required for habitat maintenance depends on how quickly grasses grow to an intermediate height (4 to 12 inches) following a disturbance event.

In North Dakota, Sprague's pipit has been found in areas of moderate grazing. Sprague's pipits are sensitive to patch size and avoid edges between grasslands and other habitat features (USFWS 2011b). They may avoid non-grassland features including roads, trails, oil wells, croplands, woody vegetation, and wetlands. The Sprague's pipit is reported to stay up to 350 meters away from anthropogenic features such as roads, oil wells, and wind turbines (USFWS 2011b). The USFWS has estimated that each new oil well and associated road in North Dakota results in potential impacts to approximately 51 acres of pipit habitat due to avoidance and habitat fragmentation (USFWS 2011b). Because of increasing habitat fragmentation, especially by energy development, throughout the Sprague's pipit range, and the loss of native prairie habitat, the Sprague's pipit was listed as a Candidate Species under the ESA in 2010 (USFWS 2011b).

In North Dakota, Sprague's pipit breeds throughout the state except for the easternmost counties. During the breeding season they prefer large patches of well-drained, open native grassland with a minimum size of 358.3 acres (range = 170 to 776 acres). They have not been observed in areas smaller than 71.6 acres on their breeding grounds (USFWS 2011b).

Field surveys concluded that cultivated, non-native grass prairie was dominant in the proposed project area. However, some native grasses of intermediate height occur within the project area. The proposed project is unlikely to directly affect habitat due to lack of adequate patch sizes required by the Sprague's pipit for breeding grounds in the immediate project area, but may indirectly contribute to reduced use of any nearby suitable grassland habitat patches within 350 meters of the proposed project. Sprague's pipit is not expected to be impacted by the proposed project.

3.8.11 Northern Long-eared Bat

Federal Status: Threatened

On October 2, 2013, the USFWS proposed the northern long-eared bat for listing as endangered under the ESA (USFWS 2013f). This medium-sized bat ranges across the eastern and north central United States and all of the Canadian provinces (USFWS 2013f). 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 2013g). This bat species occupies a wide range of rocky and forested habitats. Suitable winter habitat contains large caves and mines (USFWS 2013f). 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. If woody vegetation is cleared during this period, a qualified biologist should identify any potential roost trees. If potential roost trees are identified further site investigations are recommended.

Suitable winter habitat for northern long-eared bats does not occur in the project area. Nearby trees and rocky outcrops can act as suitable summer day roosts. If these recommendations are followed, the northern long-eared bat is not expected to be impacted by the proposed project.

3.8.12 Migratory Birds

Status: Protected under the Migratory Bird Treaty Act

Suitable habitat for migratory birds exists in the entire project area. Specifically, grassland nesting birds, waterfowl, wading birds, and shorebirds have the potential to occur, feed, loaf, and nest in the project area, especially during the migratory bird breeding season, which generally occurs between February 1 and July 15. Suitable woodland nesting habitat occurs in the project area, but it is minimal. All take of migratory birds or their active nests, including eggs and young must be avoided to avoid a violation of the Migratory Bird Treaty Act. To minimize or reduce potential impacts of the proposed project on migratory birds, one or a combination of the following should be completed by NST Express.

1. Construction would be conducted to avoid the breeding season (February 1–July 15).
2. Regularly mow and/or clear and grub vegetation in the ROW prior to February 1 and maintain through July 15.
3. Conduct a field survey for nesting migratory birds within 5 days of construction commencement.

If any active nests of migratory birds are discovered, construction should be delayed or halt and the USFWS would be contacted for further direction. If these recommendations are followed, then migratory birds are not expected to be impacted by the proposed project.

3.8.13 Bald Eagle

Federal Status: Delisted in 2007; protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

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 (Gomes n.d.) and Yellowstone River. Bald eagles frequently migrate through the grassland habitats. One bald eagle was observed during the field surveys; however, no nests were observed during the field surveys. The nearest known eagle nest is approximately 3 miles northwest to the closest portion of the proposed project (North Dakota Game and Fish Department 2015). The USFWS generally recommends a nest buffer of 0.5 mile for any eagles. If any active nests are discovered within 0.5 mile of the proposed pipeline route, construction should halt and 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.

3.8.14 Golden Eagle

Federal Status: Unlisted; protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

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. Golden eagles may occur within or near the survey area; however, no golden eagles or nests were observed during the field surveys. The USFWS generally recommends a nest buffer of 0.5 mile for any eagles. If any active nests are discovered within 0.5 mile of the proposed pipeline route, construction should halt and 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.

3.8.15 Wildlife Observed

During the field survey, SWCA biologists observed various wildlife species which use wetlands and other habitat within the survey area (Table 6). Common wildlife species may be affected both directly via death or injury from construction activities or indirectly through the temporary fragmentation of habitat as a result of construction activities and disturbance which may disrupt normal activities such as breeding, feeding, and sheltering.

Table 6. Wildlife Observed during Field Surveys of the Proposed Pipeline Route

Common Name	Scientific Name	Observation Type
Rock dove	*Columbia livia*	Primary
Northern harrier	*Circus cyaneus*	Primary
Bald eagle	*Haliaeetus leucocephalus*	Primary
Mule deer	*Odocoileus hemionus*	Primary
Whitetail deer	*Odocoileus virginianus*	Primary
Grey partridge	*Perdix perdix*	Primary
Ringneck pheasant	*Phasianus colchicus*	Primary
Black-capped chickadee	*Poecille atricapillus*	Primary
Sharp-tailed grouse	*Tympanuchus phasianellus*	Primary

4.0 CONCLUSIONS AND RECOMMENDATIONS

1. SWCA biologists recorded seven wetlands, totaling approximately 1.50 acres within the 200-foot-wide survey area. No wetlands were observed in the proposed facility areas. In total, approximately 0.58 acre of PEM wetlands is within the 100-foot construction ROW. All may be considered jurisdictional under the USACE standards.
2. SWCA recorded five streams within the survey corridor. All of these exhibited OHWM characteristics and may be considered jurisdictional under the USACE standards.
3. Compliance with Section 10 of the Rivers and Harbors Act (33 USC 403) is required for the passage under the Yellowstone River.
4. SWCA counted 22 trees, saplings, and shrubs that may be impacted by construction activities. Therefore, approximately 44 2-year-old saplings may need to be replanted to fulfill the 2:1 mitigation requirement. According to the recommendations of the North Dakota Forest Service, tree species selection for replacement should be accomplished through collaboration with a reputable area nursery. This will allow for species to be selected based on various factors including species hardiness and area soil type.
5. No threatened or endangered species were observed during the field survey.

   Suitable roosting and foraging habitat exists within the project area for the whooping crane. SWCA recommends that if construction is to occur within whooping crane spring and fall migration periods, and a whooping crane is observed within 1 mile of the project, to stop construction and notify the USFWS.

   Suitable nesting and foraging habitat for piping plover and interior least tern occurs in the project area along the shorelines of the Yellowstone River. SWCA recommends that construction is conducted outside of the migratory bird nesting season to the extent possible. If construction occurs during the nesting season, the conditions of approval associated with the USACE river bore permit would presumably minimize impacts to the species. Typically, these include monitoring by a qualified biologist or similar BMP.

   The Yellowstone River is suitable habitat for pallid sturgeon. NST Express proposes to bore the Yellowstone River.

   The other listed threatened and endangered species which occur in McKenzie County are not likely to be detrimentally impacted by construction activities.
6. Migratory birds and habitat were observed throughout the entire project area and a 0.5-mile line-of-sight raptor survey was conducted throughout the survey area.

   No active raptor nests were observed, however a northern harrier (*Circus cyaneus*) was observed traversing the survey area. In order to reduce impacts to migratory birds, SWCA recommends conducting construction outside of the migratory bird breeding season as practicable. If construction occurs during the bird breeding season, SWCA recommends to either mow, maintain, or completely remove vegetation within the project construction area outside the migratory bird nesting season, or conduct an avian survey of the project area no greater than 5 days before construction begins. If active nests (i.e., nests with eggs or young) are discovered, the USFWS should be notified.

7. No bald or golden eagle nests were observed. However, one bald eagle individual was observed during the field surveys. If nests (active or not) are discovered within a ½ mile of the proposed activity, the USFWS should be notified.

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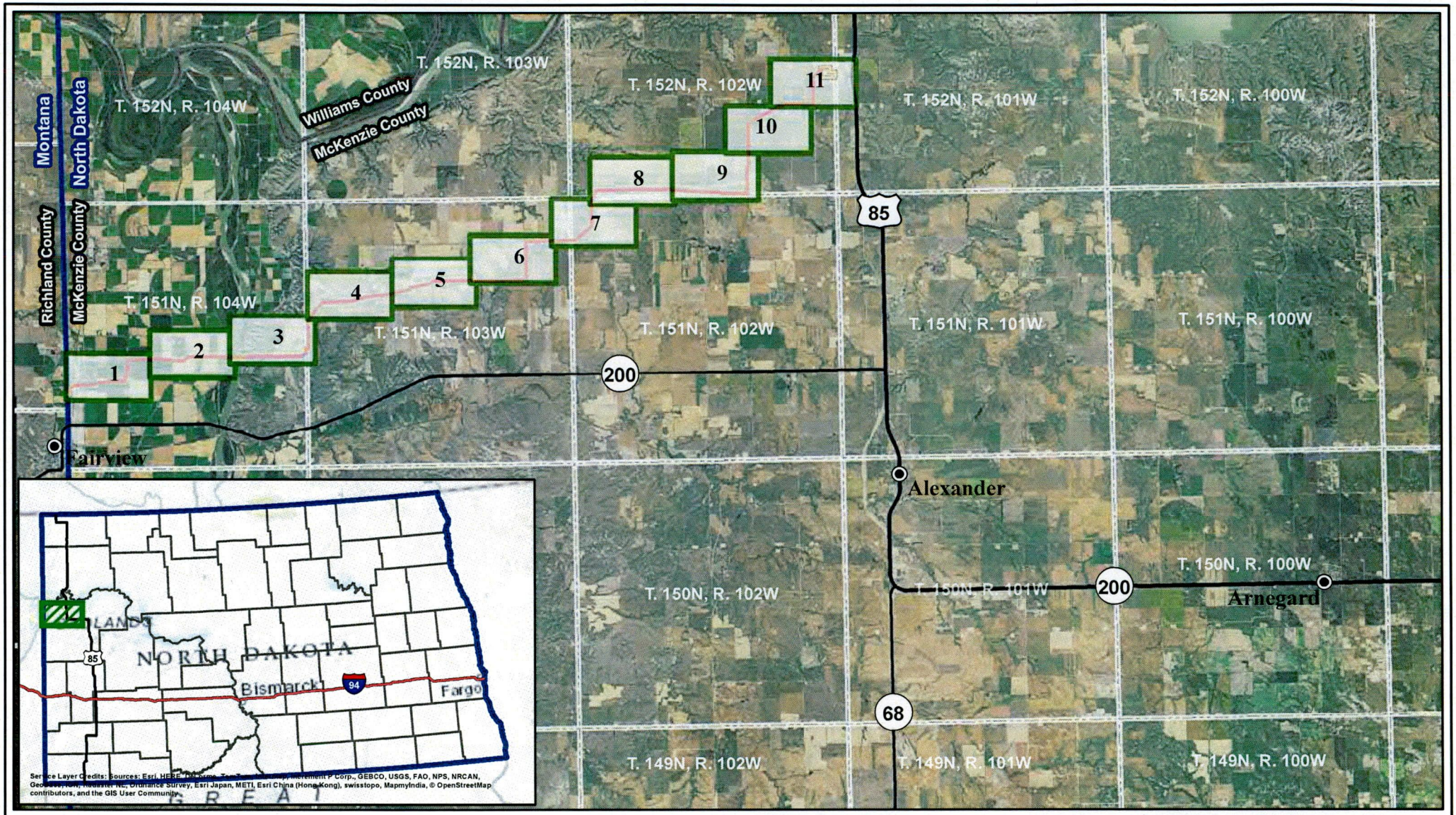
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APPENDIX A

Vicinity Maps and Site Layout Maps



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers
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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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NST Express Pipeline

- Upland Data Point
- Proposed Pipeline
- Upland Swale
- Approxiate Bore Path
- Flowline
- Existing Road
- Facility Location
- Wetland
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- Woody Vegetation
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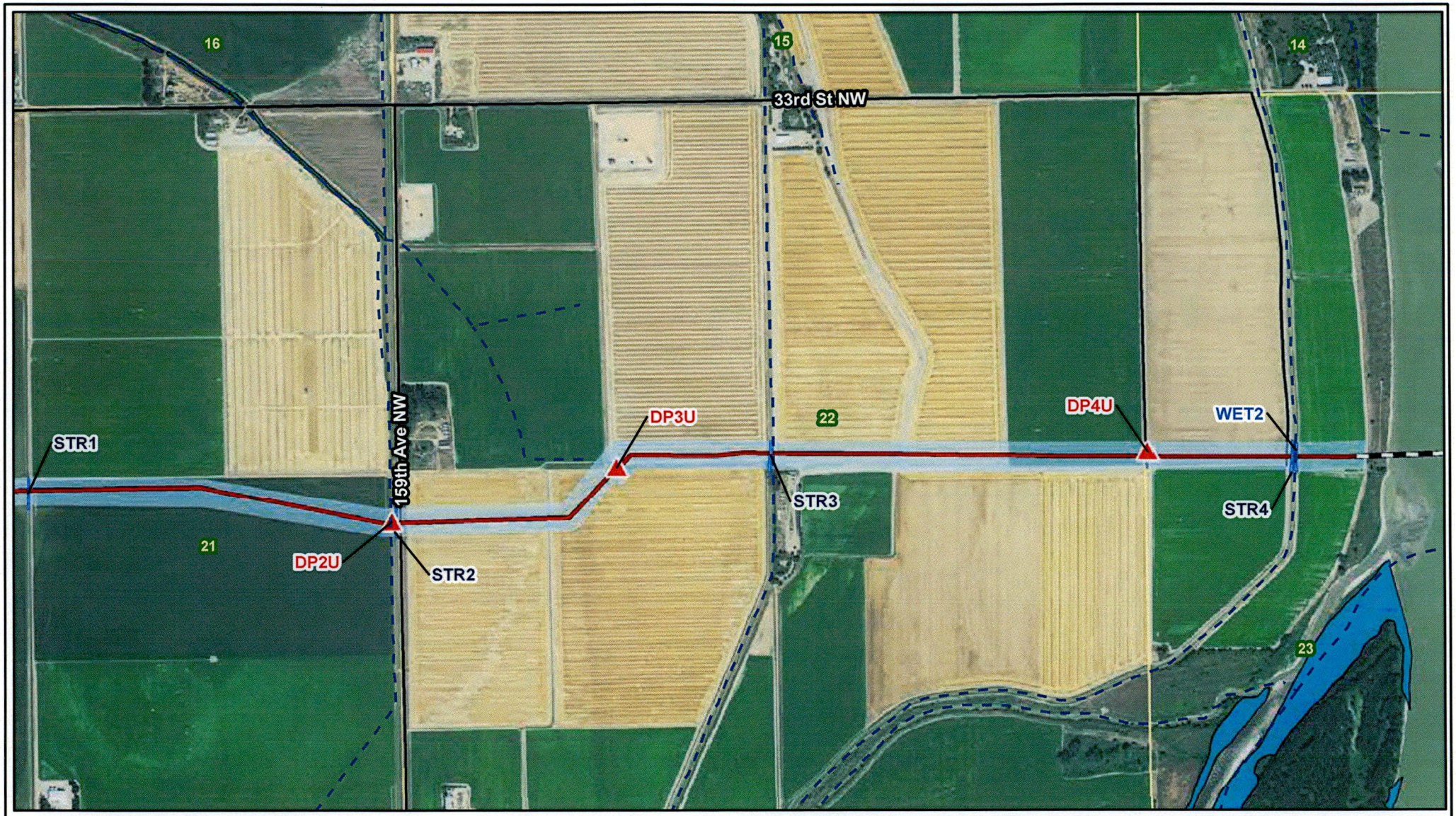
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Quadrangle: Fairview (1995), Dore (1991)
Township/Range: T. 151N, R. 104W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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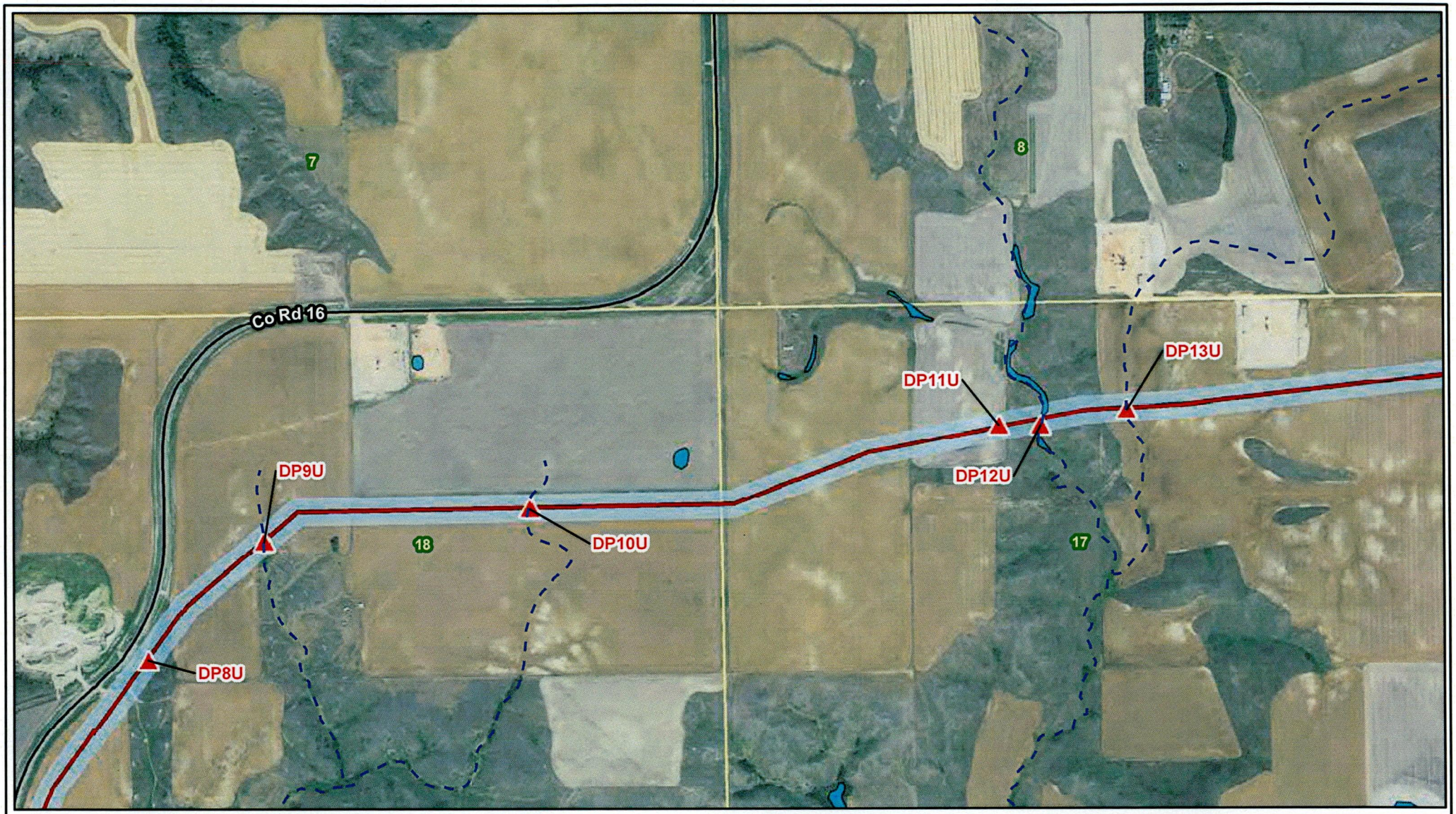
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Township/Range: T. 151N, R. 104W & T. 151N, R. 103W
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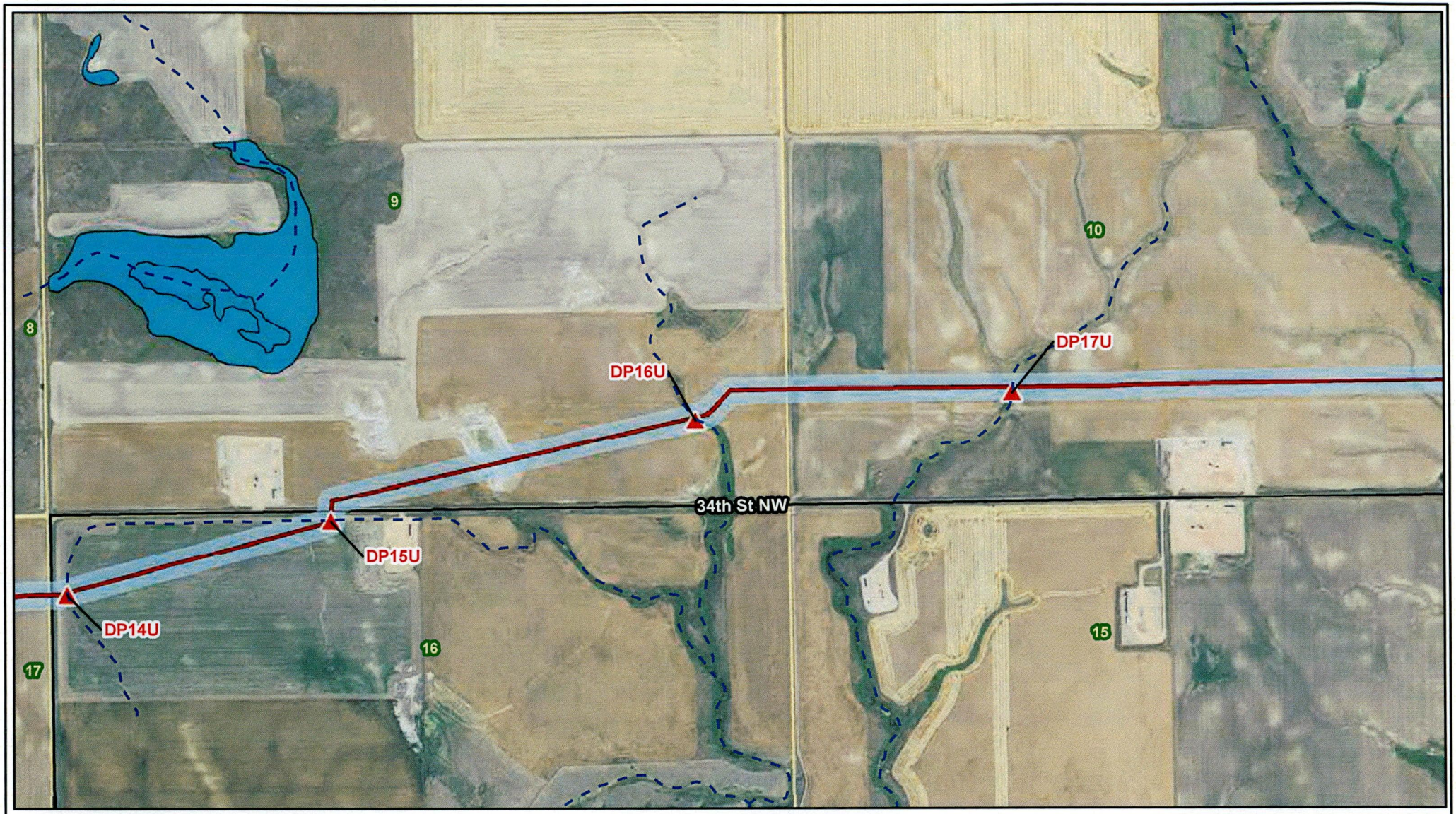
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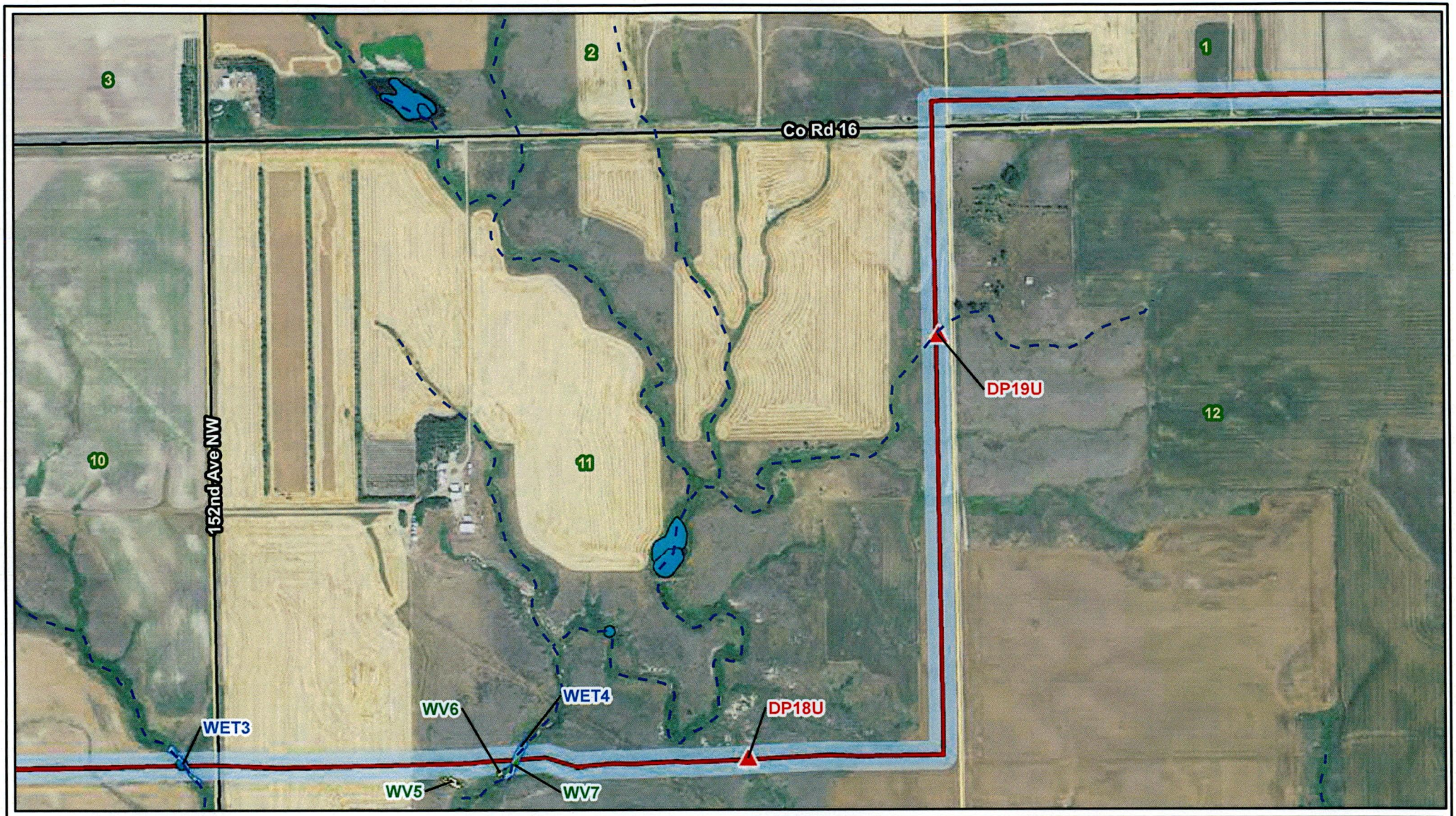
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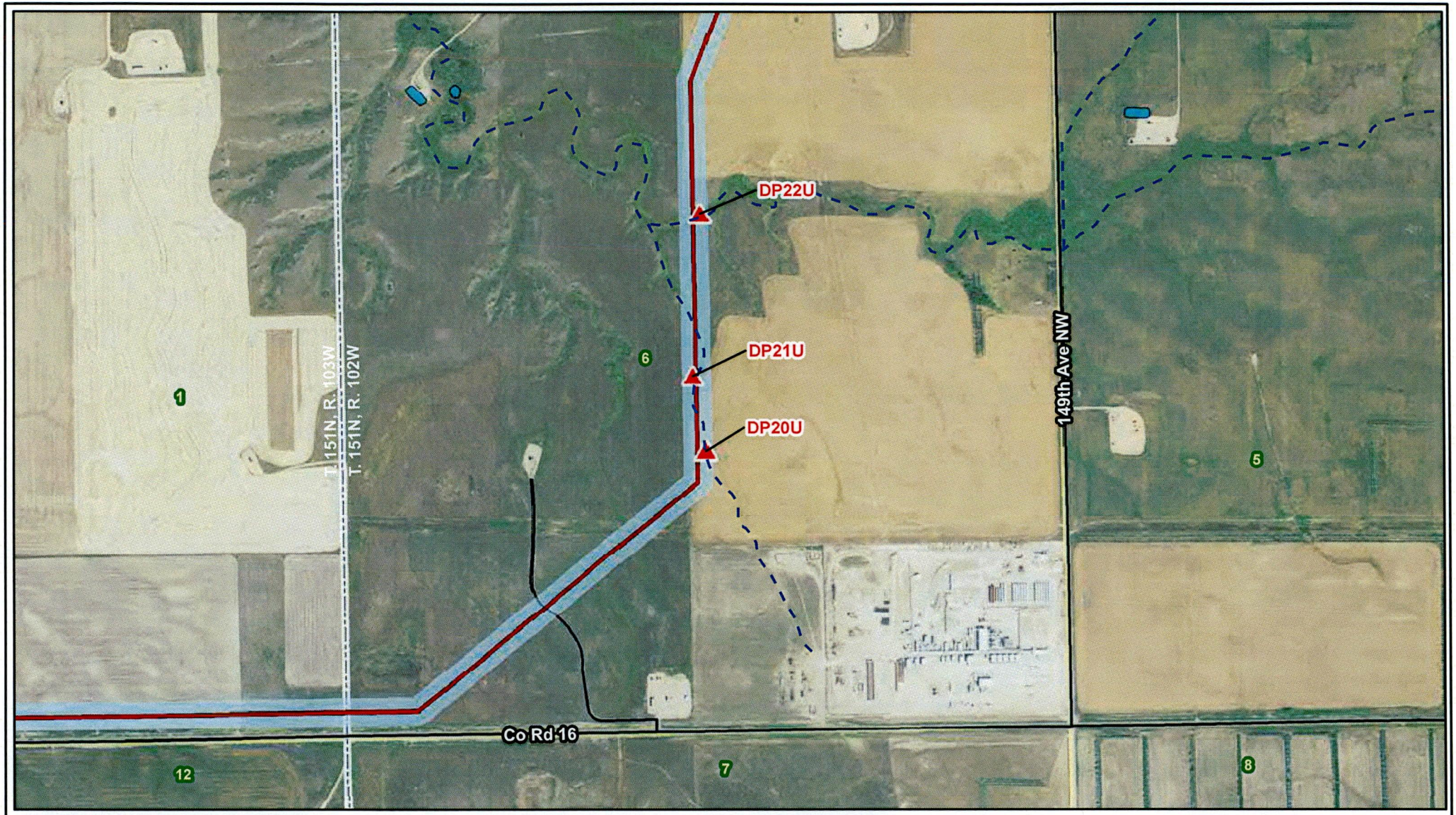
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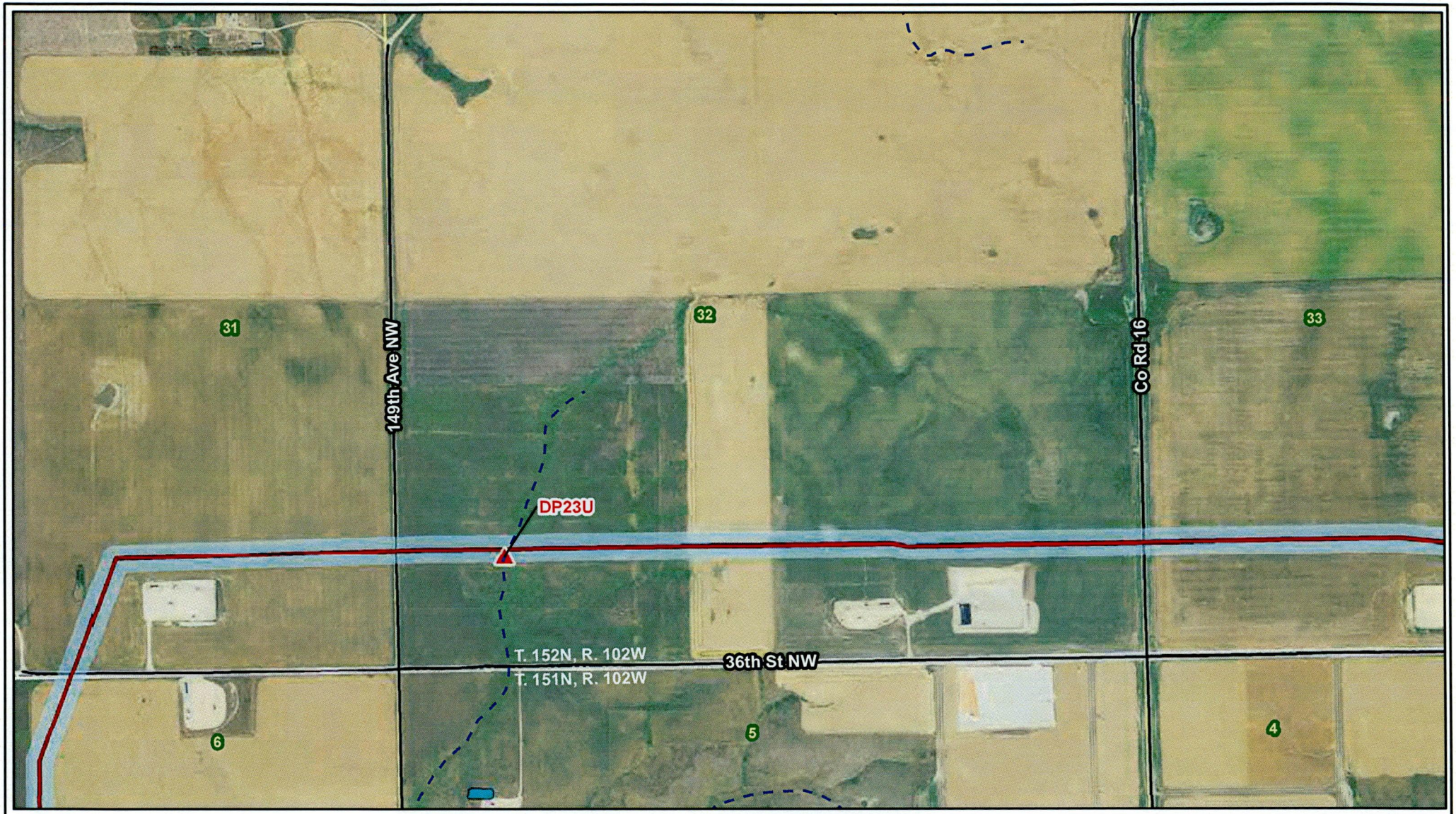
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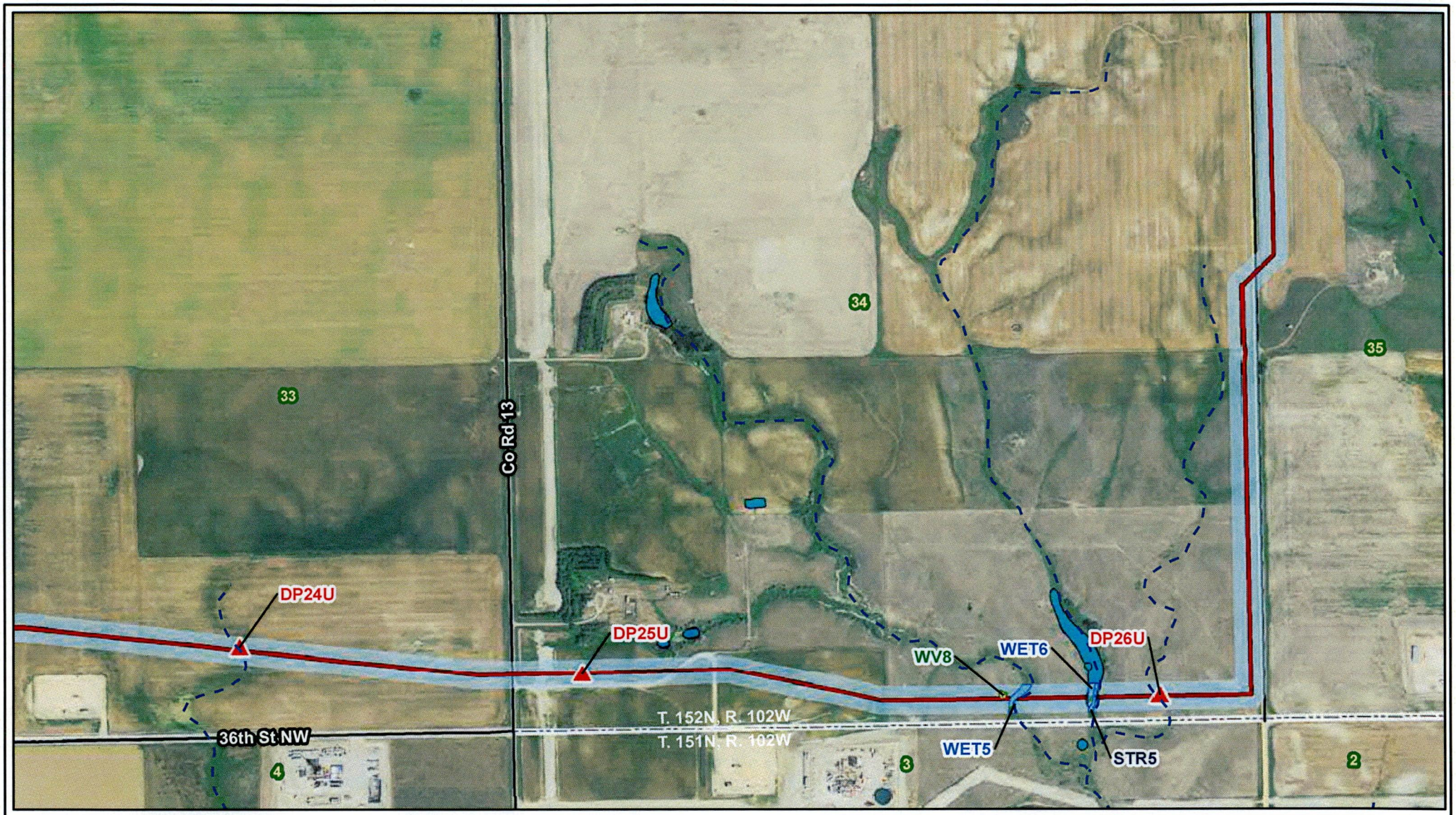
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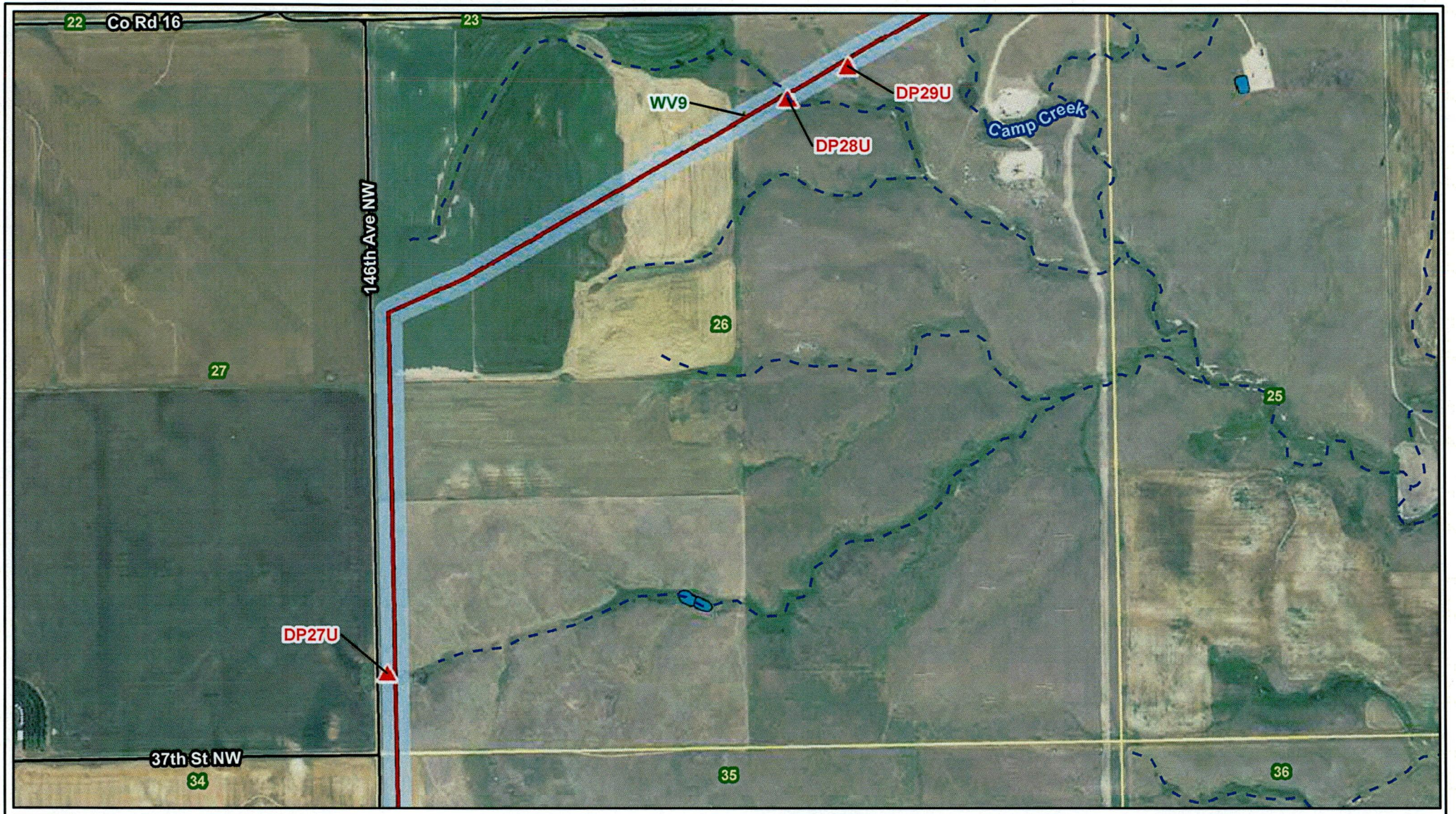
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Projection: NAD 1983 UTM Zone 13N



