NORTH DAKOTA PUBLIC SERVICE COMMISSION

APPLICATION OF
VANTAGE WEST SPUR LATERAL PIPELINE PROJECT
for
CERTIFICATE OF CORRIDOR COMPATIBILITY and ROUTE PERMIT
ADDENDUM NO. 1

Vantage Pipeline US LP
July 2015

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List of Attachments

Certificate of Corridor Compatibility: Updated sections
Route Permit: Updated Sections
Exhibits

Exhibit A: Vantage Pipeline US LP System Map and Project Overview Map
Exhibit B: ROW Construction Details
Exhibit D: Route Maps
Exhibit E: Addendum and Addendum II for the Cultural Resources Investigation Report
Exhibit F: US Army Corp of Engineers Correspondence (F.1) and Summary of Wetland and Waterbodies (F.2 and F.3), and Wetland and Waterbodies Maps (F.4).
Exhibit F: Habitat Assessment
Exhibit J.1: Typical Details

July 17, 2015

APPLICATION OF

VANTAGE WEST SPUR LATERAL PIPELINE PROJECT

for

CERTIFICATE OF CORRIDOR COMPATIBILITY and ROUTE PERMIT

ADDENDUM NO. 1

The following information that has been compiled as Addendum No. 1 to the Application of Vantage Pipeline US LP for Certificate of Corridor Compatibility and Route Permit previously filed with the North Dakota Public Service Commission on April 13, 2015.

The addendum has been prepared to address eight minor revisions in the route alignment that have occurred since April 13, 2015. This addendum updates only the sections of the original application where information has changed due to the route revision. These updates are based on additional environmental and cultural surveys and analysis completed after April 13, 2015. The information presented below will reference sections and exhibits from the original application where changes resulting from the route revision. The attached exhibit amendments have maps (Exhibit D) illustrating the sections of the pipeline route affected by the route revision.

CERTIFICATE OF CORRIDOR COMPATIBILITY

A.1 Describe the type of facility addressed in this application. The description shall include the purpose of the facility and the technology to be employed.
Vantage Pipeline US LP (Vantage; owned/operated by Pembina Pipeline Corporation) is proposing to construct and operate approximately 46.7 miles of new, high vapor pressure (HVP) steel pipeline from a natural gas processing plant near Williston, North Dakota to an existing pipeline system near Stady, North Dakota, which currently transports ethane to the Alberta petrochemical industry. The preferred route (east route) was chosen as the final alignment, and eight minor revisions were made to that route. The general location of the project is in Exhibit A.

A.3.1.d Approximate length of facility
Vantage proposes to construct and operate 46.7 miles of pipeline from ONEOK Partners' Stateline II Plant near Williston, North Dakota to an existing pipeline, the Vantage Pipeline, near Stady, North Dakota. Ownership of land crossed by the Vantage West Spur Lateral Pipeline route is identified and updated in Table 1. The general pipeline route and updated locations of the block valves is in Figure 1.

Table 1. Ownership of Lands Crossed by the Vantage West Spur Lateral Pipeline Project Route.

LAND TYPE/LOCATION	PREFERRED ROUTE	
	CROSSING LENGTH (MILES)	PERCENT OF ROUTE
Federal lands	0.0	0.0
State lands	0.5	1.07%
County lands	0.0	0.0
Incorporated areas	0.0	0.0
Private land outside incorporated	46.2	98.93%
Total	**46.7**	**100%**

