Minnesota Department of Commerce
Energy Environmental Review and Analysis

Final Scoping Decision Document
for
Line 3 Pipeline Replacement Project

PUC Docket Nos. PPL-15-137/CN-14-916

December 5, 2016

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Acronyms

AMA	Aquatic Management Area
BMP	best management practice
bpd	barrels per day
CN	Certificate of Need
dBA	A-weighted decibel
DEIS	Draft Environmental Impact Statement
DOC-EERA	Department of Commerce, Energy Environmental Review and Analysis
DSDD	Draft Scoping Decision Document
EAW	Environmental Assessment Worksheet
EIS	Environmental Impact Statement
Enbridge	Enbridge Energy
EPA	U.S. Environmental Protection Agency
EQB	Environmental Quality Board
ESRI	Environmental Systems Research Institute
Exponent	Exponent, Inc.
FEIS	Final Environmental Impact Statement
FSDD	Final Scoping Decision Document
GAP	National Gap Analysis Program
GHG	greenhouse gas
GIS	geographic information system
HCA	high consequence area
IMPLAN	Impact Model for Planning
MEPA	Minnesota Environmental Policy Act
Minnesota DNR	Minnesota Department of Natural Resources
Minnesota PCA	Minnesota Pollution Control Agency
MNDOT	Minnesota Department of Transportation
NLCD	National Land Cover Database
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PHMSA	Pipeline and Hazardous Materials Safety Administration
PIG	pipeline inspection gauge
PUC	Public Utilities Commission
ROW	right-of-way
SHPO	State Historic Preservation Office
SSURGO	Soil Survey Geographic Database
TCP	Traditional Cultural Property
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WMA	Wildlife Management Area

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1.0 Introduction

Enbridge Energy (Enbridge or Applicant) proposes to construct and operate 337 miles of new 36-inch-diameter pipeline in Minnesota that would replace 282 miles of the existing 34-inch-diameter Line 3 pipeline (Line 3 Replacement Project or Project). The existing Line 3 pipeline originates in Canada and crosses the U.S.-Canada border near Neche, North Dakota. It continues through North Dakota and Minnesota and terminates at the Enbridge Superior Station and Terminal Facility (Superior terminal) near Superior, Wisconsin. The Enbridge Mainline System delivers crude oil to: (1) Minnesota Pipe Line Company's interconnecting facilities at Clearbrook for ultimate redelivery to Minnesota refineries, and (2) the Superior terminal for ultimate delivery to other U.S. and Canadian refineries.

As proposed by Enbridge, the new pipeline would generally parallel the existing Line 3 pipeline along the Enbridge Mainline System right-of-way (ROW) from the North Dakota-Minnesota border in Kittson County to the Clearbrook terminal in Clearwater County. From Clearbrook to the terminal in Superior, Wisconsin, the proposed pipeline would diverge from the existing Line 3 corridor. Enbridge proposes to permanently deactivate the existing Line 3 pipeline in place.

Enbridge has applied for a Certificate of Need[1] (CN) and a route permit[2] from the Minnesota Public Utilities Commission (PUC) to construct and operate the Project. As proposed, the Project would restore Line 3 to an operating capacity of 760,000 barrels per day (bpd) from its current capacity of 390,000 bpd.

The PUC must complete environmental review of the project before deciding whether to issue either the CN or the route permit. The PUC has authorized a combined Environmental Impact Statement (EIS) for the CN and route permit applications, to be prepared by the Minnesota Department of Commerce, Energy Environmental Review and Analysis (DOC-EERA) in consultation with the PUC's Executive Secretary.[3] DOC-EERA is also coordinating with the Minnesota Department of Natural Resources (Minnesota DNR) and Minnesota Pollution Control Agency (Minnesota PCA).

1.1 Project Description

The Applicant's stated purpose for the Project is to address safety and integrity concerns of the existing Line 3 pipeline by completely replacing it, thereby avoiding ongoing, extensive integrity digs. The Project would also restore Line 3 to its historical intended operating capacity of 760,000 bpd from its current capacity of 390,000 bpd, optimize its pipeline system, and reduce power utilization on a per-barrel basis.[4]

The U.S. portion of the existing Line 3 pipeline currently transports crude oil from the Joliette Valve near Neche, North Dakota, to Clearbrook, Minnesota, and terminates at a terminal in Superior, Wisconsin,

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1 Certificate of Need Application for the Minnesota Public Utilities Commission, Enbridge Energy, Limited Partnership, Line 3 Replacement Project, April 24, 2015, Docket No. PL-9/CN-14-916 [hereinafter CN Application].

2 Route Permit Application for the Minnesota Public Utilities Commission, Enbridge Energy, Limited Partnership, Line 3 Replacement Project, April 24, 2015, Docket No. PL-9/PPL-15-137 [hereinafter Route Permit Application].

3 Order Joining Need and Routing Dockets, February 1, 2016, eDockets Number 20162-117877-01.

4 Certificate of Need Application, Section 1.0.

that is owned and operated by Enbridge. As proposed, the existing Line 3 pipeline would be permanently deactivated and remain in place after construction of the new pipeline.

In the United States, Enbridge's proposed Line 3 Replacement would follow the existing Enbridge Mainline System corridor to Clearbrook and follow a new route east of Clearbrook to Superior. The Applicant's preferred route would require approximately 337 miles of new pipeline in Minnesota, replacing 282 miles of the existing Line 3 pipeline. The Applicant's preferred route would be a significant deviation from Line 3's current location, with the new pipeline following a new route east of Clearbrook, rather than continuing within Enbridge's Mainline System corridor to Superior.[5]

Enbridge is requesting a route width of 750 feet (375 feet on each side of the pipeline centerline) with some expanded route width areas. The proposed Project also includes expansion of four existing pump stations at or west of Clearbrook and construction of four new pump stations east of Clearbrook. Specifically, the Project would entail construction and operation of the following associated facilities and infrastructure in Minnesota:

- Clearbrook terminal: The Project would require that additional facilities be constructed at the existing Clearbrook terminal to accommodate the Line 3 Replacement, including expansion of an existing pump station, a pipeline inspection gauge (PIG), and associated piping, controls, electricity, and instrumentation.
- Pump stations: In addition to the pump station expansion at the Clearbrook terminal, three existing pump stations would be expanded to increase existing capacity along the route west of Clearbrook (Kittson, Marshall, and Red Lake counties), and four new pump stations would be constructed east of Clearbrook (Hubbard, Cass, Aitkin, and Carlton counties). The proposed pump station in Cass County would also include a new PIG receiver and launcher.
- Mainline valves: Currently, 30 mainline safety valves are proposed and more may be proposed based on additional analysis by Enbridge. These valves would be located along the pipeline to monitor and manually control flow as a measure of safety and efficiency.
- Cathodic protection: Cathodic protection systems would be installed along buried pipeline to mitigate the threat of external corrosion for buried metallic structures and maintain safe operation and integrity of the pipeline.
- Pipe/material storage yards: Enbridge would temporarily use areas off the ROW (e.g., rail sidings) for pipe and material storage and to receive rail deliveries. In addition, construction contractors would require off-ROW contractor yards to park equipment and stage construction activities.
- Access roads: The proposed Project would require the use of a variety of public roads and existing privately owned roads, modifications to existing roads, and construction of new access roads to provide access to the Project site during construction. Enbridge would obtain

[5] The Line 3 Replacement Project was originally proposed to run parallel to the proposed Sandpiper pipeline project from Clearbrook to Superior; however, NPDC has requested that the Sandpiper CN and route permit applications be withdrawn. See Petition to Withdraw Certificate of Need and Pipeline Route Permit Applications, North Dakota Pipeline Company, LLC, September 1, 2016, eDockets Number, 20169-124584-01 [hereinafter Petition to Withdraw Sandpiper Applications].

landowner permission, conduct environmental surveys, and obtain applicable environmental permits and clearances prior to constructing roadway modifications or new access. Permanent access roads would be constructed to each mainline valve.

The proposed Project is described in detail in the Scoping EAW.[6]

1.2 Procedural History

No "large energy facility" can be sited or constructed in Minnesota without a CN from the PUC.[7] The definition of a large energy facility includes an oil pipeline greater than 6 inches in diameter and having more than 50 miles of its length in Minnesota.[8] During the CN review process, the PUC determines the need for the facility, and establishes the pipeline endpoints and a timeline for service using the criteria in the CN rules for oil pipelines.[9] The Project also requires a route permit from the PUC.[10] There will be joint contested case proceedings for the CN and route permit, which will be conducted by the Office of Administrative Hearings after the Final EIS (FEIS) has been issued.

Other permits, certifications, and approvals are also required from state and federal agencies, including the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Minnesota DNR, Minnesota PCA, State Historic Preservation Office (SHPO), Minnesota Department of Transportation (MNDOT), Minnesota Department of Health, and other state and local agencies. These permits are listed in Section 7.0 of this document.

Enbridge filed CN and route permit applications for the Project on April 24, 2015. The PUC accepted the applications as complete on August 12, 2015.[11]

On July 20, 2015, the PUC issued a notice of public information and scoping meetings for the Project. The 2015 scoping period, conducted under the pipeline route permit rules, occurred between July 20 and September 30, 2015. DOC-EERA and PUC staff held 15 public meetings between August 11 and 27, 2015.

On September 14, 2015, the Minnesota Court of Appeals determined (regarding the Sandpiper Project) that when a route permit follows a CN for a pipeline, the PUC is required by the Minnesota Environmental Policy Act (MEPA) to prepare an EIS before making a decision on the CN.[12] On September 15, 2015, the administrative law judge issued an order suspending proceedings in the CN docket for the

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6 Environmental Assessment Worksheet for Line 3 Replacement Project, Minnesota Public Utilities Commission, April 12, 2016, eDockets Number 20164-119956-01.

7 Minn. Stat. § 216B.243.

8 Minn. Stat. § 216B.2421.

9 Minn. R. 7853.

10 Minn. Stat. § 216G.02.

11 Order Accepting Application as Substantially Complete for Line 3 Certificate of Need Application, August 12, 2015, eDockets Number 20158-113180-01 and Line 3 Route Application, August 12, 2015, eDockets Number 20158-113179-01.

12 See Minnesota Court of Appeals opinion, In the Matter of the Application of North Dakota Pipeline Company LLC for a Certificate of Need and Route Permit for the Sandpiper Pipeline Project, September 14, 2015, eDockets Number 20159-114436-01.

Line 3 Replacement Project pending further guidance from the PUC regarding the Court of Appeals' decision.

On February 1, 2016, the PUC issued an order authorizing joint proceedings for the CN and route permit dockets and authorizing DOC-EERA to prepare a combined EIS to address both dockets pursuant to Minn. Stat. chapter 116D and Minn. R. 4410.[13]

2.0 Environmental Review Process

This EIS for the CN and route permit will be prepared in accordance with Minn. R. 4410. The process broadly encompasses conducting scoping for the EIS, preparing a Draft EIS (DEIS), soliciting public comments on the DEIS, and preparing a FEIS. Public involvement during the EIS process and permitting process includes, but is not limited to, formal comment periods, public meetings, and contested case hearings.

2.1 Scoping Process

Preparation of an EIS begins with scoping, which provides the public, government agencies, interested parties, and tribal governments an opportunity to participate in the development of alternatives and significant issues to be analyzed in the EIS. Scoping for the EIS is described below.

2.1.1 Summary of 2016 Scoping

The EQB published notice of the availability of the Draft Scoping Decision Document (DSDD) and Scoping EAW for the Project in the *EQB Monitor* on April 11, 2016. The 45-day public comment period on the DSDD ended May 26, 2016.

