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Enbridge (U.S.) Inc., North Dakota Pipeline Company LLC,
Enbridge Energy, Limited Partnership, and
Enbridge Pipelines (Wisconsin) Inc.

Public Service Commission of Wisconsin

Docket No. 9300-GF-_____

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Public Interest Determination Application



Sandpiper Pipeline Project and Line 3 Replacement - Phase 2 Project

Table of Contents

Application	1
1.0 DESCRIPTION AND NECESSITY OF THE PROJECT	12
1.1. Type of Construction	12
1.2. General Description of Projects	12
1.2.1. Operating pressure, size and material	13
1.2.2. Pipeline length and construction and right-of- way width requirements.....	14
1.2.3. Description of other associated facilities needed	15
1.2.4. Maps.....	16
1.3. Purpose and Necessity of the Projects	16
1.4. Future Projects Considered by Applicants	23
1.5. Anticipated Construction Schedule	23
1.6. Description of Construction Procedures	23
2.0 PROJECT DEVELOPMENT AND ALTERNATIVES.....	29
2.1. Discussion of Route Alternatives	29
2.2. Possible Route Corridors	29
3.0 GENERAL PIPELINE SITING INFORMATION	41
3.1. Description of Routes Considered and Excluded	41
3.1.1. Detailed route maps	41
3.1.2. Recent aerial figures	41
3.1.3. Wetland and waterbody figures.....	41
3.1.4. Floodplain maps	41
4.0 DETAILED ROUTE INFORMATION	41
4.1. General Route Impacts	41
4.1.1. Number of each building type within certain distances from centerline	42
4.2. Impacts by Land Type	43
4.3. Agriculture	45
4.3.1. Practices that may be affected	45

4.3.2.	Affected parcels enrolled in farmland preservation programs	45
4.4.	Endangered, Threatened, Special Concern Species and Natural Communities	46
4.5.	Archeological and Historic Resources	49
4.6.	Access to the ROW	51
4.7.	Waterway Permitting Activities	52
4.8.	Wetlands	53
5.0	CONSTRUCTION METHODS	56
5.1.	General Description of Project Construction Methods	56
5.1.1.	Machinery type to be used	56
5.1.2.	Size of trench	56
5.1.3.	Width of construction disturbance zone	56
5.1.4.	Location of staging areas and any additional temporary workspace	56
5.1.5.	General description of how work will occur in and around:	57
5.2.	River and Stream Crossings	59
5.3.	Wetland Crossings	60
5.4.	Site Restoration	60
5.5.	Erosion Control Plan	61
5.6.	Dewatering Plan	61
6.0	ASSOCIATED FACILITIES PLAN	61
7.0	AGENCY PERMITS AND APPROVALS	61
8.0	OTHER AGENCY CORRESPONDENCE	62
9.0	PROPERTY OWNER INFORMATION	62
10.0	PUBLIC OFFICIAL, MEDIA, AND LIBRARY INFORMATION	62

Tables

Table 1.2-1	Summary of Sandpiper Pipeline Project	12
Table 1.2-2	Summary of Line 3 Replacement Project – Phase 2 Project.....	13
Table 1.2.1-1	Project Pipe Specifications.....	14
Table 1.2.2-1	Land Requirements	15
Table 1.2.3-1	Land Requirements (Associated Facilities).....	16
Table 1.3-1	Refineries Served Directly or Indirectly by Enbridge Mainline Systems.....	19
Table 1.6-1	Trench Requirements.....	25
Table 2.2-1	Environmental Features Comparison –Segments B and C	32
Table 2.2-2	Environmental Features Comparison –Segments E and F.....	35
Table 2.2-3	Environmental Features Comparison –Segments H and I.....	38
Table 4.1.1-1	Structures within 300 Feet of the Project Pipeline Centerlines	42
Table 4.2-1	Land Use Classifications Affected by Construction and Operation of the Project Route	43
Table 4.3.2-1	Parcels Enrolled in the Wisconsin Managed Forest Lands Program.....	45
Table 4.4-1	Status of Federally Listed Species and Designated Critical Habitat.....	46
Table 4.4-2	Rare Species and Natural Communities Identified Within the Project Area	47
Table 4.5	Reports documenting previously conducted Phase I reconnaissance surveys within the Project Area.....	50
Table 4.7-1	Waterbody Crossings.....	52
Table 4.8-1	Wetlands Impacts.....	55
Table 5.2-1	Roads Crossed by the Sandpiper Project and Line 3 Replacement – Phase 2 Project	59
Table 5.2-2	Railroads Crossed by the Sandpiper Project and Line 3 Replacement – Phase 2 Project .	59
Table 7.0-1	Agency Permits/Approvals in Wisconsin.....	61
Table 10.0-1	Douglas County Public Libraries with Application	62

Figures

Figure 1.3	Petroleum Administration for Defense Districts	19
Figure 1.6-1	Typical Pipeline Construction Sequence	28
Figure 2.2-1	Overview of Alternatives	31
Figure 2.2-2	Segments B and C	34
Figure 2.2-3	Segments E and F.....	37
Figure 2.2-4	Segments H and I.....	40

Appendices

Appendix A – Right-of-Way Typical Drawings

Appendix B – Project Maps

Appendix B.1 – Project Overview Map

Appendix B.2 – USGS Topographic and Aerial Route Maps

Appendix B.3 – Aerial Tract Maps (Confidential)

Appendix B.4 – Wetland and Waterbody Maps

Appendix C – Project Construction Schedule

Appendix D – Environmental Protection Plan

Appendix E – Residences Within 300 Feet from Centerline of Pipeline

Appendix F – Agency Correspondence

Appendix G – Unanticipated Discoveries Plan

Appendix H – Agricultural Protection Plan

Appendix I – List of Federal and State Agency Officials

Appendix J – List of Affected and Abutter Landowners

Appendix K – Copy of Landowner Mailings

Appendix L – List of Public Officials

Appendix M – List of Media Contacts

Before The
Public Service Commission of Wisconsin

APPLICATION of Enbridge (U.S.) Inc., North Dakota Pipeline Company LLC, Enbridge Energy, Limited Partnership, and Enbridge Pipelines (Wisconsin) Inc. Pursuant to Wis. Stat. § 32.02(13) For Approval to Acquire by Condemnation Permanent and Temporary Easements and Additional Temporary Workspace on Properties Located in Douglas County for the Construction of the Sandpiper Pipeline Project and the Line 3 Replacement – Phase 2 Project if Determined to be in the Public Interest

Docket No. 9300-GF-

To the Public Service Commission of Wisconsin (the “Commission”):

Pursuant to Wis. Stat. § 32.02(13), Wis. Admin. Code § PSC 2.07, and any other rule or law deemed applicable by the Commission, Enbridge (U.S.) Inc. (“EUS”), North Dakota Pipeline Company LLC (“NDPL”), Enbridge Energy, Limited Partnership (“EELP”), and Enbridge Pipelines (Wisconsin) Inc. (“EPW”) (together, the “Applicants”) apply for a determination that it is in the public interest for the Applicants to acquire by condemnation permanent and temporary easements and additional temporary workspace on parcels of property located in Douglas County, Wisconsin. The Applicants request that the Application for a public interest determination be granted for the following reasons.

1. Wis. Stat. § 32.02(13) provides:

The following ... corporations may acquire by condemnation any real estate and personal property appurtenant thereto or interest therein which they have power to acquire and hold or transfer to the state, for the purposes specified, in case such property cannot be acquired by gift or purchase at an agreed price:

* * *

Any corporation licensed to do business in Wisconsin that shall transmit oil or related products including all hydrocarbons which are in a liquid form at the temperature and pressure under which they are transported in pipelines in Wisconsin, and shall maintain terminal or product delivery facilities in Wisconsin, and shall be engaged in interstate or international commerce, subject to the approval of the public service commission upon a finding by it that the proposed real estate interests sought to be acquired are in the public interest.¹

2. EUS is a corporation organized under the laws of the State of Delaware with its principal place of business at 1100 Louisiana, Suite 3300, Houston, Texas 77002. EUS is a wholly owned subsidiary of Enbridge Inc. and an affiliate of Enbridge Energy Company, Inc. ("EECI") which is the general partner of Enbridge Energy Partners, L.P. ("EEP"). EEP holds a majority membership interest in NDPL. EUS is registered to do business in Wisconsin. EUS is the operator of NDPL's existing and proposed pipelines and delivery facilities, which are more fully described in the paragraphs that follow. As a result, EUS transports crude oil in interstate commerce through pipelines, including pipelines located in Wisconsin, and maintains terminal or product delivery facilities in Wisconsin.

¹ Wis. Stat. § 32.02(13).

3. NDPL is a limited liability company organized under the laws of the State of Delaware with its principal place of business at 1100 Louisiana, Suite 3300, Houston, Texas 77002. NDPL is a joint venture between EEP and Marathon Petroleum Corporation ("MPC"). EEP is a Delaware limited partnership, headquartered at 1100 Louisiana, Suite 3300, Houston, Texas 77002. NDPL is registered to do business in Wisconsin. NDPL transports liquid crude oil, in interstate commerce through pipelines, and will maintain pipelines and delivery facilities in Wisconsin after construction of the Sandpiper Pipeline Project described in this Application, including, receiving traps, relief system, and metering and sampling facilities.

4. EELP is a limited liability partnership organized under the laws of the State of Delaware with its principal place of business at 1100 Louisiana, Suite 3300, Houston, Texas 77002. EELP is a subsidiary of EEP, and an affiliate of Enbridge Inc., and owns and operates the United States portion of the existing Enbridge Mainline System, which is described in paragraph 7, *infra*. EELP is licensed to do business in Wisconsin under the assumed name of Enbridge Energy, Limited Partnership of Wisconsin. EELP transports crude oil in interstate commerce through pipelines, including pipelines located in Wisconsin, and maintains terminal or product delivery facilities in Wisconsin.

5. EPW is a Wisconsin corporation with a principal place of business at 1100 Louisiana St., Suite 3300, Houston, Texas 77002. As a Wisconsin corporation, EPW is licensed to do business in Wisconsin. EPW is a general

partner of EELP. As a general partner, EPW has direct ownership interests in, and unlimited liability exposure for, the assets constituting or in any way associated with the Line 3 Replacement – Phase 2 Project described in paragraphs 11-13, *infra*, and all EELP's terminal or product delivery facilities in Wisconsin. EPW by virtue of its ownership interests in, and unlimited liability exposure for, the assets of the Line 3 Replacement – Phase 2 Project and EELP's existing pipelines and associated facilities, transport liquid crude oil and related products through pipelines in Wisconsin and maintains terminal or product delivery facilities in Wisconsin. EPW is engaged in interstate commerce.

6. NDPL owns a crude oil gathering and interstate pipeline transportation system that gathers crude oil from points near producing wells in North Dakota and Montana. The NDPL System is commonly referred to as the "North Dakota Pipeline System". Shippers on the NDPL System currently have the ability to transfer their product to the Enbridge Mainline System at Clearbrook, Minnesota. Additionally, at Clearbrook, shippers have access to refineries in the Minneapolis/St. Paul area via interconnections with Minnesota Pipe Line Company, a third-party crude oil pipeline.

7. EELP owns and operates the United States portion of the Enbridge Mainline System. The Enbridge Mainline System is an operationally integrated pipeline system spanning 3,300 miles across North America, including in Wisconsin, to connect producers and shippers of crude oil and natural gas liquids in western Canada with markets in the United States and eastern Canada.

Shippers on the Enbridge Mainline System have access to most major crude oil refinery markets in the Midwest (PADD 2), Canada and as far south as Cushing, Oklahoma and the Texas Gulf Coast (PADD 3).

8. NDPL proposes to construct and own and EUS proposes to operate a crude oil pipeline referred to herein as the Sandpiper Pipeline Project (hereinafter “Sandpiper” or “Sandpiper Pipeline Project”). Sandpiper will transport crude oil from NDPL’s Beaver Lodge Station, south of Tioga, North Dakota to Clearbrook, Minnesota and then on to the existing EELP terminal in Superior, Wisconsin (“Superior Terminal”). Sandpiper will be approximately 615 miles long, of which approximately 300 miles of 24-inch outer diameter (“OD”) pipe will be in North Dakota, 301 miles in Minnesota (73 miles of 24-inch OD pipe and 229 miles of 30-inch OD pipe), and 14 miles of 30-inch OD pipe in Wisconsin.

9. The Sandpiper Pipeline Project is part of NDPL’s and EUS’s ongoing effort, as the operators of an interstate common-carrier crude oil pipeline system, to continuously evaluate and respond to short- and long-term crude oil supply and demand patterns in North America. As part of this effort, NDPL and EUS worked diligently with its shippers, refiners, and industry members. Refineries need access to secure and reliable crude oil supplies produced in North America to meet their feedstock requirements while reducing reliance on crude oil imported from less-friendly, non-North American sources. This shift in supply source will help reduce the United States’ reliance on crude oil imports from less stable regions of the world. Refineries also need efficient, cost-effective, and

safe transportation systems for the crude oil used to create refined products.

The Sandpiper Pipeline Project meets these demands.

NDPL and EUS developed the Sandpiper Pipeline Project based on consultations with shippers and refiners and through careful evaluation of alternatives and regional infrastructure. NDPL and EUS concluded that the Sandpiper Pipeline Project is the most prudent and cost effective solution to meet its shippers' near-term transportation requirements while providing a long-term capacity solution. The Sandpiper Pipeline Project also provides flexibility and potentially scalable incremental capacity expansions, subject to demand and permitting requirements, to satisfy potential additional future demand from shippers and refiners for crude oil produced in the Bakken region.

10. The Sandpiper Pipeline Project will be operationally integrated with the NDPL System, and will be used to transport crude oil to the Superior Terminal for subsequent delivery of crude oil supplies on the Enbridge Mainline System. To meet the need for safe and economical transportation capacity, the Sandpiper Pipeline Project will provide up to 225,000 barrels per day ("bpd") of new crude oil capacity from North Dakota and will add an annual capacity of 375,000 bpd of crude oil from Clearbrook, Minnesota to EELP's Superior Terminal. The incremental 150,000 bpd that will enter Sandpiper at Clearbrook is currently transported to Clearbrook on NDPL's existing Line 81 and to Superior, Wisconsin on the Enbridge Mainline System. Wisconsin will benefit from this additional pipeline capacity because additional volumes of Bakken crude shipped on the

Sandpiper pipeline will be available to the Calumet refinery in Superior, Wisconsin which currently processes Bakken Crude. Additionally, Wisconsin will benefit from the Project because the state obtains refined petroleum products from the Midwest refineries that process light crude oil that the Sandpiper Pipeline Project will transport.

11. EELP and EPW propose to replace approximately 18 miles of its existing Line 3 pipeline with new 36-inch OD pipe as part of its Line 3 Replacement – Phase 2 Project. EELP intends to replace a portion of Line 3 beginning at the Wrenshall valve near milepost (“MP”) 1079.9 in Carlton County, Minnesota, extending to the southeast and ending at the existing Superior Terminal near MP 1098.1. Approximately 14 of the total 18 miles of the Line 3 Replacement – Phase 2 Project are located in Douglas County, Wisconsin. EELP proposes to co-construct the Line 3 Replacement – Phase 2 Project with the Sandpiper Pipeline Project utilizing the same route to minimize impacts to landowners through multiple construction seasons which would be required if the projects were constructed separately.

