

## 1.0 INTRODUCTION

The proposed Vantage Pipeline is a high vapor pressure pipeline that would carry ethane from a source near Tioga, North Dakota, United States, extend northwest through Saskatchewan, Canada, and terminate near Empress, Alberta, Canada. The pipeline would link a growing supply of ethane from North Dakota to markets in Alberta. More specifically, the Project would have the capacity to deliver an initial rate of 40,000 barrels per day (bpd), expandable to 60,000 bpd, of liquid ethane from natural gas facilities in North Dakota to the Alberta Ethane Gathering System (AEGS) in Alberta, Canada. The entire proposed Vantage Pipeline in the United States and Canada would be approximately 430 miles long.

In Canada, the proposed system would include the construction of approximately 350 miles of pipeline in Saskatchewan, Canada and approximately 2 miles of pipeline in Alberta, Canada, one pump station located at the midpoint of the pipeline between Lafleche and Assiniboia, Saskatchewan, one pump station located at the terminus near Empress, Alberta, and other associated facilities. Canadian National Energy Board (NEB) approval for the Canadian portion of the Project was granted on January 19, 2012, as discussed in section 1.9.

On November 15, 2010, Vantage Pipeline US LP (Vantage) applied to the U.S. Department of State (DOS) for a Presidential Permit for the construction, operation, and maintenance of pipeline facilities on the United States-Canada border for transportation of ethane from Tioga, North Dakota to the Alberta Ethane Gathering System (AEGS) in Alberta, Canada. The portion of the project in the United States would consist of 79.8 miles of 10-inch-diameter ethane pipeline in Williams and Divide Counties, North Dakota, as well as related aboveground and ancillary facilities, as described in section 1.4. The pipeline and collective facilities are referred to as the Vantage Pipeline Project (Project).

DOS served as the lead federal agency for the environmental review of the proposed Project consistent with the National Environmental Policy Act (NEPA). DOS receives and considers applications for Presidential Permits for such pipeline border crossings and associated facilities pursuant to the President's constitutional authority over foreign relations and as Commander-in-Chief, which authority the President delegated to DOS in Executive Order (EO) 13337, 69 FR 25299 (May 4, 2004). For liquid hydrocarbon pipelines, such as the proposed ethane pipeline, the President, through EO 13337, directs the Secretary of State to decide whether a project is in the national interest before a Presidential Permit is granted.

The determination of national interest involves consideration of many factors, including energy security; environmental, cultural, and economic impacts; foreign policy; and compliance with relevant federal regulations. Before making a decision, DOS will consult with the eight federal agencies identified in EO 13337: the Departments of Energy, Defense, Transportation, Homeland Security, Justice, Interior, and Commerce, and the Environmental Protection Agency. DOS will also solicit public input on the national interest determination by accepting written comments.

DOS authority over the border crossing does not include the legal authority to regulate pipelines within the United States. The U.S. Department of Transportation's (DOT's) Pipelines and Hazardous Materials Safety Administration (PHMSA) is responsible for promulgating regulations regarding issues of pipeline construction, operation, and maintenance. Individual states have the legal authority to approve pipeline construction in their states, including selecting the routes for such pipelines. Different states have made different choices in how or whether to exercise that authority. In preparation of this document, DOS has consulted with those federal and state agencies that possess regulatory authority over ethane pipelines, as well as federal, state, local, and tribal agencies that have jurisdiction with particular expertise regarding evaluating potential impacts of the proposed Project. In North Dakota, the agency

responsible for issuing a Certificate of Corridor Compatibility and Route Permit is the North Dakota Public Service Commission (NDPSC).

DOS, as the lead federal agency, has prepared this Final Environmental Assessment (EA) providing sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impacts (FONSI) consistent with the National Environmental Policy Act (NEPA) (42 U.S.C. 4321, et seq.) and its implementing regulations.<sup>2</sup>

This document provides an assessment of the latest available information of the U.S. portion of the proposed Project on the existing environment along the proposed pipeline route; an analysis of human and environmental impacts that could potentially result from pipeline right-of-way preparation, construction, operation, and maintenance of the proposed pipeline facilities; and a summary of the protection and restoration measures to be implemented to avoid and/or minimize environmental impacts.

In May 2012, DOS issued a Draft EA for the Vantage Pipeline Project. Appendix E includes agency comments DOS received on the May 2012 EA. This Final EA incorporates updated information regarding the Project that was received and developed subsequent to the May 2012 Draft EA, such as updated Section 7 and 106 consultations and plans.

## 1.1 PROJECT PURPOSE AND NEED

Vantage's stated purpose of the Project is to transport ethane from the existing Tioga Gas Plant in the Williston Basin of North Dakota to meet the market created by the petrochemical industry in Alberta, Canada. Vantage's stated need for the Project is dictated by the increasing ethane supplies in the Williston Basin and demonstrated interest from the petrochemical industry in Alberta, Canada to purchase these increased supplies.

The need for the Project is supported by existing ethane supply and demand, as well as forecasted supply and demand, in Canada and the United States. Ethane is a colorless, odorless, flammable gas whose vapors are heavier than air. Ethane is a natural gas liquid (NGL). Nearly all NGLs are derived from rich natural gas and include, in addition to ethane, propane, isobutane, and butane, among others. Natural gas is generally discovered along with crude oil supplies. Therefore, ethane supply is directly related to natural gas and crude oil exploration and production activities.

A market for the sale of ethane as a feedstock does not exist in North Dakota; however, ethane is currently used as a feedstock by the petrochemical industry in Alberta, Canada. These petrochemical facilities convert ethane to ethylene, which is the building block for a wide range of consumer and industrial products, such as plastics, antifreeze, rubber, detergents, and solvents. Because of its use as a feedstock, a market and demand for ethane exists in Alberta. Ethane is currently transported to/distributed amongst the Alberta petrochemical industry by way of the existing AEGS ethane pipeline infrastructure, which has been in operation since 1978. Construction of the Vantage pipeline would provide North Dakota natural gas producers with access to the AEGS, thereby making it economically feasible to begin extracting ethane from processed natural gas.

Canada's ethane market in recent years has been constrained due to declining oil and gas production. All economically available ethane is already being produced from existing gas supplies and some supply (e.g., Alliance) is exported to the United States, thus reducing the availability of ethane to Canada. Between 2007 and 2009, ethane consumption was at approximately 250,000 barrels per day (bpd); however, the ethane supply was at approximately 232,400 bpd, resulting in a 17,600 bpd shortfall

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<sup>2</sup> For more information on NEPA see "A Citizen's Guide to NEPA" Council on Environmental Quality (December 2007), which can be downloaded at <http://www.ceq.hss.doe.gov>.

(Purvin and Gertz, Inc., 2011). Projections of ethane consumption and supply through 2024 indicate that the shortfall would continue to increase, with a 102,800 bpd shortfall projected for 2024 (Purvin and Gertz, Inc., 2011). The proposed Project is expected to initially supply up to 40,000 bpd of ethane, significantly reducing the shortfall gap.

Despite incentives associated with Alberta's Incremental Ethane Extraction Policy, no large-scale projects have been developed to address the ethane supply shortfall. Potential smaller-scale projects to address the ethane shortfall in Alberta include projects by Williams Energy (Canada) Inc. and AuxSable Canada LP (Purvin and Gertz, Inc., 2011). However, forecasts of ethane supply from these projects are anticipated to be relatively small and would not fill the projected ethane consumption needs in Canada.

The Williston Basin in western North Dakota and eastern Montana has been a hotbed of oil and natural gas production in recent years due to economic factors and technological advances such as multi-step fracturing. Oil and natural gas production is anticipated to peak between 2015 and 2025, resulting in an associated supply of NGLs, including ethane (Purvin and Gertz, Inc., 2011). While NGLs are produced at 14 processing plants in North Dakota, nearly all of the ethane produced with the natural gas is left in the gas stream and must be eventually extracted.

As discussed in section 1.5, Hess Corporation (Hess) is expanding its existing Tioga Gas Plant in Tioga, North Dakota to accommodate ethane production. It is estimated that Hess' Tioga Gas Plant would produce 25,000 to 30,000 bpd of ethane. Vantage has signed a contract with Hess and NOVA Chemicals Corporation (NOVA) to purchase and transport ethane from Hess' Tioga Gas Plant to NOVA's Joffre Petrochemical Complex in Alberta under a long-term agreement.

Vantage also states that the Project would provide the oil and gas producing Bakken Formation region of North Dakota with access to the existing ethane AEGS infrastructure and market in Alberta. Currently no market exists for petrochemical grade (also known as "specification" or "pure grade") ethane in North Dakota; however, construction of the Project would make it feasible to extract the ethane byproduct from North Dakota-produced natural gas and export it for use in the Canadian petrochemical industry. Therefore, exports from the United States would be increased, which Vantage contends is consistent with the EO for the National Export Initiative (March 11, 2010). The Project would also allow U.S. natural gas producers to recognize additional revenue from an existing resource and is anticipated to contribute to the national economy in terms of jobs and tax payments.

## **1.2 SCOPE OF THIS ENVIRONMENTAL ASSESSMENT**

The topics addressed in this Final EA include alternatives; geology; soils; groundwater; surface waters; wetlands; vegetation; wildlife and aquatic resources; threatened and endangered species; land use, recreation, special interest areas, and visual resources; socioeconomics (including transportation and traffic); cultural resources; air quality and noise; reliability and safety; and cumulative impacts. The EA describes the affected environment as it currently exists, discusses the environmental consequences of the proposed Project, and compares the Project's potential impact with that of various alternatives.

The environmental consequences of constructing and operating the proposed Project would vary in duration. Using criteria recognized by other federal and state agencies such as the Federal Energy Regulatory Commission and Bureau of Land Management, four levels of impact duration were considered: temporary, short-term, long-term, and permanent. Temporary impact generally occurs during construction with the resource returning to preconstruction condition immediately after restoration or within a few months. Short-term impact could continue for up to 3 years following construction. Impact was considered long-term if the resource would require more than 3 years to recover. A permanent impact could occur as a result of any activity that modifies a resource to the extent that it would not return to preconstruction conditions during the life of the Project, such as the construction of aboveground

facilities. An impact would be considered significant if it would result in a substantial adverse change in the physical environment.