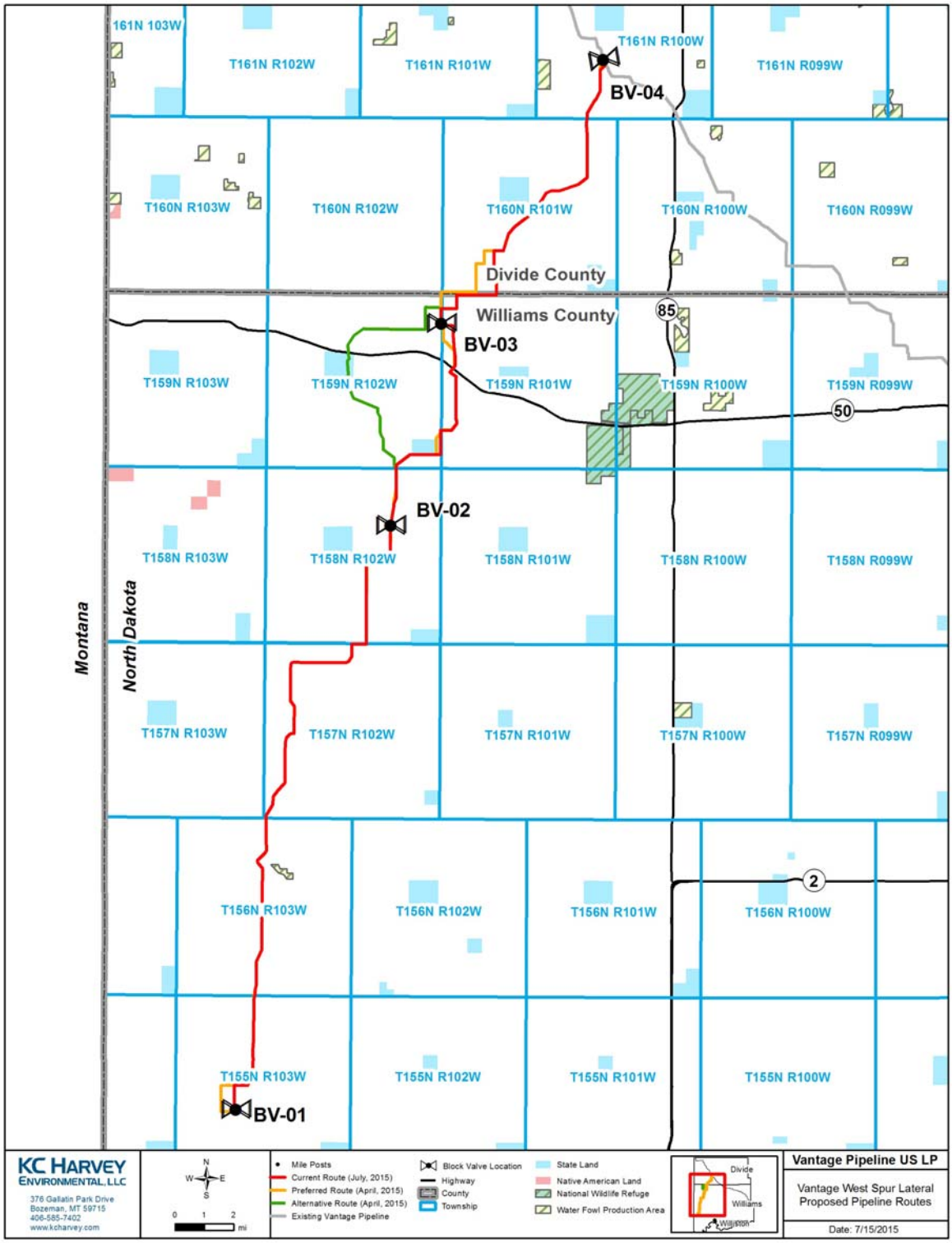

Figure 1. Block value locations.

B.1.2 Cultural Resources Laws, Codes and Guidelines: Results

The Class III cultural resource inventories identified 65 sites (Table 1). These consist of 43 prehistoric sites, 21 historic sites, and one (1) multicomponent site. All of the prehistoric sites contain stone features such as stone rings, cairns and alignments. The historic sites are made up of a railroad, a historic school, two historic farmsteads, three foundations/depressions, two cemeteries, two grain silos, two concrete culverts, and eight historic material scatters. The multicomponent site (32WI1663) contains prehistoric stone rings and the Lein Mine. In addition to the sites, the investigation identified 10 isolated finds consisting of less than five artifacts or isolated farm implements. The investigation observed no cultural districts or rural historic landscapes. Although there are several sites that share similar attributes, the sites are neither concentrated nor sufficiently linked by theme to be identified as districts. Likewise, the project area is rural, but lacks evidence for a planned or designed development that is required for a historic landscape.