Between April 25 and May 11, 2016, DOC-EERA held 12 scoping meetings in 7 of the 10 counties crossed by the proposed Project, providing an opportunity for the public and federal, state, tribal, and local government agencies to comment on the DSDD. DOC-EERA conducted each meeting for a minimum of 3 hours, including a 1-hour open house with for the agencies (DOC-EERA, Minnesota DNR, and Minnesota PCA) and PUC staff to answer questions from the public on issues and topics to be addressed in the EIS. The informal open house was followed by a formal presentation and verbal comment session. Written public comments on the scope of the EIS were accepted through May 26, 2016.[14]

2.1.2 Summary of 2015 Scoping

As described in Section 1.2, on April 24, 2015, Enbridge submitted CN and route permit applications for the Project. On July 20, 2015, the PUC issued a notice of public information and scoping meetings for the

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[13] Order Joining Need and Routing Dockets, February 1, 2016, eDockets Number 20162-117877-01.

[14] The scoping meetings and comment periods were held jointly for the Line 3 Replacement and Sandpiper Project EISs. Subsequently, NPDC requested that the CN and route permit applications for the Sandpiper Project be withdrawn; see Petition to Withdraw Sandpiper Applications.

Project under the pipeline route permit regulations. The scoping period occurred between July 20 and September 30, 2015. DOC-EERA and PUC staff held 15 public meetings between August 11 and 27, 2015.

Topics addressed included methods for assessing potential human and environmental impacts and alternative routes to the proposed Project. On November 30, 2015, DOC-EERA submitted comments and recommendations to the PUC summarizing this scoping process and recommending routes to carry forward into the Comparative Environmental Analysis to be developed under the pipeline route permit rules.[15]

As part of developing the EIS, DOC-EERA has reviewed and incorporated the 2015 scoping comments on the Line 3 Replacement Project, including the proposed route alternatives and system alternatives. The system alternatives proposed for Line 3 in 2015 were originally developed during scoping for the Sandpiper Project in 2014. Most of these system alternatives were included in the DSDD. The other system alternatives proposed in 2014 but not carried forward are described in the *Scoping Summary Report for Line 3 Replacement and Sandpiper Pipeline Projects,* dated September 21, 2016 (Scoping Summary Report).

2.1.3 Scoping Summary Report

The Scoping Summary Report provides details of the scoping process including a summary of the comments and the methodology used to review the comments. Overall, commenters raised similar issues during the 2015 and 2016 scoping periods. Comments addressed route and system alternatives, regulatory procedures, and the long-term impacts of pipeline deactivation and decommissioning of the existing Line 3. The potential impacts of greatest concern, especially associated with spills, included those to water resources, aquatic communities, and the local economy. DOC-EERA has considered all substantive comments received in developing this Final Scoping Decision Document (FSDD).

2.2 Agency Coordination

DOC-EERA is coordinating with state and federal agencies and tribal governments. The Minnesota DNR and the Minnesota PCA are supporting DOC-EERA in identifying issues, alternatives, data sources, and analysis methods to address environmental review topics and requirements.

DOC-EERA holds a monthly agency coordination call that includes the EQB's agency technical representatives, as well as the U.S. Environmental Protection Agency (EPA), USACE, and tribal technical staff. This coordination will continue through development of the EIS.

2.3 Tribal Coordination

DOC-EERA is also coordinating with tribal technical staff from White Earth, Leech Lake, Fond du Lac, and Mille Lacs bands for input on tribal issues and concerns to be addressed in the EIS. This coordination will continue through development of the EIS and is in addition to the agency coordination meetings.

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[15] Comments and Recommendations of DOC-EERA Staff, November 30, 2015, Docket No. PL-9/PPL-15-137, eDockets Number 201511-116032-01.

3.0 Alternatives

An EIS must compare the potentially significant impacts of the proposal with those of other reasonable alternatives to the proposed Project.[16] An EIS must address one or more of the following types of alternatives or provide a concise explanation of why no alternative of a particular type is included in the EIS:[17]

- Alternative sites,
- Alternative technologies,
- Modified designs or layouts,
- Modified scale or magnitude,
- Alternatives incorporating reasonable mitigation measures identified through comment periods for EIS scoping or the DEIS, and
- No Action Alternative.

3.1 Alternative Sites (other pipelines)

No other existing, newly constructed, or proposed oil pipeline has been identified that could be used to deliver Canadian crude oil to the Enbridge system in the U.S. to replace the existing Line 3 pipeline. If one is identified during the EIS process, the environmental impacts will be evaluated as a potential alternative to the Line 3 Replacement Project.

3.2 Alternative Technologies

3.2.1 Rail

The transport of oil by rail involves moving oil from where it is produced to an oil-train terminal for temporary storage and subsequent transport by rail to an interconnection point or refinery where it may be processed into petroleum products. Oil transport begins at each production well. At these wells, oil is loaded onto trucks or transported by gathering pipelines to oil terminals for temporary storage and transfer to other modes of transportation (railroads, trucks, and pipelines) for delivery to destination points, which are typically refineries that process the raw material into various finished products. Oil terminal facilities may be designed specifically for pipelines, unit trains, manifest trains, truck terminals, or a combination thereof. The general impacts and feasibility of a rail alternative will be evaluated in the EIS.

[16] Minn. R. 4410.2300(G).
[17] Id.

3.2.2 Truck

Transporting crude oil by tanker truck is another potential alternative to constructing the proposed Line 3 Replacement Project. Tanker trucks are commonly used to move crude oil from wellhead locations not served by pipeline gathering systems to aggregation points and storage facilities. Typically oil tanker trucks are used where travel distances are not significant.

Transporting an equivalent amount of oil by truck as the proposed Project would require expansion of any existing truck-loading facilities or construction of new truck-loading facilities near Neche, North Dakota, and construction of new unloading facilities in Clearbrook and Superior. The general impacts and feasibility of a truck alternative will be evaluated in the EIS.

3.3 Modified Designs and Layouts

Three categories of modified design or layout were identified during scoping, including system alternatives, route alternatives, and route segment alternatives as defined in Table 1.

TABLE 1
Definition of System, Route, and Route Segment Alternatives

Category	Symbol	Definition	EIS Section
System Alternative	SA	Route for a new pipeline with different origin, destination, or intermediate points of delivery than those proposed by the Applicant.	Certificate of Need Alternatives[18]
Route Alternative	RA	Relatively long sections of new pipeline with the same origin, destination, and intermediate points of delivery as those proposed by the Applicant. Can be evaluated as an entire route.	Route Permit Alternatives
Route Segment Alternative	RSA	A short deviation along the Applicant's preferred route (i.e., tenths of miles to a few miles in length). These begin and end at intermediate points along a route alignment and are considered to resolve or mitigate a perceived localized resource conflict.	Route Permit Alternatives

3.3.1 Applicant's Preferred Route and Associated Facilities

Enbridge's preferred route would be primarily co-located with the Enbridge Mainline corridor from the Joliette Valve near Neche, North Dakota, to its Clearbrook terminal in Clearbrook, Minnesota. From Clearbrook, the pipeline would generally follow the existing Minnesota Pipe Line Company ROW south to Hubbard, Minnesota. From Hubbard, the route would proceed east, traversing undeveloped areas along portions of existing ROWs for electric transmission lines and railroads. The pipeline would cross

[18] The feasibility and potential impacts of a pipeline system alternative are evaluated in the CN process, not in the route permit process. See Order Separating Certificate of Need and Route Permit Proceedings and Requiring Environmental Review of System Alternatives, Docket Nos. PL-6668/PPL-13-474 and PL-6668/CN-13-473. October 7, 2014, eDockets Number 201410-103639-01.

the Minnesota-Wisconsin border approximately 5 miles east-southeast of Wrenshall, Minnesota, and terminate in Superior, Wisconsin.

3.3.2 Modified Designs and Layouts: System Alternatives

System alternatives were initially identified during public scoping for the proposed Sandpiper Project in 2014. [19] Many of the same alternatives were also submitted during the Line 3 scoping processes in 2015, along with new alternatives, since Line 3 was proposed to be co-located with Sandpiper east of Clearbrook. These alternatives were included in the Draft Scoping Decision Document (DSDD) released on April 11, 2016. These system alternatives and route alternatives were evaluated in the *Alternatives Screening Report,* dated September 21, 2016 to identify reasonable alternatives to the Applicant's preferred route. Based on its potential environmental benefits, the Alternatives Screening Report recommends one system alternative for further analysis in the EIS: SA-04.

The system alternative selected for detailed analysis in the EIS is summarized in Table 2 and illustrated in Figure 1a.

TABLE 2
Description of System Alternatives Recommended for Analysis in the EIS

System Alternative (SA)	Description	Length (approx. miles)	States Crossed	Counties Crossed
SA-04 Alliance-Chicago	Follows Applicant's preferred route from the Joliette Valve in Pembina County, ND, approximately to its crossing with U.S. Interstate 29. It would then turn south and run parallel to U.S. Interstate 29 to the southern border of North Dakota, where it would intersect and then follow the Alliance pipeline alignment to the vicinity of Joliet, IL.	781	5	48

[19] North Dakota Pipeline Company, LLC formally requested the Sandpiper project be withdrawn from PUC consideration on September 1, 2016; see Petition to Withdraw Sandpiper Applications.