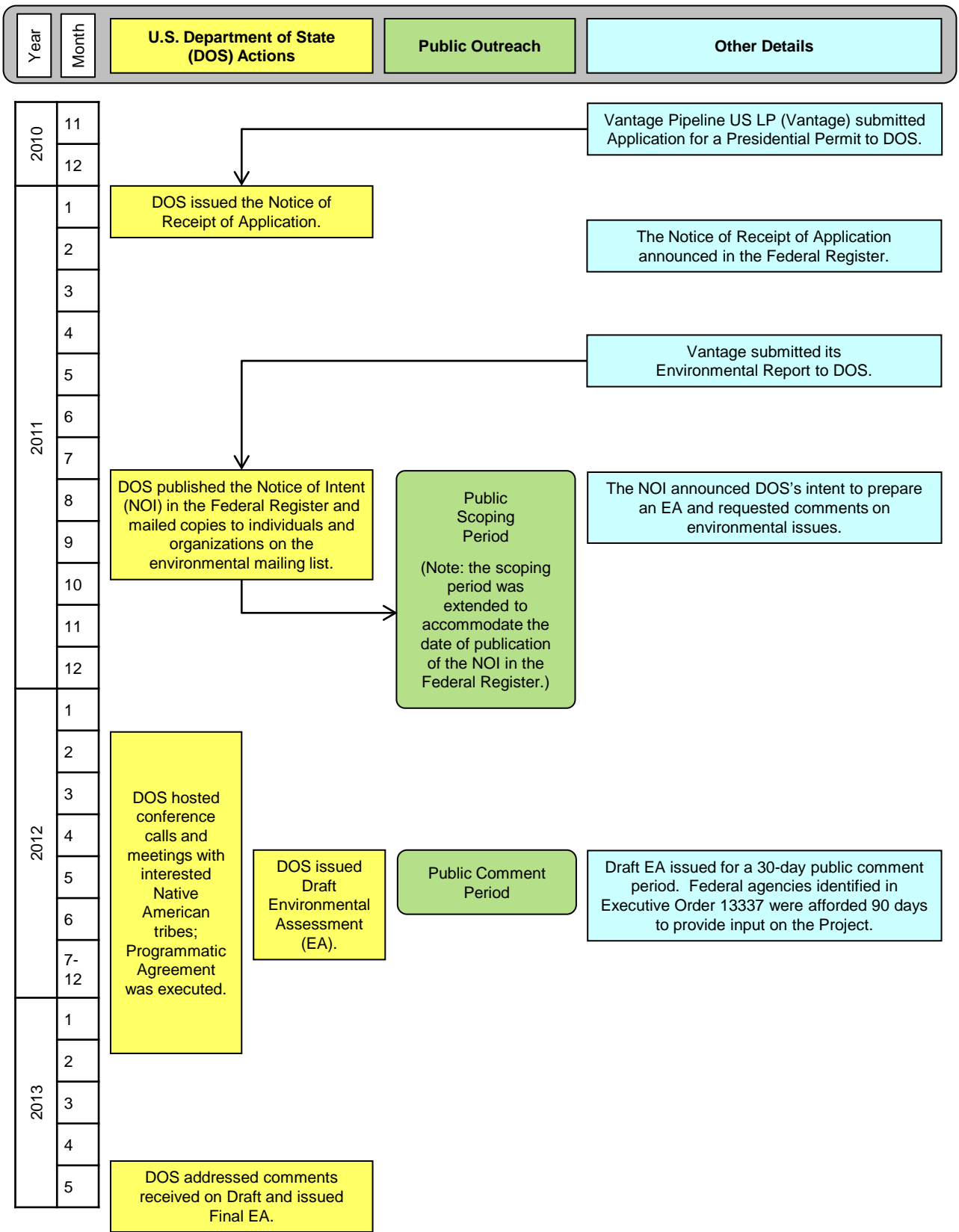
## **1.1 PUBLIC REVIEW AND COMMENT**

Vantage initiated consultation with federal and state agencies in June 2010 regarding the proposed Project. Consultations have been ongoing during the course of environmental review for the Project. Additionally, Vantage initiated preliminary outreach with landowners and local, county, state, and federal elected officials along the proposed pipeline route beginning in August 2010.

In November 2010, Vantage met with DOS to begin discussions regarding a potential pipeline project and subsequently applied to DOS for a Presidential Permit for the construction, operation, and maintenance of pipeline facilities on the United States-Canada border for the transportation of ethane. In March 2011, Vantage submitted to DOS an environmental report in support of its application for a Presidential Permit for the United States-Canada international border crossing associated with the Project's pipeline.

DOS has issued several documents announcing and providing a description of the Project, as well as solicited public comments for consideration in establishing the scope and content of the EA. For this Project, these documents included the *Notice of Receipt of Application for a Presidential Permit to Construct, Operate and Maintain Pipeline Facilities on the Border of the United States*, which was issued in the Federal Register 76 FR, 1659 (January 11, 2011), and the *Notice of Intent to Prepare an Environmental Assessment and Request for Comments on Environmental Issues, and to Initiate Consultation Under Section 106 of the National Historic Preservation Act for the Proposed Vantage Pipeline Project* (NOI), which was issued to all parties on the environmental mailing list and issued in the FR 76 FR77583 (January 11, 2011).

Written and electronic comments in response to the NOI were received in letters and emails submitted to DOS. A summary of the public comments received by DOS and related to the scope of the EA is presented in table 1.3-1 along with the Final EA section that addresses the concern. Figure 1.3-1 provides an overview of DOS's environmental review process for the Project.



**Figure 1.3-1**  
**Vantage Pipeline Project**  
 U.S. Department of State Environmental Review Process

TABLE 1.3-1

**Comments Received on Environmental Issues during the Public Scoping Process for the Vantage Pipeline Project**

Issue	Comment	Section Where Comment/ Issue Addressed in EA
Project Description	Project sponsor's responsibility to contact approvals, permits, and easements from federal, state, and local agencies.	1.10
	Dispose of waste properly (not in floodway areas).	1.6.1.1
	Pipeline construction methods.	1.6.1.1, 1.6.1.2
	Permanent easement.	1.4.1, 1.12
	Collocation with existing rights-of-way.	1.4.1
Soils	Soil conditions affected during construction.	2.2.1, 2.2.2
Groundwater	There are no designated sole-source aquifers in North Dakota.	2.3.1.1
Wetlands and Waterbodies	Project should not affect floodplain areas.	2.4.2
	Avoid or mitigate impacts on wetlands.	2.4.2
Wildlife	Identify protective measures and/or plans to avoid impacts on migratory birds and bald and/or golden eagles.	2.7.2.2
Threatened and Endangered Species	Avoid impacts on or minimize adverse effects on federally listed species and/or critical habitat.	2.8.1.2
Land Use	Easement negotiations and compensation.	2.9.2
Alternatives	Avoid disturbance on grassland easements.	3.3.3
	Avoid current or future development of School Trust lands.	3.3.3
Reliability and Safety	Safety of pipeline and depth of cover.	1.6.1.1, 2.14.2

After publication of the Draft EA, the federal agencies identified in EO 13337 (see section 1.8.1) were provided 90 days to provide their input on whether or not approving the proposed Project would be in the national interest. Additionally, DOS solicited public comments on determination of national interest during a public comment period after publication of the Draft EA in May 2012. Two agency comments were received on the Draft EA – one from the U.S. Department of Homeland Security and one from the U.S. Army Corps of Engineers (USACE) – and are included in Appendix E.