The significance of the prehistoric sites is unknown. Further investigation is needed to ascertain whether the sites have sufficient materials to address pertinent archaeological questions, and can be placed within a meaningful temporal or cultural context. None of the historic sites within the corridor are recommended significant. Isolated Finds are not significant.

Vantage has successfully rerouted the pipeline construction corridor to avoid 59 sites, either by abandoning a route or by maintaining a 45-ft buffer from the site. Of the sites located within the construction corridor, one site (32DV0152) is determined not significant. Five sites (32DV157, 32WI1721, 32WI1724, 32WI1725, and 32WI1742) contain prehistoric stone features, and the sites' significance remains unknown.

At two sites (32DV157 and 32WI1742), a consultant archaeologist will direct the placement of fencing around the sites to limit potential impacts. In addition, the consultant archaeologist will monitor construction in the vicinity of the sites.

At three sites (32WI1721, 32WI1724 and 32WI1725) the Vantage West Spur Pipeline will be bored beneath the site, and vehicular traffic and equipment will be diverted to a shoofly that passes to the west. If conditions for boring are not sufficiently stable for hydraulic directional drilling the pipeline will be diverted to the shoofly.

To avoid secondary impacts associated with artifact collecting and vandalism from/to any of the identified sites, Vantage would limit all activities by workers to the defined temporary construction corridor. This would provide a 45-foot buffer to the identified sites and would minimize the visibility of all but the standing structures and buildings. Although two cemeteries (32WI1694 and 32WI1698) are not significant, the Vantage West Spur Pipeline has routed the pipeline to maintain a 100-ft buffer between the construction corridor and the edge of the cemetery boundaries. This will minimize the temporary visual effects of construction.

Table 2. Summary of sites identified during the 2014 and 2015 field inventory.

Site Number	Site Type	Determination of Significance	Within Current ROW	Comments
32WI0217	Prehistoric Stone Features-Ten Rings	Unevaluated	No	Abandoned Route
32WI0481	Historic Railroad	Not Significant	Yes	No Further Work
32WI1657	Stone Features (4 rings)	Unknown	No	Abandoned Route
32WI1658	Stone Feature (1 ring)	Unknown	No	Abandoned Route
32WI1659	Stone Features (3 rings, 4 arcs, 2 alignments)	Unknown	No	Abandoned Route
32WI1660	Stone Feature (1 ring)	Unknown	No	Abandoned Route
32WI1661	Stone Features (2 rings)	Unknown	No	Abandoned Route
32WI1662	Stone Features (2 rings)	Unknown	No	Abandoned Route
32WI1663	Multicomponent:Stone Features (3 rings, 1 cairn) and Historic Mine	Prehistoric component unknown, Historic component not significant	No	Abandoned Route
32WI1664	Stone Feature (1 ring)	Unknown	No	Abandoned Route
32WI1665	Stone Features (5 rings, 1 arc)	Unknown	No	Abandoned Route
32WI1666	Stone Feature (1 ring)	Unknown	No	Abandoned Route
32WI1667	Historic School (Augedahl School)	Not Significant	Yes	Outside construction corridor with 45 ft buffer
32WI1668	Historic Farmstead	Not Significant	No	Abandoned Route
32WI1669	Historic Cultural Material Scatter	Not Significant	No	Abandoned Route
32WI1670	Historic Depression	Not Significant	No	Abandoned Route
32WI1671	Historic Farmstead	Not Significant	No	Abandoned Route
32WI1672	Historic Cultural Material Scatter	Not Significant	No	Abandoned Route
32WI1673	Historic Cultural Material Scatter	Not Significant	No	Abandoned Route
32WI1693	Historic Grain Bins	Private	No	Outside construction corridor with 45 ft buffer
32WI1694	Historic Cemetery	Private	No	Outside construction corridor with 45 ft buffer
32WI1695	Prehistoric Stone Feature-Single Ring	Private	No	Outside construction corridor with 45 ft buffer
32WI1696	Historic Material Scatter	Private	No	Outside construction corridor with 45 ft buffer
32WI1697	Historic Grain Bins	Private	No	Outside construction corridor with 45 ft buffer
32WI1698	Historic Cemetery	Private	No	Routed Pipeline to maintain 100 ft buffer
32WI1699	Prehistoric Stone Features-Two Rings	Private	No	Abandoned Route
32WI1700	Prehistoric Stone Features-Nine Rings and Arc	Private	No	Abandoned Route
32WI1701	Prehistoric Stone Feature-Cairn	Private	No	Routed Pipeline to maintain 100 ft buffer