Line 3 Replacement Project

Figure 1a: System Alternative Selected for Analysis in the EIS

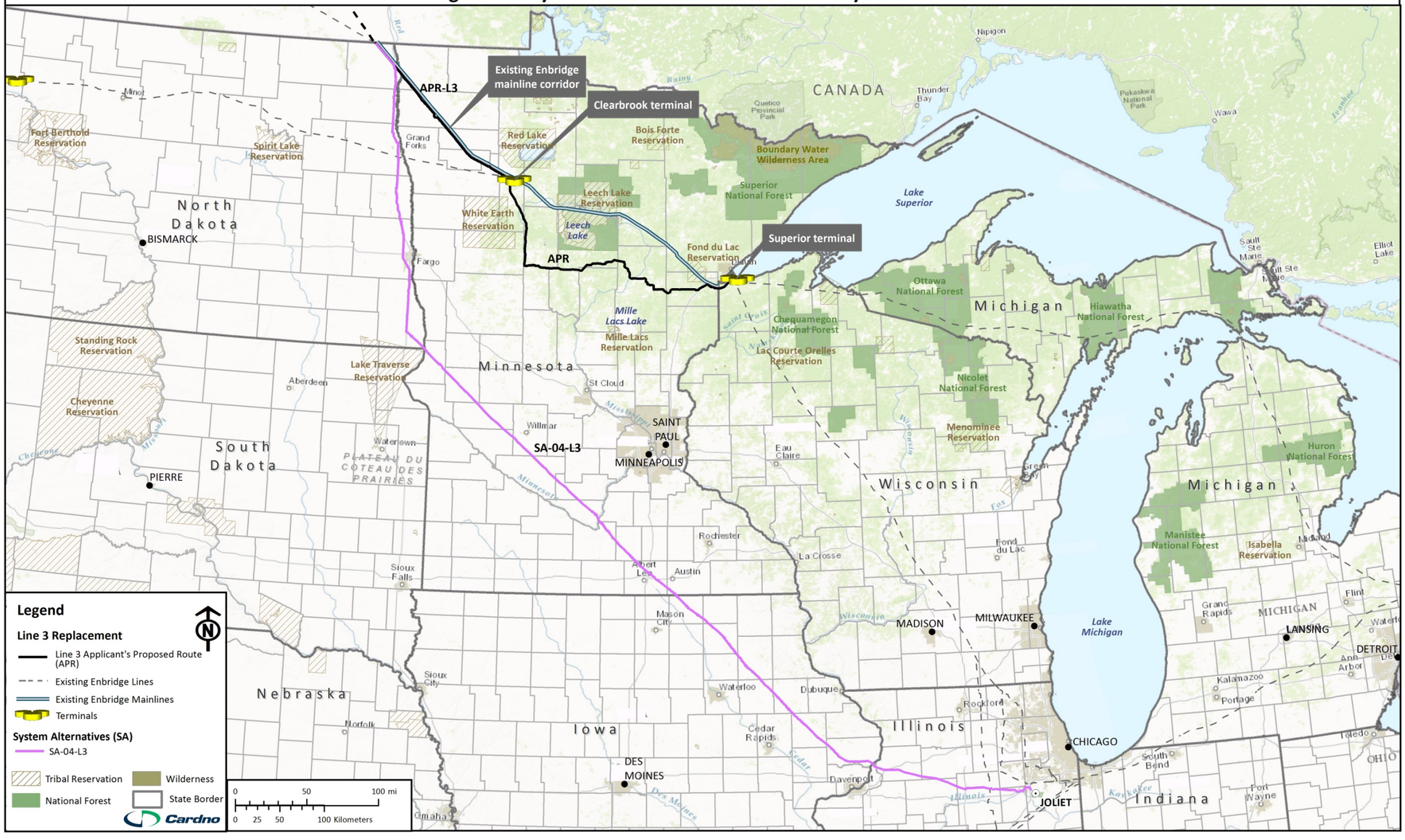

Figure 1a **System Alternative Selected for Analysis in the EIS.**

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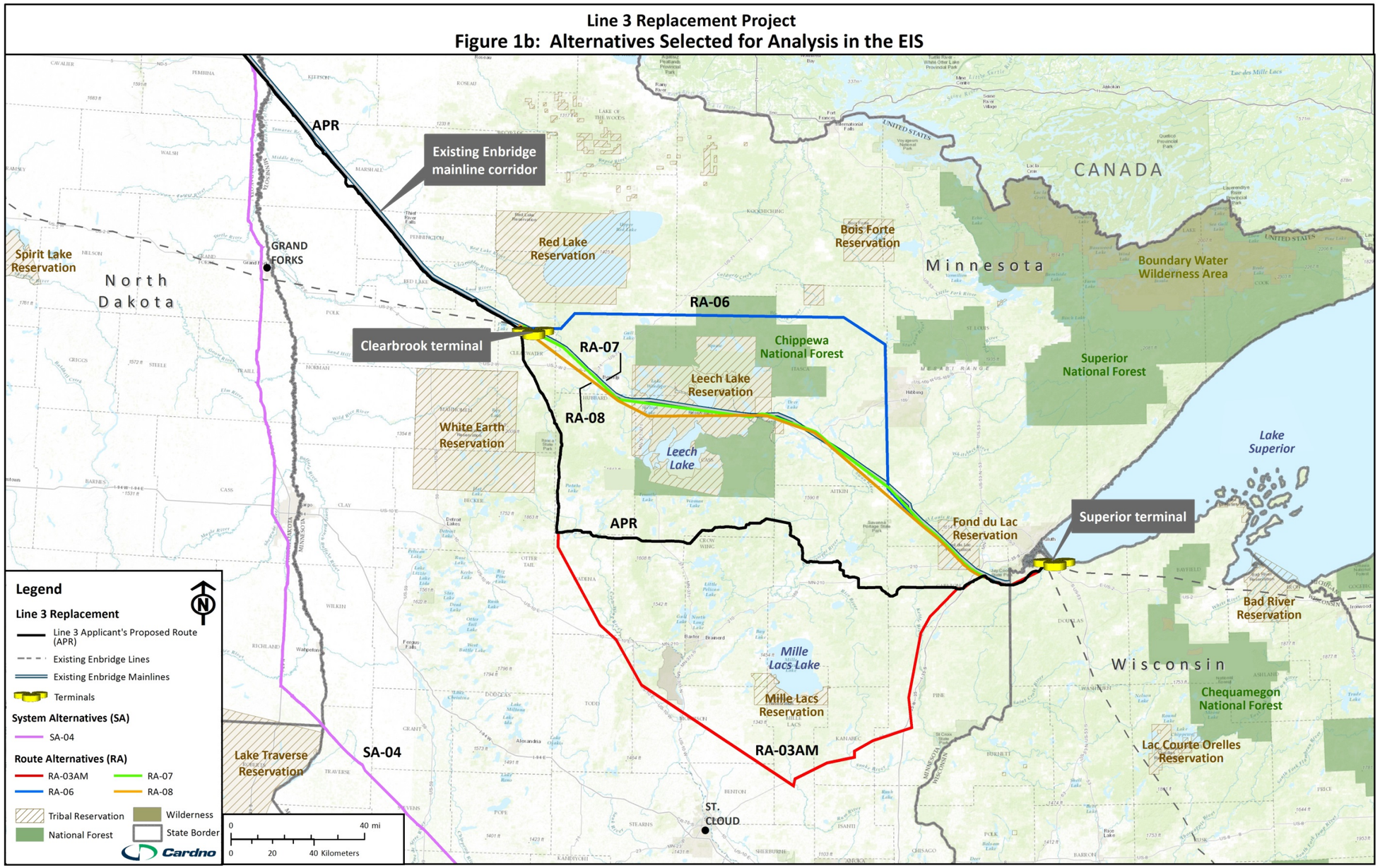

Figure 1b Route Alternatives Selected for Analysis in the EIS.

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3.3.3 Modified Designs and Layouts: Route Alternatives

Five proposed route alternatives were evaluated to identify reasonable alternatives to the Applicant's preferred route in the Alternatives Screening Report. Based on this screening analysis of economic and regulatory feasibility, environmental impacts, and socioeconomic effects, one of the route alternatives (RA-03) was eliminated from further analysis in the EIS. The other four route alternatives had various environmental and other benefits and drawbacks, but no overriding reason that they should be eliminated from detailed analysis in the EIS. The four route alternatives to be evaluated in the EIS are as follows:

- RA-03AM
- RA-06
- RA-07
- RA-08

Table 3 summarizes the selected route alternatives, and Figure 1b depicts the route alternatives.

TABLE 3
Description of Route Alternatives Selected for Analysis in the EIS

Route Alternative	Origin	Intermediate Terminal	Destination	General Description	Length in MN (miles)
RA-03AM (as modified)	Joliette Valve, Neche, ND	Clearbrook (Clearwater County, MN)	Superior, WI	Follows Applicant's preferred route from the Joliette Valve southeasterly to the existing Clearbrook terminal. South of the Clearbrook terminal, the route would follow the same route as RA-03-L3 to Superior.	396
RA-06	Joliette Valve, Neche, ND	Clearbrook (Clearwater County, MN)	Superior, WI	Follows Applicant's preferred route from the Joliette Valve southeasterly to the Clearbrook terminal. From Clearbrook to Superior, WI, the route would be located to the north of the existing Mainline System corridor.	315
RA-07	Joliette Valve, Neche, ND	Clearbrook (Clearwater County, MN)	Superior, WI	Follows Applicant's preferred route from the Joliette Valve southeasterly to the Clearbrook terminal. From Clearbrook to Superior, WI, the route would be located within the existing Line 3 pipeline corridor. The existing Line 3 pipeline would be removed and replaced in the same trench, subject to final engineering design.	286
RA-08	Joliette Valve, Neche, ND	Clearbrook (Clearwater County, MN)	Superior, WI	Follows Applicant's preferred route from the Joliette Valve southeasterly to the Clearbrook terminal. From Clearbrook to Superior, WI, the route would be located along the existing Mainline System corridor, but generally south of and parallel to the existing Line 3 pipeline.	284

3.3.4 Modified Designs and Layouts: Route Segment Alternatives

Most of the route segment alternatives proposed in 2015 and 2016 have been incorporated into the Applicant's preferred route. However, there are also a total of 24 route segment alternatives that were identified during scoping that will be analyzed in the EIS (Figure 2)[20].

3.3.5 Modified Designs and Layouts: Line 3 Deactivation Alternatives

The applicant proposes to deactivate the line in place, in part due to the safety concerns due to its location in the mainline corridor. The EIS will evaluate the deactivation of the existing Line 3 pipeline, including (1) abandonment in place, (2) removal following construction of the new Line 3, and (3) removal of existing Line 3 and construction of new Line 3 in the same trench and right-of-way. Route alternative RA-07 represents the alternative of the removal of the existing Line 3 and construction of the new Line 3 in the same trench.

3.4 Modified Scale or Magnitude

The volume of oil transported by the proposed Project will be assessed primarily in relation to accidental spills and cumulative potential effects. Appropriate pipe thickness will be determined by the U.S. Department of Transportation. Alternative diameters of the pipeline will not be assessed as part of the EIS, as the diameter will not substantially influence environmental impacts of Project construction, operation, and maintenance.

3.5 Reasonable Mitigation Measures

Reasonable mitigation measures will be evaluated for the Applicant's preferred route and the various alternative types.

3.6 No Action Alternative

The EIS will describe the expected condition if the CN is not granted and the existing Line 3 is not replaced as proposed. This will include a description of the integrity monitoring and extensive ongoing maintenance digs and repair program that would continue or increase as required to maintain safe operation of the existing pipeline. In addition, the No Action Alternative may require that additional volumes of oil be transported using alternative sites (e.g., existing or future pipelines) or alternative technologies (e.g., rail or truck).

[20] The Public Utilities Commission authorized the FSDD with modifications on November 30, 2016 (e-dockets number 201611-126917-0). The order includes an additional route segment alternative (RSA-53) which is shown on Figure 2 and on the detailed route maps in Appendix B.

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Figure 2: Route Alternatives and Route Segment Alternatives