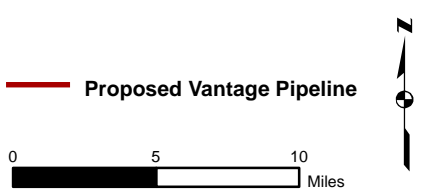
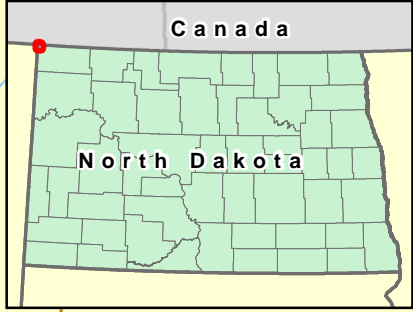
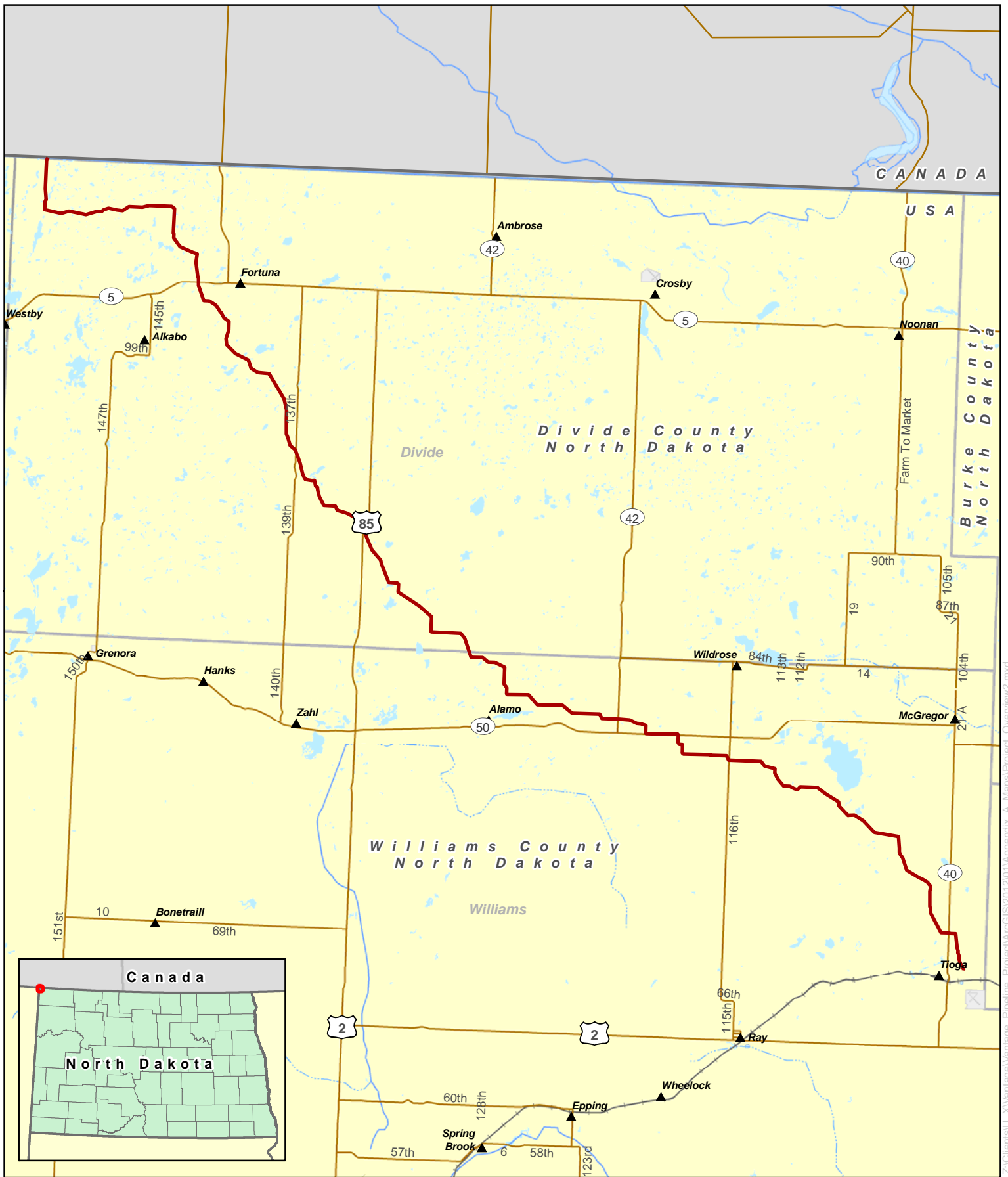
## 1.2 PROPOSED FACILITIES

This document analyzes the impacts associated with the U.S. portion of the Project. In the United States, Vantage proposes to construct and operate an ethane pipeline and related facilities from near Tioga, North Dakota in the United States to an international border crossing near Beaubier, Saskatchewan, Canada.

The Project would consist of the following facilities:

- installation of approximately 79.8 miles of new 10-inch-diameter pipeline in Williams and Divide Counties, North Dakota;
- installation of associated aboveground mainline block valves (MLBVs); and
- use of access roads and pipe storage and contractor yards.

All of the proposed facilities would be owned and operated by Vantage. Figure 1.4-1 shows the general location of the proposed facilities. U.S. Geological Survey (USGS) maps depicting the proposed Project are included in Appendix A.



**Figure 1.4-1**  
**Vantage Pipeline Project**  
**General Location Map**  
**Divide and Williams Counties, North Dakota**

Date: (4/3/2012) Source: Z:\Clients\U\_X\Vantage\Vantage\_Pipeline\_Project\ArcGIS\2012\01\Appendix\_A\_Maps\Project\_Overview2.mxd

### 1.2.1 Pipeline Facilities

The proposed pipeline locations by county are listed in table 1.4.1-1. The pipeline would be collocated with existing rights-of-way for 6.3 miles (8 percent) of the proposed 79.8-mile-long total. The remaining 92 percent would be installed outside of existing rights-of-way.

TABLE 1.4.1-1			
Pipeline Facilities for the Vantage Pipeline Project			
County, State	Milepost		Length (miles) <sup>a</sup>
	Begin	End	
Williams County, North Dakota	0.0	37.5	37.5
Divide County, North Dakota	37.5	79.8	42.3
<b>PROJECT TOTAL</b>			<b>79.8</b>
<sup>a</sup> Due to rounding, lengths shown may not total distance obtained by subtracting end milepost from begin milepost.			

Vantage proposes to generally use a 70-foot-wide construction right-of-way, consisting of a 25-foot-wide spoil side and 45-foot-wide working side. The permanent right-of-way would typically be 30 feet wide.

### 1.2.2 Aboveground Facilities

Vantage would install new MLBVs along the pipeline at locations listed in table 1.4.2-1. USGS maps depicting the locations of the appurtenant aboveground facilities are included in Appendix A.

TABLE 1.4.2-1		
Aboveground Facilities Associated with the Vantage Pipeline Project		
County, State	Facility	Approximate Milepost
Williams County, North Dakota	Mainline Block Valve 0	0.0
Williams County, North Dakota	Mainline Block Valve 1	7.8
Williams County, North Dakota	Mainline Block Valve 2	19.8
Williams County, North Dakota	Mainline Block Valve 3	37.5
Divide County, North Dakota	Mainline Block Valve 4	52.7
Divide County, North Dakota	Mainline Block Valve 5	59.9
Divide County, North Dakota	Mainline Block Valve 6	65.2
Divide County, North Dakota	Mainline Block Valve 7	71.9

### 1.2.3 Access Roads

In general, Vantage would use existing public and private roadways to temporarily access the construction right-of-way. New permanent access roads to seven of the MLBVs would be constructed and permanently maintained following construction (see table 1.4.3-1). Access roads to the MLBVs would follow the 30-foot-wide permanent right-of-way. The locations of permanent access roads required for the Project are shown on the USGS maps in Appendix A.

TABLE 1.4.3-1

**Access Roads Associated with the Vantage Pipeline Project**

Access Road ID	Approx. Milepost <sup>a</sup>	County	Need	Road Type	Existing Land Use	Length (feet)	Affected Area (acres) <sup>b</sup>
BV-1	7.8	Williams	Access to MLBV site	Gravel; Permanent	Grassland	148	0.1
BV-2	19.8	Williams	Access to MLBV site	Gravel; Permanent	Cultivated Crops	66	<0.1
BV-3	37.5	Divide	Access to MLBV site	Gravel; Permanent	Cultivated Crops	37	<0.1
BV-4	52.7	Divide	Access to MLBV site	Gravel; Permanent	Grassland	125	0.1
BV-5	59.9	Divide	Access to MLBV site	Gravel; Permanent	Cultivated Crops	42	<0.1
BV-6	65.2	Divide	Access to MLBV site	Gravel; Permanent	Cultivated Crops	40	<0.1
BV-7	71.9	Divide	Access to MLBV site	Gravel; Permanent	Cultivated Crops	20	<0.1

<sup>a</sup> Milepost is nearest point where access road connects to the pipeline right-of-way.  
<sup>b</sup> Reflects the estimated disturbance that could occur if the access road were modified to a width of 20 feet.

No other new or existing access roads requiring improvements have been identified by Vantage. If any private access roads, modifications to existing non-private roads, and construction of any new access roads would be needed, Vantage would be required to obtain landowner permission, conduct environmental surveys, and, if necessary, obtain the appropriate permits prior to use.

#### 1.2.4 Contractor and Pipe Yards

In addition to the construction right-of-way, Vantage would require four areas for equipment parking, construction staging, and pipe and material storage. Each of these contractor/pipe yards would be located outside of the pipeline construction right-of-way. Two yards would be required in Williams County, North Dakota and two yards would be required in Divide County, North Dakota. The locations of proposed contractor and pipe yards are shown on the USGS maps in Appendix A.

### 1.3 CONNECTED ACTIONS

#### 1.3.1 Heater

Hess is expanding its existing Tioga Gas Plant in Tioga, North Dakota by installing a new, 21-acre gas processing plant adjacent to the existing gas processing plant on land owned by Hess. As described in Hess' permit application materials to the North Dakota Public Service Commission (NDPSC) (discussed further below), the existing Tioga Gas Plant has been operational since the 1950s and primarily serves to separate out NGLs and other impurities from methane collected from production wells in the Tioga, North Dakota area before it can be used as a fuel. Once all of the impurities are removed, the resulting purified methane is transported via existing pipelines to markets in the east and south.

The current gas processing technique conducted at Hess' Tioga Gas Plant is called a refrigerated lean oil fractionation. Hess has proposed to change the processing technique from lean oil fractionation to a cryogenic turboexpander process. To accommodate the conversion, Hess would expand the existing gas plant footprint and construct new underground piping and above-ground gas processing facilities. The proposed gas plant expansion would produce the same products as it currently does, including pipeline grade natural gas, propane, butane, natural gasoline, and molten sulfur. Ethane would be an additional product that is either separated during ethane recovery or would be combined with the natural gas during ethane rejection. In addition to the processing plant expansion, approximately 4 miles of four pipelines (one 8-inch-diameter and three 6-inch-diameter) would also be constructed by Hess from the

plant to a rail terminal currently in construction. The rail terminal is located on the west side of Tioga, North Dakota. The rail terminal would be designed to load 1.3 million gallons of liquefied product per day.

Activities at the Tioga Gas Plant are under the jurisdiction of the NDPSC. On April 13, 2010, Hess filed with the NDPSC a letter of intent to construct an addition to the existing Tioga Gas Plant and, on June 25, 2010, Hess filed its application for a Certificate of Site Compatibility for the Tioga Gas Plant Expansion Project. The application included a summary of biological field surveys (e.g., wetlands, wildlife), threatened and endangered species review, and consultations with state and federal agencies. As committed to in its Certificate of Site Compatibility, Hess would obtain the necessary licenses and permits. On September 8, 2010, the NDPSC released its Finding of Facts, Conclusions of Law, and Order, which approved of the plant expansion and ordered issuance of a Certificate of Site Compatibility. Expansion of the existing plant has been on-going since October 2010 and the new expanded facilities are expected to be in service by the end of 2012.