Site Number	Site Type	Determination of Significance	Within Current ROW	Comments
32WI1702	Prehistoric Stone Features-Two Rings	Private	No	Outside construction corridor with 45 ft buffer
32WI1703	Prehistoric Stone Feature-Single Ring	Private	No	Outside construction corridor with 45 ft buffer
32WI1704	Historic Granary	Private	No	Outside construction corridor with 45 ft buffer
32WI1705	Prehistoric Stone Features-Five Rings	State	No	Abandoned Route
32WI1706	Historic Pump House	Private	No	Abandoned Route
32WI1707	Prehistoric Stone Features-Seven Cairns	Private	No	Abandoned Route
32WI1708	Prehistoric Stone Feature-Single Ring	Private	No	Abandoned Route
32WI1709	Historic Material Scatter	Private	No	Abandoned Route
32WI1710	Prehistoric Stone Feature-Cairn	Private	No	Abandoned Route
32WI1718	Prehistoric Stone Features-Eleven Stone Rings	Private	No	Abandoned Route
32WI1719	Prehistoric Stone Features-Rings, Cairn and Unknown	Private	No	Abandoned Route
32WI1720	Prehistoric Stone Features-Two Cairns	Private	No	Abandoned Route
32WI1721	Prehistoric Stone Features-Rings, Arc, Cairns and Alignment	Private	Yes	Directionally drill below site and shoofly traffic to the west. If boring is not possible, construct along shoofly corridor
32WI1722	Prehistoric Stone Features-Cairn	Private	No	Abandoned Route
32WI1723	Prehistoric Stone Features-Three Rings	State	No	Abandoned Route
32WI1724	Prehistoric Stone Features-Two Rings and Two Cairns	Private	Yes	Directionally drill below site and shoofly traffic to the west. If boring is not possible, construct along shoofly corridor
32WI1725	Prehistoric Stone Features-Eight Rings and Three Arcs	Private	Yes	Directionally drill below site and shoofly traffic to the west. If boring is not possible, construct along shoofly corridor
32WI1726	Prehistoric Stone Features-Two Rings and Arc	Private	No	Abandoned Route
32WI1727	Prehistoric Stone Feature-Single Ring	Private	No	Abandoned Route
32WI1728	Prehistoric Stone Feature-Single Ring	Private	No	Abandoned Route