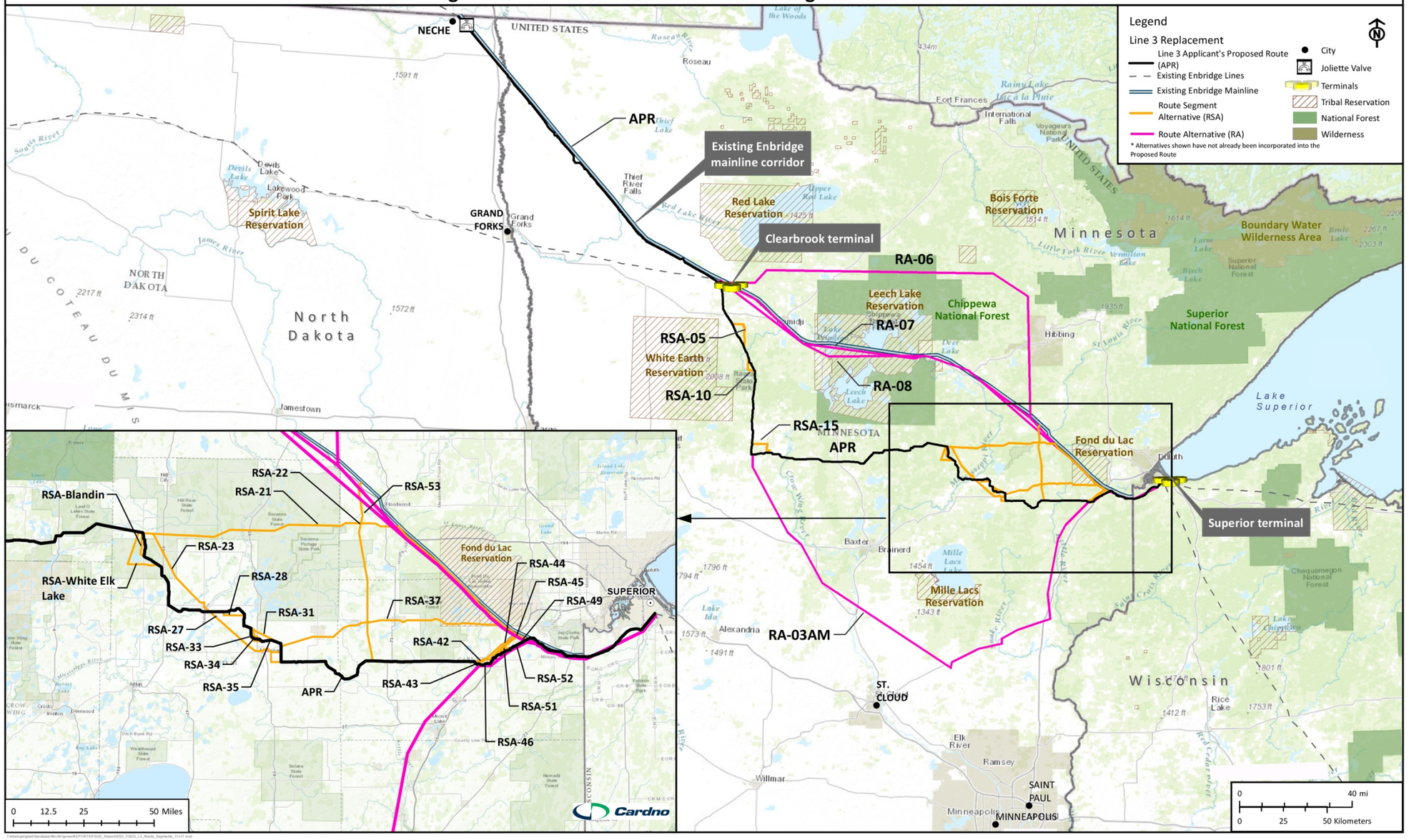

Figure 2 **Route Alternatives and Route Segment Alternatives.**

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4.0 Environmental Impact Statement Content

4.1 General EIS Format and Approach

The EIS will include information required for the PUC to make two separate regulatory decisions—issuance of a CN and approval of a route permit. It will also inform governmental agencies making other permit and approval decisions, which are listed in Section 7.0.

The EIS will describe the proposed Project and alternatives including the No Action Alternative. It will describe the existing environment for the geographic area and resources potentially affected by the Project. It also will assess potential impacts of the Project to each resource and will identify measures to avoid, minimize, or mitigate those impacts.

Direct and indirect impacts of Project construction, operation, and maintenance will be analyzed, as discussed in Section 4.2. Decommissioning of the existing Line 3 will also be evaluated, including the proposed deactivation of the pipeline in place and, alternatively, removal of the existing pipeline. Impacts will be assessed for the proposed Project and each alternative, including the No Action Alternative. See Section 3.6.

Significant impacts of the proposed Project and each alternative will be summarized. Additionally, the EIS will assess the cumulative potential effects on the environment that could result "from the incremental effects of a project in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects."[21] The EIS will assess cumulative potential effects for the entire route of the proposed Project and alternatives. This complete route analysis will provide context for the PUC's deliberation of the applications. Consideration of specific mitigation measures will be evaluated.

Technical studies that support the assessment of impacts in the EIS will be included by reference or as appendices as appropriate. All references used to support the preparation of the DEIS and FEIS will be available to the public, tribes, other agencies, and nongovernmental organizations online as part of the Project's administrative record.

A preliminary table of contents for the DEIS, showing the general structure and organization, is provided in Appendix A.

4.2 Impacts of Pipeline Deactivation, Construction, Operation, and Maintenance

The EIS will evaluate the deactivation of the existing Line 3 pipeline, including both the option of (1) abandonment in place (permanent deactivation) and (2) removal following construction of the Line 3 Replacement, and (3) removal of the existing line and construction of new pipeline in the same trench and right-of-way.

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[21] Minn. R. 4410.0200, Subp. 11a.

The EIS will evaluate opportunities to avoid impacts by adjusting the width of the ROW. Decommissioning- and construction-related impacts will be identified by reviewing the Applicant-proposed Project description details. The EIS will evaluate impacts that could result from access to facilities and services, traffic volume increases and road damages, vehicle emissions and fugitive dust, noise, erosion and sedimentation, soil compaction, construction solid waste/hazardous waste or soil contamination, vibration, and vegetation clearing. Construction material sources (borrow sites) and major utility adjustments are possible sources of additional construction-related impacts that would be considered.

The Project would require the use of heavy equipment to clear land, dig the pipeline trench, install and backfill pipe, construct ancillary facilities, and revegetate disturbed areas. These impacts could occur wherever the route alternatives are located. However, these impacts can be mitigated by construction measures, such as limiting construction work hours, employing best management practices (BMPs) to control soil erosion, minimizing removal of vegetation, and remediating soil compaction and other soil disturbances.

The EIS will evaluate impacts of permanent, in-place pipeline deactivation. These impacts could include aesthetics/viewshed changes, land use management impacts, ground subsidence, soil and groundwater contamination, pipe cleanliness (residual oil), water crossing impacts (such as corroded pipelines draining waterbodies or contaminating waterbodies, or buoyancy control failure), creation of a long-term water conduit, removal and disposal of associated equipment, vegetative cover change in the managed ROW and associated habitat, changes in drainage patterns, changes in soil quality, and loss of resources. The EIS will include the estimated cost of removing the existing pipeline and restoring the area, as well as the short-term and long-term costs of deactivation in place.

The EIS will consider and evaluate other decommissioning-, construction-, operation-, and maintenance-related impacts and potential mitigation measures. For example, the Applicant included tribal monitors in the Construction Environmental Control Program for the Alberta Clipper Pipeline Project.[22] These tribal monitors were specifically designated by consulting tribes and worked closely with the Applicant's environmental inspectors to maintain compliance with the programmatic agreement and to protect cultural resources discovered during construction.

4.3 Data and Analysis

Publicly available data, such as existing federal, state, and local government databases and other sources, will be used to prepare the EIS. Additional data sources may be acquired as necessary to complete the necessary analyses in the EIS.

Data and analyses in the EIS must be "commensurate with the importance of the impact and the relevance of the information to a reasoned choice among alternatives and to the consideration of the need for mitigation measures; the RGU [Responsible Government Unit, here the PUC] shall consider the relationship between the cost of data and analyses and the relevance and importance of the

[22] Final Environmental Impact Statement for the Alberta Clipper Pipeline Project, U.S. Department of State, 2009, www.state.gov/e/enr/applicant/applicants/202466.htm.

information in determining the level of detail of information to be prepared for the EIS. Less important material may be summarized, consolidated, or simply referenced."[23]

The scale of analysis of direct construction impacts will include a description of resources and potential impacts in the area of disturbance for construction and the permanent ROW for the Applicant's preferred route and the alternatives to be analyzed. The Applicant has identified a corridor 750 feet wide (375 feet on either side of the proposed centerline) to span possible locations of pipelines, temporary construction, and the permanent ROW. Impact analyses will also be evaluated on a regional level, beyond the permanent ROW, depending on the particular resource and related issues.

If information about potentially significant environmental effects is essential to a reasoned choice among alternatives and is not known, cannot be obtained, or the means to obtain it is not known, the EIS will include a statement that such information is incomplete or unavailable and will explain the relevance of the information in evaluating potential impacts or alternatives. It will also summarize existing credible scientific evidence that is relevant to evaluating the potential significant environmental impacts and evaluate such impacts from the Applicant's preferred route and alternatives based upon theoretical approaches or research methods generally accepted in the scientific community.[24]

The Project route permit application contains details of the locations of several associated facilities and other features of the Applicant's preferred route, including:

- Pipeline construction and permanent ROW,
- Additional temporary work space and staging areas,
- Access roads,
- Pipe and contractor yards, and
- Aboveground facilities (four new pump stations between the Clearbrook terminal and Superior, and expansion of four existing pump stations at or west of Clearbrook).

A surveyed centerline and detailed pipeline construction and operation designs are currently not available for the system, route, and route segment alternatives that will be analyzed in the EIS. The routing for the alternatives selected to be evaluated in the EIS will, however, be further refined with geographic information systems (GIS) to avoid or minimize land use or other constraints and more accurately define the permanent ROW and associated facilities and features for analysis in the EIS.

4.4 Detailed Environmental, Social, and Economic Analysis

Potential environmental, social, and economic effects and general issues associated with the proposed Project were preliminarily identified during scoping as described in the Scoping EAW and this FSDD. In addition, major issues identified from public comments, which were categorized by critical concern issue codes, are presented in the Scoping Summary Report. Mitigation measures that could reasonably be applied to eliminate or minimize adverse effects will be included in the EIS. The following sections

[23] Minn. R. 4410.2300(H).
[24] Minn. R. 4410.2500.

discuss some of the resources that will be considered in the EIS. Examples of potential impacts and data sources that may be used during analysis are also provided. Additional data sources will be acquired and evaluated during the EIS analysis.

In some cases, there will be more data available for some system or route alternatives than for others. The EIS will include readily available data and point out any differences in the sources of data for different alternatives, where applicable.

4.4.1 Human Settlement, Population, and Environmental Justice

The EIS will provide a qualitative comparison of alternatives for selected economic parameters, human populations, and income comparisons. Potential aesthetic impacts will be addressed using federal guidelines applicable to federal forest areas and other unique aesthetic viewsheds that could be altered. The EIS will assess sensitive human settlement noise receptors using state standard methods, and will also analyze land type conversion as a result of Project construction.

4.4.1.1 Example Data Sources

The U.S. Census Bureau's 2010–2014 American Community Survey (ACS) will likely be the primary source of data for demographic, housing, and property value analysis. Supplemental data from local and regional land use plans, development plans, and discussions with local officials for zoning and land use analysis will be obtained as necessary or available. Visual resource analysis will follow U.S. Forest Service (USFS) guidelines. Noise impacts on selected sensitive receptors will be analyzed according to state standards. Environmental justice analysis will use Minnesota Department of Employment and Economic Development data, U.S. census datasets, and the most recent ACS from the U.S. Census Bureau. The EIS will assess zoning and land use qualitatively to identify possible current and future conflicts.

4.4.1.2 Housing

Decommissioning, construction, operation, and maintenance of pipeline systems can have effects on homes as a result of changes in homeowner access. The EIS will use the 2010–2014 ACS data to characterize the existing environment for occupied and vacant housing within a certain distance of the pipeline. It will identify any residences or other buildings located within the Applicant's preferred route and route alternatives using aerial photography and analysis and proximity tools in GIS. The EIS will also consider the potential for a resulting displacement of residences and the availability of housing.

4.4.1.3 Property Values

Deactivation, construction, operation, and maintenance of a pipeline system can have effects on existing property values. Property values are influenced by site-specific factors and local and national market conditions. Relative differences in property values among route alternatives will be assessed by county. The 2010–2014 ACS data can inform median house values as part of the affected environment. Relevant hedonic studies and peer-reviewed literature from economic journals may also provide supplemental information to support the determination of property value effects resulting from pipeline construction.

4.4.1.4 Population

The EIS will characterize current and projected future distribution of human populations in the vicinity of the proposed Project. Data to support these analyses could include 2010–2014 ACS data, data from

censuses conducted prior to 2010, and future population projections that may be available from various state agencies.

4.4.1.5 Environmental Justice

Pipeline decommissioning, construction, operation, and maintenance can result in disproportionately high and adverse impacts on tribal, minority, and low-income populations (disadvantaged populations). The EIS will use information on race, ethnicity, and poverty rates to determine the potential for disproportionate and adverse effects to tribal, minority, or low-income populations. The analysis could employ methods such as those established by Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*,[25] and guidance published by the President's Council on Environmental Quality,[26] the EPA,[27] and Minnesota PCA's Environmental Justice Framework.[28]

4.4.1.6 Income

The EIS will describe income levels in the affected counties, including those traversed by all route alternatives. Potential Project-related impacts to income could be analyzed using the most recent Impact Model for Planning (IMPLAN) dataset.