NST Express Pipeline

- Upland Data Point
- Proposed Pipeline
- Upland Swale
- Approxiate Bore Path
- Flowline
- Existing Road
- Facility Location
- Wetland
- Stream
- Woody Vegetation
- NWI Wetland
- Survey Area
- Township/Range Boundary
- Section Boundary

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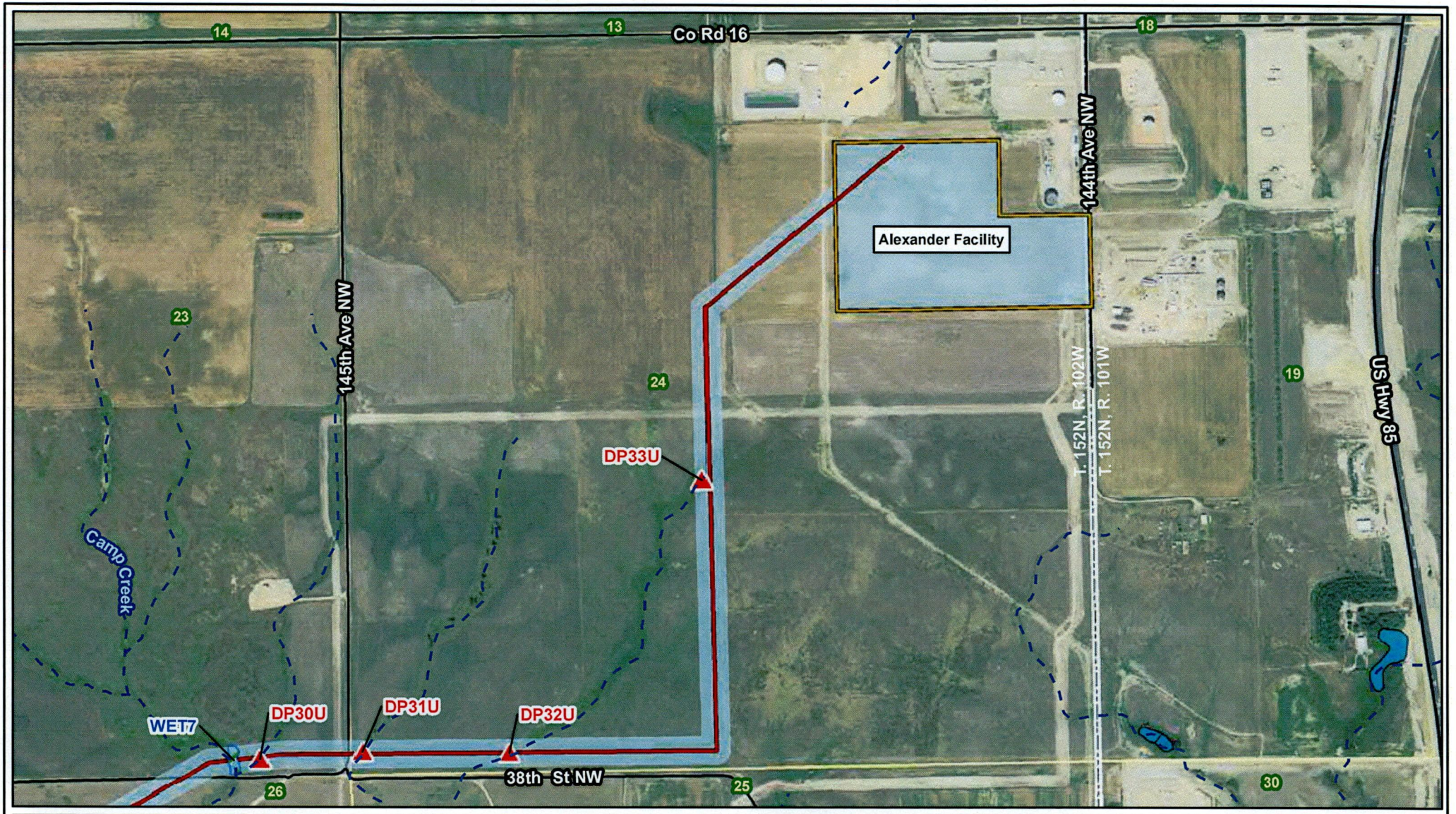
Miles
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Kilometers
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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
Quadrangle: Camp Creek West (1978)
Township/Range: T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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NST Express Pipeline

- Upland Data Point
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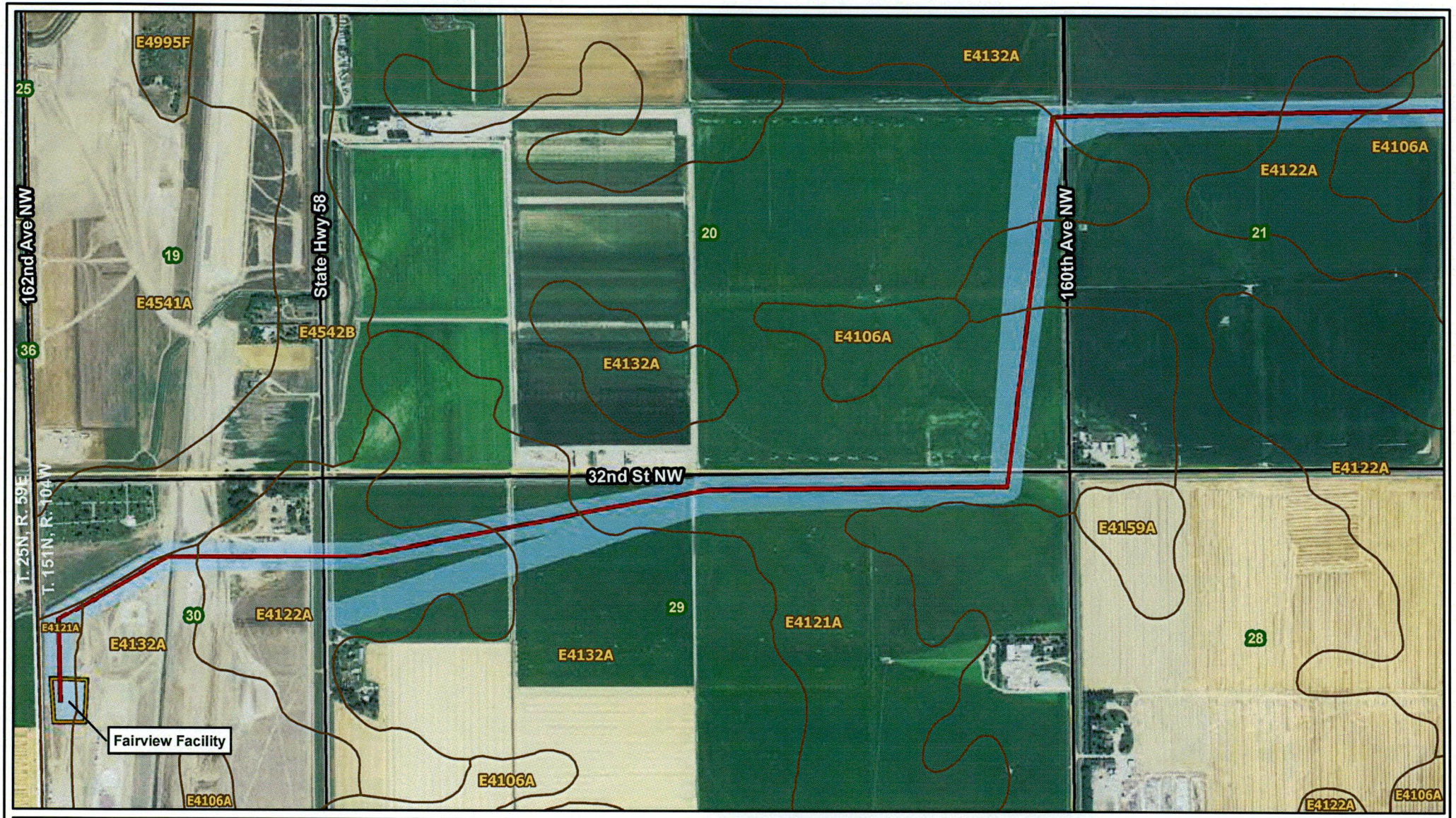
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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
Quadrangle: Camp Creek West (1978)
Township/Range: T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

APPENDIX B

Survey Area Soils Series Map



NST Express Pipeline

- Proposed Pipeline
- Approxiate Bore Path
- Existing Road
- Facility Location
- Soil Unit Boundary
- Survey Area
- Township/Range Boundary
- Section Boundary

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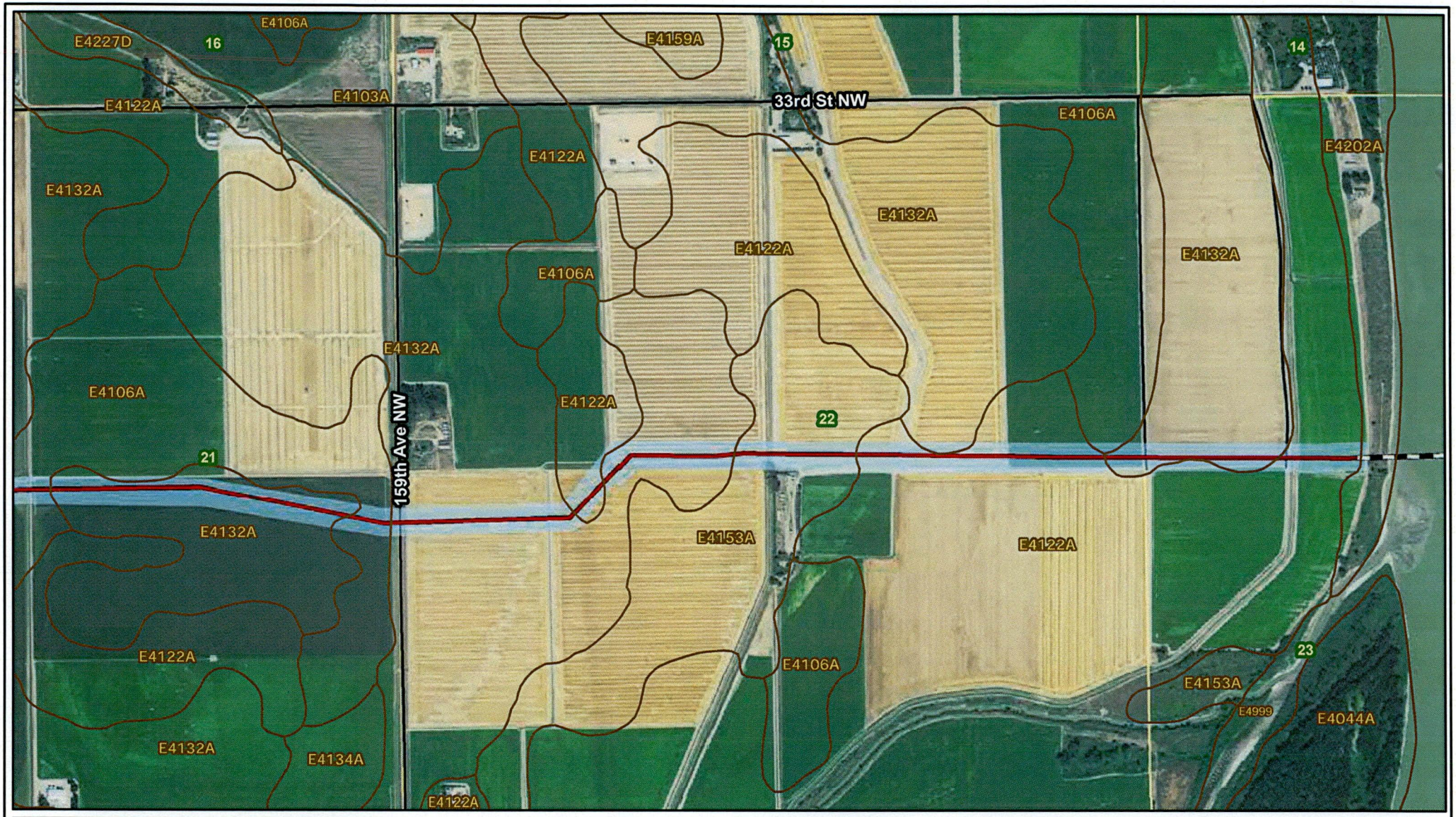
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Miles
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Kilometers
0 0.5 1

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
Quadrangle: Fairview (1995), Dore (1991)
Township/Range: T. 151N, R. 104W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N



NST Express Pipeline

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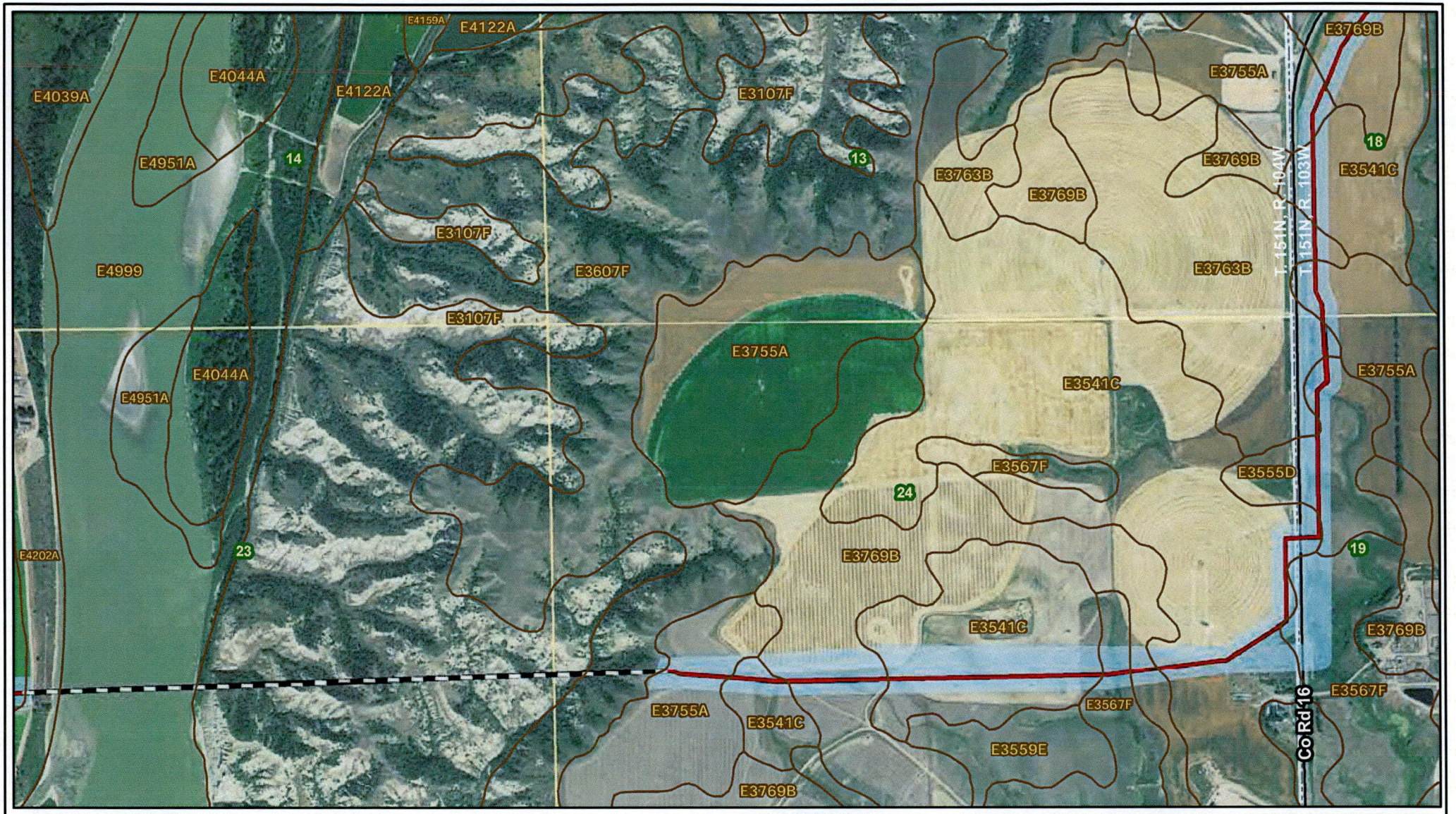
Miles
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Kilometers
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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
Quadrangle: Dore (1991), Buford (1976)
Township/Range: T. 151N, R. 104W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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NST Express Pipeline

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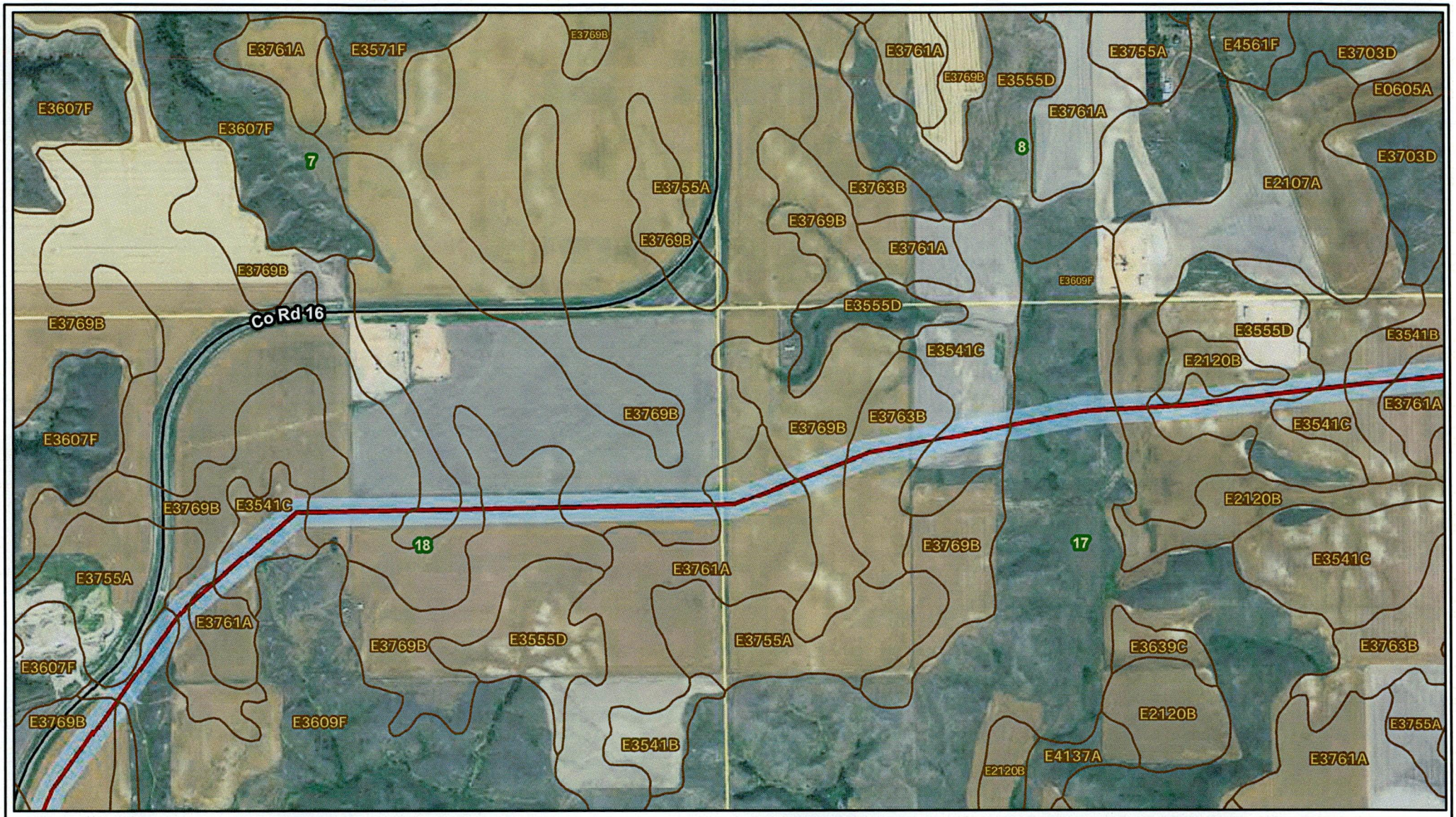
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Kilometers
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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
Quadrangle: Buford (1976)
Township/Range: T. 151N, R. 104W & T. 151N, R. 103W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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NST Express Pipeline

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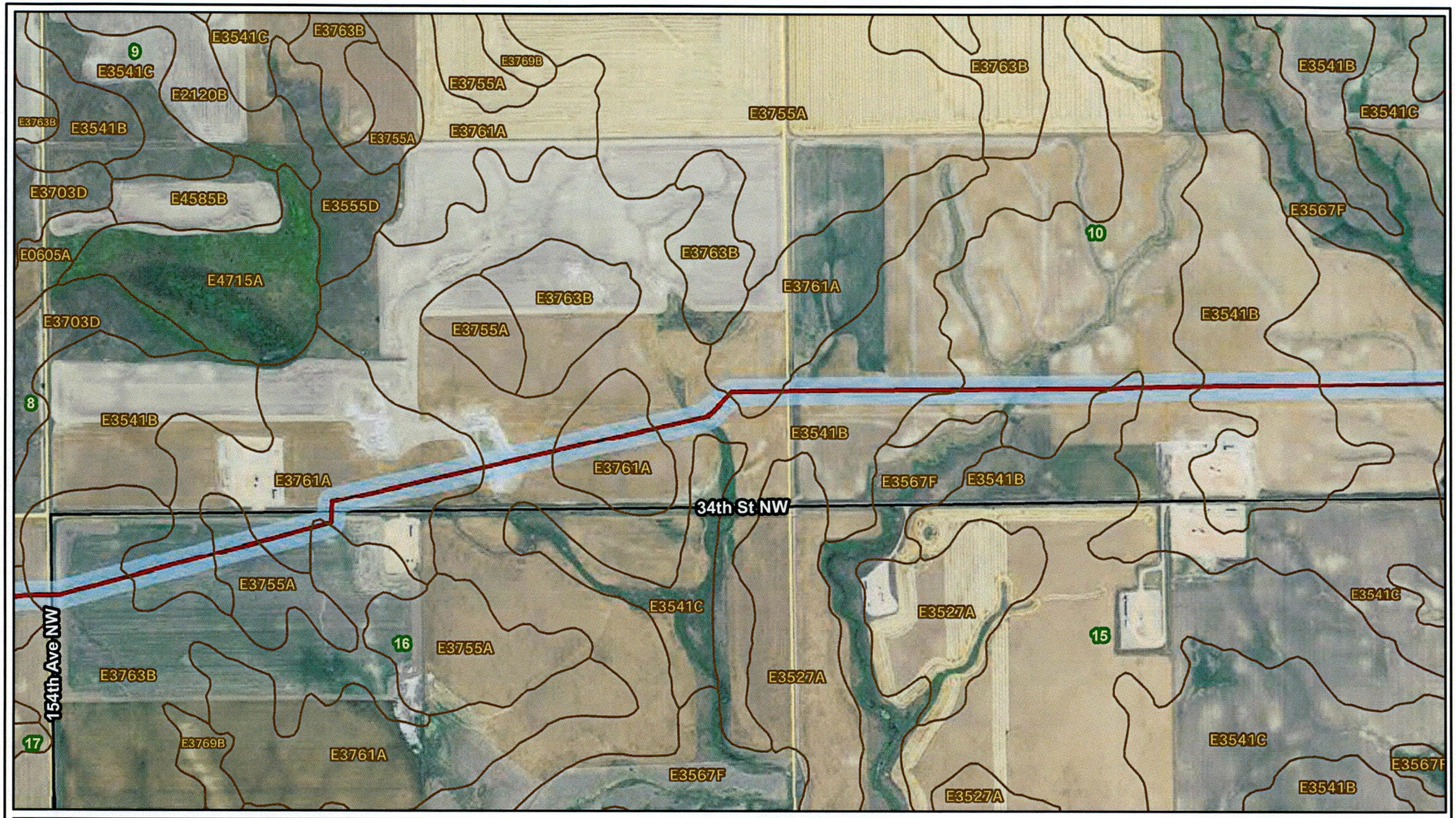
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NST Express Pipeline