DOS has determined that the Tioga Gas Plant modifications would be an independent action and the only component of the Hess facility modification that is specifically related to allowing for ethane recovery required for Vantage's Project is the operation of a heater. Therefore, the impacts resulting from operation of the heater are a connected action for the purposes of this review consistent with NEPA and 40 CFR 1508.25(a)1. Section 2.12 of the EA describes the connected action (i.e., heater) and the associated additional air and carbon dioxide (CO<sub>2</sub>) emissions. Any other significant impact resulting from the proposed Project in addition to the ongoing Hess activities has been summarized in the cumulative impacts discussion (see section 2.15).

### **1.3.2 Electric Transmission Lines and Interconnections**

Electrical service requirements for the proposed Project include utilizing existing electric transmission lines and constructing new electric transmission interconnections to the MLBVs. Because local electrical power providers, not Vantage, would be constructing and operating the electric transmission lines, the local utilities (Mountrail Williams and Burke Divide Electric) would be responsible for obtaining any necessary approvals or authorizations from federal, state, and local governments. While the permitting for the electrical facilities is independent from the Presidential Permit process, the construction and operation of these electric transmission lines are considered connected actions consistent with the National Environmental Policy Act (NEPA) and, therefore, are evaluated within this EA for the proposed Project.

Vantage anticipates that the new interconnections would be constructed below ground, and that electric power requirements for eight MLBVs would be approximately 10 kilowatts per MLBV site and may be supplied from distribution service interconnects from proximate existing distribution lines (i.e., distribution lines with voltage ranging between 12.5 kilovolts to 25 kilovolts). Vantage has attempted to locate the proposed MLBVs near existing electric power lines. Accordingly, the length of these proposed new below-ground interconnections would range in length between approximately 25 feet to 1 mile. Each of these new interconnecting lines would require the installation of new underground transmission cable. The new electric transmission interconnection lines would be located entirely on private land.

In the event power cannot be provided to an individual MLBV by the local power companies or is uneconomic, Vantage would use solar photo-voltaic panel technology at the MLBVs that would eliminate the need for electric transmission interconnections at these MLBV sites.

The transmission interconnection facilities would be installed below ground and, thus, the construction process would be broadly similar to that of pipeline construction: right-of-way acquisition;

right-of-way clearing; construction, including excavating a narrow trench, installing the electric transmission line, and backfilling; and site restoration and cleanup. Utilities installing the transmission lines would be required to restore the work area as required on completion of the new interconnect consistent with local standards. The soil in the disturbed areas would be reshaped and contoured to its original condition. Reseeding would follow landowner requirements. All construction debris and other remaining materials would be removed from the construction areas and properly disposed. The construction right-of-way width for these facilities is currently unknown and actual electrical line construction procedures would be developed by each local electric utility to address site-specific conditions. The electric utilities would obtain any necessary easements and permits required to install the facilities.

Construction and operation impacts on soils, vegetation, and land uses associated with the interconnects are expected to be temporary, minor, and comparable to those associated with supplying electricity to the average home or farm. Although the construction right-of-way width for these facilities is currently unknown, it is anticipated that the construction and operation impacts on soils, vegetation, and land uses associated with these facilities would be lesser than those associated with pipeline construction described in this EA because the interconnects would have a narrow diameter, can be installed with minor disturbance to the land, and would affect a smaller area than that required for pipeline installation. Construction of the interconnects would have a temporary and relatively minor impact on agricultural land or grassland, and these land uses would be allowed to revert to previous conditions following construction. Based on the proximity of the proposed MLBV sites to existing electric power lines, it is anticipated that no wetlands or waterbodies would be affected by new electric transmission line construction and operation. Further, because the electrical lines would be installed underground, there would be no potential flight collision risks to birds and other wildlife (e.g., bats). While the new electric transmission interconnections would overlap in space and time with the Project, and could act cumulatively with the other activities in the area, the amount of surface disturbance caused by powerline construction is anticipated to be negligible compared to other development projects discussed in section 2.15. Further, the electric utilities would be subject to permits requirements that would, if necessary, mitigate for potential impacts on environmental resources.

#### **1.4 CONSTRUCTION PROCEDURES**

Standard pipeline construction is composed of specific activities that make up a linear construction sequence. This section describes the general procedures proposed by Vantage for the construction of the pipeline facilities. Vantage would construct, restore, and maintain the Project consistent with its *Environmental Protection Plan* (EPP). The Draft EPP can be found in Appendix C. Vantage's EPP includes measures that would avoid or minimize environmental impacts resulting from construction and operation of the Project, for example:

- installation of erosion control devices;
- topsoil segregation;
- wetlands and waterbody crossing methods;
- revegetation and restoration specifications;
- spill prevention and control; and
- post-construction maintenance requirements.

As part of the EPP, Vantage would implement several contingency plans, including:

- Spill Contingency Plan Guidelines;
- Fire Contingency Plan;

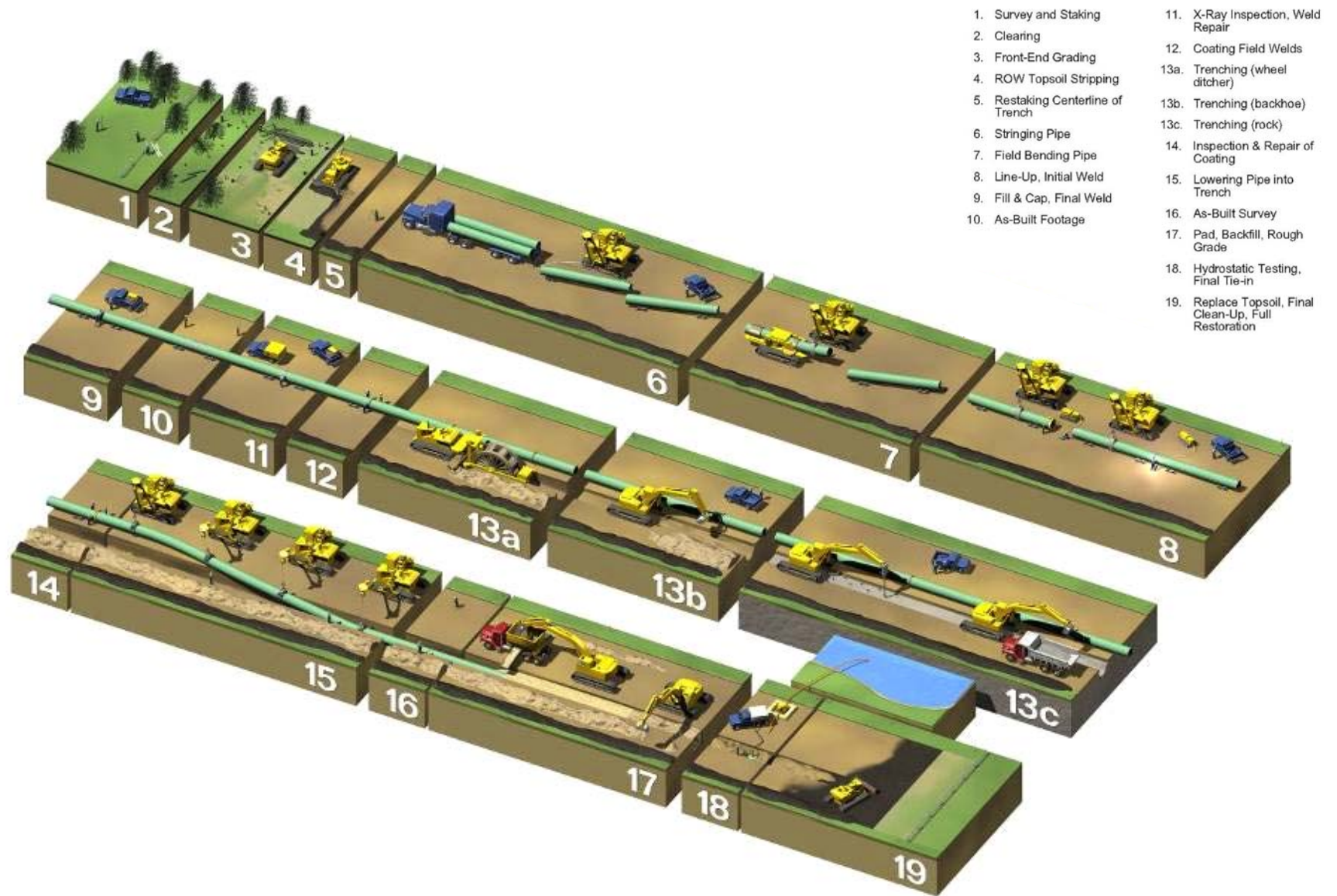
- Soil Conditions Contingency Plan;
- Soil Erosion Contingency Plan;
- Instream Boring Fluids Mud Release Contingency Plan;
- Water Crossing Sediment Contingency Plan;
- Winter or Frozen Conditions Contingency Plan;
- Sensitive Plants Contingency Plan;
- Wildlife Contingency Plan; and
- Cultural Resources Contingency Plan (also referred to as the Unanticipated Discoveries Plan).

These plans and the Final EPP would be submitted to DOS for approval prior to beginning construction on the project. Vantage proposes to begin construction in the summer of 2013 and anticipates that the Project would go into service in the winter of 2013 – 2014.

#### **1.4.1 Pipeline Facilities**

##### **1.4.1.1 General Pipeline Sequence**

Vantage would construct the ethane pipeline using typical construction techniques as described below. Figure 1.6.1-1 shows the typical steps of cross-country pipeline construction. Before construction, Vantage crews would survey and stake the centerline and exterior boundaries of the construction right-of-way. The exterior boundary stakes would mark the limit of approved disturbance areas that would be maintained throughout the construction period. Clearing crews would then cut shrubs and trees from the construction right-of-way and additional temporary workspace (ATWS). Clearing crews would typically mow, chip, mulch, and/or haul off all non-merchantable timber, and burning of non-merchantable wood may be allowed if the necessary permits and approvals are obtained. After clearing, grading crews would grade the ground surface as necessary to provide a smooth working surface and a safe working area. Environmental crews would install temporary erosion controls, where necessary, to minimize erosion and would maintain these controls throughout construction. Next, topsoil would be stripped and segregated along the pipeline route consistent with the EPP (see Appendix C for the Draft EPP). Before excavating the pipeline trench, individual joints of pipe would be strung along the construction right-of-way by small portable cranes and/or side-boom tractors. Individual joints of pipe would be bent by a mechanical pipe-bending machine to accommodate natural ground contours or pipeline alignment. After stringing and bending, the pipe sections would be aligned, welded together, and placed on temporary supports along the edge of the trench. The welds would be inspected, both visually and radiographically, and coating sleeves would be applied at the welded joints and then the coating would be electronically inspected before the pipe is lowered into the trench.



