WBI ENERGY TRANSMISSION, INC.

Wahpeton Expansion Project

Resource Report 1
General Project Description

Draft

Docket No.
PF21-4-000

March 2022

WBI ENERGY TRANSMISSION, INC.
WAHPETON EXPANSION PROJECT
RESOURCE REPORT 1—GENERAL PROJECT DESCRIPTION

Minimum Filing Requirements:	Addressed in Section:
1. Describe and provide location maps of all jurisdictional facilities, including all aboveground facilities associated with the project (such as meter stations, pig launchers/receivers, valves) to be constructed, modified, abandoned, replaced, or removed, including related construction and operational support activities and areas such as maintenance bases, staging areas, communications towers, power lines, and new access roads (roads to be built or modified). As relevant, the report must describe the length and diameter of the pipeline, the types of aboveground facilities that would be installed, and associated land requirements. It must also identify other companies that must construct jurisdictional facilities related to the project, where the facilities would be located, and where they are in the Commission's approval process. —Title 18 of the Code of Federal Regulations (CFR) Part (§) 380.12(c)(1)	Section 1.1; figure 1.1.2-1 and appendix 1A; appendix 1B
2. Identify and describe all non-jurisdictional facilities, including auxiliary facilities that will be built in association with the project, including facilities to be built by other companies. i. Provide the following information: a. a brief description of each facility, including as appropriate: ownership, land requirements, gas consumption, megawatt size, construction status, and an update of the latest status of federal, state, and local permits/approvals; b. the length and diameter of any interconnecting pipeline; c. current 1:24,000/1:25,000 scale topographic maps showing the location of the facilities; d. correspondence with the appropriate State Historic Preservation Officer or duly authorized Tribal Historic Preservation Officer for tribal lands regarding whether properties eligible for listing on the National Register of Historic Places would be affected; e. correspondence with the United States Fish and Wildlife Service (and National Marine Fisheries Service, if appropriate) regarding potential impacts of the proposed facility on federally listed threatened and endangered species; and f. for facilities within a designated coastal zone management area, a consistency determination or evidence that the owner has requested a consistency determination from the state's coastal zone management program. ii. Address each of the following factors and indicate which ones, if any, appear to indicate the need for the Commission to do an environmental review of project-related non-jurisdictional facilities. a. whether or not the regulated activity comprises "merely a link" in a corridor type project (e.g., a transportation or utility transmission project) b. .whether there are aspects of the non-jurisdictional facility in the immediate vicinity of the regulated activity which uniquely determine the location and configuration of the regulated activity c. .the extent to which the entire project will be within the Commission's jurisdiction d. the extent of cumulative federal control and responsibility. —18 CFR § 380.12(c)(2)	Section 1.7

3. Provide the following maps and photos: i. Current, original United States Geological Survey 7.5-minute series topographic maps or maps of equivalent detail, covering at least a 0.5-mile-wide corridor centered on the pipeline, with integer mileposts identified, showing the location of rights-of-way, new access roads, other linear construction areas, compressor stations, and pipe storage areas. Show nonlinear construction areas on maps at a scale of 1:3,600 or larger keyed graphically and by milepost to the right-of-way maps. ii. Original aerial images or photographs or photo-based alignment sheets based on these sources, not more than 1 year old (unless older ones accurately depict current land use and development) and with a scale of 1:6,000 or larger, showing the proposed pipeline route and location of major aboveground facilities, covering at least a 0.5-mile-wide corridor, and including mileposts. Older images/photographs/alignment sheets should be modified to show any residences not depicted in the original. Alternative formats (e.g., blue-line prints of acceptable resolution) need prior approval by the environmental staff of the Office of Energy Projects. iii. In addition to the copy required under 18 Code of Federal Regulations ("CFR") §157.6(a)(2) of this chapter, applicant should send two additional copies of topographic maps and aerial images/photographs directly to the environmental staff of the Office of Energy Projects. —18 CFR § 380.12(c)(3)	Appendix 1A; appendix 1B; construction alignment sheets
4. When new or additional compression is proposed, include large scale (1:3,600 or greater) plot plans of each compressor station. The plot plan should reference a readily identifiable point(s) on the United States Geological Survey maps required in paragraph (c)(3) of this section. The maps and plot plans must identify the location of the nearest noise-sensitive areas (schools, hospitals, or residences) within 1 mile of the compressor station, existing and proposed compressor and auxiliary buildings, access roads, and the limits of areas that would be permanently disturbed—18 CFR § 380.12(c)(4).	Not Applicable
5. i. Identify facilities to be abandoned, and state how they would be abandoned, how the site would be restored, who would own the site or right-of-way after abandonment, and who would be responsible for any facilities abandoned in place. ii. When the right-of-way or the easement would be abandoned, identify whether landowners were given the opportunity to request that the facilities on their property, including foundations and below ground components, be removed. Identify any landowners whose preferences the company does not intend to honor, and the reasons therefore. —18 CFR § 380.12(c)(5)—18 CFR § 380.12(c)(5)	Not Applicable
6. Describe and identify by milepost, proposed construction and restoration methods to be used in areas of rugged topography, residential areas, active croplands, sites where the pipeline would be located parallel to and under roads, and sites where explosives are likely to be used.—18 CFR § 380.12(c)(6)	Section 1.3
7. Unless provided in response to Resource Report 5, describe estimated workforce requirements, including the number of pipeline construction spreads, average workforce requirements for each construction spread and meter or compressor station, estimated duration of construction from initial clearing to final restoration, and number of personnel to be hired to operate the proposed project.—18 CFR § 380.12(c)(7)	Section 1.2
8. Describe reasonably foreseeable plans for future expansion of facilities, including additional land requirements and the compatibility of those plans with the current proposal.—18 CFR § 380.12(c)(8)	Section 1.6
9. Describe all authorizations required to complete the proposed action and the status of applications for such authorizations. Identify environmental mitigation requirements specified in any permit or proposed in any permit application to the extent not specified elsewhere in this section.—18 CFR § 380.12(c)(9)	Section 1.8 and table 1.8-1
10. Provide the names and mailing addresses of all affected landowners specified in 18 CFR §157.6(d) and certify that all affected landowners will be notified as required in 18 CFR §157.6(d).—18 CFR § 380.12(c)(10)	Section 1.9; appendix 1H (filed under separate cover as Controlled Unclassified Information / Privileged and Confidential)
Additional Information:	

Provide plot/site plans of all other aboveground facilities that are not completely within the right-of-way.	Appendix 1E (filed under separate cover as Controlled Unclassified Information / Critical Energy Infrastructure Information; additional facility plot/site plans to be included in a subsequent draft of the resource report)
Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way	Appendix 1C (typical right-of-way cross section diagrams to be included in a subsequent draft of the resource report)
Summarize the total acreage of land affected by construction and operation of the Project.	Section 1.1.3 and table 1.1-3
Federal Energy Regulatory Commission's November 17, 2021 Comments on Draft Resource Reports 1 and 10:	
1. Provide all applicable agency correspondence. This includes letters, meeting notes, phone logs, and/or emails where substantive information has been discussed or received from relevant federal, state, and local agencies, and federally recognized Native American tribes.	Section 1.8, Copies of Agency Correspondence are included in applicable appendices of each resource report
2. Provide the status of environmental and cultural resources surveys. Where surveys are pending, identify the anticipated completion date and the reason for incomplete surveys (for example, landowner access denied).	The status of environmental surveys is discussed in sections 2.2.1 and 2.3.1 of Resource Report 2, and in section 3.6 of Resource Report 3; the status of cultural surveys is discussed in section 4.3.2.1 of Resource Report 4
3. Clarify whether the demand for natural gas service in Kindred and Wahpeton, North Dakota is for residential, commercial, or industrial uses.	Section 1.1.1
4. Many railroad operators require 24-hour installation of pipelines which cross railroads (i.e., boring under the railroad must continue without stopping until the railroad is crossed). Clarify if 24-hour construction would be required at any railroad crossing.	Section 1.3.2.3
5. Clarify if trench dewatering or any other additional activities (beyond those listed) may be required up to 24-hours a day. Clarify if lost workdays due to poor weather or anticipated poor weather (or any other additional circumstances) would result in work on Sundays and/or seven days per week.	Section 1.2
6. WBI Energy indicates that farm taps may be installed. Indicate: i. if the farm taps would be installed by WBI Energy and if they would be within the permanent easement and require new access roads; ii. what the tap facility would consist of (e.g., fenced, aboveground, belowground); iii. when and how the locations for the farm taps would be decided (including mapping as appropriate); and iv. any impacts that would occur on resources, and measures to be implemented to avoid, minimize, or mitigate impacts.	Section 1.1.3.5
7. Clarify whether there is potential to partially overlap the construction right-of-way with abutting rights-of-way in collocated segments.	Section 1.1.3.1
8. Clarify the pipeline depth of cover at ditches, which was reported as both 15 feet (section 1.3.2.1) and 6 feet (section 1.3.2.3).	Sections 1.3.1.4, 1.3.2.1, and 1.3.2.3
9. Clarify how roads affected by construction would be returned to as good or better condition (e.g., using pre-construction video or photo documentation).	Section 1.3.2.3
10. Include details regarding proposed cathodic protection facilities including location, dimensions, and type.	Section 1.1.2.1
11. In the description of horizontal directional drills (HDD), clarify the specific diameter of trees that would not be cut during guide wire installation. Also, discuss the feasibility of not removing any woody vegetation during placement of the guide wires for an HDD.	Section 1.3.2.1
12. Ensure the United States Geological Survey mapping in Appendix 1A includes mileposts.	Section 1.2.2

13. Provide the following information for all non-jurisdictional facilities: i. company/owner; ii. type of facility; iii. dimensions (pipe diameter, length, dimensions, horsepower, etc., as appropriate for any pipelines and land area for other facilities); iv. as applicable, maps showing locations of existing facilities and any proposed relocations of those existing facilities; and v. federal, state, and local permits required and their status, along with any surveys conducted.	Section 1.7

WBI ENERGY TRANSMISSION, INC.
WAHPETON EXPANSION PROJECT
RESOURCE REPORT 1—GENERAL PROJECT DESCRIPTION

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APPENDICES

ACRONYMS AND ABBREVIATIONS

ACM	asbestos-containing material
ATWS	additional temporary workspace
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
EI	environmental inspector
EWS	extra workspace
FERC	Federal Energy Regulatory Commission
FERC Plan	FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan*
FERC Procedures	FERC's *Wetland and Waterbody Construction and Mitigation Procedures*
MDU	Montana-Dakota Utilities Company
MP	milepost
Project	Wahpeton Expansion Project
RFFA	reasonably foreseeable future action
U.S. DOT	United States Department of Transportation
WBI Energy	WBI Energy Transmission, Inc.

WBI ENERGY TRANSMISSION, INC.
WAHPETON EXPANSION PROJECT

1.0 RESOURCE REPORT 1—GENERAL PROJECT DESCRIPTION

WBI Energy Transmission, Inc. (WBI Energy) proposes to construct, modify, and operate the Wahpeton Expansion Project (Project). The Project will involve the construction of approximately 60.6 miles of 12-inch-diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota to a new Montana-Dakota Utilities Company (MDU)—Wahpeton Border Station near Wahpeton, North Dakota. The Project will also include minor modifications at the Mapleton Compressor Station; a new MDU—Kindred Border Station near Kindred, North Dakota; new block valve settings; and new pig launcher/receiver settings. The Project may also include newly constructed farm taps along the pipeline route. The proposed Project facilities will be located in Cass and Richland Counties, North Dakota.

As required by Title 18 of the Code of Federal Regulations (CFR) Part 380.12, WBI Energy has prepared this Environmental Report in support of its application to the Federal Energy Regulatory Commission (FERC) for a Certificate of Public Convenience and Necessity (Certificate) under Section 7(c) of the Natural Gas Act to construct and operate the proposed facilities.

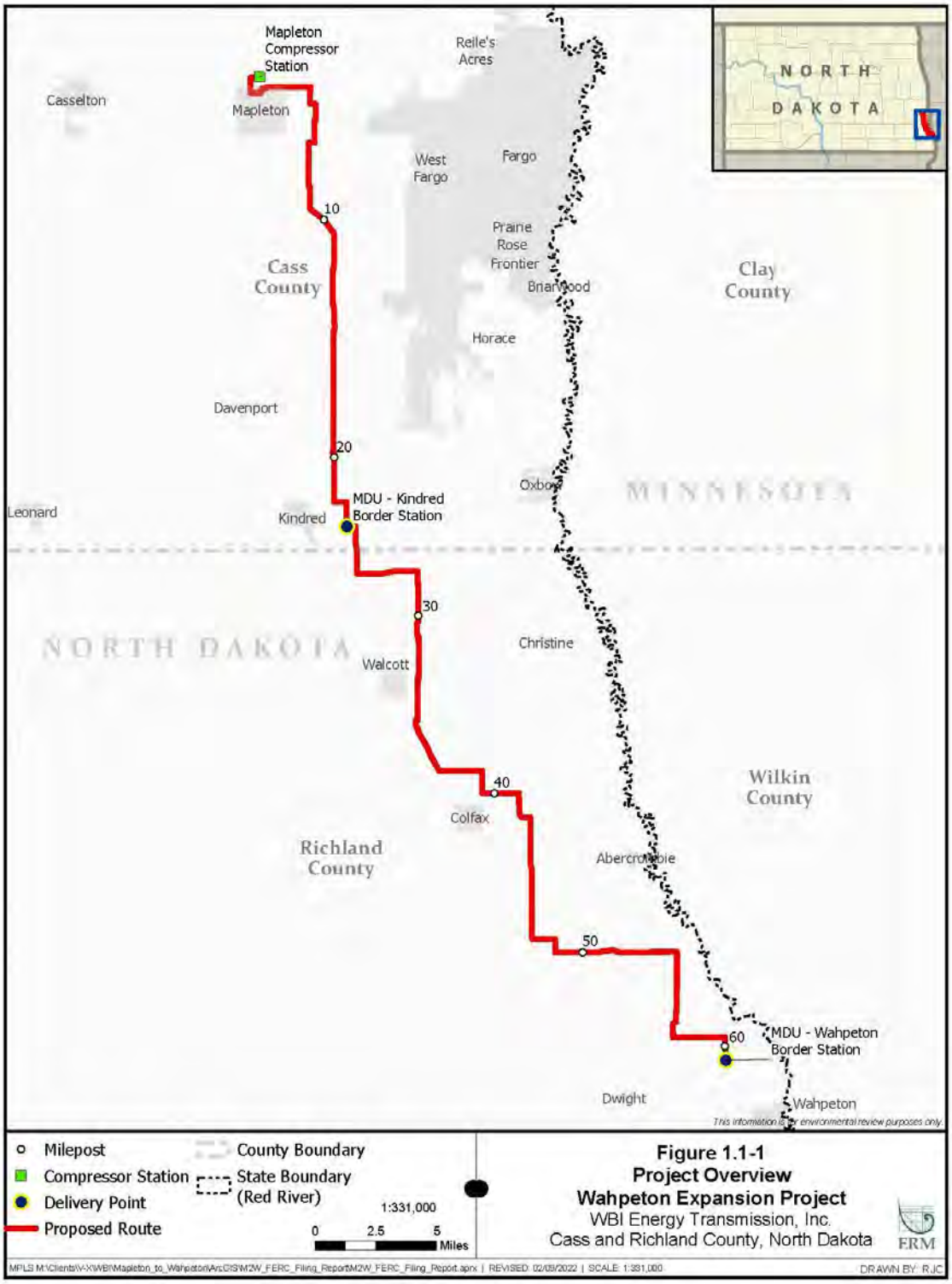
1.1 Project Description

1.1.1 Purpose and Need

WBI Energy intends to construct, own, modify, operate, and maintain the proposed Project to transport an additional 20.6 million cubic feet of natural gas per day to help meet a growing demand for natural gas in southeastern North Dakota. MDU, a local distribution company, has engaged WBI Energy to construct this Project to fulfill MDU's need for additional uninterrupted natural gas supply at Wahpeton, North Dakota and to extend natural gas service to the community of Kindred, North Dakota for the first time—which has been requested by city officials and residents. MDU's distribution system will be built to provide natural gas to industrial, commercial, and residential customers who choose to convert to natural gas service. The target in-service date for the Project is November 2024.

1.1.2 Location and Description of Facilities

The Project will include the construction and operation of approximately 60.6 miles of new 12-inch-diameter natural gas pipeline, minor modifications at the Mapleton Compressor Station, new delivery meter/regulating station and new MDU—Wahpeton Border Station, block valve settings, and pig launcher/receiver settings. The Project may also include newly constructed farms taps along the pipeline route, the locations of which have yet to be determined. The proposed Project facilities will be located in Cass and Richland Counties, North Dakota (see Figure 1.1-1). Topographic route maps depicting the location of the proposed pipeline route and aboveground facility sites are provided in appendix 1A. Appendix 1B contains the aerial-based construction alignment sheets for the Project. Information on the existing land uses along the proposed pipeline and within the aboveground facility sites is provided in Resource Report 8.


Mapleton Compressor Station
Reile's Acres
Casselton
Mapleton
West Fargo
Fargo
NORTH DAKOTA
10
Prairie Rose Frontier
Briarwood
Cass County
Clay County
Horace
Davenport
20
Oxbow
MINNESOTA
Leonard
Kindred
MDU - Kindred Border Station
30
NORTH DAKOTA
Christine
Walcott
Wilkin County
40
Colfax
Richland County
Abercrombie
50
60
MDU - Wahpeton Border Station
Dwight
Wahpeton
This information is for environmental review purposes only.
Milepost
Compressor Station
Delivery Point
Proposed Route
County Boundary
State Boundary (Red River)
1:331,000
0 2.5 5 Miles
Figure 1.1-1
Project Overview
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota
ERM
MPLS M:\Clients\V-X\WBI\Mapleton_to_Wahpeton\ArcGIS\M2W_FERC_Filing_Report\M2W_FERC_Filing_Report.aprx | REVISED: 02/09/2022 | SCALE: 1:331,000
DRAWN BY: RJC

1.1.2.1 Pipeline Facilities

The Project pipeline consists of approximately 60.6 miles of 12-inch-diameter natural gas pipeline. The pipeline will have a maximum allowable operating pressure of 1,440 pounds per square inch gauge. The pipeline will begin at WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota in Cass County (milepost [MP] 0.0) and end at the new MDU—Wahpeton Border Station near Wahpeton, North Dakota in Richland County (MP 60.6). As indicated in Table 1.1-1, the first approximately 24.7 miles of the Project will be in Cass County. The remainder (approximately 35.9 miles) of the Project will be in Richland County. As described in section 11.2.4 of Resource Report 11, WBI Energy will install cathodic protection systems at various points along the proposed pipelines to inhibit external corrosion of the underground facilities. This cathodic protection system will impart a low-voltage current to the pipeline to offset natural soil corrosion potential should the coating become damaged over the life of the pipeline. Specifics regarding the locations and design of these systems are still being determined.