4.4.1.7 Planning and Zoning

Minnesota statutes provide local governments with zoning authority to promote public health and general welfare, and Minn. Stat. §299J.05 provides for pipeline setback ordinances. The EIS will review county records to identify existing land use plans and zoning ordinances or development codes along the Applicant's preferred route and other route alternatives. That information will be used to determine whether location of the proposed facilities is consistent with current zoning and ongoing land uses. The EIS will use available GIS shapefiles to determine applicable zoning.

4.4.1.8 Aesthetics

Aesthetic and visual resources include the physical features of a landscape such as land, water, vegetation, animals, and structures. The EIS will identify resources on a regional scale to be consistent with USFS guidelines for visual resource analysis. The impact assessment will also describe visual changes that would occur if the pipeline and associated facilities were built. The EIS will discuss mitigation measures related to adverse visual effects. The relative scenic value or visual importance of features will be assessed and impacts evaluated based on distance to Project structures, viewshed

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[25] 59 Federal Register 7629, 1994.

[26] Environmental Justice: Guidance under the National Environmental Policy Act, Council on Environmental Quality, 1997, http://energy.gov/nepa/downloads/environmental-justice-guidance-under-nepa-ceq-1997.

[27] Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis, Environmental Protection Agency, 1998, https://www.epa.gov/communityhealth/guidance-incorporating-environmental-justice-concerns-epas-national-environmental.

[28] Environmental Justice Framework, Minnesota Pollution Control Agency, December 2015, https://www.pca.state.mn.us/sites/default/files/p-gen5-05.pdf.

perspective, and duration of view impairment. The EIS will review the location and proximity of these resources to the Project using spatial analysis tools in GIS.

4.4.1.9 Noise

Pipeline decommissioning, construction, operation, and maintenance activities can cause adverse noise impacts to sensitive receptors. The EIS will assess the potential for long-term noise impacts from operation of pump stations and associated substations by considering the estimates of sound level increase over existing levels and resulting total noise levels at nearby noise-sensitive receptors. It will also evaluate potential temporary impacts associated with construction noise. Criteria for determining noise impacts on sensitive receptors will include magnitude or intensity (measured as noise level in A-weighted decibels [dBA]), duration, and extent of impact. The EIS will use EPA and Federal Transit Administration noise concepts and guidelines, state noise regulations and/or local noise ordinances, and available noise modeling tools and noise equations to assess the degree of noise impacts related to the Project.

4.4.1.10 Existing Contaminated Sites

Contaminated sites within and adjacent to the pipeline ROW can represent a human health and ecological risk during pipeline decommissioning, construction, operation, and maintenance. The EIS will assess documented sites characterized with existing environmental contamination. The greatest potential for construction-related impact would be the inadvertent excavation of preexisting environmental contaminants. The EIS will identify potential sites of environmental concern via the EPA Facility Registration Service, a partnership among states, tribes, territories, and the EPA that facilitates the exchange of environmental information throughout the country. Readily available Minnesota databases hosted by MNDOT, Minnesota PCA, and other state agencies could also provide valuable data regarding contaminated sites. For route comparison purposes, the EIS will develop counts of sites with preexisting contamination (if any) using GIS.

4.4.1.11 Project Facilitation of Unauthorized Access

The EIS will assess the potential for the proposed Project to facilitate unauthorized access in forested lands. The establishment of a new corridor can result in unauthorized and undesirable access by third parties including intrusions by motorcycle, all-terrain vehicle, and snowmobile.

4.4.1.12 Hunting, Fishing, and Gathering

The EIS will identify known areas and specific locations used for hunting, fishing, and subsistence gathering during consultation with local, state, tribal, and federal agencies, as well as via desktop research. In addition to consultations, the EIS will identify Wildlife Management Areas (WMAs) and Aquatic Management Areas (AMAs) and designated trout streams using GIS. The EIS will assess the potential effects on these resources and the activities themselves.

4.4.2 Transportation, Utilities, and Public Services

Public service features include schools, medical facilities, religious facilities, fire and police stations, and transportation networks (such as roads, airports, and railroads), which serve the daily needs of residents in a community. Potential approaches to evaluate impacts to these features are described below.

4.4.2.1 Example Data Sources

The data used to establish baseline community features can be derived from a variety of federal, state, and local sources, including the following:

- Emergency services: U.S. Geological Survey (USGS) National Structures Datasets,
- Cemeteries and churches: Environmental Systems Research Institute (ESRI) and other sources,
- Highways: MNDOT and USGS Topologically Integrated Geographic Encoding and Referencing data (and other sources),
- Airports: Federal Aviation Administration's National Flight Data Center (and other sources), and/or
- Schools: Minnesota databases.

4.4.2.2 Roadways

Analysis of the Applicant's preferred route and alternatives is generally based on road classifications. Compatibility of the proposed pipeline crossings of roads with MNDOT's utility accommodation policy may be assessed to ensure that the proposed Project would not interfere with the safe flow of traffic. The EIS will compare the Applicant's preferred route and alternatives based on the number of primary transportation routes (e.g., state/county highways and major arterials) that are crossed or otherwise impacted during construction.

4.4.2.3 Public Utilities

To assess the potential impact on public utilities that serve residents and businesses, the EIS will identify existing electric and natural gas utilities that could be crossed or affected by the Project. The EIS will also review the presence of power-generating facilities located in the vicinity of route alternatives. Alternatively, if this information is not uniformly available or sufficient, population density could potentially be used as a surrogate.

4.4.2.4 Emergency Services

To assess emergency response capabilities in case of a pipeline-related spill, the EIS will identify law enforcement agencies, city and community fire departments, volunteer fire departments, rural fire departments, and fire protection districts along the Applicant's preferred route and other route alternatives. The EIS will also identify hospitals, emergency response centers, emergency medical services, and ambulance districts.

4.4.3 Economics and Socioeconomics

The EIS will identify and visually represent local economies with regional and Project-specific significance. It will evaluate economic impacts to these economies from construction and operation of the proposed Project.

4.4.3.1 Example Data Sources

Data sources for the analysis of economics and socioeconomics are readily available and diverse, including 2011 USGS National Land Cover Database (NLCD), county and municipal land use and zoning data, and information from Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture (USDA), USACE, and U.S. Department of Interior, to name a few.

Available land cover datasets can be used to divide areas into major economic land uses, and qualitative comparisons can be conducted for the predominant economies in the Project region and the relative differences among major route alignments.

Recreation and tourism data are available from sources such as Minnesota DNR, Minnesota Department of Employment and Economic Development, University of Minnesota Tourism Center, and Minnesota Department of Revenue's Leisure and Hospitality Industry reports.

4.4.3.2 Agriculture and Livestock

The EIS will evaluate potential impacts to agricultural areas and livestock, including prime farmland and crops (e.g., potatoes, wild rice, orchards, aquaculture, and organic and transitional operations). It will also identify mitigation measures to minimize impacts to agriculture.

4.4.3.3 Forestry

The EIS will describe and map timber resources and forest areas, and their ownership (e.g., public or private). Potential impacts to the forest products economy are possible and will be discussed, particularly with respect to land permanently removed from forestry by the pipeline ROW and access concerns for ongoing forest management activities (potential operation-related effects).

4.4.3.4 Mining

Minnesota's mining resources include ferrous and nonferrous metals, high-quality granite, limestone, sand and gravel, and peat. The EIS will map and summarize locations and types of mining resources, active mines, and mineral lease data and will discuss potential impacts to these.

4.4.3.5 Recreation and Tourism

Pipeline construction and operation can impact recreation and special use areas. The EIS will identify tourism centers, including destination locations, such as the Brainerd Lakes area and designated National Scenic Trails. The EIS will also assess potential economic impacts to local and regional recreational tourism. Multiple sources of information are available to evaluate potential effects to recreation sites, including information from the Minnesota DNR's Division of Parks and Recreation and Division of Forestry, Voyageurs National Park Dataset, and datasets from the USFS and ESRI.

4.4.3.6 Employment

The EIS will describe existing employment using the Bureau of Economic Analysis's Regional Economic Accounts data. Project-related impacts to employment can be derived using the most recent IMPLAN dataset (2015) for each state traversed by the Project (Applicant's preferred route and system, route, and route segment alternatives), as appropriate. Impacts could include changes in the number of

temporary and permanent jobs associated with decommissioning, construction, operation, and maintenance. Construction-related economics could include, but not be limited to, consulting, installation, construction materials, and temporary housing for workers.

4.4.3.7 Tax Revenue

The EIS will estimate the temporary direct and indirect facilitated sales (and other) tax revenue that would be generated by construction of the proposed Project. In addition, the EIS will evaluate the long-term property tax revenue that would be generated during operation of the Project.

4.4.4 Cultural Resources

Cultural resources include archaeological resources, historic resources, sacred places (including Traditional Cultural Properties [TCPs]), and treaty areas. Archaeological resources include historic and pre-contact (contact with Euro-Americans) artifacts, structural ruins, or earthworks and are often partially or completely belowground. Historic resources include extant structures, such as buildings and bridges, as well as districts and landscapes. Potential impacts to cultural resources can occur especially during construction-related excavation and other forms of ground disturbance, and will, therefore, be evaluated across the Applicant's preferred route and route alternatives. In addition, the EIS will evaluate the Applicant's plan for monitoring cultural resource discoveries during construction.

4.4.4.1 Example Data Sources

The Minnesota SHPO maintains records of known archaeological and historic resources, which will be consulted for the route alternatives. The EIS will review Minnesota SHPO inventory files including: History/Architecture Inventory, History/Architecture Reports, Archaeological Sites, and Archaeological Reports. In addition, historical maps (e.g., General Land Office, USGS), aerial imagery, and online libraries will be reviewed to obtain additional relevant information. Information concerning sacred places and treaty areas may be available through ethnographies and other historical documents, as well as through consultation with Tribal Historic Preservation Officers from affected tribes (see Section 4.4.4.4).

4.4.4.2 Archaeological and Historic Resources, Sacred Places, and Treaty Areas

The EIS will develop counts and categories of the cultural resources including archaeological and historic resources, sacred places, and treaty areas within the Applicant's preferred route and the route alternatives using spatial analysis tools in GIS. The EIS will evaluate direct and indirect impacts to cultural resources.

Cultural resources that are eligible for, listed in, or nominated but currently unevaluated for listing in the Minnesota State Historic Sites Network and the Minnesota State Register of Historic Places will be included in the EIS. In addition, the EIS will assess impacts to historic properties that are eligible for, listed in, or unevaluated for listing in the National Register of Historic Places (NRHP). The National Historic Preservation Act defines the term "historic property" to include districts, sites, buildings, structures, landscapes, and objects included in or eligible for the NRHP (54 U.S. Code 300308). Impacts to tribal trust assets, such as historic hunting grounds, water, lands, and treaty stipulations will also be evaluated. The EIS will recommend appropriate mitigation measures to reduce impacts to cultural resources from pipeline construction and operation and accidental releases.

4.4.4.3 Wild Rice and Other Tribal Resources

Wild rice is an important resource in northern Minnesota and a key part of Ojibwe culture. Wild rice is very susceptible to disturbance in all habitats (lake, river, or wetland) and sensitive to temperature changes, contaminants, or hydrology changes, all of which on their own or in combination could affect germination and production of rice beds. Construction- and restoration-related impacts due to sedimentation could also affect wild rice germination rates and reduce production. The EIS will evaluate the potential for these impacts from the proposed Project.