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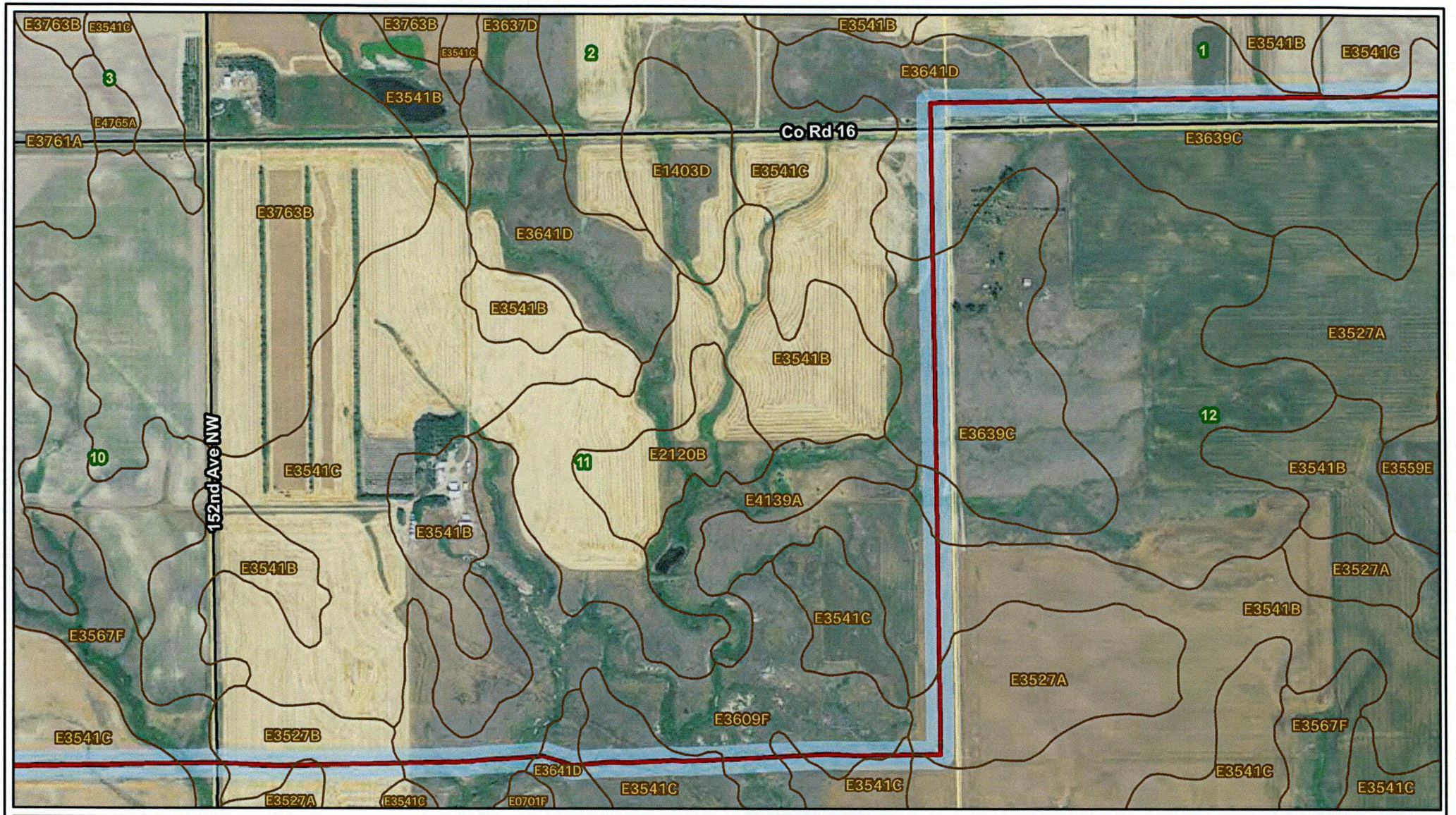
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Miles
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Kilometers
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Base Map: 2014 Aerial Imagery
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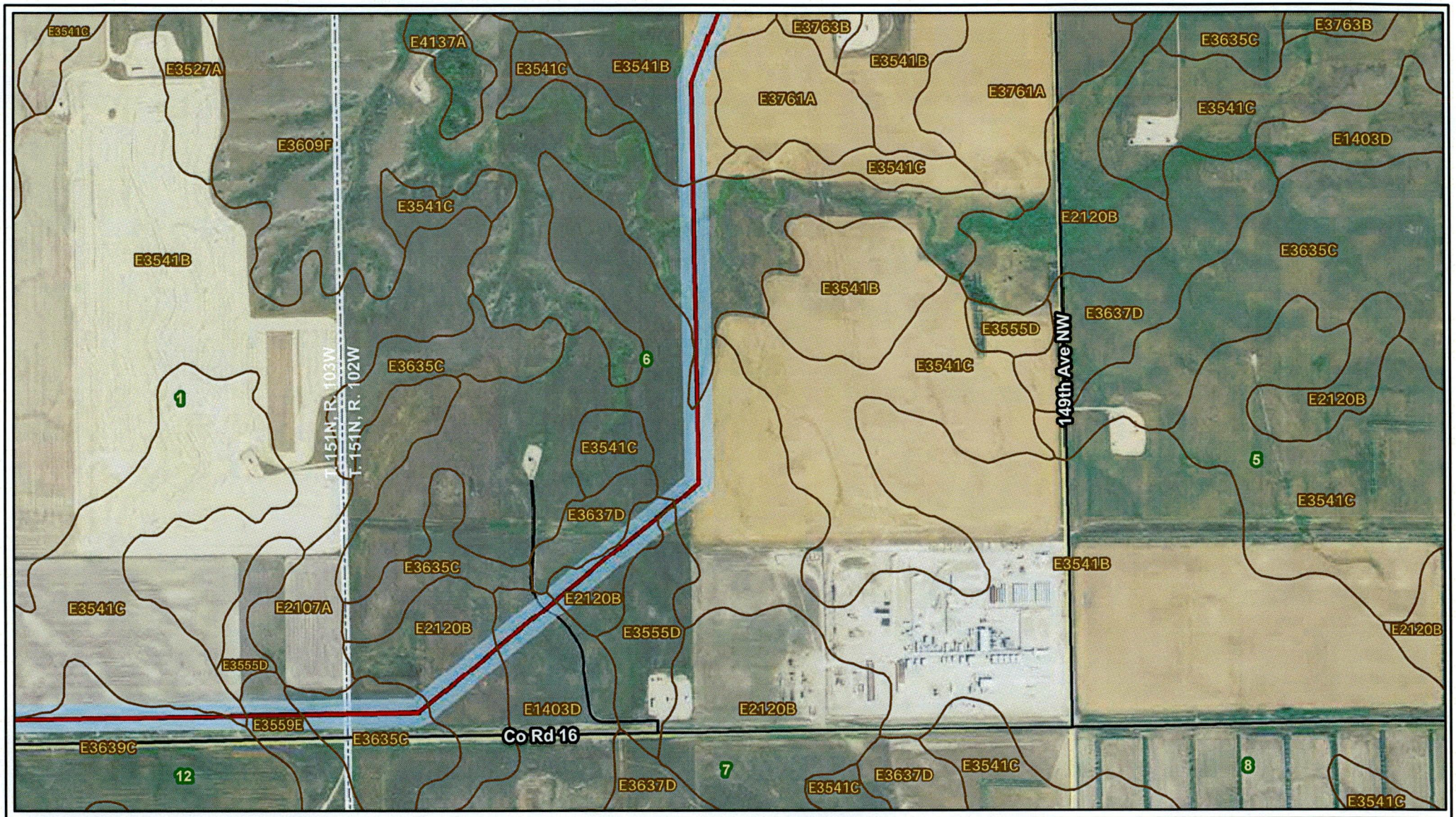
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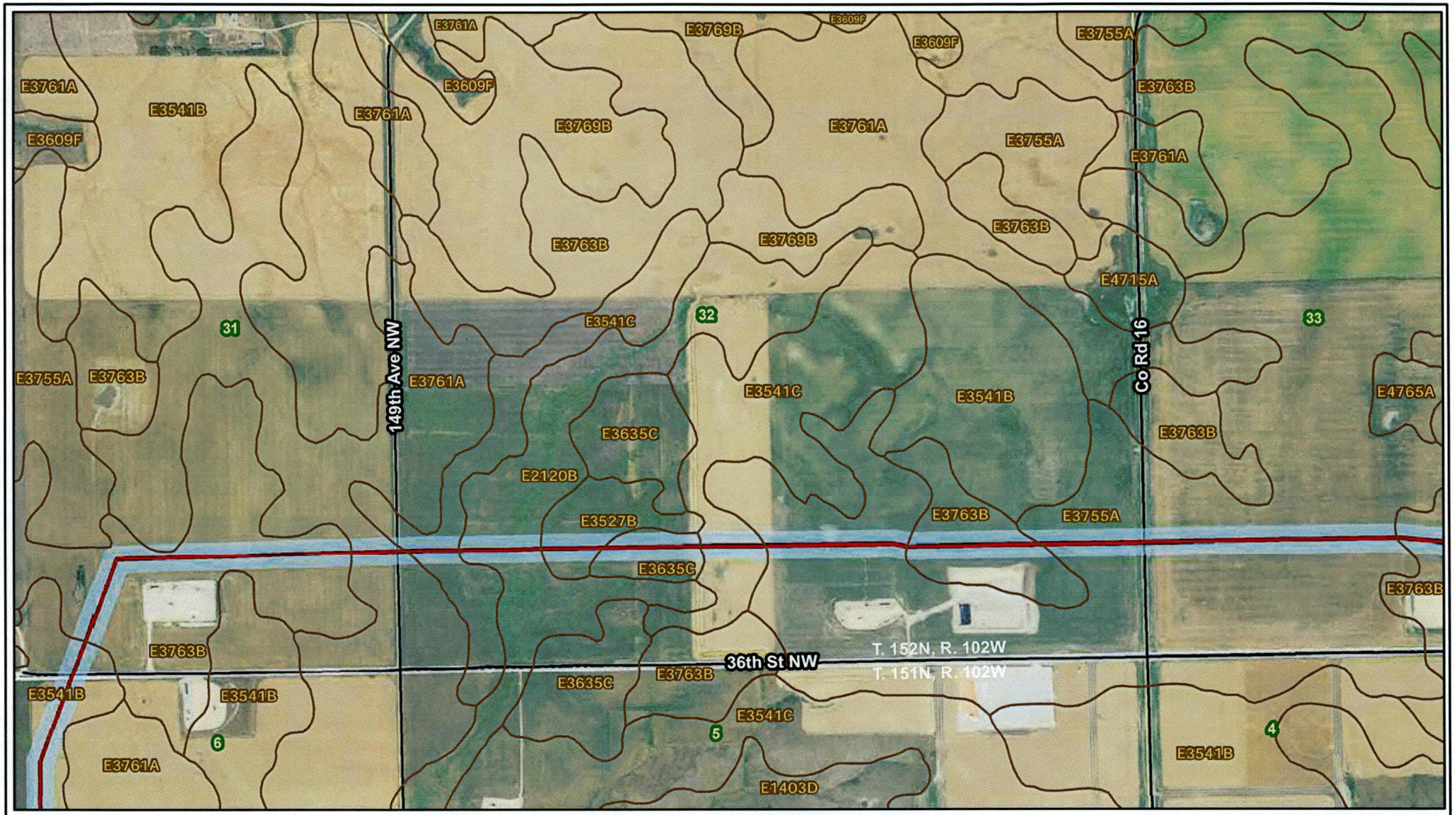
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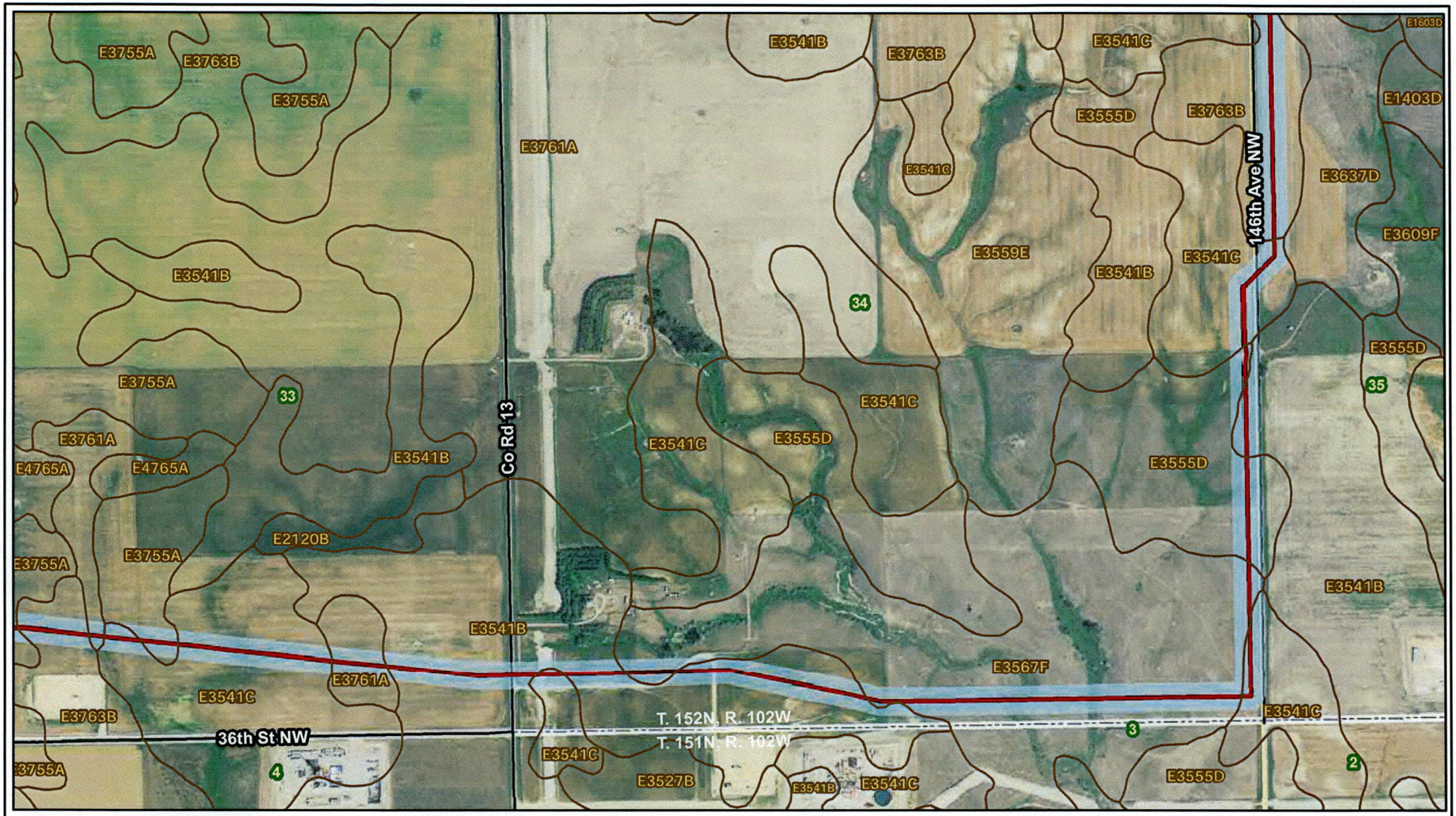
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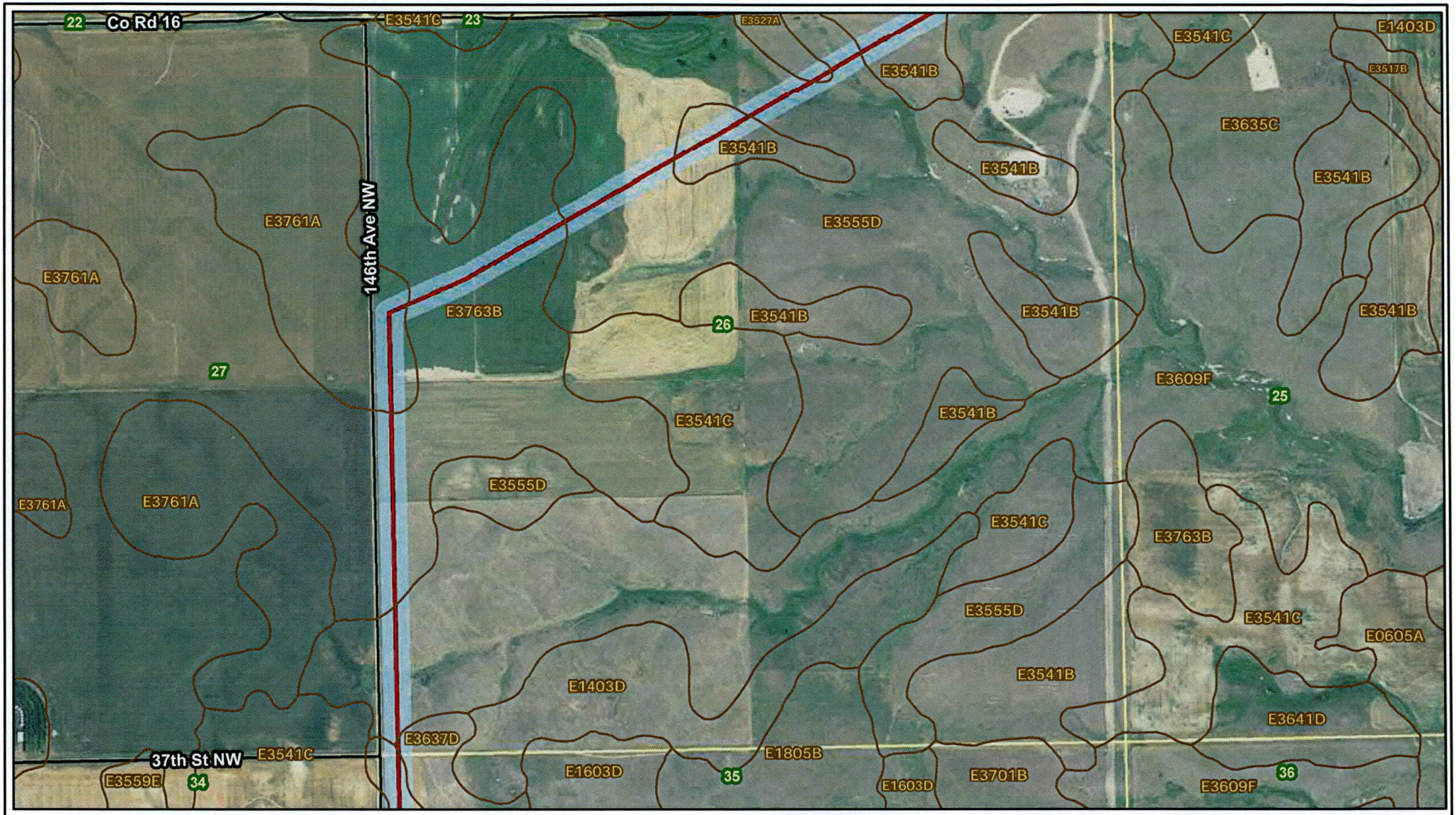
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NST Express Pipeline

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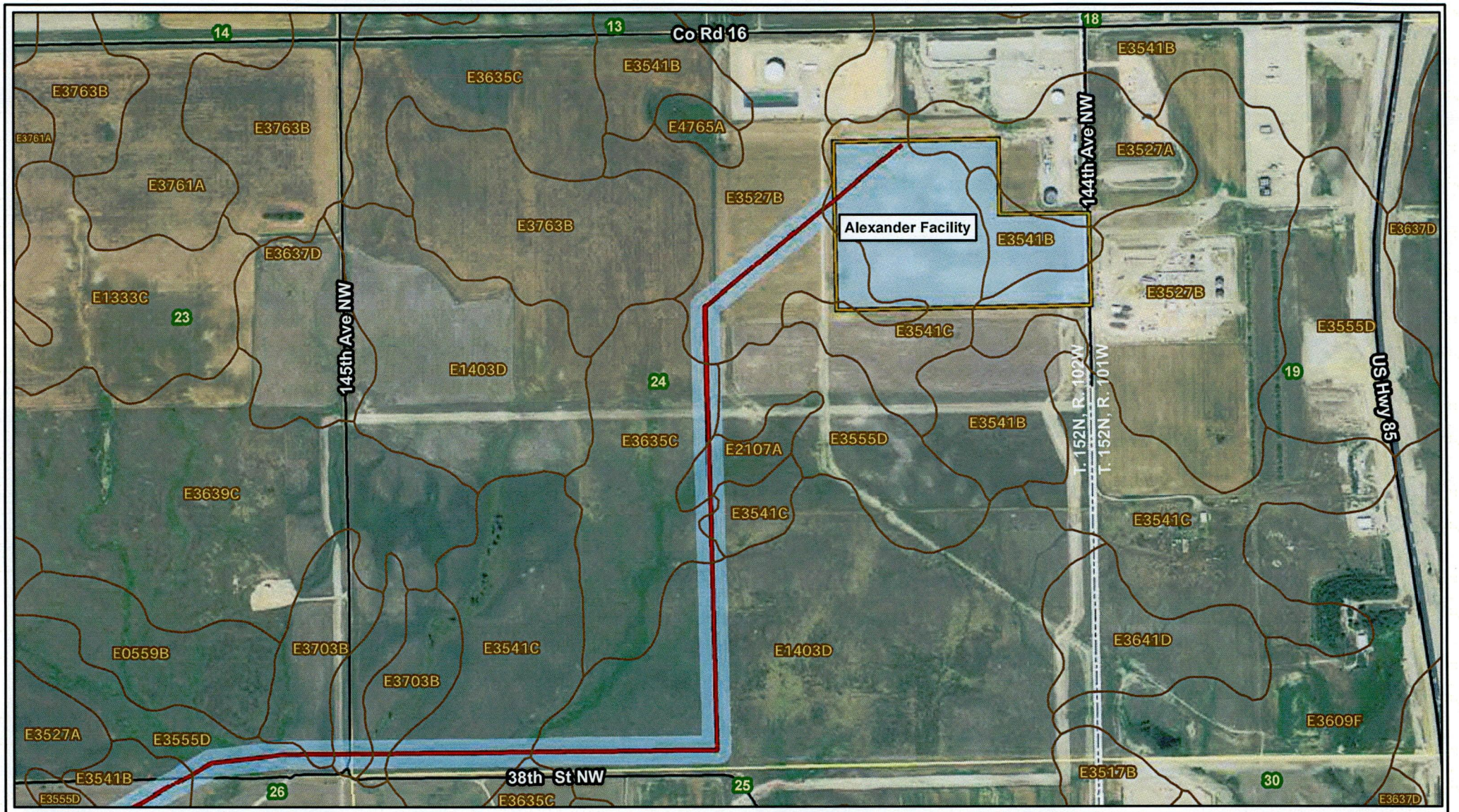
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Projection: NAD 1983 UTM Zone 13N

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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
Quadrangle: Camp Creek West (1978)
Township/Range: T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

APPENDIX C

Photographs of Project Area



Figure C.1. Seasonal wetland (WET1), facing southwest (photo taken March 15, 2015).



Figure C.2. Single eastern cottonwood (*Populus deltoides*) (WV1), facing west (photo taken March 15, 2015).



Figure C.3. Intermittent stream (STR2) associated with irrigation canal, facing south (photo taken March 15, 2015).



Figure C.4. Intermittent stream (STR3) associated with irrigation canal, facing south (photo taken March 15, 2015).



Figure C.5. Intermittent stream (STR4) associated with irrigation canal, facing north (photo taken March 15, 2015).



Figure C.6. Green ash (*Fraxinus pennsylvanica*), facing east (photo taken March 17, 2015).



Figure C.7. Seasonal wetland (WET4), facing north (photo taken March 17, 2015).



Figure C.8. Semipermanent wetland (WET5), facing north (photo taken March 17, 2015).



Figure C.9. Seasonal wetland (WET8), facing north (photo taken March 20, 2015).



Figure C.10. Seasonal fringe wetland (WET7), facing north (photo taken March 20, 2015).



Figure C.11. Overview of proposed Fairview rail facility expansion area, facing southeast (photo taken May 1, 2015).



Figure C.12. Overview of proposed Alexander facility area, facing east (photo taken May 1, 2015).

APPENDIX E

Agency Correspondence/Consultation

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2136

March 27, 2015

Mr. Jeff Shaffer
Assistant Manager, McKenzie County Water Resource District
201 5th Street Northwest, Suite 1456
Watford City, North Dakota 58854

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, North Dakota Water Resource District

Dear Mr. Shaffer:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11, 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Sections 18, 19, 30, 31, T152N, R101W
- Sections 13, 14, 21–36, T152N, R102W
- Sections 25, 35, 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the McKenzie County Water Resource District of the proposed project and offering the opportunity for comments. The information received from the McKenzie County Water Resource District will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

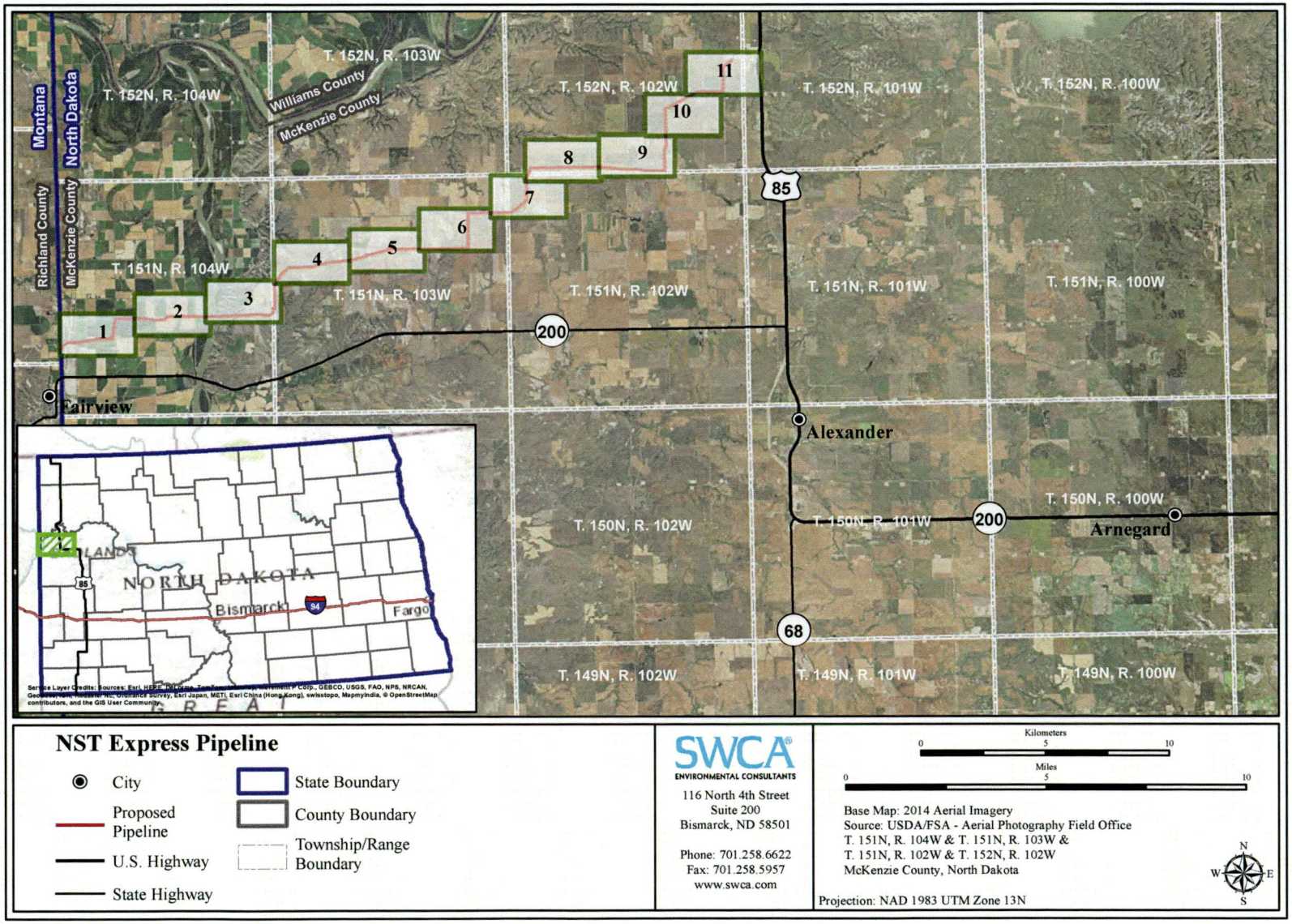
Please send your replies and requests for additional project information to:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers 0 5 10
Miles 0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
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T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

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2136

May 6, 2015

Mr. Jeff Shaffer
Assistant Manager, McKenzie County Water Resource District
201 5th Street Northwest, Suite 1456
Watford City, North Dakota 58854

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, North Dakota Water Resource District; Revisions to letter dated March 27, 2015

Dear Mr. Shaffer:

NST Express, LLC, (NST Express) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating at the proposed Alexander Facility near Alexander, North Dakota, and terminating at the Fairview Rail Facility near Fairview, Montana (Attachment 1). NST Express is proposing the 42-acre Alexander Facility that would include one storage tank, with design provisions for two additional tanks, four truck Lease Automatic Custody Transfer (LACT) offload skids, one new tank booster, one new turbine meter, and one new pipeline pump. NST Express is proposing an expansion of the Fairview Rail Facility, an approximately 2-acre area that would include a scraper receiving trap, one new turbine meter, and panels for programmable logic controller/open multi-network integration (PLC/OMNI) control equipment.

The project is wholly within the state of North Dakota. The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11 and 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, and 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Section 24, T152N, R102W
- Sections 18, 19, 30, and 31, T152N, R101W
- Sections 13, 14, and 21–36, T152N, R102W
- Sections 25, 35, and 36, T152N, R103W

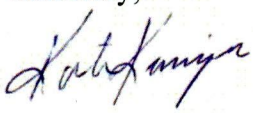
The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the McKenzie County Water Resource District of the proposed project and offering them the opportunity to comment. The information received from the McKenzie County Water Resource District will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

Please send your replies and requests for additional project information to the following:

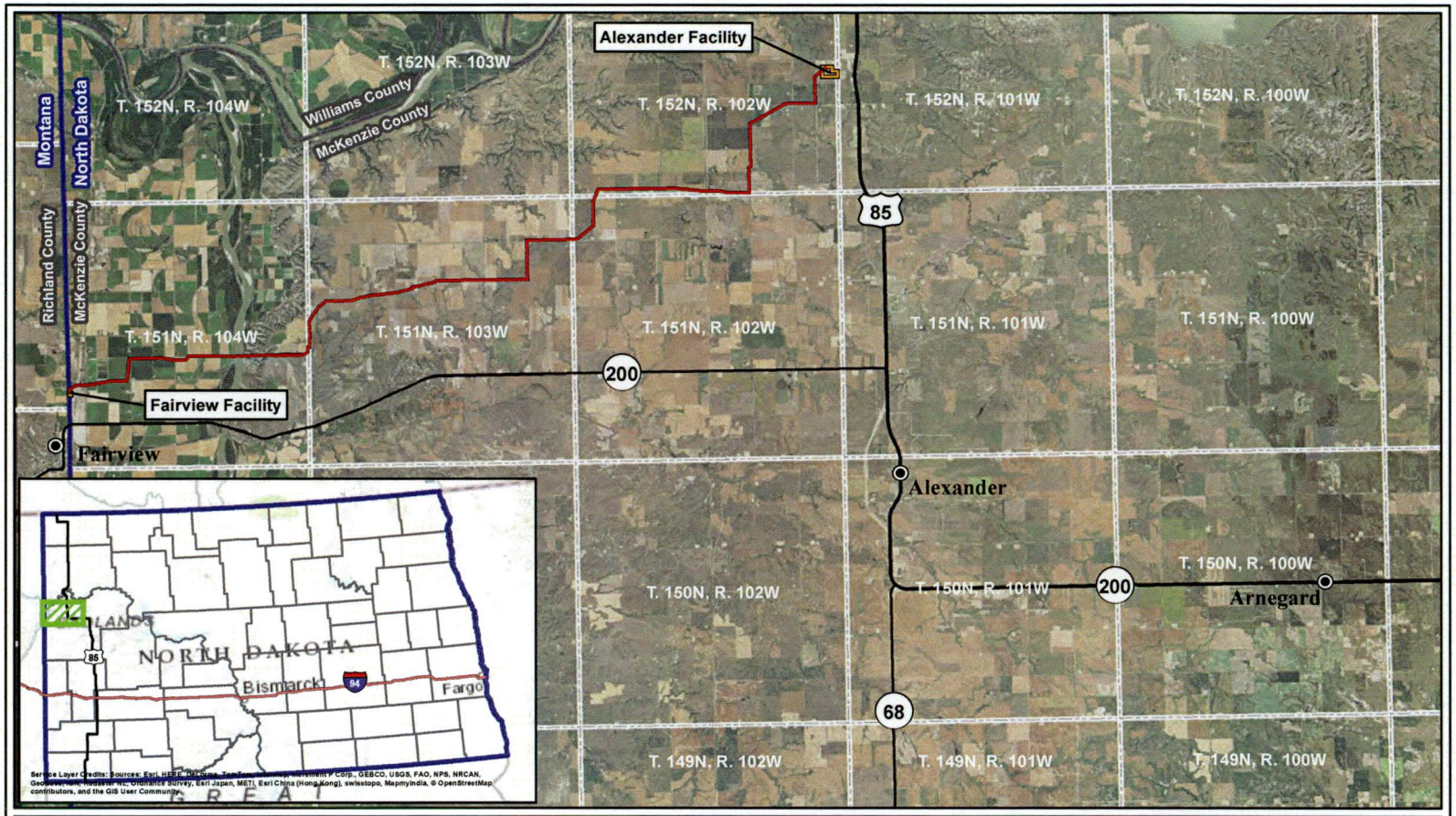
Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,



Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers 0 5 10

Miles 0 5 10

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T. 151N, R. 104W & T. 151N, R. 103W &
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McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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March 27, 2015

Ms. Andrea Higgins
Weed Control Officer, McKenzie County
201 5th Street Northwest
Watford City, North Dakota 58854

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, State and County-Listed Noxious Weeds

Dear Ms. Higgins:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11, 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Sections 18, 19, 30, 31, T152N, R101W
- Sections 13, 14, 21–36, T152N, R102W
- Sections 25, 35, 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the McKenzie County Weed Board of the proposed project and offering the opportunity for comments. The information received from the McKenzie County Weed Board will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

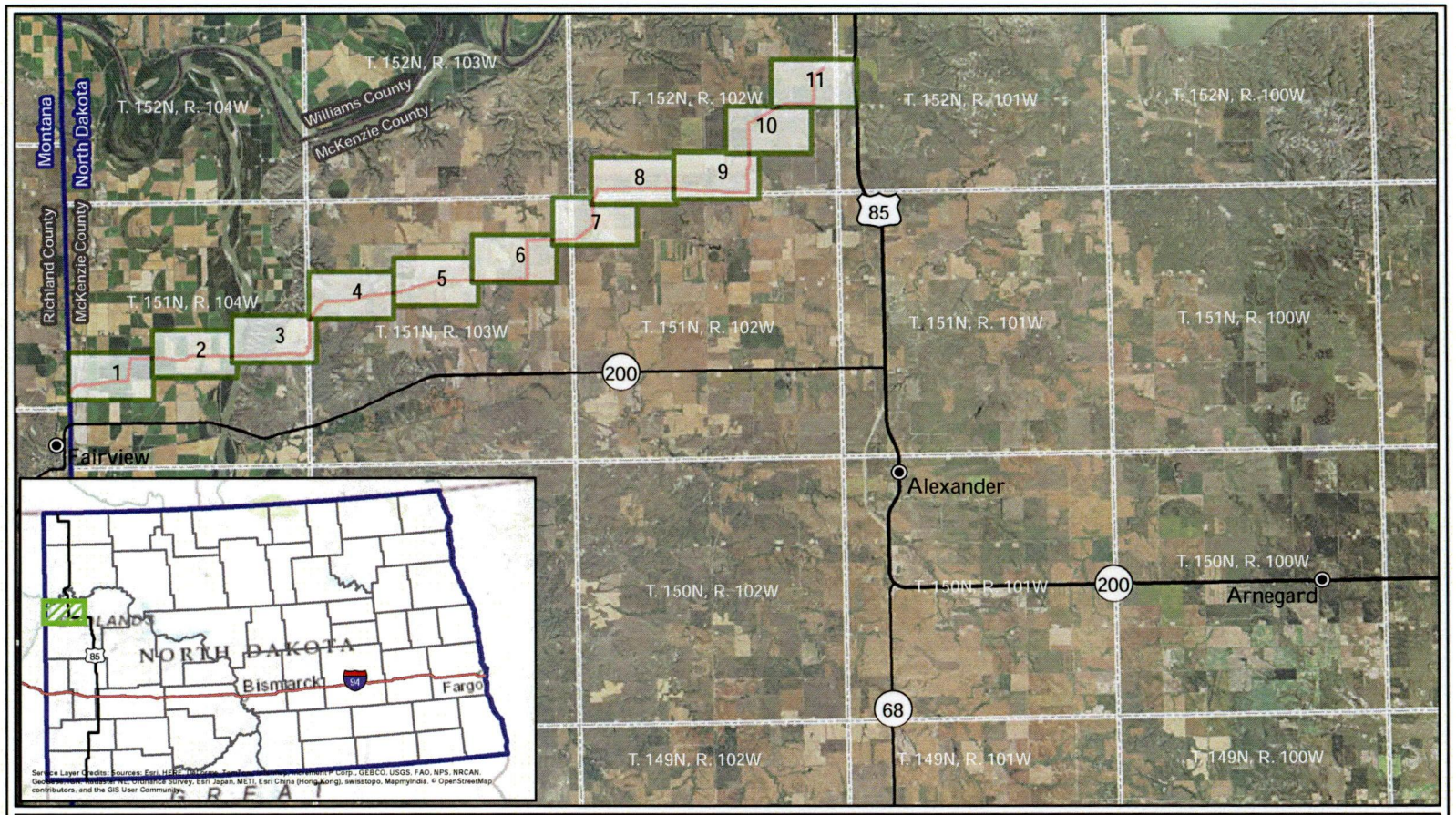
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Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
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(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- State Boundary
- County Boundary
- Township/Range Boundary

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Projection: NAD 1983 UTM Zone 13N

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www.swca.com

2136

May 6, 2015

Ms. Amber Higgins
Weed Control Officer, McKenzie County
McKenzie County Weed Board
201 5th Street Northwest
Watford City, North Dakota 58854

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, State and County-Listed Noxious Weeds; Revisions to letter dated March 27, 2015

Dear Ms. Higgins:

NST Express, LLC, (NST Express) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating at the proposed Alexander Facility near Alexander, North Dakota, and terminating at the Fairview Rail Facility near Fairview, Montana (Attachment 1). NST Express is proposing the 42-acre Alexander Facility that would include one storage tank, with design provisions for two additional tanks, four truck Lease Automatic Custody Transfer (LACT) offload skids, one new tank booster, one new turbine meter, and one new pipeline pump. NST Express is proposing an expansion of the Fairview Rail Facility, an approximately 2-acre area that would include a scraper receiving trap, one new turbine meter, and panels for programmable logic controller/open multi-network integration (PLC/OMNI) control equipment.

