US Army Corps of Engineers
St Paul District

Public Notice

APPLICANT: ALLETE, Inc.

ISSUED: September 14, 2020
EXPIRES: October 14, 2020

REFER TO: 2020-00887-WMS

SECTION: 404 - Clean Water Act
SECTION: 10 Rivers and Harbors Act

1. APPLICATION FOR PERMIT TO discharge dredged and fill material in 54.77 acres of wetlands for the construction of the Nemadji Trail Energy Center and associated components, and construct a transmission line over the Nemadji River, a Section 10 Navigable Water of the Unites States.

2. SPECIFIC INFORMATION

APPLICANT: ALLETE, Inc.
c/o Dan McCourtney
30 West Superior Street
Duluth, MN 55802

AGENT: Burns & McDonnell Engineering Company, Inc.
C/o Tyler Beemer
8201 Norman Center Drive, Suite 300
Bloomington, MN 55437

PROJECT LOCATION: The proposed Nemadji Trail Energy Center power generation facility is located in Section 31, Township 49 North, Range 13 West, Douglas County, Wisconsin. The approximate center coordinates of the site are Latitude 46.68954, Longitude -92.04999.

The staging area for the generation facility is located in Section 31, Township 49 North, Range 13 West, Douglas County, Wisconsin.

The 345-kV transmission line structures would be constructed in Section 31, Township 49 North, Range 13 West, and Sections 5, 6, 8, 9, 16 & 17, Township 48 North, Range 13 West, Douglas County, Wisconsin.

The 16-inch diameter natural gas pipeline would be constructed in Sections 5, 6, 9, 16, 21, 28 & 33, Township 48 North, Range 13 West, Douglas County, Wisconsin.

The new Switchyard would be located in Section 17, Township 48 North, Range 13 West, Douglas County, Wisconsin.

DESCRIPTION OF PROJECT: South Shore Energy, LLC, a subsidiary of ALLETE, Inc., and Dairyland Power Cooperative, propose to construct the Nemadji Trail Energy Center (NTEC) project. The project consists of the construction of a 625- megawatt (MW) gas turbine generation facility, natural gas supply pipeline, 345-kilovolt (kV) transmission line, new switching station, relocation of existing natural gas pipeline and transmission line, staging areas, and laydown yards.

The proposed NTEC generation facility site for the project is approximately 26.3 acres in size and is located east of the existing Enbridge Energy Superior Terminal Facility, along the northwest bank of the Nemadji River and southeast of the intersection of 31st Avenue East and Grand Avenue in the City of Superior.

The staging area for the construction of the generation facility is approximately 24.8 acres in size is located along the northwest side of 31st Avenue and northeast of the intersection of 31st Avenue East and Grand Avenue in the City of Superior. The site is located on Enbridge's Superior Terminal property.

A 345-kV transmission line would be constructed between the generation facility and a new switching station located on the west side of Lyman Lake Road, approximately 1,680 feet south of the intersection of Lyman Lake Road and County Road Z in the City of Superior. The 345-kV transmission line route is approximately 3.7 miles in length and would be constructed as a single-circuit 345-kV line or as a double-circuit 345/161-kV line with the existing 161-kV Line No. 160, which is owned by Superior Water, Light & Power (SWL&P), an ALLETE company. Existing right-of-way would be used where the proposed transmission line is double circuited with the existing 161-kV transmission line. Additional right-of-way of approximately 25 feet along portions of the existing right-of-way would be required to accommodate the new transmission line.

SWL&P would construct a 16-inch diameter natural gas pipeline between the proposed NTEC generation facility and an existing Great Lakes Gas Transmission Company (GLGT) natural gas transmission pipeline located south of County Route C and west of Windmill Road. The route is approximately 6.8 miles in length and occurs mostly in existing natural gas pipeline right-of-way corridors.

To accommodate the new generation facility and new transmission line, the existing electric transmission lines that cross the NTEC generation facility site and the Nemadji River would be relocated. The relocation of the existing 115-kV (Line No. 132), 115-kV (Line No 761), and 161-kV (Line No 160) lines (the relocation routes) would occur prior to the start of construction for the generation facility.

BACKGROUND: The project required review and approval by the Public Service Commission of Wisconsin (PSCW). A certificate of Public Convenience and Necessity (CPCN) for the generation facility was issued by the PSCW on January 31, 2020. A (CPCN) was issued for the electric transmission line and switching station on January 30, 2020. A Certificate of Authority (CA) was issued for the natural gas pipeline was issued on March 3, 2020. The Wisconsin Department of Natural Resources, Office of Energy, is participating in a joint review process with the Wisconsin Public Service Public Service Commission of Wisconsin (PSCW) as described in Wisconsin Stat. §30.025, with respect to wetlands and navigable waterways. The United States Department of Agriculture - Rural Utilities Service is providing funding for the project and is the lead federal agency.

QUANTITY, TYPE, AND AREA OF FILL: Construction of the NTEC generation facility and associated components would result in both permanent and temporary discharges of dredged and fill material into wetlands. A summary of anticipated wetland impacts is shown on the table below. A detailed table of anticipated wetland impacts by wetland type for each project component is shown on Figure 2 of the attached drawings.

NTEC Project - Proposed Wetland Impacts

Project Component	Permanent Wetland Loss	Temporary Wetland Impacts	Forested to Emergent Wetland Conversion
Generation Facility	4.4 Acres	0.3 Acre	0.9 Acre
Overall Project Staging Area	0	21.2 Acres	4.6 Acres
Transmission Line	1,240 Sq. Feet	8.4 Acres	4.7 Acres
Switchyard	4.4 Acres	0	1.4 Acres
Natural Gas Pipeline	0	16.0 Acre	2.6 Acre

1 – To avoid double counting, permanent impacts are subtracted from temporary impact areas and conversion areas where they overlap.

VEGETATION IN AFFECTED AREA: The NTEC generation facility site supports a broadleaved deciduous upland and wetland forest community consisting of quaking aspen, common buckthorn, and black willow. Upland and wetland shrub communities consist of red-osier dogwood, honeysuckle, alder, and various willow species.

The existing utility corridors where the 345-kV transmission line route, transmission line relocation, and 16-inch diameter natural gas pipeline route have been previously disturbed and consist primarily of grassland and wet-meadow communities and include raspberry, goldenrod species, Kentucky bluegrass, Canada thistle, parasol white top, garden valerian, reed canary grass, wool grass, cattail and various sedge ad rush species.

The vegetation supported at the proposed switching station is within forested and scrub-shrub wetlands that consist mostly of quaking aspen, alder, willow species, common buckthorn, lake sedge, jewelweed and marsh marigold and swamp saxifrage.

SOURCE OF FILL MATERIAL: Clean fill material would come from a commercial source.

SURROUNDING LAND USE: The NTEC generation facility site is currently partially wooded with a parking lot and small stormwater pond in the northwest corner. Existing transmission lines and a natural gas pipeline cross the site.