12. EELP is committed to evaluating the operation and condition of Line 3 through its integrity management program. Consistent with that program, EELP examined comprehensive and integrated integrity results, including internal inspection data, and projected future maintenance activities. As a result of this analysis, EELP determined that replacement of this portion of Line 3 is necessary

due to the increased need for maintenance activities on Line 3 in Wisconsin and the resulting impact to of these activities on landowners and the environment. While ongoing integrity inspections, testing and maintenance achieves required safety standards,² replacement of this segment of Line 3 is a cost-effective option to meet the current capacity requirements of EELP's shippers. Moreover, the Line 3 Replacement – Phase 2 Project benefits the public by replacing a pipeline segment that would otherwise require extensive ongoing integrity assessment and maintenance under Enbridge's long-term integrity management program. Thus, the Line 3 Replacement – Phase 2 Project also has an added public benefit by reducing ongoing impacts to landowners, local communities, and the environment over the long term.

The Line 3 Replacement – Phase 2 Project will be co-located and constructed concurrently with the Sandpiper Pipeline Project in Wisconsin, which will minimize disturbance to landowners and the environment.

13. The Line 3 Replacement – Phase 2 Project is an integrity-driven project. Due to upstream capacity constraints, there will be no increase in incremental pipeline capacity resulting from the replacement of Line 3. However, the long-term maintenance of Line 3 is in the public interest, as it assures future reliable and safe deliveries of crude oil supplies to the Midwest refineries it serves.

² In accordance with various federal pipeline safety regulations and national consensus standards, pipelines are inspected, maintained, and repaired as necessary to maintain safe operations commensurate with the operating pressures of the pipeline. This process, known as "integrity management" includes periodic internal inspections with in-line inspection devices and, based on the results of those tools, anomalies are prioritized, monitored and/or excavated and repaired.

14. Together, the Sandpiper and Line 3 Replacement – Phase 2 Projects are referred to as the “Projects” in this Application.

15. Both the NDPL System and the Enbridge Mainline System are interstate common carrier pipeline systems that charge tolls to shippers of crude petroleum and other petroleum liquids. All tariff rates, applicable surcharges and terms of shipment for transportation of liquid petroleum on the Systems are established and governed by tariffs filed with and regulated by the Federal Energy Regulatory Commission (“FERC”). As interstate liquid pipelines, the construction, operation, and maintenance of the Systems’ pipeline facilities are exclusively regulated by the U.S. Department of Transportation (“DOT”), Pipeline and Hazardous Materials Safety Administration (“PHMSA”) pursuant to various federal laws and regulations.

16. The Applicants are beginning negotiations with the landowners along the Project routes in Douglas County, Wisconsin to acquire the necessary permanent and temporary property rights for construction, operation and maintenance of the Projects. The Applicants have thus far been unable to acquire all of the necessary easement rights from the landowners. However, the Applicants will continue to negotiate in good faith and will update the Commission regularly as agreements are reached.

17. Pursuant to Wis. Stat. § 32.02(13), the Commission may review a liquid petroleum pipeline project and grant the applicant the authority to acquire by

condemnation the property interests necessary for the project if “the proposed real estate interests sought to be acquired are in the public interest.” The Sandpiper Pipeline Project will help meet the growing need for refined petroleum products in Wisconsin by bringing additional crude oil to Midwest refineries. The Line 3 Replacement – Phase 2 Project is required due to the increased maintenance activities necessary in the section of Line 3 located in Wisconsin, and to minimize impacts to landowners and the environment.

18. NDPL is committed to satisfying its customers’ growing demands for reliable and reasonably priced crude oil transportation service, and EELP is committed to the safe and reliable operation of Line 3. The construction of these Projects by the first quarter of 2016 will help meet Midwest refineries’ need for additional North American crude oil and Wisconsin’s need for reasonably priced refined petroleum products. The Applicants seek timely approval by the Commission of this Application for a public interest determination so that the Applicants may acquire by condemnation the permanent and/or temporary easements and additional temporary workspace that the Applicants have been, or will be, unable to acquire through voluntary negotiations.

Dated: March 14, 2014

Respectfully submitted,

By: /s/ Cynthia L. Buchko

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1.0 DESCRIPTION AND NECESSITY OF THE PROJECT

1.1. Type of Construction

NDPL and EUS propose to expand the NDPL System by installing a new crude oil pipeline and related facilities, identified as the Sandpiper Pipeline Project, which includes approximately 14 miles in Wisconsin.

EELP and EPW propose to replace 18 miles of its existing Line 3 pipeline with new 36-inch OD pipe as part of the ongoing system-wide pipeline integrity program ("Line 3 Replacement– Phase 2 Project"). Approximately 14 miles will be in Minnesota.

1.2. General Description of Projects

A. Sandpiper Pipeline Project

Sandpiper will transport crude oil from NDPL's Beaver Lodge Station, south of Tioga, North Dakota to Clearbrook, Minnesota and then on to the existing EELP terminal in Superior, Wisconsin. Sandpiper will be approximately 615 miles long. See Table 1.2-1.

Table 1.2-1 Summary of Sandpiper Pipeline Project				
Sandpiper Pipeline Project	Start MP	End MP	Mileage by Segment	County and State
Beaver Lodge to ND/MN State Line	0.0	300.0	~ 300 (could vary slightly with alternatives)	Williams, Mountrail, Ward, McHenry, Pierce, Towner, Ramsey, Nelson, and Grand Forks Counties, North Dakota
ND/MN state line to MN/WI State Line	300.0	600.8	~ 301 (could vary slightly with alternatives)	Polk, Red Lake, Clearwater, Hubbard, Cass, Crow Wing, Aitkin, and Carlton Counties, Minnesota
MN/WI state line to Superior Terminal and Tank Farm	600.8	615	~ 14 (could vary slightly with alternatives)	Douglas County, Wisconsin

In Wisconsin, the Sandpiper Pipeline Project will be located entirely within Douglas County between MP 601 and MP 615 and will end at EELP's Superior Terminal. Three mainline block valves and a batch detection densitometer facility will be installed in Douglas County as part of the Project. See Section 1.2.3 for a full description of these associated facilities.

B. Line 3 Replacement – Phase 2 Project

The Applicants propose to replace approximately 18 miles of Line 3 with new 36-inch OD pipeline, beginning at the Wrenshall Mainline valve near MP 1079.9 in Carlton County, Minnesota, and extending to the southwest to end at the existing EELP Terminal near MP 1098.1. See Table 1.2-2. In order to minimize disturbance to landowners and the environment, the Line 3 Replacement – Phase 2 Project will be co-constructed within the same corridor as the Sandpiper Pipeline Project.

Table 1.2-2 Summary of Line 3 Replacement – Phase 2 Project				
Line 3 Replacement – Phase 2 Project	Start MP	End MP	Mileage by Segment	County/State
Wrenshall Valve to MN/WI State Line	1079.5	1084.5	~ 5 (could vary slightly with alternatives)	Carlton County, Minnesota
MN/WI state line to Superior Terminal and Tank Farm	1084.5	1098.1	~ 13.6 (could vary slightly with alternatives)	Douglas County, Wisconsin

1.2.1. Operating pressure, size and material

The portion of the Sandpiper Pipeline Project in Wisconsin consists of a single 30-inch OD pipeline.

The portion of Line 3 Replacement – Phase 2 Project in Wisconsin consists of 36-inch OD pipeline. Table 1.2.1-1 provides the technical specifications for the pipelines.

Table 1.2.1-1 Project Pipe Specifications		
Explanation	Sandpiper Pipeline Project (Wisconsin)	Line 3 Replacement – Phase 2 Project
Pipe Size (Diameter)	30-inch outside diameter (NPS 30)	36-inch outside diameter (NPS 36)
Pipe Type (Grade)	X70 Carbon steel pipe manufactured according to American Petroleum Institute (API) Specifications 5L PS2	X70 Carbon steel pipe manufactured according to American Petroleum Institute (API) Specifications 5L PS2
Wall Thickness	0.469 inch	0.531 inch
Length	14 miles	14 miles
Pipe Design Factor	0.72	0.72
Longitudinal Seam Factor	1.0	1.0
Class Location & Requirements	Not applicable (applies to natural gas pipelines)	Not applicable (applies to natural gas pipelines)
Coating	Fusion Bond Epoxy	Fusion Bond Epoxy
Specified Minimum Yield Strength (psi)	70,000 psi	70,000 psi
Tensile Strength (psi)	82,000 psi	82,000 psi

1.2.2. Pipeline length and construction and right-of-way width requirements

The Applicants anticipate that the permanent right-of-way (“ROW”) and temporary workspace land requirements will vary along the preferred route in order to accommodate landowner, environmental, or constructability concerns. Table 1.2.2-1 details the anticipated land requirements in Wisconsin for each of the Projects.

Table 1.2.2-1 Land Requirements				
Easement		Sandpiper Pipeline Project (Wisconsin)	Line 3 Replacement – Phase 2 Project	Total Combined ROW
Permanent ROW (ft) ^a	Co-Located Portions	20	20	40
	Greenfield Portions	50	20	70
Temporary Easements (ft)	Co-Located Portions	15	20	35
	Greenfield Portions	20	20	40
Total Land Requirements (ft)	Co-Located Portions	35	40	75
	Greenfield Portions	90	20	110
^a A portion of the permanent ROW may include portions of existing EELP permanent easements, which are used for the operation and maintenance of other pipelines.				

Permanent and temporary easements will be needed for the Projects to accommodate the new pipelines and provide sufficient space for a buffer zone from any existing pipeline or utility for safety on either side of the pipeline. Appendix A includes typical drawings depicting ROW requirements. The Applicants will make a final determination of the Project's ROW requirements following completion of field surveys and engineering design activities.

Additional temporary workspace ("ATWS") may be necessary for construction in areas such as steep slopes; as staging areas for stream, river, wetland, and road crossings to provide an area for prefabrication of a section of pipeline or for storage of top soil and subsoil material. The number, sizes and location of the ATWS areas have not yet been determined and likely will not be finalized until federal and State environmental permits are received and the route and construction method are finalized.

1.2.3. Description of other associated facilities needed

Three mainline block valves will be installed, and a batch densitometer will be constructed approximately five miles upstream of the Enbridge Superior Terminal in Douglas County, Wisconsin as part of the Sandpiper

Pipeline Project. The valves are used to isolate segments of the line in an emergency and are strategically placed based upon waterways and population centers. The densitometer is used to notify the main line operator with batch identification to allow for delivery into tankage at Superior Terminal. No associated facilities will be built for Line 3.

Table 1.2.3-1 Land Requirements (Associated Facilities)	
Facility	Preliminary Milepost
Mainline Block Valve & Batch Densitometer	603.5
Mainline Block Valve	609.6
Mainline Block Valve	611.5

1.2.4. Maps

Appendices B.1, B.2, and B.3 include a series of topographical and aerial maps depicting the location and size of the proposed pipelines, alternative routes, and the location of any associated facilities.

1.3. Purpose and Necessity of the Projects

A. Sandpiper Pipeline Project

The purpose of the Sandpiper Pipeline Project is to transport the growing production of domestic crude oil from the Bakken and Three Forks formations in the Williston Basin³ of eastern Montana and western North Dakota to meet the increased demands of refineries and markets in the Midwest and the East Coast. The capacity provided by Sandpiper will provide independent utility to NDPL and its customers. NDPL's shippers will use the pipeline to transport crude oil to the EELP Superior Terminal. From there, the crude oil can be delivered to various other pipelines and refineries in the Midwest and the East Coast. The Sandpiper Pipeline Project is a positive step toward North American energy security and independence that will increase access to a growing, long-term, and reliable domestic source of energy and decrease reliance on crude oil imports from countries that are often unstable or unfriendly to the United States' interests. The need for the Sandpiper Pipeline Project is based on several factors, including:

³ The Bakken formation is currently the largest contributor to the total crude oil production in the Williston Basin, the oil industry refers to all of the crude oil production in the Williston Basin as "Bakken crude oil". The Williston Basin spans parts of western North Dakota, eastern Montana and parts of Saskatchewan and Manitoba.

- increasing demand for crude oil produced in North America from refineries and markets in the Midwest and the East Coast;
- compared to other modes of transportation, transporting North Dakota crude oil by pipeline to Midwest refineries and beyond is the safer and more economic transportation alternative; and
- reducing United States dependence on foreign offshore oil through increased access to stable, secure domestic crude oil supplies.

The Sandpiper Pipeline Project will expand the capacity of the existing NDPL System between Beaver Lodge, North Dakota and Clearbrook, Minnesota and then extend the NDPL system to Superior, Wisconsin. The Sandpiper Pipeline Project will have an initial annual capacity of 375,000 bpd between Clearbrook, Minnesota and Superior, Wisconsin.

The increased supply of crude oil being produced in the Bakken region is addressing a corresponding rise in demand from refineries in the Midwest and the East Coast for crude oil produced in North America. Refineries are reducing reliance on other foreign production regions, specifically countries outside North America, which are often more unstable and less reliable.

The 2013 Index of United States Energy Security Risk Annual Report published by the Institute for 21st Century Energy, an affiliate of the United States Chamber of Commerce, commented that the “impacts of the unconventional oil and natural gas boom lowered United States energy security risks in 2012 by increasing supply security, reducing net imports, and putting downward pressure on energy costs and expenditures.”⁴ Adequate transportation infrastructure to move the oil to market is necessary in order to continue to realize the benefits of the unconventional oil boom in the United States. The Sandpiper Project meets this national objective as it links the prolific producing regions of the Bakken and Three Forks formations to premium refineries and major marketing centers that may otherwise have to rely on unstable sources of crude oil supplies to meet their feedstock requirements.

The origin of the Sandpiper Pipeline Project is within the “Big Five” counties of North Dakota,⁵ which is the largest producing area of the Williston Basin. This gives United States refineries and shippers a competitive advantage for access to abundant, safe, and long-term stable

⁴ 2013 Index of U.S. Energy Security Risk Annual Report at <http://www.energyxxi.org/2013-us-index-of-energy-security-risk>.

⁵ The “Big Five” counties are Divide, McKenzie, Williams, Mountrail, and Dunn.

sources of crude oil supplies to meet their feedstock requirements.