4.4.4.4 Consultation

The EIS will consult with potentially affected tribes and meet informally with tribal staff if appropriate to request information concerning sacred places and treaty areas. These tribes and the Minnesota SHPO will also be consulted to determine Project impacts on cultural resources and to identify appropriate measures to mitigate significant impacts. The EIS will thoroughly document these consultations.

4.4.5 Other – Tribal Issues

The EIS will summarize tribal rights reserved as part of the 1854 Ceded Territory and will evaluate the potential impacts on natural resources associated with these rights as a result of the Project. The EIS will also propose mitigation as necessary.

4.4.6 Natural Environment

Natural environment broadly encompasses surface water and groundwater, geology and soils, flora and fauna, and air quality. Data sources available to identify and assess potential impacts to the natural environment are available at both national and state levels. The EIS will analyze flora and fauna with special protection and management as distinct subsets of the natural environment and will analyze potential impacts to resources in GIS. The EIS will recommend appropriate mitigation measures to reduce impacts from pipeline construction (including potential alternatives to open-cut trenching through surface waters) and operation and accidental releases.

4.4.6.1 Water Resources: Quality, Watersheds, Wetlands, and Floodplains

The EIS will identify streams, rivers, lakes, groundwater, aquifers, designated drinking water supplies such as public and private wells and surface water intakes, Minnesota DNR-designated Lakes of Biological Significance, and floodplains and compare these features across route alignments. Where information is available, relevant interactions between groundwater and surface water will be described. Additionally, special resources for which federal and state laws govern restoration and protection will be identified. These resources include Outstanding Resource Value Waters, Sentinel Lake watersheds, wellhead protection areas, Impaired Waters, and Impaired Wetlands for which state and federal monies are being spent and resources are being protected and restored under Minnesota's Constitutional Amendment for Clean Water, Land and Legacy. The EIS will assess existing conditions such as water quality, cold and warm water fishery resources, trout streams, floodplain functions and values, and watershed stability and flow patterns, and potential impacts to these conditions from the proposed Project.

Wetlands will be identified according to the National Wetlands Inventory (NWI) and Minnesota NWI updates, where available. Special feature wetlands such as wild rice wetlands, calcareous fens, and state or federal wetland mitigation bank sites will also be identified. Wetland boundary determinations and delineations have been conducted during the Applicant's field surveys in accordance with guidelines from USACE, the agency that authorizes Clean Water Act Section 404 wetland permits. The obtained inventory information will identify wetlands that could be adversely affected (temporarily or permanently) by construction- and operation-related activities.

Water resources data from readily available databases such as those hosted by the Minnesota Geospatial Information Office, USGS (National Hydrography Flowline and Waterbody Database), EPA (Impaired Streams Database), and USFWS (NWI database) will be the primary information resource. Best professional judgement will be applied regarding the data to be used for analysis in the EIS. Geospatial data for identification and assessment of water resources may include:

- Minnesota DNR's AMAs, Public Waters Inventory, LakeFinder, and Minnesota Trout Streams;
- Minnesota PCA's Statewide Altered Watercourse, Sentinel Lake Designations, 305b Assessments of Stream Conditions, 303d Impaired Waters and Impaired Wetlands, Exceptional Use Waters, Outstanding Resource Value Waters, and Watershed Health Metrics; and
- Federal Emergency Management Agency Floodplains.

Minnesota PCA's water quality data (and/or waterbody assessments) and Watershed Health Metrics will be used to evaluate the quality of rivers and streams crossed. Numbers of lakes and counts of river and stream crossings of various designations and sizes will be used for comparing routes.

Karst and other geologic landform datasets may also be used to assess groundwater sensitive areas. Minnesota Department of Health, Minnesota Geological Survey, Minnesota Geospatial Information Office, and Minnesota DNR databases can assist with assessing the proximity of routes to groundwater sensitive areas, wells, wellhead protection areas, and source protections areas.

Where database information is readily available, the EIS will identify wetlands as associated with the Minnesota PCA wetland quality monitoring program, state or federal wetland mitigation banking programs, and Minnesota PCA watershed-based total maximum daily load implementation plan or Watershed Restoration and Protection areas in or near the routes. The EIS will identify wetlands that have a calcareous fen or are designated as wild rice wetlands and will evaluate potential impacts to wetlands protected under the Minnesota Wetland Conservation Act or other state or federally funded conservation easement and management plans.

4.4.6.2 Geology and Soils

The EIS will assess geology and topography to determine the presence of slopes, including steep vertical and side slopes, through the use of available geologic and topographic databases. These areas will be evaluated in relation to the potential for erodibility, landslides, and seismic-related instability.

Land disturbance related to pipeline construction activities can impact soil resources. Soil survey data, including NRCS's Soil Survey Geographic Database (SSURGO) soils database, can be used to assess potential impacts to major soil classifications. Potential impacts on soil resources such as topsoil loss or mixing, including during winter/frozen conditions, compaction, erodibility, and potential alteration in

soil temperatures from reduction in forest cover will be assessed. The potential effects of frost-heaving on the pipeline will also be assessed.

4.4.6.3 Natural Communities and Habitat

Native flora and wildlife habitat will be assessed by identifying National Gap Analysis Program (GAP) Land Cover, ecological subsections, public designated areas for wildlife (e.g., WMAs and federal, state, and locally identified conservation or habitat areas), state forest and parks, and Audubon Important Bird Areas. Land cover data sources include the 2011 USGS NLCD, GAP Land Cover Data Portal, and locations of WMAs, Waterfowl Production Areas, and Minnesota DNR prairie conservation easements. The EIS will evaluate the presence and potential for spread of nonnative, exotic, and/or invasive species and the potential for fragmentation of upland forests, particularly of large, mature core or interior forested areas that in part serve as habitat for migratory birds, and assess BMPs, mitigation measures, and post-construction restoration of vegetation cover and habitats in disturbed areas.

4.4.7 Rare and Unique Natural Resources

The EIS will analyze natural resources with special protection and management as a distinct subset of the natural environment. These resources include state and federally listed threatened and endangered species, Species of Conservation Concern, state natural heritage sites, state Scientific and Natural Areas, and Minnesota Biological Survey Sites of Biodiversity Significance.

Natural Heritage Program data will be obtained from Minnesota DNR's Natural Heritage Information System and from North Dakota, South Dakota, Iowa, Illinois, and Wisconsin. Natural Heritage Programs maintain sightings and location data for listed and rare plants and animals as well as protected lands and important natural communities. Scientific and Natural Area locations will be requested from the Minnesota DNR and other state Natural Heritage Programs. GAP species distribution models will be used to identify habitats suitable for Species of Conservation Concern. The EIS will evaluate each of these features for the various route alternatives.

4.4.7.1 State and Federally Listed Threatened and Endangered Species

To determine impacts to state and federally listed threatened and endangered species, data will be obtained from the USFWS Information, Planning, and Conservation System. In addition, the EIS will review USFWS Species Fact Sheets, USFWS Critical Habitat data, and state Natural Heritage Inventory data. Information will be obtained through direct contact with field and/or regional state USFWS offices. Finally, the EIS will use species and suitable habitat presence/absence information resulting from the Applicant's field surveys to supplement desktop data. This review will also include state listed species of Special Concern and Species of Greatest Conservation Need (SGCN).

4.4.7.2 Species of Conservation Concern

State and federal resource management agencies identify and prepare lists of Species of Conservation Concern, many of which are tracked through Natural Heritage Programs. The EIS will obtain and use Natural Heritage Inventory data to assess impacts to state and federal Species of Conservation Concern.

4.4.7.3 State Natural Heritage Sites

In addition to listed species location data, state Natural Heritage Program data identify high-quality native plant communities, animal aggregations, and other important ecological and landform features. These data will be analyzed using GIS to spatially plot their locations in relation to the proposed Project. Data displayed on maps or in tables will be in compliance with the data privacy requirements of various Natural Heritage Information System licenses.

4.4.7.4 State Scientific and Natural Areas

Scientific and Natural Areas geospatial data will be obtained for Minnesota, North Dakota, South Dakota, Iowa, Illinois, and Wisconsin. The EIS will analyze these data using GIS to spatially plot their locations in relation to the proposed Project.

4.4.8 Air Quality

Air quality impacts associated with construction and operation of the proposed Project include associated emissions from fugitive dust, fossil-fuel fired equipment, and tank and pipeline evaporation losses. The EIS will evaluate impacts from alternative technologies, including truck and rail emissions. The air quality impacts analysis will include a review of the emission inventory assessment for all criteria pollutants, greenhouse gases (GHGs), and hazardous air pollutant emissions related to construction and operation of the proposed Project. The EIS will review air quality impacts in light of federal, state, and local air pollution standards and regulatory requirements, where applicable. Where no regulatory standards can be applied, comparative thresholds will be used. Identification of air quality impacts will consider other factors such as the uniqueness of a particular location and existing environmental conditions

4.4.9 Climate Change

GHG emissions will be assessed due to the direct and indirect effects of construction and operation of the proposed Project for the life of the Project, as well as cumulative emissions of the Project when considered with other projects. Construction impacts will include emissions from construction equipment and vehicles, and associated with changes in land use along the construction and operations ROW. Operational impacts will include operations of the proposed pipeline, pump stations, storage facilities, and, if appropriate, induced production, transportation, and end use (based on available literature on life-cycle emissions of appropriate oil types). The EIS will identify the types of impacts that climate change may have on the environment, especially in Minnesota. The EIS will also consider the potential impacts of climate change on the Project itself.

The potential for induced upstream production and downstream end use as a result of the proposed pipeline will be assessed. If it is determined to be likely that the proposed pipeline would increase upstream production or downstream end use compared to baseline conditions, the EIS will assess the associated GHG emissions.

GHG emissions from the proposed Project will be used as a proxy for assessing potential climate change in accordance with final guidance from the Council on Environmental Quality.[29] As a result, the EIS will describe direct, indirect, and cumulative potential effects of GHG emissions associated with the Project as they relate to Minnesota's efforts to reduce GHG emissions.

4.4.10 High Consequence Areas and Natural Disaster Hazard Areas

High consequence areas (HCAs) are areas and features where a crude oil release from a pipeline could have the most significant adverse consequences. HCAs for hazardous liquid pipelines include the following:

- Populated areas, including both high-population areas (called "urbanized areas" by the U.S. Census Bureau) and other populated areas (called "designated places" by the U.S. Census Bureau).
- Drinking water sources, including those supplied by surface water or wells and where a secondary source of water supply is not available. The land area in which spilled hazardous liquid could affect the water supply is also treated as an HCA.
- Unusually sensitive ecological areas, including locations where critically imperiled species can be found, areas where multiple federally listed threatened and endangered species are found, areas where migratory water birds concentrate, and calcareous fens.

The consequences of an inadvertent release of crude oil from a pipeline can vary, depending on where the release occurs and the product involved. These releases may adversely impact or damage human health and safety, the environment, and personal property. The EIS will assess these impacts on HCAs.

4.5 Method for Assessing Impacts of Crude Oil Releases

Various approaches to evaluate the impacts of a crude oil release (large-volume and small or pinhole leaks) will be applied to the Applicant's preferred route, and system and route alternatives. Impact assessments will be based on literature reviews of large and small release volumes, including relevant case studies; a general analysis of impacts from a release to resources along the Project, including impacts to groundwater; the probability of a release; and site-specific modeling of representative sites that can be used to make general comparisons to other locations. The permeability of soils and connections to groundwater will be included in the analysis. Resources to be considered in the analysis include but are not limited to residential structures, populated areas, water and biological resources, cultural resources, and HCAs. Results from spill modeling studies, sponsored by the Applicant and peer-reviewed by the agencies, will be used to assess the potential risk and consequences of large- and small-volume spills.