**Figure 1.6.1-1**  
**Vantage Pipeline Project**  
 Typical Pipeline Construction Sequence

Trenching crews would use backhoes and/or ditching machines to excavate the pipeline trench consistent with DOT regulations, which stipulates a minimum 4 feet of cover for normal excavations and 18 to 30 inches of cover in rocky areas. The trench walls would generally be kept vertical to the extent practicable and the trenches would typically be 2 feet wide at the base of the trench. In unstable and saturated soils, trenches may be wider. Next, crews would dewater the trench as necessary consistent with the requirements of applicable permits. After welding and coating are completed and the trench is excavated, construction crews would lower the pipe into the trench using side-boom tractors. Bladed equipment or a specially designed backfilling machine would be used to backfill the trench to the approximate ground surface elevation. In areas where topsoil has been segregated, subsoil would be replaced first, and topsoil would be spread uniformly on top. Directly above the pipeline, an excess of soil or “crown” would be placed to allow for future settling. Construction debris, including wooden supports, welding rods, containers, brush, trees, or refuse of any kind, would not be permitted in the backfill. If an excessive amount of rocks are present in the backfill, the pipeline would be protected with rock shielding or similar protective coating and/or backfilled with clean padding prior to backfilling with the rocky material.

All construction garbage and debris would be collected and disposed of weekly at an approved facility. Waste containers would accompany each working unit. All construction personnel would be required to follow guidelines established in a Project waste management plan.

After backfilling and before placing the Project in service, Vantage would hydrostatically test<sup>3</sup> the pipeline consistent with the regulations of the Office of Pipeline Safety (OPS) within the DOT’s PHMSA to ensure that there are no leaks in the pipeline and that the system is capable of operating at the design pressure. The testing process would involve filling a segment of the pipeline with water and maintaining a prescribed pressure for a specified amount of time. Vantage would then grade and restore work areas as nearly as practicable to their original contours. Permanent erosion controls would be installed and disturbed areas would be revegetated consistent with the EPP (see Appendix C for the Draft EPP), other permit requirements, and site-specific landowner requests.

#### **1.4.1.2 Special Construction Procedures**

##### **Waterbody and Wetland Crossings**

Although the Project avoids crossing perennial waterbodies, it would cross ephemeral or intermittent streams that are more closely associated with wetlands. Vantage would construct the proposed pipeline across waterbodies/wetlands consistent with the methods described in its EPP (see Appendix C for the Draft EPP) and state and federal permit requirements. If the drainages are dry at the time of construction, Vantage would use conventional upland construction methods to cross the waterbody/wetland feature. However, for the majority of waterbody/wetland features where water is present, Vantage would use the directional boring method to cross waterbodies/wetlands.

During the directional boring method, a directional bore machine would push a bore head, connected to hollow drill pipe, into the ground at an angle to excavate the pilot borehole. As each joint of drill pipe is pushed into the ground, a new one would be added behind. Non-hazardous drilling fluid, composed of a mixture of bentonite clay and water, may be used for drilling lubrication. Once the bit reaches the exit point, it would be replaced with a reamer and the hole would be enlarged by operating the drill in the reverse direction. After enlarging the bore, the product pipe would be pulled from the exit

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<sup>3</sup> Hydrostatic testing is a process used to test pipelines for leaks by pressurizing them inside with a liquid, typically consisting of water.

point back to the boring machine. Once the pipe is installed, the exit and entry points would be excavated with connections, or tie-ins, made as needed.

The primary impact that could occur as a result of a horizontal bore is an inadvertent release of drilling mud (frac-out) directly or indirectly into a waterbody or wetland. Although drilling mud is a mix of naturally occurring nontoxic materials, such as bentonite clay and water, in larger quantities the release of drilling mud into a waterbody or wetland could affect aquatic organisms by settling in and temporarily inundating the habitats used by these species. Vantage would implement the measures discussed in its EPP (see Appendix C for the Draft EPP) that describe how each horizontal bore would be conducted to minimize the potential for an inadvertent release of drilling mud to occur, and the procedures to follow and the North Dakota Health Department (NDHD) personnel to contact in the event of a drilling fluid release.

If necessary, Vantage would clear existing vegetation from the construction right-of-way at the crossings and would maintain a 10-foot buffer of undisturbed non-woody and woody vegetation less than 4 inches in diameter at breast height on the streambanks. Grading would be directed away from the waterbody to reduce the potential for material to enter the waterbody. Temporary erosion control measures (e.g., silt fences, straw bales) would be installed consistent with Vantage's EPP (see Appendix C for the Draft EPP). ATWS at waterbody/wetland crossings would typically be set back 50 feet from the water's edge where topographic and other site conditions permit.

Figures depicting the typical boring under a waterbody and wetland are included in Vantage's EPP (see Appendix C for the Draft EPP). Additional information regarding waterbodies and wetlands affected by the Project is discussed in section 2.4.

### **Road, Highway, and Railroad Crossings**

Vantage would cross paved roadways and railroads using the bore method, which involves installing the pipeline beneath the transportation corridor, thereby avoiding disruptions to vehicular or railcar movement and physical impacts on road/railroad beds.

Vantage would cross unpaved roadways using the bore method (described above) or the open-cut method. The open-cut method could temporarily disrupt road traffic as the pipe trench is excavated across the roadway. Therefore, to minimize traffic delays, Vantage would establish traffic detours before excavating the roadbed. If no reasonable detours are feasible, Vantage would maintain at least one traffic lane, except for brief periods when road closure is essential to install the pipeline. Vantage would minimize the duration of open-cut crossings and in most cases would complete these road crossings in one day or less.

Vantage would obtain road and railroad crossing permits from the North Dakota Department of Transportation (NDDOT) for state road crossings and the applicable county for county road crossings, and would be subject to compliance with the permit stipulations associated with these road crossings. For private roads, Vantage would request landowner permission to cross or use the road. Railroad crossings would be subject to authorization from the private railroad company. Vantage would notify local authorities prior to open-cut road closures. Vantage's EPP (see Appendix C for the Draft EPP) also notes that it would develop a landowner notification and coordination approach, and that its land agents would be available at all times during construction for landowner coordination. Vantage would attempt to avoid closing roads during peak traffic hours.

## **Steep Terrain**

Steep slopes may require additional grading to create a working surface that allows for safe operation of construction equipment and to accommodate pipe-bending limitations. In such areas, the slopes would be excavated prior to pipeline installation and reconstructed to their original contours during restoration.

In areas where the proposed pipeline route would cross laterally along the side of a slope, cut-and-fill grading may be required to obtain a safe, flat work terrace. Temporary sediment barriers such as silt fence and straw bales would be installed during clearing to prevent the movement of disturbed soil into wetlands, waterbodies, or other environmentally sensitive areas in steep terrain. Temporary slope breakers consisting of mounded and compacted soil would be installed across the right-of-way during grading. Topsoil would be stripped from the entire right-of-way and stockpiled prior to cut-and-fill grading on steep terrain. Generally, on steep side-slopes, soil from the high side of the right-of-way would be excavated and moved to the low side of the right-of-way to create the level work terrace. After the pipeline is installed, the soil from the low side of the right-of-way would be returned to the high side and the slope's original contours would be restored. Following construction, seed would be applied to steep slopes. Seed would consist of diverse, local genotyped, and weed free certified native prairie seed mixes in grasslands, and other mixes as listed in the EPP (see Appendix C for the Draft EPP). Certification is provided by the seed supplier and transferred through a chain of custody to the grower. Weed free certification is regulated by the U.S. Department of Agriculture (USDA) and State of North Dakota. The right-of-way would be mulched with hay or non-brittle straw or covered with erosion control fabric. Sediment barriers would be maintained across the right-of-way until permanent vegetation is established.

## **Fences and Grazing**

Prior to cutting fences for pipeline construction, Vantage would brace and secure each fence to prevent slacking. To prevent the passage of livestock, each fence line opening would be temporarily closed when construction crews leave the area. If gaps in natural barriers used for livestock control are created by pipeline construction, the gaps would be fenced according to the landowner's requirements. Vantage would maintain all existing improvements, such as fences, gates, irrigation ditches, cattle guards, and reservoirs during construction and would repair the features to pre-construction conditions or better following construction.

### **1.4.2 Additional Temporary Workspace, Access Roads, and Contractor and Pipe Yards**

Vantage would require the use of ATWS along the pipeline rights-of-way for various road, railroad, wetland, and waterbody crossings and for specialized construction technique areas (e.g., steep side slopes). Use of ATWS would involve the same general steps as pipeline construction (e.g., clearing, grading as necessary).

Vantage would use existing public and private roads to the greatest extent practical, thereby reducing environmental impacts associated with new road construction or improvements to existing roads. Vantage would require construction and operation of seven new permanent roads as part of the Project. Construction of new roads would generally include clearing of existing vegetation, grading, and placement of gravel. A list of access roads associated with the Project is included in table 1.4.3-1.

Four areas are proposed for use as pipe storage/contractor yards (as discussed in section 1.4.4). Vantage intends to use pipe storage/contractor yards located on previously disturbed land cover that would not require grading or other land disturbance.

