

September 17, 2015



**VIA HAND DELIVERY**

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

**RE: NuStar Pipeline Operating Partnership L.P.'s Consolidated Application for a Certificate of Corridor Compatibility and Route Permit, and Waiver Application  
Case No. PU-15-\_\_\_\_\_**

Dear Mr. Nitschke:

NuStar Pipeline Operating Partnership L.P. 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 \$60,000.00 for the filing fee required pursuant to Section 49-22-22 of the North Dakota Century Code.

By copy of this letter, the Cass 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 let me know.

Sincerely,  
A handwritten signature in black ink that reads "Mollie M. Smith". The signature is fluid and cursive.

MOLLIE M. SMITH

MMS/rg/56717362  
Enclosures

cc: Mr. Michael Montplaisir, Cass County Auditor (w/encl. via Federal Express)

Attorneys & Advisors / Fredrikson & Byron, P.A.  
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1 PU-15-674 Filed 09/17/2015 Pages: 338



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**Fredrikson**

**& BYRON, P.A.**

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# SWCA

SUBMITTED TO

SUBMITTED BY

SWCA Environmental Consultants

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- C Environmental Mitigation Plan
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- F Cultural Resources Reports and Unanticipated Discovery Plan

## ACRONYMS AND ABBREVIATIONS

|                          |   |
|--------------------------|---|
| BMP                      | Best Management Practice  |
| BNSF                     | Burlington Northern Santa Fe  |
| CCWCB                    | Cass County Weed Control Board  |
| Cenex                    | Cenex Pipeline, LLC   |
| CFR                      | Code of Federal Regulations   |
| Commission               | North Dakota Public Service Commission  |
| Consolidated Application | Consolidated Certificate of Corridor Compatibility and Route Permit Application                         |
| EMP                      | Environmental Mitigation Plan   |
| HDD                      | horizontal directional drilling   |
| NDAC                     | North Dakota Administrative Code  |
| NDCC                     | North Dakota Century Code   |
| ND DOT                   | North Dakota Department of Transportation   |
| NDPRD                    | North Dakota Parks and Recreation Department  |
| NDSWC                    | North Dakota State Water Commission   |
| NDTL                     | North Dakota Trust Lands  |
| NuStar                   | NuStar Pipeline Operating Partnership L.P.  |
| NWI                      | National Wetlands Inventory   |
| PHMSA                    | Pipeline Hazardous Materials Safety Administration  |
| Project                  | Laurel Interconnect Pipeline Project  |
| ROW                      | right-of-way  |
| SCADA                    | supervisory control and data acquisition system   |
| SHPO                     | State Historic Preservation Office  |
| Study Area               | 1-mile-wide corridor between, and including, the Fargo Pump Station site and the Mapleton Junction site |
| SWCA                     | SWCA Environmental Consultants  |
| USACE                    | U.S. Army Corps of Engineers  |
| USDOT                    | U.S. Department of Transportation   |

**CHECKLIST FOR COMBINED CORRIDOR COMPATIBILITY AND ROUTE PERMIT APPLICATION**

| <b>Authority</b>                             | <b>Description</b>   | <b>Section(s)</b> |
|--|--|-------------------|
| <b>Chapter 49-22 CENTURY CODE – Title 49</b> |  |                   |
| 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  | 17.0, 16.1, 16.2  |
| 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   | 17.0, 16.1, 16.2  |
| 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-way 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             |

| <b>Authority</b>                           | <b>Description</b>  | <b>Section(s)</b> |
|--|---|-------------------|
| 11   | Problems raised by federal, state, or local entities  | 17.11             |
| <b>ADMINISTRATIVE CODE – ARTICLE 69-06</b> |   |                   |
| 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               |
| 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 associated facilities   | 9.2.1             |
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| 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               |
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| 2.d.                                       | Need for facility   | 3.0               |
| 2.e.                                       | Description of alternatives   | 13.0              |
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| 2.g.                                       | Study area to enable the Commission to evaluate the factors in the Century Code section 49-22-09  | 2.1, 17.0         |

| <b>Authority</b> | <b>Description</b>  | <b>Section(s)</b> |
|------------------|---|-------------------|
| 2.h.             | Discussion of factors in Century Code 49-22-09 to air 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 led to route location  | Appendix A        |
| 2.k.             | Discuss relative value of each criteria and how the location was selected; how operation will affect criteria   | 17.0              |
| 2.l.             | Mitigating measures   | 19.0              |
| 2.m.             | Qualifications of each person involved in location study  | 20.0              |
| 2.n.             | Map identifying criteria that led to the route location and new facilities  | Appendix A        |
| 2.o.             | 8½ × 11 black and white map suitable for newspaper publication  |                   |
| 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        |
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| 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, or recreational rivers; game refuges; game management areas; forest management lands; grasslands                                | 16.2.2            |
| 2.c.             | Historical resources which are not specifically designated as exclusion or avoidance areas  | 16.2.3            |

| <b>Authority</b> | <b>Description</b>  | <b>Section(s)</b> |
|------------------|---|-------------------|
| 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            |
| 3.a.(4)          | Surface drainage patterns and ground water flow patterns                | 16.3.4            |
| 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            |
| 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           |
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| 4.b.             | Training and utilization of instate labor                               | 16.4.2            |
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| 4.d.             | Use of citizen coordinating committees                                  | 16.4.4            |
| 4.e.             | Commitment of portion of transmitted product for use in state           | 16.4.5            |
| 4.f.             | Labor relations   | 16.4.6            |
| 4.g.             | Coordination of facilities  | 16.4.7            |
| 4.h.             | Monitoring of impacts   | 16.4.8            |
| 4.i.             | Using existing or proposed rights-of-way and corridors                  | 16.4.9            |
| 4.j              | Using existing or proposed transmission facilities                      | 16.4.10           |

## **INTRODUCTION**

NuStar Pipeline Operating Partnership L.P. (NuStar) proposes to construct an approximately 7.3-mile-long, 8-inch-diameter pipeline that will extend between Cenex Pipeline, LLC's (Cenex) proposed refined petroleum products terminal (the Cenex Fargo Terminal), located approximately 1.3 miles southeast of Prosper, North Dakota, and NuStar's existing 10-inch North System Pipeline, located approximately 2.0 miles southeast of Mapleton, North Dakota. The proposed pipeline and associated facilities owned by NuStar are referred to as the Laurel Interconnect Pipeline Project (Project). The Project is located entirely in Cass County, North Dakota (Figures 1 and 2).

The Project, in conjunction with the proposed Cenex Fargo Terminal, will provide a connection between Cenex's existing Laurel Pipeline, which extends from the Cenex Refinery in Laurel, Montana, to an existing Magellan Midstream Partners, L.P. terminal in Fargo, North Dakota, and NuStar's existing North System Pipeline, which extends from the Tesoro Refinery in Mandan, North Dakota, to a terminal in Roseville, Minnesota. The connection provided by the Project will enhance the refined petroleum products supply capabilities of both the Cenex and NuStar systems.

NuStar 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 Project. In addition, NuStar is also submitting the enclosed Application for a Waiver or Reduction of Procedures and Time Schedules. Cenex will be submitting a separate siting application to the Commission for the proposed Cenex Fargo Terminal.

This Consolidated Application supports NuStar's 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 transport of refined petroleum products. The underground, 8-inch pipeline will be approximately 7.3 miles long and will commence at a proposed pump station (Fargo Pump Station), which will be located on up to 2 acres of land within the 60-acre site proposed for the Cenex Fargo Terminal.

From the Fargo Pump Station, the pipeline will extend south for approximately 7.3 miles, and at its terminus, the pipeline will interconnect with NuStar's existing North System Pipeline at a junction point approximately 2.0 miles southeast of Mapleton, North Dakota (Mapleton Junction). The Mapleton Junction will be located on approximately 1 acre of land adjacent to the existing North System Pipeline. The Project will be constructed with unilateral southerly flow from the Fargo Pump Station to the Mapleton Junction, and will have a maximum flow rate of 24,000 barrels per day.