The transportation of crude oil to regional refineries by pipeline is an essential component of the supply chain that delivers refined petroleum products to Midwestern consumers. Pipelines deliver almost all of the crude oil processed by Midwestern refineries. Wisconsin's one refinery and Minnesota's two refineries, together with other Midwestern refineries that supply refined product to Wisconsin, fall within the Petroleum Administration for Defense District ("PADD") 2, (see Figure 1.3, below). Pipelines transported more than 434 million barrels of crude into PADD 2 from other PADDs in 2012.⁶

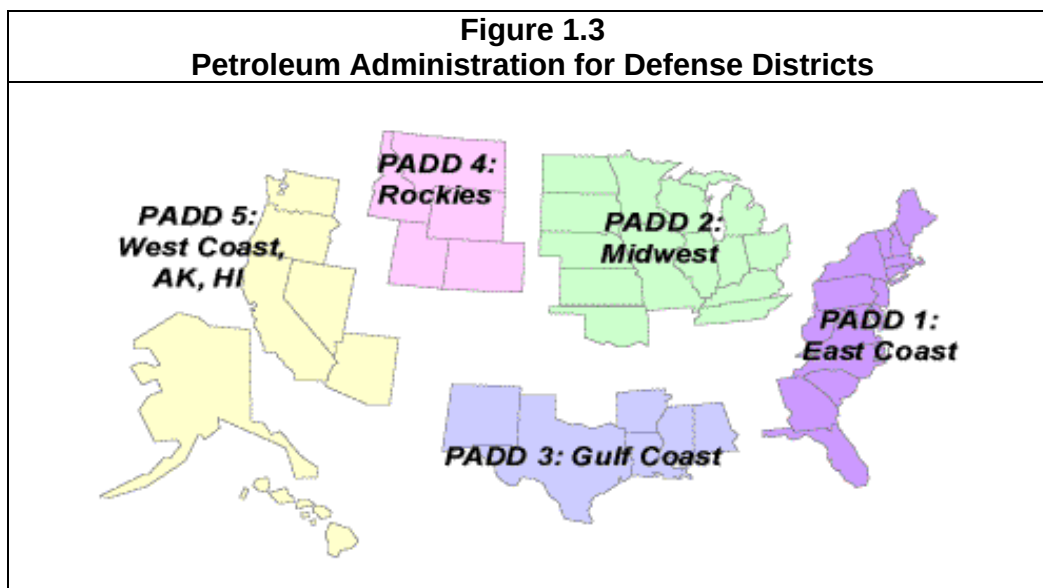
Moreover, the Midwest (PADD 2), like other PADDs, is increasing its reliance on North American crude oil as a safer and more reliable source. In 2012, the PADD 2 refining area imported 82.9% less crude oil from outside North America (primarily the Middle East) than in 2007.⁷ The Sandpiper Pipeline Project will support the shift from non-North American crude oil by providing critical access that links rapidly increasing production in the Williston Basin to Wisconsin and Minnesota refineries. Other refinery and marketing centers in the Midwest and East Coast will also be connected to the Bakken supplies via the Enbridge Mainline System and other interconnecting third-party pipelines.

PADDs are very interdependent. Although the Midwest (PADD 2) is increasing its consumption of North American crude oil over non-North American sourced crude oil, refineries in the Midwest are unable to meet 100% of the demand for refined products in this region. Accordingly, the refineries in other PADD regions continue to supply the Midwest with the necessary refined petroleum products Americans in the Midwest demand.

As a result, there is significant interdependence between PADD regions, with both crude oil and refined products transported between PADDs. The Midwest historically has been significantly net short refined product, meaning that it consumes more petroleum than it refines, with the shortfall met by refineries located on the Gulf Coast. The Midwestern supply-demand balance has become more even in recent years, but the Midwest continues to receive sizable volumes of refined product from the Gulf Coast.

⁶ EIA energy data at <http://www.eia.gov/>.

⁷ *Id.*



According to the EIA, the petroleum-using public in the Midwest consumed over 4.42 million bpd of refined petroleum products in 2012, which includes gasoline, diesel, jet fuel, asphalt, heating fuel and petrochemical products. PADD 2's total 2012 refining capacity was 3.72 million bpd, which represents a shortfall of approximately 700,000 bpd.⁸

The Sandpiper Pipeline Project will provide connectivity at Clearbrook, Minnesota and Superior, Wisconsin to the following refineries that are accessible either directly or indirectly off the Enbridge Mainline System.

Table 1.3-1					
Refineries Served Directly or Indirectly by Enbridge Mainline Systems					
Refinery	Location	Capacity (cubic meters/day)	Capacity (barrels/day)	Connected Directly from Enbridge	Connected Indirectly
PADD 2 - Minnesota and Wisconsin					
Northern Tier Energy	St. Paul Park, Minnesota	11,765	74,000		Yes - Minnesota Pipeline
Flint Hills Resources	Rosemount, Minnesota	50,876	320,000		Yes - Minnesota Pipeline
Calumet	Superior, Wisconsin	5,247	33,000	Yes	
Total		67,888	427,000		

⁸ *Id.*

Table 1.3-1 Refineries Served Directly or Indirectly by Enbridge Mainline Systems					
Refinery	Location	Capacity (cubic meters/day)	Capacity (barrels/ day)	Connected Directly from Enbridge	Connected Indirectly
PADD 2 - Illinois and Indiana					
ExxonMobil Refining & Supply Co.	Joliet, Illinois	38,157	240,000	Yes	
Citgo Petroleum Corp.	Lemont, Illinois	25,279	159,000	Yes	
BP PLC	Whiting, Indiana	64,390	405,000	Yes	
Total		127,826	804,000		
PADD 2 - Kentucky and Southern Illinois and Indiana					
Marathon Petroleum Co.	Robinson, Illinois	32,751	206,000		Yes - Mustang/Marathon
WRB Refining	Wood River, Illinois	56,599	356,000		Yes - Mustang/Capwood
Countrymark Cooperative	Mt. Vernon, Indiana	4,293	27,000		Yes - Mustang/Marathon
Marathon Petroleum Co.	Catlettsburg, Kentucky	38,157	240,000		Yes - Mustang/Marathon
Total		131,800	829,000		
PADD 2 - Michigan and Ohio					
BP PLC	Toledo, Ohio	24,166	152,000	Yes	
PBF Energy Co.	Toledo, Ohio	27,028	170,000		Yes - Sun Pipeline
Marathon Petroleum Co.	Detroit, Michigan	19,079	120,000	Yes	
Marathon Petroleum Co.	Canton, Ohio	12,719	80,000		Yes - Mustang/Marathon
Husky	Lima, Ohio	25,756	162,000		Yes - Mustang/Marathon
Total		108,747	684,000		
PADD 1 – Pennsylvania					
United Refining	Warren, Pennsylvania	11,129	70,000		Yes - Kantone

Table 1.3-1 Refineries Served Directly or Indirectly by Enbridge Mainline Systems					
Refinery	Location	Capacity (cubic meters/day)	Capacity (barrels/ day)	Connected Directly from Enbridge	Connected Indirectly
Ontario					
Imperial Oil	Nanticoke, Ontario	18,125	114,000	Yes	
Imperial Oil	Sarnia, Ontario	18,920	119,000	Yes	
Shell Canada	Corunna, Ontario	11,288	71,000	Yes	
Suncor Energy Products	Sarnia, Ontario	13,514	85,000	Yes	
Nova Chemicals (Canada)	Corunna, Ontario	12,719	80,000	Yes	
Total		74,565	469,000		
PADD 3 – Cushing					
Coffeyville Resources	Coffeyville, Kansas	19,079	120,000	Yes	
WRP Refining	Borger, Texas	23,212	146,000		Yes-Spearhead
ConocoPhillips	Ponca City, Oklahoma	30,208	190,000		Yes-Spearhead
Holly Frontier	El Dorado, Kansas	21,145	133,000		Yes-Spearhead
NCRA	McPherson, Kansas	13,196	83,000	Yes	
Holly Frontier	Tulsa, Oklahoma	19,873	125,000	Yes	
Valero Energy Corp.	Ardmore, Oklahoma	14,627	92,000		Yes-Spearhead
Valero Energy Corp.	Sunray, Texas	27,028	170,000		Yes-Spearhead
CVR Refining	Wynnewood	11,129	70,000		Yes-Spearhead
Total		179,497	1,129,000		
PADD 3 – United States Gulf Coast					
PRSI	Pasadena, Texas	18,602	117,000	Yes - Seaway	
Shell	Deer Park, Texas	51,989	327,000	Yes - Seaway	
ExxonMobil	Houston, Texas	89,192	561,000	Yes - Seaway	
LyondellBasell	Houston, Texas	42,927	268,000	Yes - Seaway	

Table 1.3-1 Refineries Served Directly or Indirectly by Enbridge Mainline Systems					
Refinery	Location	Capacity (cubic meters/day)	Capacity (barrels/ day)	Connected Directly from Enbridge	Connected Indirectly
Valero	Houston, Texas	25,438	160,000	Yes - Seaway	
Valero	Texas City, Texas	38,952	245,000	Yes - Seaway	
BP	Texas City, Texas	71,703	451,000	Yes - Seaway	
Marathon	Houston, Texas	12,719	80,000	Yes - Seaway	
Total	Port Arthur, Texas	26,869	169,000		Yes - Mustang/Pegasus
ExxonMobil	Port Arthur, Texas	54,692	344,000		Yes - Mustang/Pegasus
Motiva	Port Arthur, Texas	104,932	660,000		Yes - Mustang/Pegasus
Valero	Port Arthur, Texas	49,286	310,000		Yes - Mustang/Pegasus
Total		587,301	3,692,000		

The Sandpiper Pipeline Project is needed to meet the transportation requirements of the Bakken oil producers and refineries. The additional pipeline capacity the Project provides will help alleviate the lack of crude oil pipeline infrastructure from the Williston Basin to premium refinery and marketing hubs. That serves the public's interest by providing improved, cost-effective and safe refinery access to an abundant, secure, and reliable source of domestic crude oil. This will, in turn, allow the refineries to satisfy local and national consumer demand for refined products.

B. Line 3 Replacement – Phase 2 Project

Consistent with an on-going, system-wide integrity program, EELP examined comprehensive and integrated integrity results, including internal inspection data, and projected future maintenance activities on this segment. As a result of this analysis, EELP determined that replacement of a portion of Line 3 is necessary due to the increased need for maintenance activities in Wisconsin and the resulting impact of these activities on landowners and the environment. The long-term maintenance of Line 3 is essential to safe pipeline operation while reducing impacts to landowners. Enbridge believes

that the Line 3 Replacement – Phase 2 Project is in the public interest because it:

- assures future reliable and safe deliveries of crude oil supply to the region;
- provides a cost-effective solution that proactively addresses the future integrity needs of Line 3; and
- minimizes impacts to landowners, local communities and the environment by reducing the number of future digs and repairs that would otherwise be needed on this segment of Line 3.

Impacts to landowners' communities and the environment are further minimized because the replacement of this approximately 14 miles of Line 3 will be co-located and constructed concurrent with construction of the Sandpiper Pipeline Project. Otherwise, EELP would continue maintenance in accordance with its current schedule, requiring continuing investigative excavations and repair activities and more frequent landowner and environmental disruption over a longer period of time.

1.4. Future Projects Considered by Applicants

The Projects are not related to any future projects or expansions proposed by the Applicants. The Applicants continually explore ways to optimize the NDPL and Enbridge Mainline Systems and continually work with shippers to meet their transportation requirements.

1.5. Anticipated Construction Schedule

Following receipt of necessary permits, including a public interest determination by the Commission, segments of the Projects where easement options have already been obtained from landowners may be constructed in early 2015. The targeted in-service date for both Projects is the end of first quarter of 2016. The Applicants may adjust Project schedules as necessary to address any constraints identified as environmental permitting proceeds. Appendix C includes the Projects' proposed construction schedule in Douglas County, which is subject to change based on final environmental permitting and access to land.

1.6. Description of Construction Procedures

A schematic depicting the typical pipeline construction sequence is provided as Figure 1.6-1.

Preparation of the ROW

Civil survey crews will stake the construction ROW prior to clearing of vegetation or ground disturbance. Crews will modify or remove fences when encountered within the construction area or, if necessary, for ROW access. Access will be maintained and temporary fencing or other means of livestock control will be employed during construction to minimize landowner inconvenience. Damaged fences, gates, and cattle guards will be repaired to the original condition or replaced, if necessary, upon completion of construction.

Clearing and Grading

The Contractor will clear the ROW in accordance with permits and limit to the extent needed for access and construction of the pipelines. The Contractor will protect trees to the extent possible and will remove stumps when necessary during grading and pipeline installation. The Contractor will haul stumps and debris created from preparation of the construction area to an approved disposal site, mulch, or otherwise handle in accordance with the Project permits.

The Applicants will not allow the Contractor to burn non-merchantable wood unless they acquire all applicable permits and approvals (e.g. agency and landowner) and in accordance with all state and local regulations.

The Contractor will grade the construction area only to the extent needed to provide a safe work area and will do so in a manner that minimizes effects on natural drainage and slope stability. The Contractor will restore graded areas and side hill cuts to original conditions to the extent possible upon completion of construction.

The Contractor will segregate topsoil in hayfields, pastures, residential areas, golf courses, unsaturated wetlands, and other areas as requested by the landowner or as specified in the Project plans, commitments, and/or permits. Refer to the Section 1.10 of the Environmental Protection Plan ("EPP") provided as Appendix D for a more detailed discussion of topsoil segregation. The Contractor will segregate the topsoil and subsoil piles in a manner as to avoid mixing.

The Contractor will take precautions to protect against potential spills or releases from construction equipment. Equipment refueling areas will be a minimum of 100 feet from waterways and wetlands. Specific requirements for reporting and responding to fuel spills or other instances of this type will be specified in the contract specifications. Refer to the EPP in Appendix D for additional information.

Hauling and Stringing Pipe

The Contractor will transport coated pipe, valves, and fittings by truck from material storage yards to various points along the Project route and will off-load the materials along the construction route using side boom tractors, mobile cranes, or vacuum lifting equipment.

Trenching

Prior to excavation activity, the Contractor will notify Wisconsin Excavator's One-Call system ("Digger's Hotline") so that utilities can mark the location of their underground facilities. The Contractor will adhere to other safety precautions as required by the Applicant's safety practices and worker safety regulations.

Typically, the Contractor conducts trenching activities using a backhoe or crawler-mounted, wheel-type ditch digging machine. The equipment operator will sidecast (stockpile) excavated material within the approved construction ROW separate from topsoil (refer to Section 1.10 of the EPP (see Appendix D)). The Applicants will coordinate with landowners to minimize disruption of access caused by the trench during construction. The Contractor will take precautions to adequately protect, repair, and/or replace damaged drainage systems (e.g., ditches, drainage tiles).

In accordance with federal requirements (49 Code of Federal Regulations ("C.F.R.") Part 195.248), the Contractor will excavate the trenches sufficiently deep enough to allow a minimum of 3 feet of cover or a depth necessary to avoid interference with farming and other normal land uses. Where the Project crosses highway or road ditches, the Applicants will adhere to the crossing procedures specified in its road crossing permits. The Applicants will generally bore paved road crossings to minimize traffic interference. Typical trench requirements appear in Table 1.6-1.

Table 1.6-1 Trench Requirements		
	Sandpiper 30-inch outside diameter pipe	Line 3 36-inch outside diameter pipe
Minimum ditch depth to allow for a minimum of 36-inches of ground cover to the top of the pipe	66-inches	72-inches
Approx. Trench width at the bottom	4-feet	4.5-feet
Approx. Trench width at the top	5-feet	6-feet

The Applicants will arrange measures to protect livestock and crops during excavation activities in cooperation with landowners. The Contractor will take precautions to adequately protect, repair, and/or replace damaged drainage systems (e.g., ditches, drainage tiles). These measures are more thoroughly described in the EPP (see Appendix D).

Bending

The Contractor will bend individual sections of the pipe to conform to the contours of the trench and terrain, where necessary using a track-mounted, hydraulic pipe-bending machine for this purpose. The Applicants may also utilize prefabricated pipe bends depending on the angles required.

Line-up, Welding, and Weld Inspection

Following bending, the Contractor lines up the sections of pipe and welds them together. When welding is complete, the welded pipeline will be lowered onto skids or blocks adjacent to the trench. Welding is one of the most important phases of pipeline construction. The Applicants developed welding procedures that have been tested to strict national industry standards and PHMSA regulations, promulgated in 49 C.F.R. Part 195. The Applicants qualify and test welders at the beginning of the Projects to ensure they meet the Applicants' welding procedures.