The staging area for the generation facility is approximately 24.8 acres in size and includes an existing 1.2-acre disturbed area and 23.6-acre staging area. The staging area is located along the northwest side of 31st Avenue and northeast of the intersection of 31st Avenue East and Grand Avenue in the City of Superior. Several existing transmission lines and oil and gas pipelines cross the parcel containing the staging area.

The 345-kV transmission line route is approximately 3.7 miles in length and occurs primarily in existing transmission line right-of-way corridors through the City of Superior, Town of Superior, and the Town of Parkland in Douglas County.

The new switchyard is located in undeveloped public forest land owned by Douglas County.

The natural gas supply pipeline route occurs mostly in existing natural gas pipeline right-of-way corridors in the City of Superior and the Town of Parkland in Douglas County.

DESCRIPTION OF STRUCTURE: As part of the Project, several components will cross the Nemadji River, a Section 10 navigable water of the United States. The new transmission line will span the Nemadji River, one existing spanned transmission line will be relocated further south over the Nemadji River, and one existing spanned transmission line will be removed entirely. In addition, a new natural gas pipeline will be bored under the Nemadji River via horizontal directional drilling (HDD).

THE FOLLOWING POTENTIALLY TOXIC MATERIALS COULD BE USED AT THE PROJECT SITE: Hydraulic fluids and fuels from heavy equipment could potentially be found during construction.

THE FOLLOWING PRECAUTIONS TO PROTECT WATER QUALITY HAVE BEEN DESCRIBED BY THE APPLICANT: Horizontal Directional Drill (HDD) construction methods would be used to bore the natural gas pipeline under several perennial waterways. Trench breakers or similar structures will be installed to prevent groundwater from flowing along the line trench. For open cutting in waterways, flume and dam method will be used. Following the removal of the flume and dam system from each waterway crossing, grading back to pre-construction contours and slopes will occur as needed and be seeded with an approved seed mix. Temporary Clean Span Bridges (TCSB) would be used to cross nine waterways during the transmission line and natural gas pipeline construction phases. Clearing of forested and shrub dominated wetlands would be completed during frozen ground conditions or by hand or by reaching equipment that is parked in uplands. The ground would be left undisturbed such that the root-balls will not be impacted from clearing.

MITIGATION: The applicant proposes to compensate for the loss of wetland functions by purchasing credits from the Bluff Creek Wetland Mitigation Bank in Douglas County, Wisconsin. The final Mitigation Banking Instrument (MBI) for the Bluff Creek Mitigation Bank is currently pending review and approval from the Corps and the Interagency Review Team. The applicant also requests consideration of the Bear Creek Mitigation site as partial compensation for the project. The Bear Creek mitigation site was constructed in 2004 to provide permittee responsible compensation for the previously authorized Superior Generation project that was not constructed. A final determination of credit needs for the project and appropriate compensation, including the suitability of the Bear Creek site for partial compensation, is pending review.

3. FEDERALLY-LISTED THREATENED OR ENDANGERED WILDLIFE OR PLANTS OR THEIR CRITICAL HABITAT

None were identified by the applicant or are known to exist in the permit area. However, Douglas County is within the known or historic range of the following Federally-listed species:

Gray wolf – Endangered. Habitat: Northern forested areas.

Canada Lynx – Threatened. Habitat: There is final critical habitat for this species. The project location is outside the critical habitat.

Northern long-eared bat – Threatened. Habitat: Hibernates in caves and mines – swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.

Piping Plover – Endangered. Habitat: Sandy beaches and islands

Red Knot – Threatened. Habitat: Coastal areas along Lake Superior.

Fassett's Locoweed – Threatened. Habitat: Open sandy lakeshores.

The Rural Utilities Service is the lead federal agency is for the proposed project and is coordinating with the U.S. Fish and Wildlife Service for compliance with the Endangered Species Act. Any impacts the project may have concerning Federally-listed threatened or endangered wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

4. JURISDICTION

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

5. STATE SECTION 401 WATER QUALITY CERTIFICATION

WATER QUALITY CERTIFICATION. This Public Notice has been sent to the Wisconsin Department of Natural Resources and is considered by the District Engineer to constitute valid notification to that agency for Section 401 water quality certification. A permit will not be granted until the Wisconsin Department of Natural Resources has issued or waived Section 401 certification.

6. HISTORICAL/ARCHAEOLOGICAL

The Rural Utilities Service (RUS) is the lead federal agency for the proposed project and is coordinating with Wisconsin State Historic Preservation Office (SHPO) for compliance with the National Historic Preservation Act. Any impacts the project may have on historic properties will be considered in our final assessment of the described work. Any adverse effects on historic properties will be resolved prior to the Corps authorization, or approval, of the work in connection with this project.

7. PUBLIC HEARING REQUESTS

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, in detail, the reasons for holding a public hearing. A request may be denied if substantive reasons for holding a hearing are not provided or if there is otherwise no valid interest to be served.

8. PUBLIC INTEREST REVIEW

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion,

recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. Environmental and other documents will be available for review in the St. Paul District Office.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

9. COASTAL ZONE MANAGEMENT.

This Public Notice has been sent to the agency responsible for Coastal Zone Management and is considered by the District Engineer to constitute valid notification to that agency for a Coastal Zone Consistency determination.

REPLIES/COMMENTS

Interested parties are invited to submit to this office written facts, arguments, or objections by the expiration date indicated above. These statements should bear upon the suitability of the location and the adequacy of the project and should, if appropriate, suggest any changes believed to be desirable. Comments received may be forwarded to the applicant.

Replies may be sent to William Sande at william.m.sande@usace.army.mil.

IF YOU HAVE QUESTIONS ABOUT THE PROJECT, contact William Sande at the Hayward Field Office at (651) 290-5882 or william.m.sande@usace.army.mil

To receive Public Notices by e-mail, go to: http://mvp-extstp.mvp.usace.army.mil/list_server/ and add your information in the New Registration Box.

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Sanitary Water Tie-in

Generation Area Laydown/Staging Area

Generation Facility

Transmission & Gas Pipeline Crossing Nemadji River

Off Right-of-Way Access

Transmission & Gas Pipeline Laydown Area

Off Right-of-Way Access

Off Right-of-Way Access

Transmission & Gas Pipeline Laydown Area

Switchyard

Natural Gas Pipeline Tie-in

NORTH

2,000 1,000 0 2,000

Scale in Feet

Generation Facility Components

Transmission Line/Switchyard Components

Natural Gas Pipeline Components

Delineated Wetlands

Delineated Streams

Project Components & Delineation Results

NTEC Project
Superior, Wisconsin

Source: ESRI, South Shore Energy, SWL&P, and Burns & McDonnell Engineering Company, Inc.