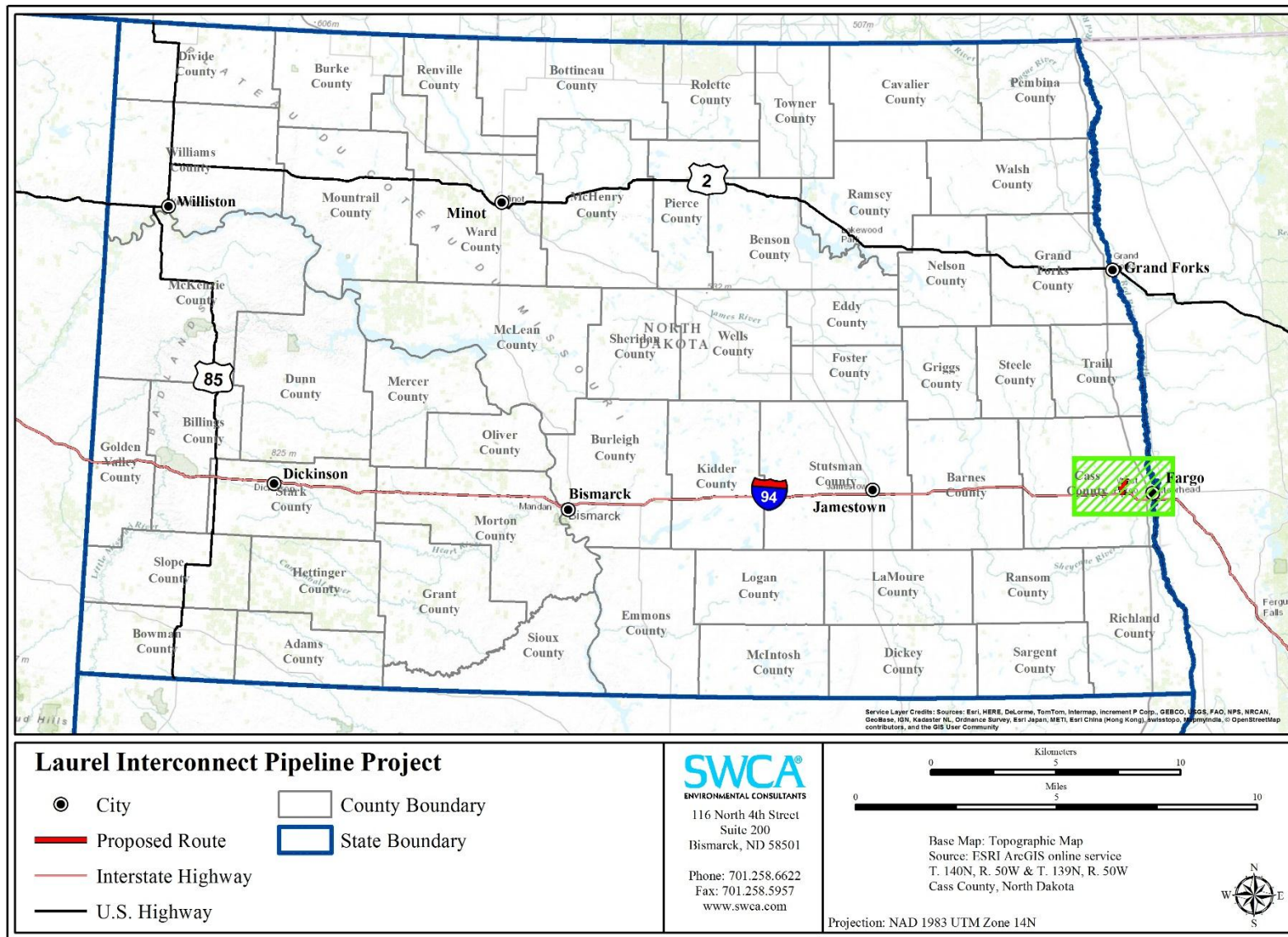


Figure 1. Overview of NuStar Project route.

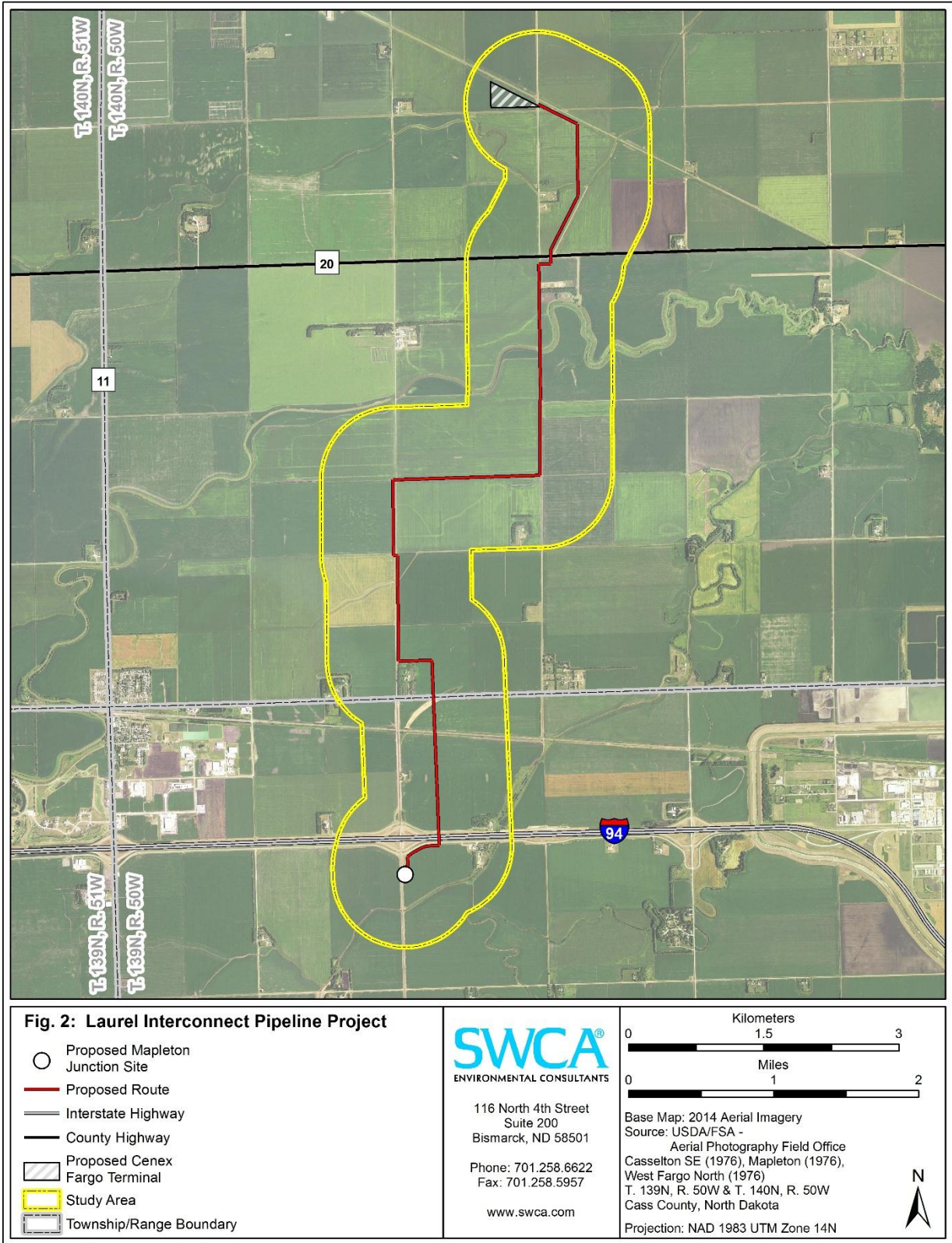


Figure 2. NuStar Project route.

## **2.0 LOCATION**

### **2.1 Project Study Area**

NuStar defined its study area as a 1.0-mile-wide corridor (0.5 mile on either side of the proposed centerline) between, and including, the Fargo Pump Station site and the Mapleton Junction site (Study Area).

### **2.2 Preferred Location of Project Corridor and Route**

NuStar is seeking approval of a corridor that will align with the survey corridor used for conducting environmental field surveys. The survey corridor is primarily 200 feet wide (centered on the proposed alignment), but also includes temporary workspace areas extending beyond the 200-foot-wide corridor, an approximate 2-acre block within the proposed Cenex Fargo Terminal site for the Fargo Pump Station, and an approximate 1-acre block for installation of Project facilities at the Mapleton Junction (collectively, the Corridor). At this time, the specific location of the approximate 2-acre site for the Fargo Pump Station within the 60-acre Cenex Fargo Terminal has not been identified, but will be identified prior to the hearing on the Consolidated Application. The location and width of the proposed Corridor are illustrated on the aerial maps in Appendix A. The location of the proposed route (Route) within the proposed Corridor is also depicted on the aerial maps provided in Appendix A.

NuStar's proposed Corridor and Route are the result of a thorough site analysis, and coordination with Cenex, landowners, local officials, agencies, and existing infrastructure owners. NuStar 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. In addition, NuStar considered existing rights-of-way (ROWs) (e.g., pipelines and roads) in an effort to maximize co-location with other infrastructure, where appropriate. NuStar also sought input from affected landowners, agencies, local governments, and other infrastructure owners, and refined the Corridor and Route based on input received. NuStar completed civil and environmental field surveys and additional constructability reviews to further refine its Route. Ultimately, the Corridor and Route were selected, which meet the Project needs, comply with the Commission's siting criteria, and minimize impacts to landowners, the environment, and existing infrastructure.

Additional discussion of the factors considered in selecting the Corridor and the Route is provided in Sections 13.0, 16.0, 17.0, and 18.0 of this Consolidated Application.

## **3.0 PURPOSE AND NEED OF THE FACILITY**

Between 2007 and 2013, consumption of petroleum products in North Dakota increased significantly—from 26,411 to 40,679 thousand barrels per year.<sup>1</sup> NuStar and Cenex expect

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<sup>1</sup> See U.S. Energy Information Administration, *Total End-Use Energy Consumption Estimates 1960-2013, North Dakota*. Available at [http://www.eia.gov/state/seds/data.cfm?incfile=/state/seds/sep\\_use/tx/use\\_tx\\_ND.html&sid=North Dakota](http://www.eia.gov/state/seds/data.cfm?incfile=/state/seds/sep_use/tx/use_tx_ND.html&sid=North Dakota). Accessed September 3, 2015.

this increased demand to continue or increase during the next 10 years. The Project, in conjunction with the proposed Cenex Fargo Terminal, will provide a connection between Cenex's existing Laurel Pipeline and NuStar's existing North System Pipeline. This connection will enhance the refined petroleum products supply capabilities of both systems and better ensure that the systems can efficiently meet this increased refined petroleum products customer demand.

Cenex's existing Laurel Pipeline extends from the Cenex Refinery in Laurel, Montana, through terminals in Montana and North Dakota, to Magellan Midstream Partners, L.P.'s West Fargo Tank Farm in Fargo, North Dakota. At the connected terminals, the refined petroleum products transported are distributed by customers (e.g., retail outlets and contract end-users) in North Dakota, Montana, and Minnesota.

NuStar's existing North System Pipeline extends from the Tesoro Refinery in Mandan, North Dakota, through NuStar terminals in Jamestown, North Dakota, and Moorhead and Sauk Center, Minnesota, to a terminal in Roseville, Minnesota. NuStar's North System Pipeline also transports refined petroleum products produced in Kansas, Oklahoma, and Texas, which are delivered to a terminal in Jamestown via a NuStar refined products pipeline extending north from Kansas. At the various terminals along the North System Pipeline, the refined petroleum products are distributed by customers (e.g., retail outlets and contract end-users) in North Dakota and Minnesota.

The Project will provide Cenex with greater refined product supply optionality through the use of NuStar's North System Pipeline. The North System Pipeline has a direct connection to the Tesoro Refinery in Mandan, North Dakota; a terminal connection to a pipeline transporting product from refineries in Kansas, Oklahoma, and Texas; and a terminal connection in Moorhead, Minnesota. Thus, the Project will enable Cenex to deliver refined petroleum products from multiple sources to its customers in the Fargo-Moorhead area via either its existing system or NuStar's system.