49 C.F.R. Part 195 generally requires nondestructive testing of 10% of field welds; however, the Applicants will exceed this requirement and require nondestructive examination of every weld to determine the quality. The Applicants will repair or remove weld defects as outlined in the API Standard 1104, "Welding of Pipelines and Related Facilities" and the Applicant's related standards. The Applicants will test repaired welds to verify the final quality of the weld.

Field Coating

The pipe will be factory coated for protection against corrosion. The ends of each pipe joint are left bare to facilitate welding. Before the Contractor lowers the pipe into the trench, they field coat the welds following procedures in the contract specifications. Once completed, the Applicants visually and electronically test the entire coating to identify coating flaws. The contractor will repair flaws in the coating.

Lowering In

The Applicants will inspect the trench for proper depth, rocks, or other obstructions prior to lowering in the pipeline. Sideboom tractors, spread out along the pipe segment, will simultaneously lift the welded pipeline sections and move it over the open trench. The sideboom tractors will then lower the pipeline segment into the trench. Where the pipelines must cross under underground utility lines, the contractor will thread a short segment of pipe under the utility line, and then weld it to the longer section of the pipeline in the trench.

Backfilling

The Contractor backfills the trench with care to protect the pipe and pipe coating from damage due to rocks following the lowering-in of welded pipeline strings. Angle blade dozers, draglines, or backhoes will replace the spoil. The Contractor will replace the subsoil first in areas where topsoil segregation occurred followed by the topsoil.

Typically, the Contractor forms a slight crown of backfill over the trench in upland areas to allow for soil settlement. In areas of rocky subsoil, the Contractor may cover the pipelines with a protective mat to prevent rocks in the backfill from striking the pipe and scratching or damaging the protective coating.

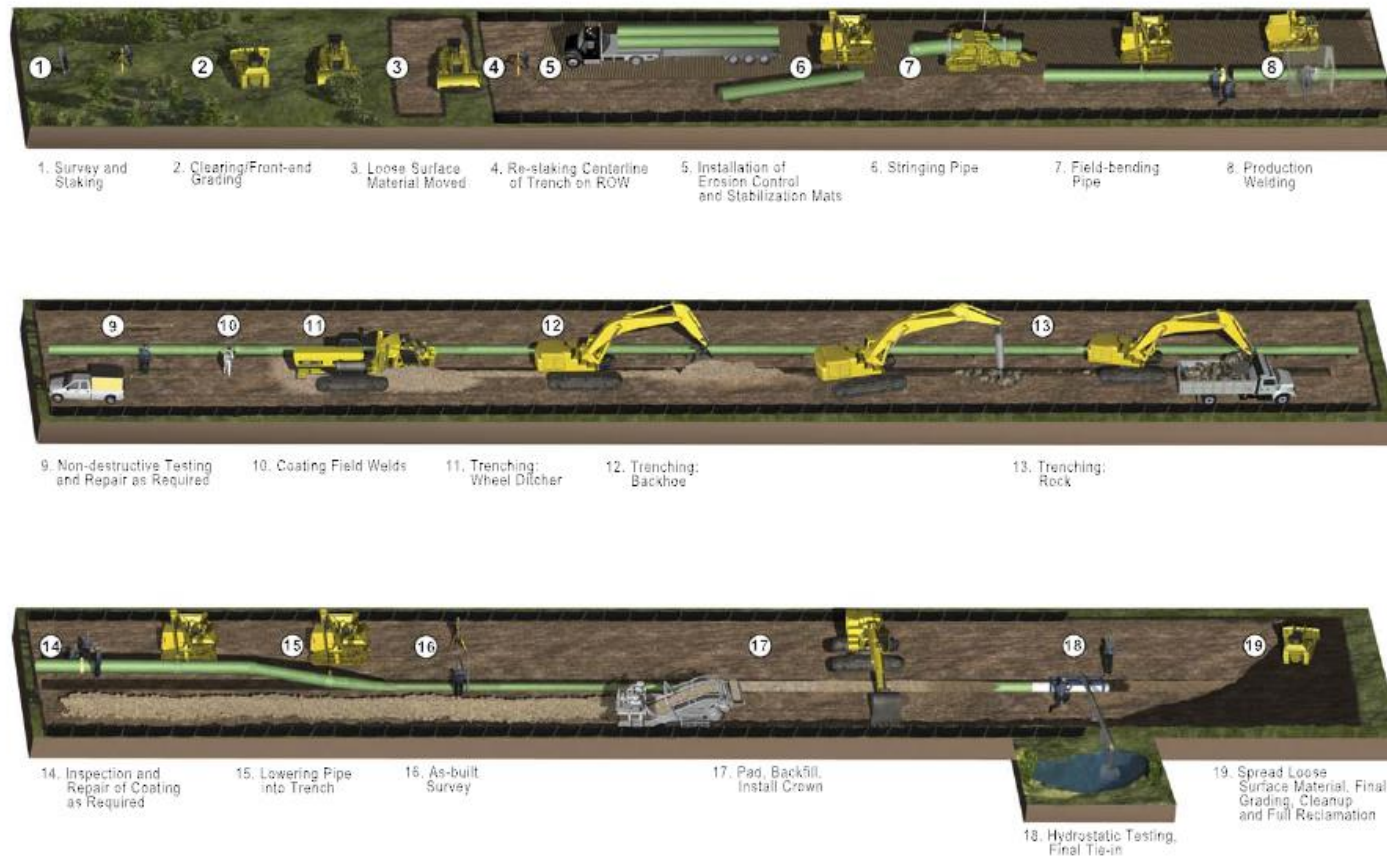
Pressure Testing

After backfilling is complete, the Contractor will hydrostatically test the pipelines to at least 125% of maximum allowable operating pressure ("MAOP") to verify the integrity. Hydrostatic testing will occur in accordance with test procedures set forth in 49 C.F.R. Part 195. The Applicants will obtain water appropriation and discharge permits from the appropriate agencies as needed.

Deactivation

The Line 3 Replacement – Phase 2 Project will also include deactivation of the existing pipeline. The deactivation process is still under development; however, in general the process includes cleaning the oil out of the pipeline, isolating it from the operating system, placing a cap on the ends of the replaced section and maintaining the pipeline in compliance with federal safety standards.

Figure 1.6-1
Typical Pipeline Construction Sequence



2.0 PROJECT DEVELOPMENT AND ALTERNATIVES

2.1. Discussion of Route Alternatives

The Applicants conducted an extensive review of possible route options to identify a preferred pipeline route that achieves the Projects' objectives, is technologically and economically feasible to construct, and minimizes impacts on landowners and the environment. The following subsections describe the route selection process and an analysis of the various route alternatives. As discussed in Section 1.3 of this Application, the Line 3 Replacement – Phase 2 Project will be co-located and co-constructed with the Sandpiper Pipeline Project; therefore the route evaluation factors discussed in this Section apply to both Projects. EELP and its affiliates own and operate existing pipeline ROWs in Wisconsin where there are opportunities for co-location; however, in some locations it may not be feasible to use the existing ROW due to congestion, poor crossing conditions, or other constraints. Co-location with third-party utility ROWs provides environmental advantage because land disturbance generally can overlap areas that have been previously disturbed.

The alternative analysis focused on minimizing the length of the pipeline to the extent practicable, while also minimizing the environmental impacts to specific resources. In general, each mile of the proposed Projects will impact approximately 13 acres during construction, and 4.8 acres where co-located and 8.5 acres along greenfield areas during operation; however, exact acreage is dependent on exact construction methods, workspaces, access roads, etc. It is not possible to avoid all resources due to the extent, shape, and prevalence of many resources.

Consideration of potential alternative corridors was also influenced by the existence of control points. Control points at specific locations along the pipeline route serve to anchor the route at the beginning and end, and possibly midpoints, thereby defining specific portions of the final route. The Applicants identified the primary control points at the delivery point to Wisconsin at the Minnesota/Wisconsin border and the Superior Terminal in Superior, Wisconsin.

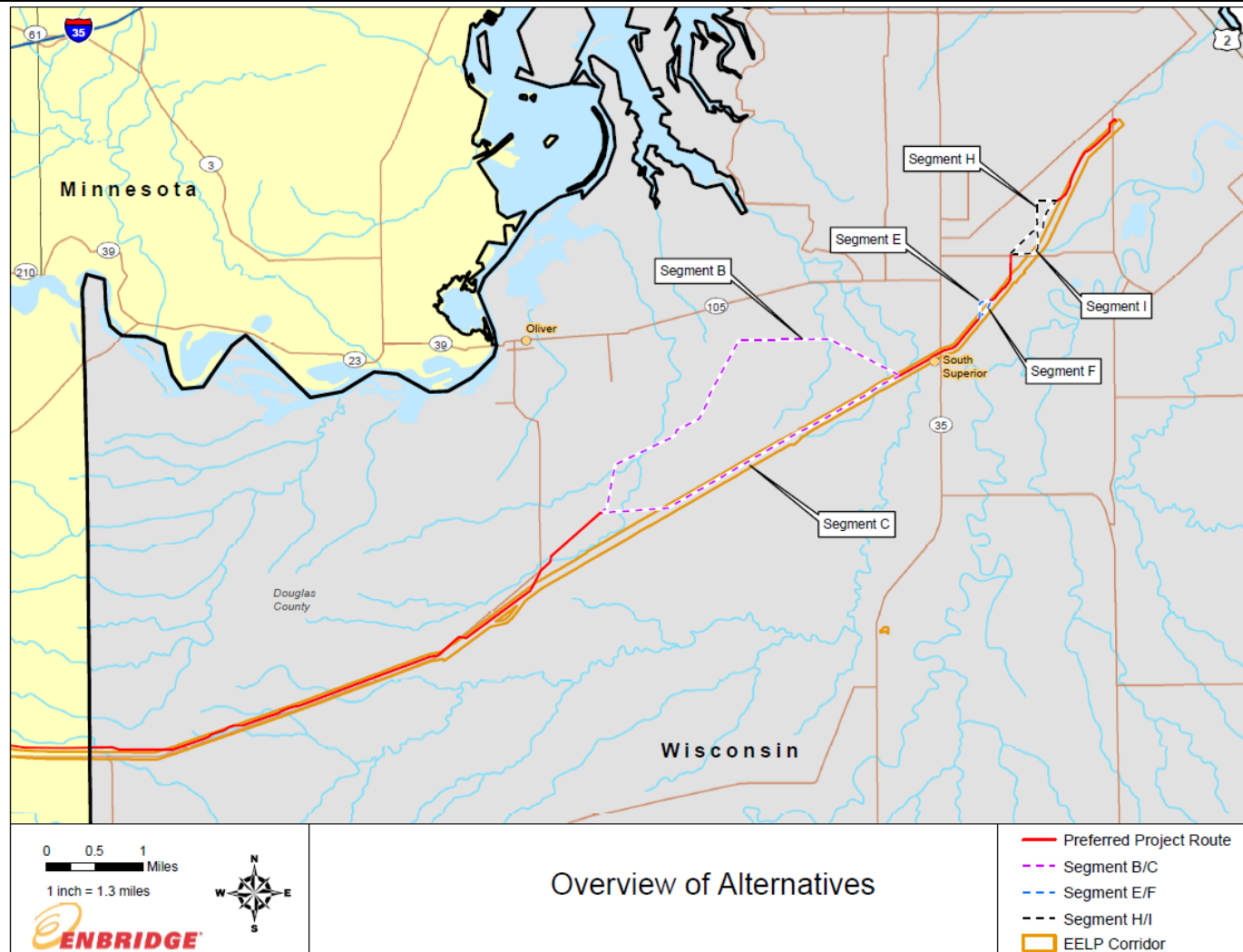
2.2. Possible Route Corridors

The Applicants considered the corridor for which it received authorization to construct its most recent projects (Alberta Clipper and Southern Lights pipelines) as the baseline for this analysis. Therefore, the Applicants conducted a detailed quantitative analysis of environmental impacts for only those areas that may deviate from the previously permitted construction right-of-way (refer to Figure 2.2-1). The analysis uses actual field survey/delineation data (where available) as well as sources of publicly available environmental data to compare a variety

of factors, including:

- proximity to existing rights-of-way;
- wetlands (including extensive saturated wetlands);
- highly wind erodible soils;
- bedrock outcrops;
- prime farmland soils;
- perennial waterbodies;
- state, county, or municipal forest land;
- State Natural Areas;
- Lake Superior National Estuarine Research Reserve properties;
- Priority Wetlands as identified by the March 2000 Data Compilation and Assessment of Coastal Wetlands of Wisconsin's Great Lakes, Pub. ## ER-002-00;
- Priority Navigable Waterway;
- Area of Special Natural Resource Interest;
- Wild Rice production area drainages as identified by the Wisconsin Department of Natural Resources ("WDNR") and Great Lakes Indian Fish and Wildlife Commission;
- roads and railroads crossed;
- residences or schools within 300 feet; and
- other site-specific issues that may occur.

Figure 2.2-1



The Applicants completed a detailed evaluation of each alternative corridor based on the above-referenced factors. The Applicants considered field delineated wetlands, WWI-mapped wetlands, wetlands within the City of Superior that are indicated as “Protected” in the Superior Area Management Plan (SAMP), and Priority Wetlands as identified by the March 2000 Data Compilation and Assessment of Coastal Wetlands of Wisconsin’s Great Lakes, Pub. ## ER-002-0 to conduct its alternative.