Site Number	Site Type	Determination of Significance	Within Current ROW	Comments
32WI1738	Prehistoric Stone Feature-Single Ring	Private	No	Abandoned Route
32WI1739	Prehistoric Stone Features-Two Cairns	Private	No	Abandoned Route
32WI1741	Historic Material Scatter	Private	No	Abandoned Route
32WI1742	Prehistoric Stone Features-Five Cairns	State	Yes	Fence and monitor
32WI1765	Concrete Culvert	Recommended Not Significant	Yes	Outside construction corridor with 45 ft buffer
32WI1766	Concrete Culvert	Recommended Not Significant	Yes	Outside construction corridor with 45 ft buffer
32DV0146	Stone Features (2 ring)	Unknown	No	Abandoned Route
32DV0147	Stone Features (3 rings, 1 arc)	Unknown	No	Abandoned Route
32DV0148	Stone Feature (1 ring)	Unknown	No	Abandoned Route
32DV0149	Stone Features (11 cairns, 1 ring, 1 alignment)	Unknown	No	Abandoned Route
32DV0150	Stone Feature (1 cairn)	Unknown	No	Abandoned Route
32DV0151	Historic Cultural Material Scatter	Not Significant	No	Abandoned Route
32DV152	Historic Farmstead	Private	Yes	No Further Work
32DV153	Prehistoric Stone Features-Three Rings	Private	No	Outside construction corridor with 45 ft buffer
32DV154	Prehistoric Stone Feature-Single Ring	Private	No	Outside construction corridor with 45 ft buffer
32DV155	Prehistoric Stone Features-Two Rings	Private	No	Outside construction corridor with 45 ft buffer
32DV157	Prehistoric Stone Feature- Arc	Private	Yes	Fence and monitor

B.2.1 U.S. Army Corps of Engineers (USACE)

The wetland investigation resulted in the identification and mapping of wetlands within the 500 foot survey corridor of the revised route. A total of 70 wetlands are located within the 500-foot Vantage West Spur Lateral Pipeline survey corridor. Type 1 PEM and PFO wetlands, and one Type 6 PSS wetland were observed in the survey corridor. No Type 2, 3, 4 or 5 wetlands occur in the study corridor. Table 3 summarizes the identified wetlands within the 500 foot corridor by wetland type. Not all wetlands within the 500 foot corridor will be impacted, see Exhibit F.2.

Table 3. Wetlands by Type within the project 500-ft Corridor.[1]

CLASSIFICATION		WETLANDS OBSERVED		
		Revised Route		
Circular 39[2]	Cowardin[3]	Number	Area (acres) in 500 ft corridor	Area (acres) in workspace
1	PEM	68	24.96	1.53

1	PFO	1	0.5	0.07
6	PSS	1	0.6	0.0
Totals		70	26.06	1.6

[1] Includes only wetland area within the 500-foot pipeline corridor. Actual wetland boundaries may extend past the project limits and may be larger than indicated. Not all the wetlands within the 500 foot corridor will be impacted, see Exhibit F.
[2] Wetlands of the United States, Circular 39. (Shaw and Fredine, 1956)
[3] Classification of Wetlands and Deepwater Habitats of the United States. (Cowardin et al.1979)

Wetland Impacts. The proposed Vantage West Spur Lateral Pipeline would be installed using open-cut trenching techniques. Vantage would maintain a 30-foot permanent right-of-way. Additionally, a 70-foot temporary construction right-of-way would be established adjacent to the permanent right-of-way. However, neck-down workspace areas will be used around wetlands to avoid or minimize impacts

For the field investigation, a 500-foot corridor was surveyed for wetlands and waterbodies on the revised route (Exhibits F.2 through F.4). The field investigation resulted in the identification and mapping of 70 wetlands and 12 waterbodies are present within the preferred 500-foot corridor. Fifty-nine (59) wetlands and four (4) waterbodies would be avoided during construction by routing around the wetland or waterbody within the 500-ft corridor. Eleven (11) wetlands and 8 waterbodies would be within or on the edge of the 30-foot permanent right-of-way. Overall, 1.6 acres of wetlands will be temporarily impacted on the revised route.

B.3.1 U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS)

Both the revised pipeline routes cross 0.16 miles of prime farmland (previously 0.17 miles). A desktop analysis using the Soil Survey Geographic (SSURGO) database identified prime farmland in the study area. During the routing process, the survey corridor was able to avoid the majority of prime farmland areas; however, 0.16 miles will be crossed.

B.3.7 North Dakota Department of Trust Lands (NDDTL)

The pipeline route crosses a half section of NDDTL. Vantage was issued a survey permit (ROW#6210) and conducted field surveys for environmental and cultural features. Vantage representatives also applied for and received a right-of-way permit (ROW #7497). All payments have been received by the NDDTL and the Right-of-Way documents were signed on June 18, 2015.