The Project will also enable NuStar to more efficiently distribute diesel fuel and gasoline within the state of North Dakota. The Project will allow NuStar to aggregate the gasoline and diesel fuel that comes off of Cenex's Laurel Pipeline at the Cenex Fargo Terminal with the supply from North Dakota, Kansas, Oklahoma, and Texas already transported by the North System Pipeline. The additional supply from Cenex's Laurel Pipeline will enable NuStar to take more gasoline and diesel fuel off of the North System Pipeline at the Jamestown terminals to meet the increased North Dakota demand, and still continue to fulfill refined petroleum product customer needs downstream at NuStar's Moorhead, Sauk Center, and Roseville terminals. As a result, NuStar will be able to convert and dedicate existing tanks at the Jamestown, North Dakota, terminals to gasoline and diesel fuel storage, which will increase the overall supply of gasoline and diesel fuel available to the North Dakota market. For example, NuStar will be better able to meet the gasoline and diesel fuel needs of North Dakota consumers from the centrally located Jamestown terminals during peak agricultural production periods. In essence, connecting to Cenex's refined products system will better enable NuStar to ensure refined petroleum product customers at its terminals (including the Jamestown and Moorhead terminals) receive the amounts and types of products required, and can meet the needs of both North Dakota and Minnesota consumers.

The Project will also provide direct benefits to local communities through temporary construction employment and additional property tax revenue. 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.

A map showing the existing Laurel Pipeline and North System Pipeline and the proposed Cenex Fargo Terminal and Project is provided in Appendix A.

## **4.0 PRODUCT**

### **4.1 Type of Product to be Transmitted**

The Project will transmit refined petroleum products (e.g., gasoline, diesel fuel).

### **4.2 Source of Product**

The refined petroleum products to be transported by the Project will originate at the Laurel Refinery in Laurel, Montana, which refines Bakken light crude oil produced in North Dakota and Montana.

### **4.3 Final Destination of Product**

The refined petroleum products transported by the Project will be delivered to NuStar refined products terminals located in Moorhead, Sauk Centre, and Roseville, Minnesota. From those terminals, the refined petroleum products will be delivered by customers to North Dakota and Minnesota consumers.

## **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:

- 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; and
- installation of a supervisory control and data acquisition system (SCADA) monitoring and alarm system that continuously monitors the flow and pressure of the system and triggers alarms for anything outside normal operating conditions.

Construction and installation of the pipeline will use different techniques to avoid or minimize impacts to sensitive areas and identified road, railroad, and ditch 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 \$12 million.

## **7.0 SCHEDULE**

### **7.1 Obtaining Certificate of Corridor Compatibility**

NuStar requests a Certificate of Corridor Compatibility and Route Permit from the Commission in November 2015.

### **7.2 Obtaining Route Permit**

NuStar requests a Certificate of Corridor Compatibility and Route Permit from the Commission in November 2015.

### **7.3 Completing Right-of-Way Acquisition**

NuStar initiated ROW acquisition in February 2015, and anticipates that ROW acquisition will be completed in September 2015.

### **7.4 Starting Construction**

Construction of the Project is scheduled to begin in May 2016.

### **7.5 Completing Construction**

NuStar expects to complete construction of the Project by September 2016.

### **7.6 Testing Operations**

NuStar expects to conduct hydrostatic testing of the pipeline and associated site facilities prior to placing in service in September 2016. Once the pipeline is placed into service, an internal inspection tool will be run to establish a baseline assessment of the pipeline.

### **7.7 Commencing Operations**

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

## **8.0 TEN-YEAR PLAN**

NuStar filed its Ten-Year Plan for 2015 through 2025 with the Commission on September 16, 2015. The proposed Project is consistent with NuStar's Ten-Year Plan (Appendix B).

## **9.0 FACILITY SIZE AND DESIGN**

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

### **9.1 Pipeline**

#### 9.1.1 Width of Right-of-Way

In general, the Project will be installed using a 70-foot-wide construction ROW, consisting of a 30-foot-wide permanent easement and a 40-foot-wide temporary workspace. Refer to Topsoil Salvage Trench and Spoil Side schematic in Appendix A for an overview of the typical proposed Project construction ROW. NuStar plans to acquire a 50-foot-wide permanent easement across one parcel, which is bordered by the Burlington Northern Santa Fe (BNSF) Railroad on the south and Highway 10/36th Street SE on the north and will be crossed in its entirety using HDD. Additional temporary workspace will be required to accommodate HDD/boring crossings at existing features, such as rivers, wetlands, irrigation water supply ditches, roads, and a railroad. The Project will also require construction of permanent access driveways and may require upgrading of existing private roads for operations and maintenance use.

#### 9.1.2 Length of Facility

The pipeline route is approximately 7.3 miles long, originating at the proposed Fargo Pump Station and terminating at the proposed Mapleton Junction.

#### 9.1.3 Pipe Size

The Project will require installation of a nominal 8.625-inch outside diameter steel pipeline with a nominal wall thickness of 0.250 inch. The nominal wall thickness will increase to 0.322 inch for specific locations, such as waterbody, railroad, highway, and road crossings. The pipe material will be AP5L X42.

#### 9.1.4 Maximum Design Operating Pressure and Temperature

The maximum operating pressure for the pipeline is 1,480 pounds per square inch gauge. The pipeline will be designed to operate at a maximum of 100 degrees Fahrenheit.

## **9.2 Aboveground Facilities**

### 9.2.1 General Location of New Associated Facilities

The proposed Fargo Pump Station will be located on up to 2 acres of land within the approximately 60-acre proposed Cenex Fargo Terminal site in Section 9, Township 140 North, Range 50 West, an estimated 1.3 miles southeast of Prosper, North Dakota. The Fargo Pump Station will be accessible from 166<sup>th</sup> Avenue SE. See Appendix A for a map showing the Fargo Pump Station layout. At the Fargo Pump Station, NuStar will construct metering equipment, a pump station, a pig trap launcher, a pump control building, and SCADA system and associated communication equipment.

The proposed Mapleton Junction will be located on approximately 1 acre of land, an estimated 2.3 miles southeast of Mapleton, North Dakota, in Section 9, Township 139 North, Range 50 West. The facility will be accessible from 165<sup>th</sup> Avenue SE. See Appendix A for a map showing the Mapleton Junction layout. At the Mapleton Junction, the Project interconnection facilities will include a pig trap receiver, an interconnect line and valve to connect to the NuStar North System Pipeline, a control building, and SCADA system and associated communication equipment.

Block valves will be installed at the proposed Fargo Pump Station site and the proposed Mapleton Junction site. On the south side of the Maple River, a vertical corrugated metal tube with a locking lid and protective bollards will be installed to provide access to an underground check valve.

#### 9.2.2 Estimated Distance between Surface Structures

The estimated distance between the Fargo Pump Station and the Mapleton Junction is 7.3 miles. See Table 1 below for the approximate distances between surface structures associated with the Project. Pipeline markers will also be placed at designated locations along the Route (e.g., public road crossings).

**Table 1. Distance between Surface Structures**

| <b>From</b>                    | <b>To</b>                      | <b>Approximate Mileage</b> |
|--------------------------------|--------------------------------|----------------------------|
| Fargo Pump Station             | Maple River Check Valve Access | 2.34 miles                 |
| Maple River Check Valve Access | Mapleton Junction              | 4.94 miles                 |

#### 9.2.3 Maximum Design Flow Rate for Pipeline Facilities

The maximum design flow rate for the new pipeline is 24,000 barrels per day.

#### 9.2.4 Number and Location for Compressor and/or Pumping Stations

The Fargo Pump Station is the only pumping station for the Project, and will be located on up to 2 acres of land within the proposed 60-acre site for the Cenex Fargo Terminal in Section 9, Township 140 North, Range 50 West, an estimated 1.3 miles southeast of Prosper, North Dakota.

### **10.0 EASEMENT ACQUISITION**

#### **10.1 Informing Landowners of Easement Acquisition**

Upon identifying the preliminary route, NuStar used publicly available information to identify landowners along the proposed route. NuStar contacted landowners via telephone to introduce the Project and discuss the easement acquisition process. NuStar sent introductory letters providing Project and land agent contact information to any landowners who could not be reached by telephone. During in-person meetings with landowners, the NuStar land agent presented proposed route maps for landowner review and input. NuStar used landowner input

for route planning purposes, and when practicable, made adjustments in the proposed route to accommodate landowner concerns. When landowners were located out of state, NuStar provided Project information via telephone and mail.

NuStar has obtained preliminary approval from all landowners along the Route and received all necessary survey permissions. NuStar has signed an option agreement to purchase a 1-acre site for the Mapleton Junction. NuStar will obtain an easement from Cenex for an up to 2-acre site for the Fargo Pump Station within the 60-acre site identified for the proposed Cenex Fargo Terminal.

## **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 have been based on careful analysis of comparable property values. All offers have been 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. NuStar's land agent is trained and tasked to negotiate respectfully and in good faith with all landowners and governing entities. NuStar stresses to its land agent 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.

NuStar will compensate landowners for permanent easement rights, temporary workspace use, and incidental damages that may occur. NuStar 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, NuStar 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 the start of construction, a pre-construction safety and environmental orientation will be held with all contractors and personnel involved in the Project. 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. NuStar will have a qualified and experienced safety representative on-site throughout construction.

Construction would typically take place during daylight hours. Spill prevention measures would be in place to maintain construction personnel safety and to protect the environment.

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 will 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 will be removed and segregated from the underlying subsoil. Topsoil will 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.

After pipeline installation is complete, the subsoil will be replaced in the pipeline trench and the adjacent areas to restore the land's natural contours. Then the topsoil will be replaced in the locations from which it was originally removed. Construction activities will 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 in Appendix A for additional detail.

Fences and gates will 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 will be installed along the ROW adjacent to wetlands and streams. Temporary erosion controls will be installed after initial disturbance of soils, where necessary, to minimize erosion. Erosion control BMPs will be maintained throughout construction.

#### 11.1.2 Trenching

Trenches will 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 will be used.

The amount of open trench permitted at any time during the Project will 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 will be installed to provide appropriate restriction or safe access across the open trench.

### 11.1.3 Pipe Stringing, Bending, and Welding

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

A pipe-bending machine will 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 will be in accordance with federal standards to ensure integrity of the bend. Pipe used for sharp bends is bent at the mill, or will be forged pipeline fittings. The pipe will 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 will be required to pass an approved qualification test; the test will use Project-specific weld procedures developed in accordance with federally adopted welding standards. All field welds will be nondestructively tested to ensure structural integrity and compliance with USDOT regulations. Once welds are approved, the joints will be externally coated and the entire pipeline will be visually and electronically inspected for coating defects, scratches, or other damage. Any damage or defects will be repaired before lowering the pipe into the trench.