Segments B and C

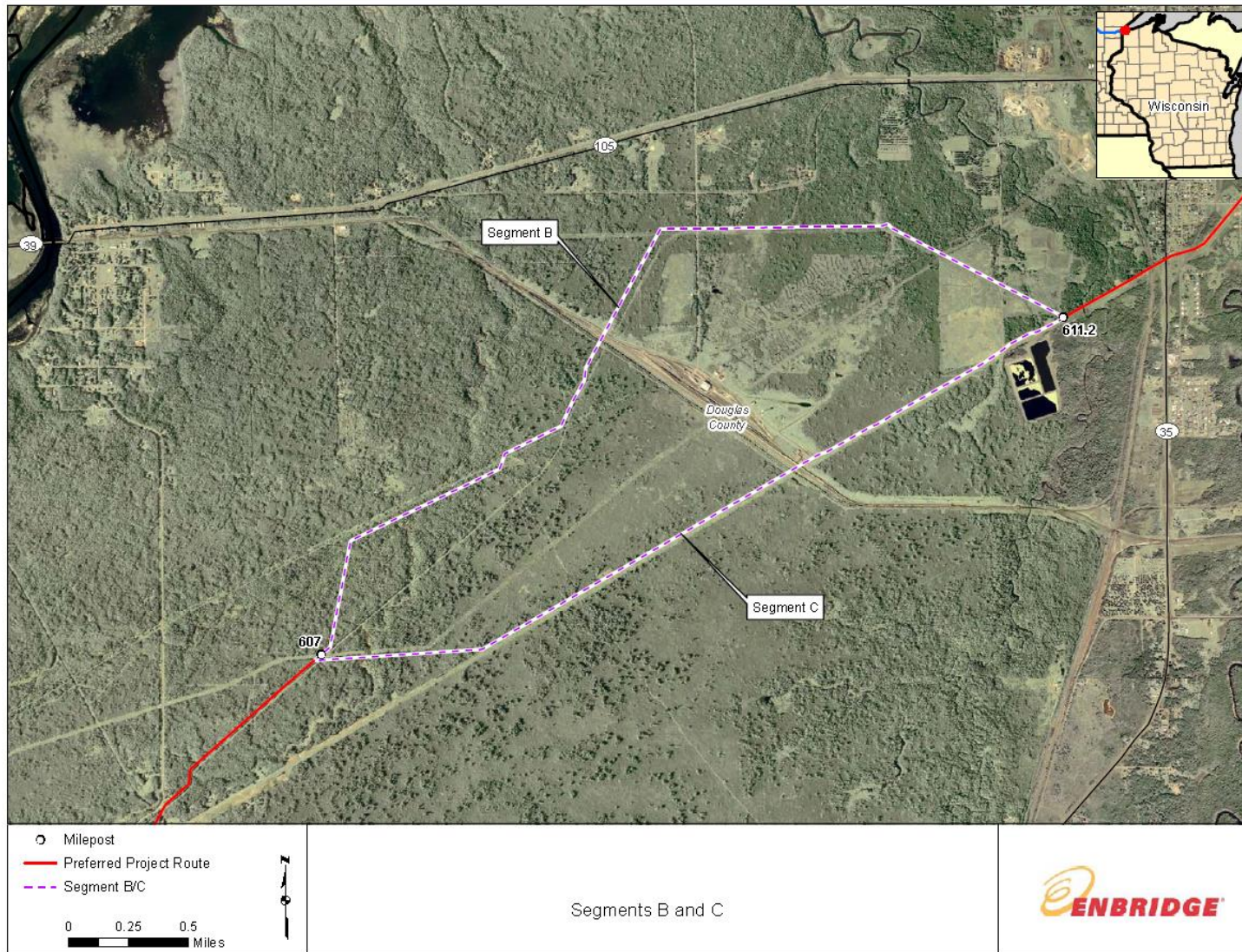
Due to the proximity to existing residences and the Pokegama-Carnegie State Natural Area (“SNA”), the Applicants prepared an evaluation of Segments B and C between approximate MPs 607.0 and 611.2 (refer to Figure 2.2-2). Table 2.2-1 provides a comparison of the prominent land use features of these alternatives. The Applicants prefer Segment C to avoid the SNA; however, final routing is subject to WDNR and U.S. Army Corps of Engineers (“USACE”) review.

TABLE 2.2-1 Environmental Features Comparison –Segments B and C			
Environmental Features	Unit	Segment B	Segment C
Length	miles	4.3	3.5
Adjacent to Existing ROW	miles	0.0	2.8
Greenfield Route ^a	miles	0.5	0.0
Wetland Crossing Length ^{b, c}	miles	2.6	2.8
Wetland Impact - Construction ^{b, d}			
PEM	acres	4.2	8.6
PSS	acres	22.9	26.3
PFO	acres	10.8	5.0
Wetland Impact - Operation ^{b, e}			
PEM	acres	0.0	0.0
PSS	acres	14.3	10.7
PFO	acres	6.4	2.1
Rare Plant Occurrences ^b	number	161	267
Hydric Soils	acres	51.4	48.3
Highly Wind Erodible Soils	acres	0.0	0.0
Agricultural Land	acres	0.0	0.0
Herbaceous Land	acres	0.3	0.3
Forest	acres	23.4	12.5
Prime Farmland Soils	acres	0.0	0.0
Intermittent Waterbodies Crossed ^b	number	0	0
Ephemeral Waterbodies Crossed ^b	number	8	0
Perennial Waterbodies Crossed ^b	number	7	2
Lake Superior National Estuarine Research Reserve Properties	number	0	0
Priority Wetlands ^f	miles	1.4	0.0
Priority Navigable Waterways Crossed	number	4	2
Areas of Special Natural Resource Interest	miles	1.4	0.0
Wild Rice Production Area Drainages ^g	miles	0.0	0.0

TABLE 2.2-1
Environmental Features Comparison –Segments B and C

Environmental Features	Unit	Segment B	Segment C
DNR Managed Lands	miles	0.0	0.0
State, County or Municipal Forest Land	miles	1.6	2.6
Railroads Crossed	number	1	1
Roads Crossed	number	2	1
Residences within 300 feet	number	0	1
^a Greenfield locations include, for purposes of the alternatives analysis, areas where the route is not within 200 feet of an existing ROW. ^b Based on field delineated data from Fall 2013 surveys. Where 2013 survey was not completed, Enbridge utilized recent (2008 / 2009) wetland and waterbody field data from a previous project and WWI data. ^c Crossing length of proposed pipeline centerline across wetlands. ^d Area of wetland impact within the construction workspace based typically on a 110-foot-wide workspace, including temporary dredge and fill areas, travel lanes, and staging areas. ^e Permanent conversion impacts include the area within the new permanent easement where the pipeline corridor will be maintained by periodic clearing activities. ^f Identified by the March 2000 Data Compilation and Assessment of Coastal Wetlands of Wisconsin's Great Lakes, Pub. ## ER-002-00. ^g Identified by the WDNR and Great Lakes Indian Fish and Wildlife Commission.			

Figure 2.2-2



Segments E and F

The Applicants prepared an evaluation of Route Segments E and F between MPs 612.2 and 612.5 (refer to Figure 2.2-3) due to ongoing litigation pending before the Circuit Court of Douglas County, which litigation could impact future construction projects on several parcels of property. The Applicants developed these route alternatives because the final resolution of the lawsuit is indeterminable at this time. Therefore, the Applicants prefer Route Alternative E. Table 2.2-2 provides a comparison of the prominent land use features of these alternatives.

TABLE 2.2-2 Environmental Features Comparison –Segments E and F			
Environmental Features	Unit	Route Alternative E	Route Alternative F
Length	miles	0.3	0.2
Adjacent to Existing ROW	miles	0.0	0.2
Greenfield Route ^a	miles	0.2	0.0
Wetland Crossing Length ^{b, c}	miles	0.3	0.2
Wetland Impact - Construction ^{b, d}			
PEM	acres	1.0	0.8
PSS	acres	2.7	1.8
PFO	acres	0.7	0.0
Wetland Impact - Operation ^{b, e}			
PEM	acres	0.0	0.0
PSS	acres	0.0	0.9
PFO	acres	0.5	0.0
Rare Plant Occurrences ^b	number	0	0
Hydric Soils	acres	4.4	2.6
Highly Wind Erodible Soils	acres	0.0	0.0
Agricultural Land	acres	0.0	0.0
Herbaceous Land	acres	0.0	0.0
Forest	acres	2.9	2.6
Prime Farmland Soils	acres	0.0	0.0
Intermittent Waterbodies Crossed ^b	number	0	0
Ephemeral Waterbodies Crossed ^b	number	0	0
Perennial Waterbodies Crossed ^b	number	0	0
Lake Superior National Estuarine Research Reserve Properties	number	0	0
Priority Wetlands ^e	miles	0.0	0.0
Priority Navigable Waterway	number	0	0
Areas of Special Natural Resource Interest	miles	0.0	0.0
Wild Rice Production Area Drainages ^f	miles	0.0	0.0
DNR Managed Lands	miles	0.0	0.0
State, County or Municipal Forest Land	miles	0.0	0.0
Railroads Crossed	number	0	0
Roads Crossed	number	0	0
Residences within 300 feet	number	0	0

TABLE 2.2-2
Environmental Features Comparison –Segments E and F

Environmental Features	Unit	Route Alternative E	Route Alternative F
a	Greenfield locations include, for purposes of the alternatives analysis, areas where the route is not within 200 feet of an existing ROW.		
b	Based on field delineated data from Fall 2013 surveys. Where 2013 survey was not completed, Enbridge utilized recent (2008 / 2009) wetland and waterbody field data from a previous project and WWI data.		
c	Crossing length of proposed pipeline centerline across wetlands.		
d	Area of wetland impact within the construction workspace based typically on a 110-foot-wide workspace, including temporary dredge and fill areas, travel lanes, and staging areas.		
e	Permanent conversion impacts include the area within the new permanent easement where the pipeline corridor will be maintained by periodic clearing activities.		
f	Identified by the March 2000 Data Compilation and Assessment of Coastal Wetlands of Wisconsin's Great Lakes, Pub. ## ER-002-00.		
g	Identified by the WDNR and Great Lakes Indian Fish and Wildlife Commission.		

Figure 2.2-3



Segments H and I

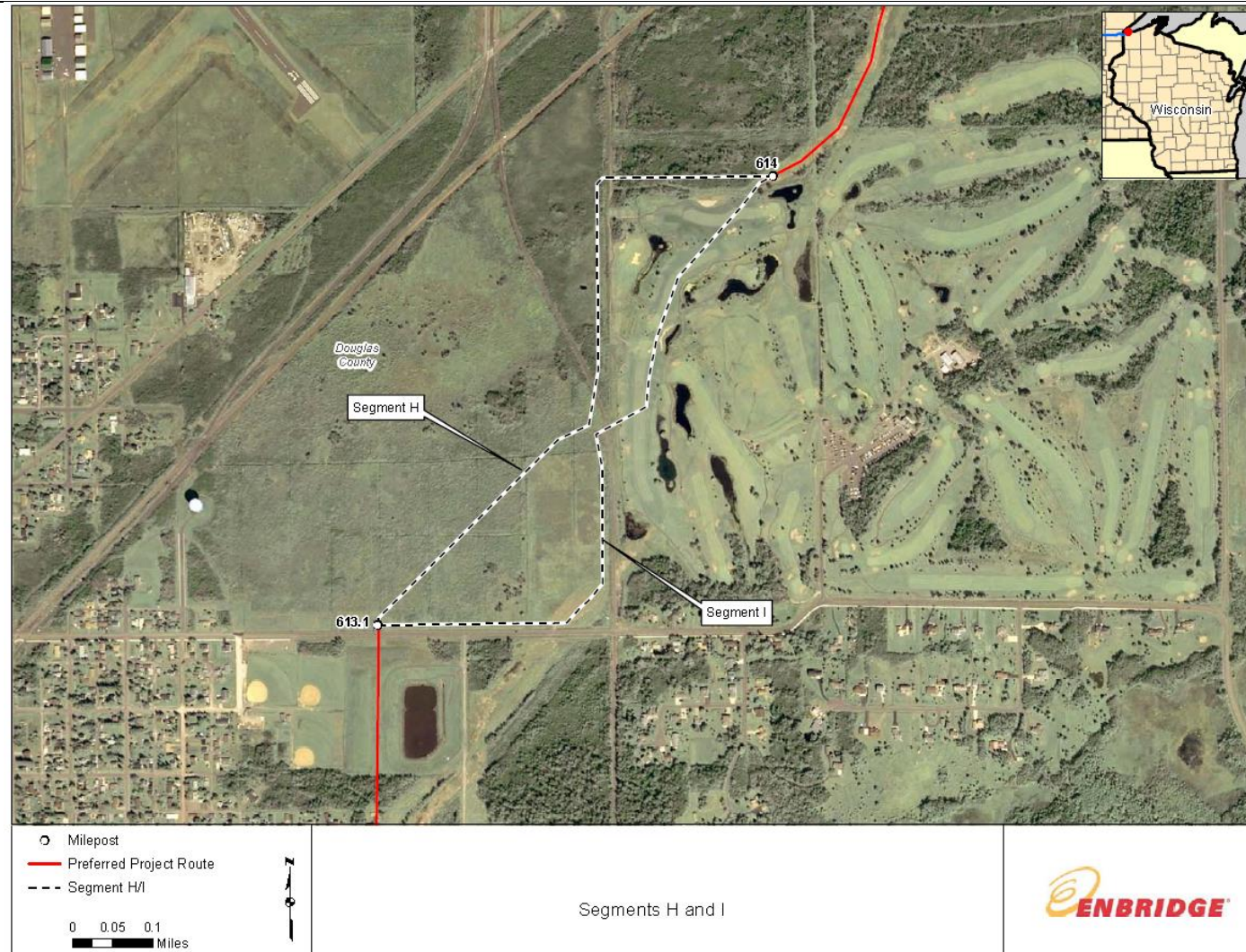
The Applicants prepared an evaluation of Segments H and I located at approximately MPs 613.1 to 614.0 (refer to Figure 2.2-4) due to the Nemadji Golf Course. Table 2.2-3 provides a comparison of the prominent land use features of these alternatives. The Applicants prefer Alternative I to avoid disrupting the operation of the Nemadji Golf Course; however, final routing is subject to WDNR and USACE review.

TABLE 2.2-3 Environmental Features Comparison –Segments H and I			
Environmental Features	Unit	Segment H	Segment I
Length	miles	0.9	0.9
Adjacent to Existing ROW	miles	0.0	0.4
Greenfield Route ^a	miles	0.4	0.0
Wetland Crossing Length ^{b, c}	miles	0.8	0.3
Wetland Impact - Construction ^{b, d}			
PEM	acres	3.5	2.9
PSS	acres	8.0	2.4
PFO	acres	0.6	0.0
Wetland Impact - Operation ^{b, e}			
PEM	acres	0.0	0.0
PSS	acres	6.0	0.0
PFO	acres	0.6	0.0
Rare Plant Occurrences ^b	number	56	20
Hydric Soils	acres	13.2	11.9
Highly Wind Erodible Soils	acres	0.0	0.0
Agricultural Land	acres	0.0	0.0
Herbaceous Land	acres	1.2	0.5
Upland Forest	acres	7.5	0.4
Prime Farmland Soils	acres	0.0	0.0
Intermittent Waterbodies Crossed ^b	number	7	4
Ephemeral Waterbodies Crossed ^b	number	0	0
Perennial Waterbodies Crossed ^b	number	0	0
Lake Superior National Estuarine Research Reserve Properties	number	0	0
Priority Wetlands ^e	miles	0.0	0.0
Priority Navigable Waterway	number	0	0
Areas of Special Natural Resource Interest	miles	0.0	0.0
Wild Rice Production Area Drainages ^f	miles		
DNR Managed Lands	miles	0.0	0.0
State, County or Municipal Forest Land	miles	0.0	0.0
Railroads Crossed	number	1	1
Roads Crossed	number	0	0
Residences within 300 feet	number	0	0

**TABLE 2.2-3
Environmental Features Comparison –Segments H and I**

Environmental Features	Unit	Segment H	Segment I
a		Greenfield locations include, for purposes of the alternatives analysis, areas where the route is not within 200 feet of an existing ROW.	
b		Based on field delineated data from Fall 2013 surveys. Where 2013 survey was not completed, Enbridge utilized recent (2008 / 2009) wetland and waterbody field data from a previous project and WWI data.	
c		Crossing length of proposed pipeline centerline across wetlands.	
d		Area of wetland impact within the construction workspace based typically on a 110-foot-wide workspace, including temporary dredge and fill areas, travel lanes, and staging areas.	
e		Permanent conversion impacts include the area within the new permanent easement where the pipeline corridor will be maintained by periodic clearing activities.	
f		Identified by the March 2000 Data Compilation and Assessment of Coastal Wetlands of Wisconsin's Great Lakes, Pub. ## ER-002-00.	
g		Identified by the WDNR and Great Lakes Indian Fish and Wildlife Commission.	

Figure 2.2-4



3.0 GENERAL PIPELINE SITING INFORMATION

3.1. Description of Routes Considered and Excluded

Sections 2.1 and 2.2 include discussion of the routes considered.