TABLE 1.1-1

Wahpeton Expansion Project
Proposed Pipeline Facilities

Pipeline Facilities	County	Approximate MPs		Length (miles)[a]
		Begin	End	
New Pipeline				
Wahpeton Expansion Pipeline	Cass	0.0	24.7	24.7
	Richland	24.7	60.6	35.9
Total New Pipeline Length				**60.6**

[a] The numbers in this table have been rounded for presentation purposes; as a result, the totals may not reflect the sum of the addends.

1.1.2.2 Aboveground Facilities

In addition to the new pipeline facilities described above, the Project will include minor modifications at the Mapleton Compressor Station, the new MDU—Kindred Border Station and new MDU—Wahpeton Border Station near Kindred and Wahpeton, seven block valve settings, and four pig launcher/receiver settings (collocated at Valves #1, #2, #5, and #7). The Project may also include newly constructed farm taps along the pipeline route. The proposed aboveground facilities are summarized in Table 1.1-2 and described in more detail below.

TABLE 1.1-2

Wahpeton Expansion Project
Proposed New and Modified Aboveground Facilities

Facility Type and Name	Approximate MP	County	Description
Compressor Station			
Mapleton Compressor Station	0.0	Cass	Installation of additional equipment and facilities within the fence line of the existing compressor station for pipeline interconnection to the station. There will be no additional horsepower added as part of the Project.
Delivery Stations			
MDU—Kindred Border Station	23.4	Cass	New delivery station.

TABLE 1.1-2

Wahpeton Expansion Project
Proposed New and Modified Aboveground Facilities

Facility Type and Name	Approximate MP	County	Description
MDU—Wahpeton Border Station	60.6	Richland	New delivery station.
Other Appurtenant Facilities			
Valve Site #1 and pig launcher/receiver	0.0	Cass	New block valve and pig launcher/receiver installed within the Mapleton Compressor Station fenceline.
Valve Site #2 and pig launcher/receiver	11.6	Cass	New block valve and pig launcher/receiver.
Valve Site #3	23.4	Cass	New block valve installed within the MDU—Kindred Border Station.
Valve Site #4	31.3	Richland	New block valve.
Valve Site #5 and pig launcher/receiver	39.5	Richland	New block valve and pig launcher/receiver.
Valve Site #6	48.9	Richland	New block valve.
Valve Site #7 and pig launcher/receiver	60.5	Richland	New block valve and pig launcher/receiver installed within the MDU—Wahpeton Border Station.
Farm Taps	TBD	TBD	Installation of a new tap, riser, and valve.

TBD = To be determined

Modifications to Existing Mapleton Compressor Station

WBI Energy proposes to install equipment and interconnecting piping facilities at the existing Mapleton Compressor Station. All proposed facilities will be constructed within WBI Energy's existing parcel for the station. No new or modified compression or other air emission sources will be added to the existing compressor station. [*More detailed information will be provided in a future draft of Resource Report 1*].

MDU Border Stations and Other Appurtenant Facilities

WBI Energy is finalizing details for the MDU—Kindred Border Station and the MDU—Wahpeton Border Station, block valve settings, pig launcher/receiver settings, and other appurtenant facilities. The MDU—Kindred Border Station and the MDU—Wahpeton Border Station are located near the cities in North Dakota, Kindred and Wahpeton, where they will deliver natural gas. The MDU Border Stations serve as the interconnection between WBI Energy's transmission pipeline system and the MDU distribution system and will include metering and communication equipment.

Seven automatic shut-off or remote control block valves will be installed along the pipeline. Valve #1 will be constructed and operated within the Mapleton Compressor Station at MP 0.0. Valves #3 and #7 will be constructed and operated within the construction and operational footprints of the MDU—Kindred Border Station at MP 23.4 and the MDU—Wahpeton Border Station at MP 60.6 and the remaining four will be installed in between those points. Additionally, four pig launcher/receiver settings will be installed and collocated with Valves #1, #2, #5, and #7.

1.1.3 Land Requirements

Table 1.1-3 summarizes the land requirements for the Project. More detailed information regarding land requirements and use will be provided in Resource Report 8. Construction of the Project will affect approximately 774.2 acres of land, including the pipeline construction right-of-way, additional temporary workspace (ATWS), contractor yards, temporary and permanent access roads, and aboveground facilities. Following construction, approximately 401.7acres—including the temporary construction right-of-way, ATWS, contractor yards, temporary access roads, and the ATWS at aboveground facility sites—will revert to preconstruction conditions and uses. The remaining approximately 372.5 acres—including the permanent pipeline easement, permanent aboveground facility sites, and permanent access roads—will be retained for operation of the Project facilities. However, most uses, such as current agricultural uses, will be allowed to resume on the permanent pipeline easement after the pipeline is installed.

TABLE 1.1-3

Wahpeton Expansion Project
Summary of Land Requirements [a]

Facility	County	Land Affected During Construction (acres)	New Land Affected During Operation (acres)
Pipeline Right-of-Way [b]			
Wahpeton Expansion Pipeline	Cass, Richland	546.7	366.3
Subtotal		**546.7**	**366.3**
ATWS			
Pipeline	Cass, Richland	77.0	0.0
Subtotal		**77.0**	**0.0**
Contractor Yards			
Kost Yard	Cass	49.9	0.0
Kindred Yard	Cass	4.1	0.0
Wahpeton Yard	Richland	10.4	0.0
Comstock Yard	Richland	23.9	0.0
Wahpeton City Yard	Richland	32.1	0.0
Subtotal		**120.5**	**0.0**
Access Roads			
Temporary access roads	Cass/Richland	13.5	0.0
Permanent access roads	Cass/Richland	2.6	2.6
Subtotal		**16.0**	**2.6**
Aboveground Facilities			
Mapleton Compressor Station	Cass	2.9	0
MDU Border Stations	Cass/Richland	8.5	3.3
Block valves [c]	Cass/Richland	2.6	0.3
Pig launchers/receivers [d]	Cass/Richland	0.0	0.0
Subtotal		**14.0**	**3.6**

TABLE 1.1-3

Wahpeton Expansion Project
Summary of Land Requirements [a]

Facility	County	Land Affected During Construction (acres)	New Land Affected During Operation (acres)
PROJECT TOTAL		**774.2**	**372.5**

[a] The numbers in this table have been rounded for presentation purposes; as a result, the totals may not reflect the sum of the addends.

[b] Based on a 75-foot-wide construction right-of-way for the 12-inch-diameter pipeline and a 50-foot-wide permanent right-of-way. Includes the appurtenant facilities located within the pipeline right-of-way (i.e., block valves and cathodic protection facilities).

[c] Valve #1 will be constructed and operated within the Mapleton Compressor Station. Valves #3 and #7 will be constructed and operated within the construction and operational footprints of the MDU—Kindred Border Station and the MDU—Wahpeton Border Station. Construction of Valves #2, #4, #5, and #6 will each require between 0.2 and 1.0 acre of additional land beyond the construction footprint for the pipeline. Operation of these 4 valve settings will each require 0.1 acre of land to operate the valve.

[d] Four pig launcher/receiver settings will be collocated with Valves #1, #2, #5, and #7; no additional land outside of that will be required for the pipeline, block valve settings, and MDU Border Stations.

TBD = To be determined

1.1.3.1 Pipeline Right-of-Way

Construction of the proposed 12-inch-diameter pipeline will require a standard 75-foot-wide construction right-of-way in both uplands and wetlands. As shown in the drawings provided in appendix 1C, the construction right-of-way typically will consist of a 50-foot-wide working side and a 25-foot-wide spoil side to provide sufficient workspace to accommodate topsoil storage while allowing safe passage of construction equipment and material along the working side of the right-of-way during construction. Following construction and restoration of the disturbed areas, a 50-foot-wide permanent easement (25 feet on either side of the pipeline centerline) will be retained for pipeline operations. WBI Energy's retention of this permanent easement will not preclude agricultural use of the permanent easement following construction with the exception of excavations or the building of new structures. In total, construction of the pipeline right-of-way will require approximately 543.7 acres, of which approximately 366.3 acres will be retained as a permanent easement. Appendix 1C provides typical pipeline construction right-of-way cross sections.

To minimize the creation of new corridors, WBI Energy proposes to collocate new pipeline facilities along road corridors, utilities, and property lines to the extent practicable. However, to avoid conflicts, WBI Energy has not designed the pipeline right-of-way to overlap with the operational rights-of-way of other roads, pipelines, electric transmission lines, or utilities. As shown in the summary table in appendix 1D, the new pipeline will be collocated (i.e., within 150 feet of the road/utility) with roads, railroads, or electric transmission lines for 31.0 miles (or 51 percent) of its length, including the following:

- 22.9 miles (38 percent) along roads;
- 6.0 miles (10 percent) along railroads; and
- 2.1 miles (3 percent) along electric transmission lines.

1.1.3.2 Additional Temporary Workspace

ATWS outside of the 75-foot-wide construction right-of-way will be required for certain road crossings, points of intersection along the route, areas where special construction methods will be implemented (e.g., the guided bore method), and areas where additional space is needed for storage of stripped topsoil. In total, use of ATWS during construction will affect approximately 77.0 acres, all of which will be restored to preconstruction condition. Locations of ATWS are depicted on the route maps provided in appendices 1A and 1B.

Unless topographic or other factors impose constraints, ATWS will be set back at least 50 feet from the edges of waterbodies and wetlands except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land. WBI Energy is requesting modifications to FERC's *Wetland and Waterbody Construction and Mitigation Procedures* (FERC Procedures)[1] for the site-specific locations where less than a 50-foot setback from the edges of wetlands is proposed (see section 1.3).

1.1.3.3 Contractor Yards

WBI Energy has identified five contractor yards for materials and equipment to be used by the construction contractor for office trailers, parking, vehicle maintenance, and storage of pipe and equipment before and during construction of the Project (see Table 1.1-3). Contractor yards are depicted on the Project route maps provided as appendices 1A and 1B.

As shown in table 1.1-3, use of the contractor yards will affect approximately 120.5 acres. Preparation of the contractor yards will consist of topsoil segregation and minor grading and leveling. Contractor yards will be restored to preconstruction conditions in accordance with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (FERC Plan)[2] or to a condition as specified in landowner agreements.

1.1.3.4 Temporary and Permanent Access Roads

WBI Energy will use existing public and private access roads on a temporary basis to transport personnel, equipment, vehicles, and materials to the proposed Project work areas during construction. Standard-maintenance public roads will be used for access without modification or improvement. Some minimum-maintenance public roads and private roads, however, will require improvement to safely accommodate Project equipment and vehicles, including the following: grading; placement of gravel, crushed rock, or scoria for stability and surface improvement; replacing or installing culverts; and clearing of overhead vegetation, if present. A list of these roads is provided in appendix 8C of Resource Report 8. Locations of access roads are depicted on the Project route maps provided as appendices 1A and 1B.

Use of temporary access roads will affect approximately 13.5 acres (see table 1.1-3). WBI Energy will document existing road conditions (likely using photography) prior to construction and will restore any access roads that are damaged by the Project to pre-disturbed or better condition in accordance with landowner or road agency requirements. As a result, the Project will have no permanent impact on these roads.

[1] The FERC Procedures is available online at: http://www.ferc.gov/industries/gas/enviro/guidelines.asp.
[2] The FERC Plan is available online at: http://www.ferc.gov/industries/gas/enviro/guidelines.asp.

As currently designed, WBI Energy will construct seven new permanent access roads that will be required for access to the new MDU—Kindred Border Station, to the new MDU—Wahpeton Border Station, and to each valve site. These permanent access roads will affect 2.6 acres. The new roads to the MDU—Kindred Border Station and the MDU—Wahpeton Border Station will be gravel. The new roads to the valve setting and pig launcher/receiver sites will likely be gravel and/or dirt. If additional access roads required for construction or operation of the Project are identified at a later date; WBI Energy will submit a variance request to FERC for approval to use the road and complete all appropriate federal, state, and local permitting associated with the Project change.

1.1.3.5 Aboveground Facilities

Modifications to the Existing Mapleton Compressor Station

The proposed modifications to WBI Energy's existing Mapleton Compressor Station at MP 0.0 will occur within the existing fence line of the compressor station in areas that are currently part of the operational footprint of the compressor station. WBI Energy plans to use the available space within the existing fenceline for construction activities comprising approximately 2.9 acres. However, no new operational right-of-way will be required at the compressor station. A plot plan for the modifications at the compressor station, including the removal of the existing transfer station and the relocation of the measurement facility is provided as appendix 1E.

MDU Border Stations, Block Valve Settings, and Pig Launcher/Receiver Facilities

WBI Energy is currently finalizing the details for the MDU—Kindred Border Station and the MDU—Wahpeton Border Station, block valve settings, pig launcher/receiver facilities, and other appurtenant facilities. The current design for the MDU—Kindred Border Station includes approximately 4.4 acres to construct the MDU Border Station, and the MDU—Wahpeton Border Stations includes approximately 4.1 acres to construct the MDU Border Station. Approximately 1.7 acres of the construction workspace will be retained to operate each MDU Border Station. Typical drawings for block valve settings and pig launcher/receiver facilities are provided in appendix 1C.

The first block valve setting at MP 0.0 will be constructed and operated within the Mapleton Compressor Station site. The land for the construction and operation of this facility is covered in the land requirements at the Mapleton Compressor Station described above. The other six block valve settings will be installed within the pipeline right-of-way. Valves #3 and #7 will be constructed and operated within the construction and operational footprints of the MDU—Kindred Border Station and the MDU—Wahpeton Border Station. Construction of Valves #2, #4, #5, and #6 will each require between 0.2 and 1.0 acre of additional land beyond the construction footprint for the pipeline. Operation of these 4 valve settings will each require 0.1 acre of land to operate the valve.

The first pig launcher/receiver setting will be constructed and operated within the Mapleton Compressor Station site. The remaining 3 pig launcher/receiver settings will be collocated with Valves #2, #5, and #7. The land required for these facilities is covered in the compressor station and block valve requirements described above.

All of these facilities will be enclosed within fenced areas.

Farm Taps

Specific details regarding the number and locations of farm taps are still being determined. WBI Energy expects it will be able to provide more details and maps regarding farm taps later in 2022. It is anticipated that the farm taps would be installed by WBI Energy within the proposed permanent right-of-way. Each tap setting would consist of valves, pipes, and a small fence enclosure typically 4 feet square and 3 feet high. If the setting is in or near a cultivated field, a high visibility marker will make the setting easier to see. The FERC Plan and FERC Procedures would be implemented to minimize the impact of these facilities.

1.2 Construction Schedule and Workforce

WBI Energy anticipates that the commencement of certain preconstruction activities (e.g., establishing pipe and contractor yards) may occur in the fall of 2023, with construction of the Project beginning in April 2024 subject to the receipt of necessary permits and regulatory approvals. WBI Energy anticipates that construction of the Project facilities will be completed by October 2024 with all facilities being placed into service by November 2024.

Based on the current construction schedule, WBI Energy anticipates that construction during winter conditions will not be necessary. However, if a change in the construction schedule necessitates that construction activities occur during the winter months, WBI Energy will file a *Plan for Construction and Stabilization in Winter Conditions* with FERC for review/approval prior to conducting winter construction activities. Construction activities will generally occur Monday through Saturday from 7:00 a.m. to 7:00 p.m. However, certain activities may occur up to 24 hours per day, including Sundays and potentially federal holidays. These activities include guided bore operations, hydrostatic testing and associated activities, critical tie-ins, operation of pumps associated with a dam-and-pump crossing (if necessary), and aboveground facility commissioning. Additionally, certain unforeseen circumstances may require unplanned construction activities outside the typical work hours, including Sundays. These activities may include, but are not limited to, completing in-progress construction activities and wetland/waterbody crossings delayed by an unanticipated event (e.g., severe weather or constructability issues), trench dewatering if necessary to prevent water from overflowing the ditch, incident response procedures/measures, and emergency equipment repairs/maintenance. WBI Energy's schedule includes a contingency for weather and, therefore, WBI Energy does not anticipate at this time needing to work on Sundays to make up for time lost due to poor weather.

WBI Energy currently anticipates that construction of the proposed pipeline will be accomplished using one or two construction spreads with a combined peak temporary workforce of about 225 people and an average workforce of about 175 people, including inspection crews. Construction of the aboveground facilities and compressor station modifications will require a temporary workforce of about 15 additional people working for up to 7 weeks at each facility. WBI Energy is still evaluating operational staffing needs but anticipates one new hire to assist in operation and maintenance of the new facilities. Additional information regarding construction and permanent workforce requirements is provided in Resource Report 5.

1.3 Construction and Restoration Procedures

The Project will be designed, constructed, modified, operated, and maintained in accordance with all applicable requirements defined by the United States Department of Transportation(U.S. DOT)—Pipeline and Hazardous Materials Safety Administration regulations

in 49 CFR 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*; by 18 CFR 380.15, *Siting and Maintenance Requirements*; and by other applicable federal, state, and local regulations, except as otherwise specified in this application or approved by the appropriate regulatory agency.

WBI Energy proposes to conduct Project activities in accordance with the 2013 versions of the FERC Plan and FERC Procedures with the exception of the proposed modifications to section VI.V.1 of the FERC Procedures (see table 1.3-1).