The project is wholly within the state of North Dakota. The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11 and 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, and 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Section 24, T152N, R102W
- Sections 18, 19, 30, and 31, T152N, R101W
- Sections 13, 14, and 21–36, T152N, R102W
- Sections 25, 35, and 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the McKenzie County Weed Board of the proposed project and offering them the opportunity to comment. The information received from the McKenzie County Weed Board will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

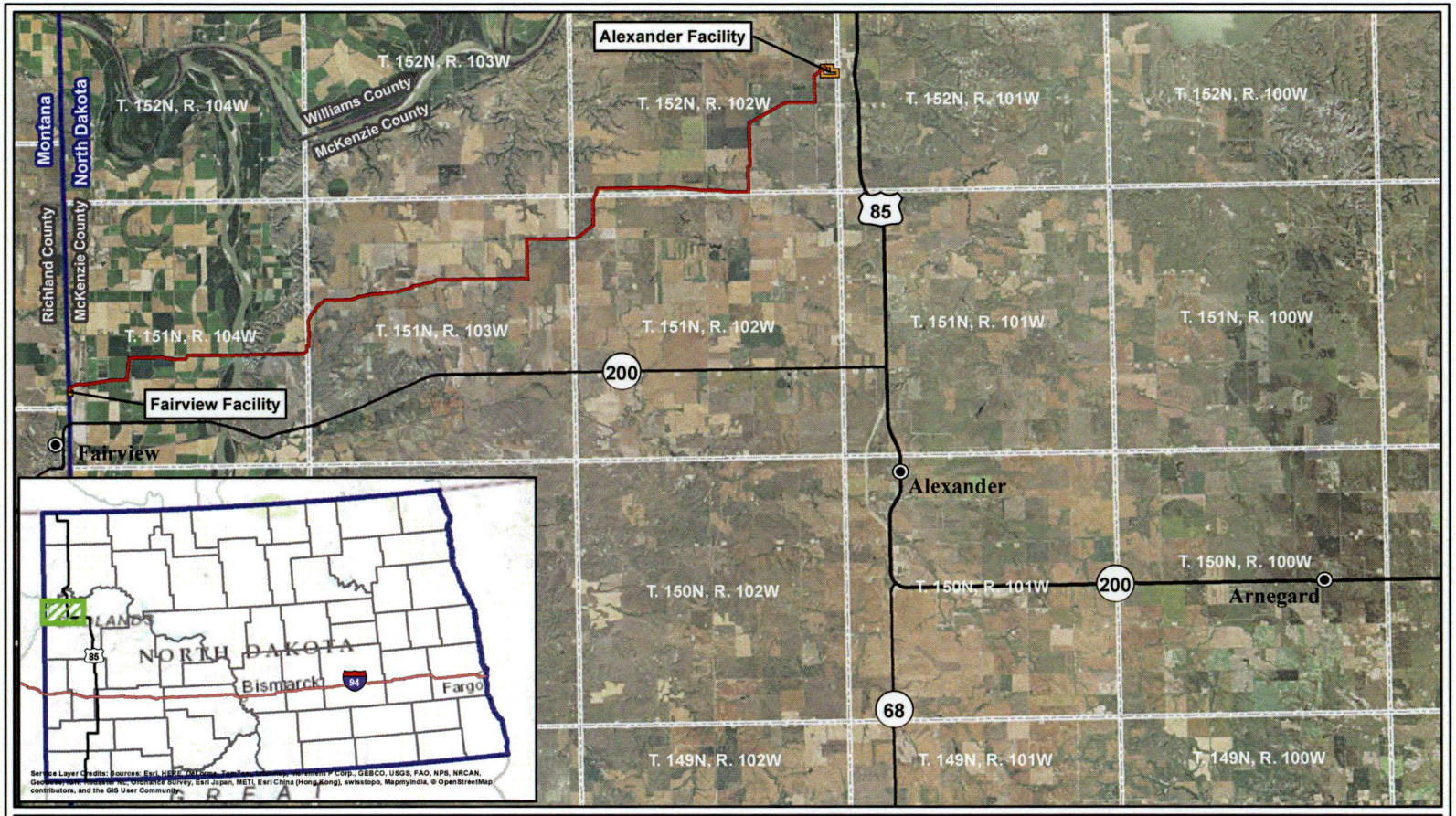
Please send your replies and requests for additional project information to the following:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers 0 5 10

Miles 0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N W E S

From: Kate Kenninger
To: "mcweed@restel.com"
Subject: RE: McKenzie County Weed Control
Date: Friday, April 10, 2015 1:39:00 PM
Attachments: image001.png
image002.jpg
image003.jpg
image004.gif

Good afternoon Amber,

As there have been modifications to the proponent name and project design for the NST Express pipeline project, SWCA will reissue a consultation letter to your agency. At that time we will also provide the additional request for information.
Thank you,

Kate Kenninger
Natural Resources Specialist/Project Manager

SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, ND, 58501
Office 701.258.6622 | Cell 701.740.4982



Visit Our Website: http://www.swca.com 



From: mcweed@restel.com [mailto:mcweed@restel.com]
Sent: Tuesday, April 07, 2015 8:10 AM
To: Kate Kenninger
Subject: McKenzie County Weed Control

Kate-

My name is Amber Higgins I'm the Weed Officer here at McKenzie County, if you could fill out the attachment and get it back to me we can get your Weed Management Plan in order. If you have any questions feel free to contact me via email or phone.

Thank You
Amber Higgins
McKenzie County Weed Officer
7014-842-4131

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2136

March 27, 2015

Mr. Doug Goehring, Agriculture Commissioner
North Dakota Department of Agriculture
600 E. Boulevard Avenue, Department 602
Bismarck, North Dakota 58505

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, North Dakota Department of Agriculture

Dear Mr. Goehring:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

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- Sections 25, 35, 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the North Dakota Department of Agriculture of the proposed project and offering the opportunity for comments. The information received from the North Dakota Department of Agriculture will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

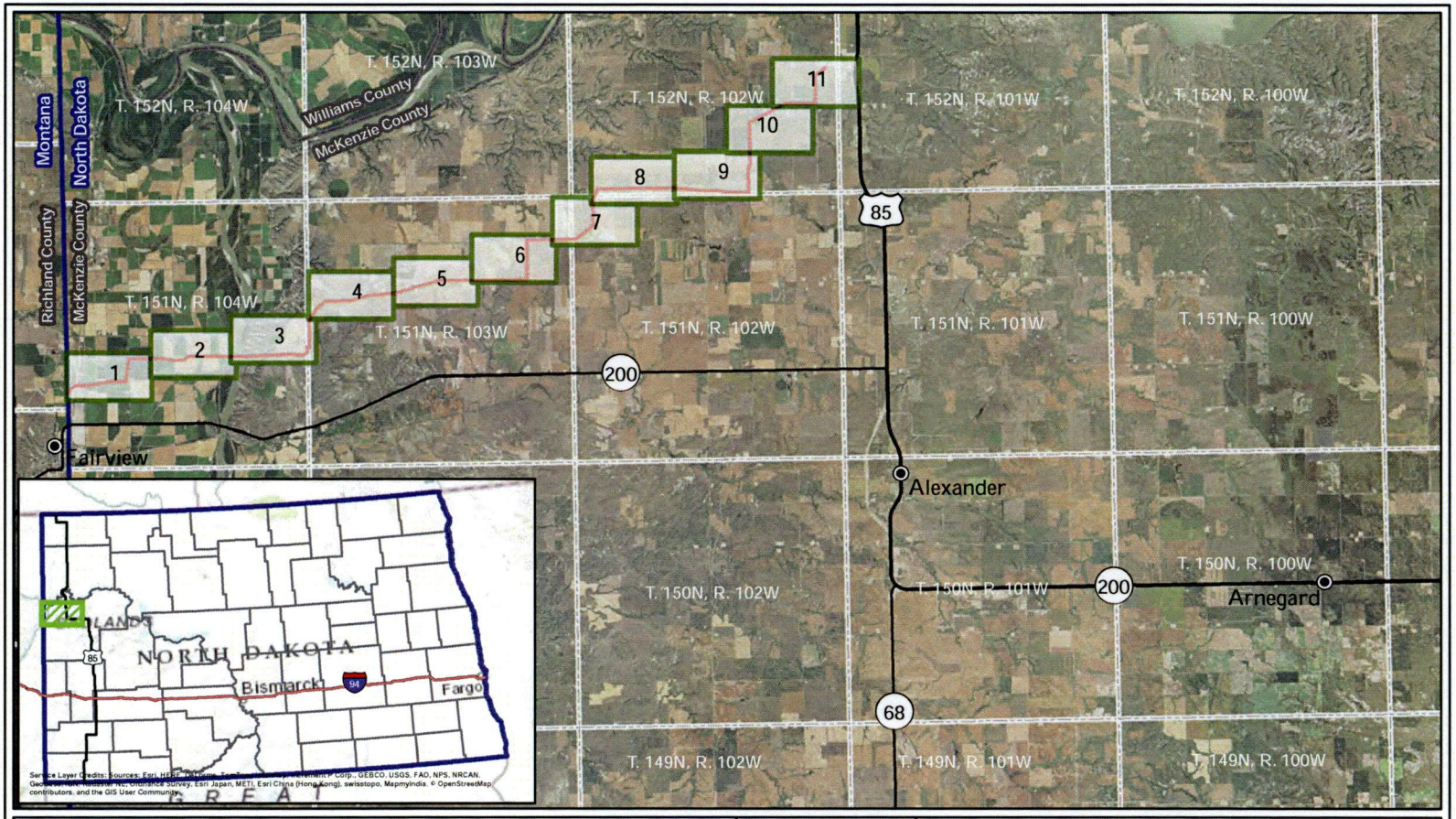
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116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
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- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers
0 5 10

Miles
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Base Map: 2014 Aerial Imagery
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2136

May 6, 2015

Mr. Doug Goehring, Agriculture Commissioner
North Dakota Department of Agriculture
600 East Boulevard Avenue, Department 602
Bismarck, North Dakota 58505

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, North Dakota Department of Agriculture; Revision to letter dated March 27, 2015

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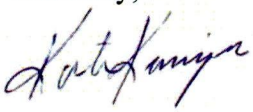
The project is scheduled to begin construction in the fall of 2015.

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Please send your replies and requests for additional project information to the following:

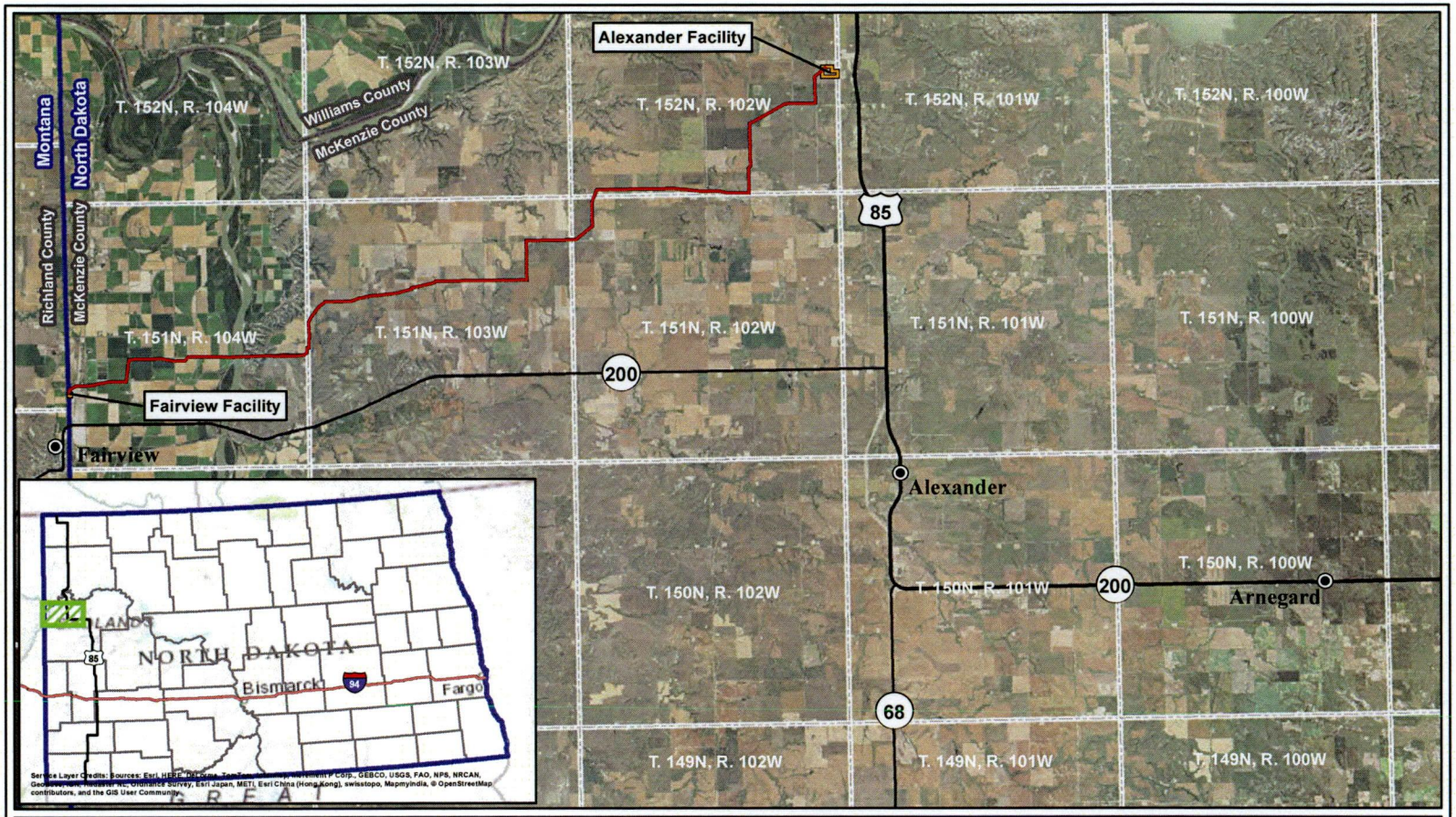
Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,



Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

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- State Boundary
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Kilometers 0 5 10

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N W E S

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March 27, 2015

Mr. Keith Bayley
North Dakota Department of Trust Lands
1707 North 9th Street
Bismarck, North Dakota 58506-5523

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, State Minerals Trust Lands

Dear Mr. Bayley:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

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The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the North Dakota Department of Trust Lands of the proposed project and offering the opportunity for comments. The information received from the North Dakota Department of Trust Lands will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

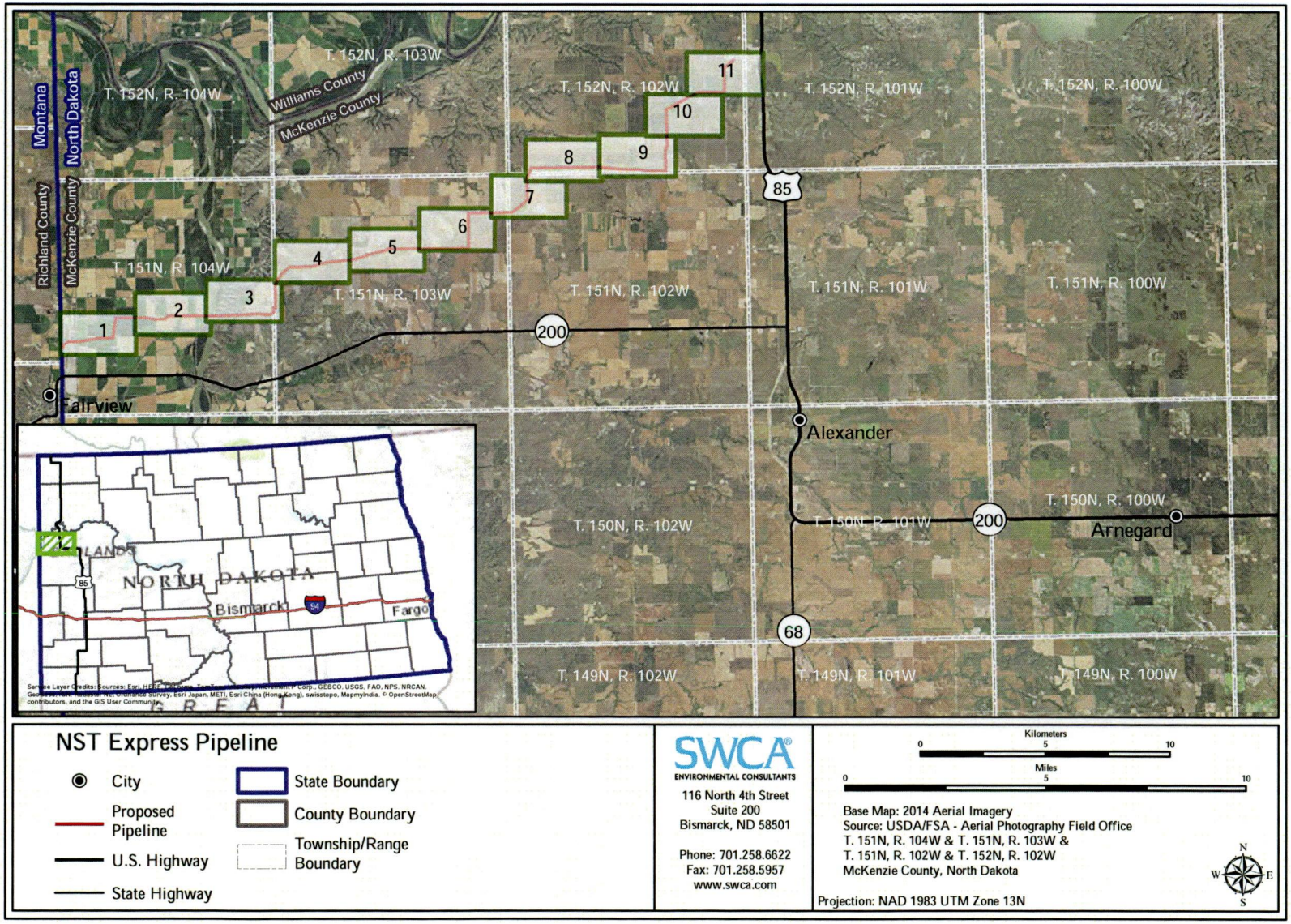
Please send your replies and requests for additional project information to:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
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May 6, 2015

Ms. Allisen Bement
North Dakota Department of Trust Lands
1707 North 9th Street
Bismarck, North Dakota 58506-5523

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, State Minerals Trust Lands; Revision to letter dated March 27, 2015

Dear Ms. Bement:

NST Express, LLC, (NST Express) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating at the proposed Alexander Facility near Alexander, North Dakota, and terminating at the Fairview Rail Facility near Fairview, Montana (Attachment 1). NST Express is proposing the 42-acre Alexander Facility that would include one storage tank, with design provisions for two additional tanks, four truck Lease Automatic Custody Transfer (LACT) offload skids, one new tank booster, one new turbine meter, and one new pipeline pump. NST Express is proposing an expansion of the Fairview Rail Facility, an approximately 2-acre area that would include a scraper receiving trap, one new turbine meter, and panels for programmable logic controller/open multi-network integration (PLC/OMNI) control equipment.

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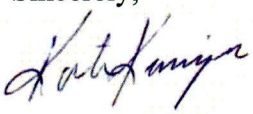
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Please send your replies and requests for additional project information to the following:

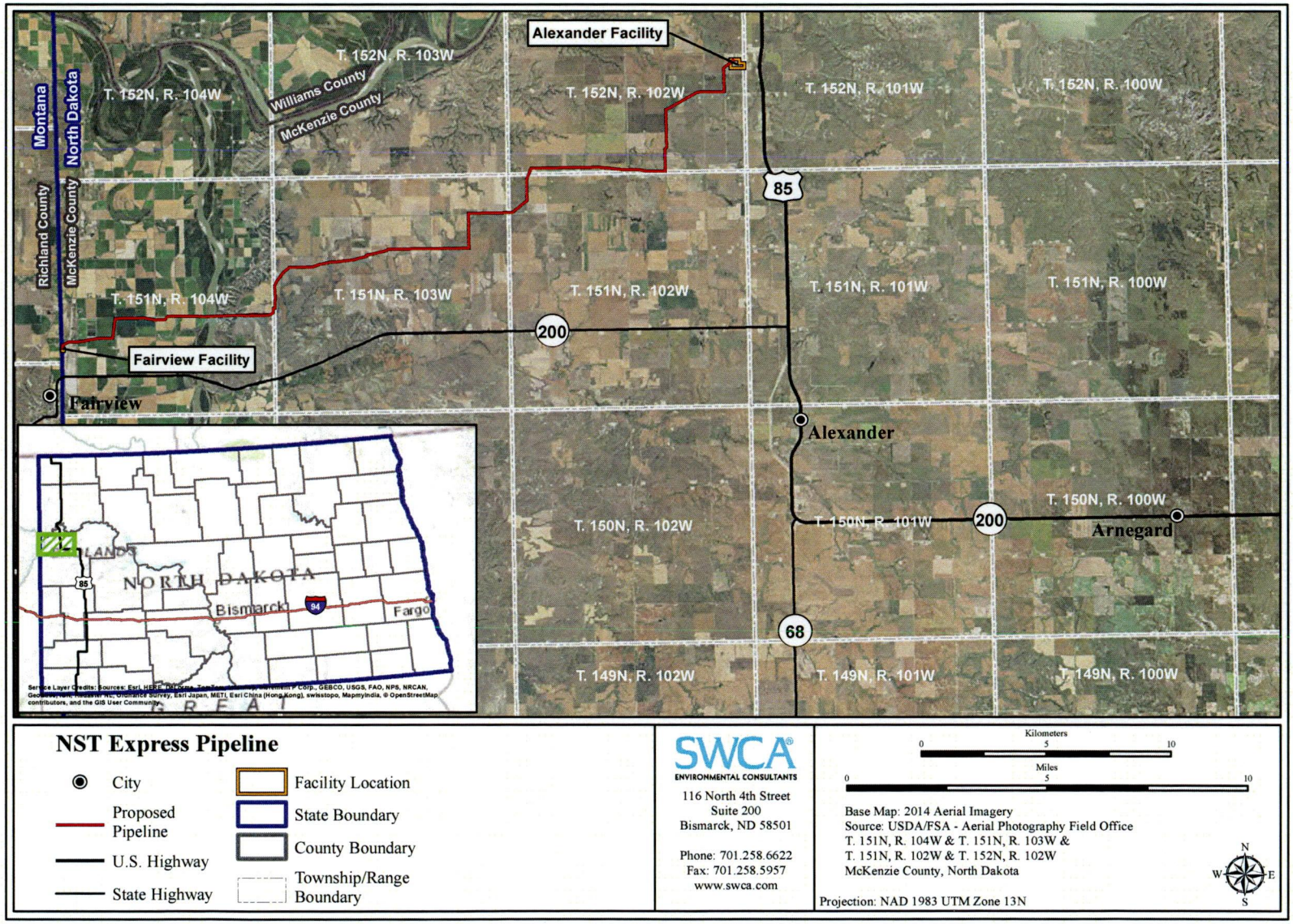
Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
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(701) 258-6622
kkenninger@swca.com

Sincerely,



Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
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Kilometers 0 5 10

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Base Map: 2014 Aerial Imagery
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T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N W E S

From: Bement, Allisen C.
To: Kate Kenninger
Subject: RE: NorthStar Midstream propsed pipeline
Date: Tuesday, May 12, 2015 9:47:32 AM
Attachments: image001.png

Kate,

We agree that the data provided fairly represents the approximate location of the pipeline route as indicated by SWCA Environmental Consultants and the proximity of mineral interests managed by this office to that pipeline, for use in a filing with the PSC in the state of North Dakota.

Allisen Bement
Land Professional
ND Department of Trust Lands
701.328.1952
abement@nd.gov

From: Kate Kenninger [mailto:kkenninger@swca.com]
Sent: Tuesday, May 12, 2015 9:06 AM
To: Bement, Allisen C.
Subject: RE: NorthStar Midstream propsed pipeline

Hi Allisen,

Sorry about that, I've attached the files. Please let know if you have any questions.
Thank you,
Kate

From: Bement, Allisen C. [mailto:abement@nd.gov]
Sent: Tuesday, May 12, 2015 8:40 AM
To: Kate Kenninger
Subject: RE: NorthStar Midstream propsed pipeline

Kate,

Could you resend the shapefile to me, but before you do please remain the .zip file to a .txt or a .doc and the resend.

Thank you,

Allisen Bement
Land Professional
ND Department of Trust Lands
701.328.1952
abement@nd.gov

From: Kate Kenninger [mailto:kkenninger@swca.com]
Sent: Monday, May 11, 2015 3:44 PM
To: Bement, Allisen C.
Subject: RE: NorthStar Midstream propsed pipeline

Good afternoon Allisen,

A revised letter regarding the NST Express pipeline project was submitted on May 6, 2015. Additionally, I wanted to provide you with the shapefiles of the proposed project, as you requested, for your review.
If additional information is needed, please let me know.

Thank you,
Kate

From: Bement, Allisen C. [mailto:abement@nd.gov]
Sent: Friday, April 10, 2015 2:14 PM
To: Kate Kenninger
Subject: RE: NorthStar Midstream propsed pipeline

Thank you Kate. You can send the letter to me.

From: Kate Kenninger [mailto:kkenninger@swca.com]
Sent: Friday, April 10, 2015 1:35 PM
To: Bement, Allisen C.
Subject: RE: NorthStar Midstream propsed pipeline

Good afternoon Allisen,

As there have been modifications to the proponent name and project design for the NST Express pipeline project, SWCA will reissue a consultation letter to your agency. At that time we will also provide the additional request for information.
Thank you,

Kate Kenninger
Natural Resources Specialist/Project Manager

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Please consider the environment before printing this email

From: Bement, Allisen C. [mailto:abement@nd.gov]
Sent: Tuesday, April 07, 2015 9:39 AM
To: Kate Kenninger
Subject: NorthStar Midstream propsed pipeline

Good Morning Kate,

We received your letter to the Department. Do you have GIS layer of the proposed pipeline route?

Thank you,

Allisen Bement
Land Professional
ND Department of Trust Lands
701.328.1952
abement@nd.gov

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March 27, 2015

Mr. Michael Haupt
North Dakota Department of Trust Lands
1707 North 9th Street
Bismarck, North Dakota 58506-5523

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, State School Trust Lands

Dear Mr. Haupt:

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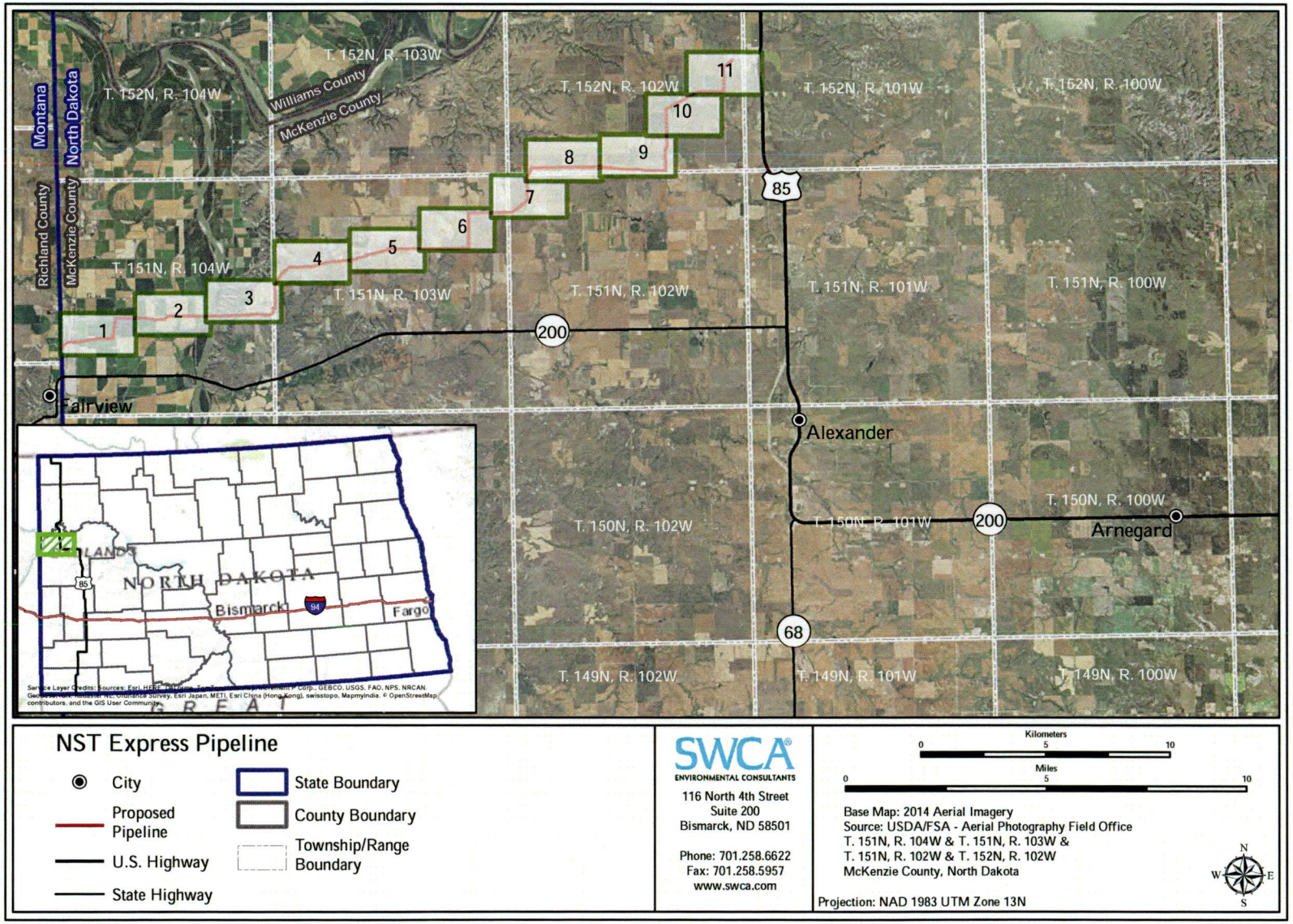
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Sincerely,

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Enclosures: Attachment 1



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May 6, 2015

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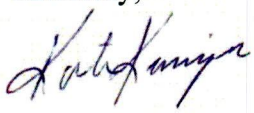
The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the North Dakota Department of Trust Lands of the proposed project and offering them the opportunity to comment. The information received from the North Dakota Department of Trust Lands will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

Please send your replies and requests for additional project information to the following:

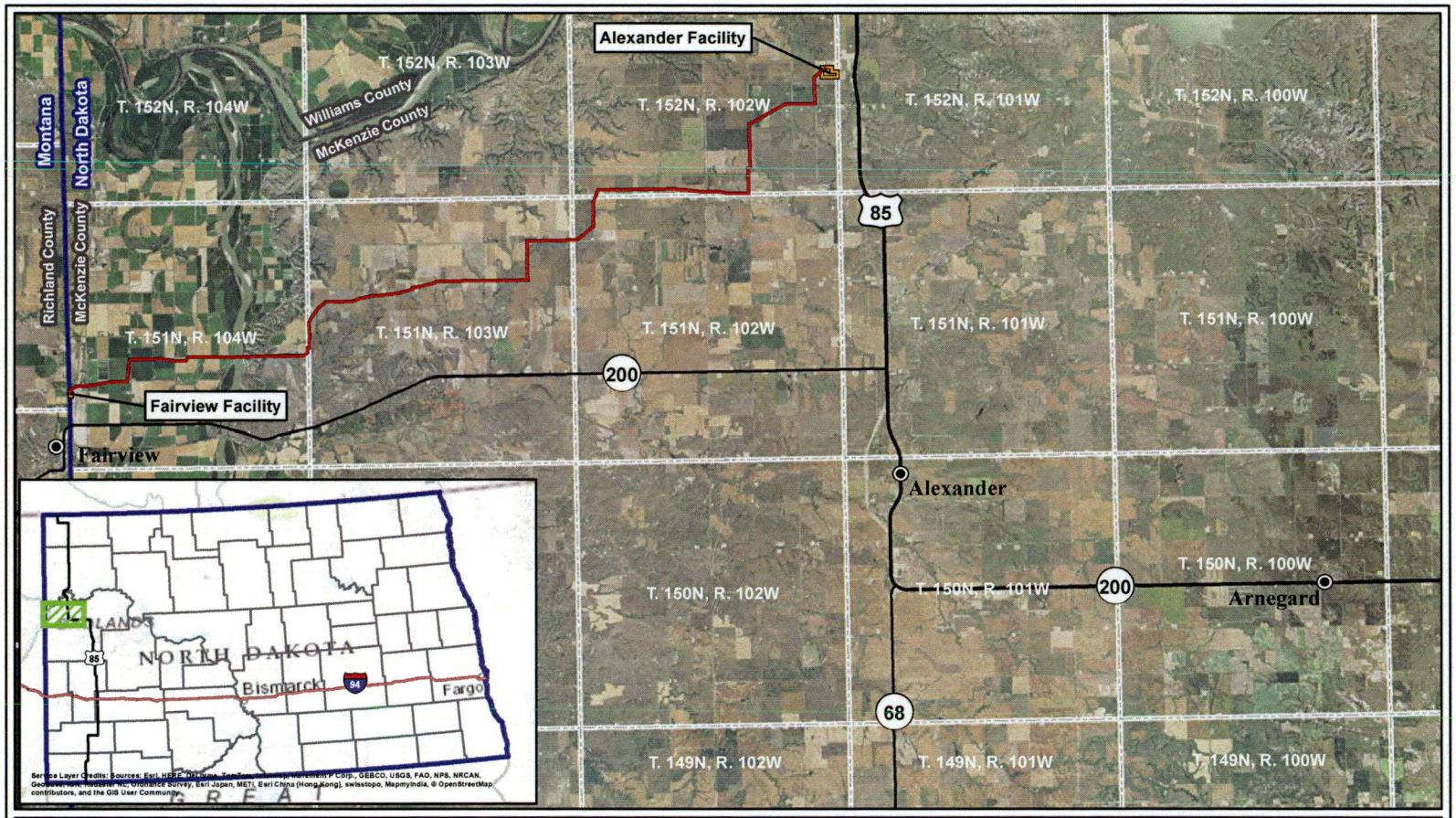
Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,



Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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Fax: 701.258.5957
www.swca.com

Kilometers 0 5 10

Miles 0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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www.swca.com

2136

March 27, 2015

Mr. David Glatt
North Dakota Department of Health
918 Divide Avenue, 4th Floor
Bismarck, North Dakota 58501

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, North Dakota Department of Health

Dear Mr. Glatt:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

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The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the North Dakota Department of Health of the proposed project and offering the opportunity for comments. The information received from the North Dakota Department of Health will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

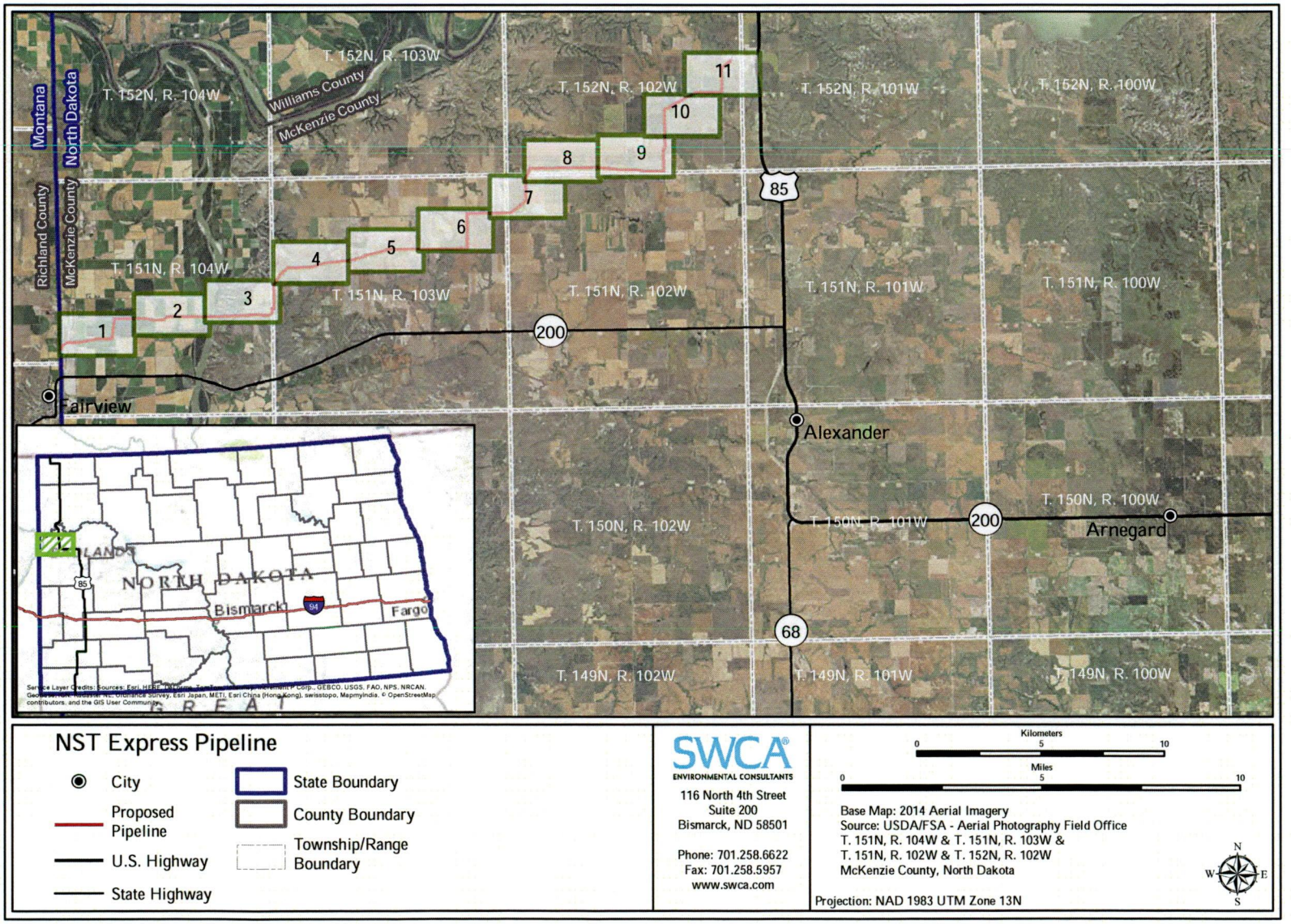
Please send your replies and requests for additional project information to:

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Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