3.1.1. Detailed route maps

Detailed maps clearly showing the location of the proposed pipeline routes and the location of any associated facilities are included in Appendix B2.

3.1.2. Recent aerial figures

Recent aerial figures (including Geographic Information Systems data) of the pipeline routes are included in Appendix B.2 and B.3.

3.1.3. Wetland and waterbody figures

Detailed maps depicting wetlands and waterbodies along the proposed line routes and the location of any associated facilities are included in Appendix B.4. These maps were also submitted to the WDNR as a part of the Chapter 30 and Water Quality Certification permit application package on February 25, 2014.

3.1.4. Floodplain maps

The three mainline block valves that will be installed in connection with the Projects are not located in the floodplains designated by the Federal Emergency Management Agency, therefore no floodplain maps are included with this application.

4.0 DETAILED ROUTE INFORMATION

4.1. General Route Impacts

In Wisconsin, the total length of the Projects is 14 miles and construction will generally require a 110-foot-wide construction ROW in upland and wetland areas. This 110-foot-wide construction ROW will allow for temporary storage of topsoil and spoil as well as accommodate safe operation of construction equipment. Additional temporary workspaces ("ATWS") include construction areas outside of the typical 110-foot-wide construction ROW that are necessary to stage equipment. ATWS are also necessary where the Projects cross features such as waterbodies, wetlands, roads, railroads, foreign pipelines and

utilities, horizontal directional drill (“HDD”) sites, and other special circumstances. Following construction, the Applicants will retain along the full length of the Projects in Wisconsin a new 40-foot-wide permanent easement where co-located with EELP’s existing right-of-way or a 70-foot-wide permanent easement along greenfield portions.

Appendix B.2 includes route maps using recent aerial photography illustrating the pipeline route and construction footprint. Also, Appendix A includes typical schematics showing the general locations and dimensions of the ATWS.

4.1.1. Number of each building type within certain distances from centerline

A total of 17 residences are within 300-feet of the pipeline centerline. There are no known apartments, schools, daycare centers, or hospitals located within 300-feet of the pipeline centerline. Appendix E includes a list of residences located within 300-feet of the pipeline centerline. Table 4.1.1 lists the types of structures and distance from the pipeline centerline.

Table 4.1.1-1 Structures within 300 Feet of the Project Pipeline Centerlines					
Structure Type	Total Number Within Each Distance				
	0 – 25 feet	26 – 50 feet	51 – 100 feet	101 – 150 feet	151 – 300 feet
Homes	2	0	2	3	10
Apartments (number of units)	0	0	0	0	0
Schools	0	0	0	0	0
Daycare Centers	0	0	0	0	0
Hospitals	0	0	0	0	0

4.2. Impacts by Land Type

TABLE 4.2-1 Land Use Classifications Affected by Construction and Operation of the Project Route ^a										
Land Use Type ^b Impacts ^c	MP 600.8 – 607.0	MP 607.0 – 611.2		MP 611.2 – 612.2	MP 612.2 – 612.5		MP 612.5 – 613.1	MP 613.1 – 614.0		MP 614.0 – 615.1
		Segment B	Segment C		Segment E	Segment F		Segment H	Segment I	
Total Length	6.1	4.2	3.5	1.0	0.3	0.2	0.6	0.9	0.9	1.1
Agricultural										
Length (miles)	0.1	0.0	0.0	0.0	0.0	0.0	<0.1	0.0	0.0	0.0
Con (acres)	1.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Op (acres)	0.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
% of Total Miles Crossed	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%
Forested										
Length (miles)	2.3	1.5	0.9	0.8	0.2	0.2	0.3	0.5	<0.1	0.6
Con (acres)	34.5	23.4	12.5	12.3	2.9	2.6	4.4	7.5	0.4	8.7
Op (acres)	15.2	13.0	5.3	3.8	1.6	1.1	2.3	4.2	0.3	3.1
% of Total Miles Crossed	37.7%	35.7%	25.7%	80.0%	66.7%	100.0%	50.0%	55.6%	4.4%	54.5%
Wetlands										
Length (miles)	2.9	2.5	2.4	<0.1	0.1	0.0	0.0	0.3	0.5	0.0
Con (acres)	43.2	37.1	37.0	0.7	1.5	0.0	0.0	4.4	6.4	<0.1
Op (acres)	15.8	21.3	14.4	0.3	0.6	0.0	0.0	2.6	4.0	<0.1
% of Total Miles Crossed	47.5%	59.5%	68.6%	5.0%	33.3%	0.0%	0.0%	33.3%	55.6%	0.0%
Open Land										
Length (miles)	<0.1	<0.1	<0.1	0.0	0.0	0.0	<0.1	0.1	<0.1	0.0
Con (acres)	0.8	0.3	0.3	0.0	0.0	0.0	<0.1	1.2	0.5	0.0
Op (acres)	0.4	0.2	0.2	0.0	0.0	0.0	<0.1	0.7	0.3	0.0
% of Total Miles Crossed	0.7%	0.5%	5.1%	0.0%	0.0%	0.0%	0.3%	11.1%	4.4%	0.0%
Shrubland										
Length (miles)	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Con (acres)	6.3	0.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Op (acres)	3.0	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% of Total Miles Crossed	6.6%	2.4%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Developed										
Length (miles)	0.5	0.1	0.1	0.2	0.0	0.0	0.2	0.0	0.3	0.5

TABLE 4.2-1
Land Use Classifications Affected by Construction and Operation of the Project Route ^a

Land Use Type ^b Impacts ^c	MP 600.8 – 607.0	MP 607.0 – 611.2		MP 611.2 – 612.2	MP 612.2 – 612.5		MP 612.5 – 613.1	MP 613.1 – 614.0		MP 614.0 – 615.1
		Segment B	Segment C		Segment E	Segment F		Segment H	Segment I	
Con (acres)	5.7	0.7	1.3	3.5	0.0	0.0	3.2	0.1	4.7	6.1
Op (acres)	3.4	0.7	0.5	1.1	0.0	0.0	1.3	0.0	2.9	2.7
% of Total Miles Crossed	8.2%	2.4%	2.9%	20.0%	0.0%	0.0%	33.3%	0.0%	33.3%	45.5%

^a Construction calculations are based generally on the Projects' typical 110-foot-wide construction right-of-way and known additional temporary workspaces.

^b Agricultural land includes cultivate crops and pasture/hay; Forested land includes deciduous forest, evergreen forest, and mixed forest; Wetlands includes emergent, scrub/shrub, and woody wetlands; Open land includes grassland/herbaceous; Shrubland includes land classified as shrub/scrub; Developed land includes developed land classified as high intensity, medium intensity, low intensity, and open space.

c Length = Crossing length of pipeline centerline across land use type.

Con = Impacts within the construction workspace.

Op = Impacts within the permanent right-of-way.

Source: NLCD2006 Classification System (Fry et al., 2011).

4.3. Agriculture

The agricultural lands the Projects cross are predominately used for pasture and hay production. The Applicants reviewed information provided on the Wisconsin Department of Agriculture, Trade and Consumer Protection (“DATCP”) website and determined that the Project route does not cross certified organic farms.⁹ The Applicants also confirmed there are no certified organic farms in close proximity to the Project area. Organic farmers are not required to register with the DATCP, and farms exempt from the requirement to certify and farms in transition to organic were not available. The Applicants will continue to work with affected landowners to identify organic farms and will plan construction activities accordingly in the event that construction or operation of the Projects may affect an organic farm. Refer to Appendix F of this application for a summary of the Applicants’ consultation with DATCP.

4.3.1. Practices that may be affected

The agricultural lands the Projects cross are predominately used for pasture and hay production, therefore the Projects may affect hay production practices.

4.3.2. Affected parcels enrolled in farmland preservation programs

See Table 4.3.2-1 for affected parcels enrolled in the Wisconsin Managed Forest Lands Program.

Table 4.3.2-1 Parcels Enrolled in the Wisconsin Managed Forest Lands Program	
Tract Number	Owner
WI-DO-007.000	Bradley D. Burling
WI-DO-010.000	Cowett Wisconsin, A New York Partnership
WI-DO-011.000	Cowett Wisconsin, A New York Partnership
WI-DO-017.000	Cowett Wisconsin, A New York Partnership
WI-DO-020.000	Cowett Wisconsin, A New York Partnership
WI-DO-023.000	Cowett Wisconsin, A New York Partnership
WI-DO-024.000	Cowett Wisconsin, A New York Partnership
WI-DO-025.000	Cowett Wisconsin, A New York Partnership
WI-DO-032.000	Christopher and Julie Litchke

⁹ http://datcp.wi.gov/Farms/Organic_Farming/Directory/index.aspx

4.4. Endangered, Threatened, Special Concern Species and Natural Communities

Initial Investigation

The Applicants identified federally listed and candidate species under Section 7 of the Endangered Species Act (“ESA”) within the Project areas by researching United States Fish and Wildlife Service (“USFWS”) county-specific lists of federally listed and candidate species on the USFWS website and by evaluating via desktop analysis, if potential habitat exists within the Project area.

Four federally listed species have been documented in Douglas County (see Table 4.4-1). Designated critical habitat for the piping plover also occurs in Douglas County.

TABLE 4.4-1 Status of Federally Listed Species and Designated Critical Habitat ^a		
Species	Status	Habitat
Piping Plover - Great Lakes population (<i>Charadrius melodus</i>)	Endangered Critical Habitat	Sandy beaches, bare alluvial and dredge spoil islands
Kirtland's warbler (<i>Dendroica kirtlandii</i>)	Endangered	Young jack pine stands (5-25 years old)
Canada lynx (<i>Lynx canadensis</i>)	Threatened	Northern forest
Northern long-eared bat (<i>Myotis septentrionalis</i>)	Proposed	Cavities or crevices of both live and dead trees.
Fassett's locoweed (<i>Oxytropis campestris</i> var. <i>chartacea</i>)	Threatened	Open sandy lakeshore
^a http://ecos.fws.gov		

The Applicants analyzed the potential for project-related impacts under the Endangered Species Act (“ESA”). The Applicants assessed the effects for each federally listed candidate and under review species in the Project area by evaluating historic and present occurrences, availability of potential habitat within the project area, the species’ natural history, and results of desktop and field-based habitat assessments and surveys. Following USFWS terminology, the Applicants evaluated each species and determined the direct, indirect, and cumulative effects of the proposed activities on each species based on past pipeline projects and USFWS interactions on those projects. Potential determination outcomes reached for federally listed species under the ESA include:

- No effect;
- May affect, but is not likely to adversely affect; or
- May affect, and is likely to adversely affect.

The Applicants believe the Projects will have *no effect* on the Kirtland's warbler, piping plover, or Fassett's Locoweed, subject to concurrence of the USFWS. Additionally, the Applicants believe the Projects are *not likely to adversely affect* the Canada lynx, subject to concurrence of the USFWS. Refer to Appendix F for a summary of the ongoing Section 7 consultation with USFWS.

The Applicants contracted Angela Durand of Merjent, Inc., a Certified Endangered Resource ("ER") Reviewer, to conduct the Proposed ER Review for the Project. In May 2013, Ms. Durand initiated a preliminary Proposed Endangered Resources Review with the WDNR – Bureau of Natural Heritage Conservation, which includes a review of the WDNR NHI database for endangered resources within the Project area, and identifies the need for habitat assessments and/or species-specific field surveys to determine if any protected species exist within the proposed disturbance area along the Project route. Based on the results of the preliminary Proposed ER Review, there are a total of 27 rare species and 4 natural communities located in the project vicinity (see Table 4.4-2).

The Applicants are working closely with the WDNR to develop appropriate methods of addressing protected resource issues identified.

TABLE 4.4-2 Rare Species and Natural Communities Identified Within the Project Area ^a			
Species	State Status ^b	Potential Habitat Present?	Individuals Present?
Plants			
Tea-leaved Willow (<i>Salix planifolia</i>)	THR	Yes	Yes ^c
Marsh Grass-of-Parnassus (<i>Parnassia palustris</i>)	THR	Yes	Yes ^c
Northern Bur-reed (<i>Sparganium glomeratum</i>)	THR	Yes	Yes ^c
Seaside Crowfoot (<i>Ranunculus cymbalaria</i>)	THR	Yes	Yes ^c
Small Yellow Water Crowfoot (<i>Ranunculus gmelinii</i>)	END	Yes	Yes ^c
Slender Spike-rush (<i>Eleocharis nitida</i>)	END	Yes	Yes ^c
Arrow-leaved Sweet-coltsfoot (<i>Petasites sagittatus</i>)	THR	Yes	Yes ^c
Floating Marsh-marigold (<i>Caltha natans</i>)	END	Yes	No ^c
Fernald's Sedge (<i>Carex merritt-fernaldii</i>)	SPC	Yes	No ^c
Flat-stemmed Spike-rush (<i>Eleocharis compressa</i>)	SPC	Yes	No ^c
Large-flowered Ground-cherry (<i>Leucophysalis grandiflora</i>)	SPC	Yes	No ^c
Large-leaved Avens (<i>Geum macrophyllum</i> var. <i>macrophyllum</i>)	SPC	Yes	No
Northwestern Sticky Aster (<i>Aster modestus</i>)	SPC	Yes	No ^c
Slim-stem Small Reed Grass (<i>Calamagrostis stricta</i>)	SPC	Yes	No ^c
Smooth Black Sedge (<i>Carex nigra</i>)	SPC	Yes	No ^c
Vasey's Rush (<i>Juncus vaseyi</i>)	SPC	Yes	Yes ^c
Mamillate Spike-rush (<i>Eleocharis mamillata</i>)	SPC	Yes	No ^c
Marsh Horsetail (<i>Equisetum palustre</i>)	SPC	Yes	No ^c
Birds			
Upland Sandpiper (<i>Bartramia longicauda</i>)	THR	Yes ^d	TBD
Connecticut Warbler (<i>Oporornis agilis</i>)	SPC	TBD ^e	TBD ^e
Le Conte's Sparrow (<i>Ammodramus leconteii</i>)	SPC	TBD ^e	TBD ^e

TABLE 4.4-2 Rare Species and Natural Communities Identified Within the Project Area ^a			
Species	State Status ^b	Potential Habitat Present?	Individuals Present?
<i>Reptiles</i>			
Wood Turtle (<i>Clemmys insculpta</i>)	THR	Yes ^f	TBD
<i>Invertebrates</i>			
A Flat-headed Mayfly (<i>Maccaffertium pulchellum</i>)	SPC	Yes	N/A
A Small Square-gilled Mayfly (<i>Sparbarus maculates</i>)	SPC	Yes	N/A
Forcipate Emerald (<i>Somatochlora forcipata</i>)	SPC	Yes	N/A
<i>Fish</i>			
American Eel (<i>Anguilla rostrata</i>)	SPC	No	N/A
Lake Sturgeon (<i>Acipenser fulvescens</i>)	SPC	No	N/A
<i>Natural Communities</i>			
Boreal Forest	N/A ^d	No	N/A
Emergent Marsh	N/A ^d	No	N/A
Ephemeral Pond	N/A ^d	No	N/A
Northern Sedge Meadow	N/A ^d	No	N/A
^a Based on review of NHI Database (includes a search for terrestrial and aquatic species within 1 mile of the survey corridor and a search for aquatic species within 2 miles of the survey corridor, in accordance with WDNR NHI review requirements). ^b THR = Threatened; END = Endangered; SPC = Special Concern; N/A = Not applicable ^c Based on 2013 field surveys; additional surveys to be conducted in 2014. ^d Based on 2013 habitat assessment; individual surveys to be conducted in 2014. ^e EPND will document incidental observations of other rare birds during surveys for the upland sandpiper. ^f Based on desktop habitat review conducted using 2013 waterbody survey field data. ^g Natural communities included in the NHI database are communities the WDNR deems significant because of their undisturbed condition, size, what occurs around them, or for other reasons. These communities are not protected by endangered species laws; however, preservation of these communities helps protect valuable areas of genetic and biological diversity, as well as important habitats for many of Wisconsin's rare species.			