TABLE 1.3-1

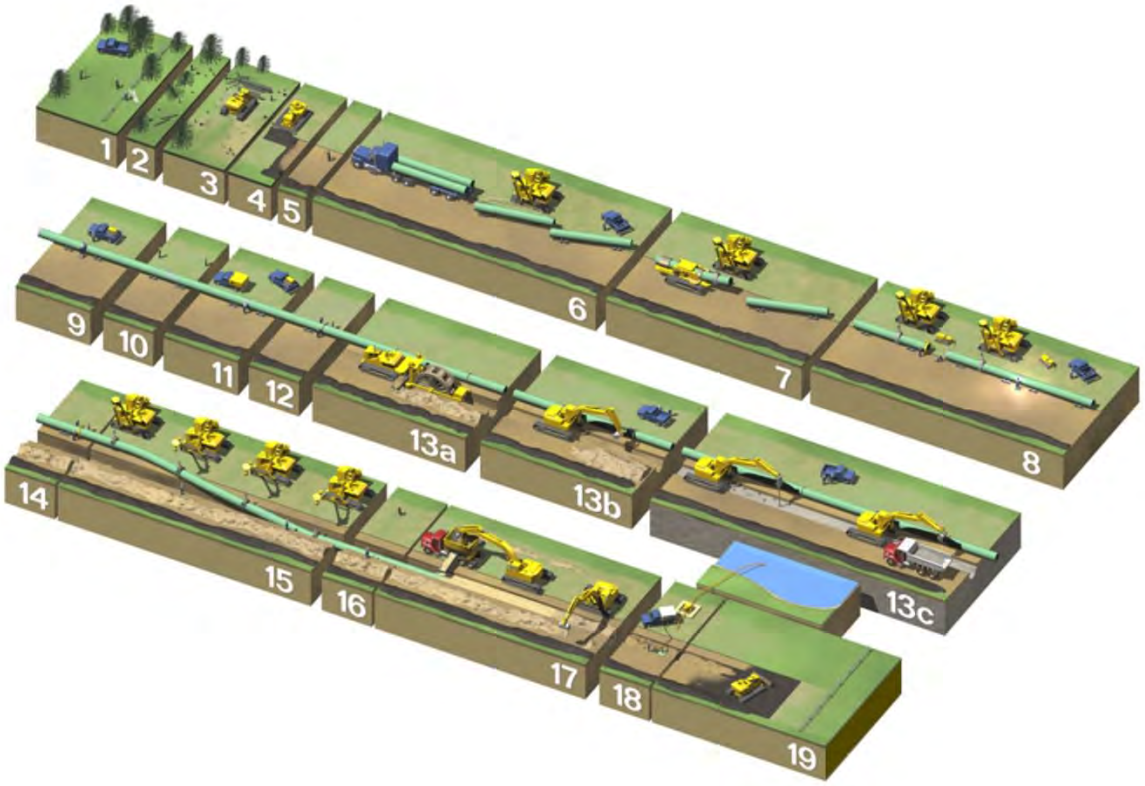
Wahpeton Expansion Project
Proposed Modifications to the FERC Plan and FERC Procedures

Plan or Procedures / Section Number	Measure	Proposed Modification	Justification for Proposed Modification
Procedures			
VI.B.1	Locate all extra workspace (EWS; such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.	Locate EWS at MP 33.5 within 50 feet of an emergent wetland (EWS_156 and EWS_160)	Additional workspace is required for the crossing of County Road 2.
		Locate EWS between MPs 35.6 and 35.7 within 50 feet of an emergent wetland (EWS_163, EWS_164, EWS_165, and EWS_166).	Additional workspace is required for the crossing of 62nd Street Southeast.
		Locate EWS at MP 36.1 within an emergent wetland (EWS_167).	Additional workspace is required for the crossing of 168th Avenue Southeast.

WBI Energy will implement additional construction, restoration, and mitigation plans prepared for the Project. These will, or may, include the following as needed: *Spill Prevention, Control, and Countermeasures Plan* and *Guided Bore Drilling Fluid Monitoring and Operations Plan* (provided in appendix 1F-1); *Fugitive Dust Control Plan* (provided in appendix 9A); *Plan for Unanticipated Discovery of Contaminated Environmental Media* (provided in appendix 2A)*; Noxious Weed Management Plan* (provided in appendix 3C)*; Plan for Unanticipated Discovery of Historic Properties or Human Remains during Construction* (provided in appendix 4G)*; and Plan for Unanticipated Discovery of Paleontological Resources During Construction* (provided in appendix 6A).

1.3.1 General Pipeline Construction Procedures

Construction of the proposed pipeline will follow industry-standard practices and procedures as described below. Conventional open-ditch construction methods will be used to install most of the proposed pipeline. In a typical scenario, construction involves a series of discrete activities conducted in a linear sequence. These include survey and staking; right-of-way clearing and grading; pipe stringing, bending, and welding; trenching; lowering-in and backfilling; hydrostatic testing; final tie-in; commissioning; and right-of-way cleanup and restoration. Figure 1.3-1 illustrates each of the steps in a typical construction scenario. A description of each step in the process is provided in the following sections.



For environmental review purposes only.

1. Survey and Staking
2. Clearing
3. Front-End Grading
4. ROW Topsoil Stripping
5. Restaking Centerline of Trench
6. Stringing Pipe
7. Field Bending Pipe
8. Line-Up, Initial Weld
9. Fill & Cap, Final Weld
10. As-Built Footage
11. X-Ray Inspection, Weld Repair
12. Coating Field Welds
13a. Trenching (wheel ditcher)
13b. Trenching (backhoe)
13c. Trenching (rock)
14. Inspection & Repair of Coating
15. Lowering Pipe into Trench
16. As-Built Survey
17. Pad, Backfill, Rough Grade
18. Hydrostatic Testing, Final Tie-in
19. Replace Topsoil, Final Clean-Up, Full Restoration

Figure 1.3-1
Typical Pipeline Construction Sequence
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

Environmental Resources Management
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1.3.1.1 Survey and Staking

Affected landowners will be notified before preconstruction survey and staking are conducted. After these notifications, WBI Energy's survey crews will stake the pipeline centerline and the limits of the construction right-of-way and ATWS areas. Additionally, the survey crew will flag the location of approved access roads. Wetland boundaries and other environmentally sensitive areas will also be marked at this time.

1.3.1.2 Clearing and Grading

Prior to beginning ground-disturbing activities, WBI Energy's contractor will coordinate with the North Dakota One-Call system to have existing underground utilities (i.e., cables, conduits, and pipelines) identified and flagged. Once this process is complete, a clearing crew will clear the work area of vegetation and other obstacles, including trees (if necessary), stumps, logs, brush, and rocks. If tree removal is required, WBI Energy will minimize tree removal during construction to the extent feasible. Cleared vegetation and stumps will be chipped (except in wetlands), put to beneficial use (e.g., as mulch for erosion control), or hauled off-site to a commercial disposal facility. As needed, snow will be plowed to the edge of the construction right-of-way and stockpiled on the spoil side of the corridor.

Following clearing, the construction right-of-way and ATWS will be graded where necessary to provide a level work surface to allow safe passage of construction equipment and emergency vehicles. Topsoil will be segregated in accordance with the FERC Plan and FERC Procedures. If the ground is relatively flat and does not require topsoil grading or segregation, rootstock will be left in the ground to facilitate restoration of the right-of-way. In areas disturbed by grading and as required by the FERC Plan and FERC Procedures, temporary erosion and sediment controls will be installed within the right-of-way to minimize erosion. These erosion and sediment controls will be inspected and maintained throughout the construction and restoration phases of the Project as appropriate and as required by the FERC Plan and FERC Procedures.

1.3.1.3 Pipe Stringing, Bending, and Welding

Individual joints of pipe will be trucked to the construction right-of-way and strung along the trench line in a single, continuous line. Individual sections of pipe will be bent where necessary to allow for a uniform fit with the contours at the bottom of the trench and horizontal points of intersection. Typically, a track-mounted, hydraulic pipe-bending machine will tailor the shape of the pipe to conform to the contours of the terrain. After the pipe sections are bent, they will be welded together into long sections and placed on temporary supports. Welding will be conducted in compliance with 49 CFR 192 and the American Petroleum Institute Standard 1104, *Welding of Pipelines and Related Facilities*. Completed welds will be visually and non-destructively inspected and all pipe welds will be coated in accordance with required specifications. The coating will be inspected for defects and repaired, if necessary, prior to lowering the pipe into the trench.

1.3.1.4 Trenching

Trenching, which involves excavating a ditch for the pipeline, will be conducted with rotary trenching machines, track-mounted backhoes, or other similar equipment. Trench spoil will be deposited adjacent to the trench within the construction right-of-way and adjacent to the topsoil pile. The trench will be excavated to a depth that provides sufficient cover over the pipeline after backfilling. Typically, the trench will be excavated to a depth of about 5 feet to allow for a normal

depth of cover of 4 feet over the pipeline, or any appurtenances, after construction. The width at the top of the trench will vary to allow the side slopes to be adapted to local conditions at the time of construction. If trench dewatering is required within or off the construction right-of-way, it will be conducted in a manner that will not cause erosion or result in silt-laden water flowing into any waterbody or wetland.

Based on a preliminary review of the soils present in the Project area, WBI Energy does not expect that blasting will be required to excavate the trench.

1.3.1.5 Lowering-In and Backfilling

Prior to lowering-in, the trench will be inspected to ensure it is free of rocks and other debris that could damage the pipe or its protective coating. It also will be checked for wildlife that may be trapped at the bottom of the trench. The pipe will then be lifted from the temporary supports and lowered into the trench using side-boom tractors. As necessary, trench breakers will be installed in the trench around the pipe in steeply sloped areas to prevent movement of subsurface water along the pipeline. After lowering-in, the trench will be backfilled with previously excavated materials using bladed equipment or backhoes. If the excavated material is rocky, the pipeline will be protected with a rock shield or covered with more suitable fill. Clean fill may be obtained by removing rock from the excavated soil. Topsoil will not be used to pad the pipe.

1.3.1.6 Hydrostatic Testing

Hydrostatic testing activities will occur after backfilling. Testing of the pipeline will occur in one or more sections[3]. The source(s) of water for hydrostatic testing has yet to be determined. It is anticipated that water for hydrostatic testing of the pipeline and aboveground facility piping will be obtained from nearby surface water sources, municipal sources, and/or a water depot.[4] The total volume of hydrostatic test water required for the Project is about 2,175,000 million gallons, which includes the amount necessary to pre-test guided bore segments. After the test is complete, the water will be discharged to approved and well-vegetated upland area(s) in accordance with permit conditions and the FERC Plan. Additional information on hydrostatic testing and the gallons of water to be used is provided in Resource Report 2.

1.3.1.7 Final Tie-In and Commissioning

After hydrostatic testing, the final pipeline tie-in will be completed and commissioning will commence. Commissioning involves activities to verify that equipment is properly installed and working, that controls and communications systems are functional, and that the pipeline is ready for service. The pipeline will be cleaned, dried, and inspected using in-line inspection tools (pigs) to detect anomalies in the pipe that may have been introduced during construction and prepared for service by purging the line of air and loading the line with natural gas.

[3] Segments involved in guided bore crossings will be pre-tested prior to installation and then tested after installation of the entire pipeline.

[4] If WBI Energy determines that it is necessary to obtain water from surface water sources for hydrostatic testing or other Project-related purposes, it will obtain any required permits or approvals in accordance with state regulations and FERC requirements.

1.3.1.8 Cleanup, Restoration, and Revegetation

Final cleanup will begin after backfilling and as soon as weather and site conditions permit. Every reasonable effort will be made to complete final cleanup (including final grading and installation of permanent erosion control devices) within timeframes as required by permits, in accordance with landowner requests, or as required by the FERC Plan and FERC Procedures.

During cleanup, construction debris will be collected and taken to a disposal facility. Preconstruction contours will be restored as closely as possible to pre-existing conditions. Segregated topsoil will be spread over the surface of the right-of-way and permanent erosion controls will be installed. Revegetation measures will be implemented in accordance with the FERC Plan and FERC Procedures.

Markers showing the location of the pipeline will be installed at fence crossings, road crossings, points of intersection, and other areas as necessary to identify WBI Energy as the owner of the pipeline and to convey emergency information in accordance with applicable government regulations, including U.S. DOT safety requirements.

1.3.2 Specialized Pipeline Construction Procedures

In addition to standard pipeline construction methods, WBI Energy will use special construction techniques where warranted by site-specific conditions. These special techniques will be used when constructing across waterbodies, wetlands, roads and railroads, and agricultural areas. Each of these specialized measures is described below.

1.3.2.1 Waterbody Crossings

WBI Energy may utilize a variety of waterbody crossing methods depending on permits and which method best fits the circumstances at each crossing. Potential methods may include the open cut, guided bore (see more discussion of guided bore in section 1.3.2.2 below), flume, or dam and pump. In each case and for each method, WBI Energy will adhere to measures specified in the FERC Procedures, in other plans, and in any additional requirements that may be specified in federal or state waterbody crossing permits. Pipeline depth of cover will be increased at waterbody crossings. Instead of the standard depth of cover described in section 1.3.1.4, WBI Energy will install the pipeline at waterbody crossings where practicable with approximately 15 feet of cover at the canal, ditch, and most waterbody crossings (i.e., with 15 feet of cover between the top of the pipeline and the bottom of the canal or ditch). WBI Energy will install the pipeline with approximately 25 feet of cover at the Sheyenne, Maple, and Wild Rice River crossings.

A complete list of the waterbodies along the pipeline route and the construction method proposed for each crossing is provided in Resource Report 2.

Open-Cut Method

Crossings of some flowing waterbodies may be accomplished using the open-cut method. In these cases, backhoe-type excavators operating from the banks of the waterbody will be used to open a trench while flow is maintained across the channel. Spoil excavated from the trench will be placed on the bank above the high-water mark for use as backfill. A prefabricated segment of pipeline will then be placed into the trench using side-boom tractors. Concrete coating or set-on

weights will be utilized, as necessary, to provide negative buoyancy for the pipeline. Once the trench is backfilled, the banks will be restored as near as practicable to preconstruction contours and will be stabilized. Stabilization measures will include seeding, installation of erosion control blankets, or installation of riprap materials as appropriate. Excavated material not required for backfill will be removed and disposed of at upland disposal sites.

Throughout the construction process, WBI Energy will follow the FERC Procedures and other site-specific plans to avoid or minimize impacts on water quality. Construction activities will be scheduled so that the trench is not excavated across the waterbody until immediately prior to pipe laying activities. The duration of in-stream construction activities (excluding blasting, if required) will be limited to 24 hours across minor waterbodies (those 10 feet in width or less) and 48 hours across intermediate waterbodies (those between 10 feet and 100 feet in width). Excavated spoil will be stockpiled at least 10 feet from the edge of the waterbody and appropriate erosion control devices will be installed in the field.

Flume Method

The flume method consists of installing one or more flumes in the stream bed and of the use of temporary upstream and downstream dams to isolate the stream flow and to convey it across the construction work area. The dams are typically constructed of sandbags and plastic sheeting. This method allows for trenching activities to occur under relatively dry conditions beneath the flume pipes and avoids disruption to water flow.

Dam-and-Pump Method

The dam-and-pump method involves the installation of temporary upstream and downstream dams to isolate the crossing area from the rest of the waterbody and the use of one or more pumps and hoses to transport stream flow around the construction work area. The dams are typically constructed of sandbags and plastic sheeting. This method, like the flume method, allows for trenching activities to occur under relatively dry conditions while avoiding disruption to water flow.

1.3.2.2 Guided Bore Crossings

The guided bore crossing method is a trenchless method used to install pipelines across sensitive areas such as wetlands and waterbodies, roads, and other utility crossings to avoid direct impacts on those features. The guided bore crossing method is similar to the horizontal directional drill method, but is used for crossings that are relatively short (i.e., less than 1,000 feet) and shallower with a small arc bore path. The guided bore crossing method will be utilized to cross flowing waterbodies, graveled or paved roads, and railroads along the proposed pipeline route. The guided bore method is a process that avoids direct impacts on sensitive environmental features, allowing for trenchless construction across an area by drilling a hole below the depth of a conventional lay and then pulling a prefabricated section of pipe through the hole. The following describes the process and steps that would be used where the guided bore crossing method is employed.

For guided bore crossings, one common method to steer the drill head is to hand-lay the electric-grid guide wires along the pipeline centerline to create an electromagnetic sensor grid that will help the operator control the drill head. In thickly vegetated areas, a small pathway approximately 2 to 3 feet wide may be cut using hand tools to lay the electric-grid guide wires,

resulting in minimal ground and vegetation disturbance. Any clearing that is required for construction would be limited to selective cutting of small woody vegetation consisting of shrubs and potentially small trees likely less than 1 to 2 inches in diameter at breast height. This vegetation would quickly regrow from the cut stumps following the completion of the guided bore crossing. No large trees would be cut as part of this process. Other steering techniques may be employed pending the selection of the drilling contractors.

To begin each crossing, pits at either end of the bore path will be excavated to allow for visual identification of the bore drill and string and to receive bore mud and cuttings. A drill rig will be placed on the entry side of the guided bore and a small pilot hole will be drilled along a predetermined path beneath the crossing. Electromagnetic sensors located on the tip of the drill bit would allow the operator to follow the sensor grid along the prescribed path. Once the pilot hole is completed, the sensor grid (if employed) will be removed and the hole will be enlarged through a process called reaming. A reaming tool will be installed at one end of the drill string on the exit side of the pilot hole and then pushed or drawn back to the drill rig to enlarge the hole. Several passes with progressively larger reaming tools may be required to enlarge the hole to a sufficient diameter to accommodate the pipeline. During this process, drilling fluid or mud consisting of in-situ material and water (and possibly bentonite clay) will be circulated through the hole to remove drill cuttings and to maintain the integrity of the hole. Once the reaming process is complete, a prefabricated segment of pipe will be attached to the drill string on the exit side of the crossing and pulled back through the hole toward the drill rig. The pipe segment may be hydrostatically tested prior to its installation and, once installed, connected on either side of the crossing to adjoining sections of pipe. The pipe segment will be hydrostatically tested with the remainder of the pipeline system.

Although the guided bore method typically avoids impacts on water quality and other sensitive resources by precluding disturbance of the bored resource (e.g., the waterbody bed and banks), an unintended release of drilling mud (referred to as an inadvertent return) could occur if drilling fluids escape the drill hole and are forced through the subsurface substrate to the ground surface. In order to minimize potential impacts of inadvertent releases of drilling fluids, WBI Energy would implement the measures identified in the *Guided Bore Drilling Fluid Monitoring and Operations Plan*. This plan, which is included in appendix 1F-2, describes procedures to be used to monitor, contain, and clean up any potential releases of drilling fluid. It would also identify contingency measures to be implemented in the event that a guided bore is unsuccessful.