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2136

May 6, 2015

Mr. David Glatt
North Dakota Department of Health
918 Divide Avenue, 4th Floor
Bismarck, North Dakota 58501

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, North Dakota Department of Health; Revisions to letter dated March 27, 2015

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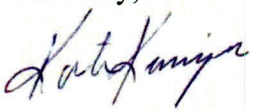
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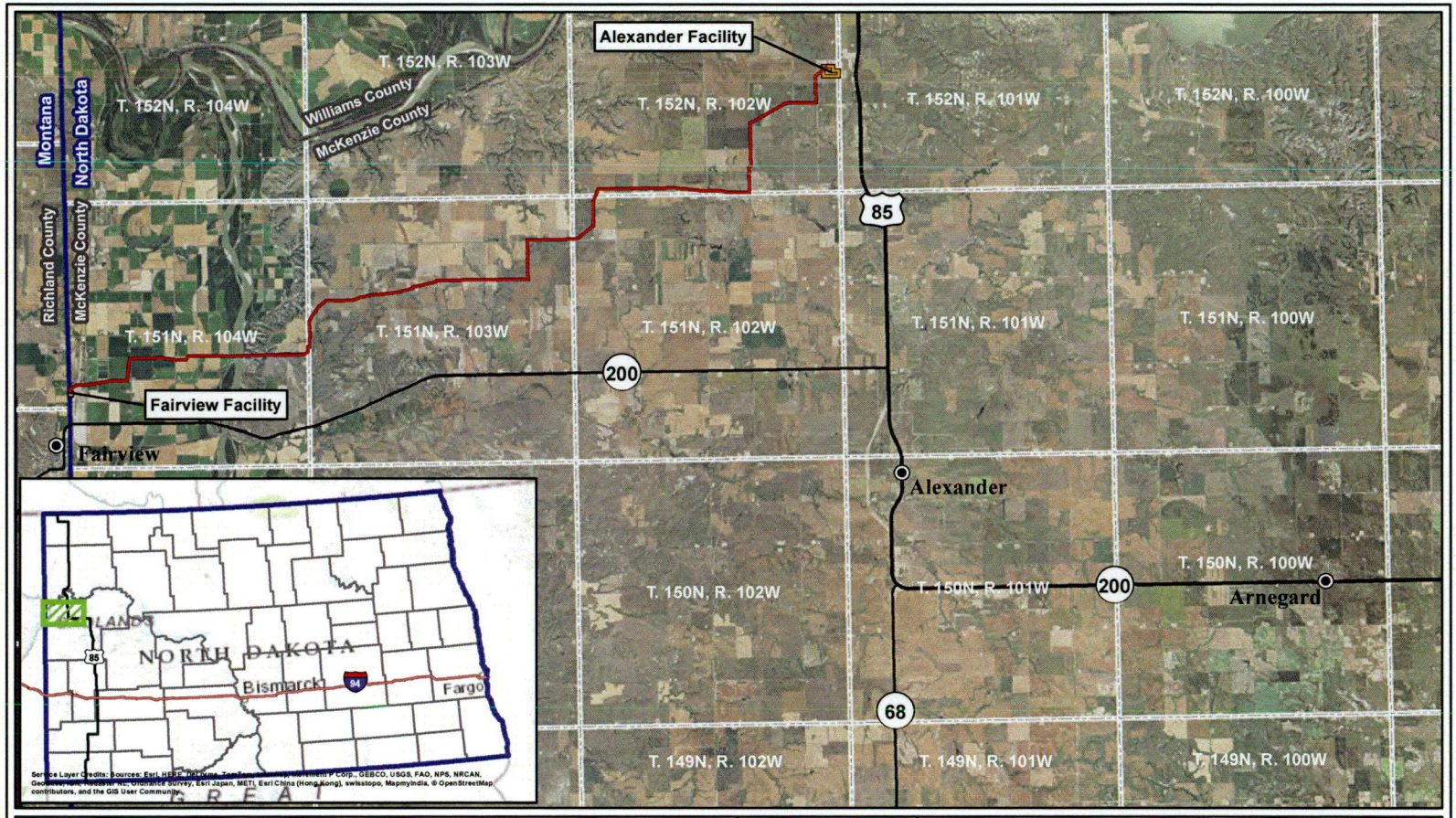
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Kate Kenninger

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2136

March 27, 2015

Mr. Greg Link
Conservation and Communication Division
North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, North Dakota 58501

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, State Conservation Priority Species Consultation and State PLOTS Land Review

Dear Mr. Link:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

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SWCA Environmental Consultants requests the NDGF review the proposed analysis area for presence or absence of State Conservation Priority Species and NDGF PLOTS Lands. The information received from the NDGF will be used in the North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

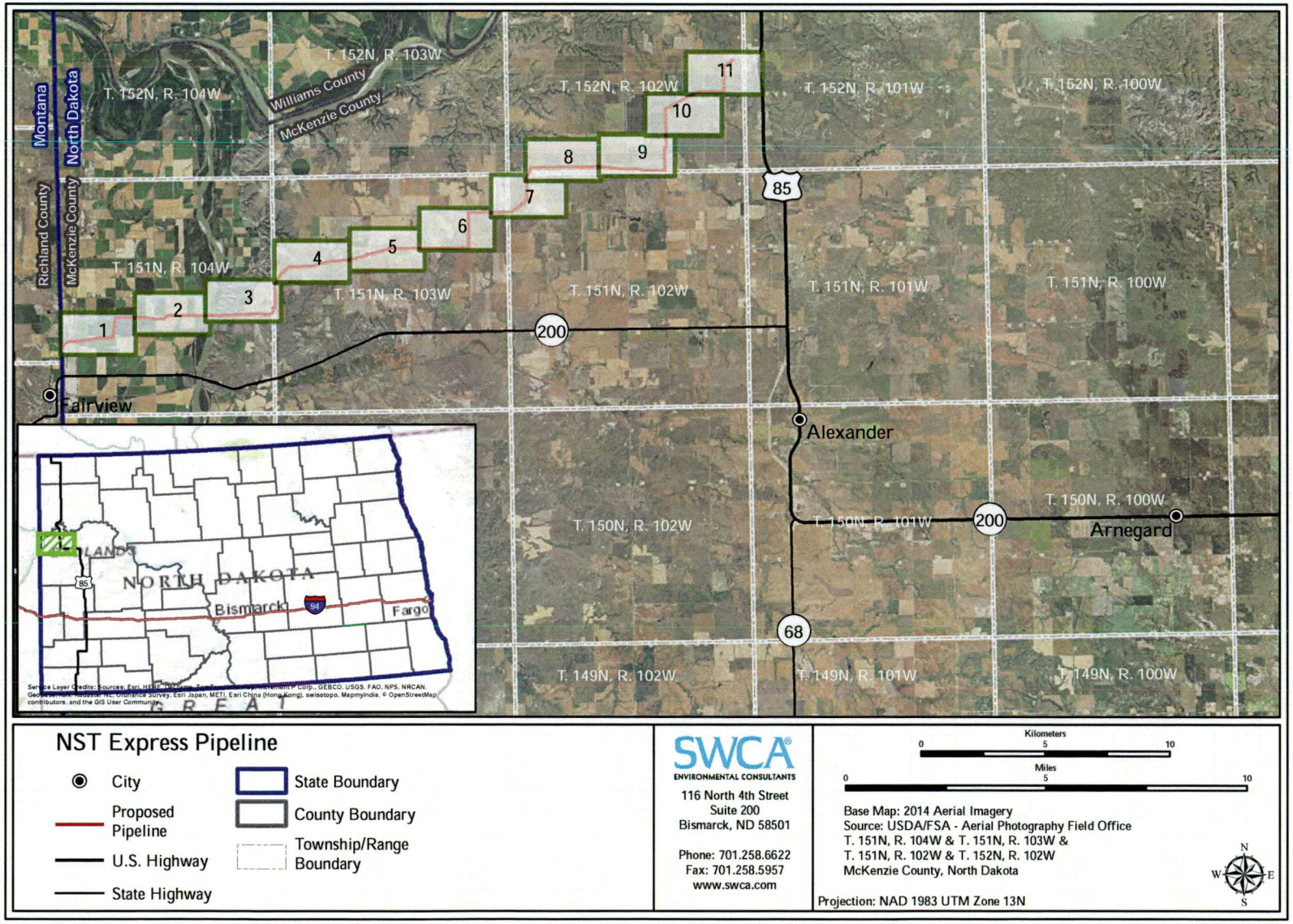
Please send your replies and requests for additional project information to:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

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2136

May 6, 2015

Mr. Greg Link
Conservation and Communication Division
North Dakota Game and Fish Department
100 North Bismarck Expressway
Bismarck, North Dakota 58501

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, State Conservation Priority Species Consultation and State PLOTS Land Review; Revisions to letter dated March 27, 2015

Dear Mr. Link:

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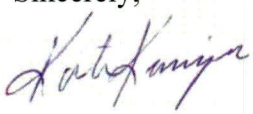
The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants requests that the North Dakota Game and Fish Department (NDGF) review the proposed analysis area for the presence or absence of State Conservation Priority Species and NDGF PLOTS Lands. The information received from the NDGF will be used in the North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

Please send your replies and requests for additional project information to the following:

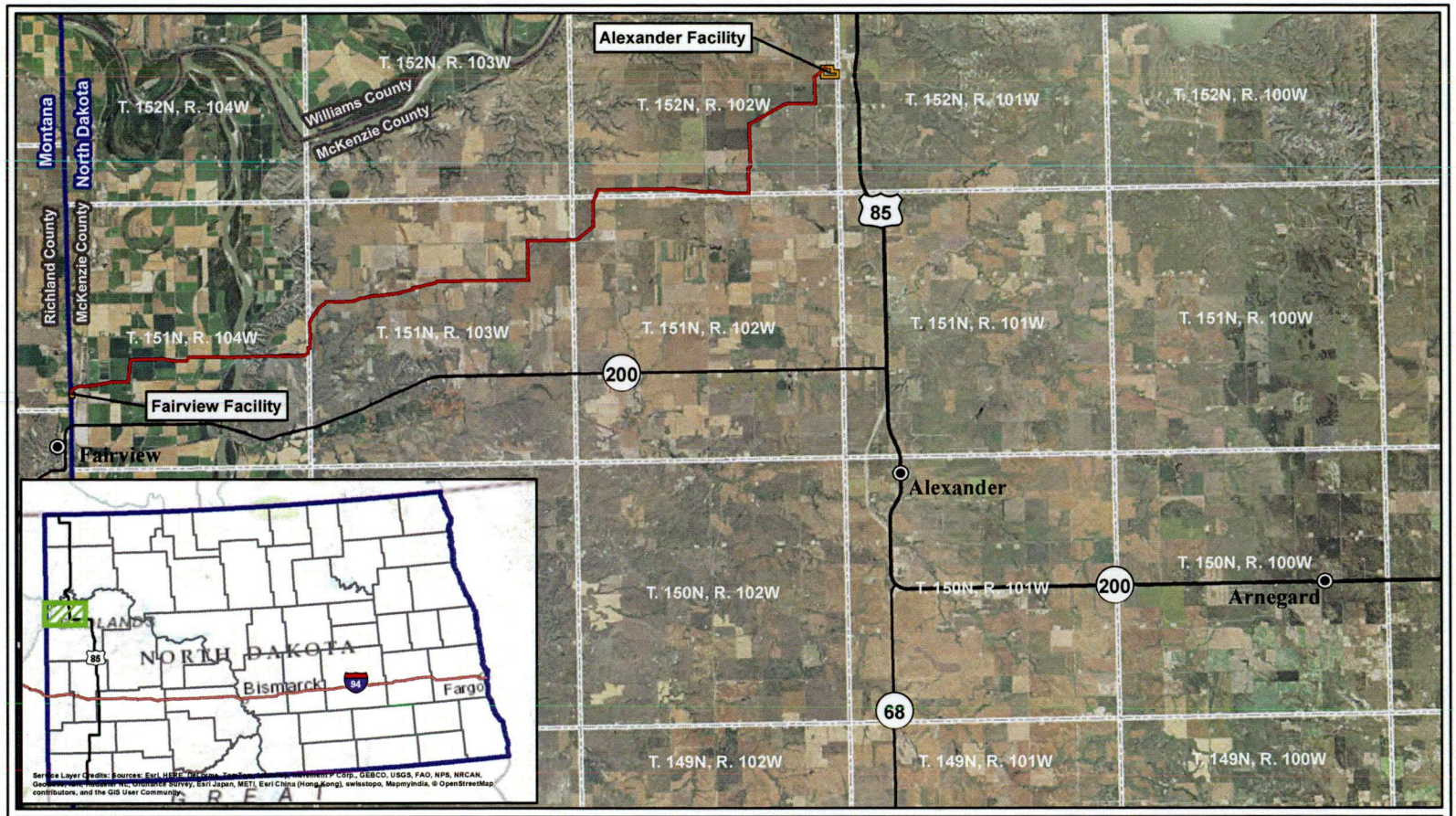
Kate Kenninger, Natural Resource Specialist
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116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,



Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

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- U.S. Highway
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- Facility Location
- State Boundary
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McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N W E S

"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

April 23, 2015

Kate Kenninger
Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, ND 58501

Dear Ms. Kenninger:

RE: NST Express Pipeline Project

NorthStar Midstream is proposing to construct an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander and terminating in Fairview in McKenzie County, North Dakota. The North Dakota Game and Fish Department has reviewed this project for wildlife concerns.

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

The pipeline route will cross the Yellowstone River, a Class I fishery. We recommend that this stream be crossed by directional boring to protect the resource. If this method is not feasible, construction should not take place within the waterway between April 15 and June 1, and controls should be implemented to minimize erosion and sedimentation. Every precaution should be taken to prevent leaks or spills from entering the river.

Aquatic nuisance species (ANS) are a major concern in North Dakota. State law requires that the contractor, including any and all subcontractors involved in this project, take appropriate precautions to prevent the introduction or movement of ANS within the state. The contractor should provide the department a reasonable opportunity to inspect any equipment prior to these items being launched or placed into waters of the state. The department's Aquatic Nuisance Species Coordinator, Mr. Fred Ryckman, can be contacted at 701-770-0920 for equipment inspections or additional information regarding ANS prevention protocols.

The National Wetland Inventory indicates various wetlands within the proposed project corridor. Steps should be taken to protect any wetlands that cannot be avoided, no alterations should be made to existing drainage patterns, and above-ground appurtenances should not be placed in wetland areas. Unavoidable destruction or degradation of wetland acres should be mitigated in kind.

We recommend that aerial surveys be conducted for raptor nests before construction begins. Our records indicate a golden eagle nest located in close proximity to the project area. We recommend that a ½-mile construction buffer be implemented around active eagle nest sites (known occupied within the past 5 years). Ms. Sandra Johnson, Conservation Biologist, can be contacted at 701-328-6327 for additional information on golden eagle nests in the state.

We do not believe this project will have significant adverse effects on wildlife or wildlife habitat, including species of conservation priority, provided these recommendations are implemented where appropriate.

Private Lands Open to Sportsmen (PLOTS) is a public access program which cost-shares with private landowners to help conserve fish and wildlife habitat. PLOTS lands are not owned or managed by the ND Game and Fish Department. Information regarding PLOTS locations is available at: http://gf.nd.gov/hunting/private-land-open-sportsmen. This page is updated to reflect changes as tracts are added or removed.

Sincerely,

Steve Dyke

(for) Greg Link
Chief
Conservation & Communication Division

js

SWCA
ENVIRONMENTAL CONSULTANTS

RECORD OF CONVERSATION

Date of Call: May 18, 2015 Time of Call: 1:45PM Duration: message

Called/Caller: Fred Ryckman/Kate Kenninger

Phone Number: 701-770-0920

Project Name/Number: NST Expresss/30320

Subject of Call: SWCA left a message with Fred Ryckman (Aquatic Nuisance Species (ANS) Coordinator with North Dakota Game and Fish) based on response letter dated April 23, 2015, on ANS protocols.

SWCA
ENVIRONMENTAL CONSULTANTS

RECORD OF CONVERSATION

Date of Call: May 18, 2015 Time of Call: 1:50PM Duration: message

Called/Caller: Sandra Johnson/Kate Kenninger

Phone Number: 701-328-6382

Project Name/Number: NST Expresss/30320

Subject of Call: SWCA left a message with Sandra Johnson (Conservation Biologists with North Dakota Game and Fish) based on response letter dated April 23, 2015, on golden eagle nest locations.

From: Schumacher, John D.
To: Kate Kenninger
Subject: NST Express Pipeline Revisions
Date: Tuesday, May 26, 2015 11:21:19 AM

Ms. Kenninger,

The North Dakota Game and Fish Department has reviewed this project as revised and has nothing additional to offer. Our original comments are still applicable.

If you have any questions I may be contacted by email or at the number below.

JOHN SCHUMACHER
RESOURCE BIOLOGIST
ND GAME AND FISH DEPT
701.328.6321

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2136

March 27, 2015

Ms. Kathy Duttenhefner
North Dakota Parks and Recreation Department
1600 East Century Avenue, Suite 3
Bismarck, North Dakota 58503

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, State Parks Lands, Land and Water Conservation Fund, and Natural Heritage Inventory

Dear Ms. Duttenhefner:

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The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants requests the North Dakota Parks and Recreation Department review the proposed analysis area for environmental issues that are relevant to the North Dakota Public Service Commission's siting requirements: State Park Lands, Land and Water Conservation Fund, and the Natural Heritage Inventory. The information received from the North Dakota Parks and Recreation Department will be used in the North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

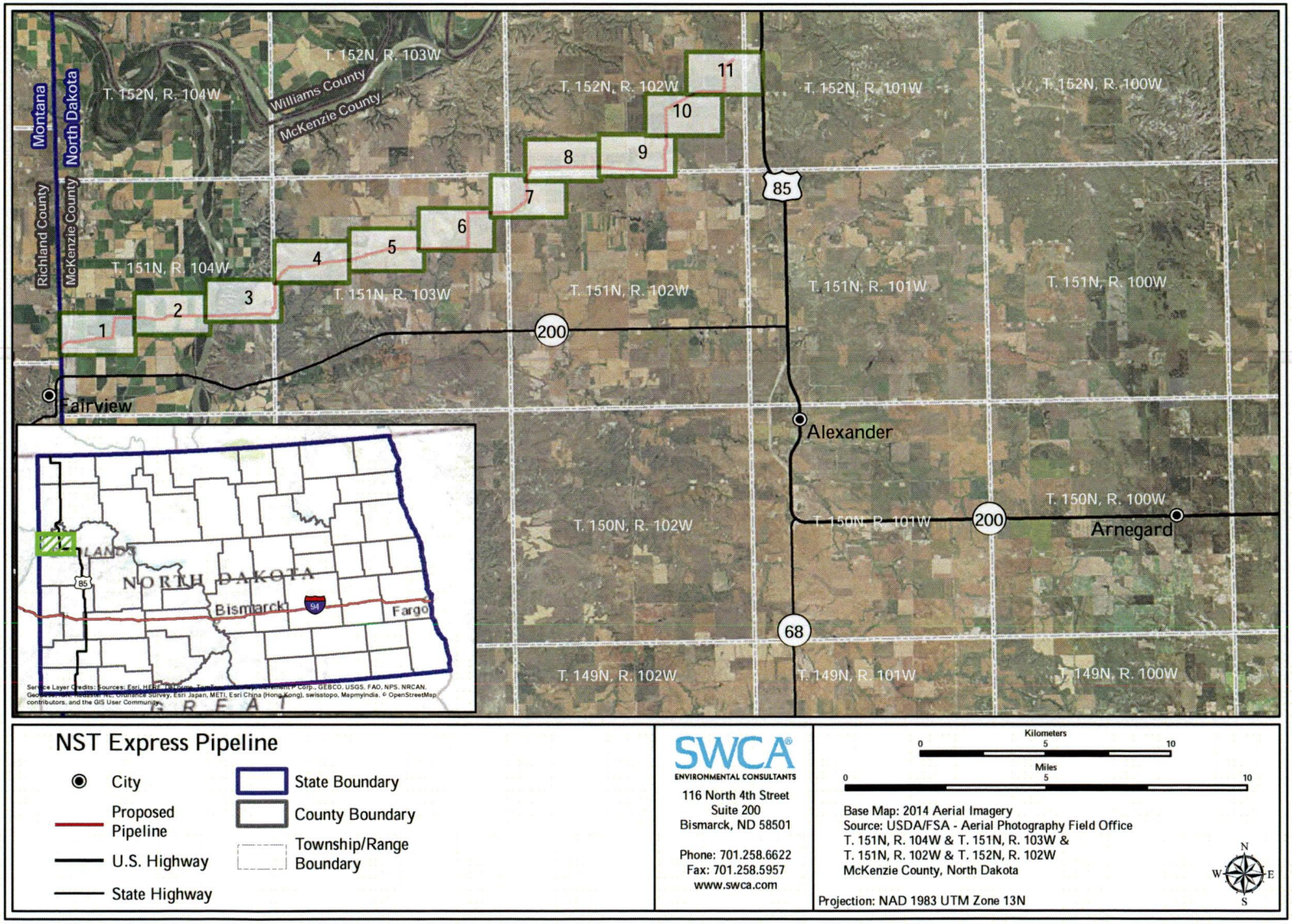
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Sincerely,

Kate Kenninger

Enclosures: Attachment 1



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May 6, 2015

Ms. Kathy Duttenhefner
North Dakota Parks and Recreation Department
1600 East Century Avenue, Suite 3
Bismarck, North Dakota 58503

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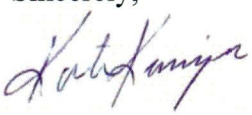
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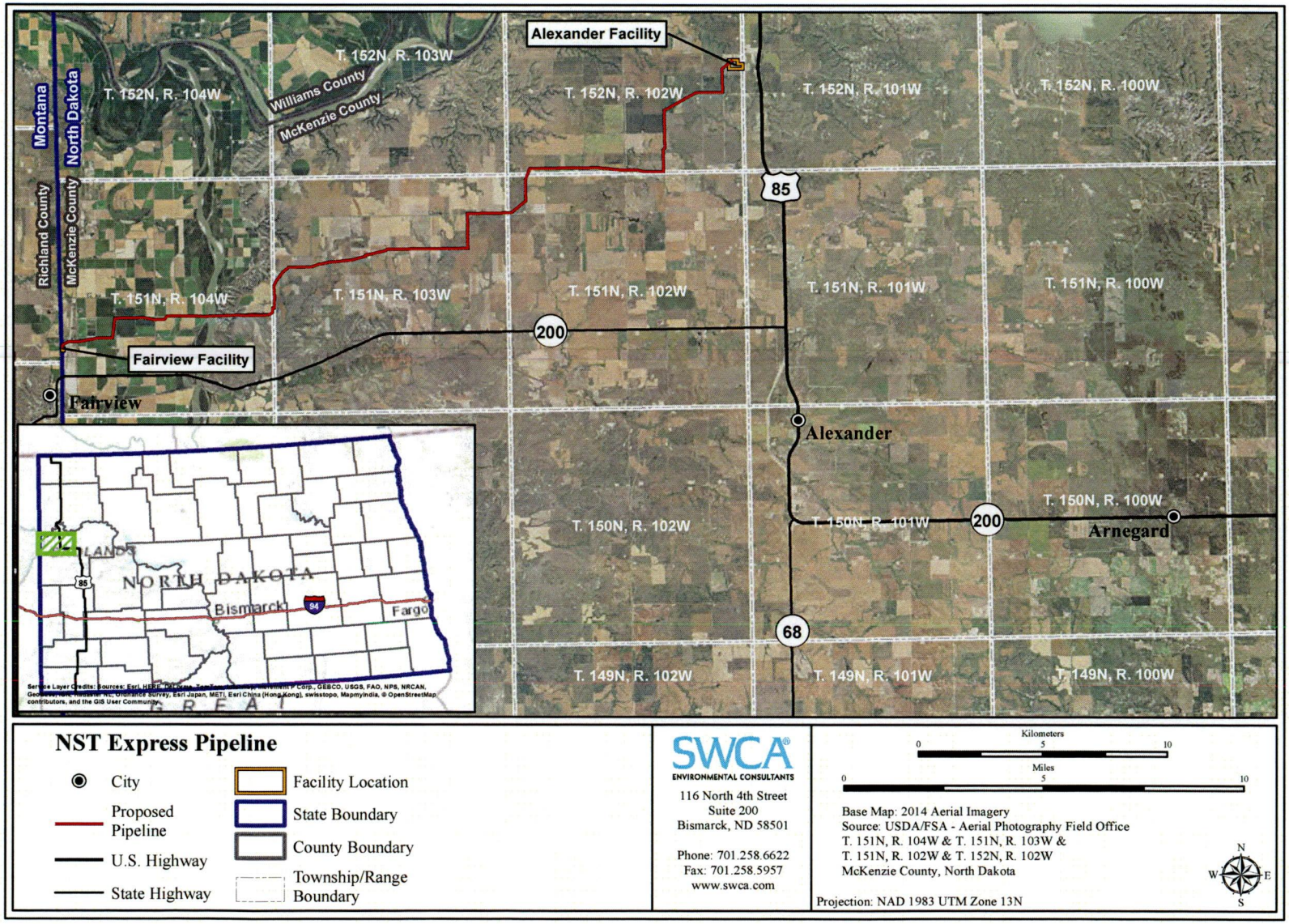
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Sincerely,



Kate Kenninger

Enclosures: Attachment 1


Alexander Facility
Fairview Facility
Fairview
Alexander
Arnegard
Montana
North Dakota
Richland County
McKenzie County
Williams County
McKenzie County
T. 152N, R. 104W
T. 152N, R. 103W
T. 152N, R. 102W
T. 152N, R. 101W
T. 152N, R. 100W
T. 151N, R. 104W
T. 151N, R. 103W
T. 151N, R. 102W
T. 151N, R. 101W
T. 151N, R. 100W
T. 150N, R. 102W
T. 150N, R. 101W
T. 150N, R. 100W
T. 149N, R. 102W
T. 149N, R. 101W
T. 149N, R. 100W
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NORTH DAKOTA
Bismarck
Fargo
94
85
NST Express Pipeline
City
Proposed Pipeline
U.S. Highway
State Highway
Facility Location
State Boundary
County Boundary
Township/Range Boundary
SWCA
ENVIRONMENTAL CONSULTANTS
116 North 4th Street
Suite 200
Bismarck, ND 58501
Phone: 701.258.6622
Fax: 701.258.5957
www.swca.com
Kilometers
0 5 10
Miles
0 5 10
Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota
Projection: NAD 1983 UTM Zone 13N
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S

Jack Dalrymple, Governor
Mark A. Zimmerman, Director

1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

April 20, 2015

Ms. Kate Kenninger
SWCA Environmental Consultants
Suite 200
116 North 4th St
Bismarck, ND 58501

Re: NorthStar Midstream – NST Express Pipeline, McKenzie County

Dear Ms. Kenninger,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposed NST Express pipeline project located in McKenzie County.

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

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

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

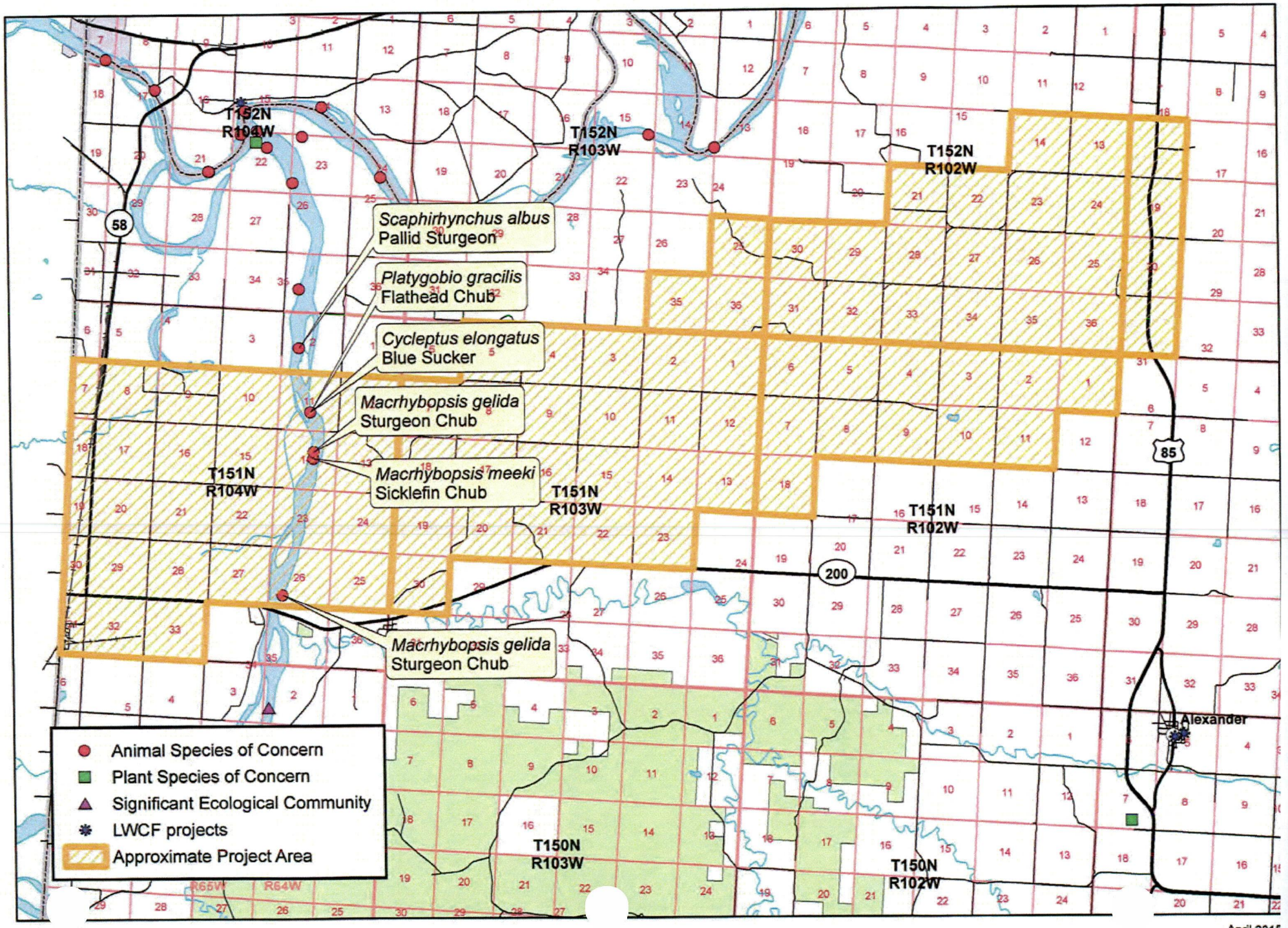
We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact me at (701-328-5370 or kgduttenhefner@nd.gov). Thank you for the opportunity to comment on this proposed project.

Sincerely,

Kathy Duttenhefner, Coordinator
Natural Resources Division

R.USNDNHI*2015_214KD4/20/2015DL4.20.2015

North Dakota Parks and Recreation Department
North Dakota Natural Heritage Inventory



April 2015

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

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
Cycleptus elongatus	Blue Sucker	S3	G3G4		151N104W - 11	McKenzie	1994-09-30		S
Macrhybopsis gelida	Sturgeon Chub	S2	G3		151N104W - 26; 151N104W - 22; 151N104W - 28; 151N104W - 36; 150N104W - 03; 151N104W - 27; 150N104W - 02; 151N104W - 35; 151N104W - 24; 151N104W - 23; 151N104W - 25; 151N104W - 34	McKenzie	1977-07-27		M
Macrhybopsis gelida	Sturgeon Chub	S2	G3		151N104W - 14; 151N104W - 23; 151N104W - 15; 151N104W - 13; 151N104W - 10; 151N104W - 22; 151N104W - 11; 151N104W - 24; 151N104W - 12	McKenzie	1994-09-20		M
Macrhybopsis meeki	Sicklefin Chub	S2	G3		151N104W - 14; 151N104W - 23; 151N104W - 15; 151N104W - 13; 151N104W - 10; 151N104W - 22; 151N104W - 11; 151N104W - 24; 151N104W - 12	McKenzie	1977-07-27		M
Platygobio gracilis	Flathead Chub	SNR	G5		151N104W - 11	McKenzie	1993-10-01		S
Scaphirhynchus albus	Pallid Sturgeon	S1	G2	LE	151N104W - 02; 152N104W - 36; 151N104W - 12; 152N104W - 35; 151N104W - 10; 151N104W - 11; 151N104W - 03; 152N104W - 34; 151N104W - 01	McKenzie	1994-04-29	Low	M

North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

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

Estimated Representation Accuracy

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

Very high (>95%)
High (>80%, <= 95%)
Medium (>20%, <= 80%)
Low (>0%, <= 20%)
Unknown
(null) - Not assessed

Precision

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

S - Seconds: accuracy of locality mappable within a three-second radius; 100 meters from the centerpoint
M - Minute: accuracy of locality mappable within a one-minute radius; 2 km from the centerpoint
G - General: accuracy of locality mappalbe to map or place name precision only; 8 km from centerpoint
U - Unmappable

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Bismarck Office
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
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2136

March 27, 2015

Mr. Scott Hochhalter, State Soil Specialist
NDSU Extension Service
2718 Gateway Avenue, Suite 104
Bismarck, North Dakota 58503

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, North Dakota State Soil Conservation Committee

Dear Mr. Hochhalter:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11, 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Sections 18, 19, 30, 31, T152N, R101W
- Sections 13, 14, 21–36, T152N, R102W
- Sections 25, 35, 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the North Dakota State Soil Conservation Committee of the proposed project and offering the opportunity for comments. The information received from the Soil Conservation Committee will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

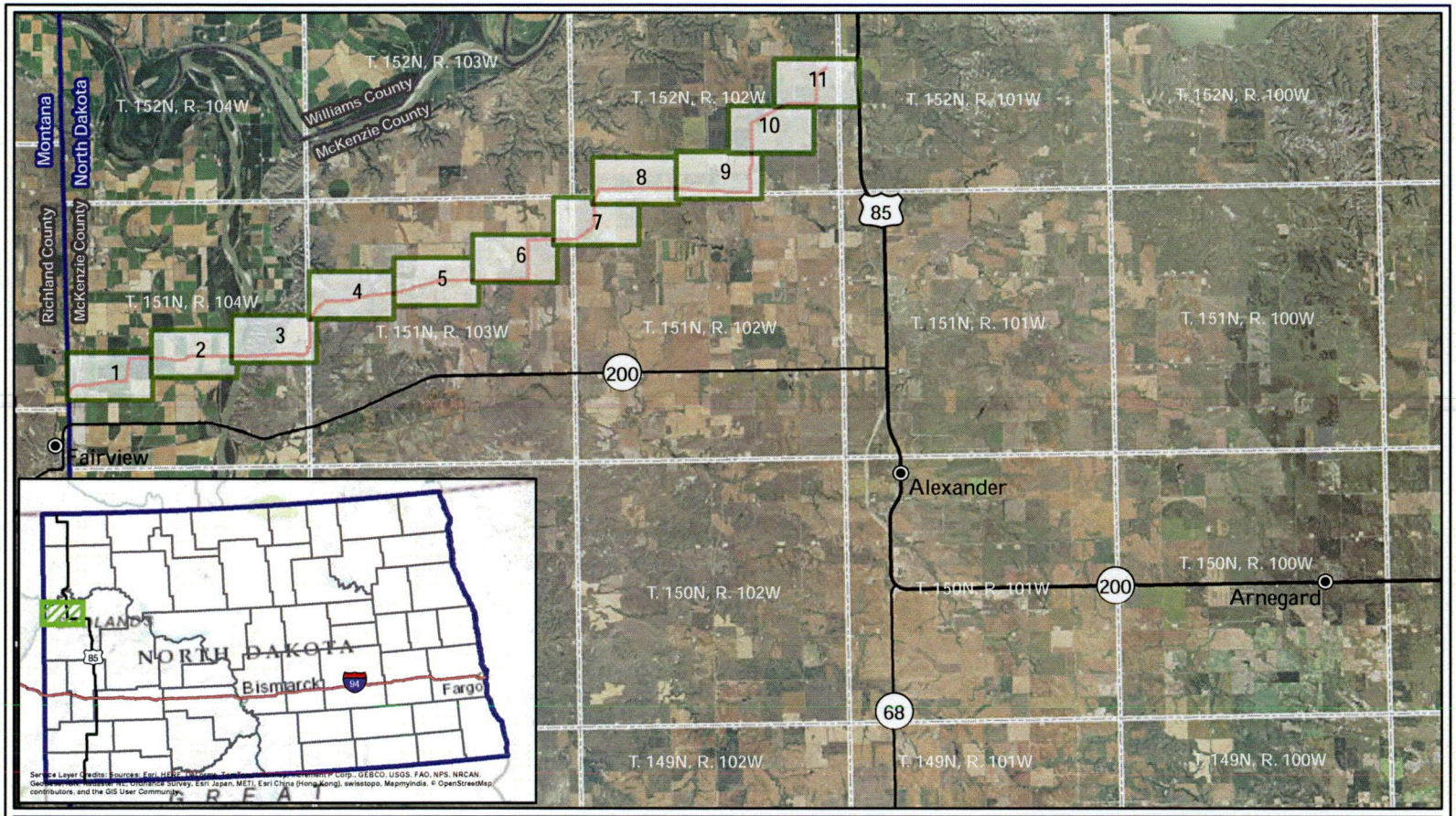
Please send your replies and requests for additional project information to:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers 0 5 10

Miles 0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N W E S

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2136

May 6, 2015

Mr. Scott Hochhalter
State Soil Specialist
North Dakota State University Extension Service
North Dakota State Soil Conservation Committee
2718 Gateway Avenue, Suite 104
Bismarck, North Dakota 58503

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, North Dakota State Soil Conservation Committee; Revisions to letter dated March 27, 2015

Dear Mr. Hochhalter:

NST Express, LLC, (NST Express) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating at the proposed Alexander Facility near Alexander, North Dakota, and terminating at the Fairview Rail Facility near Fairview, Montana (Attachment 1). NST Express is proposing the 42-acre Alexander Facility that would include one storage tank, with design provisions for two additional tanks, four truck Lease Automatic Custody Transfer (LACT) offload skids, one new tank booster, one new turbine meter, and one new pipeline pump. NST Express is proposing an expansion of the Fairview Rail Facility, an approximately 2-acre area that would include a scraper receiving trap, one new turbine meter, and panels for programmable logic controller/open multi-network integration (PLC/OMNI) control equipment.