### 11.1.4 Pipeline Installation and Trench Backfilling

Several side-boom tractors, or trackhoes will simultaneously lift the welded sections of pipe and lower them into the trench. Non-metallic slings will be used to protect the pipe and coating as it is raised and lowered into position. Sand bags or foam blocks will 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 will be installed adjacent to wetlands, stream crossings, and in steep topography to eliminate water migration along the trench. When required, the trench will be dewatered prior to lowering in the pipe. Dewatering effluent will 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 will be backfilled. Soil will be returned to the trench in the reverse order of excavation. Subsoil will be returned to the trench first, followed by the topsoil. The trench line will be compacted with a wheeled-roller or other suitable construction equipment. A crown will be left over the trench line to allow for natural subsidence. If the excavated material contains rocks that could damage the pipe and/or coating, a rock shield will be used to protect the pipe. Topsoil will not be used for padding.

## 11.2 Special Construction Techniques

### 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. With the exception of one field road (166th Avenue

SE), which may be bored or open cut, NuStar proposes to use the HDD method to cross wetlands, waterbodies, roads, and irrigation water supply ditches, which consist of the following crossing points: Interstate Highway 94, BNSF Railroad, County Road 10 (36<sup>th</sup> Street SE), County Road 20 (33<sup>rd</sup> Street SE), the Maple River, the Lower Branch Rush River, four irrigation water supply ditches, and eight wetlands.

The first step in HDD construction involves 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 the desired target depth.

The second step consists of enlarging (reaming) the pilot hole to a size that will facilitate pulling the pipeline through the enlarged hole, which is approximately 1.5 to 2.0 times larger than the outside diameter of the pipe. Reaming of the pilot hole is 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.

Prior to drilling the bore, pipe sections are welded together to fabricate a pipeline segment of sufficient length for the bore. Generally, the pipe is laid out and welded on the exit side of the bore. After welding the pipe sections together and performing non-destructive weld testing (e.g., radioactive photography), the pipeline segment for the bore is hydrostatically pressure tested prior to installation. Once the bore hole has been enlarged and is stable, the welded pipeline segment is pulled through the hole.

Refer to the Typical Waterbody Crossing HDD and HDD Road Crossing schematic drawings in Appendix A.

#### Boring Method

NuStar may either bore or open cut one field road (166<sup>th</sup> Avenue SE). If boring is used, an entry bore pit and exit bore pit will be excavated on both sides of the crossing. The boring machine will be placed in the entry pit where it will auger through to the exit pit. A section of pipeline that is already welded together, inspected, and pressure tested is then pulled back through the augered hole.

#### 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. As noted above, waterbody crossings will be constructed using HDD technology and in accordance with applicable permits.

The proposed Project stormwater pollution prevention plan (SWPPP) will specify measures based on BMPs that will 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 will be located within the ROW at upland areas a minimum of 50 feet from the waterbody edge. Trench spoils will be stored at least 10 feet from the waterbody banks (topography permitting). Sediment barriers, such as a silt fence, will be installed to prevent spoil and sediment-laden water from entering the waterbody.

Where the Project crosses small streams, NuStar will use wooden matting to bridge stream crossings for construction vehicles, when possible. For crossings of larger streams, NuStar may use wooden bridges, mats, and/or “air bridges” to minimize disturbance, but may elect to detour construction vehicles around these crossings.

### **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 Natural Resources Conservation Service (NRCS) or as required by the landowner with the exception of cultivated lands. Specific restoration measures are described in the Environmental Mitigation Plan (EMP), which is provided in Appendix C.

### **12.0 OPERATION AND MAINTENANCE**

During Project operation, pipeline pressure, temperature, and flow rate data will be transmitted via satellite to a central SCADA system control center located in San Antonio, Texas. The SCADA system will provide continuous monitoring of pipeline operations 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 will be triggered, notifying NuStar of the potential issue. NuStar will develop a Pipeline Integrity Management Plan that complies with applicable federal regulations (49 CFR 195.400) 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, NuStar will implement emergency response measures to address the situation. NuStar contracts with an experienced emergency response service provider, whose experience includes implementing emergency response protocols for releases impacting surface waters, such as the Maple River. Further, as required by 49 CFR 194, NuStar is preparing an Emergency Response Plan that will outline specific protocols to be implemented in the event of a pipeline release or other emergency.

During operations, NuStar will use the permanent ROW easements to conduct inspections and perform maintenance activities. Maintenance activities will 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**

#### **13.1 Project Alternatives**

##### 13.1.1 No Action

Under the No Action Alternative, the Project would not be constructed. Without the Project, a connection between Cenex's existing Laurel Pipeline, via the proposed Cenex Fargo Terminal, and NuStar's existing North System Pipeline would not be established, and the associated system enhancements would not be realized. As such, the purpose and need of the Project would not be fulfilled. For these reasons, No Action is not an alternative to the Project.

##### 13.1.2 Other Pipelines

No existing or planned pipeline projects provide a means to interconnect the NuStar's existing North System Pipeline with Cenex's existing Laurel Pipeline. As such, no other pipelines meet the purpose and need of this Project.

##### 13.1.3 Trucking

Trucks are an option for transporting refined petroleum products. However, the purpose of the Project is to interconnect two existing refined petroleum products pipelines located within a few miles of each other. It would not be as economical, efficient, or safe to use trucks to transport refined petroleum products such a short distance between two existing pipelines. To transport the normal daily throughput of the proposed Project (up to 24,000 barrels of refined petroleum products), approximately 120 trucks per day would be required, as well as the construction of permanent truck loading and offloading facilities at each endpoint. Increased truck transport would increase the potential for truck-related incidents (e.g., spills and crashes) and impacts on road infrastructure. In addition, transporting refined petroleum products 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.

##### 13.1.4 Rail

Although rail is an option for transporting refined petroleum products, no rail facilities exist or are planned that would provide a means of transporting refined petroleum products between Cenex's existing Laurel Pipeline, via the proposed Cenex Fargo Terminal, and NuStar's existing North System Pipeline. Given the lack of existing rail infrastructure between the proposed endpoints, construction of permanent, aboveground rail lateral service lines and ancillary facilities (including railcar loading and offloading facilities) would be required. Such facilities would require permanent conversion of agricultural land to an industrial purpose, and would have greater permanent environmental and landowner impacts than the Project. Moreover, given the short transport distance and the purpose of interconnecting two existing refined petroleum product pipelines, it is not as economical,

efficient, or safe to transport refined products via rail. Therefore, rail is not an alternative to the Project.

### 13.1.5 Route Alternatives

The overall objective of the Project is to safely and reliably transport refined petroleum products between Cenex's existing Laurel Pipeline, via the proposed Cenex Fargo Terminal, and NuStar's existing North System Pipeline, enhancing the supply capabilities of both systems. Factors considered in selecting the Route include the following.

- Meeting the Project's geographic requirements.
- 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, NuStar considered two major alternatives to the Route:

- Route Alternative #1: Initially, NuStar and Cenex identified a potential location for the Cenex Fargo Terminal in Section 8, Township 140 North, Range 50 West, in Raymond Township. With that location in mind, NuStar identified a potential route extending north along 164th Avenue SE from the planned point of interconnection with the existing NuStar North System Pipeline in Section 8, Township 139 North, Range 50 West, to the potential Cenex Fargo Terminal location. However, the City of Mapleton indicated concerns with a pipeline route along 164th Avenue SE due to the potential to interfere with the city's growth. Additionally, Raymond Township officials and residents of Prosper, North Dakota, voiced concerns regarding the proposed location of the Cenex Fargo Terminal. As a result, NuStar and Cenex decided to explore alternate locations for the Project and Cenex Fargo Terminal, and NuStar did not pursue a route along 164th Avenue SE.
- Route Alternative #2: NuStar and Cenex considered various locations for the Cenex Fargo Terminal west of 164th Avenue SE, with multiple potential routes extending between the site and the existing NuStar North System Pipeline. However, the alternatives explored would have required a longer pipeline, with associated increased impacts and cost. In addition, initial feedback from landowners indicated potential opposition to a pipeline and terminal in this area. For these reasons, NuStar did not pursue a route west of 164th Avenue SE.

In addition to the major route alternatives noted above, NuStar also considered a number of route deviations proposed by landowners or in consultations with agencies, local officials, and existing infrastructure owners. 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.

## **14.0 ENVIRONMENTAL STUDIES**

### **14.1 Cultural Resource Inventory**

As part of the initial phase of investigation, a Class I literature search of archaeological and historical literature and records for the Study Area was conducted on February 9, April 14, and May 13, 2015. The background search included a review of files maintained at the State Historical Society of North Dakota, as well as historical survey plats. Five previously recorded cultural resources were identified within the Study Area. One previously recorded resource, an isolated find, was identified within 100 feet on either side of the proposed centerline. No historic buildings or structures, historic sites, or other areas of historic significance were identified within the Corridor.

A Class III intensive cultural resource inventory was conducted by SWCA Environmental Consultants (SWCA) on May 14 and 15, July 23, and August 25, 2015 (Schleicher, J., and W. Harding. 2015 and 2015b). The Corridor (with the exception of the Fargo Pump Station site), as well as a number of potential alignments, were surveyed, consisting of 332.54 acres. During the inventory, one site was newly recorded within the survey area; the previously recorded isolated find was not relocated. SWCA recommended both the newly recorded site and previously recorded isolated find as not eligible for inclusion in the National Register of Historic Places. Therefore, no further work is recommended.

In the cultural resources report and addendum report submitted to the North Dakota State Historic Preservation Office (SHPO) on August 7 and September 1, 2015, respectively, SWCA recommended that a determination of *No Significant Sites Affected* and *No Historic Properties Affected* be issued for the Project in both reports. SHPO concurred with the determination in the initial report in a letter dated August 10, 2015 (see Appendix E). No additional cultural resources were identified in the addendum report. SHPO concurred with the findings of the addendum in a letter dated September 8, 2015.

NuStar will conduct a Class III intensive cultural resource inventory for the Fargo Pump Station site, prepare an addendum to its cultural resources report, and obtain SHPO concurrence regarding the updated findings.