Issued: 9/10/2020

Table A-1: Delineated Wetlands & Proposed Wetland Impacts for the NTEC Project

Wetland Information													Impact Details										Impact Summary					
Feature ID[a]	Cowardin Classification[b]	WDNR Natural Community Wetland Classification	Delineated Area (Sq Feet)[c]	ASNRI	County	Latitude[d]	Longitude[d]	QQ	Q	Section	Township (N), Range (E/W)	Quality Rating[m]	Permanent Impact (Sq Feet)	Permanent Impact Component	Temporary Open Trenching for Natural Gas Pipeline (Sq Feet)[e]	Temporary Matting for Natural Gas Pipeline Access (Sq Feet)[f,g]	Temporary Matting for Natural Gas Pipeline Workspace (Sq Feet)[f,g]	Temporary Matting for 10" Natural Gas Pipeline Backup/Fiberline for Generation Facility (Sq Feet)[f,g]	Temporary Matting for Transmisson Line Access (Sq Feet)[f,g]	Temporary Matting for Transmisson Line Workpad (Sq Feet)[f,g]	Temporary Fill for Staging/Parking Area (Sq Feet)[f,l]	Forested to Emergent Wetland Conversion (Sq Feet)[f,h]	Shrub to Emergent Wetland Conversion (Sq Feet)[f,i]	**Total Permanent Impacts (Sq Feet)**	**Total Temporary Impacts from Open Trenching (Sq Feet)**	**Total Temporary Impacts From Matting (Sq Feet)**	**Total Temporary Impacts From Staging/Parking Area Fill (Sq Feet)**	**Total Forested to Emergent Wetland Conversion (Sq Feet)[f]**	**Total Shrub to Emergent Wetland Conversion (Sq Feet)[f]**
W-001d	PEM	Wet Prairie	3,910	No	Douglas	46.6001	-92.01194	SW	NW	33	T48N, R13W	Mid	0	-	207	1,844	674	0	0	0	0	0	0	0	207	2,518	0	0	0
W-003f	PEM	Wet Prairie	34,923	No	Douglas	46.60244	-92.01424	NW	NW	33	T48N, R13W	Low	0	-	1,118	19,401	16,092	0	0	0	0	0	0	0	1,118	35,493	0	0	0
W-006f	PEM	Wet Prairie	1,008	No	Douglas	46.60405	-92.01494	NW	NW	33	T48N, R13W	Low	0	-	49	483	193	0	0	0	0	0	0	0	49	676	0	0	0
W-007f	PEM	Wet Prairie	16,547	No	Douglas	46.60455	-92.015	SW	SW	28	T48N, R13W	Mid	0	-	555	4,467	9,704	0	0	0	0	0	0	0	555	14,171	0	0	0
W-008f	PEM	Wet Prairie	6,393	No	Douglas	46.60689	-92.01512	SW	SW	28	T48N, R13W	Mid	0	-	453	3,214	0	0	0	0	0	0	0	0	453	3,214	0	0	0
W-009f	PEM	Wet Prairie	3,316	No	Douglas	46.61153	-92.01529	NW	SW	28	T48N, R13W	Mid	0	-	180	1,439	0	0	0	0	0	0	0	0	180	1,439	0	0	0
W-010f	PEM	Wet Prairie	2,031	No	Douglas	46.61486	-92.01536	NW	NW	28	T48N, R13W	Mid	0	-	127	975	0	0	0	0	0	0	0	0	127	975	0	0	0
W-011d	PEM	Wet Prairie	77	No	Douglas	46.61612	-92.01523	NW	NW	28	T48N, R13W	Low	0	-	0	72	0	0	0	0	0	0	0	0	0	72	0	0	0
W-013f	PEM	Wet Prairie	1,654	No	Douglas	46.61928	-92.01522	SW	SW	21	T48N, R13W	Mid	0	-	0	44	1,654	0	0	0	0	0	0	0	0	1,698	0	0	0
W-015f	PEM	Wet Prairie	60,117	No	Douglas	46.62512	-92.01556	NW	SW	21	T48N, R13W	Mid	0	-	2,148	14,132	5,437	0	0	0	0	0	0	0	2,148	19,569	0	0	0
W-017f	PEM	Wet Prairie	25,026	No	Douglas	46.63064	-92.01558	NW	NW	21	T48N, R13W	Mid	0	-	442	2,340	0	0	0	0	0	0	0	0	442	2,340	0	0	0
W-021f	PEM	Wet Prairie	84,038	No	Douglas	46.63578	-92.01534	SW	SW	16	T48N, R13W	Mid	0	-	2,228	16,360	34,319	0	0	0	0	0	0	0	2,228	50,679	0	0	0
W-023f	PEM	Wet Prairie	80,969	No	Douglas	46.64066	-92.01508	NW	SW	16	T48N, R13W	Mid	113	New T-line Structures	2,840	23,670	11,724	0	728	9,456	0	0	0	113	2,840	45,578	0	0	0
W-030f	PEM	Wet Prairie	106,952	No	Douglas	46.64962	-92.01503	SW	SW	9	T48N, R13W	Mid	24	New T-line Structures	1,333	10,562	21,783	0	5,451	9,282	0	0	0	24	1,333	47,078	0	0	0
W-035f	PEM	Wet Prairie	3,763	No	Douglas	46.65295	-92.01488	NW	SW	9	T48N, R13W	Low	0	-	0	101	1,059	0	101	488	0	0	0	0	0	1,749	0	0	0
W-040f	PEM	Wet Prairie	121,271	No	Douglas	46.6582	-92.01718	SE	NE	8	T48N, R13W	Low	0	-	1,723	19,937	28,042	0	20,256	7,010	0	0	0	0	1,723	75,245	0	0	0
W-041f	PEM	Wet Prairie	213,785	No	Douglas	46.66089	-92.02098	NE	NE	8	T48N, R13W	Mid	77	New T-line Structures	2,046	16,447	29,049	0	15,065	22,624	0	0	0	77	2,046	83,185	0	0	0
W-045f	PEM	Wet Prairie	405,882	No	Douglas	46.6644	-92.02532	SW	SE	5	T48N, R13W	Mid	77	New T-line Structures	5,545	42,333	25,717	0	37,020	24,693	0	0	0	77	5,545	129,763	0	0	0
W-048f	PEM	Wet Prairie	3,424	No	Douglas	46.66843	-92.03005	NE	SW	5	T48N, R13W	Mid	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W-049f	PEM	Wet Prairie	21,126	No	Douglas	46.66868	-92.031	NE	SW	5	T48N, R13W	Mid	0	-	0	0	0	0	2,514	0	0	0	0	0	0	2,514	0	0	0