The project is wholly within the state of North Dakota. The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

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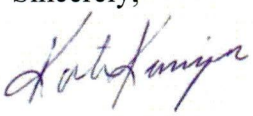
The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the North Dakota State Soil Conservation Committee of the proposed project and offering them the opportunity to comment. The information received from the Soil Conservation Committee will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

Please send your replies and requests for additional project information to the following:

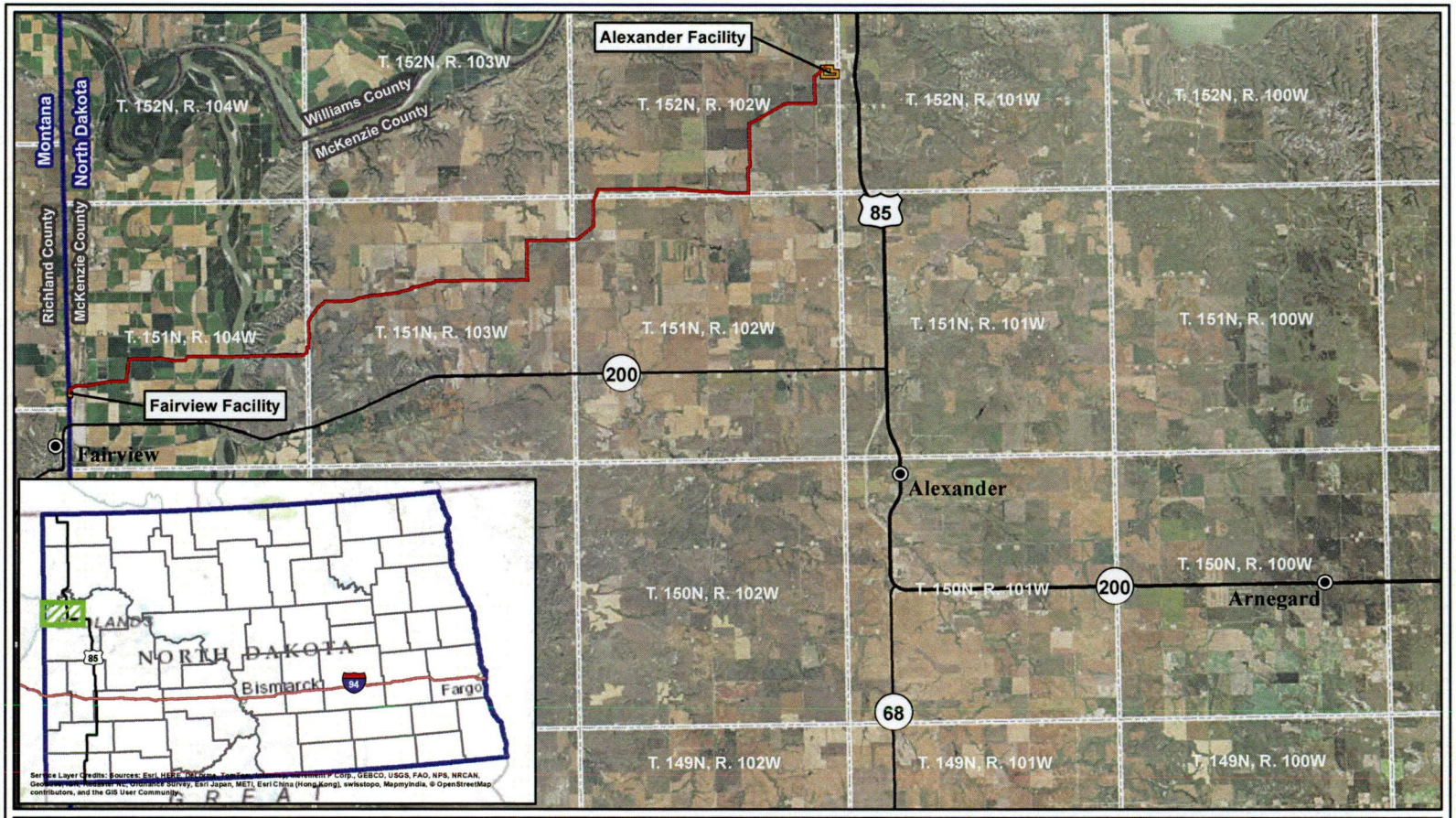
Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,



Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers 0 5 10

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T. 151N, R. 104W & T. 151N, R. 103W &
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McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

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www.swca.com

2136

March 27, 2015

Mr. Jeff Klein
North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, North Dakota 58505

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, North Dakota State Water Commission

Dear Mr. Klein:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

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The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the North Dakota State Water Commission of the proposed project and offering the opportunity for comments. The information received from the State Water Commission will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

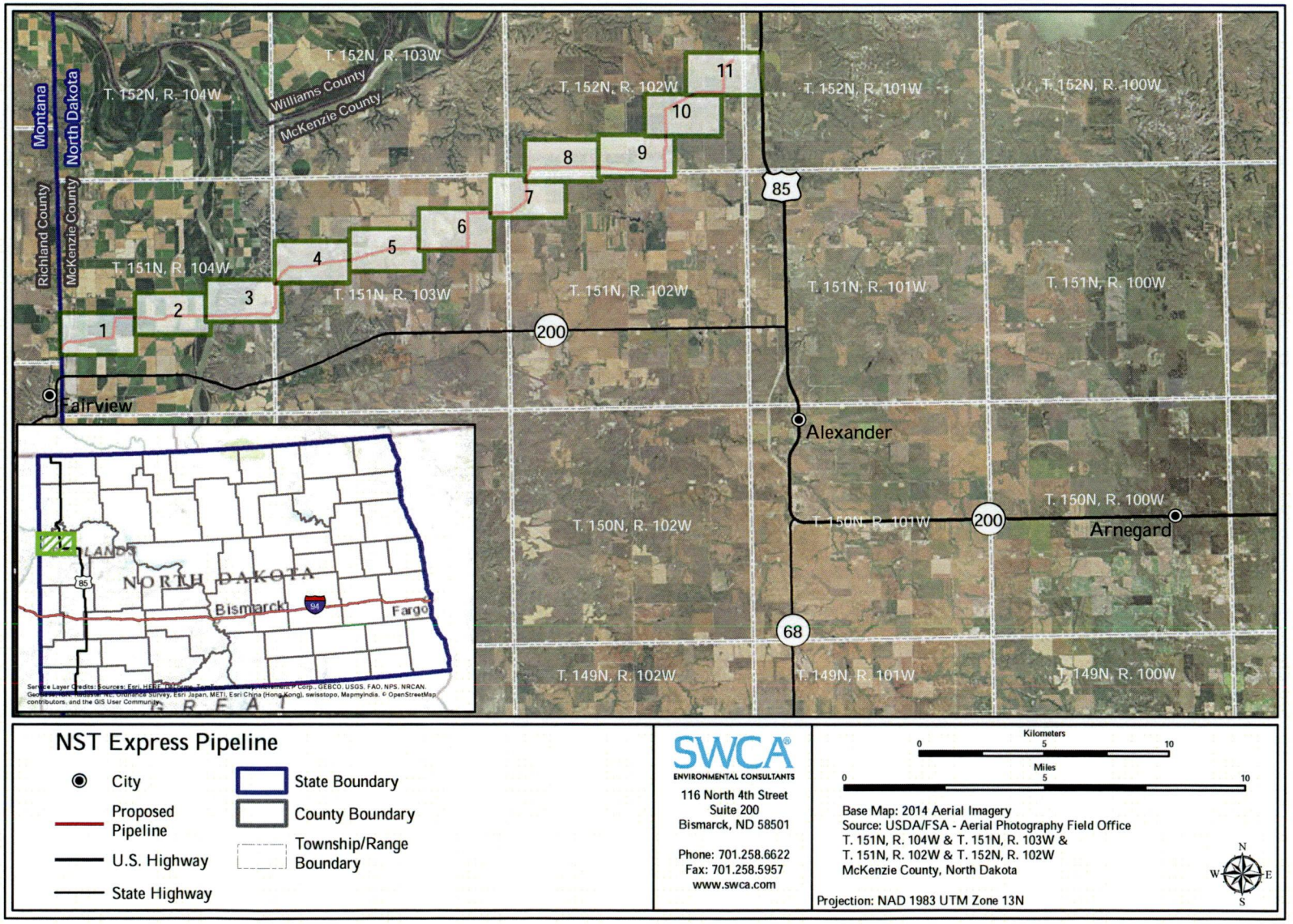
Please send your replies and requests for additional project information to:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1


T. 152N, R. 104W
T. 152N, R. 103W
T. 152N, R. 102W
T. 152N, R. 101W
T. 152N, R. 100W
Montana
North Dakota
Williams County
McKenzie County
Richland County
McKenzie County
T. 151N, R. 104W
T. 151N, R. 103W
T. 151N, R. 102W
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Fairview
Alexander
T. 150N, R. 102W
T. 150N, R. 101W
T. 150N, R. 100W
Arnegard
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T. 149N, R. 102W
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NORTH DAKOTA
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McKenzie County, North Dakota
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2136

May 6, 2015

Mr. Jeff Klein
North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, North Dakota 58505

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, North Dakota State Water Commission; Revisions to letter dated March 27, 2015

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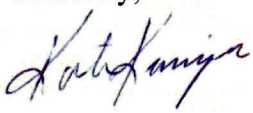
The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the North Dakota State Water Commission of the proposed project and offering the opportunity for comments. The information received from the State Water Commission will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

Please send your replies and requests for additional project information to following:

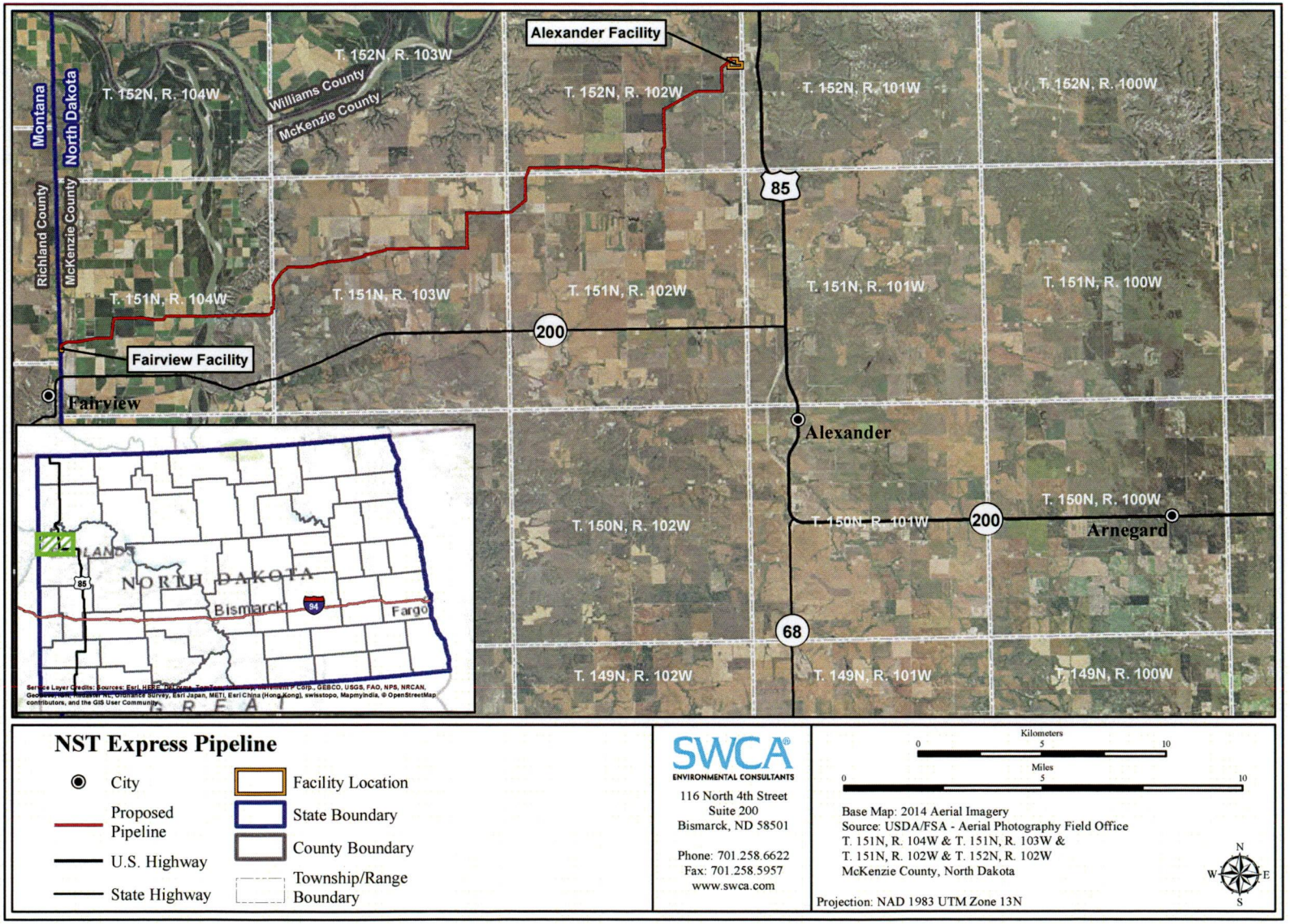
Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,



Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers
0 5 10

Miles
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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N W E S

SWCA
ENVIRONMENTAL CONSULTANTS

RECORD OF CONVERSATION

Date of Call: April 2, 2015 Time of Call: 2:52PM Duration: 01:56

Called/Caller: Jared Huibregtse- North Dakota State Water Commission

Phone Number: 701-328-4898

Project Name/Number: NST Expresss/30320

Subject of Call:

Jared Huibregtse called from the ND State Water Commission to follow up on the consultation letter that was submitted to the SWC on March 27, 2015.
Jared had two requests: a zoomed-in overview map of the alignment near Alexander, ND, for floodplain review; if any work is to be completed in Montana that SWCA discuss the proposed project with the Montana state officials.
Jared will follow up with email to provide contact information in order for SWCA to submit the requested map.

North Dakota State Water Commission

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

April 17, 2015

Kate Kenninger
SWCA
Bismarck Office
116 N 4th Street STE 200
Bismarck, ND 58501

Dear Ms. Kenninger:

This is in response to your request for review of environmental impacts associated with the NorthStar Midstream – NST Express Pipeline located in McKenzie County, ND. NST Express pipeline project is an approximately 23.5 mile-long, 12-inch diameter crude line originating in Alexander, ND, and terminating in Fairview, ND. The legal description of the project is as follows: Section 1-11, 18, Township (T) 151 North (N), Range (R) 102 West (W); Sections 1-5, 7-23, 30, T151N, R103W; Sections 12-33, T151N, R104W; Section 18, 19, 30, 31, T151N, R101W; Section 13, 14, 21-36, T152N R102W; and Sections 25, 35, 36, T151N, R103W.

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

- A sovereign land permit will be needed for this project from the State Engineer's office. An application form is enclosed for your convenience. Please contact Jerry Heiser at 701-328-4935 if you have any questions regarding the sovereign land permit.

- A determination regarding floodplain effects could not be made because there was not enough detail in the information provided. Jared Huibregtse contacted you requesting more detailed location information so that a floodplain determination could be made. After the information is received and reviewed by the State Water Commission staff, you will be contacted regarding the floodplain determination.

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

- Please contact the Western Area Water Supply Authority at 701-774-6605 regarding project infrastructure located in the project area.

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

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

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

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

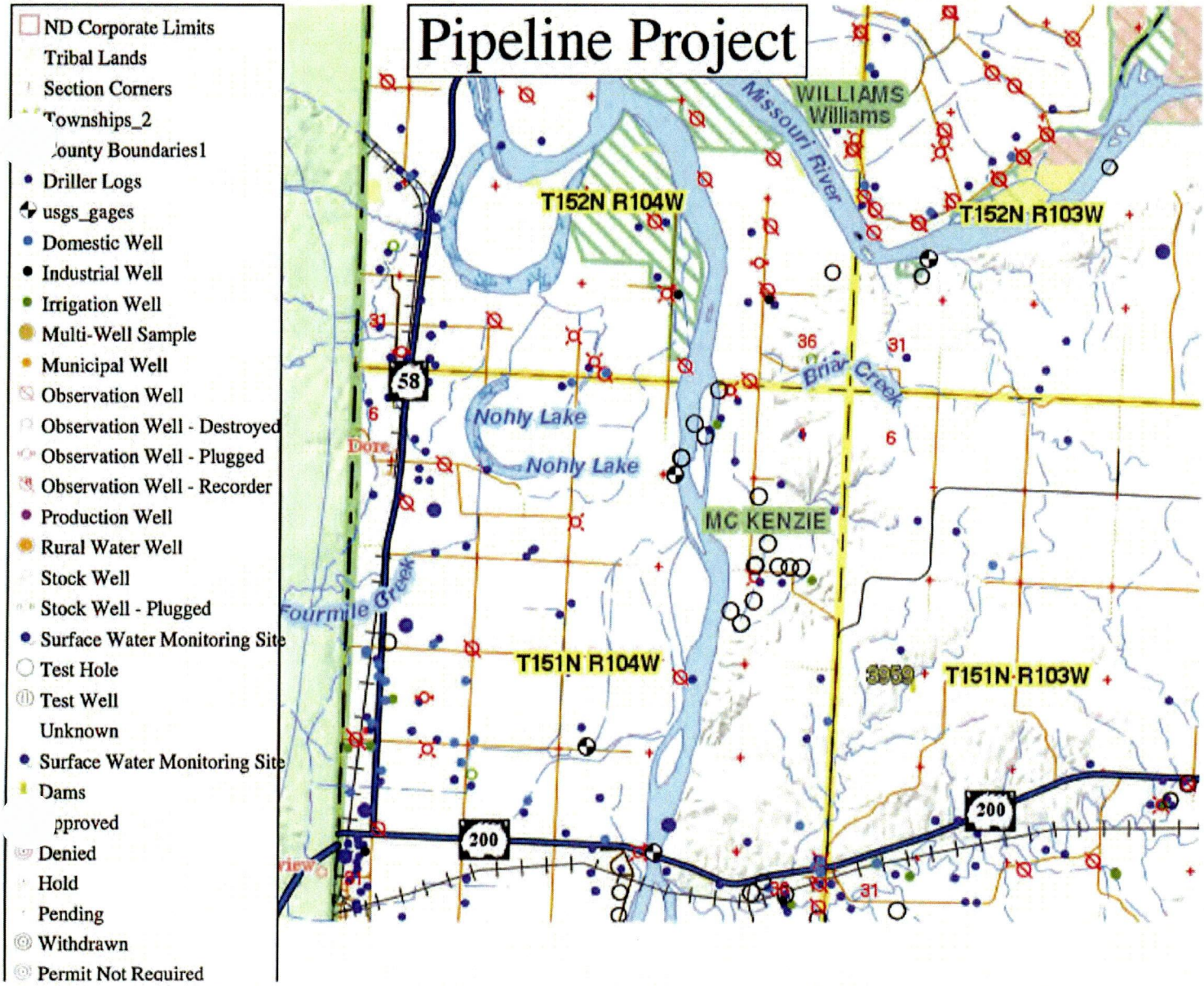
Sincerely,

Linda Weispfenning
Water Resource Planner

LW:dm/1570
Encl.

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER


Pipeline Project
ND Corporate Limits
Tribal Lands
Section Corners
Townships_2
County Boundaries1
Driller Logs
usgs_gages
Domestic Well
Industrial Well
Irrigation Well
Multi-Well Sample
Municipal Well
Observation Well
Observation Well - Destroyed
Observation Well - Plugged
Observation Well - Recorder
Production Well
Rural Water Well
Stock Well
Stock Well - Plugged
Surface Water Monitoring Site
Test Hole
Test Well
Unknown
Surface Water Monitoring Site
Dams
pproved
Denied
Hold
Pending
Withdrawn
Permit Not Required
WILLIAMS
Williams
Missouri River
T152N R104W
T152N R103W
Nohly Lake
Nohly Lake
Briar Creek
MC KENZIE
Fourmile Creek
T151N R104W
T151N R103W
Dore
58
200
200
36
31
6

APPLICATION FOR AUTHORIZATION TO CONSTRUCT A PROJECT WITHIN ISLANDS AND BEDS OF NAVIGABLE STREAMS AND WATERS

Office of the State Engineer
900 East Boulevard
Bismarck, ND 58505-0850

Permit No. _____

Project No. 1625

I, the undersigned, do hereby submit the following information to the Office of the State Engineer as an application to construct a project that may impact islands and beds of navigable streams and waters of North Dakota under NDCC Chapter 61-33.

GENERAL INFORMATION:

This Application must include a map from an actual survey, aerial photo or topographic map and plot map (if a development). The size of the map shall be 8½ by 11 inches. The map shall have a north arrow and approximate scale. Indicate the existing or proposed work on the drawing. Plans and specifications must be submitted if project includes construction work.

(1) Project will be located in the: _____ Water Resource District

(2) Legal description to the nearest 40 acre tract: _____ ¼ _____ ¼ Section _____ Township _____ Range _____

(3) Is this application for modification of an existing project ❒Yes ❒No If so, what year was project constructed: _____

By whom: _____

(4) Proposed project involves ❒ water crossing, type _____ ❒ boat dock, ❒ boat ramp, ❒ water intake, ❒dredge, volume _____ cu. yds. ❒ filling, volume _____cu. yds. , type _____,

❒other (explain) _____

(5) Water body on which project will be located: _____

(6) Purpose: _____

(7) Project Description: _____

_____

_____

(8) Contractor, if known: _____

(9) Anticipated construction start date: _____ Completion date: _____

The filing of this application and its approval in no way relieves the applicant or riparian landowner from any responsibility or liability resulting from the construction, operation or failure of the project.

Riparian Land Owner or Organization Sponsor: (Print) _____

Applicant: (Print)_____

Address: _____

_____

Phone: (H) _____

(W) _____

Signature:_____ Date Submitted: _____
(Riparian landowner or Organization Sponsoring the project)

North Dakota State Water Commission

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

May 14, 2015

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, STE 200
Bismarck, ND 58501

Dear Ms. Kenninger:

This is in response to your request for review of environmental impacts associated with the NST Express, LLC; NST Express Pipeline project located in McKenzie County, ND. The legal locations are as follows: Section 1-11 and 18, Township (T) 151 North (N), Range (R) 102 West (W); Sections 1-5, 7-23, and 30, T151N, R103W; Section 12-33, T151N, R104W; Section 24, T152N, R102W; Section 18, 19, 30, and 31, T152N, R101W; Sections 13, 14, and 21-36, T152N, R102W; and Sections 25, 35, and 36, T152N, R103W.

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

- There are no floodplains identified and/or mapped where this proposed project is to take place. The project takes place in an unmapped county. Additionally, preliminary mapping products show the project out of the floodplain (Zone X). No floodplain permit is necessary from Fort Berthold Indian Reservation relative to the National Flood Insurance Program.

- The comments provided in a letter dated 4-17-15 still pertain to the project.

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

Sincerely,

Linda Weispfenning
Water Resource Planner

LW:dm/1570

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

From:	Huibregtse, Jared J.
To:	Kate Kenninger
Subject:	Re: Contact Info
Date:	Wednesday, May 13, 2015 9:34:08 AM
Attachments:	C6D36320-011A-4297-92C8-64E7E41FD201.png image001.png image005.png

Good Morning Kate,

Just completed the Environmental Review for the NST Express Pipeline. No issues on my end, I am sending it forward. Good luck with the rest of the process.

-Jared

Jared Huibregtse
Assistant State NFIP Coordinator
ND State Water Commission
701-328-4898 | jjhuibregtse@nd.gov

From: Kate Kenninger <kkenninger@swca.com>
Date: Monday, May 11, 2015 at 3:50 PM
To: Jared Huibregtse <jjhuibregtse@nd.gov>
Subject: RE: Contact Info

Good afternoon Jared,

A revised letter regarding the NST Express pipeline project was submitted on May 6, 2015. Additionally, I wanted to provide you with the additional map of the Alexander area, per your request, on April 2, 2015.
If additional information is needed, please let me know.

Thank you,

Kate Kenninger
Natural Resources Specialist/Project Manager

SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, ND, 58501
Office 701.258.6622 | Cell 701.740.4982

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ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.

Visit Our Website: http://www.swca.com

Please consider the environment before printing this email

From: Kate Kenninger
Sent: Friday, April 10, 2015 1:37 PM
To: 'Huibregtse, Jared J.'
Subject: RE: Contact Info

Good afternoon Jared,

As there have been modifications to the proponent name and project design for the NST Express pipeline project, SWCA will reissue a consultation letter to your agency. At that time we will also provide the additional request for information.
Thank you,

Kate Kenninger
Natural Resources Specialist/Project Manager

SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, ND, 58501
Office 701.258.6622 | Cell 701.740.4982

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Please consider the environment before printing this email

From: Huibregtse, Jared J. [mailto:jjhuibregtse@nd.gov]
Sent: Thursday, April 02, 2015 2:55 PM
To: Kate Kenninger
Subject: Contact Info

Hi Kate,

My information is listed below. Thanks for the help.

-Jared

Jared Huibregtse
Assistant State NFIP Coordinator
ND State Water Commission
701-328-4898 | jjhuibregtse@nd.gov

From: Hagel, Todd - NRCS, Bismarck, ND
To: Mike Sobiech
Subject: RE: Proposed Pipeline project (McKenzie County)
Date: Monday, March 23, 2015 11:25:32 AM
Attachments: image001.jpg

Mike. Based on the shapefiles provided, no NRCS easements will be impacted.

From: Mike Sobiech [mailto:MSobiech@swca.com]
Sent: Monday, March 23, 2015 10:28 AM
To: Hagel, Todd - NRCS, Bismarck, ND
Subject: Proposed Pipeline project (McKenzie County)

Todd,

The attached is a shapefile for a 2.3-mile analysis corridor in NW McKenzie county. Could you please verify if we have any GRP and WRP within this area and if so, where is it located. Also, I forgot to mention on the phone but could you please check and see if there is prime farmland and any farmlands of statewide importance?

I appreciate your help.

Thanks,

Mike Sobiech
GIS Specialist II

SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
Tel 701.258.6622 Email: msobiech@swca.com

SWCA 2c logo centered_a

Visit Our Website: http://www.swca.com
Find us on Facebook: http://on.fb.me/SWCA-Environmental
See us on LinkedIn: http://www.linkedin.com/company/swca-environmental-consultants

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Bismarck Office
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
Tel 701.258.6622 Fax 701.258.5957
www.swca.com

2136

March 27, 2015

U.S. Army Corps of Engineers
North Dakota Regulatory Office
1513 South 12th Street
Bismarck, North Dakota 58504

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, U.S. Army Corps of Engineers

Dear Sir or Madam:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11, 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Sections 18, 19, 30, 31, T152N, R101W
- Sections 13, 14, 21–36, T152N, R102W
- Sections 25, 35, 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying is notifying the U.S. Army Corps of Engineers of the proposed project and offering the opportunity for comments. The information received from the U.S. Army Corps of Engineers will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

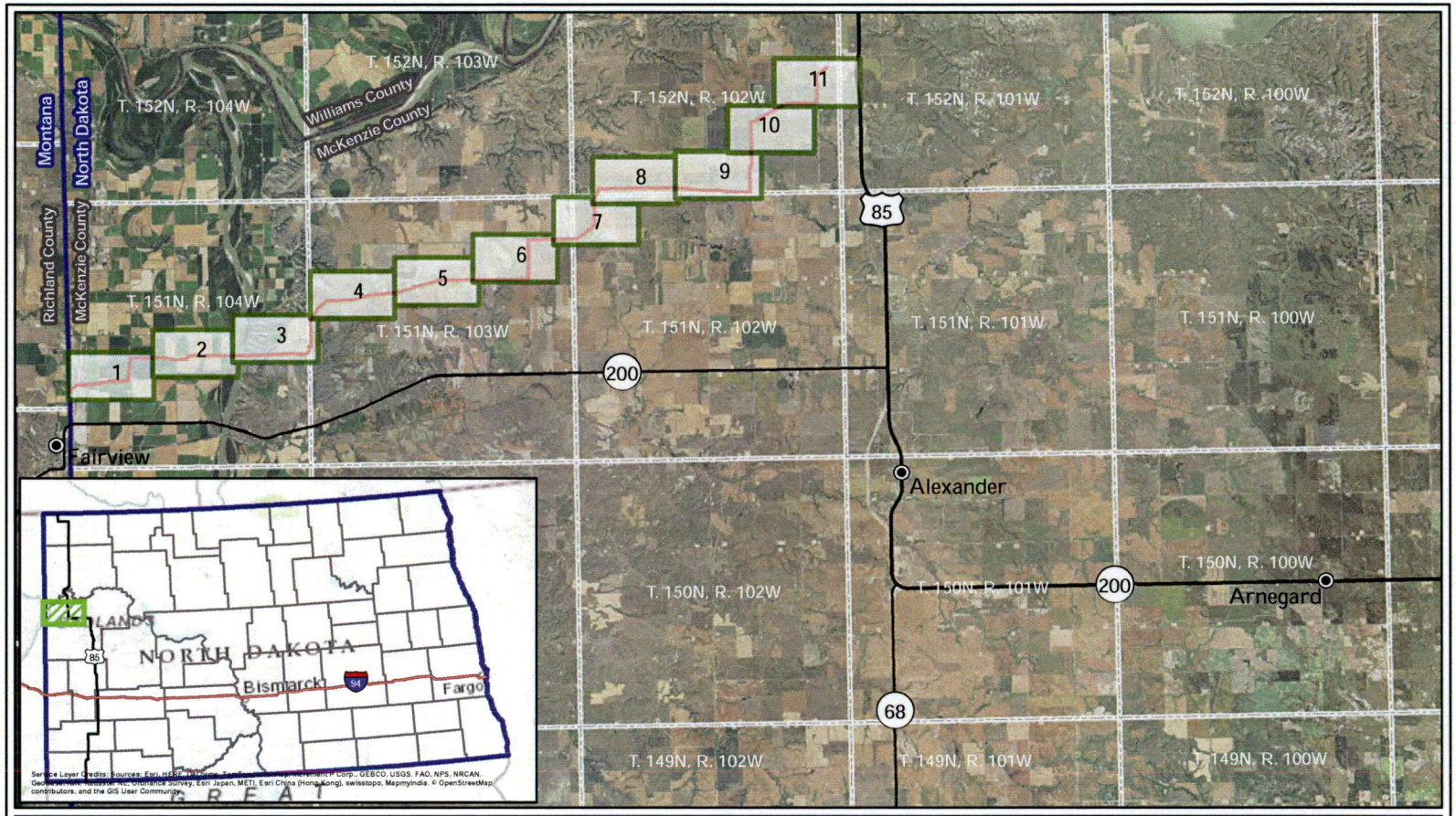
Please send your replies and requests for additional project information to:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- State Boundary
- County Boundary
- Township/Range Boundary

SWCA
ENVIRONMENTAL CONSULTANTS
116 North 4th Street
Suite 200
Bismarck, ND 58501

Phone: 701.258.6622
Fax: 701.258.5957
www.swca.com

Kilometers
0 5 10

Miles
0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N
W E
S

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Bismarck Office
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
Tel 701.258.6622 Fax 701.258.5957
www.swca.com

2136

May 6, 2015

U.S. Army Corps of Engineers
North Dakota Regulatory Office
1513 South 12th Street
Bismarck, North Dakota 58504

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, U.S. Army Corps of Engineers; Revisions to letter dated March 27, 2015

Dear sir or madam:

NST Express, LLC, (NST Express) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating at the proposed Alexander Facility near Alexander, North Dakota, and terminating at the Fairview Rail Facility near Fairview, Montana (Attachment 1). NST Express is proposing the 42-acre Alexander Facility that would include one storage tank, with design provisions for two additional tanks, four truck Lease Automatic Custody Transfer (LACT) offload skids, one new tank booster, one new turbine meter, and one new pipeline pump. NST Express is proposing an expansion of the Fairview Rail Facility, an approximately 2-acre area that would include a scraper receiving trap, one new turbine meter, and panels for programmable logic controller/open multi-network integration (PLC/OMNI) control equipment.