B.3.8 North Dakota State Water Commission (NDSWC)

Vantage will apply for a Temporary Water Permit for use of surface water during hydrostatic testing. The application will be submitted 30 days prior to construction.

ROUTE PERMIT

B.2.6 Irreversible and irretrievable commitments of natural resources should the proposed corridor or route be designated.

A total surface area of 0.38 acres (previously 0.32 acres) would be occupied by block valves and access roads located along the revised pipeline route. Block valve locations and access roads would be removed and the land would be restored to its original state when the pipeline is no longer in operation; therefore, minimal irreversible and irretrievable commitments of natural resources will result from the Project.

B.2.9.a Cultural Resource Inventory Results

The Class III cultural resource inventories identified 65 sites. These consist of 43 prehistoric sites, 21 historic sites, and one multicomponent site. All of the prehistoric sites contain stone features such as stone rings, cairns and alignments. The historic sites are made up of a railroad, a historic school, two historic farmsteads, three foundations/depressions, two cemeteries, two grain silos, two concrete culverts, and eight historic material scatters. The multicomponent site (32WI1663) contains prehistoric stone rings and the Lein Mine. In addition to the sites, the investigation identified 10 isolated finds consisting of less than five artifacts or isolated farm implements. The investigation observed no cultural districts or rural historic landscapes. Although there are similarities in the type of stone features observed in the project area, the sites are not sufficiently concentrated, and do not demonstrate sufficient linkage to indicate a shared relationship. There is no evidence for planned or designed development. Over 80 percent of the project area is cultivated and reflect rural use; however, the landscape is not associated with an important event, an important person, or share architectural elements.

The significance of the prehistoric sites is unknown. Further investigation is needed to ascertain whether the sites have sufficient materials to address pertinent archaeological questions, and can be placed within a meaningful temporal or cultural context. None of the historic sites are recommended significant. Isolated Finds are not significant.

Vantage has successfully rerouted the pipeline construction corridor to avoid 59 sites by either abandoning a route or by maintaining with a 45-ft buffer between the construction corridor and the site. Of the sites located within the construction corridor, one site (32DV0152) is determined not significant. Five sites (32DV157, 32WI1721, 32WI1724, 32WI1725, and 32WI1742) contain prehistoric stone features, and the sites' significance remains unknown.

At two sites (32DV157 and 32WI1742), a consultant archaeologist will direct the placement of fencing around the sites to limit potential impacts. In addition, the consultant archaeologist will monitor construction in the vicinity of the sites.

At three sites (32WI1721, 32WI1724 and 32WI1725) the Vantage West Spur Pipeline will be bored beneath the site, and vehicular traffic and equipment will be diverted to a shoofly that passes to the west. If conditions for boring are not sufficiently stable for hydraulic directional drilling the pipeline will be diverted to the shoofly.

To avoid secondary impacts associated with artifact collecting and vandalism from/to any of the identified sites, Vantage would limit all activities by workers to the defined temporary construction corridor. This

would provide a 45-foot buffer to the identified sites and would minimize the visibility of all but the standing structures and buildings. Although two cemeteries (32WI1694 and 32WI1698) are not significant, the Vantage West Spur Pipeline has routed the pipeline to maintain a 100-ft buffer between the construction corridor and the edge of the cemetery boundaries. This will minimize the temporary visual effects of construction.

It is unlikely that disturbance activities associated with the construction of the Vantage West Spur Pipeline will cause impacts to deposits capable of containing paleontological resources because the bedrock of the region is covered by varying thickness of Quaternary deposit, chiefly glacial drift, which rarely contains fossils.

B.4.2.b Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands

No designated or registered state wild, scenic or recreational rivers, game refuges, game management areas, forests, or forest management areas were identified within the survey corridor. However, 0.5 miles of North Dakota State Trust Lands are crossed by the route.

B.4.3 Selection Criteria

A summary of the miles crossed by each land use, and anticipated temporary workspace disturbance impacts by land use is presented in Table 5.

Table 4. Miles crossed and temporary workspace acres by land use.