USFWS Consultation

Sandpiper Pipeline Project

The Applicants initiated informal consultation on the Sandpiper Pipeline Project in early 2013 with the Midwest Region Ecological Services Field Office (Region 3) of the USFWS. The initial consultation letter included a list of federally endangered, threatened, and candidate species that may occur in the Project area in Wisconsin. The letter also requested discussions with USFWS to ensure that Enbridge considered recommendations regarding the ESA, Migratory Bird Treaty Act ("MBTA"), and Bald and Golden Eagle Protection Act ("BGEPA") during Project planning.

The USACE initiated Section 7 informal consultation in late 2013. Informal consultations with USACE, USFWS, and Enbridge will continue in 2014.

Line 3 Replacement – Phase 2 Project

The Applicants initiated informal consultation on the Line 3 Replacement – Phase 2 Project with the USFWS Region 3's Green Bay Field Office (GBFO) in September 2013. The Applicants received concurrence with its determinations of Project impacts on federally listed species in a letter dated October 18, 2013. However, the Applicants will continue to work with the USFWS and USACE as the northern long-eared bat was not addressed in the initial consultation.

4.5. Archeological and Historic Resources

The Projects require permits from federal and state agencies, leading to review under historic preservation laws and regulations. At the state level, Wis. Stat. 44.40 requires agencies to review their project for effects to historic resources that are included on a list of locally designated historic places maintained by the Wisconsin Historical Society ("WHS").

The Projects are further subject to Wis. Stat. 44.40 because they will cross state land. The Applicants reviewed the WHS list of state sites and the properties listed on the National Register of Historic Places ("NRHP") in Douglas County, Wisconsin and did not identify sites within one mile of the Project corridor.

Previously Recorded Archaeological and Historic Sites

The Applicants reviewed existing site file data maintained by the State Historic Preservation Office ("SHPO") at the WHS to identify previously recorded archaeological and historical resources within the Project corridors, and also to identify any cultural resources investigations that had been conducted within the same area. One previously recorded archaeological site within the survey corridor was on file in the WHS database. Site 47DG0116 was recorded during a Phase I survey of a portion of the Great Lakes Gas Transmission corridor in 1996 (Florin 1996), and revisited in 2007 during the survey for the Alberta Clipper Project (Doperalski et al. 2008). This small and dilapidated dam was recommended as not eligible for listing on the NRHP because it lacked integrity to convey its original appearance and historic significance; the Wisconsin SHPO concurred with the "not eligible" recommendation.

The Applicants also reviewed the SHPO site files to determine what cultural resources investigations occurred within the Project survey corridors. The file search identified nine technical reports on file for inventory surveys conducted within the Project corridor (see Table 4.5). The Applicants designed the current survey to provide comprehensive, 100 percent coverage of the Project corridors, despite possible coverage by earlier inventory surveys. Field survey methods have been greatly improved by technology such as precision handheld GPS measuring units, and Geographical Information Systems which enhance

predictive modeling. The Applicants will address these previous studies in the literature review section of the upcoming technical report for the Phase I inventory survey that they will submit to the SHPO for review.

TABLE 4.5 Reports documenting previously conducted Phase I reconnaissance surveys within the Project Area		
Author	Publication Year	Report Title
Hudak, G. Joseph	1982	Archaeological Survey Of Proposed Railroad Relocation Sites In Douglas County, Wisconsin
Hudak, G. Joseph	1982	Archaeological Survey Of Proposed Railroad Relocation Sites In Douglas County, Wisconsin. Supplementary Report 1982
Hudak, G. Joseph and L.L. Emery	1979	An Archaeological Reconnaissance Of The Proposed Transmission Line #132 From Gary (Duluth) St. Louis County, Minnesota To Stinson (Superior) Douglas County, Wisconsin
Meinholz, Norm	1991	WisDOT Archaeological Survey Field Report: STH 35 From Tower Avenue To 3rd Street
Florin, Frank	1996	A Phase I Archaeological Survey of the Great Lakes Gas Transmission Limited Partnership Pipeline Corridor Between Mileposts 294.0-306.3, Douglas County, Wisconsin
Abel, Elizabeth	2001	Phase I Archaeological Reconnaissance Survey for the Wisconsin Portion of Lakehead Pipe Line Company's Proposed 36-Inch Looping Project from Clearbrook, Minnesota to Superior, Wisconsin, Douglas County, Wisconsin.
Nienow, Jeremy L., Kim Breaky	2002	Phase I Archaeological Survey of the City of Duluth/Great Lakes Interconnect Project, Douglas County, Wisconsin
Doperalski, Mark, Jeanne-Marie Mark, Miranda Van Vleet, Saleh Van Erem	2008	Phase I Cultural Resources Survey for Enbridge Pipelines' Southern Lights Diluent and Alberta Clipper Pipeline Projects, Douglas County, Wisconsin. The 106 Group, St. Paul
Doperalski, Mark, Saleh Van Erem, Miranda Van Vleet, and Kristin Bastis	2008	Phase I Cultural Resources Survey for Enbridge Pipelines' Southern Lights Diluent and Alberta Clipper Pipeline Projects, Douglas County, Wisconsin. Superior Terminal, Wisconsin. The 106 Group, St. Paul

Phase I Survey Approach

The Applicants are conducting a Phase I cultural resources inventory of the Project areas, in accordance with the Wisconsin Archeological Survey Guidelines for Public Archeology in Wisconsin, as revised (Kolb and Stevenson 1997) and the Secretary of Interior's Standards and Guidelines. The Applicants obtained Wisconsin Public Lands Field Archaeological Permits, as required under Wis. Stat. § 44.47, where appropriate prior to conducting field investigations.

The survey methods include pedestrian walkover of areas with a minimum of ten percent ground visibility, and shovel probes for areas with less ground visibility. Transects for walkover and shovel probing were limited to being no further than 15 meters apart (50 feet).

The Applicants prepared a statistically-based GIS-based predictive model to assist with the design of the field survey for the Projects. The predictive model resulted in classifications into high, moderate, and low sensitivity potential for containing archaeological sites and historic structures that may be eligible for the

NRHP. The Applicants will utilize this information during archaeological site and historic structure studies throughout the Projects and through construction.

The Applicants are also using the statistical model to study the geomorphology of the Project's areas as part of the Phase I inventory survey. The Applicants will first conduct a desktop analysis, and then visit locations with the potential for containing deeply buried archaeological sites. If deep testing for possible buried sites is needed, the field work could involve deep shovel probes, auger probes, or mechanical trenching.

As of the end of 2013, 68 percent of the Phase I survey of Project area, including route alternatives, in Wisconsin is complete. The remaining 32 percent of the survey will occur in 2014, including any remaining Project corridor, ancillary facilities, and off-corridor yards. Additional studies may involve the formal evaluation of some archaeological sites and historic structures to determine their eligibility for listing on the NRHP. The Applicants will prepare a technical report of the Phase I inventory survey, and will include the survey's methods and findings, as well as any recommended additional work. The Applicants will submit the Phase 1 survey report to the SHPO upon completion and will file the SHPO's comments on the report with the Commission.

Cultural Resource Impacts and Mitigation

The preferred method of treatment for identified cultural resources is avoidance. In the event the Applicants cannot avoid a historic property, they will consult with the SHPO and other agencies depending on the jurisdiction of the location and the resource, to mitigate adverse effects and implement appropriate treatment plans.

In the event the Applicants find an unrecorded cultural site during construction, they developed an Unanticipated Discoveries Plan ("UDP") (see Appendix G). The UDP describes the actions to take in the event that a previously unrecorded cultural resource site discovery occurs during construction activities.

4.6. Access to the ROW

The Applicants will typically use public roads to gain access to the construction ROW. In areas where public roads are limited, the Applicants may use existing privately owned roads to provide access to the construction ROW. If neither public nor privately owned roads are available, the Applicants may need to construct new access roads. Use of private roads, modifications to existing non-private roads, and construction of any new access roads would require obtaining landowner permission and environmental surveys prior to use.

4.7. Waterway Permitting Activities

In Douglas County, the Projects will cross 34 waterbodies. The Applicants identified these waterbodies based on field delineation. The Applicant used USGS topographic maps, Environmental Systems Research Institute data, and aerial photographs for any un-surveyed areas. Table 4.7-1 contains a list of the waterbody crossings.

Thirteen of these waterbodies, including the Pokegama River, Little Pokegama River, and several unnamed waterbodies are classified as ASNRI (see Table 4.7-1). The Project will not cross any streams or rivers listed on the Nationwide Rivers Inventory and will not impact any waterways designated as Wild and Scenic Rivers.

TABLE 4.7-1
Waterbody Crossings

Waterbody ID Number	Milepost	Waterbody Name	Flow Regime	Project Segment ^a	ASNRI Water	Proposed Crossing Method ^{b, c}	Alternate Crossing Method ^{b, c}	Bridge Type ^{b, d}
04010201000307	600.88	Unnamed	P	A		DC	OC	Span
DO007aWB	601.89	Unnamed	E	A		OC	OC	Span
DO007bWB	601.97	Unnamed	E	A		OC	OC	Span
DO007bWB	602.06	Unnamed	E	A		OC	OC	Span
DO008aWB	602.34	Unnamed	E	A		OC	OC	Span
DO020aWB	603.50	Unnamed	P	A		DC	OC	Span
DO025aWB	604.39	Unnamed	I	A		OC	OC	Span
DO034_500bWB	606.18	Little Pokegama River	E	A	X	OC	OC	Span
DO034_500aWB	606.25	Little Pokegama River	P	A	X	DC	OC	Span
DO041_001bWB	607.40	Unnamed	E	B	X	OC	OC	Span
DO041_500aWB	607.44	Unnamed	P	B	X	DC	OC	Span
DO041_506aWB	607.53	Unnamed	E	B		OC	OC	Span
DO041_506cWB	607.61	Little Pokegama River	E	B	X	OC	OC	Span
DO041_506cWB	607.64	Little Pokegama River	E	B	X	OC	OC	Span
DO041_200aWB	607.72	Little Pokegama River	E	B	X	OC	OC	Span
DO041_200cWB	607.78	Little Pokegama River	E	B	X	OC	OC	Span
DO041_200bWB	607.94	Little Pokegama River	P	B	X	DC	OC	Span
DO041_508bWB	607.96	Little Pokegama River	E	B		OC	OC	Span
DO041_200bWB	608.00	Little Pokegama River	P	B	X	DC	OC	Span
DO041_534aWB	610.26	Unnamed Tributary: Pokegama River	E	B	X	OC	OC	Span
DO041_534_200aWB	610.34	Unnamed Tributary: Pokegama River	P	B	X	DC	OC	Span
DO057aWB	611.30	Pokegama River	P	D	X	DC	OC	Span
DO065_900RDcWB	611.77	Unnamed	I	D		OC	OC	Span
DO074aWB	612.11	Unnamed	I	D		OC	OC	Span
DO075aWB	612.13	Unnamed	E	D		OC	OC	Span
DO094_001aWB	612.90	Unnamed	P	D		DC	OC	Span

TABLE 4.7-1
Waterbody Crossings

Waterbody ID Number	Milepost	Waterbody Name	Flow Regime	Project Segment ^a	ASNRI Water	Proposed Crossing Method ^{b, c}	Alternate Crossing Method ^{b, c}	Bridge Type ^{b, d}
DO100_510aWB	613.10	Unnamed	I	D		OC	OC	Span
DO106_200bWB	613.19	Unnamed Ditch	I	H		OC	OC	Span
DO106aWB	613.24	Unnamed Ditch	I	H		OC	OC	Span
DO106_200aWB	613.27	Unnamed Ditch	I	H		OC	OC	Span
DO106bWB	613.35	Unnamed Ditch	I	H		OC	OC	Span
DO106bWB	613.38	Unnamed Ditch	I	H		OC	OC	Span
DO106bWB	613.43	Unnamed Ditch	I	H		OC	OC	Span
DO110_001aWB	614.03	Unnamed Ditch	I	J		OC	OC	Span
04010201001150	N/A	Little Pokegema River	P	C	X	DC	OC	Span
DO055aWB	N/A	Unnamed	P	C	X	DC	OC	Span
DO100_510aWB	N/A	Unnamed Ditch	I	I		OC	OC	Span
DO106_200bWB	N/A	Unnamed Ditch	I	I		OC	OC	Span
DO106aWB	N/A	Unnamed Ditch	I	I		OC	OC	Span
DO106bWB	N/A	Unnamed Ditch	I	I		OC	OC	Span
DO110aWB	N/A	Unnamed Ditch	I	I		OC	OC	Span

- ^a Dash mark (-) denotes locations where no route alternative is present.
- ^b Crossing method and bridge type apply to both Sandpiper and Line 3 Replacement – Phase 2 Projects.
- ^c OC: Open Cut - open trench method used in conditions of no flow, sometimes referred to as the “wet trench” method.
DC: Open trench method used in conditions where a discernible water flow is present in the waterbody; referred to as the “dry trench” method, water is routed around the excavation area using either a dam and pump or flume pipe.
- ^d Span Bridge: Timber Mat or Rail Car

4.8. Wetlands

In Wisconsin, the Projects will temporarily impact approximately 119 acres of wetlands. The Applicants categorized the wetlands by the USFWS’ Cowardin Classification System as Palustrine Emergent/Wet Meadow, Palustrine Forested, and Palustrine Scrub/Shrub (Cowardin et al, 1979).

The Applicants conducted wetland delineations along the pipeline route in the summer/fall of 2013 to more accurately identify the wetlands that will be affected during Project construction. The Applicants identified and mapped wetlands in general accordance with the Corps of Engineers Wetland Delineation Manual (U.S. Army Corps of Engineers [“USACE”], 1987), Northcentral-Northeast Regional Supplement. In 2013, the Applicant surveyed approximately 68 percent of the pipeline route in Wisconsin. The Applicant will survey any remaining areas in the spring and summer of 2014. The Applicant used WWI data in digital format obtained from WDNR to identify wetlands in areas that were not surveyed in 2013.

Through a combination of WWI and field data, the Applicant determined that the Projects will cross a total of 123 wetlands. This number does not distinguish

between those wetlands that will be crossed more than once. Table 4.8-1 provides a summary of the wetland crossings, which are shown on aerial maps provided in Appendix B.4.

At this time, the Applicants do not anticipate that wetlands will be permanently filled or drained as a result of the Projects. Construction will result in temporary impacts that include loss of wetland vegetation and wildlife habitat due to clearing and other construction activities; soil disturbance associated with clearing, trenching, and equipment traffic; and increases in turbidity and alterations of hydrology as the result of trenching, dewatering, and soil stockpiling activities. The Applicants are working with the USACE and WDNR to develop and implement wetland mitigation based on the Projects' impacts.