### **14.2 Wetland and Waterbody Inventory**

Prior to conducting surveys, SWCA reviewed National Wetlands Inventory (NWI) data and National Hydrography Data to determine the location and extent of mapped wetlands and waterbodies within the Study Area. The desktop analysis identified twelve streams, totaling approximately 11.47 river miles, and 18 NWI wetlands, totaling approximately 19.8 acres, within the Study Area.

SWCA conducted field surveys of the Corridor (with the exception of the Fargo Pump Station site), as well as a number of potential alignments, on May 14 and 15, July 16 and 23, and August 25, 2015, to confirm the presence and/or absence of wetlands and waterbodies within

the Corridor (Persinger, A., and B. Karvel-Fuller, 2015). Eight wetlands, totaling approximately 1.27 acres, were identified and recorded during the field surveys. All wetlands were recorded as semi-permanent and isolated and are unlikely to be U.S. Army Corps of Engineers (USACE) jurisdictional wetlands. All will be crossed by HDD. Wetlands 2, 3, and 6 will be temporarily impacted by matting and bridging within temporary workspace totaling approximately 0.23 acre. Two waterbodies, totaling approximately 0.97 acre, were identified within the Corridor surveyed. The Maple River and the Lower Branch of the Rush River are likely USACE jurisdictional waterbodies due to their connection to the Sheyenne River. The Lower Branch of the Rush River will be crossed by HDD; however 0.07 acre of matted temporary workspace will be required for the HDD. Refer to Appendix D, Natural Resources Report, for additional information on these features and mapped locations.

Wetland and waterbody field surveys will be conducted for the Fargo Pump Station site, and the natural resources report will be updated accordingly.

### 14.3 Habitat Assessment

#### 14.3.1 Tree/Sapling/Shrub Inventory

SWCA used aerial imagery and LANDFIRE (LANDFIRE 2012) to analyze the Study Area for land use and woody vegetation. Less than 1% of the Study Area contains woody vegetation.

SWCA conducted field surveys of the Corridor (with the exception of the Fargo Pump Station site), as well as a number of potential alignments, on May 14 and 15, July 16 and 23, and August 25, 2015, to confirm the presence or absence of woody vegetation. The Commission requires 2:1 mitigation for all shrubs and all trees that are 1 inch diameter at breast height or greater that will be impacted during the construction of the Project. No shrubs, or trees with a diameter at breast height of 1 inch or greater were identified within the Corridor surveyed during the field studies. Refer to Appendix D, Natural Resources Report, for additional information on these features and mapped locations.

Tree and shrub inventories will be conducted for the Fargo Pump Station site, and the natural resources report will be updated accordingly.

#### 14.3.2 Federally Protected Species

In Cass County, North Dakota, three species are listed under the Endangered Species Act: the gray wolf (*Canis lupus*) (Endangered), the whooping crane (*Grus Americana*) (Endangered), and the northern long-eared bat (*Myotis septentrionalis*) (Threatened). SWCA conducted field surveys of the Corridor (with the exception of the Fargo Pump Station site), as well as a number of potential alignments, on May 14 and 15, July 16 and 23, and August 25, 2015, to confirm the presence or absence of suitable habitat for the gray wolf, whooping crane, and northern long-eared bat. No threatened or endangered species were observed during the field surveys. Refer to Appendix D, Natural Resources Report, for additional information on these species.

Field surveys will be conducted for the Fargo Pump Station site, and the natural resources report will be updated accordingly.

### Gray Wolf

Although gray wolves have been observed in the region, no packs are known to have become established in North Dakota, and most of the observed individuals are likely dispersing from Minnesota and Canada. Due to the highly mobile nature of the gray wolf, individuals may be found in the Study Area. Because wolves require large areas of relatively undisturbed habitat with low human activity, development of infrastructure could be a potential stressor and result in wolves avoiding these areas of disturbance. Nonetheless, there are no established wolf packs or known reports of occurrence in the Study Area, so any stressors due to the Project are not likely to affect gray wolves.

### Whooping Crane

The Study Area is located to the east of the delineated whooping crane migration corridor in North Dakota. Even though the Study Area may contain suitable foraging and roosting habitat for whooping cranes, only 5% of whooping crane sightings are outside of the migration corridor. The nearest verified sighting of a whooping crane occurred in 1976 when one adult was located 22 miles to the southwest of the Study Area (U.S. Fish and Wildlife Service 2013b).

Due to the Project location being outside of the delineated whooping crane migration corridor, the whooping crane is not expected to be impacted by the Project.

### Northern Long-eared Bat

Northern long-eared bats are not known to occur in the Study Area, although species-specific surveys have not been conducted. No known winter hibernacula are located in North Dakota, due to either no suitable hibernacula present or a lack of survey effort (U.S. Fish and Wildlife Service 2013). Suitable winter habitat for northern long-eared bats does not occur within the Study Area; however, nearby trees can act as suitable summer day roosts.

Due to the lack of woody vegetation or other suitable habitat along the Route, the northern long-eared bat is not expected to be impacted by the Project.

#### 14.3.3 Migratory Bird Treaty Act

Suitable habitat for migratory birds exists in the Survey Area, and field surveys confirmed the presence of suitable habitat along the Route. Specifically, grassland nesting birds have the potential to occur and nest in the Route, 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 avoid or minimize potential impacts of the proposed Project on migratory birds, NuStar will use standard construction practices associated with migratory birds. As such, migratory birds are not expected to be impacted by the proposed Project. Refer to Appendix D, Natural Resources Report, for additional information on migratory birds.

#### 14.3.4 Bald and Golden Eagle Protection Act Consultation

The bald eagle (*Haliaeetus leucocephalus*) feeds on fish and carrion and typically roosts in large trees near a water source. Bald eagle nesting habitat typically consists of any mature stands of conifer or cottonwood trees in association with rivers, streams, reservoirs, lakes, or

any significant body of water. Bald eagles in eastern North Dakota are usually observed along the Red River and Sheyenne River. The nearest known bald eagle nest is located approximately 4 miles to the east (North Dakota Game and Fish Department 2015) of the Study Area. Bald eagles may migrate through the Study Area; however, no bald eagles or nests were observed during the field surveys.

The golden eagle (*Aquila chrysaetos*) prefers habitat characterized by open prairie, plains, and forested areas. Usually, golden eagles in North Dakota can be found in proximity to badland cliffs, which provide suitable nesting habitat. Golden eagles are unlikely to occur within or near the Study Area due to its location outside the golden eagle's primary nesting range. The closest known golden eagle nest is approximately 250 miles west of the Study Area. There are no known golden eagle nests in the Red River Valley.

Due to the lack of occupied bald and golden eagle nests in the Corridor, and the Project's location outside the primary range for the golden eagle, bald and golden eagles are not expected to be impacted by the Project.

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

## **15.0 CONSULTATION**

In July and August 2015, SWCA, on behalf of NuStar, sent letters to various agencies and officials, including those identified in NDAC Section 69-06-01-05, providing information regarding the Project and requesting input. The responses received to-date are summarized below. Please refer to Appendix E, Agency Correspondence/Consultation, for copies of the consultation letters sent and received.

### **15.1 U.S. Army Corps of Engineers**

In a letter dated July 22, 2015, the USACE confirmed that, based on the information provided, the proposed Project would not require a Section 10 permit. USACE stated that if the Project requires discharge of dredge or fill material in waters of the United States, a Section 404 permit would be required. A Section 404 permit application with instructions was attached to the letter.

NuStar will use HDD to avoid permanent impacts to wetlands crossed by the Route. Temporary impacts will fall within the scope of the USACE's Nationwide Permit 12.

### **15.2 North Dakota Parks and Recreation Department**

In a letter dated August 3, 2015, the North Dakota Parks and Recreation Department (NDPRD) providing the following comments and recommendations.

- NDPRD advised that a designated snowmobile trail crosses the Route at the 33<sup>rd</sup> Street SE road crossing.
- NDPRD stated that there were no documented occurrences in its database of any plant or animal species of concern or other significant ecological communities within a 1-mile radius of the Project area.

- NDPRD recommended that the Project be accomplished with minimal impacts without disturbance to critical habitats, and that any impacted areas be revegetated with native species.

The Project will use HDD to cross both the designated East Central Valley snowmobile trail and the 10-foot-wide section of 33rd Street SE, thereby avoiding impacts to those features. No designated critical habitats will be impacted by the Project. Disturbed areas will be revegetated using seeding requirements specified by the NRCS or as required by the landowner with the exception of cultivated lands.

### **15.3 North Dakota State Historic Preservation Office**

In a letter dated July 20, 2015, SHPO recommended a Class III (pedestrian) survey of the Project with specific recommendations that the proposed Project avoid significant cultural resources or sites eligible for the National Register of Historic Places, especially in areas with high densities or previously identified sites.

SWCA completed a Class I background search of files maintained at the State Historical Society of North Dakota and historic survey plats for the Study Area on February 9, 2015, with updates completed on April 14, and May 13, 2015. SWCA completed a Class III cultural resource inventory on May 14 and 15, July 23, and August 25, 2015. The results of these investigations are discussed in Section 14.1. In the cultural resources report and addendum report submitted to the SHPO on August 7 and September 1, 2015, respectively, SWCA recommended that a determination of *No Significant Sites Affected* and *No Historic Properties Affected* be issued for the Project. SHPO concurred with the recommended determination in the initial report in a letter dated on August 10, 2015 (see Appendix E). SHPO concurred with the findings of the addendum in a letter dated September 8, 2015.

SWCA completed an Unanticipated Discovery Plan and submitted it to SHPO on August 20, 2015. SHPO concurred with the plan in a letter dated August 24, 2015.

NuStar will conduct a Class III cultural resource inventory for the proposed Fargo Pump Station, and will submit the findings to SHPO for review and concurrence.

### **15.4 North Dakota State Water Commission**

In a letter dated July 28, 2015, the North Dakota State Water Commission (NDSWC) stated that the proposed Project is located within floodplains. Since the NDSWC does not have permitting authority, NDSWC indicated that local floodplain administrators would need to be consulted. On July 29, 2015, SWCA sent Project information to and requested input from the Cass County Floodplains Administrator, Raymond Township Floodplain Administrator, and the Mapleton Township Floodplain Administrator by email. To date, no comments have been received from the local floodplain administrators.