W-051f	PEM	Wet Prairie	34,593	No	Douglas	46.67019	-92.03279	SW	NW	5	T48N, R13W	Mid	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W-061f	PEM	Wet Prairie	120,974	No	Douglas	46.6848	-92.04624	NW	SE	31	T49N, R13W	Low	115	New T-line Structures	143	2,838	5,052	0	7,563	2,500	0	0	0	115	143	17,953	0	0	0
W-064f	PEM	Wet Prairie	11,387	No	Douglas	46.66987	-92.04817	NW	NE	6	T48N, R13W	Mid	63	New T-line Structures	0	0	0	0	3,886	5,773	0	0	0	63	0	9,659	0	0	0
W-119f	PEM	Wet Prairie	359	No	Douglas	46.65158	-92.01253	SE	NW	31	T49N, R13W	Mid	0	-	0	359	0	0	359	0	0	0	0	0	0	718	0	0	0
W-120d	PEM	Wet Prairie	11,657	No	Douglas	46.65867	-92.01499	NW	NW	9	T48N, R13W	Mid	0	-	0	11,658	0	0	11,660	0	0	0	0	0	0	23,318	0	0	0
W-121d	PEM	Wet Prairie	9,562	No	Douglas	46.65969	-92.01016	NW	NW	9	T48N, R13W	Mid	0	-	0	9,543	0	0	9,564	0	0	0	0	0	0	19,107	0	0	0
W-300f	PEM	Wet Prairie	486,520	No	Douglas	46.689529	-92.051828	NW	NW	31	T49N, R13W	Low	0	-	0	0	0	0	0	0	474,724	0	0	0	0	0	474,724	0	0
W-503f	PEM	Wet Prairie	70,613	No	Douglas	46.68823	-92.04874	NE	NW	31	T49N, R13W	Mid	65,148	New Generation Facility	0	6	381	3,163	0	0	0	0	0	65,148	0	3,550	0	0	0
W-504f	PEM	Wet Prairie	4,174	No	Douglas	46.68795	-92.05062	SE	NW	31	T49N, R13W	Low	4,175	New Generation Facility	0	0	0	0	0	0	0	0	0	4,175	0	0	0	0	0
W-012f	PEM/PSS	Wet Prairie/Shrub-carr	129	No	Douglas	46.61613	-92.01557	NW	NW	28	T48N, R13W	Low	0	-	0	0	0	0	0	0	0	65	0	0	0	0	0	0	65
W-037f	PEM/PSS	Wet Prairie/Shrub-carr	131,604	No	Douglas	46.6553	-92.01532	NW	SW	9	T48N, R13W	Mid	113	New T-line Structures	2,842	20,373	29,839	0	15,365	14,863	0	0	65,758	113	2,842	80,440	0	0	65,758
W-054f	PEM/PSS	Wet Prairie/Shrub-carr	51,672	No	Douglas	46.67483	-92.03849	NE	NE	6	T48N, R13W	Mid	0	-	0	0	0	0	4,033	2,500	0	0	25,840	0	0	6,533	0	0	25,840
W-055f	PEM/PSS	Wet Prairie/Shrub-carr	430,341	No	Douglas	46.67821	-92.04203	NE	NE	6	T48N, R13W	Mid	203	New T-line Structures	5,405	45,717	25,913	0	41,526	42,814	0	0	215,106	203	5,405	155,970	0	0	215,106
W-303f	PEM/PSS	Wet Prairie/Shrub-carr	141,176	No	Douglas	46.69009	-92.05355	NW	NW	31	T49N, R13W	High	0	-	0	0	0	0	0	0	141,176	0	70,588	0	0	0	141,176	0	70,588
W-005d	PFO	Hardwood Swamp	5,892	No	Douglas	46.60341	-92.01532	NW	NW	33	T48N, R13W	Mid	0	-	0	0	5,893	0	0	0	0	5,893	0	0	0	5,893	0	5,893	0
W-024f	PFO	Hardwood Swamp	5,807	No	Douglas	46.64155	-92.01475	SW	NW	16	T48N, R13W	Mid	0	-	0	0	0	0	0	432	0	5,744	0	0	0	432	0	5,744	0
W-033f	PFO	Hardwood Swamp	98	No	Douglas	46.64808	-92.01613	SE	SE	8	T48N, R13W	Mid	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W-036d	PFO	Hardwood Swamp	7,781	No	Douglas	46.65226	-92.01619	NW	SW	8	T48N, R13W	High	0	-	0	0	7,782	0	0	0	0	7,782	0	0	0	7,782	0	7,782	0
W-038d	PFO	Hardwood Swamp	106,065	No	Douglas	46.65592	-92.01659	NE	SE	8	T48N, R13W	Mid	38	New T-line Structures	0	0	0	0	5,211	7,969	0	106,046	0	38	0	13,180	0	106,046	0
W-039f	PFO	Hardwood Swamp	14,083	No	Douglas	46.65742	-92.01564	SW	NW	9	T48N, R13W	High	0	-	0	0	12,404	0	0	0	0	14,086	0	0	0	12,404	0	14,086	0
W-043f	PFO	Hardwood Swamp	11,239	No	Douglas	46.66122	-92.02032	NE	NE	8	T48N, R13W	Mid	0	-	0	0	10,248	0	0	0	0	11,241	0	0	0	10,248	0	11,241	0
W-046f	PFO	Hardwood Swamp	1,392	No	Douglas	46.66434	-92.02413	SW	SE	5	T48N, R13W	Mid	0	-	0	0	1,392	0	0	0	0	1,392	0	0	0	1,392	0	1,392	0
W-047f	PFO	Hardwood Swamp	220	No	Douglas	46.66425	-92.02607	SW	SE	5	T48N, R13W	Mid	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W-052d	PFO	Hardwood Swamp	655	No	Douglas	46.67056	-92.03217	SW	NW	5	T48N, R13W	Mid	0	-	0	0	0	0	0	0	0	655	0	0	0	0	0	655	0
W-053d	PFO	Hardwood Swamp	2,260	No	Douglas	46.67014	-92.03359	SW	NW	5	T48N, R13W	Mid	0	-	0	0	0	0	0	0	0	2,260	0	0	0	0	0	2,260	0
W-056f	PFO	Hardwood Swamp	12,224	No	Douglas	46.67653	-92.0397	NE	NE	6	T48N, R13W	Mid	0	-	0	0	10,884	0	0	0	0	12,226	0	0	0	10,884	0	12,226	0
W-057f	PFO	Hardwood Swamp	16,726	No	Douglas	46.67552	-92.04104	NE	NE	6	T48N, R13W	Mid	0	-	0	0	0	0	0	524	0	16,729	0	0	0	524	0	16,729	0
W-058f	PFO	Hardwood Swamp	2,217	No	Douglas	46.6798	-92.04231	SW	SE	31	T49N, R13W	Mid	0	-	0	0	0	0	0	0	0	2,218	0	0	0	0	0	2,218	0
W-059f	PFO	Hardwood Swamp	50,614	No	Douglas	46.67555	-92.04277	SW	SE	31	T49N, R13W	Mid	63	New T-line Structures	0	0	0	0	0	2,247	0	50,559	0	63	0	2,247	0	50,559	0