1.3.2.3 Wetland Crossings

Construction across wetlands will be conducted in accordance with the FERC Procedures, site-specific modifications to the FERC Procedures requested by WBI Energy and approved by FERC, and any additional requirements specified in federal or state water crossing permits. Typical methods for construction across wetlands are described below. A list of wetland crossings along the pipeline route is provided in Resource Report 2.

Wetland boundaries will be delineated and marked in the field prior to construction activities. Temporary erosion control devices will be installed as necessary after initial disturbance of wetlands or adjacent upland areas to prevent sediment flow into wetlands. These devices will be maintained until revegetation is complete. Trench plugs will be installed as necessary to maintain wetland hydrology. Construction equipment operating in wetland areas

will be limited to that needed to clear the right-of-way, dig the trench, install the pipeline, backfill the trench, and restore the right-of-way.

The top 12 inches of topsoil will be stripped from the area directly over the trench line (except in standing water or in saturated conditions) and stockpiled separately from the subsoil. The segregated topsoil will be restored to its original location following the installation of the pipe and the backfilling of the trench in accordance with the FERC Procedures. Materials such as timber mats placed in wetlands during construction will be removed during rough grading and final cleanup and the preconstruction contours of the wetland will be restored. Permanent erosion control measures will then be installed in accordance with the FERC Procedures and disturbed areas within wetlands will be temporarily stabilized with a cover species such as annual ryegrass once weather conditions permit. Wetland areas will then be allowed to return to preconstruction conditions using the original seed stock contained in the conserved topsoil layer.

The specific crossing procedures used to install the pipeline across wetlands will depend on the level of soil stability and saturation encountered during construction. Construction across unsaturated wetlands that can support the weight of equipment will be conducted in a manner similar to the upland construction procedures described above. In areas that are proposed for conventional open trench construction, but where soil conditions may not support the weight of equipment, timber mats will be used to minimize disturbance to wetland hydrology and to maintain soil structure.

The pull method of construction may be used in inundated or saturated conditions where wetland soils and hydrology cannot support conventional pipe laying equipment, or in areas that have significant quantities of water that would allow for the pipe to be floated through the open ditch. With this method, construction and excavation equipment will work from temporary work surfaces and a prefabricated pipeline segment will be pulled, floated, or carried into position and then sunk with buoyancy control devices and placed in the trench.

1.3.2.4 Road and Railroad Crossings

Construction across paved roads, highways, and railroads will be conducted in accordance with the FERC Plan and requirements identified in road and railroad crossing permits or approvals. Pipeline depth of cover will be increased at road and railroad crossings. At roads, the top of the pipe will be approximately 6 feet below the bottom of the road ditch. At railroads, the top of the pipe will be approximately 12 feet below the base of the rail. Most paved roads, highways, and railroads will be crossed by boring beneath the roadbed or railroad (see the typical construction drawings provided in appendix 1C). Guided bore operations will consist of the following: 1) excavating a pit on each end of the bore path; 2) placing the drilling rig on the entry side of the bore; 3) boring a hole under the roadbed or railroad that is greater than or equal to the diameter of the pipe; and 4) pulling a prefabricated section of pipe back through the hole toward the drill rig. There is typically little or no disruption to traffic at road, highway, or railroad crossings during boring operations. The crossing for railroads will be conducted in accordance with the rail owner/operator requirements; these do not include any requirement that the railroad crossings be completed in 24 hours. Other specific requirements for crossing roads and railroads are unknown at this time.

Unpaved roads, two-tracks, trails, and driveways and roads in areas with a high water table will be crossed using the open-cut method and then restored to preconstruction conditions.

Most open-cut road crossings will be completed and restored in a few days. WBI Energy will maintain one lane of access or establish alternative access or detours at these locations.

Crossings of roads and railroads will be uncased unless a casing is required by the appropriate regulatory authority with jurisdiction over the crossing. For all road and railroad crossings, the pipeline has been designed in accordance with U.S. DOT regulations at 49 CFR 192, the American Society of Mechanical Engineers' code (B31.8) for gas transmission and distribution piping systems, and the American Petroleum Institute's Recommended Practice 1102 for steel pipelines crossing railroads and highways. Uncased crossings are preferred over cased crossings due to the increased potential for problems with installation, the cathodic protection system, and corrosion on cased crossings. A list of road and railroad crossings along the pipeline route is included in appendix 8B of Resource Report 8.

1.3.2.5 Agricultural Areas

In active croplands, pastures, rangeland, or hayfields, topsoil will be stripped and segregated in accordance with the FERC Plan. Topsoil typically will be stripped over the trench plus spoil storage area. Following pipeline installation, the subsoil will be returned to the ditch and the topsoil will be replaced in the area from which it was stripped. As necessary, the working side of the right-of-way will be de-compacted prior to final grading and restoration.

WBI Energy's preliminary assessment, based on conversations with landowners, indicated that drain tiles are prevalent along the pipeline route. WBI Energy will continue working with landowners to identify the locations of known drain tile locations. In general, one of the following two methods will be employed for the pipeline to be constructed across drain tiles to mitigate impacts: 1) cutting and replacing the drain tile where the pipeline will be installed beneath the existing drain tile elevation; and 2) installation of a site-specific drain tile header system where the pipeline will be installed at, or near, the same elevation as the existing drain tile elevation. Previously undocumented drain tile discovered during grading or trenching will also be flagged at each right-of-way edge. Survey data will be collected at the location of the broken tile. If a damaged drain tile is flowing at the time of discovery, temporary repairs and screen installation will be completed prior to the end of the workday. If a damaged drain tile is not flowing at the time of discovery, the drain tile will be screened and temporarily repaired within 24 hours. Temporary repairs may be removed to accommodate pipe lowering and backfilling.

Permanent drain tile repairs will be made by a qualified drain tile specialist, the landowner, or a landowner's representative. In general, if drain tiles are damaged during construction, they will be scoped or snaked to determine the extent of the damage and the necessary repairs. The existing drain tile will be inspected within the entire width of the right-of-way. Damaged, broken, or cracked drain tiles will be replaced with new tiles. The quality, size, and flow of replacement tiles will equal or exceed that of the damaged tile. The drain tile will be permanently repaired so that its original gradient and alignment are restored. Replacement tiles will be supported with a perforated corrugated steel pipe or a similar system. Repairs will be inspected prior to backfilling the trench area. WBI Energy has initiated consultations with landowners to identify the locations of existing drain tiles. Known drain tiles will be noted on the alignment sheets and survey crews will mark the drain tile locations with highly visible flagging at each right-of-way edge and the centerline of the pipe, where applicable.

If livestock fences (including electric fences) need to be cut to access the construction right-of-way, WBI Energy will brace and secure the fencing prior to construction and will repair

the fences to preconstruction condition or better during the restoration phase of the Project. If it is determined that livestock grazing occurs in areas crossed by the proposed right-of-way, WBI Energy will work with landowners to either remove the livestock during construction or maintain adequate fencing in grazing areas. If cattle are present during construction, WBI Energy will install temporary fencing around the right-of-way in areas where the pipe trench is left open overnight. WBI Energy additionally will negotiate with landowners regarding a potential grazing deferment to allow vegetation to establish within the right-of-way after construction is complete.

WBI has not identified any irrigation systems along the pipeline route and, therefore, does not anticipate the need for any specialized construction methods to cross these systems.

1.3.2.6 Steep Slopes

The land crossed by the Project is flat to gently sloping and no side-sloping terrain has been identified. As described in section 6.4.3 of Resource Report 6, less than 2,000 feet of the pipeline route crosses terrain with slopes greater than 5 percent and only about 200 feet of the pipeline route crosses terrain with slopes greater than 10 percent. Therefore, WBI Energy does not anticipate the need for special steep or side-slope construction methods.

1.3.2.7 Residential Construction

The Project does not cross any residential areas or pass within 50 feet of a residence. The closest residence is approximately 400 feet from the proposed workspace. WBI Energy is working with landowners to determine the location of other potentially sensitive residential resources but, given the distance of residences from the route, it is also unlikely that there are any wells near the pipeline. In the event that changes in the Project design require construction in residential areas or within 50 feet of a residence, WBI Energy will comply with FERC regulations and file the necessary information for these areas.

1.3.3 Aboveground Facility Construction Procedures

1.3.3.1 Compressor Station Modifications and MDU Border Stations

Construction of the proposed aboveground facilities will include a standard sequence of events. Construction will begin with clearing (including snow plowing, as necessary) and grading of the sites to establish level grades for the facilities. Subsequent construction activities will include preparing foundations, installing underground piping, erecting and installing buildings, installing aboveground piping and equipment, testing the piping, testing the control equipment, cleaning up the work area, and graveling access roads and parking areas. Once construction is complete, areas within the fence line, but outside the new facilities, will be covered with gravel or maintained in a herbaceous state. Each station site will be fenced for security. Safety and control devices will be installed and tested prior to operation. The pig launcher/receivers will be located within the footprints of the Mapleton Compressor Station and valve setting sites.

None of the facilities to be installed or modified have known asbestos-containing material (ACM). Per Chapter 33.1-15-13 of the North Dakota Administrative Code, prior to any demolition/renovation of Project facilities, an inspector certified in North Dakota to identify all ACM will conduct a thorough asbestos inspection. If ACM is identified, notification of asbestos removal activities will be submitted to the North Dakota Department of Environmental Quality Asbestos Control Program for all demolition activities involving ACM and any renovation activity that

requires removal or disturbance of 160 square feet or more of regulated ACM on facility components or 260 linear feet or more of regulated ACM on pipes. Individuals trained and certified to handle ACM in accordance with applicable requirements will remove all ACM. ACM will be transported off the Project facilities in accordance with applicable regulations and disposed of at a facility permitted to manage asbestos waste.

1.3.3.2 Block Valves

Construction of block valve settings will include excavating, installing underground piping and aboveground valve assembly, testing the control equipment, backfill and grading, cleaning up the work area, and graveling the finished site area. The block valve setting construction will be concurrent with the construction of the pipeline. At each site, the permanent facility will be stabilized with gravel, the perimeter will be fenced, and any disturbed area outside the fenced enclosure will be seeded with appropriate vegetation species.

1.4 Environmental Compliance, Training, and Inspection

WBI Energy is committed to constructing and operating the Project in a manner that will minimize environmental impacts and comply with applicable permits and approvals, the FERC Plan and FERC Procedures, and other environmental plans or requirements described in this resource report. WBI Energy will train company and contractor personnel to familiarize them with environmental plans and other conditions and provide environmental inspectors (EIs) to monitor compliance during construction. WBI Energy will be responsible for implementation of environmental requirements during construction of all Project facilities.

1.4.1 Environmental Compliance

WBI Energy will incorporate relevant environmental requirements and Project-specific environmental mitigation plans into the construction bid documents for the Project. Additionally, WBI Energy will review these requirements with prospective contractors in a pre-bid meeting. These steps notwithstanding, the contractor selected for the Project will be required to comply with all relevant requirements regardless of whether they were described in bid documents or discussed at the meeting. If the contractor does not comply with environmental requirements during construction, WBI Energy will direct the contractor to comply and may take other corrective actions as necessary—including issuing stop-work orders—until the contractor is in compliance.

1.4.2 Environmental Training

Prior to construction, WBI Energy will conduct environmental training for company and contractor supervisory personnel. The training program will focus on the FERC Plan and FERC Procedures; Project-specific Certificate and permit conditions; and Project-specific construction, restoration, and mitigation plans. In addition, WBI Energy will provide large-group training sessions before work crews begin construction. Periodic follow-up training for groups of newly assigned personnel will be provided as necessary by the EIs.

1.4.3 Environmental Inspection

WBI Energy will assign a minimum of one EI per spread to the Project, with additional inspectors assigned as necessary, to monitor environmental compliance. WBI Energy's EIs will have peer status with other inspectors and will report directly to the WBI Energy environmental

personnel. The responsibilities of the EIs will be as specified in the FERC Plan and will include, but not be limited to, the following: 1) monitoring the contractor's compliance with environmental measures required by the Certificate, other permits or approvals, the FERC Plan and FERC Procedures, and any other plans described in this resource report; 2) taking corrective actions, including issuing stop-activity orders; 3) documenting compliance with environmental requirements; and 4) preparing status reports for submittal to FERC's environmental staff. The EIs will also act as liaisons between WBI Energy and representatives of environmental regulatory agencies that may visit the Project during construction.

1.5 Operations and Maintenance

WBI Energy will operate and maintain the new pipeline and aboveground facilities in accordance with all applicable federal and state requirements, including the minimum federal safety standards identified in 49 CFR 192 *Transportation of Natural and Other Gas by Pipeline*. Operation and maintenance of the facilities will be performed by, or at the direction of, WBI Energy.

The pipeline will be inspected periodically on foot, all-terrain vehicle, or another vehicle as required by applicable regulatory requirements to identify potential concerns that may affect the safety and operation of the pipeline. Pipeline markers and signs will be inspected and maintained or replaced, as necessary, to ensure that pipeline locations are clearly identified. Field personnel will advise the appropriate operations personnel of new construction along or near the pipeline system. Line patrol of highway crossings will be completed as required by the U.S. DOT. If pipeline patrols or vegetation maintenance identify areas on the right-of-way where erosion is occurring, WBI Energy will repair existing erosion control devices or install additional devices as necessary to stabilize the area and prevent future erosion.

In order to maintain accessibility of the right-of-way and to accommodate pipeline integrity surveys, vegetation along the pipeline right-of-way outside of croplands will be cleared periodically and as necessary in accordance with the FERC Plan and FERC Procedures. Active cropland will be allowed to revert to preconstruction use for the full width of the right-of-way. In non-cultivated uplands, the entire 50-foot-wide permanent easement will be maintained in a herbaceous state. In wetlands, the FERC Procedures allow for a 10-foot-wide corridor centered over the pipeline to be permanently maintained in a herbaceous state and trees greater than 15 feet in height within 15 feet of the pipeline may be cut and removed from the right-of-way. Where necessary and when required, WBI Energy will typically use mechanical mowing or cutting along its right-of-way for normal vegetation maintenance.

WBI Energy will adhere to the operations and maintenance procedures described in the FERC Plan and FERC Procedures, subject to any modifications approved by FERC, in the vicinity of waterbodies, wetlands, and upland areas. Further, operation and maintenance procedures—including record keeping—will be performed in accordance with U.S. DOT requirements. Operation and maintenance of block valves will be performed in accordance with information provided by the valve manufacturers.

In addition to the pipeline, WBI Energy personnel also will perform regular operation and maintenance activities on equipment at the proposed aboveground facilities. These activities will include calibration, inspection, and scheduled and routine maintenance. Operational testing will be performed on safety equipment to ensure proper functioning and problems will be corrected.

1.6 Future Expansion and Abandonment Plans

No additional plans, beyond those described in this resource report, are currently anticipated for the Project. If future market demands warrant an expansion of the Project, WBI Energy will file an application with FERC as appropriate. WBI Energy does not have plans for abandonment of the pipeline or aboveground facilities and will file an appropriate application with FERC if the facilities are to be abandoned.

1.7 Non-Jurisdictional Facilities

Non-jurisdictional facilities will be constructed and operated at both the MDU—Kindred Border Station and the MDU—Wahpeton Border Station. The non-jurisdictional facilities at each MDU Border Station will include a local distribution-company line heater, regulation, over-pressure protection, communication, and commercial electric service facilities. MDU will construct and operate the line heater, regulation, over-pressure protection, and communication facilities. The electric power service will include alternating current power (anticipated to be belowground at Kindred and aboveground at Wahpeton), a transformer, and meter socket. The electricity providers have not been finalized but it is anticipated that the power service facilities will be constructed and operated by Dakota Valley Electric Cooperative at Kindred and by Cass County Electric Cooperative at Wahpeton. Underground digital subscriber line cables for communications are expected to be constructed and operated by Century Link at Kindred and by MLGC at Wahpeton. The line heater, regulation, overpressure protection, communications equipment, transformer, and meter socket facilities will be adjacent to, and located on, the same tracts as the WBI facilities. The alternating current power and cables will also terminate on these same tracts.

In addition to the facilities described above, MDU will need to construct new pipeline distribution system facilities in Kindred as this community currently does not have natural gas service and in Wahpeton to connect the MDU station facilities to the existing Wahpeton distribution system.

MDU expects to begin construction of these non-jurisdictional facilities in the spring of 2024 and to complete construction by the fall of 2024. No additional information regarding the non-jurisdictional facilities is available at this time.

1.8 Permits and Approvals

WBI Energy will obtain the necessary permits, clearances, and licenses for Project construction and operation by the time required prior to construction. Table 1.8-1 lists the federal and state environmental permits and approvals required to construct and operate the Project, along with the status of each permit or approval. In each case, WBI Energy will initiate the permitting or approval process through agency contacts and consultations. Copies of agency correspondence and any approvals received by WBI Energy prior to submittal of the application will be appended to the appropriate resource reports in the filed application. A summary of agency contacts and copies of applicable agency correspondence to date are provided in the appendices of other applicable resource reports.