The NDSWC provided location information for gaging stations and water wells and requested that it be notified of potential Project impacts to those facilities. Also, the NDSWC noted that 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, and that all waste materials

are disposed of properly and not placed in identified floodway areas. The NDSWC stated that no sole-source aquifers have been designated in North Dakota.

The Project is not anticipated to impact gaging stations or water wells. No waste materials will be placed in identified floodway areas, and all waste materials will be properly disposed of in accordance with measures outlined in NuStar's EMP (see Appendix C).

### **15.5 North Dakota Department of Transportation**

In letters dated September 10, 2015, the North Dakota Department of Transportation (ND DOT) stated that the proposed pipeline project should have no adverse effect on Interstate Highway 94, but that it can only be permitted to cross Interstate Highway 94 and not run along the interstate ROW. The ND DOT also stated that the 42-acre facility should have no adverse effects on the ND DOT highways.

### **15.6 North Dakota Trust Lands**

On July 20, 2015, the North Dakota Trust Lands (NDTL) responded via email, requesting additional information regarding the approximate location of the pipeline and its proximity to mineral interests that they manage.

On July 23, 2015, SWCA responded to the NDTL by email, providing the requested shapefiles. The NDTL then responded via email on July 23, 2015, stating that they concurred with the data and that the data can be used for the filing with the Commission in the state of North Dakota.

### **15.7 Cass County Weed Control Board**

On July 22, 2015, the Cass County Weed Control Board (CCWCB) responded via email, requesting additional information regarding NuStar's plans for control of noxious and troublesome weeds during the construction, reclamation, and restoration phases of the Project; and plans for long-term weed management following construction.

The CCWCB also requested information regarding the sources of grass seed mixtures to be used during reseeding.

On July 29, 2015, SWCA responded to the CCWCB by email, providing the Draft Weed Control Plan. SWCA stated that, as discussed in the Draft Weed Control Plan, the Project's SWPPP addresses noxious weed control. SWCA further noted that, although no noxious weeds were identified during Project field surveys, the potential exists for noxious weeds to be introduced by construction equipment during Project construction. SWCA explained that to address this potential, the Project's EMP requires that all construction-related equipment be thoroughly cleaned prior to moving equipment to the job site.

With respect to sources of grass seed mixtures, SWCA indicated that the Draft Weed Control Plan does not currently address the sources of grass seed mixtures. SWCA requested that, if available, the CCWCB provide SWCA with information regarding sources of weed-free seed mixtures.

**16.0 IDENTIFICATION OF POTENTIAL PERMITS/APPROVALS**

A permitting matrix was created showing potential federal, state, and local permits that may be needed prior to construction of the Project. See Table 2 for a list of potential permits and approvals.

**Table 2. Potential Permits/Approvals**

| <b>Agency</b>   | <b>Permit/Approval</b>   | <b>Status</b>  |
|---|--|--|
| <b>Federal</b>  |  |  |
| U.S. Army Corps of Engineers                              | Section 404 permit for dredge/fill in jurisdictional wetlands and waterbodies  | Project will qualify for Nationwide Permit 12.   |
| U.S. Fish and Wildlife Service                            | Consultation and review of the proposed Project regarding impact to federally threatened and endangered species, migratory birds, and bald and golden eagles | Consultation requested.  |
| <b>State</b>  |  |  |
| North Dakota Public Service Commission                    | Certificate of Corridor Compatibility & Route Permit   | Application pending.   |
| North Dakota Department of Health, Water Quality Division | National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activity                       | Submit Notice of Intent and Storm Water Pollution Prevention Plan at least 7 days prior to construction.   |
|   | NPDES General Permit for Temporary Dewatering/Hydrostatic Testing  | Submit application at least 30 days prior to discharge.  |
| North Dakota State Historic Preservation Office (SHPO)    | Cultural and historic resources consultation and review  | A Class III intensive cultural resource inventory was completed for the Corridor (with the exception of the Fargo Pump Station) and SHPO concurrence was received. NuStar will conduct a Class III intensive cultural resource inventory for the Fargo Pump Station site, prepare an addendum to its cultural resources report, and obtain SHPO concurrence. |
| North Dakota Department of Transportation                 | Highway Crossing Permit  | To be obtained prior to crossing interstate highway.   |
|   | State Highway Boring Permit  | To be obtained prior to conducting highway boring.   |
|   | Oversize and Overweight Permit   | To be obtained by construction contractor, as necessary.   |

| Agency                                    | Permit/Approval   | Status   |
|---|---|--|
| <b>Local</b>                              |   |  |
| Cass County                               | County Road and Section Line Crossing Permit                        | To be obtained prior to crossing county roads and section lines.   |
| Cass County Joint Water Resource District | River Crossing Permits  | To be obtained prior to crossing Maple and Rush Rivers.  |
| Raymond Township                          | Conditional Use Permit and Township Road and Section Line Approvals | To be obtained prior to project construction. Raymond Township reviews and approves township road and section line crossings as part of the conditional use permit process.  |
| Mapleton Township                         | Conditional Use Permit and Township Road and Section Line Approvals | To be obtained prior to project construction. Mapleton Township reviews and approves township road and section line crossings as part of the conditional use permit process. |
| BNSF Railroad                             | Railroad Crossing Permit  | To be obtained prior to crossing railroad.   |

**17.0 SITING CRITERIA**

**17.1 Exclusion Areas**

In accordance with NDAC § 69-06-08-02(1), certain geographical areas shall be excluded from consideration for a transmission facility route. A buffer zone of a reasonable width to protect the integrity of the area must be included. Exclusion areas may be located within a corridor, but at no given point may such an area or areas encompass more than 50% of the corridor unless there is no reasonable alternative. See Table 3 for a summary of exclusion areas in relation to the Corridor and Route.

**Table 3. Exclusion Areas Summary**

| Feature  | Within Corridor (Y/N) | Route Crosses Y/N | Description | Section Addressed |
|--|-----------------------|-------------------|-------------|-------------------|
| Designated or registered national parks, memorial parks, historic sites and landmarks, natural landmarks, monuments, and wilderness areas. | N                     | N                 | N/A         | 16.1.1            |
| Designated or registered state parks, historic sites, monuments, historical markers, archaeological sites, and natural preserves.          | N                     | N                 | N/A         | 16.1.2            |
| County parks and recreational areas, municipal parks, and parks owned or administered by other governmental subdivisions.                  | N                     | N                 | N/A         | 16.1.3            |

| Feature   | Within Corridor (Y/N) | Route Crosses Y/N | Description | Section Addressed |
|---|-----------------------|-------------------|-------------|-------------------|
| Areas critical to the life stages of threatened or endangered animal or plant species.  | N                     | N                 | N/A         | 16.1.4            |
| Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged.                            | N                     | N                 | N/A         | 16.1.5            |
| Areas within 1,200 feet of the geographic center of an intercontinental ballistic missile (ICBM) launch or launch control facility. | N                     | N                 | N/A         | 16.1.6            |
| Areas within 30 feet on either side of a direct line between ICBM launch or launch control facility.                                | N                     | N                 | N/A         | 16.1.7            |

17.1.1 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 sites and landmarks, natural landmarks, monuments, and wilderness areas would be crossed by the Corridor or Route. See also Section 14.1 of this Consolidated Application.

17.1.2 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, archaeological sites, and natural preserves would be crossed by the Corridor or Route. See also Section 14.1 of this Consolidated Application.

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

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

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

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

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

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

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

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

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

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

**17.2 Avoidance Areas**

In accordance with NDAC § 69-06-08-02(2), certain geographical areas may not be considered in the routing of a transmission facility unless the applicant shows that, under the circumstances, there is no reasonable alternative. In determining whether an avoidance area should be designated for a facility, the Commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative routes. In addition, a buffer zone of a reasonable width to protect the integrity of the area must be included, unless a distance is specified in the criteria. Avoidance areas may be located within a corridor, but at no given point may such an area or areas encompass more than 50% of the corridor unless there is no reasonable alternative. See Table 4 for a summary of avoidance areas in relation to the Corridor and Route.

**Table 4. Avoidance Areas Summary**

| <b>Feature</b>  | <b>Within Corridor (Y/N)</b> | <b>Route Crosses Y/N</b> | <b>Description</b> | <b>Section Addressed</b> |
|---|------------------------------|--------------------------|--------------------|--------------------------|
| Designated or registered national historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands.                                 | N                            | N                        | N/A                | 16.2.1                   |
| Designated or registered state wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands. | N                            | N                        | N/A                | 16.2.2                   |
| Historical resources which are not specifically designated as exclusion or avoidance areas.   | N                            | N                        | N/A                | 16.2.3                   |
| Areas which are geologically unstable.  | N                            | N                        | N/A                | 16.2.4                   |
| Within 500 feet of a residence, school, or place of business.   | N                            | N                        | N/A                | 16.2.5                   |
| Reservoirs and municipal water supplies.  | N                            | N                        | N/A                | 16.2.6                   |
| Water sources for organized rural water districts.  | N                            | N                        | N/A                | 16.2.7                   |

| Feature   | Within Corridor (Y/N) | Route Crosses Y/N | Description | Section Addressed |
|---|-----------------------|-------------------|-------------|-------------------|
| Areas of recreational significance which are not designated as exclusion areas. | N                     | N                 | N/A         | 16.2.8            |

17.2.1 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 crossed by the Corridor and Route.

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

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

17.2.3 Historical Resources Not Specifically Designated as Exclusion or Avoidance Areas

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

17.2.4 Areas that are Geologically Unstable

The Corridor and Route do not cross geologically unstable areas.

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

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

17.2.6 Reservoirs and Municipal Water Supplies

No reservoirs and municipal water supplies were identified in the Corridor or Route.

17.2.7 Water Sources for Organized Rural Water Districts

No water sources for organized rural water districts are present in the Corridor or Route.

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

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

**17.3 Selection Criteria**

17.3.1 Agricultural Production

Agricultural land use comprises approximately 97% of the Project's Route (LANDFIRE 2012). The Project Route would temporarily impact approximately 14.81 acres of prime

farmland, 52.54 acres of potential prime farmland, if drained, and approximately 0.26 acre of non-prime farmland, totaling 67.61 acres (Table 5). Dominant crops include corn, soybeans and sunflowers. With the exception of above-ground facilities, once construction is complete, the ROW may return to its prior use, including in areas currently used for agricultural production. As such, impacts to agricultural production along the Route would be minimal and temporary.