The project is wholly within the state of North Dakota. The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11 and 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, and 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Section 24, T152N, R102W
- Sections 18, 19, 30, and 31, T152N, R101W
- Sections 13, 14, and 21–36, T152N, R102W
- Sections 25, 35, and 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the U.S. Army Corps of Engineers of the proposed project and is offering them the opportunity to provide comments. The information received from the U.S. Army Corps of Engineers will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

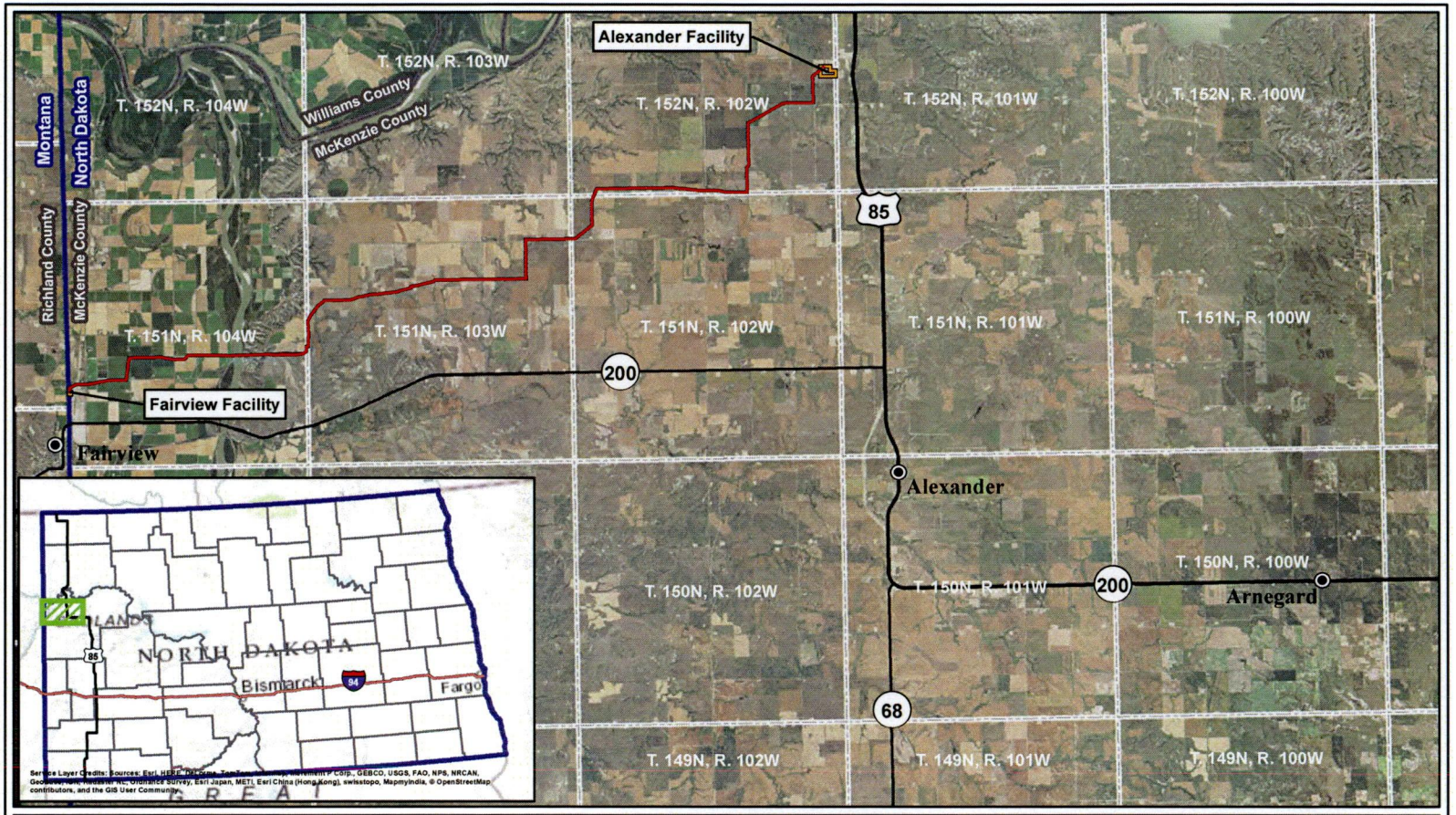
Please send your replies and requests for additional project information to the following:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

SWCA ENVIRONMENTAL CONSULTANTS
116 North 4th Street
Suite 200
Bismarck, ND 58501

Phone: 701.258.6622
Fax: 701.258.5957
www.swca.com

Kilometers: 0, 5, 10

Miles: 0, 5, 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N W E S

From: Renschler, Jason J NWO
To: Kate Kenninger
Subject: RE: Corps. (UNCLASSIFIED)
Date: Wednesday, March 25, 2015 10:08:36 AM

Classification: UNCLASSIFIED
Caveats: NONE

Hi Kate - inclusion of a cultural resource report of the impact area(s) with your Section 10 application would be great. At this time, I can't think of any additional documents. Thanks, Jason.

-----Original Message-----
From: Kate Kenninger [mailto:kkenninger@swca.com]
Sent: Tuesday, March 24, 2015 4:34 PM
To: Renschler, Jason J NWO
Subject: [EXTERNAL] RE: Corps. (UNCLASSIFIED)

Good afternoon Jason,

We had discussed a proposed project a couple months back that included a proposed bore of the Yellowstone River. In discussions with colleagues, I was told that a cultural resources (Class I and Class III report) and natural resources report would be needed at proposed bore locations for the USACE to review.
I wanted to confirm any additional documents that would be necessary with the Section 10 permit application. I know we had discussed the geotechnical specifications.
Any information you are able to provide would be appreciated.

Thank you for your time,

Kate Kenninger
Natural Resources Specialist/Project Manager

SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, ND, 58501
Office 701.258.6622 | Cell 701.740.4982

-----Original Message-----
From: Renschler, Jason J NWO [mailto:Jason.J.Renschler@usace.army.mil]
Sent: Wednesday, December 31, 2014 12:47 PM
To: Kate Kenninger
Subject: Corps. (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Hi Kate - per conversation, attached is a copy of the bore information for a pipeline crossing of the Yellowstone River. Please call or email me if you have any additional questions. Thanks, Jason.

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

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

March 30, 2015

North Dakota Regulatory Office

SWCA
Attn: Kate Kenninger
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501

Dear Ms.Kenninger:

This is in response to your letter dated March 27, 2015, requesting US Army Corps of Engineers (Corps) comments in conjunction NorthStar Midstream's 23.5-mile-long NST Express Pipeline located in McKenzie county.

Please be advised, Corps regulatory offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404). Section 10 regulates work impacting navigable waters and does not apply based on your information. Section 404 of the Clean Water Act regulates the discharge of dredged or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

Based on the information you submitted, it is likely a Section 404 permit would be required. For your convenience an application is enclosed; please complete and forward it to the letterhead address. Be sure to fully describe construction methodology.

Do not hesitate to contact this office by letter or telephone (701) 255-0015, if we can be of further assistance.

Sincerely,

Daniel E. Cimarosti

Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure

Printed on Recycled Paper

Instructions for Preparing a
Department of the Army Permit Application

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DRAWINGS AND ILLUSTRATIONS

General Information.

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

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

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

U.S. ARMY CORPS OF ENGINEERS

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 31-AUGUST-2013

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Middle - Last -	First - Middle - Last -
Company -	Company -
-mail Address -	E-mail Address -
6. APPLICANT'S ADDRESS:	9. AGENT'S ADDRESS:
Address-	Address-
City - State - Zip - Country -	City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. w/AREA CODE	10. AGENTS PHONE NOs. w/AREA CODE
a. Residence b. Business c. Fax	a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

_____ _____

SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
	Address
15. LOCATION OF PROJECT	City - State- Zip-
Latitude: °N Longitude: °W	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID Municipality

Section - Township - Range -

17. DIRECTIONS TO THE SITE

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

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

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

20. Reason(s) for Discharge

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

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

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

Acres

or

Linear Feet

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

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

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address-

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

\- State - Zip -

e. Address-

City - State - Zip -

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

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

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

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

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

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

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

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

REPLY TO
ATTENTION OF

May 11, 2015

North Dakota Regulatory Office

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501

Dear Ms. Kenninger:

This is in response to your letter dated May 6, 2015, on behalf of NST Express, LLC, notifying the US Army Corps of Engineers (Corps) of revisions to a project described in a March 27, 2015 letter and offering the opportunity for comment. The project involves construction of a 23.5-mile-long, 12-inch, crude oil pipeline and 42-acre facility. The pipeline would originate at Alexander, North Dakota and terminate near Fairview, Montana. The facility would be constructed in Alexander, North Dakota.

Based on the information contained within your letter, a Department of the Army permit would be required for portions of the proposals. In order for us to fully evaluate the proposals, complete and submit the Corps permit application (copy enclosed) to the letterhead address. Be sure to accurately describe all proposed work and construction methodology. A delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, should be identified within the project sites and included with the application. In addition, a scour analysis for a 100-year event will be required for the Yellowstone River crossing to ensure the riverbed and banks are not sufficiently erode to affect the pipeline's integrity.

Corps Regulatory Offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404).

Section 10 regulates work impacting navigable waters. This includes work over, through, or under Section 10 waters. Section 10 waters in North Dakota are the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River south of the railroad tracks in Jamestown, North Dakota, Bois de Sioux River, Red River of the North, and the Upper Des Lacs Lake.

Section 404 regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

Printed on Recycled Paper

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

Sincerely,

Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure

Instructions for Preparing a
Department of the Army Permit Application

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DRAWINGS AND ILLUSTRATIONS

General Information.

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

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

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

U.S. ARMY CORPS OF ENGINEERS

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 31-AUGUST-2013

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Middle - Last -	First - Middle - Last -
Company -	Company -
il Address -	E-mail Address -
6. APPLICANT'S ADDRESS:	9. AGENT'S ADDRESS:
Address-	Address-
City - State - Zip - Country -	City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. w/AREA CODE	10. AGENTS PHONE NOs. w/AREA CODE
a. Residence b. Business c. Fax	a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

_____ _____

SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
	Address
15. LOCATION OF PROJECT Latitude: ◦N Longitude: ◦W	City - State- Zip-

`THER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

Tax Parcel ID Municipality

Section - Township - Range -

17. DIRECTIONS TO THE SITE

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

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

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

20. Reason(s) for Discharge

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

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

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

Acres

or

Linear Feet

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

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

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address-

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

State - Zip -

e. Address-

City - State - Zip -

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

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

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SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

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

SWCA
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116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
Tel 701.258.6622 Fax 701.258.5957
www.swca.com

2136

March 27, 2015

Minot Air Force Base
91 MMXS Cable Affairs
Attn: Mr. Cy Munos
300 Minuteman Drive
Minot Air Force Base, North Dakota 58705

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, Cable Affairs

Dear Mr. Munos:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11, 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Sections 18, 19, 30, 31, T152N, R101W
- Sections 13, 14, 21–36, T152N, R102W
- Sections 25, 35, 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is providing notification of the project and requests the Minot Air Force Base - Cable Affairs Office assess the analysis area for the presence of any Intercontinental Ballistic Missile related systems (e.g., launch or launch control facility) that potentially could be impacted from project development. The information received from the Cable Affairs Office will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

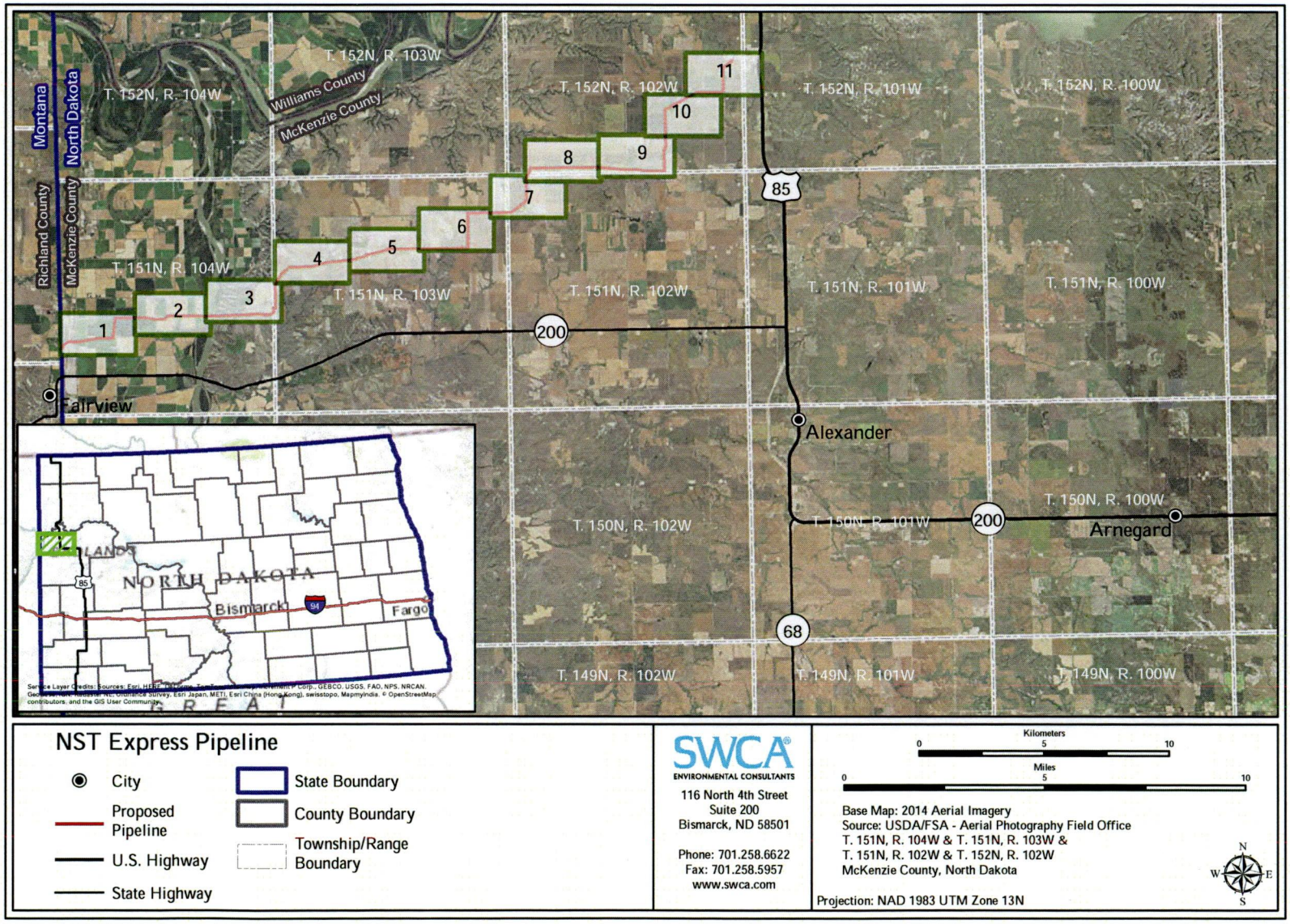
Please send your replies and requests for additional project information to:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- State Boundary
- County Boundary
- Township/Range Boundary

SWCA
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Phone: 701.258.6622
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Kilometers 0 5 10
Miles 0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N W E S

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2136

May 6, 2015

Minot Air Force Base
91 MMXS Cable Affairs
300 Minuteman Drive
Minot Air Force Base, North Dakota 58705
Attention: Mr. Cy Munos

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, Cable Affairs; Revisions to letter dated March 27, 2015

Dear Mr. Munos:

NST Express, LLC, (NST Express) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating at the proposed Alexander Facility near Alexander, North Dakota, and terminating at the Fairview Rail Facility near Fairview, Montana (Attachment 1). NST Express is proposing the 42-acre Alexander Facility that would include one storage tank, with design provisions for two additional tanks, four truck Lease Automatic Custody Transfer (LACT) offload skids, one new tank booster, one new turbine meter, and one new pipeline pump. NST Express is proposing an expansion of the Fairview Rail Facility, an approximately 2-acre area that would include a scraper receiving trap, one new turbine meter, and panels for programmable logic controller/open multi-network integration (PLC/OMNI) control equipment.

The project is wholly within the state of North Dakota. The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11 and 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, and 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Section 24, T152N, R102W
- Sections 18, 19, 30, and 31, T152N, R101W
- Sections 13, 14, and 21–36, T152N, R102W
- Sections 25, 35, and 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the Minot Air Force Base Cable Affairs Office of the proposed project and is requesting that they assess the analysis area for the presence of any Intercontinental Ballistic Missile–related systems (e.g., launch or launch control facility) that could be impacted from project development. The information received from the Cable Affairs Office will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

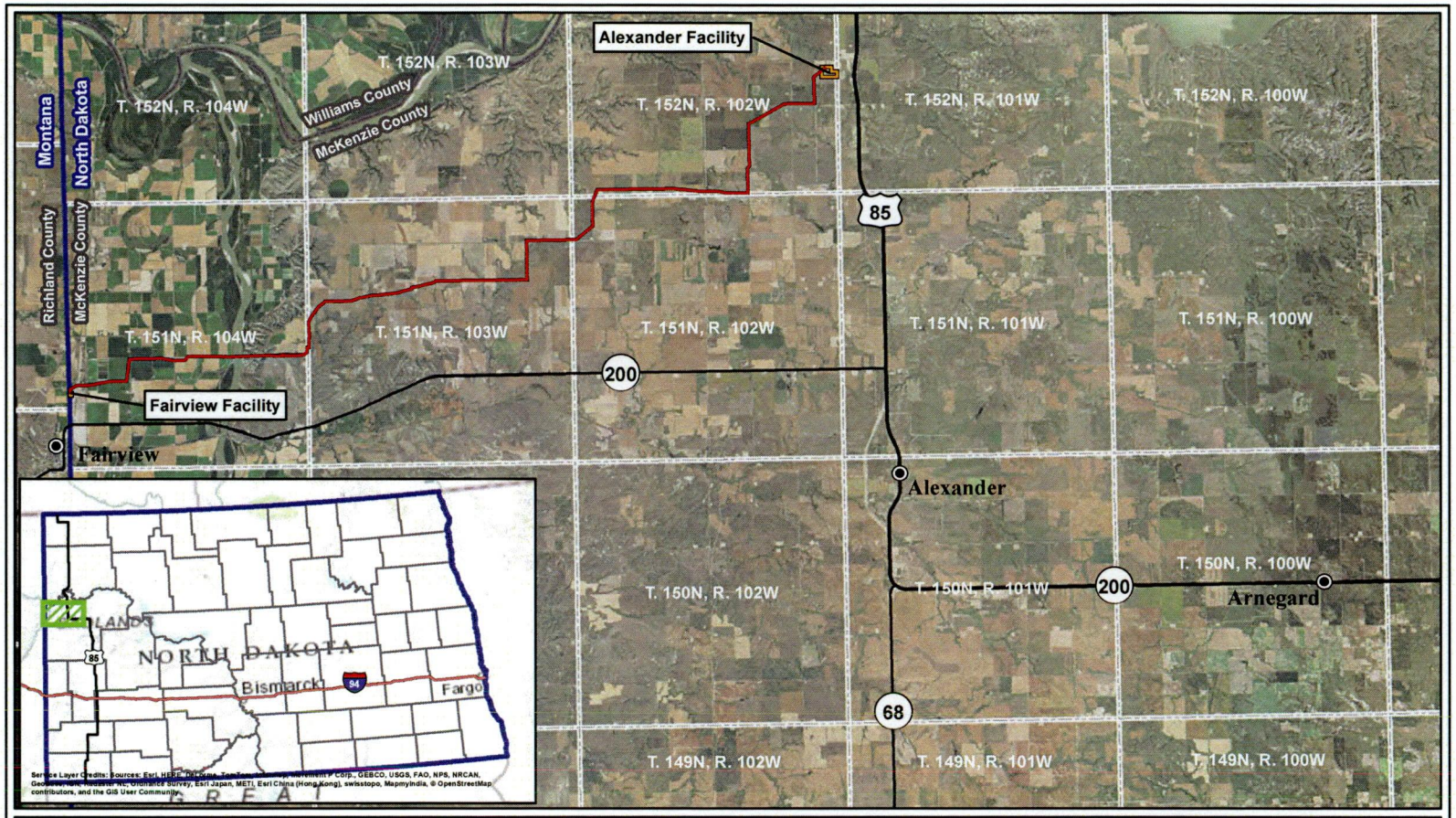
Please send your replies and requests for additional project information to the following:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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Bismarck, ND 58501

Phone: 701.258.6622
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Kilometers 0 5 10

Miles 0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N W E S

From: MUNOS, CY I GS-11 USAF AFGSC 91 MMXS/MMXSFK
To: Kate Kenninger
Subject: NST Espress Pipeline
Date: Monday, April 06, 2015 3:40:49 PM

Kate,

I received your letter concerning the NST Express Pipeline. The Minot AFB has no assets near McKenzie County and will have no impact on your project. Thanks.

Cy Munos
91 MMXS/Cable Affairs
Minot AFB, ND
W. 701-723-6053
C. 701-720-8274

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www.swca.com

2136

March 27, 2015

Kelly McPhillips
U.S. Department of the Interior, Bureau of Reclamation
Great Plains Region
PO Box 1017
Bismarck, North Dakota 58502

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, U.S. Department of the Interior, Bureau of Reclamation

Dear Mr. McPhillips:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

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- Sections 13, 14, 21–36, T152N, R102W
- Sections 25, 35, 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying is notifying the U.S. Department of the Interior, Bureau of Reclamation of the proposed project offering the opportunity for comments. The information received from the Bureau of Reclamation will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

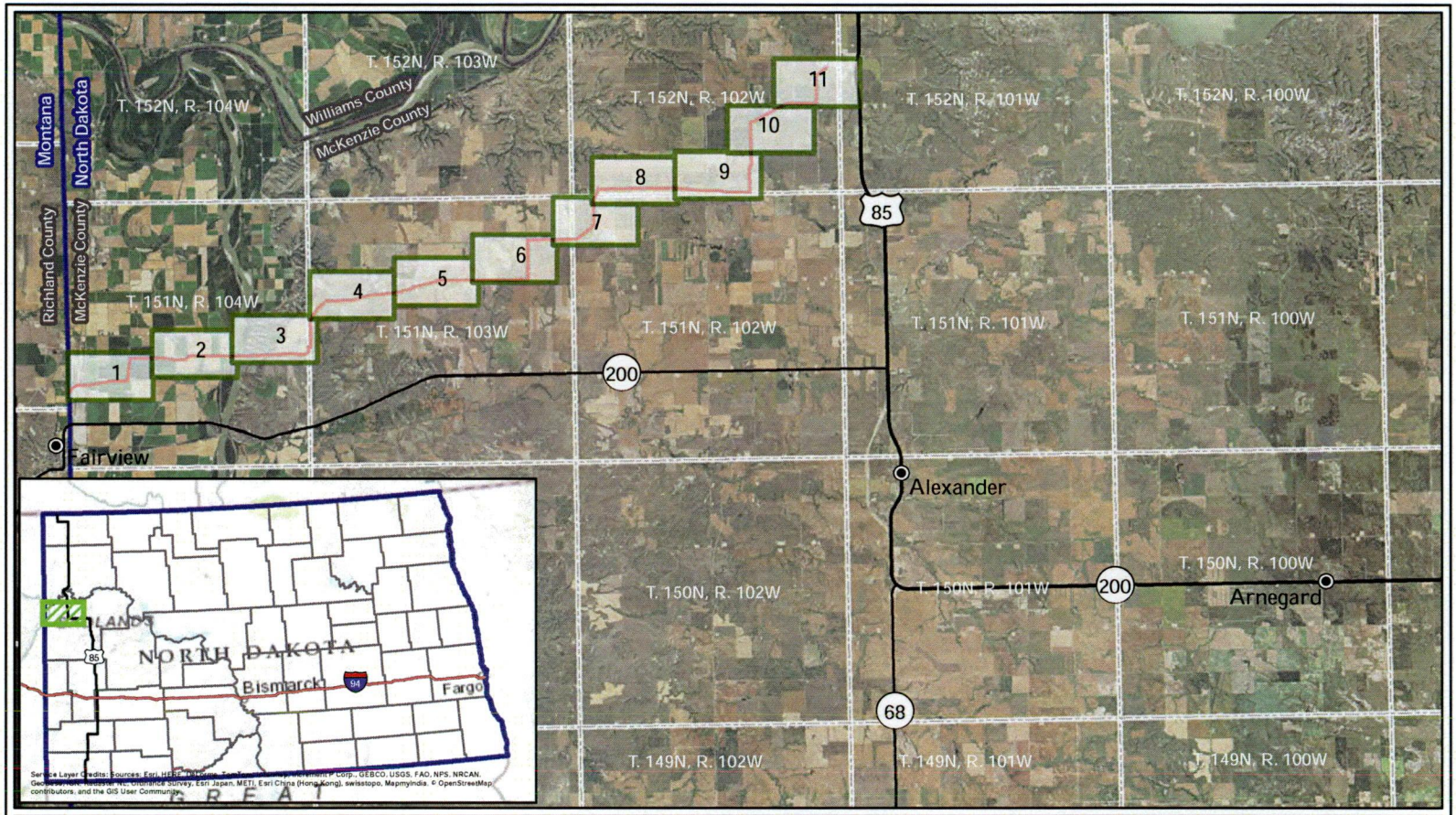
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Sincerely,

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Enclosures: Attachment 1



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- City
- Proposed Pipeline
- U.S. Highway
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Kilometers
0 5 10

Miles
0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

SWCA
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Bismarck, North Dakota 58501
Tel 701.258.6622 Fax 701.258.5957
www.swca.com

May 6, 2015

Jeff Baumberger
U.S. Department of the Interior, Bureau of Reclamation
Great Plains Region
PO Box 30137
Billings, Montana 59107-0137

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, U.S. Department of the Interior, Bureau of Reclamation; Revisions to letter dated March 27, 2015

Dear Mr. McPhillips:

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- Sections 13, 14, and 21–36, T152N, R102W
- Sections 25, 35, and 36, T152N, R103W

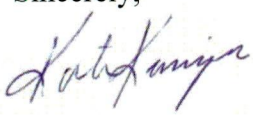
The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the U.S. Department of the Interior, Bureau of Reclamation of the proposed project and is offering them the chance to provide comments. The information received from the Bureau of Reclamation will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

Please send your replies and requests for additional project information to the following:

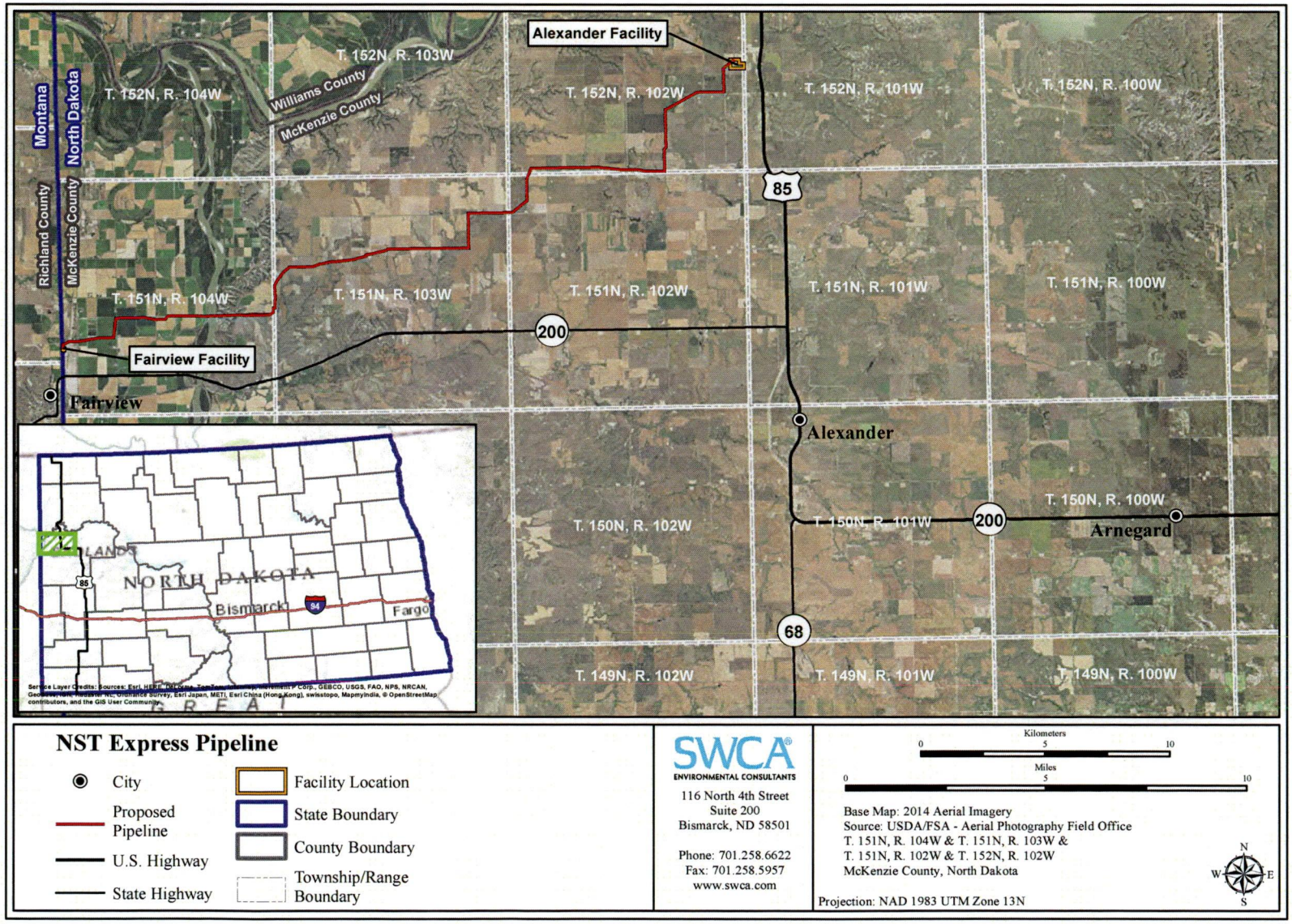
Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,



Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers
0 5 10

Miles
0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N
W E
S

From: Kate Kenninger
To: "Baumberger, Jeffrey"
Cc: Steve Davies
Subject: RE: NorthStar Midstream - NST Express Pipeline
Date: Friday, April 10, 2015 1:40:00 PM
Attachments: image001.png
image002.jpg
image003.jpg
image004.gif
image005.jpg

Good afternoon Jeff,

As there have been modifications to the proponent name and project design for the NST Express pipeline project, SWCA will reissue a consultation letter to your agency. At that time we will also provide the additional request for information.

Thank you,

Kate Kenninger
Natural Resources Specialist/Project Manager

SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, ND, 58501
Office 701.258.6622 | Cell 701.740.4982

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From: Baumberger, Jeffrey [mailto:jbaumberger@usbr.gov]
Sent: Wednesday, April 01, 2015 11:41 AM
To: Kate Kenninger
Cc: Steve Davies
Subject: Re: NorthStar Midstream - NST Express Pipeline

In your letter to Kelly, SWCA states that the proposed pipeline is a 12 in diameter crude line. All good. However, in order for Reclamation to fully evaluate the proposed action, we need specifics. For example, it's assumed the pipeline will be buried, but how deep? What method of installation will be used? Is there a casing or carrier pipe assoicated with this? How will irrigation facility crossings be dealt with? Open trench or boring? Etc. Basically, all the specifics of the project.

If this project is not that far advanced, then Reclamation's comment at this point in time would be: "This proposed pipeline project appears to cross Reclamation irrigation facilities located in T151N R104W. Any irrigation facilitiy crossings by the proposed pipeline will need to

follow Reclamation's crossing guidelines and will need prior approval by Reclamation."

Regards.
-Jeff

On Wed, Apr 1, 2015 at 9:28 AM, Kate Kenninger <kkenninger@swca.com> wrote:
Good morning Jeff, Kelly,

Thank you for the information.
Jeff, in addition to the maps, can you please list what other information and data is needed for your review?

Thanks again,
Kate

Kate Kenninger
Natural Resources Specialist/Project Manager

SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, ND, 58501
Office 701.258.6622 | Cell 701.740.4982



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From: Baumberger, Jeffrey [mailto:jbaumberger@usbr.gov]
Sent: Wednesday, April 01, 2015 9:21 AM
To: McPhillips, Kelly
Cc: Kate Kenninger; Steven Davies
Subject: Re: NorthStar Midstream - NST Express Pipeline

Kelly - Thanks for the heads up.

Ms. Kenninger - As Kelly stated, the Lower Yellowstone Irrigation Project (LYIP) is under the jurisdiction of Reclamation's Montana Area Office. Please submit all pertinent information to me and we'll get working on it. In looking at the map provided to Kelly, it appears that the proposed pipeline may cross LYIP irrigation facilities only located in T151N R104W or Sheets 1, 2 and 3. If I am reading that correctly, then I'm fine with you submitting only those sheets and not the full package. Please provide as much detailed information as possible so we can accurate assess the affects.

Thanks,

Jeff Baumberger
Bureau of Reclamation
PO Box 30137
Billings, MT 59107-0137

(406) 247-7314
jbaumberger@usbr.gov

On Tue, Mar 31, 2015 at 4:02 PM, McPhillips, Kelly <kmcphillips@usbr.gov> wrote:
Kate,

Thank you for the opportunity to review your proposed action in western North Dakota, the NST Express Pipeline, terminating in Fairview, MT. This project, although it is mostly in North Dakota appears to only have potential to effect the Lower Yellowstone Irrigation District (LYID)lands. Although it is a Reclamation project, Dakota Areas Office (DKAO) is not involved in the management of the Lower Yellowstone Irrigation District. LYID's relationship with Reclamation is through the Montana Area Office in Billings.

I am providing you with the names and emails of the two individuals you should start with in the MTAO office that you will find very capable and helpful. They are Steven Davies, Chief of Facilities Operation and Jeffrey Baumberger, Chief of Resources and Environment. Their emails are included in the cc line. You may actually hear from them before you can contact them as I have already forwarded a pdf copy of you solicitation letter of March 27.

Again, thanks for the opportunity to review your project. Should your project change substantially, feel free to notify DKAO or my office with your revised proposal as well as the MTAO.

Regards - Kelly

--

Mr. Kelly B. McPhillips

Envr. Spcl.

Bureau of Reclamation

Dakotas Area Office

PO Box 1017

Bismarck ND 58502

701-221-1287

kmcphillips@usbr.gov

"Ideas have consequences." - Dr. David Noebel

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2136

May 7, 2015

Mr. Kevin Shelley,
N. Dakota State Supervisor
U.S. Fish and Wildlife Service
3425 Miriam Avenue
Bismarck, North Dakota 58501

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, Federally Listed Species, Bald and Golden Eagle, and Migratory Bird, Assessment of Potential for Take, and USFWS-Managed Lands

Dear Mr. Shelley,

NST Express, LLC, (NST Express) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating at the proposed Alexander Facility near Alexander, North Dakota, and terminating at the Fairview Rail Facility near Fairview, Montana (Attachment 1). NST Express is proposing the 42-acre Alexander Facility that would include one storage tank, with design provisions for two additional tanks, four truck Lease Automatic Custody Transfer (LACT) offload skids, one new tank booster, one new turbine meter, and one new pipeline pump. NST Express is proposing an expansion of the Fairview Rail Facility, an approximately 2-acre area that would include a scraper receiving trap, one new turbine meter, and panels for programmable logic controller/open multi-network integration (PLC/OMNI) control equipment.

The project is wholly within the state of North Dakota. The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11 and 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, and 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Section 24, T152N, R102W
- Sections 18, 19, 30, and 31, T152N, R101W
- Sections 13, 14, and 21–36, T152N, R102W
- Sections 25, 35, and 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA would like to compile U.S. Fish and Wildlife Service (USFWS) comments on environmental impacts that are relevant to the North Dakota Public Service Commission siting requirements for transmission pipelines. The information received from the USFWS will be used in a North Dakota Public Service Commission application for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion. There is no federal nexus to the project; therefore, consultation with the USFWS for federally-listed threatened and endangered species is not required. SWCA's analysis focused on the potential for impacts to USFWS trust resources, including federally-listed species, bald and golden eagles, migratory birds, and units of the national wildlife refuge system.

Federally Listed Species

In McKenzie County, North Dakota, nine species are listed under the Endangered Species Act (ESA): black-footed ferret (*Mustela nigripes*)(E), gray wolf (*Canis lupus*)(E), whooping crane (*Grus americana*)(E), piping plover (*Charadrius melodus*)(T) and its designated critical habitat, interior least tern (*Sterna antillarum*)(E), pallid sturgeon (*Scaphirhynchus albus*)(E), Dakota skipper (*Hesperia dacotae*)(T), rufa red knot (*Calidris canutus*)(T) and the northern long-eared bat (*Myotis septentrionalis*)(T).

Currently, the Sprague's pipit (*Anthus spragueii*) is a federal candidate species.

SWCA completed surveys in the project area for these species on January 30; March 15, 17, and 20; and May 1, 2015.

Black-Footed Ferret

Black-footed ferrets are nocturnal, solitary carnivores of the weasel family. They have been largely extirpated from the wild primarily because of the rangewide decimation of the prairie dog (*Cynomys* sp.) ecosystem (Kotliar et al. 1999). They have been listed by the USFWS as endangered since 1967, and have been the object of extensive re-introduction programs. Ferrets inhabit extensive prairie dog complexes of the Great Plains. These complexes typically comprise several smaller colonies close to one another that provide a sustainable prey base. The *Black-footed Ferret Survey Guidelines for Compliance with the Endangered Species Act* (USFWS 1989) states that ferrets require black-tailed prairie dog (*Cynomys ludovicianus*) towns or complexes greater than 80 acres, and towns of this dimension may be important for ferret recovery efforts (USFWS 1988).