TABLE 1.8-1

Wahpeton Expansion Project
Environmental Permits, Approvals, and Consultations

Agency	Permit/Approval/Consultation	Anticipated Submittal Date	Anticipated Approval Date
Federal			
FERC	Certificate under Section 7(c) of the Natural Gas Act	May 2022	July 2023
United States Army Corps of Engineers—Omaha District and United States Army Corps of Engineers—St. Paul District	Issuance of a Section 404 permit for discharges of dredged or fill material into waters of the United States, including jurisdictional wetlands	May 2022	September 2022
United States Fish and Wildlife Service—Region 6—North Dakota Field Office and United States Fish and Wildlife Service—Valley City and Tewaukon Wetland Management District	Informal consultations for impacts on federally listed threatened and endangered species and critical habitat under Section 7 of the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Gold Eagle Protection Act, and the Fish and Wildlife Coordination Act; consultation for impacts on federal conservation easements for grasslands and wetlands	May 2022	August 2022
United States Department of Agriculture, Natural Resources Conservation Service—North Dakota	Consultations regarding erosion and sedimentation controls and seed mixes and Agricultural Conservation Easement Program	May 2022	August 2022
North Dakota			
North Dakota Department of Environmental Quality, Division of Air Quality	Permits to Construct an Air Contaminant Source if required	April 2023	August 2023
North Dakota Department of Environmental Quality, Division of Water Quality	General Permit for Construction Stormwater Discharge under the National Pollutant Discharge Elimination System	February 2024	April 2024
	General Permit for Construction Dewatering and Discharge of Hydrostatic Test Water under the National Pollutant Discharge Elimination System	February 2024	April 2024
	Water Quality Certificate under Section 401 of the Clean Water Act	May 2022	August 2023
North Dakota State Water Commission	Navigable Water Crossing Permit under North Dakota Century Code Chapter 61–33 (Sovereign Lands)	April 2023	August 2023
	Temporary Water Permit—Water appropriation permit for withdrawals associated with hydrostatic test water and drilling mud		
North Dakota Department of Game and Fish	Consultation for impacts on fisheries and wildlife	May 2022	June 2022
North Dakota Parks and Recreation Department	Consultation under the North Dakota Natural Heritage Program	May 2022	July 2023
State Historical Society of North Dakota	Consultation for impacts on historic properties under Section 106 of the National Historic Preservation Act	May 2022	July 2023
North Dakota Department of Transportation	Utility Crossing permits for state highway right-of-way	April 2023	August 2023
Local and County			
Cass and Richland Counties	County Road, Section Line, and Legal Drain Crossing Permits	April 2023	August 2023

TABLE 1.8-1

Wahpeton Expansion Project
Environmental Permits, Approvals, and Consultations

Agency	Permit/Approval/Consultation	Anticipated Submittal Date	Anticipated Approval Date
BNSF Railway Company	Railroad Crossing Permits	April 2023	August 2023
Red River Valley and Western Railroad	Railroad Crossing Permits	April 2023	August 2023

1.9 Affected Landowners and Other Stakeholders

The names and addresses of affected landowners as specified in 18 CFR 157.6(d) are listed in appendix 1G, which has been filed under separate cover as privileged information. WBI Energy has notified each of the landowners identified on the list of the proposed Project. As required by Section 157.6(d), WBI Energy will make a good faith effort to notify each affected landowner again once FERC issues a notice of WBI Energy's application.

1.10 Cumulative Impacts

Cumulative impacts represent the incremental accumulation of past, present, and reasonably foreseeable future actions (RFFA) on the environment (40 CFR 1508.7). Cumulative impacts may result when a single action continuously impacts the environment, multiple projects impact the same resource over a period of time, or direct impacts on one resource result in indirect impacts on a different resource. Although the individual impacts of each separate project might not be significant, the additive or synergistic impacts of multiple projects could be significant.

In accordance with the requirements of the National Environmental Policy Act, the cumulative impacts of the proposed Project and the other projects or actions in the region are considered for each resource and provided in the respective resource reports. Table 1.10-1 summarizes the resource-specific geographic boundaries considered in this analysis and the justification for each. Actions occurring outside these geographical boundaries were not evaluated because their potential to contribute to a cumulative impact diminishes with increasing distance from the Project.

Past, present, and RFFAs within the geographic scope may affect the same resources as the proposed Project within the same timeframe. These include (but are not limited to) actions that are being implemented, have been funded, are under review by a regulatory agency, or are being considered by state and local planners. Actions that have not progressed beyond planning and feasibility stages of development were not included in the analysis due to the uncertainty of whether the projects will be implemented. While recent past actions that continue to contribute to discernable impacts on a resource are included (e.g., a project is operational but restoration/revegetation is not complete), the impacts of past actions are expressed in each resource report as baseline environmental conditions and are not included in the cumulative impact analysis.

RFFAs were identified by searching publicly available information from the following sources:

- planning and zoning departments for Cass and Richland Counties;

- planning and zoning departments for Mapleton, West Fargo, Horace, Kindred, Colfax, and Wahpeton;
- the North Dakota Public Service Commission;
- the North Dakota Department of Transportation;
- the United States Army Corps of Engineers;
- the United States Department of the Interior, Bureau of Land Management's online e-Planning portal; and
- the United States Forest Service.

Appendix 1H includes the correspondence with Cass and Richland Counties that was conducted to identify recently completed, current, or proposed projects that should be considered in the cumulative impacts analysis. Appendix 1I includes a list of other past, present, and future projects and actions with the potential to contribute to cumulative effects. Figure 1.10-1 depicts the locations of RFFAs within the geographic scope for this analysis.

TABLE 1.10-1

Wahpeton Expansion Project
Resource-Specific Geographic Regions for Cumulative Impact Assessment

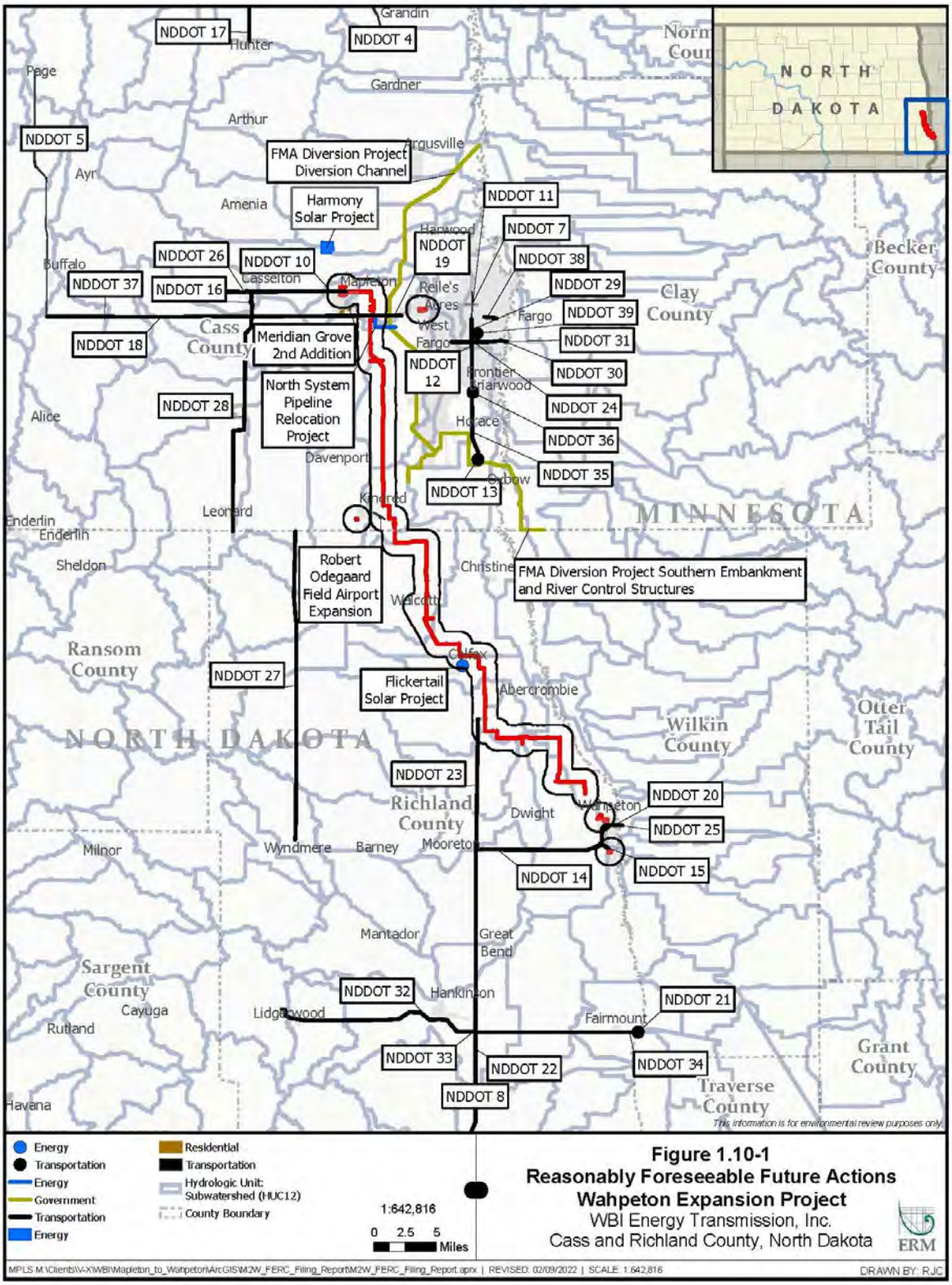
Environmental Resource	Geographic Scope for Cumulative Impacts	Justification for Geographic Scope
Groundwater, Surface Water, and Wetlands	HUC-12 sub-watershed	Impacts on groundwater and surface water resources could reasonably extend throughout an HUC-12 sub-watershed (i.e., a detailed hydrologic unit that can accept surface water directly from upstream drainage areas and indirectly from associated surface areas such as remnant, noncontributing, and diversions to form a drainage area with single or multiple outlet points) as could the related impacts on aquatic resources and fisheries.
Vegetation and Wildlife	HUC-12 sub-watershed	Consideration of impacts within an HUC-12 sub-watershed sufficiently accounts for impacts on vegetation, wildlife, and threatened and endangered species that would be directly affected by construction activities and for indirect impacts such as changes in habitat availability and displacement of transient species.
Cultural Resources	Overlapping impacts within the area of potential effect	The area of potential effect for direct effects (physical) includes areas subject to ground disturbance, while the area of potential effect for indirect effects (visual or audible) includes aboveground ancillary facilities or other Project elements that are visible from historic properties in which the setting contributes to their National Register of Historic Places eligibility.
Socioeconomics	Affected counties	Affected counties would experience the greatest impacts associated with employment, housing, public services, transportation, traffic, property values, economy and taxes, and environmental justice.
Soils and Surficial Geology	Construction workspaces	Impacts on soils and surficial geology would be highly localized and would not be expected to extend beyond the area of direct disturbance associated with the Project.
Land Use, Recreation, and Special Interest Areas	1.0-mile radius from the Project	Impacts on general land use would be restricted to the construction workspaces and the immediate surrounding vicinity; therefore, the geographic scope for land use and recreation is 1.0 mile from the Project.

TABLE 1.10-1

Wahpeton Expansion Project
Resource-Specific Geographic Regions for Cumulative Impact Assessment

Environmental Resource	Geographic Scope for Cumulative Impacts	Justification for Geographic Scope
Visual Resources	Viewshed	Assessing the impact based on the viewshed (i.e., the distance from which the tallest feature at the planned facility would be visible from neighboring communities) allows for the impact to be considered with any other feature that could have an effect on visual resources.
Noise—Construction	0.25 mile—daytime only construction 0.5 mile—nighttime and 24-hour construction	Areas in the immediate proximity of construction activities (within 0.25 mile during daytime construction and 0.5 mile during nighttime and 24-hour construction) would have the potential to be affected by construction noise.
Noise—Operation	0.5 mile—permanent aboveground facilities	Noise from the Project's permanent MDU Border Station facilities is not anticipated to have an impact beyond 0.5 mile.
Air Quality—Construction	0.25 mile of construction footprint	Air emissions during construction would be limited to vehicle and construction equipment emissions and dust and would be localized to the Project construction sites.
Air Quality—Operation	NA	No additional combustion equipment is proposed to be installed. The valve actuators at the MDU Border Stations, block valve, and pig launcher/receiver sites are the only anticipated source of fugitive emissions associated with the Project.

HUC = Hydrologic Unit Code


NDDOT 17
Hunter
Grandin
NDDOT 4
Page
Gardner
Arthur
NDDOT 5
Argusville
FMA Diversion Project
Diversion Channel
Ayr
Amenia
Harmony
Solar Project
NDDOT 11
NDDOT 7
Hanwood
NDDOT
19
NDDOT 38
NDDOT 26
NDDOT 10
Buffalo
NDDOT 37
NDDOT 16
Casselton
Mapleton
Reile's
Acres
NDDOT 29
Clay
County
Becker
County
Fargo
NDDOT 39
West
Fargo
NDDOT 31
Cass
County
NDDOT 18
Meridian Grove
2nd Addition
NDDOT
12
Frontier
Briarwood
NDDOT 30
North System
Pipeline
Relocation
Project
NDDOT 28
Alice
Horace
NDDOT 24
NDDOT 36
Davenport
Enderlin
NDDOT 35
Kindred
NDDOT 13
Leonard
MINNESOTA
Enderlin
Sheldon
Robert
Odegaard
Field Airport
Expansion
Christine
FMA Diversion Project Southern Embankment
and River Control Structures
Wolcott
Ransom
County
NDDOT 27
Flickertail
Solar Project
Abercrombie
NORTH DAKOTA
Wilkin
County
Otter
Tail
County
NDDOT 23
Richland
County
Dwight
NDDOT 20
Wahpeton
NDDOT 25
Milnor
Wyndmere
Barney
Mooreton
NDDOT 15
NDDOT 14
Mantador
Great
Bend
Sargent
County
NDDOT 32
Hankinson
NDDOT 21
Cayuga
Lidgerwood
Fairmount
Rutland
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Grant
County
Traverse
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NDDOT 8
Havana
This information is for environmental review purposes only
Energy
Transportation
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Government
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Hydrologic Unit:
Subwatershed (HUC12)
County Boundary
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Figure 1.10-1
Reasonably Foreseeable Future Actions
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota
ERM
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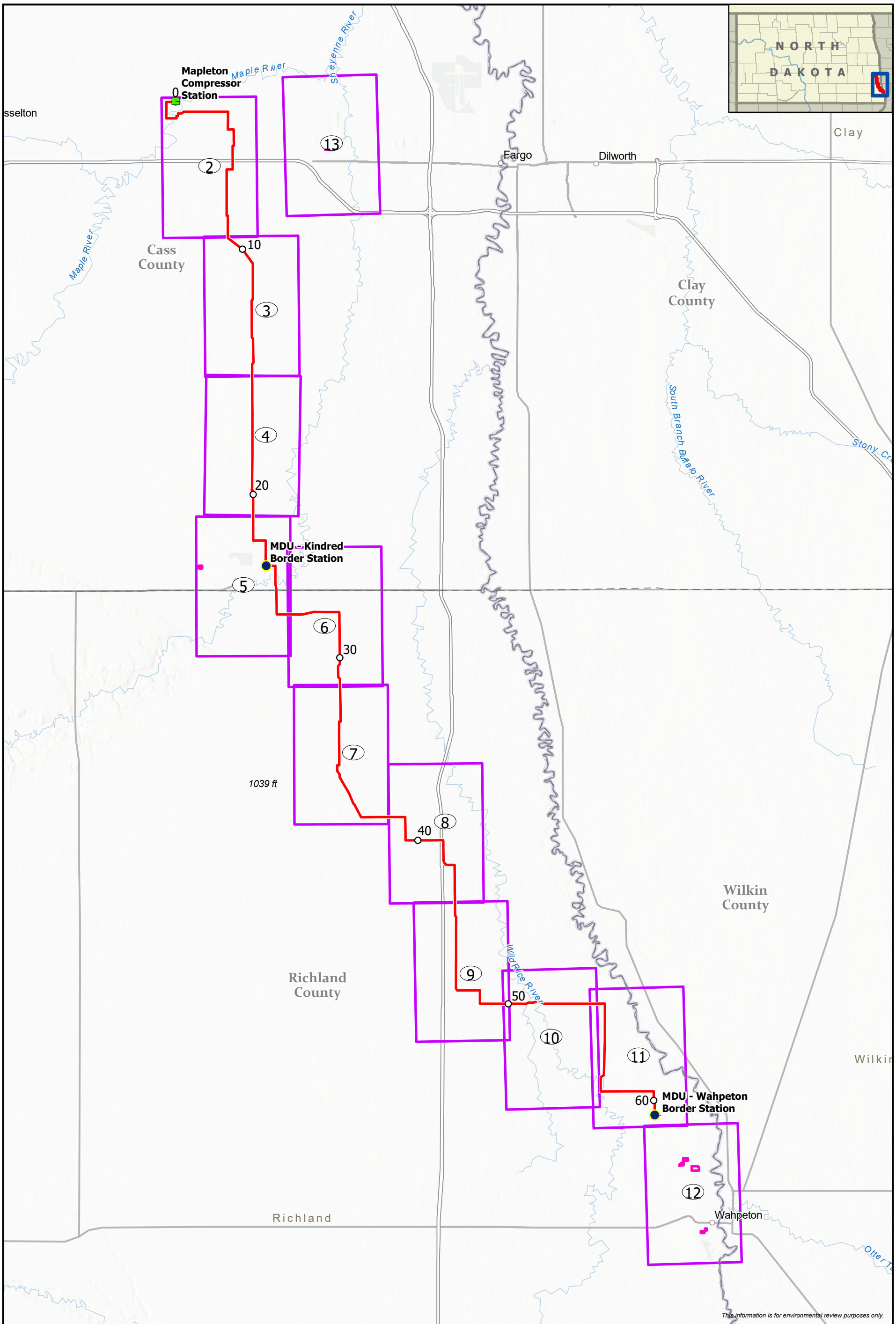
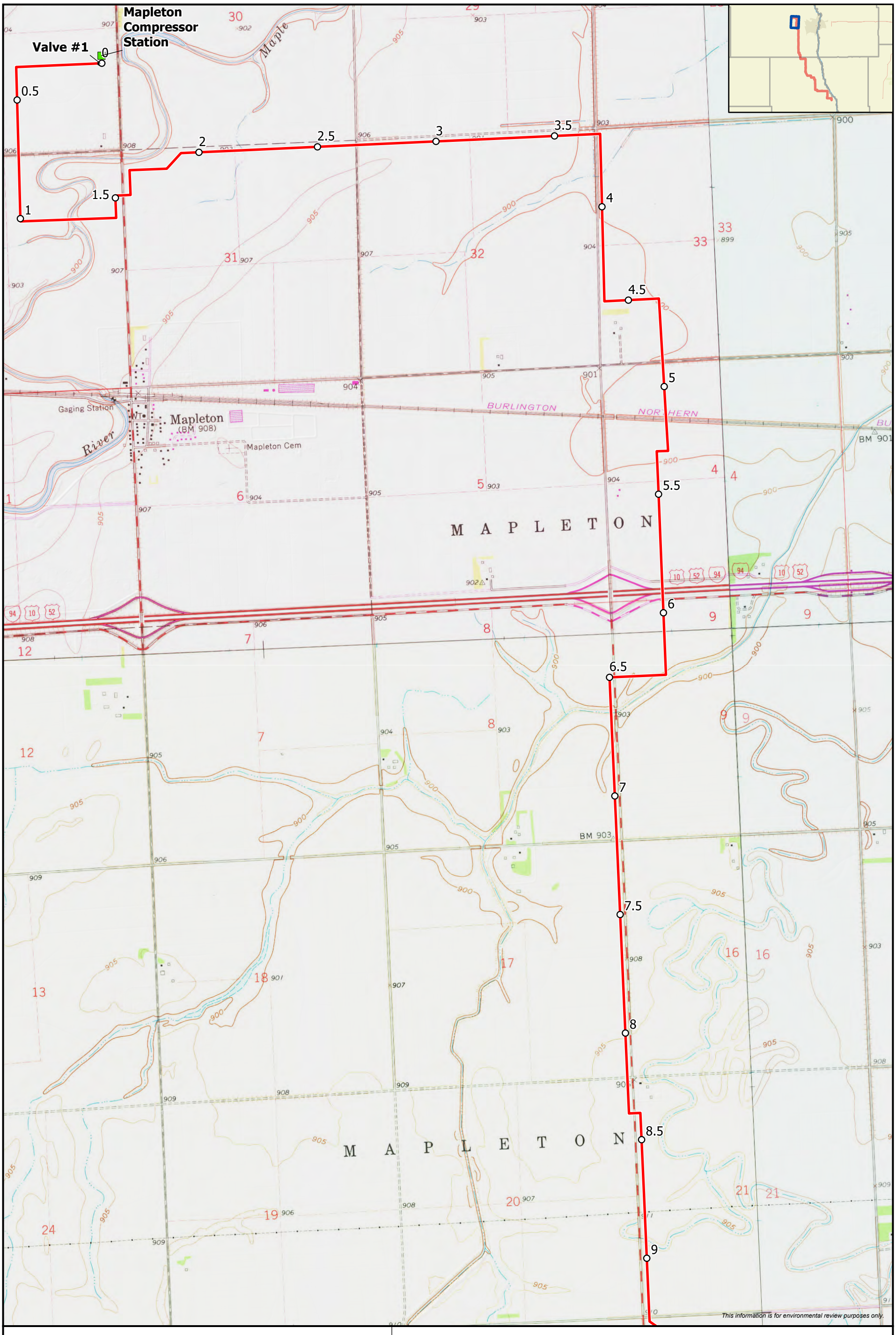
APPENDIX 1A PROJECT ROUTE MAPS (TOPOGRAPHIC)