W-062f	PFO	Hardwood Swamp	81,335	No	Douglas	46.6843	-92.04664	NW	SE	31	T49N, R13W	Mid	241	New T-line Structures	0	0	0	0	5,117	9,873	0	81,110	0	241	0	14,990	0	81,110	0
W-084f	PFO	Hardwood Swamp	414,054	No	Douglas	46.64461	-92.01962	SE	NE	17	T48N, R13W	High	135,893	New Switchyard	0	0	0	0	4,655	2,616	0	61,234	0	135,893	0	7,271	0	61,234	0
W-302f	PFO	Hardwood Swamp	32,716	No	Douglas	46.69089	-92.052817	NW	NW	31	T49N, R13W	Mid	0	-	0	0	0	0	0	0	32,716	32,716	0	0	0	0	32,716	32,716	0
W-304f	PFO	Hardwood Swamp	12,251	No	Douglas	46.69039	-92.053826	NW	NW	31	T49N, R13W	Mid	0	-	0	0	0	0	0	0	12,252	12,252	0	0	0	0	12,252	12,252	0
W-305f	PFO	Hardwood Swamp	52,344	No	Douglas	46.689551	-92.053021	NW	NW	31	T49N, R13W	Mid	0	-	0	0	0	0	0	0	52,344	52,344	0	0	0	0	52,344	52,344	0
W-306f	PFO	Hardwood Swamp	15,266	No	Douglas	46.690015	-92.051916	NW	NW	31	T49N, R13W	Mid	0	-	0	0	0	0	0	0	15,266	15,266	0	0	0	0	15,266	15,266	0
W-308f	PFO	Hardwood Swamp	37,932	No	Douglas	46.690862	-92.052898	NW	NW	31	T49N, R13W	Mid	0	-	0	0	0	0	0	0	37,932	37,932	0	0	0	0	37,932	37,932	0
W-310f	PFO	Hardwood Swamp	85,163	No	Douglas	46.690247	-92.053794	NW	NW	31	T49N, R13W	Mid	0	-	0	0	0	0	0	0	49,247	49,247	0	0	0	0	49,247	49,247	0
W-501f	PFO	Hardwood Swamp	149,525	No	Douglas	46.68719	-92.04775	NE	NW	31	T49N, R13W	Mid	0	-	0	0	0	0	0	0	0	38,932	0	0	0	0	0	38,932	0
W-517f	PFO	Hardwood Swamp	34,868	No	Douglas	46.6893	-92.04816	SE	SE	25	T48N, R14W	Mid	34,027	New Generation Facility	0	0	0	842	0	0	0	842	0	34,027	0	842	0	842	0
W-002f	PSS	Shrub-carr	966	No	Douglas	46.6007	-92.01266	SW	NW	33	T48N, R13W	Mid	0	-	0	966	0	0	0	0	0	0	966	0	0	966	0	0	966
W-014f	PSS	Shrub-carr	1,448	No	Douglas	46.61925	-92.01543	SW	SW	21	T48N, R13W	Mid	0	-	95	691	1,353	0	0	0	0	0	1,449	0	95	2,044	0	0	1,449
W-016f	PSS	Shrub-carr	46,171	No	Douglas	46.62617	-92.01534	NW	SW	21	T48N, R13W	Mid	0	-	3,043	26,353	0	0	0	0	0	0	46,179	0	3,043	26,353	0	0	46,179
W-018f	PSS	Shrub-carr	59,800	No	Douglas	46.63147	-92.01532	NW	NW	21	T48N, R13W	Mid	0	-	3,380	27,664	14,439	0	0	0	0	0	59,811	0	3,380	42,103	0	0	59,811
W-031f	PSS	Shrub-carr	12,550	No	Douglas	46.64959	-92.01529	SW	SW	9	T48N, R13W	Mid	0	-	652	5,183	7,762	0	38	981	0	0	12,552	0	652	13,964	0	0	12,552
W-032f	PSS	Shrub-carr	1,233	No	Douglas	46.65018	-92.01473	SW	SW	9	T48N, R13W	Mid	0	-	0	0	0	0	0	0	0	0	1,233	0	0	0	0	0	1,233
W-034f	PSS	Shrub-carr	8,149	No	Douglas	46.64938	-92.01636	SE	SE	8	T48N, R13W	Mid	0	-	0	0	8,105	0	0	0	0	0	8,105	0	0	8,105	0	0	8,105
W-081f	PSS	Shrub-carr	166,203	No	Douglas	46.64151	-92.02056	SE	NE	17	T48N, R13W	High	57,606	New Switchyard & T-line Structure	0	0	0	0	1,274	7,272	0	0	32,832	57,606	0	8,546	0	0	32,832
W-301f	PSS	Alder Thicket	39,148	No	Douglas	46.690816	-92.051712	NW	NW	31	T49N, R13W	High	0	-	0	0	0	0	0	0	39,148	0	39,148	0	0	0	39,148	0	39,148
W-307f	PSS	Alder Thicket	57,448	No	Douglas	46.690454	-92.051686	NW	NW	31	T49N, R13W	High	0	-	0	0	0	0	0	0	57,448	0	57,448	0	0	0	57,448	0	57,448
W-309f	PSS	Alder Thicket	15,363	No	Douglas	46.689828	-92.0527	NW	NW	31	T49N, R13W	High	0	-	0	0	0	0	0	0	4,072	0	4,072	0	0	0	4,072	0	4,072
W-311f	PSS	Alder Thicket	7,530	No	Douglas	46.68964	-92.05306	NW	NW	31	T49N, R13W	Mid	0	-	0	0	0	0	0	0	7,530	0	7,530	0	0	0	7,530	0	7,530
W-502f	PSS	Alder Thicket	104,488	No	Douglas	46.68812	-92.04939	NE	NW	31	T49N, R13W	Mid	88,454	New Generation Facility	103	0	3,177	10,347	0	0	0	0	10,433	88,454	103	13,524	0	0	10,433
W-020f	PUB	Submergent Marsh	28	No	Douglas	46.63244	-92.01524	NW	NW	21	T48N, R13W	Mid	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W-022f	PUB	Submergent Marsh	1,350	No	Douglas	46.63794	-92.01506	NW	SW	16	T48N, R13W	Mid	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W-117d	PUB	Submergent Marsh	58,322	Yes[k]	Douglas	46.674	-92.0376	NE	NE	6	T48N, R13W	Low	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W-505f[j]	PUB	Submergent Marsh	16,771	No	Douglas	46.68728	-92.05011	NW	NW	31	T49N, R13W	Low	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
																							Total (sq feet)	**386,430**	**36,657**	**1,038,898**	**923,855**	**618,706**	**659,114**
																							Total (acre)	**8.87**	**0.84**	**23.85**	**21.21**	**14.20**	**15.13**