Field surveys conclude that prairie dog complexes of this size are not in the project area. Therefore, the black-footed ferret is not expected to be impacted by the proposed project.

Gray Wolf

The gray wolf was listed as endangered in the United States in 1978. It was believed to be extirpated from North Dakota in the 1920s and 1930s, with only sporadic reports from the 1930s to present (Licht and Huffman 1996). The presence of wolves in most of North Dakota consists of occasional dispersing animals from Minnesota and Manitoba (Licht and Fritts 1994; Licht and Huffman 1996). Most documented gray wolf sightings in western North Dakota are believed to

be young males seeking to establish territory (Hagen et al. 2005). The Turtle Mountain region of north-central North Dakota provides marginal habitat that may be able to support a very small population of wolves. The closest known pack of wolves is the Minnesota population approximately 17 miles (28 kilometers [km]) from the northeast corner of North Dakota.

Because of a lack of suitable habitat in the project area, as well as the troubled relationship between humans and wolves and their vulnerability to being shot in open habitats (Licht and Huffman 1996), the re-establishment of gray wolf populations in North Dakota is unlikely. Additionally, habitat fragmentation may further act as a barrier against wolf recolonization in western North Dakota. The gray wolf is not expected to be impacted by the proposed project.

Whooping Crane

The whooping crane was listed by the USFWS as endangered in the United States in 1970. Suitable whooping crane foraging habitat (i.e., cultivated cropland) was observed in the project area. In addition, the project area is within the migratory corridor for the whooping crane, with the nearest sighting being 432 feet from the central portion of the pipeline corridor east of Fairview (USFWS, M. Tacha, unpublished data). Cranes may occasionally pass through the area; however, these individuals or small groups would be expected to visit the area for only a few days before continuing their migration.

NST Express would commit to the following mitigation measures:

- If a whooping crane(s) is sighted within 1 mile of the project area, project construction activities would cease, and the USFWS would be notified. Activities may resume in coordination with the USFWS when the bird(s) has left the 1-mile proposed project area buffer.
- Restore the disturbed areas to original land use.

The whooping crane is not expected to be impacted by the proposed project. If behavioral disturbance does occur due to the project, it is not expected to rise to the level of take.

Piping Plover

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 in 1985, with the Northern Great Plains population listed as threatened. The USFWS designated critical habitat for the Great Plains population in 2002. The piping plover has pale plumage, matching its habitats, with black band markings across its upper forehead and upper breast.

Piping plovers are known to breed in the Great Plains and winter on the Atlantic Ocean and Gulf of Mexico coasts from North Carolina to Mexico and in the Bahamas. 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, 2012). Designated critical habitat for piping plovers consists of all of the Lake Sakakawea shoreline, and bars where the primary constituent elements occur, as well as certain alkali lakes.

Desktop analysis concluded that critical habitat is not present in the project area. However, plovers likely use the Yellowstone River, which is in the project area. To minimize or reduce potential impacts of the proposed project on the plover, construction would be scheduled to avoid the breeding season. If the breeding season cannot be avoided, follow up surveys would be conducted as necessary to assess presence/absence of breeding birds. Horizontal directional drilling (HDD) would be considered as a low-impact crossing technique to reduce or minimize impacts to breeding birds if present. The piping plover is not expected to be impacted by the proposed project

Interior Least Tern

Interior least terns were listed as endangered under the ESA in 1985. Least terns are the smallest species of the gull and tern family, approximately 9 inches long, with a forked tail and narrow pointed wings.

Least terns have distinct breeding areas. Their breeding season is from May 1 through August 31, and breeding birds require the presence of dry, exposed sandbars, with favorable river flows. Wintering areas are thought to occur on beaches along the Central American coast and along the northern coast of South America from Venezuela to northeastern Brazil. 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 1990a, 2013a). Approximately 100 pairs breed in North Dakota (USFWS 2013a).

Lake Sakakawea is approximately 6.0 miles from the edge of the project area. However, terns likely use the Yellowstone River, which is in the project area. To minimize or reduce potential impacts of the proposed project on the Interior least tern, construction would be scheduled to avoid the breeding season. If the breeding season cannot be avoided, follow up surveys would be conducted as necessary to assess presence/absence of breeding birds. HDD would be considered as a low-impact crossing technique to reduce or minimize impacts to breeding birds if present. The interior least tern is not expected to be impacted by the proposed project.

Pallid Sturgeon

The pallid sturgeon was listed as endangered under the ESA in 1990. The pallid sturgeon has a flattened snout, long and slender tail, and five lengthwise rows of bony plates down the side of the body. The fish can weigh up to 80 pounds and reach lengths of 6 feet.

The primary causes of pallid sturgeon decline include habitat loss, habitat modification from dam construction, river channelization, commercial fishing, environmental contaminants, and hybridization with the shovelnose sturgeon (*Scaphirhynchus platorynchus*). The fundamental elements of pallid sturgeon habitat are defined as the bottom of swift waters of large, turbid, free-flowing rivers with braided channels; dynamic flow patterns; flooding of terrestrial habitats; and extensive microhabitat diversity (USFWS 1990b). The pallid sturgeon population, which is found near the project area, occurs from the Missouri River below Fort Peck Dam to the headwaters of Lake Sakakawea and from the lower Yellowstone River up the confluence of the Tongue River, Montana (USFWS 2007).

Desktop analysis concluded that suitable habitat may be present in the project area. To minimize or reduce potential impacts of the proposed project on the pallid sturgeon, construction would be scheduled to avoid the spawning season. Potential pollution from construction activities, hydrostatic testing, and pipeline operations is a concern for downstream populations of the pallid sturgeon. Activities associated with the proposed project are not anticipated to adversely affect water quality and subsequently the pallid sturgeon. HDD would be considered as a low and/or no impact alternative to traditional wet trench or open-cut methods to cross the Yellowstone River. A U.S. Army Corps of Engineers Section 10 permit is being completed for the bore of the Yellowstone River. The pallid sturgeon is not expected to be impacted by the proposed project.

Dakota Skipper

The Dakota skipper is a small butterfly with a 1-inch wingspan. It is found primarily in undisturbed, native tall grass and upland dry Northern mixed grass prairie areas with a high diversity of wildflowers and grasses (Committee on the Status of Endangered Wildlife in Canada 2003). The Dakota skipper was found to warrant protection under the ESA, was precluded for higher-priority species in 1995, was the subject of a proposed rule for listing as threatened under the ESA, and was the subject of an additional proposed rule for designation of critical habitat in October 2013 (78 *Federal Register* 63625; 78 *Federal Register* 63573). On October 24, 2014, the USFWS determined a threatened species status for the Dakota skipper, and the final rule became effective on November 24, 2014 (79 *Federal Register* 63672). Type A habitat for the skipper is low wet-mesic prairie, with little topographic relief occurring at nearshore glacial lake deposits (Royer and Marrone 1992). Three plants species dominate Type A habitat: wood lily (*Lilium philadelphicum*), bluebell bellflower (*Campanula rotundifolia*), and mountain deathcamas (*Zigadenus elegans*) (McCabe 1981). Type B habitat of the skipper occurs on rolling terrain over gravelly, glacial moraine deposits and is dominated by big bluestem (*Andropogon gerardi*), little bluestem (*Schizachyrium scoparium*), and needlegrasses (*Stipa* spp.), and may include bluebell bellflower and wood lily. Additionally, Type B habitat supports extensive stands of purple coneflower (*Echinacea angustifolia*), upright prairie coneflower (*Ratibida columnifera*), and common gaillardia (*Gaillardia artistata*) (Royer and Marrone 1992). Dakota skippers are not known to occur in the project area. Additionally, field surveys concluded that cultivated, non-native grass prairie is dominant in the project area, and therefore not suitable as Dakota skipper habitat. The nearest proposed critical habitat (Unit 12) is located 32.6 miles east-northeast from the proposed project. The Dakota skipper is not expected to be impacted by the proposed project.

Rufa Red Knot

The rufa red knot is a medium-sized shorebird approximately 9–11 tall. Its breeding plumage consists of red around the face and a prominent stripe above the eye, breast, and upper belly, and its non-breeding plumage is a dusky gray and white. 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 on January 12, 2015 (79 *Federal Register* 73705).

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 (eBird.org 2014). Suitable habitat along Lake Sakakawea is approximately 6.0 miles from the edge of the project area, and it is possible the rufa red knot may use the Yellowstone River. However, the likelihood of the rufa red knot occurring in the project area is low. The rufa red knot is not expected to be impacted by the proposed project.

Northern Long-Eared Bat

On April 1, 2015, the USFWS determined a threatened species status for the northern long-eared bat, and the listing became effective on May 4, 2015 (80 *Federal Register* 2371). This medium-sized bat ranges across the eastern and north-central United States and all of the Canadian provinces. 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.

Northern long-eared bats are not known to occur in the project area, and no known hibernacula are in North Dakota because there are either no suitable hibernacula present or because the area has not been surveyed for them (USFWS 2013b). Suitable winter habitat for northern long-eared bats does not occur in the project area. Nearby trees and rocky outcrops can act as suitable summer day roosts. The northern long-eared bat is not expected to be impacted by the proposed project.

Sprague's Pipit

The Sprague's pipit is a small passerine that is 10–15 centimeters long and is endemic to the Northern Great Plains. The Sprague's pipit requires large tracts of native unplowed prairie habitat throughout its life cycle. Because native grasslands are disturbance-dependent, Sprague's pipit prefers grassland habitats that are regularly disturbed. The frequency of disturbance required for habitat maintenance depends on how quickly grasses grow to an intermediate height (4–12 inches) following a disturbance event. In North Dakota, Sprague's pipit breeds throughout the state except for the easternmost counties. Habitat requirements include un-fragmented, non-cultivated grasslands of intermediate height (4–12 inches) with a minimum patch size of 72 acres, with larger patches of at least 358 acres preferred. Field surveys concluded that cultivated, non-native grass prairie was dominant in the proposed project area. Sprague's pipit is not expected to be impacted by the proposed project.

Bald and Golden Eagle

The bald eagle 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 species) 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 (Gomes n.d.) and Yellowstone River. Bald eagles frequently migrate through the grassland habitats. One bald eagle was observed during the field surveys; however, no nests were observed

during the field surveys. The nearest known eagle nest is approximately 3 miles northwest to the closest portion of the proposed project (NDGF 2015).

The golden eagle prefers habitat characterized by open prairie, plains, and forested areas. Usually, golden eagles can be found close to badland cliffs, which provide suitable nesting habitat. Golden eagles may occur in or near the project area; however, no golden eagles or nests were observed during the field surveys.

Migratory Birds

The Migratory Bird Treaty Act of 1918 (16 United States Code 703–711) protects migratory birds and their active nests (nests containing eggs or young) from take. Suitable habitat for migratory birds exists in the entire project area. Specifically, grassland nesting birds have the potential to occur and nest in the project area, especially during the migratory bird breeding season between February 1 and July 15. Suitable woodland nesting habitat occurs in the project area, but it is minimal. To minimize or reduce potential impacts of the proposed project on migratory birds, construction would be scheduled to avoid the breeding season. If the breeding season cannot be avoided, follow up surveys would be conducted no more than five days prior to the start of construction to assess presence/absence of breeding birds. If any active nests of migratory birds are discovered, construction would halt and the FWS would be contacted for further direction.

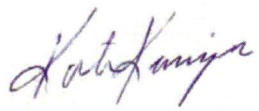
USFWS-Managed Lands

Available data indicate that no USFWS-managed lands are in the analysis area, including Waterfowl Production Areas and wetland and grassland easements. SWCA is requesting confirmation on the presence or absence of USFWS-managed lands in the analysis area.

Please send your replies and requests for additional project information to the following:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,



Kate Kenninger
Natural Resource Specialist
kkenninger@swca.com

Enclosures: Attachment 1

Literature Cited

Committee on the Status of Endangered Wildlife in Canada. 2003. COSEWIC *Assessment and Status Report on the Dakota Skipper* Hesperia dacotae *in Canada*. Ottawa: Committee on the Status of Endangered Wildlife in Canada. Available at: http://www.registrelep-sararegistry.gc.ca/virtual_sara/files/cosewic/sr_dakota_skipper_e.pdf.

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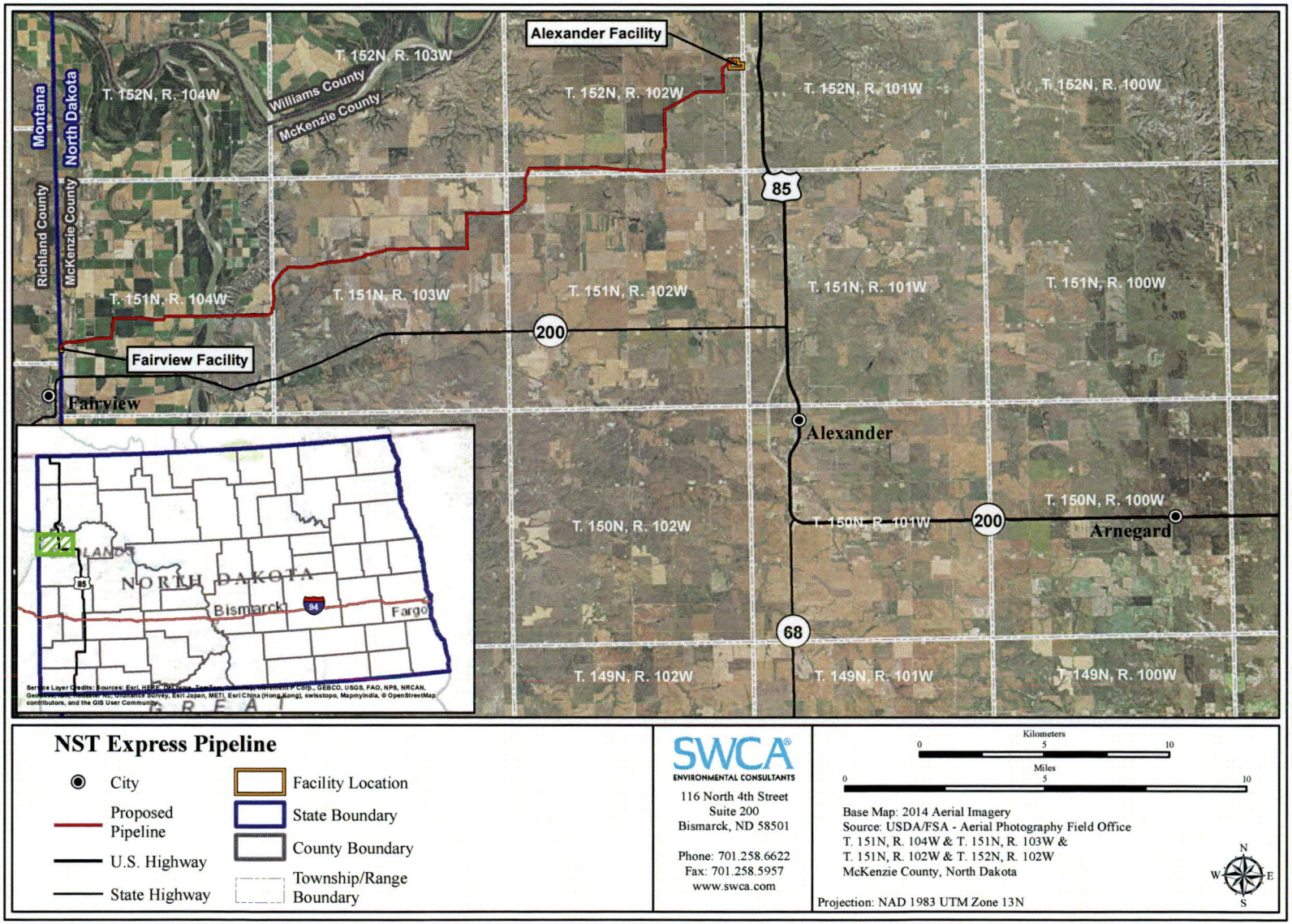
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NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
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Kilometers
0 5 10

Miles
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Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

N
W E
S

Projection: NAD 1983 UTM Zone 13N

From: Gallion, Todd
To: Mike Sobiech
Subject: Re: USFWS easements
Date: Thursday, March 26, 2015 9:08:52 AM

Hi Mike,

Currently, there are no existing U.S. Fish and Wildlife Service easement or fee-title lands within the sections provided in the attached document, in McKenzie County.

Thanks,

On Mon, Mar 23, 2015 at 10:41 AM, Mike Sobiech <MSobiech@swca.com> wrote:

> Todd,
>
> Could you please verify if there are any USFWS wetland and grassland easements within the sections provided in the attached document? The proposed project is located in NW McKenzie county.
>
> Thanks,
>
> **Mike Sobiech**
>
> GIS Specialist II
>
> ***SWCA Environmental Consultants***
>
> 116 North 4th Street, Suite 200
>
> Bismarck, North Dakota 58501
>
> Tel 701.258.6622 Email: msobiech@swca.com
>
> SWCA 2c logo centered_a
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>
> See us on LinkedIn: http://www.linkedin.com/company/swca-environmental-consultants

--
Todd Gallion
Lake Ilo NWR
489 102nd Ave SW
Dunn Center, ND 58626
Email: todd_gallion@fws.gov
Phone: (701) 548-8110
Mobile: (701) 460-0610
Fax: (701) 548-8108

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2136

March 27, 2015

Nick Chevance, Environmental Planner
National Park Service
601 Riverfront Drive
Omaha, Nebraska 68102

RE: NorthStar Midstream - NST Express Pipeline, McKenzie County, North Dakota, National Park Service

Dear Mr. Chevance:

NorthStar Midstream (NorthStar) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating in Alexander, North Dakota, and terminating in Fairview, North Dakota (Attachment 1). The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11, 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Sections 18, 19, 30, 31, T152N, R101W
- Sections 13, 14, 21–36, T152N, R102W
- Sections 25, 35, 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the National Park Service of the proposed project and offering the opportunity for comments. The information received from the National Park Service will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project.

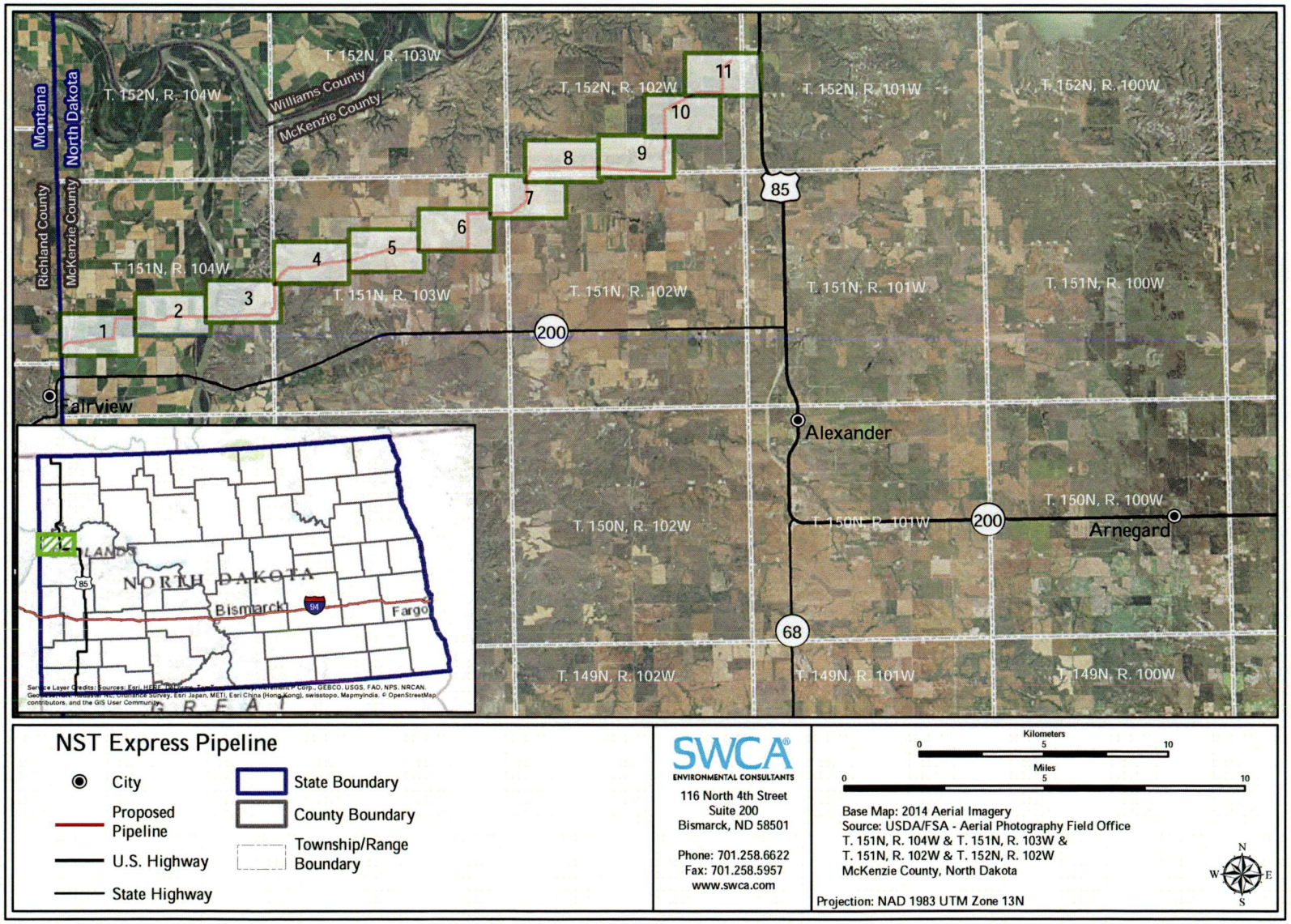
Please send your replies and requests for additional project information to:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1


T. 152N, R. 104W
T. 152N, R. 103W
T. 152N, R. 102W
T. 152N, R. 101W
T. 152N, R. 100W
Montana
North Dakota
Williams County
McKenzie County
Richland County
McKenzie County
T. 151N, R. 104W
T. 151N, R. 103W
T. 151N, R. 102W
T. 151N, R. 101W
T. 151N, R. 100W
1
2
3
4
5
6
7
8
9
10
11
85
200
Fairview
Alexander
T. 150N, R. 102W
T. 150N, R. 101W
T. 150N, R. 100W
Arnegard
200
68
T. 149N, R. 102W
T. 149N, R. 101W
T. 149N, R. 100W
NORTH DAKOTA
Bismarck
Fargo
94
85
NST Express Pipeline
City
Proposed Pipeline
U.S. Highway
State Highway
State Boundary
County Boundary
Township/Range Boundary
SWCA
ENVIRONMENTAL CONSULTANTS
116 North 4th Street
Suite 200
Bismarck, ND 58501
Phone: 701.258.6622
Fax: 701.258.5957
www.swca.com
Kilometers
0 5 10
Miles
0 5 10
Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota
Projection: NAD 1983 UTM Zone 13N
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2136

May 6, 2015

Nick Chevance
Environmental Planner
National Park Service
601 Riverfront Drive
Omaha, Nebraska 68102

RE: NST Express, LLC; NST Express Pipeline, McKenzie County, North Dakota, National Park Service; Revisions to letter dated March 27, 2015

Dear Mr. Chevance:

NST Express, LLC, (NST Express) is proposing the NST Express pipeline project, an approximately 23.5-mile-long, 12-inch-diameter crude line originating at the proposed Alexander Facility near Alexander, North Dakota, and terminating at the Fairview Rail Facility near Fairview, Montana (Attachment 1). NST Express is proposing the 42-acre Alexander Facility that would include one storage tank, with design provisions for two additional tanks, four truck Lease Automatic Custody Transfer (LACT) offload skids, one new tank booster, one new turbine meter, and one new pipeline pump. NST Express is proposing an expansion of the Fairview Rail Facility, an approximately 2-acre area that would include a scraper receiving trap, one new turbine meter, and panels for programmable logic controller/open multi-network integration (PLC/OMNI) control equipment.

The project is wholly within the state of North Dakota. The NST Express analysis area (2.3-mile corridor) encompasses the following legal locations in McKenzie County, North Dakota.

- Sections 1–11 and 18, Township (T) 151 North (N), Range (R) 102 West (W)
- Sections 1–5, 7–23, and 30, T151N, R103W
- Sections 12–33, T151N, R104W
- Section 24, T152N, R102W
- Sections 18, 19, 30, and 31, T152N, R101W
- Sections 13, 14, and 21–36, T152N, R102W
- Sections 25, 35, and 36, T152N, R103W

The project is scheduled to begin construction in the fall of 2015.

SWCA Environmental Consultants is notifying the National Park Service of the proposed project and is offering them the opportunity to comment. The information received from the National Park Service will be used in a North Dakota Public Service Commission application being prepared for the NST Express pipeline project, which includes the proposed Alexander Facility and the proposed Fairview Rail Facility expansion.

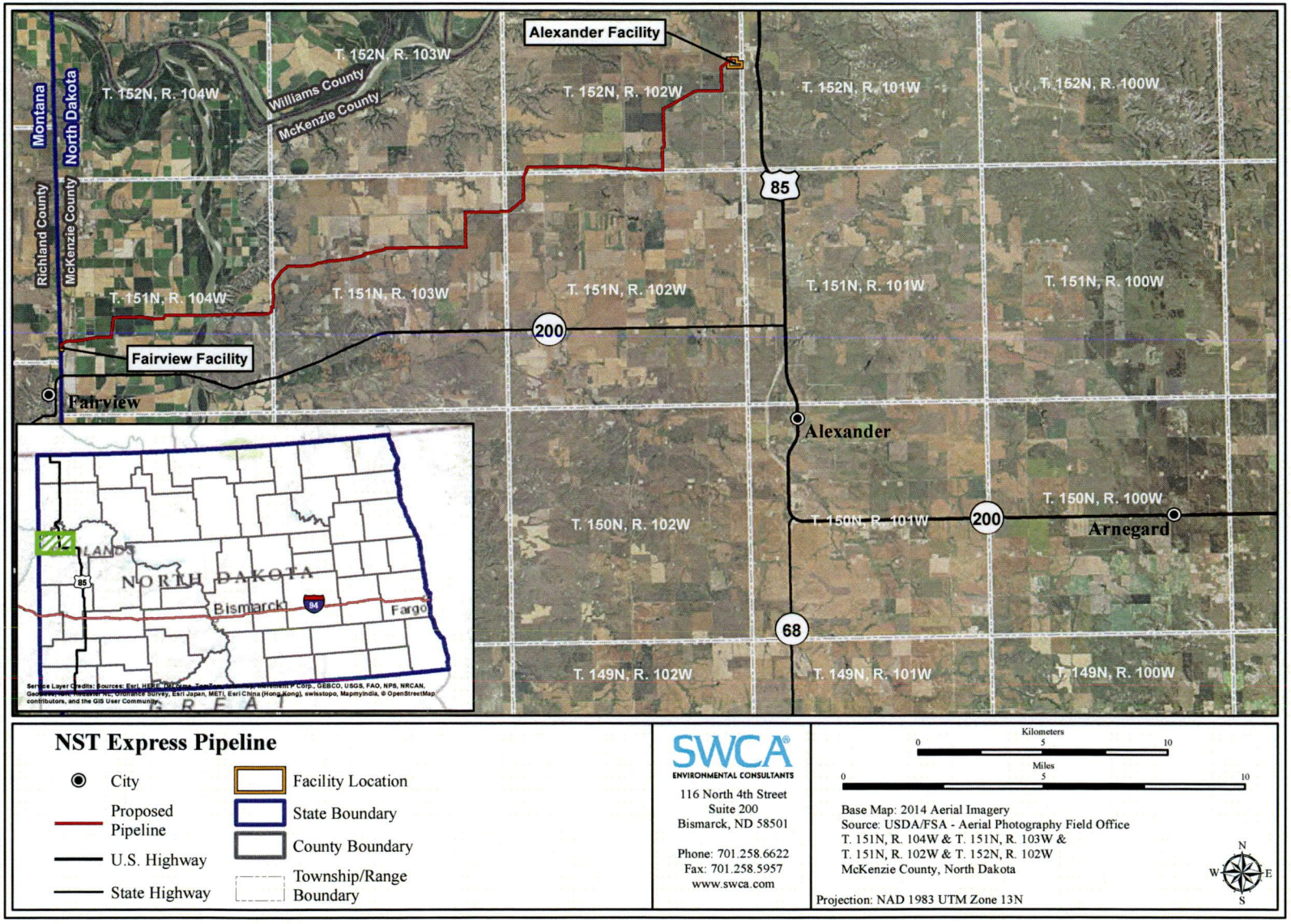
Please send your replies and requests for additional project information to the following:

Kate Kenninger, Natural Resource Specialist
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501
(701) 258-6622
kkenninger@swca.com

Sincerely,

Kate Kenninger

Enclosures: Attachment 1



NST Express Pipeline

- City
- Proposed Pipeline
- U.S. Highway
- State Highway
- Facility Location
- State Boundary
- County Boundary
- Township/Range Boundary

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Kilometers
0 5 10

Miles
0 5 10

Base Map: 2014 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
T. 151N, R. 104W & T. 151N, R. 103W &
T. 151N, R. 102W & T. 152N, R. 102W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N

N
W E
S

From: Kate Kenninger
To: "Riddle, Heidi"
Subject: RE: Project Reviews - NPS
Date: Monday, May 18, 2015 9:08:00 AM
Attachments: image001.png
sent_20150511_Alignment_Facilities.zip

Good morning Heidi,

Please see the attachment for the requested shapefiles of the NST Express Pipeline. If you have any questions or comments, please let me know.
Thank you,

Kate Kenninger
Natural Resources Specialist/Project Manager

SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, ND, 58501
Office 701.258.6622 | Cell 701.740.4982

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Please consider the environment before printing this email

From: Riddle, Heidi [mailto:heidi_riddle@nps.gov]
Sent: Friday, May 15, 2015 9:34 AM
To: Wade Epperson; Chad Baker; Kate Kenninger
Subject: Project Reviews - NPS

Hello,

The National Park Service received letters from you regarding the following projects:

Enerplus Mountains well pad (letter dated May 7)
North Antelope Infill EA (dated May 4)
NST Express Pipeline (dated May 6)

I would like to request shapefiles for each project, as it greatly helps our review process. Please let me know if you have any questions.

Best Regards,
Heidi

Heidi Riddle

Regional Energy Specialist
National Park Service, Midwest Regional Office
Office: (701) 883-5219
Cell: (701) 260-2254
heidi_riddle@nps.gov

STATE HISTORICAL SOCIETY OF NORTH DAKOTA

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Governor of North Dakota

North Dakota State Historical Board

Calvin Grinnell
New Town - President

A. Ruric Todd III
Jamestown – Vice President

Margaret Puetz
Bismarck - Secretary

Albert I. Berger
Grand Forks

Gereld Gerntholz
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Kelly Schmidt
State Treasurer

Alvin A. Jaeger
Secretary of State

Mark Zimmerman
~~Director~~
Parks and Recreation Department

Grant Levi
Director
Department of Transportation

Claudia J. Berg
Director

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May 21, 2015

Mr. William Harding
Principal Investigator
SWCA Bismarck Office
116 North 4th St, Suite 200
Bismarck, ND 58501

ND SHPO Ref: 15-1072 ND PSC A Class I and Class III Cultural Resource Inventory of the NST Express Pipeline Project, McKenzie County, North Dakota

Dear Mr. Harding,

We reviewed ND SHPO Ref: 15-1072 ND PSC "A Class I and Class III Cultural Resource Inventory of the NST Express Pipeline Project, McKenzie County, North Dakota." We concur with a "No Significant Sites Affected" determination provided the project remains in the locations plotted, mapped, and described in the aforementioned project documentation.

Thank you for the opportunity to review the report. If you have questions please contact Susan Quinnell at squinnell@nd.gov or (701) 328-3576.

Sincerely,

Claudia J. Berg
Director, State Historical Society of North Dakota

APPENDIX F
Cultural Resources Report

ABSTRACT

This report documents the results of a Class I and Class III cultural resource inventory conducted by SWCA Environmental Consultants (SWCA) on behalf of Buckeye Development & Logistics, LLC (Buckeye) in support of the NST Express, LLC (NST) NST Express Pipeline project. The pipeline would be located on privately owned and state trust lands in McKenzie County, North Dakota.

Buckeye retained SWCA to complete a Class I and Class III cultural resource inventory for the proposed project area. The only regulatory agencies to be involved are 1) the North Dakota Public Service Commission under the North Dakota Energy Conversion and Transmission Facility Siting Act (excluding any applicable county or local requirements); and 2) the U.S. Army Corps of Engineers through Section 404 of the Clean Water Act, which regulates discharge into waters of the U.S. regulated by the U.S. Army Corps of Engineers. Therefore, SWCA's Class I and III inventory of the project area assists NST in meeting the cultural resource requirements within the North Dakota Public Service Commission's Certificate of Corridor Compatibility and Route Permit application. Additionally, SWCA's inventory assisted NST in achieving compliance with Section 404 of the Clean Water Act, including the Nationwide Permit General Conditions pertaining to Section 106 of the National Historic Preservation Act and the Endangered Species Act.

The inventoried areas are located in Township (T) 151 North (N), Range (R) 102 West (W), T151N, R103W, T151N, R104W, and T152N, R102W, and are depicted on the Fairview (1995), Dore (1991), Buford (1976), Cartwright NE (1991), and Camp Creek West (1978), North Dakota, U.S. Geological Survey topographic quadrangles.

The Class I inventory was conducted on November 25, 2014, and the Class III inventory was conducted on January 30; March 15, 16, 17, and 20; and May 1, 2015. The Class III survey area consisted of a 200-foot survey corridor centered on the 22.74-mile-long proposed pipeline centerline, its reroutes, and two facility locations at the east and west ends of the alignment. In total, 798.71 acres were inventoried.

During the inventory, SWCA personnel revisited two previously recorded cultural resources (32MZ416 and 32MZ1174) and newly recorded three resources (32MZ2865, 32MZ2866, and 32MZX1481). The previously recorded resources include a segment of the historic Great Northern Railroad (32MZ416) and a segment of the historic Lower Yellowstone Irrigation System (32MZ1174). The newly recorded resources include a historic cultural material scatter (32MZ2865) and two historic depressions (32MZ2866 and 32MZX1481). 32MZ416 and 32MZ1174 have been previously recommended eligible for the National Register of Historic Places. 32MZ2865 and 32MZ2866 are recommended not eligible for the National Register of Historic Places, and 32MZX1481 remains unevaluated pending a full recording. SWCA recommends either a reroute of the proposed project and avoidance of 32MZX1481 by at least 50 feet or necking down the construction right-of-way to achieve that result. If a reroute or necking down the right-of-way is not possible, SWCA recommends that a cultural resource monitor be present during ground-disturbing activities within 100 feet of the site.

Avoidance is recommended for 32MZX1581, 32MZ416 and 32MZ1174. As planned, the proposed NST Express Pipeline project will bore under both 32MZ416 and 32MZ1174, adequately avoiding any impacts to the cultural resources. With the above stipulations, it is recommended that a determination of *No Significant Sites Affected* be granted for the project to proceed as planned.

STATE OF NORTH DAKOTA

PUBLIC SERVICE COMMISSION

Case No. PU-15-____

NST EXPRESS, LLC
CRUDE OIL PIPELINE – MCKENZIE COUNTY
SITING APPLICATION

AFFIDAVIT OF SERVICE

STATE OF NORTH DAKOTA)
) SS
COUNTY OF Burleigh)

Boe L. Gregson, being first duly sworn, does depose and state that on May 29, 2015, he served the following documents:

1. Application for Waiver or Reduction of Procedures and Time Schedules; and
2. Consolidated Application For a Certificate of Corridor Compatibility and a Route Permit.

by placing a true and correct copy of said documents in an envelope addressed as follows:

Linda Svihovec
McKenzie County Auditor
201 5th Street NW, Suite 543
Watford City, ND 58854

and depositing the same, with delivery charges prepaid, with Federal Express at Bismarck, North Dakota.

Boe L. Gregson

Subscribed and sworn to before me this 29th day of May, 2015.

SHANNA JOHNSON
Notary Public
State of North Dakota
My Commission Expires Sep 19, 2015

Shanna Johnson
Notary Public