Appendix 1A
Project Route Map
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

ERM



Milepost
Valve Site
Proposed Route

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Appendix 1A
Project Route Map
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

ERM

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Milepost
Valve Site
Proposed Route

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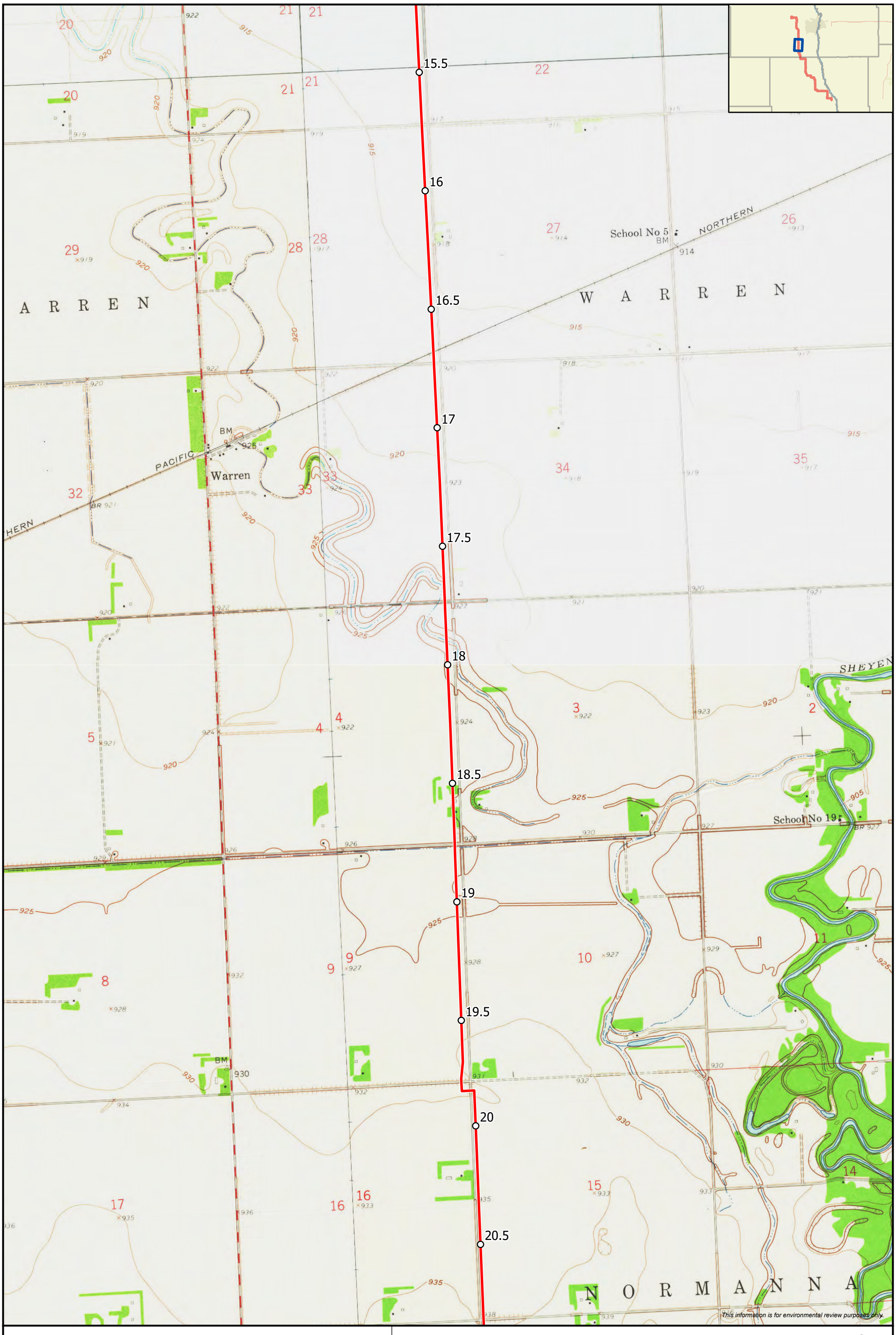

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Appendix 1A
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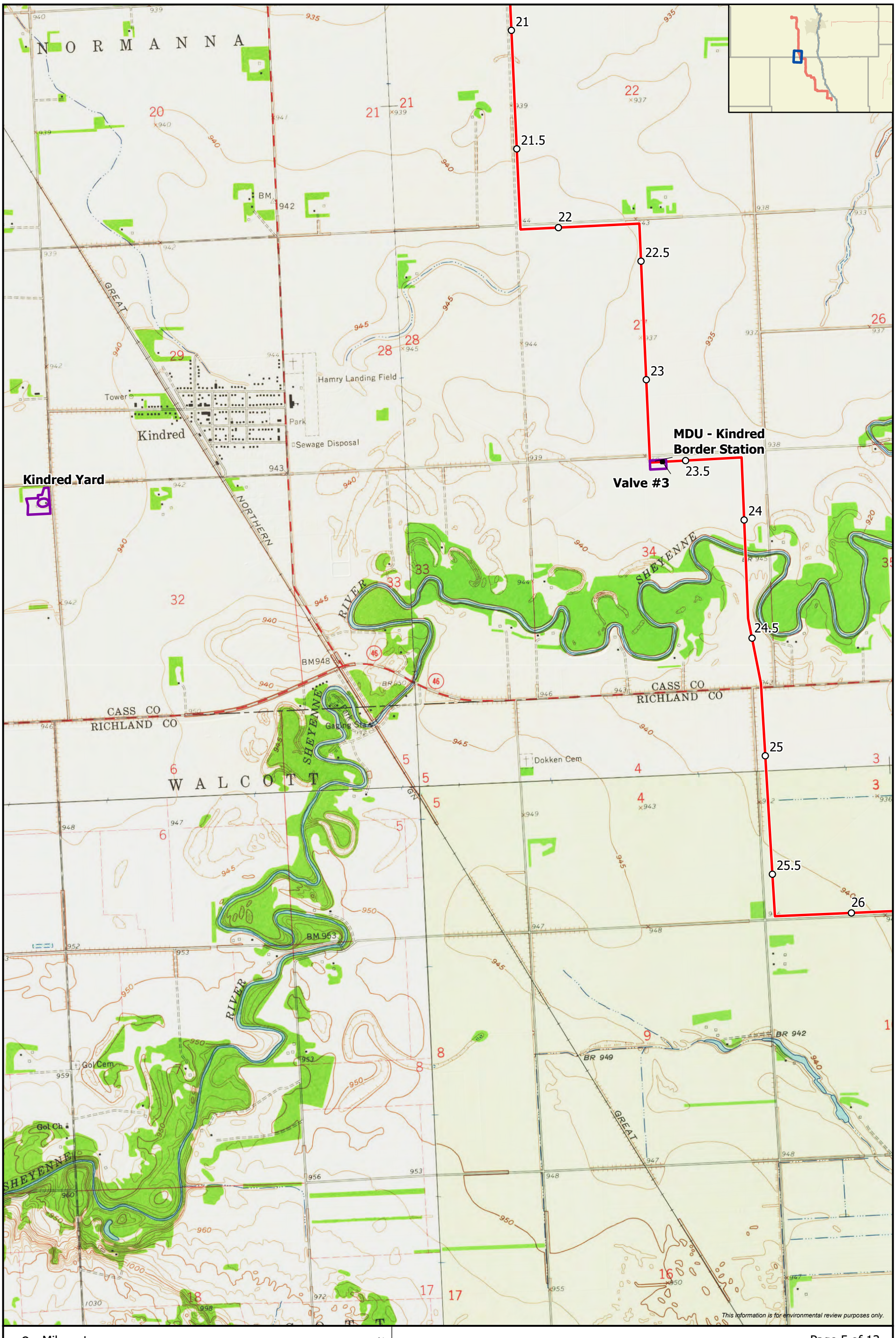
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

ERM



Milepost
Valve Site
Proposed Route
Proposed Facility

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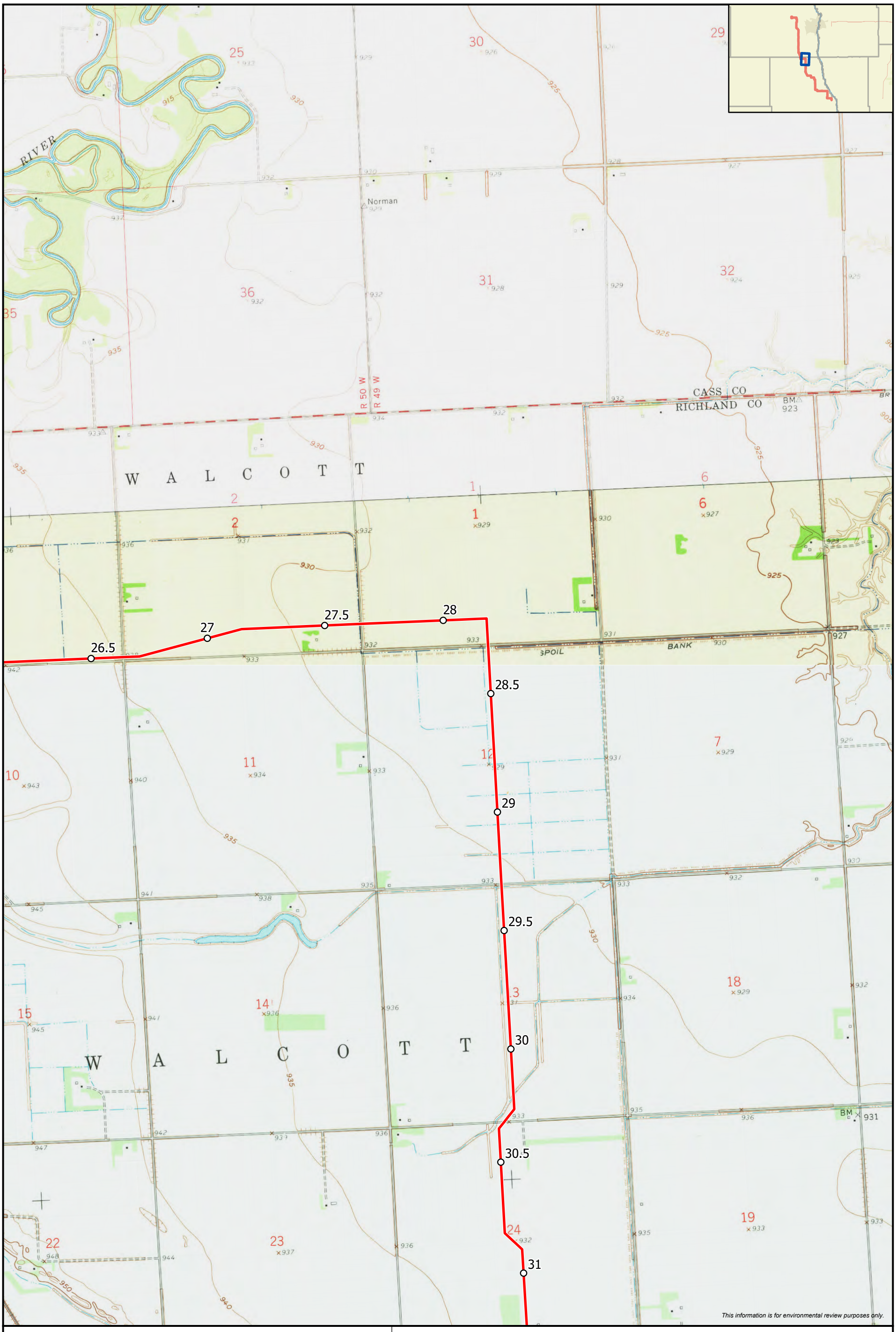
ERM



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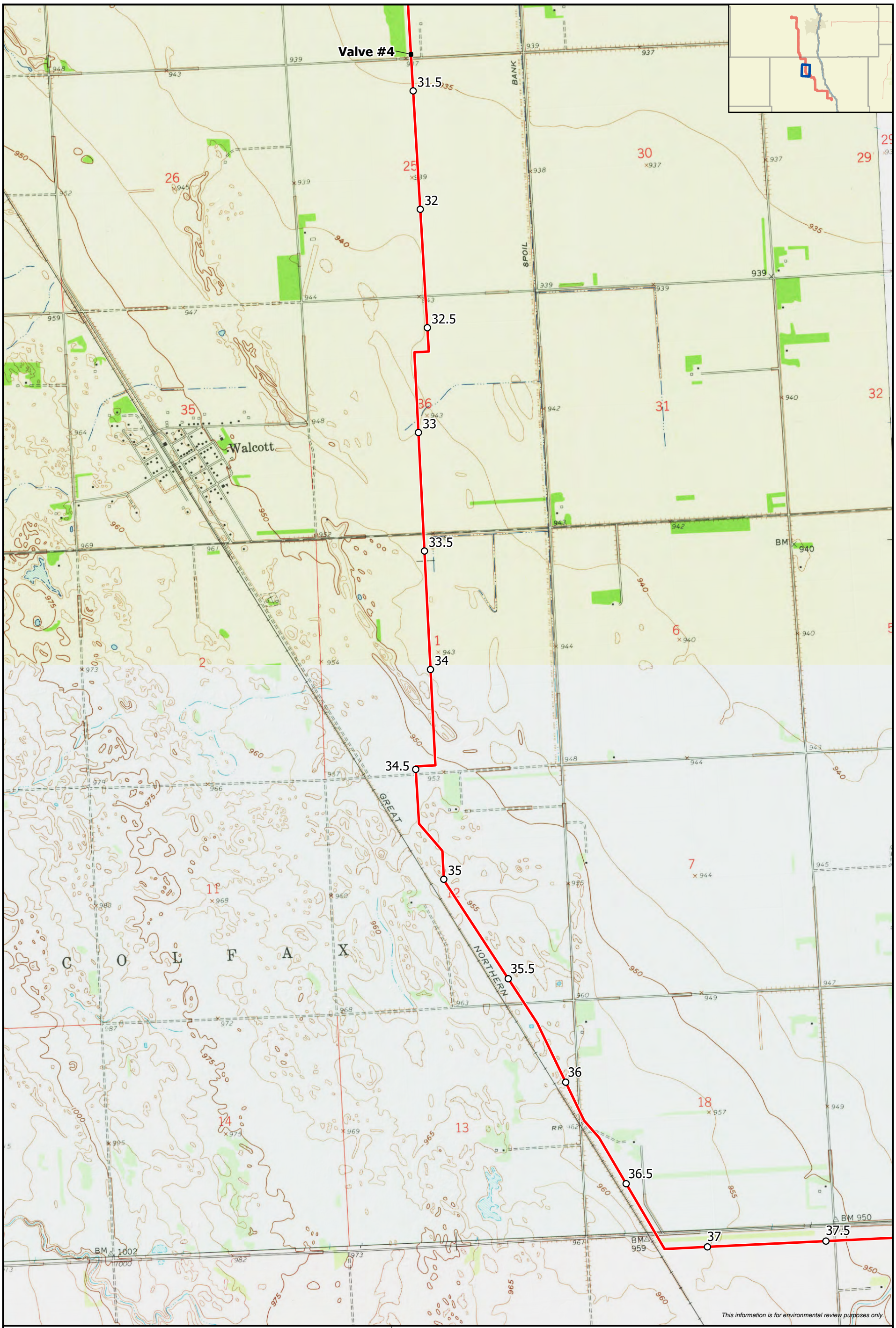
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