Land Use Category	Preferred Route		
	Miles Crossed	Workspace Acres	Percent Pipeline
Row Crops	38.32	464.16	82%
Haylands	1.32	15.94	3%
Rural residences and farmsteads (windrows)	0.02	0.28	0%
Pasturelands and Rangelands	5.57	67.47	12%
Native Grassland	0.92	11.21	2%
Public, commercial, and institutional use (ROW)	0.57	6.97	1%
Total	**46.72**	**566.03**	**100%**

Permanent impacts to land use will occur in the locations of the two new block valves and a block valve and trap constructed at either end of the pipeline at existing facilities (Table 6). Specifically, approximately 0.38 acres will be removed from crop production permanently to accommodate the block valve locations.

Table 5. Block valve locations within Land Use.

BLOCK VALVE NUMBER	MILEPOST	LAND COVER	AREA (acres)
BV-1	0	Hayland	0.14
BV-2	24.50	Row Crop	0.08
BV-3	33.72	Row Crop	0.08
BV-4	46.73 (end)	Pasture and Rangelands	0.08
		TOTAL AREA	**0.38**

B.4.3.a Agricultural Production / Family Farms and Ranches

Lands primarily used for row and non-row haylands is the primary land use crossed and temporary disturbances along the Vantage West Spur Lateral Pipeline route (Table 5). Row crops account for 82% with 464.16acres of workspace disturbance on the revised route.

Prime farmland

The revised route (46.7 miles) of the Vantage West Spur Lateral Pipeline route cross prime farmland and farmland of statewide importance (Table 7). Since soils consisting farmland of statewide importance represent a significant portion of the Project area, total avoidance of this soil type was not practicable.

Table 6. Farmland classification.

FARM CLASSIFICATION	LENGTH (MI)	PERCENTAGE OF PIPELINE LENGTH
Prime farmland	0.16	0%
Farmland of statewide importance	34.04	72.89%
Prime farmland if drained	0.09	0.19%
Prime farmland if irrigated	0.15	0.32%
Non-prime or state import farmland	12.29	26.32%
Totals	**46.7 miles**	**100%**

B.4.3.c Surface drainage patterns and groundwater flow patterns

The pipeline preferred route will cross 7 wetlands, 7 intermittent or ephemeral streams, and 1 pond. Areas with high densities of waterbody (streams, wetlands, seeps, springs, etc.) crossings were avoided during route planning. As indicated in the EPP (Exhibit J), Vantage will obtain a construction storm water permit (NDR10-0000) from the NDDH and prepare a Storm Water Pollution Prevention Plan (SWPPP) to minimize surface water runoff and erosion.

B.4.3.g Wetlands

Vantage conducted a conservative and approximate inventory of wetland boundaries along the initial 46.7-mile long, 500-foot wide Vantage West Spur Lateral Pipeline survey corridor based upon visible hydrology and vegetation indicators. The wetland investigation resulted in the identification and mapping of 69 wetlands within the 500-foot Vantage West Spur Lateral Pipeline revised survey corridor. Exhibit F provides a summary of the wetlands and waterbodies encountered and classifies each by wetland and stream type.

B.4.3.h Woodlands and wooded areas

The *rural residences and farmsteads* land use category includes planted shelterbelts and windbreaks. These areas are the only wooded areas in the survey corridor. The wooded areas are small in size (0.02 miles) and account for a minor portion of the Project route (Table 5). Only two windbreaks are crossed by the revised route.

B.4.3.l Plant life

Pasturelands and rangelands account for 5.57 miles of the Project revised route and include lands the may have been plowed at some time in the past and re-planted to grasses suitable for livestock grazing. *Native grasslands* are uncommon in the revised route (0.92 miles). Lands classified as *public, commercial, and institutional use* are exclusively road right-of-ways including vegetated barrow ditches. These areas are generally small in size (0.02 miles each) but occur frequently because of the section line road system in North Dakota. The revised route has 0.57 miles of right-of-ways (Table 5).