### 1.4.3 Aboveground Facilities

MLBV construction would include excavating topsoil; grading; installing concrete or steel pipe supports and building supports; positioning above ground piping and welding to underground piping; installing a valve assembly; building housing communications equipment; installing electrical and instrumentation; cleanup, painting, and final grading; and installing a security fence, gate, and signage.

## 1.5 LAND REQUIREMENTS

Construction of the Project would impact a total of approximately 734.8 acres of land, including the pipeline construction right-of-way, ATWS, aboveground facility sites, access roads, and pipe storage/contractor yards. Following construction, Vantage would allow a total of about 443.6 acres of land to revert to previous conditions. Vantage would retain the remaining 291.2 acres of land for aboveground facilities, permanent access roads, and the maintained pipeline right-of-way. Table 1.7-1 identifies the land requirements for each Project facility.

Facility	Land Affected During Construction (acres)	Land Affected During Operation (acres)
Pipeline Right-of-Way	674.6	290.6
Additional Temporary Workspace	51.6	0.0
Aboveground Facilities	0.4	0.4
Access Roads	0.2	0.2
Pipe Storage/Contractor	8.0	0.0
<b>PROJECT TOTAL</b>	<b>734.8</b>	<b>291.2</b>

Note: The totals shown in this table may not equal the sum of addends due to rounding.

## 1.6 AGENCY PARTICIPATION

DOS, as the lead federal agency, has determined that issuance of a Presidential Permit for the proposed Project would necessitate the preparation of an EA and, as such, is acting consistent with the requirements of NEPA. A number of other federal agencies have permitting, environmental review, and regulatory roles with respect to the Project, and are summarized below. State and local agencies were also consulted to identify issues arising during their permitting reviews. These issues are addressed in this EA.

### 1.6.1 Federal Lead Agency – U.S. Department of State

Vantage seeks a Presidential Permit for that portion of the Vantage pipeline from the northernmost MLBV to the U.S.-Canada border. Therefore, DOS is the lead agency for review consistent with the NEPA and Section 106 of the National Historic Preservation Act (NHPA) process for the proposed Project. As the lead agency, DOS directed the preparation of the EA for the proposed Project consistent with NEPA and also directed the Section 106 process consistent with the NHPA (16 U.S.C. 470 et seq.). As the lead federal agency, DOS initiated informal consultation with the U.S. Fish and Wildlife Service (FWS) under Section 7 of the Endangered Species Act (ESA; 16 U.S.C. 1536 et seq.) to determine the likelihood of effects on listed species. DOS in consultation with its third-party contractor also confirmed that the Project would be located outside of areas under the jurisdiction of the Coastal Zone Management Act of 1972 (National Oceanic and Atmospheric Administration, 2012; North Dakota RUS Bulletin, 2007).

DOS coordinated with the assisting agencies to ensure compliance with laws and regulations within their authority as well as to ensure compliance with the following EOs:

- EO 11988 – Floodplain Management;
- EO 11990 – Protection of Wetlands;
- EO 12114 – Environmental Effects Abroad of Major Federal Actions;
- EO 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations;
- EO 13007 – Indian Sacred Sites;
- EO 13112 – Invasive Species;
- EO 13175 – Consultation and Coordination with Indian Tribal Governments;
- EO 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds;
- EO 13212 – Actions to Expedite Energy-Related Projects; and
- EO 13337, 69 FR 25299 (May 18, 2004) – governs DOS issuance of Presidential Permits that authorize construction of pipelines carrying petroleum, petroleum products, and other liquids across U.S. international borders. Upon receipt of a Presidential Permit application for a cross-border pipeline, DOS is required to request the views of the Secretary of Defense, the Attorney General, the Secretary of the Interior, the Secretary of Commerce, the Secretary of Transportation, the Secretary of Energy, the Secretary of Homeland Security, the Administrator of the U.S. Environmental Protection Agency (EPA), and other government department and agency heads as the Secretary of State deems appropriate. If in the Secretary of State’s judgment it is in the national interest to do so, DOS shall prepare a permit for the Project, in such form and with such terms and conditions as the national interest may require.

## **1.6.2 Other Federal and State Agencies**

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

The USACE has jurisdictional authority pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344), which governs the discharge of dredged or fill material into waters of the United States (Section 404), and Section 10 of the Rivers and Harbors Act (33 U.S.C. 403), which regulates any work or structures that potentially affect the navigable capacity of a waterbody. The Project would be under the jurisdiction of the Omaha District of the USACE.

As an element of its review, the USACE must consider whether a proposed project avoids, minimizes, and compensates for impacts on existing aquatic resources, including wetlands, to achieve a goal of no net loss of values and functions. This EA addresses environmental impacts associated with the proposed Project as it relates to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act.

Under the Nationwide Permit program, the USACE authorizes work in waters of the United States in association with categories of certain activities that are similar in nature and will cause no more

than minimal adverse effects. Based on Vantage's correspondence with the USACE, the Project would fall under NWP 12 (KC Harvey, 2010; Kovach, 2011). However, no mitigation or pre-notification to the USACE would be necessary because Vantage would not trigger any of the seven NWP thresholds that require pre-notification to the USACE. The USACE NWP 12 authorizes work in waters of the United States in association with the construction of utility line crossings, provided that work does not result in the permanent loss of greater than 0.5 acre of waters of the United States and would comply with all general and regional terms and conditions of the NWP 12.

Waterbody and wetland impacts, including NWP 12, associated with the Project are discussed in section 2.4 of this EA.

### **1.6.2.2 U.S. Environmental Protection Agency**

Under Section 402 of the CWA, EPA has jurisdiction over the discharge of pollutants from a point source into waters of the United States. EPA has authorized the State of North Dakota to administer a National Pollutant Discharge Elimination System (NPDES) permit program to regulate point source discharges to waters of the U.S. EPA maintains oversight of the North Dakota program. Regulated discharges include, but are not limited to, sanitary and domestic wastewater, gravel pit and construction dewatering, hydrostatic test water, and storm water (40 CFR 122).

Under Section 404 of the CWA, EPA reviews and comments on USACE Section 404 permit applications for compliance with the Section 404(b)(1) guidelines and other statutes and authorities within its jurisdiction (40 CFR 230). EPA reviewed the Draft EA pursuant to its authority under Section 309 of the Clean Air Act (CAA; 42 U.S.C.7609), and consist with the Council on Environmental Quality's (CEQ's) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500 to 1508).

Under Sections 3001 through 3019 of the Resource Conservation and Recovery Act (RCRA; 42 U.S.C. 3251 et seq.), the EPA establishes criteria governing the management of hazardous waste.

The proposed Project would be located within EPA Region 8. Prior to issuance of the EA, DOS solicited comments on the EA from Region 8 of the EPA. EPA's comments have been incorporated into this EA. Issues related to the CWA, CAA, and RCRA are addressed in sections 2.4, 2.12, and 2.9.6, respectively, of this EA.

### **1.6.2.3 U.S. Fish and Wildlife Service**

The FWS is responsible for ensuring compliance with the ESA. Section 7 of the ESA, as amended, states that any project authorized, funded, or conducted by any federal agencies should not "...jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined...to be critical..." (16 U.S.C. 1536[a][2]). The FWS also reviews project plans and provides comments regarding protection of fish and wildlife resources under the provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.). The FWS is responsible for the implementation of the provisions of the Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703) and the Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 688). Easements are protected under the National Wildlife Refuge Systems Administration Act (16 U.S.C. 668dd[c]). The FWS of North Dakota has purchased many wetland and grassland easements in the Project area.

Section 7 of the ESA, as amended, 16 U.S.C. 1531 et seq., requires identification of and consultation on aspects of any federal action that may have effects on federally listed species, species proposed for federal listing, and their habitat. The ultimate responsibility for compliance with Section 7

remains with the lead federal agency (i.e., DOS for this Project). However, to expedite the review and approval process, and consistent with 50 CFR 402.08, which states that “a Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment by giving written notice to the Director of such designation,” in a letter to the FWS dated December 16, 2011, DOS designated Vantage and its consultant as its delegated non-federal agent to consult with the FWS to determine whether any federally listed or proposed endangered or threatened species or their designated critical habitat occur in the vicinity of the proposed Project.

A Biological Assessment (BA), assessing this information, has been issued by DOS for the Project. The BA was prepared with DOS guidance and supervision, and DOS reviewed and evaluated the scope and contents of the BA (see Appendix B). The FWS concurred with and acknowledged DOS determinations presented in the BA. Section 7 informal consultation with FWS has been completed for the Project. Further analyses regarding threatened and endangered species potentially affected by the Project is included in section 2.8 of this EA. Project impacts on species protected by MBTA and BGEPA are included in section 2.7 of this EA.

The proposed Project would be located within the FWS Mountain-Prairie Region. Prior to issuance of the EA, DOS solicited comments on the EA from the FWS North Dakota Field Office in the FWS Mountain-Prairie Region. The FWS’s comments have been incorporated into this EA.

#### **1.6.2.4 Advisory Council on Historic Preservation**

Section 106 of the NHPA, as amended, requires the lead federal agency to take into account the effects of its undertakings on historic properties or historic resources that are listed in, or eligible for listing in, the National Register of Historic Places (NRHP), and to afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment if there would be adverse effects on NRHP-eligible properties. Historic properties are defined as prehistoric or historic districts, sites, buildings, structures, objects, or properties of traditional religious or cultural importance, which are listed or eligible for listing in the NRHP, including artifacts, records, and material remains related to such a property or resource.

DOS, as the lead federal agency, is responsible for the review consistent with Section 106 of the NHPA as it relates to both public and private lands affected by the Project. Consistent with 36 CFR 800.2(a)(3), DOS requested the services of Vantage and its consultant to prepare information, analyses, and recommendations specific to cultural resources for the Project. In a letter dated December 16, 2011, DOS authorized Vantage as its delegated non-federal agent to initiate consultation with the North Dakota State Historic Preservation Office (SHPO) to determine site eligibility for the NRHP and the Project’s effects on historic properties within the Area of Potential Effect (APE). Section 101(b)(3) of the NHPA provides each SHPO a prominent role in advising the responsible federal agencies and ACHP. A Class III cultural resources inventory report has been submitted to and commented on by the North Dakota SHPO, who concurred with the Class III cultural resources inventory report’s “no historic properties affected” and “no significant sites affected” determinations.