ERM



Milepost
Valve Site
Proposed Route

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WBI Energy Transmission, Inc.
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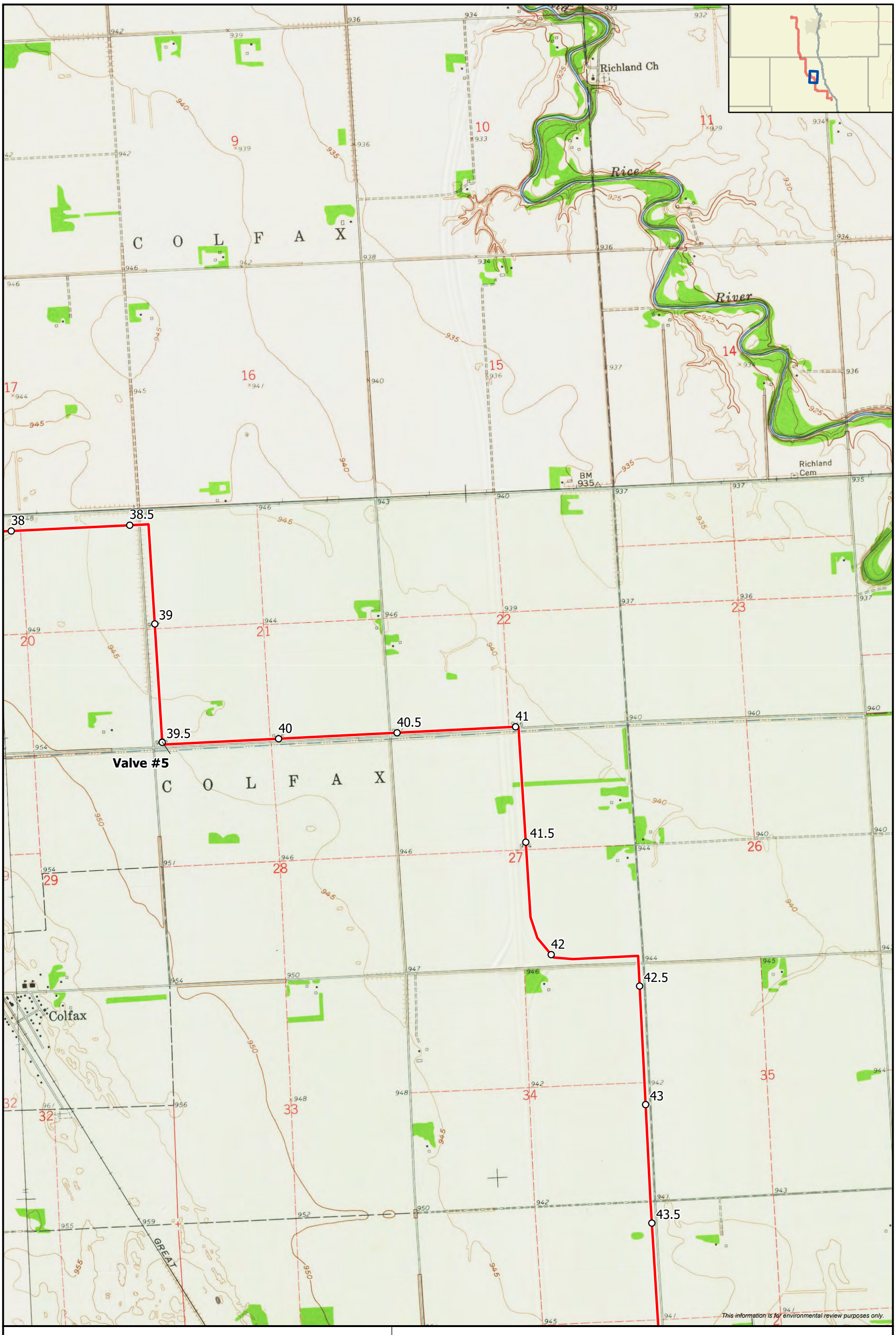
ERM



Milepost
Valve Site
Proposed Route

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Project Route Map
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
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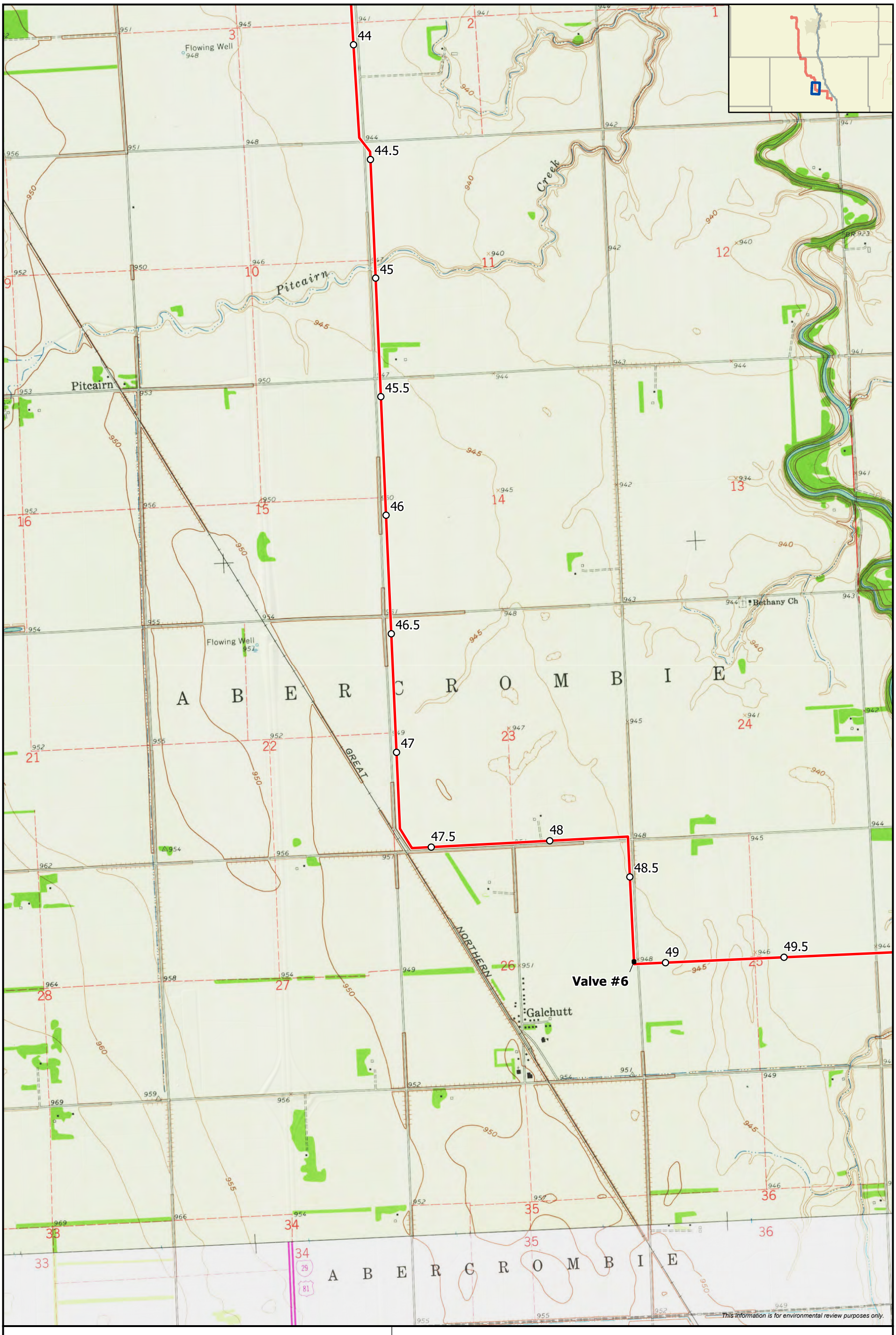

Milepost
Valve Site
Proposed Route

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WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

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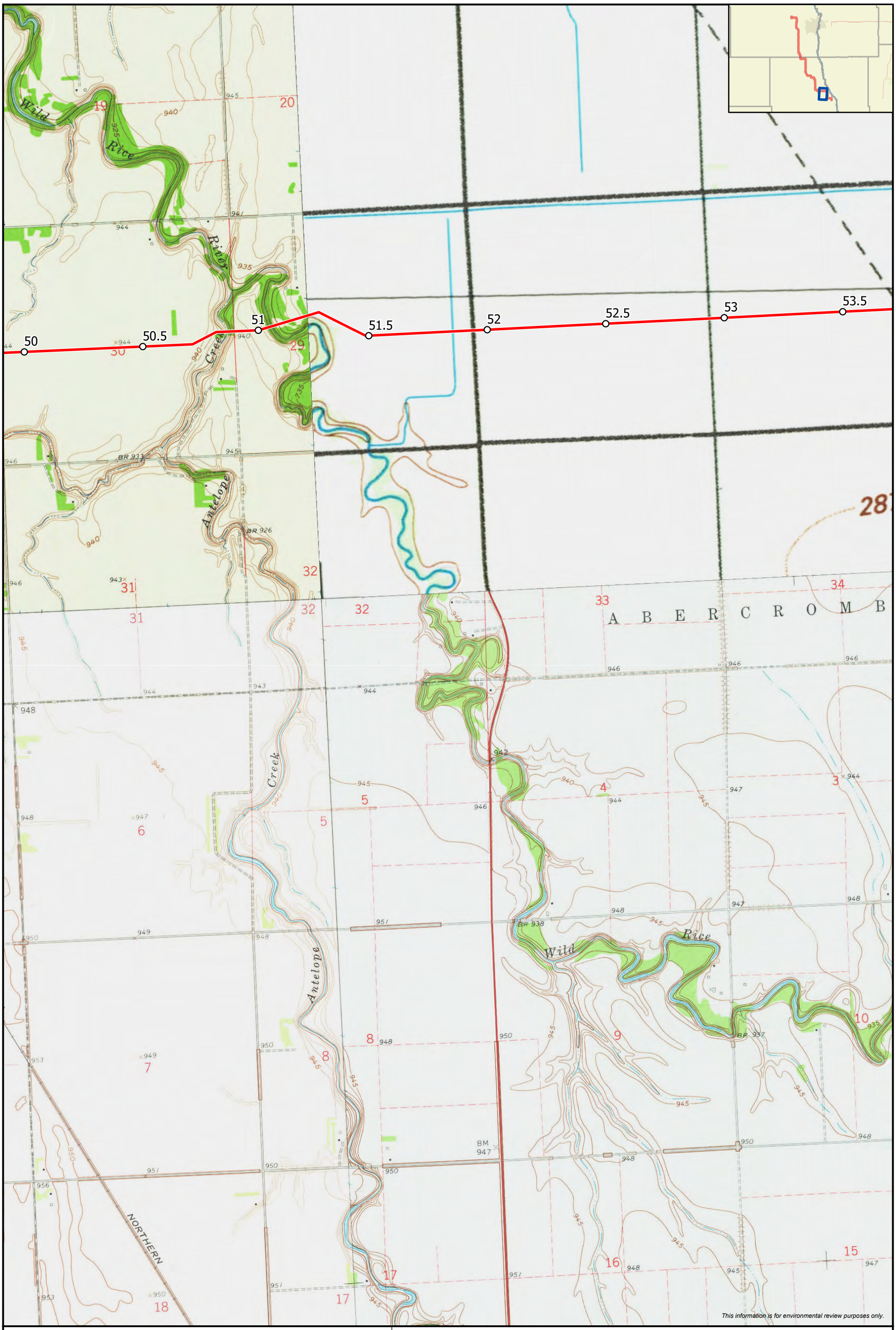

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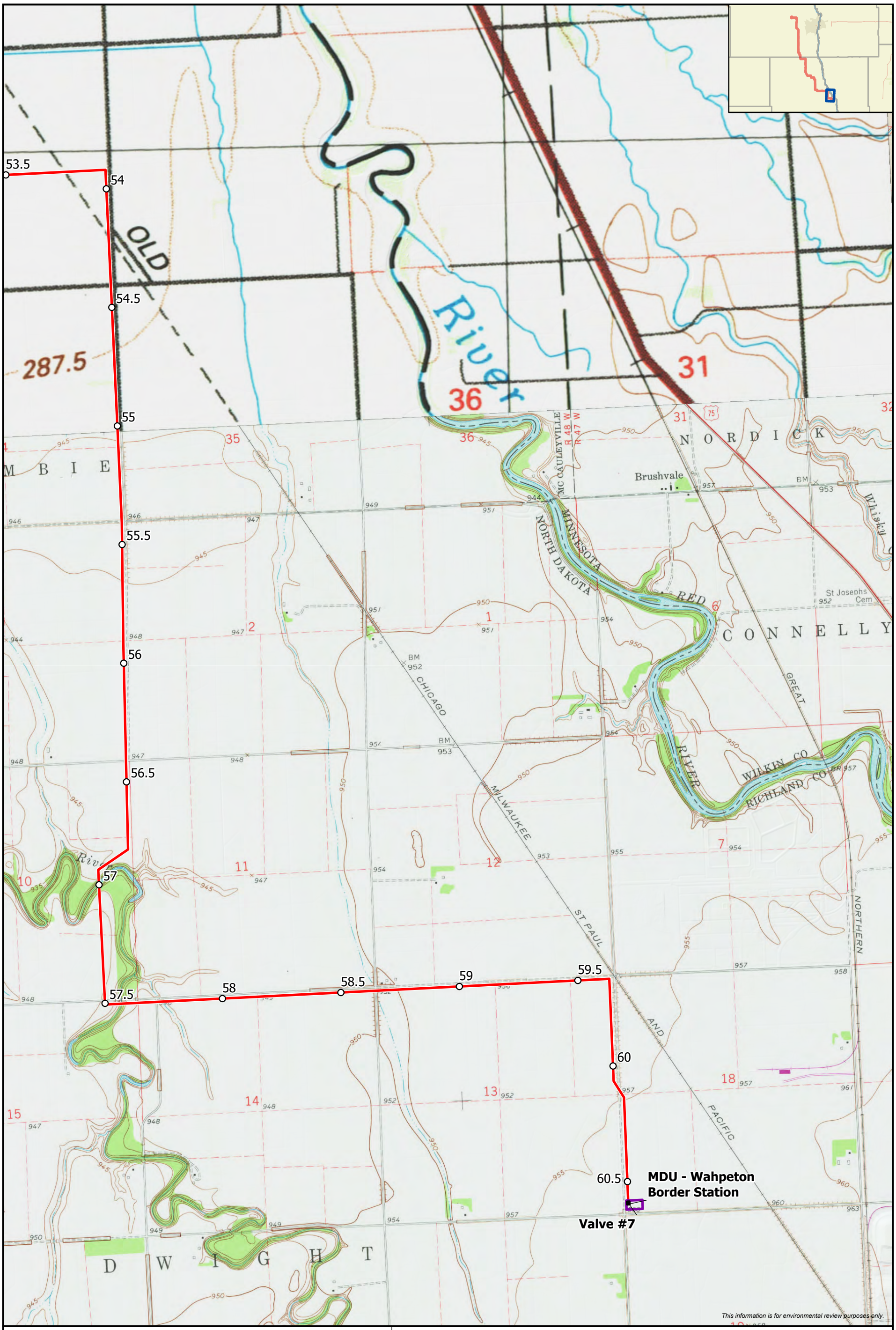
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

ERM



- Milepost
- Valve Site
- Proposed Route
- Proposed Facility

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WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

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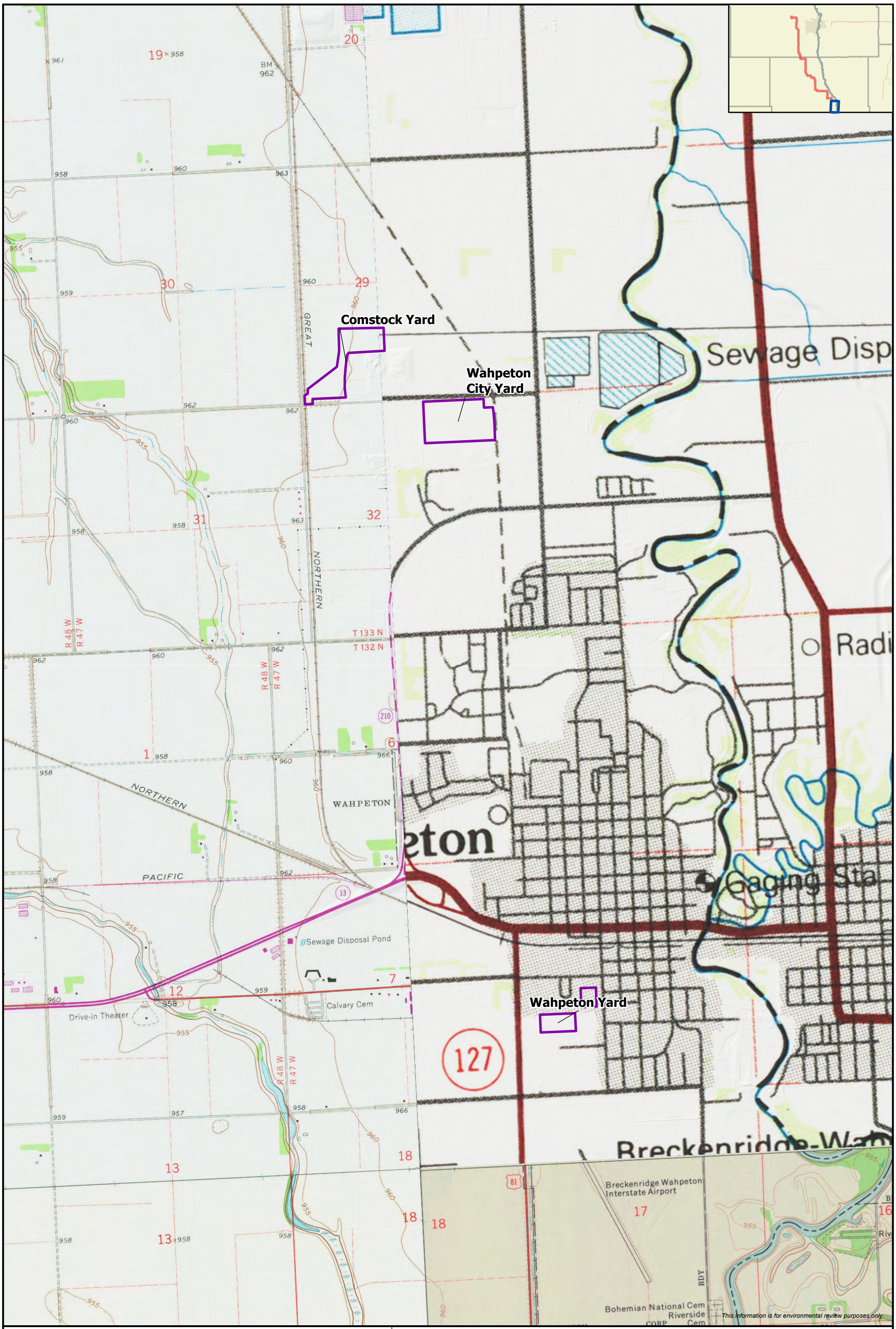