(a) The designation of "d" at the end of the wetland ID indicates delineation via a desktop analysis, while "f" indicates field delineation.

(b) Wetland classifications according to Cowardin (USFWS, 1979) PEM = Palustrine Emergent, PSS = Palustrine Scrub-Shrub, PFO = Palustrine Forested, PUB = Palustrine Unconsolidated Bottom

(c) Delineated area only represents the wetland extent within the Project Area, which may extend beyond the limits of the Project Area.

(d) Latitude/longitude coordinates at the wetland midpoint within the Project Area.

(e) Open trenching in wetlands is specific to the installation of the natural gas pipeline where HDD methods are not proposed. The total width of open trench is 2.5 feet.

(f) To avoid double counting, permanent impacts are subtracted from temporary impact areas and PSS/PFO clearing areas where they overlap.

(g) Temporary wetland matting will not be in place for more than 180 consecutive days. When feasible, temporary matting will not be used during winter conditions that provide sufficient frozen ground conditions that would avoid or minimize ground disturbance. As a result of various Project component construction schedules, components with overlapping matting are purposefully double counted.

(h) Forested wetland clearing refers to clearing of PFO to PEM wetland within the Project Area.

(i) Shrub/scrub wetland clearing refers to clearing of PSS to PEM wetland within the Project Area. Wetlands with a classification of PEM/PSS are counted at a 50% conversion rate.

(j) W-505f is an existing stormwater pond that will be expanded in place to accommodate the generation facility. Based on the manmade nature of this feature, impacts are not calculated for this expansion.

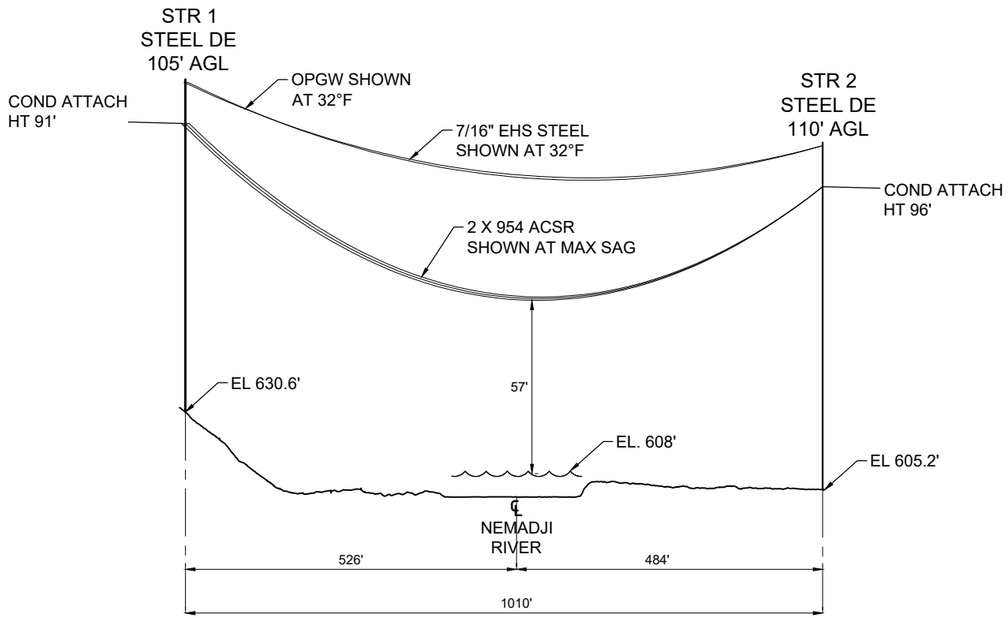
(k) W-117d is a detention pond designated as a Special Area Management Plan Wetland under the City of Superior, no impacts are anticipated.

(l) Staging/parking area fill will consist of protective layered material below crush rock, to be in place for the entire duration of the facility, natural gas pipeline, and transmission line project components. Preliminary restoration is provided in the permit application.

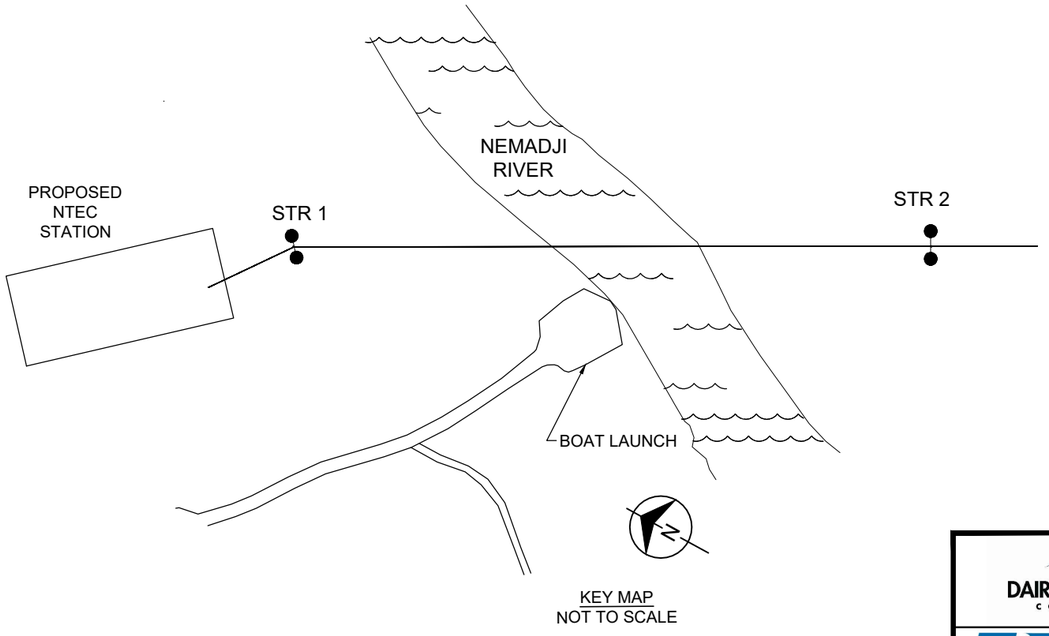
(m) Rating based on best professional judgement, guidance from WDNR, species diversity, invasive species abundance, and location of wetland to degraded or disturbed areas. Additional information can be referenced in the updated WRAM forms submitted in September 2020.