The Applicants anticipate that there will be no long-term impacts on emergent ("PEM") wetlands. The Applicants will restore wetlands to preconstruction conditions and will allow the herbaceous vegetation to naturally revegetate in these areas.

The impacts on scrub-shrub ("PSS") wetlands and forested wetlands ("PFO") will be of a longer duration than emergent wetlands because the woody vegetation will require a longer time to reestablish on the temporary ROW after restoration.

Upon completion of the Projects, the Applicants will maintain the additional permanent easement free of larger-diameter trees, consistent with the maintenance of the existing ROW. This additional permanent ROW will result in the permanent conversion of forested wetland to emergent or scrub-shrub wetland.

The Applicants will minimize impacts on wetlands by implementing mitigative measures specified in the EPP (see Appendix D).

**Table 4.8-1
Wetlands Impacts**

Wetland Type ^a Wetland Impacts	MP 600.8 – 607.0	MP 607.0 – 611.2		MP 611.2 – 612.2	MP 612.2 – 612.5		MP 612.5 – 613.1	MP 613.1 – 614.0		MP 614.0 – 615.1
		Segment B	Segment C		Segment E	Segment F		Segment H	Segment I	
PEM										
Crossing Length (feet) ^b	2.3	0.3	1.0	0.5	0.1	0.1	0.3	0.3	0.2	0.9
Construction Impacts (acres) ^c	23.6	4.2	8.6	4.3	1.0	0.8	2.4	3.5	2.9	7.6
Permanent Conversion (acres) ^d	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSS										
Crossing Length (feet) ^b	0.5	1.6	1.5	<0.1	0.1	0.1	0.0	0.5	0.1	0.0
Construction Impacts (acres) ^c	12.5	22.9	26.3	0.8	2.7	1.8	0.3	8.0	2.4	1.7
Permanent Conversion (acres) ^d	5.4	14.3	10.7	1.4	<0.1	0.9	0.0	6.0	0.0	0.0
PFO										
Crossing Length (feet) ^b	0.3	0.7	0.3	0.1	0.1	0.0	0.1	<0.1	0.0	<0.1
Construction Impacts (acres) ^c	6.2	10.8	5.0	1.7	0.7	0.0	1.7	0.6	0.0	1.2
Permanent Conversion (acres) ^d	2.2	6.4	2.1	0.3	0.5	0.0	0.8	0.6	0.0	0.1
PUB										
Crossing Length (feet) ^b	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Impacts (acres) ^c	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Permanent Conversion (acres) ^d	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

^a PEM = Palustrine Emergent; PSS=Palustrine Scrub Shrub; PFO = Palustrine Forested; PUB = Palustrine Unconsolidated Bottom (Cowardin et al, 1979).

^b Crossing length of pipeline centerline across wetlands.

^c Area of wetland impact within the construction workspace based typically on a 110-foot-wide workspace, including temporary dredge and fill areas, travel lanes, and staging areas.

^d Permanent conversion impacts include the area within the new permanent easement where the pipeline corridor will be maintained by periodic clearing activities.

5.0 CONSTRUCTION METHODS

5.1. General Description of Project Construction Methods

5.1.1. Machinery type to be used

Construction equipment used on these types of projects include: dozers, graders, excavators, trenchers, dump trucks, backhoes, side booms, ATVs, road bore rigs, , pick-up trucks, rock trenchers, vacuum excavators, rippers, tillers, rock picking machines, welding rigs and trucks, and x-ray trucks.

5.1.2. Size of trench

Trenches will be dug using a trackhoe or crawler-mounted wheel type ditching machine. Typical trench dimensions are included in Table 1.6-1 of this application. The total excavation for the combined Projects will comprise approximately 150,000 cubic yards of soil.

5.1.3. Width of construction disturbance zone

Construction will generally require a 110-foot-wide construction ROW. This 110-foot-wide construction ROW will allow for temporary storage of topsoil and spoil as well as accommodate safe operation of construction equipment. ATWS include construction areas outside of the typical 110-foot-wide construction ROW that are needed to stage equipment. ATWS will also be needed where the Projects will cross features such as waterbodies, wetlands, roads, railroads, foreign pipelines and utilities, horizontal directional drill ("HDD") sites, and other special circumstances.

5.1.4. Location of staging areas and any additional temporary workspace

During construction, the Projects will temporarily use off-ROW areas for pipe and materials storage. In addition, construction contractors will require off-ROW contractor yards to park equipment and stage construction activities.

The Applicants are still identifying the yards necessary for construction as Project planning and engineering progresses. The yards will be owned by the Applicants or will be leased sites that will be restored upon the completion of the Projects.

5.1.5. General description of how work will occur in and around:

5.1.5.1. Agricultural lands

The Applicants will take steps to avoid, minimize, or mitigate impacts on agricultural lands, or otherwise provide compensation for negative impacts that may result from pipeline construction. Unless the easement or other agreement, regardless of nature, between the Applicants and the Landowner specifically requires the contrary, the Applicant will implement mitigation measures as described in this application.

The Applicants will maintain access to fields, storage areas, structures, and other agricultural facilities during construction, and will maintain drainage systems that cross the ROW to the extent practicable. Agricultural land in the construction ROW will generally be taken out of production for one growing season and restored to previous uses following construction. The Applicants will compensate landowners for crop losses and other damages caused by construction activities. Construction activities may also interfere with planting or harvesting, depending on the construction season.

The Applicants will also take appropriate measures to protect livestock during construction. To minimize short-term disruption to livestock operations, the Applicants will minimize the length of time that the trench is open and will coordinate with landowners to minimize disruption of access. Where appropriate, the Applicants will maintain temporary access ways across the trench as necessary to allow the passage of livestock and will erect temporary fences (including gates) as necessary to contain and protect livestock from construction-related hazards. After construction, fences and gates will be rebuilt to their former condition or better. Topsoil segregation methods are specified in Section 3.6.1 of the EPP (see Appendix D).

To prevent soil compaction, drainage alteration, and damage to crops, the Applicants will limit operation of equipment to landowner-approved access routes on agricultural land to the greatest extent possible. After construction, the Applicants will test soil compaction as necessary. Based on the results of this test, the Applicants will decompact all traffic and work areas using deep-tillage equipment during favorable soil conditions.

Following pipeline installation, the Applicants will backfill the trench with subsoil and replace the topsoil. Refer to the Agricultural

Protection Plan included as Appendix H for additional details.

5.1.5.2. Forest lands

The Applicants designed the Projects to overlap the construction ROW with existing, maintained corridor to the greatest extent possible to minimize impacts on forest land. Localized short- and long-term impacts will result from the construction through forested areas.

The Applicants will remove trees and brush from the construction ROW and temporary workspaces. The Applicants will manage merchantable timber in accordance with landowner agreements. The Applicants will mow, chip, grind, or haul off (to an approved disposal facility) non-merchantable timber and slash. In addition, the Applicants may also use non-merchantable timber and slash to stabilize erodible slopes or construction entrances or as mulch in non-agricultural, non-wetland areas.

The Applicants will maintain the new permanent ROW in an herbaceous state to facilitate proper aerial inspection and maintenance activities. The Applicants will restore forested areas on the temporary and additional workspaces to allow the re-establishment of forest cover. The rate of forest re-establishment will depend upon the type and age of the vegetation cleared, as well as the natural fertility of the areas affected. The Applicants anticipate that early successional species will begin to colonize the ROW within a few years after construction, followed by establishment of later successional species.

5.1.5.3. Road and driveway crossings

The Applicants will obtain applicable federal, state, county, and township permits before conducting road crossings, and will obtain permission to cross any railroads. The contractor will post temporary signs at each crossing as appropriate to alert motorists of construction activity. The Projects will cross one federal/state road and eleven county/city roads. Tables 5.1.5.3-1 and 5.1.5.3-2 below detail the roads and railroads crossed by the Projects.

Table 5.2-1 Roads Crossed by the Sandpiper Pipeline Project and Line 3 Replacement – Phase 2 Project		
County	Milepost	Road Name
Douglas	605.0	EAST MILITARY ROAD
	606.1	SOUTH IRONDALE ROAD
	609.6	SOUTH POKEGAMA ROAD
	610.6	LOGAN AVE
	611.6	BANKS ROAD
	611.7	TOWER AVE - HWY 35
	611.8	Ogden Ave
	612.1	NORTH 67TH ST
	612.8	FISHER AVE
	612.8	Central Ave
	613.1	N 58TH ST
	615.0	BARDON AVE

Table 5.2-2 Railroads Crossed by the Sandpiper Pipeline Project and Line 3 Replacement – Phase 2 Project					
County	Milepost	Description	Township	Range	Section
Douglas	608.2	Burlington Northern Railway	48	14	8
	608.9	Pokegama Yard	48	14	8
	611.6	Burlington Northern Railway	48	14	10
	611.8	Burlington Northern Railway	48	14	10
	613.5	Canadian Pacific Railway	48	14	2

At this time, the Applicants anticipate that gravel/dirt roads will be open cut, and paved roads and railways will be bored. For open-cut roadways, the Applicants will temporarily close the road and establish detours. Although this may cause a short-term inconvenience to some drivers, most road crossings will occur in one day which should not significantly disrupt local traffic patterns. After the pipelines are installed and backfilled, the Applicants will restore road surfaces and shoulders.

Boring will allow the Applicants to install the pipeline beneath paved roads and railroads without disrupting traffic.

5.2. River and Stream Crossings

The Applicants propose to use a variety of methods to cross streams and rivers. These methods include the standard wet trench, dam and pump, as well as dam and flume.

The Applicants will identify a preferred method for crossing each stream based on physical and engineering characteristics of the crossing, the general environmental sensitivity of the water resource and any input received from regulatory agencies. The Applicants will work with the WDNR to identify acceptable timing and methods for stream and river crossings. If it becomes apparent that a proposed method is not practical for a particular stream or river, the Applicants will consult with the appropriate regulatory agencies to determine an acceptable alternative.

All general river and stream crossing requirements can be found in Section 2.0 of the EPP included as Appendix D.

5.3. Wetland Crossings

Typical pipeline construction in wetlands will consist of clearing, trenching, dewatering, installation, backfilling, final grading, cleanup, and revegetation.

The EPP includes wetland crossing requirements, construction methods, timing, erosion control, and restoration. Furthermore, the WDNR and the USACE will likely include special conditions in their wetland crossing permits.

5.4. Site Restoration

Following installation of the pipeline, the Applicants will restore areas of disturbed soil to pre-construction conditions and establish permanent vegetation, except in actively cultivated areas and standing water wetlands. All restoration activities will be in accordance with applicable permits and agency regulations. Where practicable, the Applicants will utilize agency-approved Pure Live Seed suitable for the area and apply at the prescribed rate for both temporary and permanent revegetation. Seed mixes for permanent revegetation include native seed varieties commonly found and/or available from local seed distributors and augment revegetation via natural recruitment from native seed stock in the topsoil rather than change the natural species composition. The Applicants will seed non-standing water wetlands with an approved mix to provide temporary cover and allow natural revegetation from the seeds and rhizomes in the topsoil after pipe installation. The Applicants will allow natural reforestation of the temporary workspace areas within forested wetlands via stump sprouting, root sprouting, and natural recruitment. The Applicants will re-establish stream bank vegetation using an upland seed mix, unless the applicable agencies request an alternate seed mix. The Applicants will monitor the restored areas in accordance with conditions identified in the applicable project permits and/or licenses.

Refer to the EPP provided in Appendix D for additional details.

5.5. Erosion Control Plan

The Applicants developed erosion and sedimentation control Best Management Practices (“BMPs”) as specified in Section 1.17 of the EPP (see Appendix D). The Applicants are in the process of developing a Construction Site Erosion Control Plan and applying for a Wisconsin Pollutant Discharge Elimination System (“WPDES”) General Stormwater Permit from WDNR. The Stormwater Permit must be obtained at least 14 working days before land disturbing activities.

5.6. Dewatering Plan

The Applicants will implement the dewatering procedures specified in Section 5.0 of the EPP (see Appendix D).

The Applicants are in the process of developing a Construction Site Erosion Control Plan and applying for a WPDES General Stormwater Permit from WDNR. The Stormwater Permit must be obtained at least 14 working days before land disturbing activities.

6.0 ASSOCIATED FACILITIES PLAN

Three mainline valves and a batch densitometer will be installed for the Sandpiper Pipeline Project in Wisconsin (see Table 1.2.3-1).

7.0 AGENCY PERMITS AND APPROVALS

Table 7.0-1 below details the federal, state, and local government agency permits and approvals required for the Projects.

TABLE 7.0-1 Agency Permits/Approvals in Wisconsin				
Name of Agency	Title of Permit/Approval	Date of Application ^a	Date of Decision ^b	Status
United States Army Corps of Engineers – St. Paul District	Clean Water Act Section 404	February 2014	January 2015	Application submitted
United States Fish and Wildlife Service (Section 7)	Section 7 Endangered Species Act Consultation	December 2013	January 2015	Initial consultation in December 2013.
Wisconsin Public Utilities Commission	Public Interest Determination	March 2014	December 2014	Application Submitted
Wisconsin Department of Natural Resources	Chapter 30 Permit and NR 103 Water Quality Certification	February 2014	January 2015	Application submitted
	State Endangered Resources Review	March 2014	January 2015	Application submitted
	Temporary Water Use Permit	August 2015	September 2015	Pending submittal
	Superior Terminal Air Permit	May 2014	March 2015	Pending submittal

TABLE 7.0-1 Agency Permits/Approvals in Wisconsin				
Name of Agency	Title of Permit/Approval	Date of Application ^a	Date of Decision ^b	Status
	Hydrostatic Test Discharge Permit	August 2015	September 2015	Pending submittal
	WPDES Construction Stormwater General Permit – Pipeyards and Contractor Yards	April 2014	June 2014	Pending submittal
	WPDES Individual Construction Stormwater Permit – Pipeline Construction	June 2014	September 2014	Pending submittal
Wisconsin State Historic Preservation Office (Section 106)	Cultural Resources Consultation, NHPA Section 106 Clearance	November 2013	November 2014	Initial consultation with COE November 2013.
Wisconsin Department of Agriculture	Agricultural Protection Plan	April 2013	September 2014	Consultation initiated
Wisconsin Department of Transportation	Road Crossing Permits	TBD	TBD	Pending submittal
City of Superior	Erosion Control/Grading Permit	December 2014	February 2015	Pending submittal
^a Actual date of initial consultation/anticipated dates for submission. ^b Projected dates of action.				

8.0 OTHER AGENCY CORRESPONDENCE

Appendix F includes copies of correspondence, with state, federal, and local government agencies related to the Project. Appendix I includes a list of state and federal agency officials for the Project.

9.0 PROPERTY OWNER INFORMATION

Appendix J includes landowner information, and copies of landowner mailings are included in Appendix K.

10.0 PUBLIC OFFICIAL, MEDIA, AND LIBRARY INFORMATION

Appendix L includes a list of local public officials for the Project area. Appendix M includes local media who have been informed of the project. Table 10.0-1 includes a list of public libraries in Douglas County where the application is available.

Table 10.0-1 Douglas County Public Libraries with Application	
Superior Public Library 1530 Tower Avenue Superior, WI 54880-2532 (715) 394-8860 Douglas County	University of Wisconsin-Superior Jim Dan Hill Library 1800 Grand Avenue Superior, WI 54880-2898 (715) 394-8101 Douglas County