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[29] Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, Memorandum for Heads of Federal Departments and Agencies. Council on Environmental Quality, 2016, http://energy.gov/nepa/downloads/guidance-consideration-greenhouse-gas-emissions-and-effects-climate-change-national [hereinafter CEQ Climate Change Guidance].

4.5.1 Large-Volume Spills Analysis

Large-volume spill analysis will consist of spill modeling and a summary and application of analysis methods from other projects, such spill modeling for the Keystone XL Pipeline FEIS, and potential oil releases for the replacement of Line 3 in Canada. Spill incident findings and remediation efforts from the National Crude Oil Spill Fate and Natural Attenuation Site near Bemidji, Minnesota, by the USGS; the National Transportation Safety Board report on the Marshall, Michigan, spill; and other case studies will be used in the analysis.

The Applicant will provide data on maximum spill volumes, spill frequency, and the types of crude oil to be transported based on the proposed engineering and operations for the pipeline. This information will be applied to all large-volume spill impact analysis methods. An estimated large-volume spill footprint will be established using these data and based on methods used by other current or recent investigations. The methods will consider general geomorphic conditions in Minnesota to develop a general spill footprint. The analysis will also include a review of crude oil release data from the Pipeline and Hazardous Materials Safety Administration (PHMSA) database.

Spill modeling for the Line 3 Replacement Project EIS is being conducted by RPS ASA, a global science and technology consulting firm specializing in environmental modeling, using OILMAPLAND and SIMAP modeling software. OILMAPLAND is a (two-dimensional) land and surface water spill model system that simulates oil and chemical releases from pipelines and storage facilities, providing a modeling tool for oil spills that occur on land and then migrate to streams and lakes. SIMAP provides detailed predictions of the three-dimensional trajectory, fate, biological effects, and other impacts of spilled oil and fuels in aquatic environments. Both modeling programs meet PHMSA regulatory requirements.

To assess potential impacts associated with an accidental release, the Applicant will provide maximum spill volume estimates based on response times, valve locations, and pipeline volumes at seven representative sites assuming a complete pipeline rupture. Data generated from modeling at representative sites will be used to make broad environmental comparisons among and across routes in areas with similar features. At five of the seven sites, OILMAPLAND (the two-dimensional oil spill trajectory and dispersion model) will be used to estimate the potential spread of a projected maximum crude oil spill across land and into nearby watercourses and waterbodies. At the other two of the seven sites, SIMAP (the three-dimensional oil spill trajectory, dispersion, and vertical mixing model) will be used to estimate the potential spread of the maximum crude oil spill across land and into nearby watercourses and waterbodies, as well as the potential mixing of oil and sediment in the water column.

RPS ASA will run the models for a set of scenarios that include the following crude oil types: light sweet Bakken crude oil, Cold Lake Blend, and Cold Lake Winter Blend. These crude oils represent the range of oil densities and chemical compositions expected. Additional modeling parameters include seasonal variation to capture water flow volumes (high flow, low flow, and snow/ice covered), and a 24-hour model run with outputs at 6, 12, and 24 hours. The combinations of model inputs will result in more than 40 modeling scenarios from which to analyze potential impacts to resources along route alternatives.

4.5.2 Small Leaks

RPS ASA will evaluate small or pinhole leaks qualitatively through a combination of literature review and relevant case studies. Factors for evaluation will include volume of the release, the length of time for

detection, and the types of effects on groundwater, surface water, and soils. The EIS will also present types of remediation and recovery methods, if applicable.

Potential impacts to shallow groundwater resulting from small (pinhole) leaks will be assessed qualitatively using the key findings of work done previously in Exponent's risk assessment for the Keystone XL Pipeline. Exponent used a numerical hydrocarbon spill screening model to evaluate a small leak from a high-pressure crude oil pipeline. The model considered a small leak of approximately 28 bpd and determined it would reach the ground surface within several months and that a partitioned benzene plume resulting from the leak could potentially travel up to 600 feet downgradient. Smaller leaks and the related impacts will be considered for potential impacts in the EIS. To be conservative, potential groundwater resources within 1,000 feet of the potential centerline of the proposed pipeline will be qualitatively assessed. The assessment will focus on areas where groundwater within 1,000 feet is influent to streams or other waterbodies or where shallow groundwater wells are present.

Minnesota data layers used to analyze potential leaks will include source water protection areas and groundwater sensitive areas. The potential impacts to shallow groundwater resulting from pinhole leaks will be assessed using the key findings from the risk assessment of the Keystone XL Pipeline conducted by Exponent as well as soil characteristics and permeability from well logs (required for all wells drilled in Minnesota) filed with the Minnesota Department of Health. This information will be used to assess the distance oil would travel in different soil types if a small leak went undetected.

4.6 Cumulative Potential Effects

Cumulative potential effects could result from the incremental effects of the Project in addition to other projects, including future projects, in the environmentally relevant area that might reasonably be expected to affect the same environmental resources.[30] The purpose of the cumulative potential effects analysis is to evaluate the incremental impacts of other proposed projects, regardless of the proposer, in the environmentally relevant area that may be expected to impact the same resources the proposed project or alternatives.

The EIS will not specifically take into account the cumulative potential effects of the Sandpiper Pipeline Project, since NDPC has requested that project to be withdrawn and there are no pending applications for it in front of any government agency. However, the potential for other future pipelines to be proposed in the same corridor as the Applicant's preferred route for the Line 3 Replacement Project still exists, and this potential impact will be qualitatively evaluated in the EIS.

The cumulative potential effects of high-voltage transmission lines (HVTLs) and substations needed to serve proposed Line 3 Replacement pump stations will also be analyzed. Other reasonably foreseeable projects will be identified by searching local land use plans, current permit applications, and approved, but not built, projects in the vicinity of the alternatives.

[30] Minn. R. 4410.0200, Subp. 11a

4.7 Issues Entirely or Partially Outside the Scope of the EIS

The EIS will evaluate issues identified in the scoping comments directed at the potential impacts of construction, operations, maintenance, and accidents (e.g., oil spills) of the proposed Project and the alternatives on environmental and social resources. In addition, the potential contribution of those same impacts in combination with the impacts of other future projects to these same resources (e.g., other energy projects, urban development, infrastructure projects) will be considered in the cumulative potential effects assessment of the EIS.

In addition to comments addressing the Project itself and the geographic extent of potential Project impacts, some comments were submitted that requested consideration of issues that were in whole or in part beyond the scope of EIS, including the following:

- CN and Route Purpose and Need: The environmental impacts of reasonable alternatives for the need and routing decisions will be evaluated in the EIS, but the PUC will ultimately determine whether there is a need for the proposed Project as part of its CN decision. The EIS will not establish this need for or purpose of the project independently of the CN process. If the Applicant is granted a CN, it will establish the endpoints for the route permit decision. In this case, the information needed for both the CN and route permit processes will be developed at the same time, in one EIS. By necessity, then, the alternative routes to be evaluated in this EIS for the route permit are currently based on the Applicant's proposed endpoints.
- Climate Change: The EIS will assess GHG emissions due to the direct and indirect effects of construction and operation of the proposed Project for the life of the Project, and cumulative emissions of the Project when considered with other projects as well as the potential impacts of climate change on the Project. The EIS will provide an overview of oil production as associated with the proposed Project and the potential for induced upstream production and downstream end use as a result of the proposed Project. If it is determined to be likely that the proposed pipeline will increase upstream production or downstream end use compared to baseline conditions, the EIS will assess the associated GHG emissions. In accordance with final guidance from the CEQ, GHG emissions of the proposed Project will be used as a proxy for assessing potential climate change.[31] Thus, the EIS will not attempt to correlate Project-related emissions to specific changes in the climate.
- Economic Viability of Other Regional Pipelines: The EIS will discuss socioeconomic impacts due to Project construction and operation including property values, land use, and public services. It will also present an estimated cost of construction and operation of the No Action Alternative, system alternatives, and route alternatives. Additionally, the EIS will summarize and consider the economic need or viability of other regional pipelines to transport the volume of additional oil proposed by this Project (as described in Section 3.0), compared to projected oil production in Alberta, Canada. The EIS will evaluate the construction costs and socioeconomic impacts of each system and route alternative. It will not, however, evaluate the economic feasibility or viability of system alternatives in the context of the Enbridge pipeline network or as part of

[31] CEQ Climate Change Guidance. Available at: https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf

another company's pipeline network. The feasibility of using different pipeline endpoints than those proposed by the Applicant depends on the level of shipper interest and commercial constraints that are not possible to model accurately enough to provide relevant information for a CN decision. Without an open season process or detailed information on shipper interest, an independent study without this commercial information would be expensive and provide marginal value. In this case, the cost of the data and analyses would exceed the relevance and importance of the information in making an informed decision among alternatives.[32] Likewise, the EIS will not include an overall benefit-cost analysis of the Project's system alternatives.

- Regulatory Procedures: Regulatory procedures will be discussed in the EIS specifically associated with existing federal, state, and local regulations and processes.
- Evaluation of Energy Alternatives to Crude Oil: The evaluation of alternative energy types or energy conservation efforts is beyond the scope of the EIS. The EIS will not assess national or regional energy policy. However, it will include a No Action Alternative, which is an effective surrogate for the evaluation of energy alternatives because it assesses the consequences of the only action available to the PUC—denial of the Project—to implement a change in regional or national energy use.
- Oil Production and Transportation: The EIS will provide an overview of oil production as associated with the proposed Project. It will consider the potential for induced upstream production and downstream transportation/end use as a result of the proposed pipeline. If it is determined to be likely that the proposed pipeline will increase upstream production or downstream transportation/end use compared to baseline conditions, the EIS will assess these impacts as indirect effects of the proposed Project. The cumulative effects assessment of the EIS will consider existing and future production and transportation to the extent that such production would affect resources similarly to the proposed Project.
- Cumulative Potential Effects: The EIS will assess the cumulative potential direct and indirect effects resulting from construction and operation of the Project in combination with the impacts of other specific planned projects with a similar timing and geography as the Project. The EIS will not consider the cumulative potential effects of construction and operation of the Sandpiper Project, since applications for this project have been withdrawn. The EIS will also not assess cumulative effects of global/national/regional aspects of fossil fuel consumption, life-cycle analysis, or energy policy that are not meaningfully influenced by the proposed Project, as these are beyond the scope of the Project-specific EIS.
- Ecosystem Services Valuation: Impacts to environmental resources will be assessed, and measures to avoid or minimize impacts will be described. The EIS will not assign dollar values to ecosystem services as monetization is beyond the scope of the EIS, although it is recognized that appropriate avoidance and minimization measures to address impacts may have a dollar value associated with them (e.g., compensatory mitigation).
- Impacts to Lake Superior and Great Lakes: The EIS will consider potential impacts to the Lake Superior watershed including potential impacts of oil spills along the proposed Project. Potential impacts to the Great Lakes from incidents involving transportation of crude oil by ship, rail, or

[32] See Minn. R. 4410.2300(H).

other pipelines are existing potential effects and not changed by the construction or operation of the proposed pipeline.

- Applicant's Insurance and Financial Resources: The Applicant's financial resources are beyond the scope of the EIS. The PUC has the discretion to require a bond or other financial assurance from the Applicant during the permitting process.

5.0 Special Studies or Research

The EIS will incorporate the results of the following special studies:

- Assessment of Accidental Releases: Technical Report (Applicant-sponsored and agency-reviewed).
- Assessment of Potential Pinhole Release on Groundwater (Applicant-sponsored and agency-reviewed).

6.0 Identification of Phased and/or Connected Actions

The EIS will describe and include the impacts of several new proposed high-voltage transmission lines that would supply electric power to the new pipeline pump stations for the Project because the proposed transmission lines are connected actions to this project.[33] The utilities serving the area have applied for permits for these high-voltage transmission line projects.