DOS, as the lead federal agency, is also responsible for reviewing compliance with Section 101(d) of the NHPA and the American Indian Religious Freedom Act. Compliance involves contacting Native American groups with an interest in the lands affected by the Project and ensuring that the requirements of the Native American Graves Protection and Repatriation Act are met. As discussed in section 2.11.3, DOS has initiated contact and would continue to consult with several Native American groups with historic ties to the Project area. Regarding Native American Graves Protection and Repatriation Act, the excavation and inadvertent discovery provisions of the act apply only to federal and tribal lands (i.e., lands (including private lands) within the exterior boundaries of an Indian reservation)

(National Park Service, 2012). Specific to the Project, no federally owned or federally designated tribal lands are anticipated to be affected.

DOS consulted with the ACHP regarding Indian tribal concerns, about the adequacy of government-to-government consultation, the potential for adverse effects on unrecognized historic properties of religious or cultural significance to the tribes, and the confidentiality of sensitive tribal information. The ACHP formally entered the consultation process with a February 14, 2013 letter to Secretary of State John Kerry announcing their intent to formally consult on the project. The ACHP assisted DOS with the preparation of a Programmatic Agreement (PA) that stipulates the actions of all parties to complete any outstanding Section 106 tasks and comply with the NHPA.

Further discussions regarding cultural resources and tribal consultations are included in sections 2.11.2 and 2.11.3, respectively, of this EA.

#### **1.6.2.5 Pipeline and Hazardous Materials Safety Administration**

The PHMSA is responsible for protecting the American public and the environment by ensuring the safe and secure movement of hazardous materials to industry and consumers by all transportation modes, including the nation's pipelines. Through PHMSA, the DOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.3-million-mile pipeline transportation system and the nearly 1 million daily shipments of hazardous materials by land, sea, and air. Within PHMSA, the OPS has the safety authority for the nation's natural gas and hazardous liquid pipelines. For those pipelines, PHMSA identifies and evaluates risks; develops and enforces standards for design, construction, operations, and maintenance of pipelines; responds to accidents/incidents; educates operators and the public; conducts research on promising technologies; provides grants to states in support of their pipeline safety programs; and reviews oil spill response plans, with a special focus on protecting unusually sensitive areas. The regulations for Transportation of Hazardous Liquids by Pipeline are presented in 49 CFR 195.

Reliability and safety issues related to the Project are discussed in section 2.14 of this EA.

#### **1.6.2.6 Natural Resources Conservation Services**

The Natural Resources Conservation Service (NRCS) administers the Wetlands Reserve Program (WRP) (16 U.S.C. 3837 et seq.), under which it purchases conservation easements and provides cost share to landowners for the purposes of restoring and protecting wetlands. Under the WRP, the United States may purchase 30-year or permanent easements. Land eligibility for the WRP is based on NRCS's determination that the land is farmed or converted wetland, that enrollment maximizes wildlife benefits and wetland values, and that the likelihood of successful restoration merits inclusion into the program. Lands under WRP easement are subject to development and other use restrictions to ensure protection of wetland and wildlife conservation values. NRCS also administers the Emergency Watershed Protection Program (Floodplain Easements) and the Healthy Forests Reserve Program, and shares management of the Grasslands Reserve Program (GRP) with the Farm Service Agency (FSA). NRCS is also responsible for the Farmland Protection Policy Act (7 CFR 658), including protection of prime and unique agricultural lands.

As proposed, the Project would not cross land currently enrolled in the WRP, Emergency Watershed Protection Program, Healthy Forests Reserve Program, or GRP.

### **1.6.2.7 Farm Service Agency**

The FSA is a unit of the USDA and administers several land conservation programs, including the Conservation Reserve Program (CRP), the Conservation Reserve Enhancement Program (CREP), the Farmable Wetlands Program, and the GRP. These programs provide annual rental payments and cost-share assistance to establish long-term resource conservation measures on eligible farmland. The terms of rental agreements are from 10 to 30 years, during which most agricultural uses of the affected lands are prohibited. The GRP is managed jointly with NRCS and includes provisions for rental agreements up to 30 years, 30-year-easements, and permanent easements.

As proposed, the Project would not cross land currently enrolled in the CREP or Farmable Wetlands Program but would cross lands currently enrolled in the CRP (see section 2.6.1).

### **1.6.2.8 North Dakota Public Service Commission**

The NDPSC has statutory responsibilities concerning pipelines in North Dakota that include establishment and enforcement of rates or charges and regulations by common pipeline carriers for receiving, gathering, transporting, loading, delivering, and incident storing of crude petroleum, coal, or gas purchased or sold in North Dakota; and enforcement of safety requirements for intrastate distribution and transmission of natural gas (NDPSC, 2012). North Dakota Rules, Article 69-06, Chapter 69-06-02.1 require that a utility planning to construct an energy conversion or transmission facility request a jurisdictional determination from the NDPSC. As such, the Project requires a Certificate of Corridor Compatibility and Route Permit from the NDPSC.

While DOS could issue a Presidential Permit that would apply from the northern-most MLBV (i.e., MP 71.9) to the U.S.-Canada border (MP 79.8), NDPSC authorization is required for the entire Project in North Dakota.

Vantage submitted its application for a Certificate of Corridor Compatibility and Route Permit to the NDPSC in January 2012. On March 21, 2012, the NDPSC deemed the permit application complete and on June 20, 2012, the NDPSC issued a Certificate of Corridor Compatibility and Route Permit to Vantage.

### **1.6.2.9 Other State Agencies**

During Project planning and preparation of this EA, other state agencies were consulted with by Vantage and/or DOS. As listed in table 1.10-1 below, these other state agencies have responsibilities for state and local permits and authorizations. These include the NDHD, North Dakota Department of Game and Fish (NDGF), and the North Dakota SHPO. The NDHD would review and issue permits related to the hydrostatic testing, water quality, and construction stormwater activities associated with the Project. The NDGF was consulted to identify state-listed species of concern. The North Dakota SHPO was consulted to assist DOS during the Section 106 process.

### **1.6.3 Indian Tribe Consultation**

In its NOI to prepare an EA for the proposed Project, DOS also presented its intent to conduct a parallel Section 106 consultation consistent with the NHPA. DOS's NOI was issued on August 19, 2011 to known potentially affected Indian tribes to determine whether the tribes were interested in reviewing the proposed Project consistent with Section 106. Subsequently, DOS issued government-to-government consultation letters to known potentially affected Indian tribes on December 16, 2011 to solicit comments on the Project and to request assistance in identifying properties or resources of traditional, religious, or

cultural importance. In March 2012, DOS hosted a conference call with interested tribes and hosted a meeting in North Dakota with interested tribes. At the meeting Vantage agreed to sponsor a tribal survey and coordinated with the attending tribal representatives. Following the March 2012 meeting, DOS sent a letter to all consulting tribes inviting participation in the tribal survey and providing contact information for Vantage. Further, when published in May 2012, DOS distributed the EA to the same tribes that were sent letters on December 16, 2011.

Vantage sponsored a tribal survey that was conducted between June 2 and June 17, 2012. At the end of this period, the tribal surveyors and Vantage did not agree regarding the adequacy of land access that the tribes were permitted to survey. In an effort to resolve the issue of access and facilitate discussions between Vantage and the tribes, DOS hosted a conference call on June 27, 2012 with the tribal representatives who assisted with planning the survey. At this call, tribal representatives invited DOS to visit the Project corridor and hear their concerns. On July 10 and 11, 2012, DOS visited the Project area and conducted a government-to-government consultation meeting with those tribal representatives involved with planning and carrying out the tribal field survey.

DOS, in consultation with the ACHP, issued an outline of a proposed PA to all consulting tribes on July 27, 2012 with a request for their input and assistance in preparing the PA. DOS subsequently issued a draft PA, which stipulated the actions of all parties to complete any remaining Section 106 tasks, to the same tribes on August 24, 2012 with a request for comments.

On January 14, 2013, DOS hosted a meeting with tribal representatives in Bismarck, North Dakota. The topics of this meeting included the status of the PA and the tribal surveys conducted in June 2012. The North Dakota SHPO and ACHP attended the meeting, as well as representatives from 10 tribes.

On February 8, 2013, DOS hosted a meeting with tribal representatives. DOS, the ACHP, the North Dakota SHPO, and representatives from nine tribes attended this meeting. Meeting attendees reviewed, edited, and wrote clauses of the PA collaboratively.

DOS subsequently revised the PA according to the discussions from the February 8, 2013 meeting, and comments received by tribal representatives, the ACHP, the North Dakota SHPO. DOS finalized and signed the PA on April 8, 2013 (Appendix D). The PA specifies how Vantage would assist interested tribes to complete tribal surveys, and provide tribal monitoring during construction activities. Details, such as which tribes attended meetings and otherwise participated in government-to-government consultation, are in the PA (Appendix D). DOS will assure adherence to the PA, and will continue to consult with Indian tribes through the remainder of the Project.

As the lead federal agency for the proposed Project, DOS is continuing to engage in consultation with identified consulting parties, including federal agencies, state agencies, North Dakota SHPO, the ACHP, and interested federally recognized Indian tribes (FR Volume 70, No. 226, page 71194) in the vicinity of the proposed Project.

Further discussion regarding tribal consultations is included in section 2.11.3.

## **1.7 ENVIRONMENTAL REVIEW OF CANADIAN PORTION OF THE PROJECT**

The Canadian government has conducted its own environmental review of the portion of the Project in Canada. In accordance with EO 12114, DOS is not preparing any environmental assessment of the impacts of the pipeline in Canada. Nevertheless, as a matter of policy, in addition to its environmental

assessment of the Project in the United States, DOS endeavors to monitor and obtain information, as appropriate, regarding the Project in Canada.