**Table 5. Farmland in Study Area**

| Type of Farmland             | 1-mile-wide Study Area |                    | Survey Corridor |                    | Right-of-Way |                    |
|------------------------------|------------------------|--------------------|-----------------|--------------------|--------------|--------------------|
|                              | Area (acres)           | Percent Total Area | Area (acres)    | Percent Total Area | Area (acres) | Percent Total Area |
| All areas are prime farmland | 798.24                 | 17.0%              | 39.39           | 19.0%              | 14.81        | 21.9%              |
| Prime farmland if drained    | 96.16                  | 2.0%               | 164.94          | 80.0%              | 52.54        | 77.7%              |
| Not prime farmland           | 3,881.69               | 81.0%              | 1.72            | 1.0%               | 0.26         | 0.4%               |
| <b>Total</b>                 | <b>4,776.09</b>        | <b>100.0%</b>      | <b>206.05</b>   | <b>100.0%</b>      | <b>67.62</b> | <b>100.0%</b>      |

### 17.3.2 Family Farms and Ranches

There are seventeen family farms and no ranches located within the Study Area. Eleven farm units are crossed by the Route. Construction impacts to family farms would be short term and minor, with the primary impact being the loss of standing crops and the use of the land within the work area during construction activities as well as potential diminished yields following construction. NuStar will implement mitigation measures to minimize potential impacts to family farms and ranches, as outlined in the EMP (Appendix C).

No long-term or permanent impacts are expected to family farms and ranches. Post-construction restoration would return the ROW to pre-construction contours, and farming operations would continue over the operational ROW. NuStar has acquired and will compensate landowners for easements for the Project.

### 17.3.3 Land Economically Suitable for Irrigation

NuStar has not identified any center pivot irrigation within the Project Corridor or Route, or any land that is planned to be irrigated. Thus, the Project is not anticipated to impact irrigated land or any irrigation systems. In the event that irrigation systems are encountered, NuStar will compensate and/or repair any damages to the systems that may result from the Project's construction activities.

### 17.3.4 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 at depths that will not interfere with flow or future maintenance efforts by landowners or the drainage/irrigation authority.

### Groundwater Flow Patterns

All of Cass County is covered with glacial drift that ranges in thickness from 80 to 470 feet. In the Project area, the glacial drift consists of two units: an upper unit that is comprised of a silty yellow clay that ranges in thickness from 0 to about 50 feet; and a lower unit that is comprised of a silty, olive-gray, plastic clay that ranges in thickness from 0 to about 80 feet.

The West Fargo Aquifer underlies the Study Area and is a buried glaciofluvial deposit that extends in a north/south direction and ranges in thickness from 0 to 140 feet, with an average thickness of 60 feet. The aquifer material consists of sediments ranging in size from fine sand to boulder-sized, but consist mainly of fine- to coarse-grained sand. This is an artesian aquifer system that is confined by the overlying silt and clay deposits that appear to range from 60 to 90 feet in thickness. The basal confining units may be composed of either granite, Cretaceous-age shale, or glacial till.

Regional groundwater flow directions are to the east and northeast towards the Sheyenne River. Local groundwater flow directions along the Route are towards the Maple River, the Lower Branch of the Rush River, and drainage ditches associated with cultivated fields.

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.

#### 17.3.5 Sound Sensitive Land Uses

The proposed Project would be located in a rural area that is sparsely populated. Existing noise within the area is primarily natural, except for the occasional roadway traffic and agricultural equipment. Areas of the proposed Project near Interstate Highway 94 experience higher levels of noise from highway traffic. Sound intensity is measured by the decibel; the A-weighted scale 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. In rural areas, background noise is generally at levels of 40 to 50 A-weighted decibel (McCain and Associates, Inc. 2011).

Construction-related activities are expected to be short-term and during the daytime; therefore, impacts to area residents would be minimal. During operations, noise impacts would be primarily vehicles used to transport maintenance personnel at the ROW and aboveground facilities. NuStar and its contractors will comply with all state and local noise requirements during construction and operation of the Project.

#### 17.3.6 Visual Effect on Adjacent Areas

Impacts to visual resources as a result of Project development are assessed by the degree of modification 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 would attract the

attention of those in the area. 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 area that is sparsely populated and is primarily used for agriculture. Viewers of the landscape would be limited to area residents and travelers along local roadways. Although the Project will cross Interstate Highway 94, which has a high traffic volume, traveler views will be brief and short in duration. Based on the number of viewers and the duration of their views, viewer sensitivity is considered low.

With the exception of the aboveground facilities, the pipeline will be buried. During construction, vegetation will be removed, temporarily resulting in distinct contrasting lines within the landscape. However, once vegetation is re-established within the construction ROW, visual impacts will be limited to aboveground facilities. Painting these facilities with colors that blend with the surrounding landscape will reduce the visual contrast.

#### 17.3.7 Extractive and Storage Resources

There are no active extractive resources within the Study Area. Oil and gas production in North Dakota is primarily limited to the Williston Basin, which covers much of the western and central portions of the state and does not include Cass County (North Dakota Department of Mineral Resources 2015). No mineable coal, geothermal or uranium resources, or sand or gravel deposits are located in the Study Area (North Dakota Department of Mineral Resources 2015). The nearest clay deposit suitable for lightweight aggregate is located approximately 5 miles from the Study Area, along the Red River Valley, north of Fargo (North Dakota Department of Mineral Resources 2015). Therefore, construction and operation of the proposed Project will not impact access to, or the operations of, mineral resource extraction.

#### 17.3.8 Wetlands, Woodlands, and Wooded Areas

A desktop review was completed of the Study Area and included the review of aerial imagery, NWI data, and LANDFIRE dataset to identify any wetlands, woodlands, and wooded areas within the Study Area. Field surveys conducted on May 14 and 15, July 16 and 23, and August 25, 2015, identified these areas within the Corridor (with the exception of the Fargo Pump Station site). Please refer to Sections 14.2 and 14.3 for further discussion on the results of the desktop analysis and field surveys with respect to these resources.

HDD will be used to avoid impacts to wetlands crossed by the Project. No trees or shrubs were identified within the construction ROW. Wetland and waterbody field surveys and a tree and shrub inventory will be conducted for the Fargo Pump Station site, and the natural resources report will be updated accordingly.

#### 17.3.9 Radio and Television Reception and Other Communication or Electronic Facilities

No radio and television reception and/or other communications and electronic facilities are located within the Corridor or Route. NuStar does not anticipate the Project will impact radio and television reception and/or other communications and electronic facilities.

#### 17.3.10 Human Health and Safety

Construction of the proposed Project could generate a possible risk to local citizens' public safety from increased traffic along rural roadways. Increased truck traffic and transport of heavy equipment will be temporary during construction.

Transport of petroleum products by pipeline involves some risk in the event of an accident and the release of the product. A release of refined petroleum products during operation could contaminate soil and groundwater if the leak is not properly contained and remediated. To minimize this risk, the pipeline will be remotely monitored using a SCADA system 24 hours a day, 7 days a week. In addition, routine pedestrian and aerial patrols will be conducted, as will internal inspections using in-line inspection tools. During operations, NuStar will comply with the safety measures set forth in 49 CFR Part 195, as required by PHMSA.

To minimize potential impacts during operation, an Emergency Response Plan will be developed, in conjunction with local authorities and first responders, detailing site-specific response plans, emergency equipment availability and location, and emergency contacts. In addition to the Emergency Response Plan, a Pipeline Integrity Management Plan will be developed to outline pipeline integrity management procedures to be implemented during operation.

#### 17.3.11 Animal Health and Safety

Wildlife species currently inhabiting the Corridor are common and likely will not be permanently displaced by the proposed Project. Temporary disturbance will occur during construction of the proposed Project; however, no direct, long-term impacts to wildlife are anticipated from the Project.

#### 17.3.12 Plant Life

Plants species currently inhabiting the Corridor are common. Impacts to plant species in the Study Area from the Project are anticipated to be primarily temporary and minimal.

### **17.4 Policy Criteria**

#### 17.4.1 Location and Design

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

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

#### 17.4.2 Training and Use of In-State Labor

NuStar expects to employ approximately 60 to 70 workers during peak Project construction. Local, in-state labor will be used to the extent practicable; however, if specialized skilled

workers (e.g., licensed welders) are not available for hire within the state, NuStar may need to employ workers from out-of-state.

#### 17.4.3 Economies of Construction and Operation

Direct and indirect economic benefits to the state of North Dakota resulting from construction of the proposed Project are discussed in Sections 13.0 and 17.7. Once the Project is constructed and online, NuStar expects annual maintenance and operation costs to be minimal.

#### 17.4.4 Use of Citizen Coordinating Committees

NuStar has contacted and worked closely with local city, township, and county officials and personnel, utility companies, and others throughout development of the proposed Project. Initial contacts were made in February 2015. Project plans and preliminary alignment sheets and maps were provided to facilitate an exchange of information and gather concerns about the Project. 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.

#### 17.4.5 Commitment of a Portion of Transmitted Product for Use in State

The refined petroleum products transported by the Project will be delivered to the NuStar refined products terminals located in Moorhead, Sauk Centre, and Roseville, Minnesota. From those terminals, the refined petroleum products will be delivered by customers to North Dakota and Minnesota consumers.

As discussed in Section 3.0, the supply transported by the Project from Cenex's Laurel Pipeline to NuStar's North System Pipeline will also better enable NuStar to meet the gasoline and diesel fuel needs of North Dakota consumers from the centrally located Jamestown terminals, while still meeting the needs of downstream customers.

#### 17.4.6 Labor Relations

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

#### 17.4.7 Coordination of Facilities

NuStar performed a centerline survey of the Route and, based on that survey, NuStar identified all third-party entities/utilities that will be encountered (e.g., petroleum, water, electric, railroad, highways). NuStar then contacted each entity to obtain its respective crossing and encroachment guidelines and requirements and negotiated surface use agreements with landowners along the proposed Route. NuStar has incorporated these requirements into the Project design, and will work closely with each entity during construction and future operation and maintenance to ensure the safe construction and operation of the Project around these adjacent utilities/entities.