Issued 8/27/20

PROFILE VIEW
LOOKING NORTHEAST

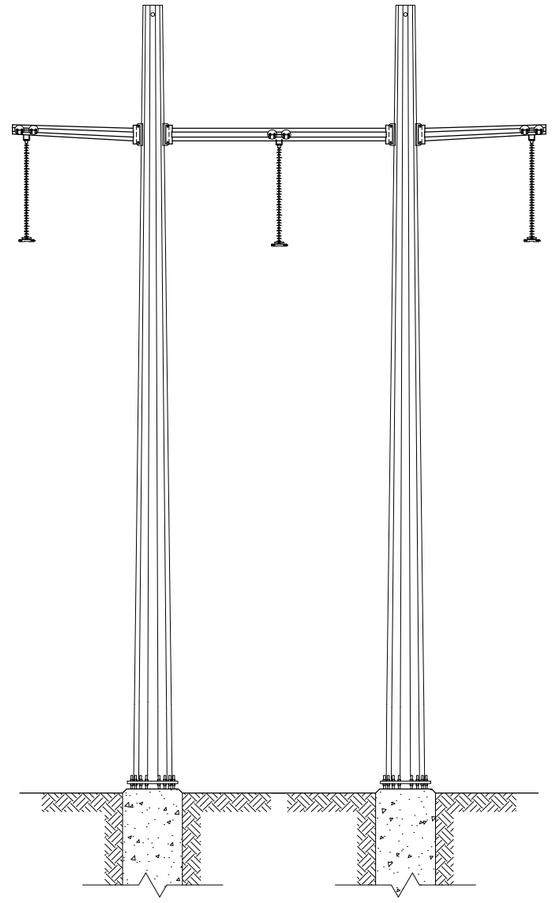


PLAN VIEW
LOOKING NORTHEAST



KEY MAP
NOT TO SCALE

STR 1 & 2



NOTES
1. NEMADJI RIVER 100 YR. FLOOD ELEVATION IS 608' BASED ON FEMA FLOOD MAP DATED FEBRUARY 2, 2012
2. REQUIRED CLEARANCE TO NEMADJI RIVER ASSUMED TO BE 57' BASED ON 2017 NESC CLEARANCE TO RIGGING/ LAUNCHING AREAS 2000 ACRES.
3. VERTICAL CLEARANCE TO 100 YR. FLOOD EL. WILL BE MAINTAINED UNDER THE WEATHER CASE RESULTING IN THE GREATEST CONDUCTOR SAG.
4. (1) 48 FIBER OPGW AND (1) 7/16" EHS STEEL TO BE USED AS SHIELDING WIRES.
5. (3) 2 X 954 CARDINAL ACSR TO BE USED AS 345KV CONDUCTOR.

PRELIMINARY - NOT FOR CONSTRUCTION

DAIRYLAND POWER COOPERATIVE
minnesota power

BURNS McDONNELL

date 7/17/2018
designed J. BROWN
checked D. SARGEANT

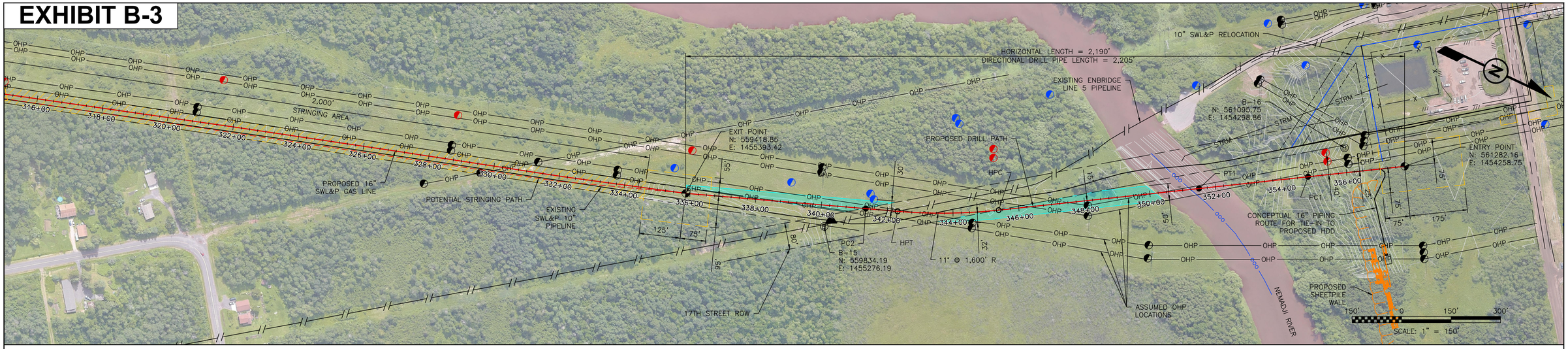
MINNESOTA POWER & DAIRYLAND POWER

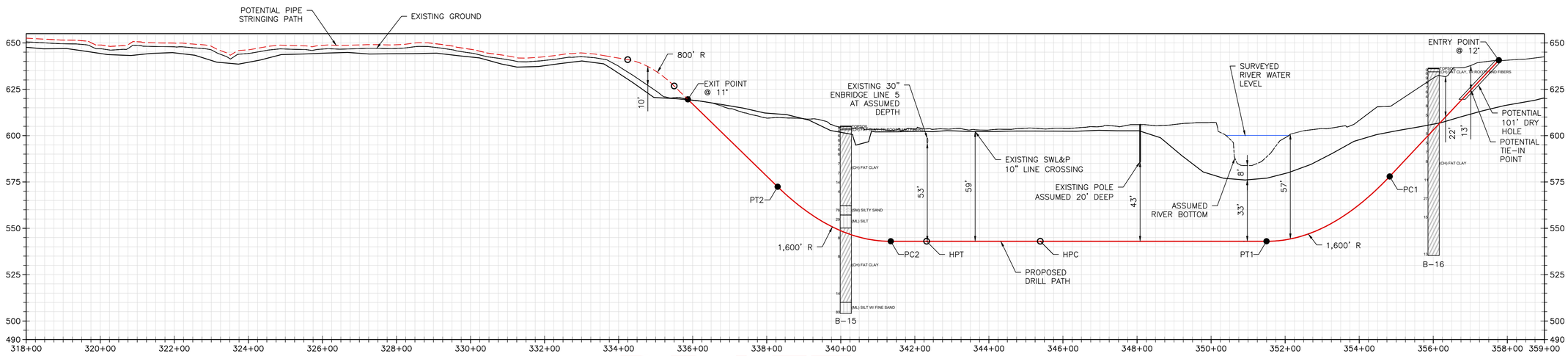
NTEC TRANSMISSION LINE
SINGLE CIRCUIT 345kV
NEMADJI RIVER CROSSING
SUPERIOR, WISCONSIN

project no. 106604
contract no.

EXHIBIT B-2

EXHIBIT B-3





DRAFT

Know what's below. Call before you dig.