The Canadian process began on September 23, 2010 when Vantage submitted a Project Description to Canada’s NEB. On February 8, 2011, Vantage submitted an application to the NEB for a Certificate of Public Convenience and Necessity for the proposed Project pursuant to Section 52 of the National Energy Board Act. On January 19, 2012, the NEB issued its Reasons for Decision for the Project and approved the Project.

## 1.8 PERMITS, APPROVALS, AND REGULATORY REQUIREMENTS

Table 1.10-1 lists the major permits, licenses, approvals, authorizations, and consultation requirements for the Project that would be required by federal, state, and local agencies prior to implementation of the Project.

TABLE 1.10-1		
Permits, Licenses, Approvals, and Consultation Requirements for the Vantage Pipeline Project		
Agency	Permit or Consultation/Authority	Agency Action
<b>FEDERAL</b>		
U.S. Department of State	Presidential Permit, Executive Order 13337 of April 30, 2004 (69 Federal Register, 25299, et seq.) National Environmental Policy Act	Considers approval of cross-border facilities.  Lead federal agency for the environmental review of major projects considered for Presidential Permits.
	Section 106 of the National Historic Preservation Act (NHPA)	Supervises and coordinates compliance with Section 106 of NHPA and consultation with interested Tribal agencies.
U.S. Army Corps of Engineers	Section 404, Clean Water Act (CWA) - Nationwide Permit 12	Considers issuance of permits for the placement of dredge or fill material in Waters of the U.S., including wetlands.
U.S. Fish and Wildlife Service	Endangered Species Act, Section 7 Consultation	Considers lead agency findings of an impact of federally listed or proposed species; reviews Biological Assessment and, if the proposed Project is likely to adversely affect federally listed or proposed species or their habitats, Biological Opinion.
U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Office of Pipeline Safety	49 Code of Federal Regulations 195 – Transportation of Hazardous Liquids by Pipeline	Reviews design, construction, operations, maintenance, and emergency operations plan, inspection of pipeline projects, including Integrity Management Programs and identifying high consequence areas prior to installation.
U.S. Environmental Protection Agency, Region 8	Section 402, CWA, National Pollutant Discharge Elimination System (NPDES)	Has delegated its NPDES Program to the State of North Dakota.
Advisory Council on Historic Preservation	Consultation	Advises federal agencies during the Section 106 consultation process.
<b>STATE OF NORTH DAKOTA</b>		
Public Service Commission	Certificate of Corridor Compatibility and Route Permit	Considers the construction, operation, and maintenance impacts of a project.
Department of Health- Division of Water Quality	Pollution Discharge Elimination System General Permit for Temporary Dewatering, Hydrotest Water Discharge	Reviews and issues NPDES permit for the discharge of hydrostatic test water. Considers the potential for contribution to a violation of a water quality standard or potential for significant contribution of pollutants to Waters of the State.
	Pollution Discharge Elimination System General Permit for Temporary Dewatering, Trench and Well Point Dewatering Discharge	Considers the potential for contribution to a violation of a water quality standard or potential for significant contribution of pollutants to Waters of the State.

TABLE 1.10-1

Permits, Licenses, Approvals, and Consultation Requirements for the Vantage Pipeline Project		
Agency	Permit or Consultation/Authority	Agency Action
	General Permit for Construction Stormwater Discharge	Reviews and issues permit for the discharge of construction stormwater. Considers the potential for contribution to a violation of a water quality standard or potential for significant contribution of pollutants to Waters of the State.
North Dakota Department of Transportation	State Highway Crossing Permit	Reviews and authorizes the crossing of state highways.
BNSF Railway, Canadian Pacific Railroad	Railroad Crossing Permit	Reviews and authorizes the crossing of a railroad.
Department of Game and Fish	Endangered and threatened species consultation	Maintains list of Species of Conservation Priority, or those in greatest need of conservation in the state.
State Historical Preservation Office	Section 106 NHPA Consultation	Assists federal agencies during the Section 106 consultation process through identification, evaluation, protection, preservation, and development and/or mitigation efforts.
COUNTIES – NORTH DAKOTA		
Divide County	County Road Crossings	Reviews and authorizes the crossing of county roads.
Williams County	County Road Crossings	Reviews and authorizes the crossing of county roads.

**1.9 ENVIRONMENTAL COMPLIANCE AND MITIGATION MONITORING**

Vantage would be required to comply with the mitigation measures identified in its permit applications, as well as additional requirements of federal, state, and local agencies. Vantage would have two environmental inspectors (EIs) working during construction of the Project. It is anticipated that one EI would monitor general environmental issues and another EI would monitor for cultural resources, particularly during initial right-of-way stripping and trenching activities when the potential to encounter unanticipated cultural resources is possible. The EIs would be trained with respect to applicable guidelines such as wetland and waterbody construction and mitigation procedures.

Vantage would also provide for a Native American monitor during the excavation phases of pipeline construction and a wildlife biologist that would be onsite during critical time periods to address potential impacts on ground nesting birds and during whooping crane migration.

Vantage would provide the EIs with copies of its final approved EPP and detailed alignment sheets. As discussed in section 1.6, the EPP (see Appendix C for the Draft EPP) includes mitigation plans for spill contingency, fire contingency, soil conditions, soil erosion, in-stream boring mud release, frozen conditions, sensitive plants, wildlife, wetland and water crossings, and cultural resources. The alignment sheets would identify locations of areas requiring specific mitigation measures and avoidance areas such as wetlands or cultural sites. The EIs would be provided copies of the following Project-specific plans and permitting requirements:

- Stormwater Pollution Prevention Plan (SWPPP) - The SWPPP is included with the Draft EPP in Appendix C.
- Spill Prevention, Control and Countermeasure (SPCC) Plan – The SPCC Plan would include specific storage requirements, equipment activities, and other factors controlled by the contractor. The project-specific SPCC Plan would be provided to DOS prior to commencement of construction for comment and approval.

- Emergency Response Plan – The Emergency Response Plan would include procedures for Immediate Actions; Roles and Responsibilities; Alarms and Activation; Specific Plans and Responses; Resources; Recovery, Clean up, and Reporting; Emergency Preparedness; Technical Data; Product Data; Maps; and Pumping Station Information. The Emergency Response Plan would be provided to DOS prior to commencement of construction for comment and approval.
- Cultural Resources Contingency Plan (also referred to as the Unanticipated Discovery Plan) – The Cultural Resources Contingency Plan is included with the PA in Appendix D.
- Waste Management Plan – The Waste Management Plan would include instructions and guidelines for identifying, characterizing, managing, and disposing of wastes. The Waste Management Plan would be provided to DOS prior to commencement of construction for comment and approval.
- Fuels and Hazardous Materials Spill Contingency Plan – This plan would include information regarding spill response and reporting and recommendations of sorbent material to be used in the event of a spill. The Fuels and Hazardous Materials Spill Contingency Plan would be provided to DOS prior to commencement of construction for comment and approval.
- Stipulations resulting from Section 7 consultation, and other permitting requirements.

Vantage would also provide copies of its final approved EPP to DOS for comment and approval prior to commencement of construction. The Final EPP would also be provided to its pipeline representatives and selected contractors, of whom the primary construction contractor would be responsible for implementing and following the requirements of the Final EPP, including all associated plans (see section 1.6). Vantage would also provide a construction line list to the contractor. The line list describes special pipeline construction requirements (e.g., soil salvage, seeding, road crossings, restoration measures, fencing requirements) and permit requirements and landowner stipulations.

The EI would have the authority to stop work to address issues related to environmental compliance. The EIs role and responsibilities would include environmental compliance inspection and reporting. The EI would be responsible to ensure that the requirements of the EPP (see Appendix C for the Draft EPP) are implemented. The EI would identify site-specific locations where implementation of mitigation measures identified in the Final EPP is required. In addition, the construction contractor would be required to comply with the Final EPP, permit stipulations, and requirements included in the line list, or take all appropriate precautions to protect livestock and crops affected by construction. It would be the contractor's role to implement any required corrective actions identified by the EI. Additionally, the contractor would not be provided the authority to make agreements with a landowner without approval from Vantage.

After construction, Vantage would conduct follow-up inspections of disturbed areas. For example, Vantage would conduct a post-construction soils assessment to visually inspect for vegetation issues such as invasive weed infestations, poor vegetation establishment, and reduced crop growth along the right-of-way. Vantage would also inspect waterbody crossings during post-construction reclamation soil and vegetation assessments to monitor for stability, erosion, invasive weed infestations, and vegetation cover.

Vantage's land reclamation and environmental impact monitoring would continue through 2013.

## **1.10 OPERATION, MAINTENANCE, AND SAFETY CONTROLS**

Vantage's pipeline facilities would be operated and maintained consistent with minimum federal safety standards, 49 CFR 195. Operation and maintenance of the Project facilities would be performed by or at the direction of Vantage. Vantage anticipates that operation of the pipeline would require two to three new permanent employees.

The pipeline would be inspected periodically from the air and on foot as operating conditions permit, but no less frequently than as required by applicable regulatory requirements. These surveillance activities would provide information on possible encroachments and nearby construction activities, erosion, exposed pipe, and other potential concerns that may affect the safety and operation of the pipeline.

Vantage employees would undergo safety training and access to aboveground facilities would be maintained to prevent unauthorized access. Accessibility to the right-of-way to accommodate pipeline integrity surveys would be accomplished by periodically clearing woody vegetation along the pipeline right-of-way. Cultivated croplands (such as wheat, peas, and sunflowers) would be allowed to grow in the permanent right-of-way; however, large trees would be removed from the permanent right-of-way.

As required by PHMSA and federal regulations (49 CFR 195), Vantage would develop an Emergency Response Plan detailing the actions to be taken in an emergency response in order to minimize health and safety risks in the event a rupture were to occur.

## **1.11 FUTURE PLANS AND ABANDONMENT**

Vantage has not announced any plans for future facilities or facility abandonment. If Vantage were to construct new or additional facilities, or abandon the Project, these facilities would be subject to applicable federal, state, and local regulations.