#### 17.4.8 Monitoring Impacts

NuStar is committed to the protection of the environment as well as public and employee safety. The proposed Project will be constructed and maintained in accordance with industry and government requirements and will meet or exceed all applicable federal, state, and local environmental laws, regulations, and standards, including those regulations stipulated by PHMSA. An EMP has been developed specifically for this Project (see Appendix C).

In addition, NuStar will provide construction oversight to confirm contractor compliance with mitigation measures, landowner agreements, and applicable permits. NuStar 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.

During Project operation, NuStar will conduct regular aerial and foot patrols of the ROW to identify issues of concern, including operational issues and ROW encroachment. In addition, the SCADA system will continuously monitor pressure, temperature, and product flow 24 hours a day, 7 days a week, with information transmitted via satellite to NuStar's Control Center, located in San Antonio, Texas, which will promptly respond to any anomalies. NuStar will monitor landowner and community concerns throughout Project operations and respond appropriately.

#### 17.4.9 Using Existing and Proposed Rights-of-Way and Corridors

NuStar's proposed Route was sited to co-locate with existing utility corridors, roads, and other existing linear features to the extent practical. Approximately 1 mile of the proposed alignment is adjacent to existing utilities (rural electric lines and a natural gas pipeline), and approximately 4 miles follow road ROWs or property boundaries. In some instances, the proposed ROW does not follow property boundaries due to landowner preferences or by mutual agreement with the landowners.

#### 17.4.10 Other Existing or Proposed Transmission Facilities

The Project will provide a connection between Cenex's existing Laurel Pipeline, via the proposed Cenex Fargo Terminal, and NuStar's existing North System Pipeline, which will enhance the refined petroleum products supply capabilities of both systems.

### **18.0 EVALUATION OF NDCC SECTION 49-22-09 FACTORS**

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

#### **18.1 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.

### **18.2 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 river, wetland, road, railroad, and irrigation water supply ditch crossings. 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 via a SCADA system 24 hours a day, 7 days a week.

### **18.3 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.

### **18.4 Unavoidable Adverse Direct and Indirect Environmental Effects**

With the exception of aboveground facilities, unavoidable adverse direct and indirect environmental impacts from the Project would be temporary and minimized through the use of mitigation measures and BMPs. Permanent environmental impacts would be limited to approximately 2 acres for the Fargo Pump Station, and 0.3 acre for the Mapleton Junction and the aboveground check valve access. 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.

### **18.5 Corridor or Route Alternatives Developed During the Hearing that Minimize Adverse Effects**

A description of the alternatives analyzed is presented above in Section 13.0. NuStar 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, NuStar has identified a Project Corridor and Route that meets the needs of the Project, as well as the Commission's siting criteria, while minimizing potential impacts to landowners, existing infrastructure, and the environment.

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

### **18.6 Irreversible and Irretrievable Commitments of Natural Resources if Designated**

Irreversible or irretrievable commitments of natural resources include steel for the pipeline and ancillary facilities; gravel for improvements to access roads, if required; and petroleum products to power construction equipment, the pump station, and other pipeline facilities. The

Project will convert approximately 2.3 acres to industrial use at the facility aboveground check valve access sites.

### **18.7 Direct and Indirect Economic Impacts of the Facility**

Direct and indirect economic impacts from Project construction include short-term employment opportunities during construction, increased local revenue for Project-related expenditures, and increased local and state tax revenues. Tax revenues in North Dakota are derived from sales, use, gross receipts, lodging, and individual income. Local property taxes would be realized on an annual basis during the Project's operational phase. Project-related local expenditures during the construction, for example, would include lodging and food, fuel, and construction materials and equipment.

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

NuStar has been in consultation with federal, state, and local governments, landowners, existing infrastructure owners, and water districts, and NuStar has not identified any potential conflicts with existing or planned developments. NuStar 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.

### **18.9 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 14.0, 15.0, 16.0, and 19.0 of this Consolidated Application.

### **18.10 Effects of the Proposed Route on Areas Which are Unique Because of Biological Wealth or Rare and Endangered Species Habitats**

Although suitable foraging habitat for the whooping crane is present in the Study Area, the Project location is east of the identified whooping crane migration corridor and thus, the likelihood of whooping cranes being in the Study Area is extremely low. No other potential areas that are unique because of biological wealth or because they are habitats for rare and endangered species are located within the Corridor or crossed by the Route and thus, the Project is not anticipated to impact these resources. For further discussion, please see Sections 14.0, 15.0, 16.0, and 19.0 of this Consolidated Application.

### **18.11 Problems Raised by Federal Agencies, other State Agencies, and Local Entities**

A summary of consultations, notifications, and agency responses are provided in Section 15.0; copies of correspondence are provided in Appendix E. Consultation is ongoing and NuStar will respond to and address concerns if raised.

## **19.0 OTHER FACTORS CONSIDERED**

### **19.1 Design Construction Limitations**

Specific factors taken into account in the selection of the 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 interconnect Cenex's existing refined petroleum products system with NuStar's existing refined petroleum products system at the identified interconnection points. Road crossings (HDD/bore) and railroad, irrigation water supply ditch, and wetland/waterbody crossings (HDD) will require special construction techniques, which have been incorporated into the proposed Project design (see Section 11.2 for a description).

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.

### **19.2 Economic Considerations**

In selecting the Corridor and Route, one of many factors NuStar 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 2.2 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 short-term employment of workers during construction, increased revenues from local expenditures, and increased tax revenues. Additionally, the proposed Project will enhance both NuStar's and Cenex's ability to supply refined petroleum products to consumers in North Dakota and Minnesota.

### **19.3 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 Corridor and Route. Similarly, there are no designated or registered state parks, sites, monuments, or nature preserves along the Route. There are also no county parks, municipal parks, or parks owned or administered by other governmental subdivisions along the Project Route, except for a snowmobile route identified by the NDPRD, as presented in Section 15.7 of this Consolidated Application.

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 Corridor or Route. Also, no designated or registered state wild or recreational rivers, game refuges, game management and management areas, forests, forest management lands, or grasslands will be crossed by the Corridor or Route.

The Project will cross land used for agricultural crop production. Once construction is complete, the ROW will be restored to its prior use. Further, as discussed in Sections 16.3.7 and 16.4.7, NuStar will continue to work closely with existing infrastructure owners to safely construct and operate the Project and to minimize the potential for impacts to existing facilities. Thus, impacts along the Route are anticipated to be primarily temporary and minimal.

## **20.0 APPLICANT'S MITIGATION MEASURES AND POLICIES AND COMMITMENTS TO LIMIT ENVIRONMENTAL IMPACT**

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

In addition to the mitigation measures discussed throughout this Consolidated Application, NuStar has developed an EMP, presented as Appendix C, which 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 EMP 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.

NuStar is also developing specific plans for the Project, including a SWPPP and an HDD Contingency Plan.

## **21.0 QUALIFICATIONS OF PREPARERS**

### **Mr. Jim Dawson**

Senior Project Manager

SWCA Environmental Consultants, 116 North 4<sup>th</sup> Street, Bismarck, North Dakota 57732

Mr. Dawson is a senior environmental specialist/project manager who provides regulatory compliance consulting services for oil and gas operations, including environmental site assessments and due diligence activities; stormwater permitting and inspections; preparation of Spill Prevention, Contingency and Countermeasure Plans, Facility Response Plans, and Pipeline Spill Response Plans; spill investigation, assessment, and cleanup services; and investigation and cleanup/remediation of reserve pits and legacy contamination sites.

Mr. Dawson is a Professional Geologist and Certified Hazardous Materials Manager with extensive field, regulatory, managerial, and consulting experience throughout the United States with diverse project experience, including contaminated soil and ground water investigation, monitoring, and remediation; environmental site assessments and due diligence activities; solid and hazardous waste management; environmental regulatory permitting and compliance assistance; ground water resources studies; and unexploded ordnance detection, discrimination, and remediation technologies.

**Dr. Judy Cooper**

Principal – Midwest

SWCA Environmental Consultants, 4320 Winfield Road, #200, Warrenville, Illinois 60555

Dr. Cooper is the Principal for SWCA’s Midwest operations, including Chicago and Pittsburgh. She most recently served as SWCA’s Cultural Resources Program Director in Austin and, before that, Office Director in SWCA’s Bismarck Office. She has more than 14 years of experience in cultural resources management and archaeology and has worked within the Great Plains, Rocky Mountains, and Mid-Atlantic regions. She is an expert in laws and regulations governing cultural resources. She also specializes in environmental compliance for energy projects and works with multi-disciplinary teams to ensure compliance with laws at the both state and federal level, including the Clean Water Act, Clean Air Act, and National Environmental Policy Act (NEPA). Dr. Cooper holds a bachelor’s degree in anthropology from Penn State University as well as a master’s degree and a Ph.D. in anthropology from Southern Methodist University.

**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 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. She holds the following degrees: B.J. 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. Ashley Persinger**

Project Manager

SWCA Environmental Consultants, 116 North 4<sup>th</sup> Street, Bismarck, North Dakota 57732

Ms. Persinger has extensive experience in avian ecology and habitat studies, encompassing study design, data collection and analyses, and field crew leadership. Ms. Persinger is a project manager and field director with 5 years of consulting experience in the Great Plains. She has led crews on hundreds of habitat assessments in North Dakota. Ms. Persinger is educated and experienced in multiple ecological principles, including mammalogy, ornithology, conservation, population dynamics, and habitat modeling. Her experience

includes threatened, endangered, and sensitive species analysis and critical habitat identification in support of NEPA documentation, including environmental and biological assessments.

**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. Ms. Smith holds the following degrees: B.A. English – Northern State University; M.A. Literature – Colorado State University; J.D. – University of Minnesota Law School.

**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. She holds the following degrees: B.A. Environmental Studies and Political Science – Concordia College; M.P.A. Environmental Policy – Indiana University School of Public and Environmental Affairs; J.D. – Indiana University Maurer School of Law.

## **22.0 REFERENCES CITED**

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**APPENDIX A**  
**Project Overview Maps and Engineering Drawings**

**APPENDIX B**  
**Ten-Year Plan**

**APPENDIX C**  
**Environmental Mitigation Plan**

**APPENDIX D**  
**Natural Resources Report**

**APPENDIX E**  
**Agency Correspondence/Consultation**

**APPENDIX F**  
**Cultural Resources Report**