7.0 Government Permits and Approvals

The EIS will identify all known required permits and approvals. Some permit information may be collected and reviewed concurrently with the EIS preparation. However, the EIS will not necessarily contain all the information needed for a decision on the CN and route permit applications. No permits have been designated to have all information developed concurrently with preparation of this EIS,[34] nor will any require a record of decision.[35]

Table 4 provides a list of known federal, state, and local approvals, certifications, and financial assistance required for the Project. As stated above, additional permit information may be identified and documented during the EIS process.

[33] Minn. R. 4410.0200, Subp. 9c.
[34] See Minn. R. 4410.2100, Subp. 6(C).
[35] See Minn. R. 4410.2100, Subp. 6(D).

TABLE 4
Permits and Approvals Required

Unit of Government	Type of Application	Status	Reason Required
U.S. Army Corps of Engineers – St. Paul District and Minnesota Pollution Control Agency	Section 10/404 Individual Permit and associated state 401 Individual Water Quality Certification	Application submitted and determined complete (December 17, 2015)	Authorizes discharge of dredged and fill material into waters of the United States, including wetlands, and crossing of navigable waters of the United States
U.S. Fish and Wildlife Service	Section 7 Endangered Species Act consultation (federal endangered species)	Consultation ongoing	Establishes conservation measures and authorizes, as needed, take of federally protected species
	Bald Eagle Removal Permit	Pending submittal	Allows for removal of a known bald eagle nest in proximity to construction activities
Public Utilities Commission	Certificate of Need	Application submitted	Determines need for the pipeline, including questions of size, type, and timing
	Route Permit	Application submitted	Authorizes construction of the pipeline along a specific route, subject to certain conditions
Minnesota Department of Natural Resources	License to Cross Public Waters	Application submitted	50-year license that allows for crossing of public waters with proposed utility
	License to Cross Public Lands	Application submitted	50-year license that allows for crossing of public lands with proposed utility
	Water Appropriation Permit – Pipeline and Facilities	Pending submittal	Authorizes withdrawal and use of water from surface or ground sources
	State Endangered Species Permit and Avoidance Plan	Pending submittal	Outlines plans for avoidance, minimization, and mitigation of take of state-listed species
	Osprey Nest Disturbance Permit	Pending submittal	Allows for removal of a known osprey nest
	Eagle Nest Removal Permit	Pending submittal	Allows for removal of a known eagle nest
	Fen Management Plan	Pending submittal	Outlines plans for avoidance, minimization, and mitigation of impacts to calcareous fens

TABLE 4
Permits and Approvals Required

Unit of Government	Type of Application	Status	Reason Required
Minnesota Pollution Control Agency	Clearbrook Terminal modifications– Option A Registration Permit (to be applied for if necessary), and must meet New Source Performance Standards Notifications	Pending submittal	Authorizes operation for new sources of air emissions under the Clean Air Act
	Any aboveground overpressure relief storage tanks (ASTs) (usually 100K-200K gallon capacity) will need to meet applicable standards	Pending submittal	All ASTs must meet American Petroleum Institute (API) Standards 620, 650, 651 and 653.
	Clean Water Act Section 401 Certification	Pending submittal	Section 401 of the Clean Water Act requires this certification for a federal license or permit (in this case Section 404 wetland permit) to conduct an activity that may result in a discharge of a pollutant into waters of the United States.
	NPDES Individual Construction Stormwater, Hydrostatic Test, and Trench Dewatering Permit – Pipeline Construction	Pending submittal	Authorizes ground disturbance with approved protection measures to manage soil erosion and stormwater discharge on construction site; discharge of water from hydrotesting activities; and removal of water that may accumulate in pipeline trench
	NPDES General Construction Stormwater Coverage – Facilities	Pending submittal	Authorizes ground disturbance with approved protection measures to manage soil erosion and stormwater discharge on construction site
	NPDES General Construction Stormwater Coverage – Pipeyards, Staging Areas, and Contractor Yards	Pending submittal	Authorizes ground disturbance with approved protection measures to manage soil erosion and stormwater discharge on construction site
Minnesota State Historic Preservation Office	Cultural Resources Consultation, National Historic Preservation Act Section 106 Clearance	Consultation ongoing	Ensures adequate consideration of impacts to significant cultural resources
Minnesota Department of Agriculture	Agricultural Protection Plan	Consultation initiated	Establishes measures for agricultural protection

TABLE 4
Permits and Approvals Required

Unit of Government	Type of Application	Status	Reason Required
Minnesota Department of Transportation	Road Crossing Permits	Pending submittal	Authorizes crossings of state-jurisdictional roadways
Minnesota Department of Health and Wrenshall and Sundruds Court Drinking Water Supply Management Area	Drinking Water Supply Management Area/Wellhead Protection Area Consultation	Consultation only (in progress)	Ensures pipeline construction and operation are compatible with goals of relevant plans
Mississippi Headwaters Board	Local Land Use Review	Consultation only (in progress)	Ensures compatibility with land use plan
Red Lake and Wild Rice Watershed Districts	Watershed District Permits	Pending submittal	Authorizes crossing of legal drain and ditches within watershed
Minnesota Board of Water and Soil Resources/Wetland Conservation Act Local Governmental Units	Notice of Intent to Utilize Federal Approvals for Utilities Project Exemption	Notice submitted	Notice of use of exemption required
Local/County	Permits pertaining to off-ROW yard use	Pending submittal	Ensures compatibility with relevant land use plans

NPDES = National Pollutant Discharge Elimination System

8.0 Environmental Impact Statement Schedule

A *tentative* schedule for development and issuance of the EIS is outlined in Table 5. The schedule is contingent upon a number of factors; unforeseen circumstances may alter it.

TABLE 5
Tentative Schedule

Task	Date
Scoping EAW and DSDD issued	April 11, 2016
2016 EIS Public Scoping Meeting(s)	April–May 2016
Close of 2016 EIS Public Comment Period	May 26, 2016
Submit Scoping Summary Report, FSDD, and Comments and Recommendations to PUC	September 21, 2016
PUC Meeting to Approve Final Scope	October 2016
PUC Decision Order on Final Scope	November 2016
EIS Preparation Notice (Start of 280-day EIS process)	December 5, 2016
DEIS Issued for Public Review and Comment	April 3, 2017
DEIS Public Meetings	April-May 2017
FEIS Issued	July 10, 2017

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Appendix A

Draft Environmental Impact Statement Preliminary Table of Contents

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Preliminary Table of Contents for Draft EIS

8 References

Appendices

Appendix A TBD

Appendix B TBD

Appendix C TBD

Appendix B

Detailed Route Maps of RSA-53

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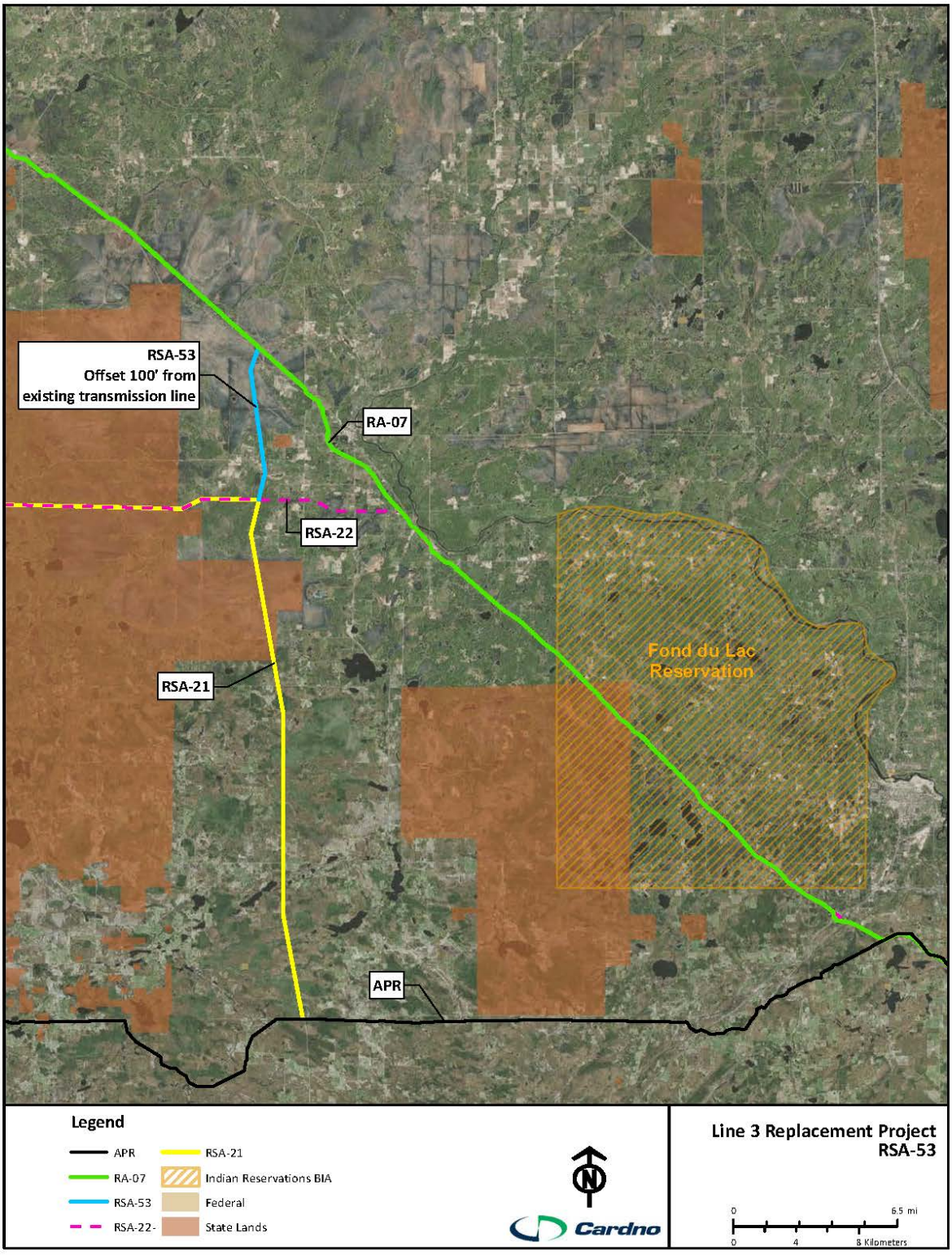
Parantala Rd
Potshot Rd
Triplett Rd
RA-07
Savanna Rd
Saint Vincent Rd
2
Rudolph Rd
RSA-53
Offset 100' from
existing transmission line
5130
Floodwood Rd
Powell Rd
Wuotila Rd
Johnson
Bennett Rd
Floodwood Rd
Floodwood Rd
Fine Lakes Rd
Fine
Lakes Rd
Triplett Rd
Ahlgren Rd
Robinson Rd
Laurie Rd
Loop Rd
Savanna Rd
Evergreen Rd
Casey Rd
RSA-22
Halden Rd
RSA-21
Garrett Rd
Grangruth
Rd
Martilla Rd
Legend
RA-07
RSA-21
RSA-53
streets
RSA-22-
State Lands
Cardno
Line 3 Replacement Project
RSA-53
0
1 mi
0
0.75
1.5 Kilometers


RSA-53
Offset 100' from
existing transmission line
RA-07
RSA-22
RSA-21
Fond du Lac
Reservation
APR
Legend
APR
RA-07
RSA-53
RSA-22
RSA-21
Indian Reservations BIA
Federal
State Lands
Cardno
Line 3 Replacement Project
RSA-53
0
6.5 mi
0
4
8 Kilometers