DIRECTIONAL DRILL DATA		
DESCRIPTION	STATION (ft)	ELEVATION (ft)
ENTRY AT 12°	357+77.00	640.61'
PC1 (1,600' R)	354+82.25	577.96'
PT1	351+49.59	543.00'
HPC (1,600' R)	345+38.75	543.00'
HPT AT 11°	342+31.57	543.00'
PC2 (1,600' R)	341+34.80	543.00'
PT2	338+29.50	572.40'
EXIT AT 11°	335+87.00	619.53'
HORIZONTAL DISTANCE (ft) = 2,190.00'		
DIRECTIONAL DRILL PIPE LENGTH (ft) = 2,205.45'		

GENERAL NOTES

1. PLACEMENT OF HORIZONTAL DRILLING RIG IS NOT FIXED BY DESIGNATION OF ENTRY AND EXIT POINTS. DRILLING RIG PLACEMENT AND/OR THE USE OF DUAL RIGS SHALL BE AT CONTRACTOR'S OPTION, AS LONG AS THE DRILLING RIG IS PLACED INSIDE APPROVED WORKSPACE BOUNDARIES.
2. CONTRACTOR IS TO CONTACT UTILITY LOCATIONS/NOTIFICATION SERVICE FOR THE CONSTRUCTION AREA.
3. CONTRACTOR IS TO POSITIVELY LOCATE AND STAKE ALL EXISTING UNDERGROUND FACILITIES. ANY FACILITIES LOCATED WITHIN 10 FEET OF THE DESIGNED DRILL PATH SHALL BE EXPOSED.
4. CONTRACTOR IS TO MODIFY DRILLING PRACTICES AND DOWNHOLE ASSEMBLIES AS NECESSARY TO PREVENT DAMAGE TO EXISTING FACILITIES.
5. NORTHINGS AND EASTINGS ARE IN US SURVEY FEET REFERENCED TO WISCONSIN STATE PLANE NORTH, NAD83
6. ELEVATIONS ARE IN US FEET.
7. DRILLED PATH STATIONING IS IN FEET BY HORIZONTAL MEASUREMENT AND IS REFERENCED TO THE CONTROL POSITION ESTABLISHED FOR THE DRILLED SEGMENT.
8. DRILL PATH COORDINATES REFER TO CENTERLINE OF PIPE.
9. ALL UTILITY LOCATIONS WERE ESTABLISHED BY A COMBINATION OF CLIENT PROVIDED DATA, 811 TICKET FIELD MARKINGS, AND THE USE OF ELECTRONIC UTILITY LOCATING SYSTEMS.
10. CONTRACTOR TO ACTIVELY MONITOR THE AREA FOR IMPACTS THAT COULD OCCUR AS A RESULT OF TRENCHLESS OPERATIONS (E.G. SETTLEMENT, HEAVE, AND DRILLING FLUID FLOW).
11. GEOTECHNICAL DATA IS PRESENTED FOR INFORMATIONAL PURPOSES ONLY. REFERENCE SHOULD BE MADE TO THE FINAL GEOTECHNICAL INVESTIGATION REPORT FOR FULL DETAILS REGARDING SUBSURFACE DESCRIPTIONS AND IDENTIFIED CONDITIONS.
12. TOPOGRAPHIC SURVEY WAS PROVIDED BY LSC SURVEY.
13. THE EXISTING PERMANENT EASEMENT LOCATION WAS ESTABLISHED BY COMPILING DOCUMENTATION PROVIDED BY SUPERIOR WATER LIGHT & POWER. LAKE SUPERIOR CONSULTING GIVES NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THE SHOWN EXISTING PERMANENT EASEMENT LOCATION.
14. IMAGERY SOURCE: GOOGLE EARTH (2017).
15. NTEC FACILITY AREA PIPING AND SHEETPILE WALL, DEPTHS OF EXISTING POWER POLES AND LOCATIONS OF PROPOSED POLES WERE PROVIDED BY SWL&P.

RECOMMENDED TOLERANCES	
ITEM	TOLERANCE
PILOT HOLE ENTRY ANGLE	INCREASE ANGLE UP TO 1° (STEEPER). NO DECREASE IN ANGLE ALLOWED.
PILOT HOLE ENTRY LOCATION	AS PER COORDINATES PROVIDED BY COMPANY. NO CHANGES WITHOUT COMPANY APPROVAL.
PILOT HOLE EXIT ANGLE	INCREASE ANGLE UP TO 1° (STEEPER) OR DECREASE UP TO 2° (FLATTER).
PILOT HOLE EXIT LOCATION	UP TO 20 FEET BEYOND OR 10 FEET SHORT OF THE EXIT STAKE. BETWEEN 5 FEET LEFT AND 5 FEET RIGHT OF CENTERLINE.
PILOT HOLE DEPTH	UP TO 2 FEET ABOVE THE DESIGN DRILL PROFILE OR 10 FEET BELOW THE DESIGN DRILL PROFILE.
PILOT HOLE ALIGNMENT	SHALL REMAIN WITHIN 5 FEET LEFT OR RIGHT OF THE HDD CENTERLINE.

LEGEND

- PROPOSED 16" SWL&P PIPELINE
- EXISTING 10" SWL&P PIPELINE
- PROPOSED 10" SWL&P RE-ROUTE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- ROAD ROW
- WATERBODY
- TEMPORARY WORKSPACE
- EXISTING FOREIGN LINE
- EDGE OF ROAD
- STORM SEWER
- POTENTIAL HDD STRINGING PROFILE/PATH
- OVERHEAD POWER
- PROPOSED SHEETPILE/NTEC FACILITY AREA
- EXISTING POWER POLE
- PROPOSED 345KV POWER POLE
- PROPOSED 115/161KV POWER POLE
- ADDITIONAL TEMPORARY WORKSPACE
- WETLAND
- PROPOSED ADDITIONAL EASEMENT
- RECTIFIER
- DRILLED PATH ENTRY/EXIT POINT
- SOIL BORE LOCATION
- COHESIVE SOILS, UCS, LBS/FT² / N VALUES
- MATERIAL GRAPHIC

REVISION			APPROVAL				
REV No	DATE	DESCRIPTION	CAD	CHK	ENG	APP	PM
R2	01/05/18	PRELIMINARY DESIGN	CEF	JAM	RJS	JRS	AGG
R3	01/24/18	PRELIMINARY DESIGN	CEF	JAM	RJS	JRS	AGG
R4	09/06/18	ISSUED FOR DISCUSSION	CEF	JAM	RJS	JRS	AGG
R5	10/19/18	ISSUED FOR DISCUSSION	CEF	JAM	IAH	RJS	AGG

LAKE SUPERIOR CONSULTING
EXCELLENCE & INTEGRITY
130 West Superior Street, Suite 500, Duluth, MN 55802
www.LSConsulting.com
218.727.3141

SWL&P
AN ALLETE COMPANY

PROJECT INFORMATION	
SWL&P NATURAL GAS LATERAL PIPELINE TO NEMADJI TRAIL ENERGY CENTER DOUGLAS COUNTY, WI	
LSC PROJECT NUMBER 00217650455	

DRAWING INFORMATION	
HORIZONTAL DIRECTIONAL DRILL DESIGN NEMADJI RIVER CROSSING	
SCALE NOTED	17455.1-M.8.5-007-R5

PLOTTED SIZE: ANSI EXPAND D (34x22)