Proposed Facility

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Appendix 1A
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Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

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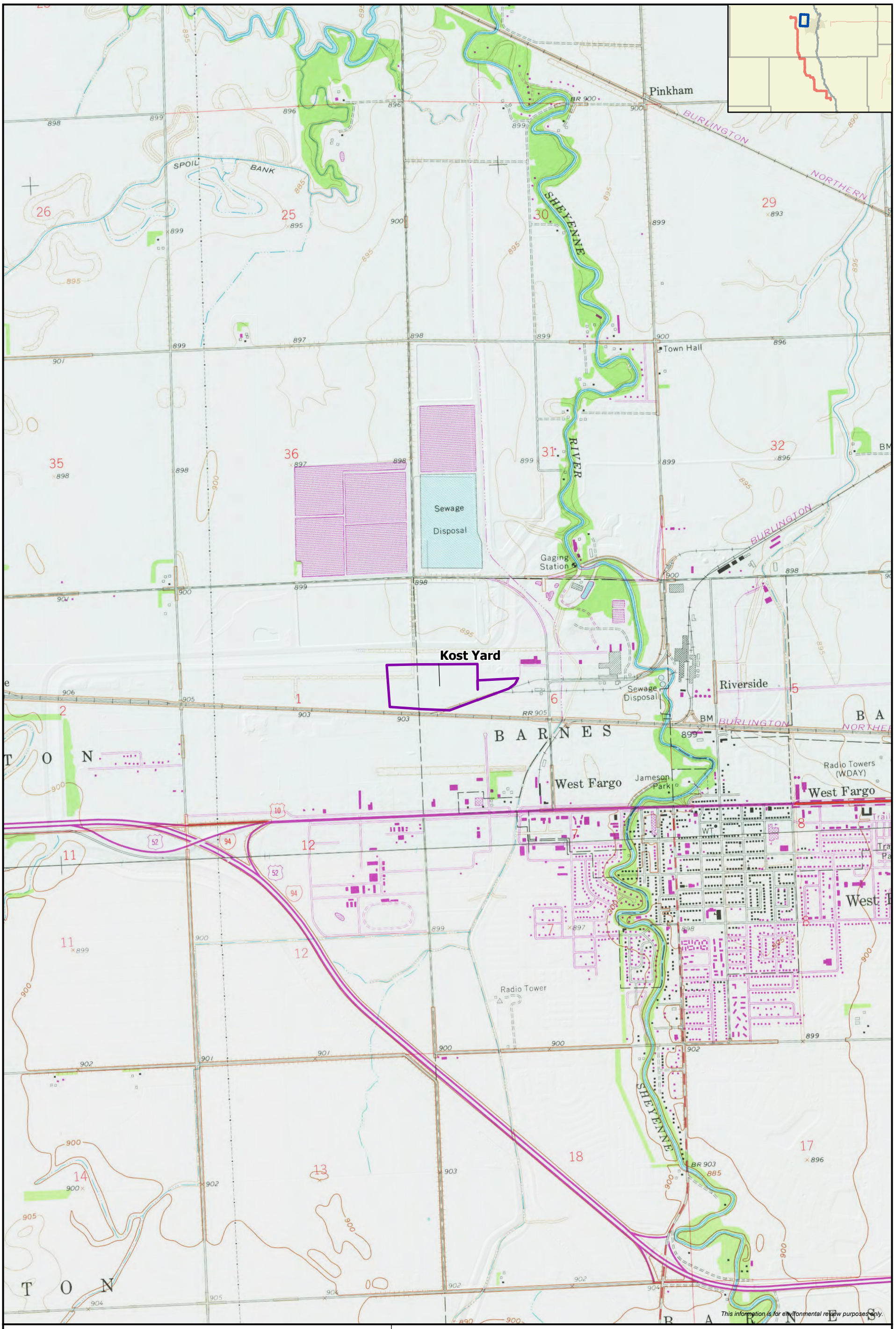

Proposed Facility

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Project Route Map
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

MPLS M:\Clients\V-X\WBI\Mapleton_to_Wahpeton\ArcGIS\M2W_FERC_Filing_Report\M2W_FERC_Filing_Report.aprx | REVISED: 02/16/2022 | SCALE: 1:24,000 when printed at 11x17 DRAWN BY: RJC

APPENDIX 1B PROJECT ROUTE MAPS (AERIAL)

WAHPETON EXPANSION PROJECT

Resource Report 1

APPENDIX 1B
Project Route Maps (Aerial)

WBI ENERGY TRANSMISSION, INC
WAHPETON EXPANSION
PROJECT

PRELIMINARY

HSE INC.
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

WBI ENERGY TRANSMISSION
An MDU Resources Group company

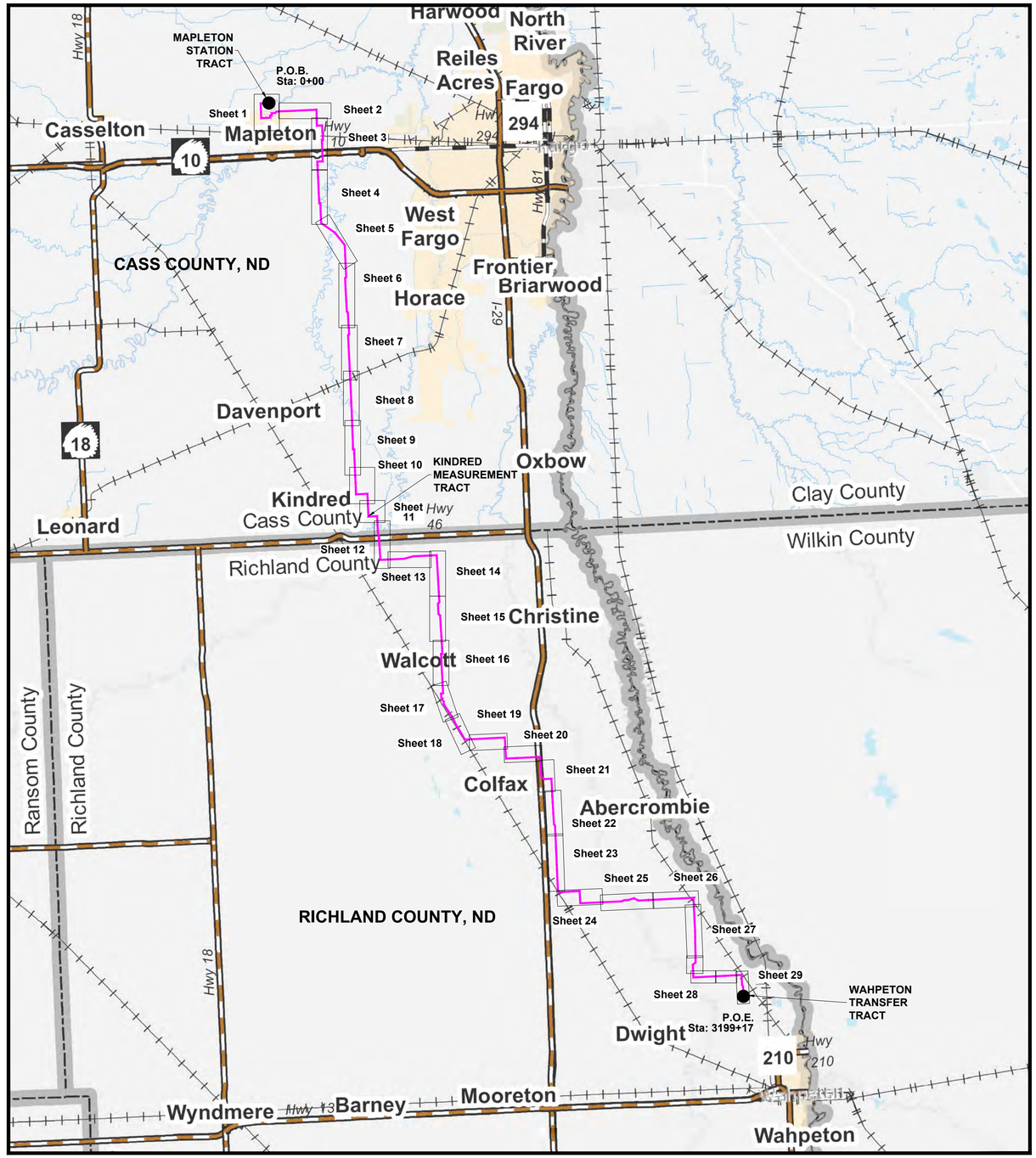
WAHPETON
EXPANSION PROJECT

Horizontal Project Length	*Revision*
319,917' / 60.59 mi	*R0*
Drawing Date	*01/19/22*

WAHPETON EXPANSION PROJECT

Cass County, North Dakota
Richland County, North Dakota

Sheet Index	
Sheet 1	Sta 1+00 - 120+00
Sheet 2	Sta 120+00 - 220+00
Sheet 3	Sta 220+00 - 360+00
Sheet 4	Sta 360+00 - 500+00
Sheet 5	Sta 500+00 - 630+00
Sheet 6	Sta 630+00 - 760+00
Sheet 7	Sta 760+00 - 870+00
Sheet 8	Sta 870+00 - 980+00
Sheet 9	Sta 980+00 - 1090+00
Sheet 10	Sta 1090+00 - 1200+00
Sheet 11	Sta 1200+00 - 1270+00
Sheet 12	Sta 1270+00 - 1370+00
Sheet 13	Sta 1370+00 - 1470+00
Sheet 14	Sta 1470+00 - 1580+00
Sheet 15	Sta 1580+00 - 1700+00
Sheet 16	Sta 1700+00 - 1800+00
Sheet 17	Sta 1800+00 - 1880+00
Sheet 18	Sta 1880+00 - 1970+00
Sheet 19	Sta 1970+00 - 2060+00
Sheet 20	Sta 2060+00 - 2170+00
Sheet 21	Sta 2170+00 - 2270+00
Sheet 22	Sta 2270+00 - 2380+00
Sheet 23	Sta 2380+00 - 2500+00
Sheet 24	Sta 2500+00 - 2640+00
Sheet 25	Sta 2640+00 - 2750+00
Sheet 26	Sta 2750+00 - 2860+00
Sheet 27	Sta 2860+00 - 2980+00
Sheet 28	Sta 2980+00 - 3080+00
Sheet 29	Sta 3080+00 - 3197+85



PRELIMINARY

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11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

Date Surveyed:	JULY 2021
Surveyed By:	AL
Drawing Date:	7/12/21
Drawn By:	D. Smith
Checked By:	J. Harned
Revision No.:	R0
Revision Date:	

HSE Project # 19-21

Coversheet

811 Know what's **below** **Call** before you dig.
MT - 1-800-424-5555
ND - 1-800-795-0555

15,000 0 15,000 30,000
scale 1" = 15,000' feet

LEGEND
Proposed Pipeline Corridor

WBI ENERGY TRANSMISSION
An MDU Resources Group company

WAHPETON EXPANSION PROJECT

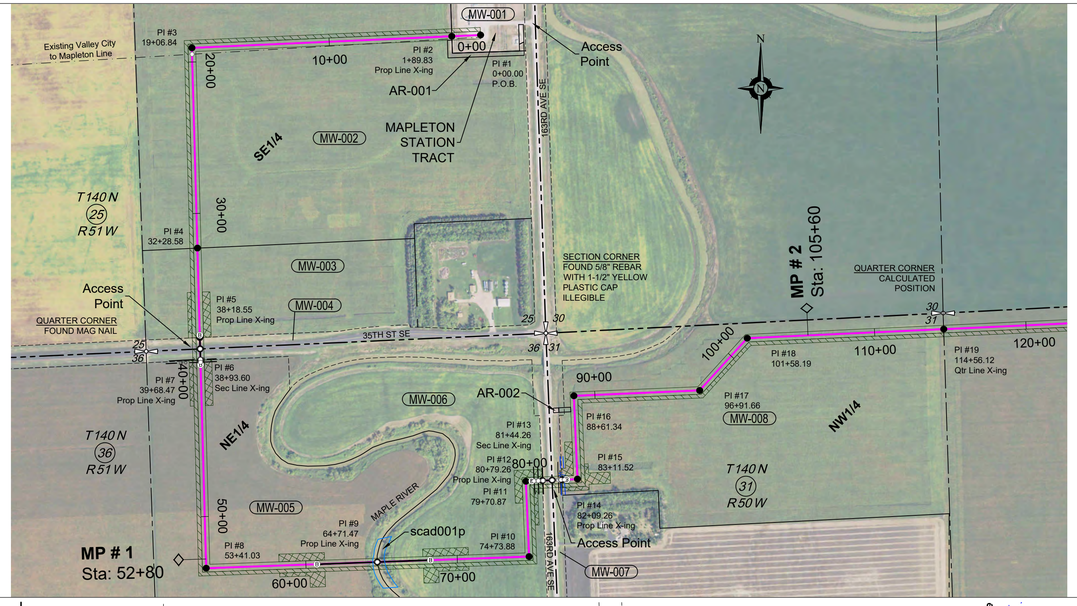
Co, State	SECTIONS 25, 36, T140N, R51W, SECTION 31, T140N, R50W, CASS COUNTY, NORTH DAKOTA							
OWNER	**MW-001** LOT 1, BLOCK 1, MINOR SUB SEC. 25, T140N, R51W 190' Uncultivated	1+90	**MW-002** PART OF N1/2 OF SE1/4 & N1/2 OF S1/2 OF SE1/4 LESS R/W, SEC. 25, T140N, R51W 3039' Cultivated	32+29	**MW-003** PART OF S1/2 OF S1/2 OF SE1/4 LESS R/W, SEC. 25, T140N, R51W 590' Cultivated	38+19	**MW-004** SEC. 25, 36, T140N, R51W 150' Uncultivated	39+68
	MW-005 GOVT LOT 1 OF NE 1/4 LESS R/W SEC. 36, T140N, R51W 2382' Cultivated - 121' Uncultivated	64+71	**MW006** GOVT LOT 2 OF NE 1/4 LESS R/W SEC. 36, T140N, R51W 1491' Cultivated - 116' Uncultivated	80+79	**MW-007** SEC. 36, T140N, R51W SEC. 31, T140N, R50W 130' Uncultivated	82+09	**MW-008** N1/2 OF NW1/4 WITH EXCEPTIONS LESS R/W, SEC. 31, T140N, R50W 3219' Cultivated - 28' Uncultivated	114+56
RODDAGE	189.83' / 11.50 Rods		3038.74' / 184.17 Rods		589.98' / 35.76 Rods		149.92' / 9.09 Rods	
	2503.00' / 151.70 Rods		1607.79' / 97.44 Rods		130.00' / 7.87 Rods		3246.86' / 196.78 Rods	

PIPE SCHMATIC

FEATURES

19+49 Valley City line
38+04 Begin Bore
38+94 35th St SE
39+63 UFO
39+82 UFO
39+97 End Bore
60+73 Begin Bore
64+71 Maple River
68+23 End Bore
80+10 Begin Bore
80+25 UFO
80+53 UFO
80+84 UFO
81+44 163rd Ave SE
81+86 UGE
81+99 UGE
82+03 Waterline
82+26 Waterline
82+41 End Bore

ALIGN



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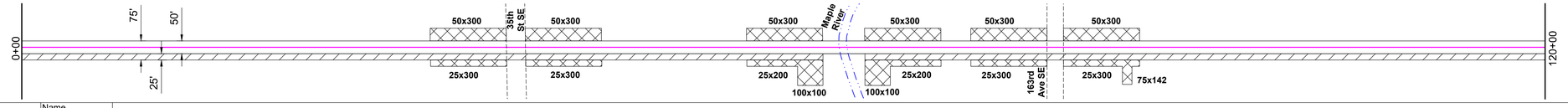
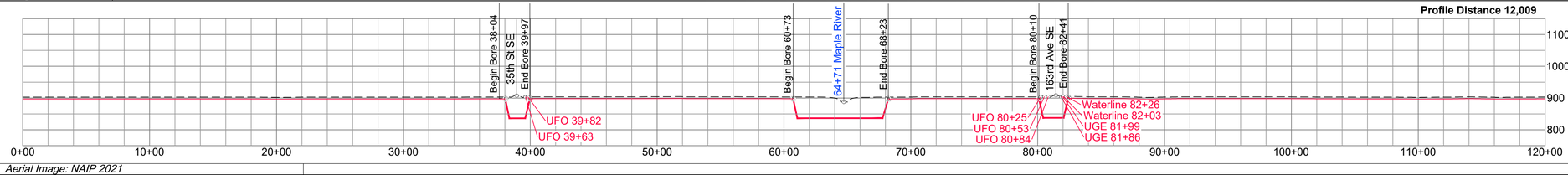


ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE		
PI #	**STATION**	DEFLECTION
PI #1	0+00.00	00°00'
PI #2	1+89.83	00°00'
PI #3	19+06.84	89°00'L
PI #4	32+28.58	00°00'
PI #5	38+18.55	00°00'
PI #6	38+93.60	00°00'
PI #7	39+68.47	00°00'
PI #8	53+41.03	90°00'L
PI #9	64+71.47	00°00'
PI #10	74+73.88	90°00'L
PI #11	79+70.87	90°00'R
PI #12	80+79.26	00°00'
PI #13	81+44.26	00°00'
PI #14	82+09.26	00°00'
PI #15	83+11.52	90°00'L
PI #16	88+61.34	90°00'R
PI #17	96+91.66	45°00'L
PI #18	101+58.19	45°00'R
PI #19	114+56.12	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies

Noxious Weeds

Saline Soil

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRONMENTAL NOTES:

1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

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11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,636	*12.75" OD, .250" WT, X65, FBE, TRL*
2	1174	*12.75" OD, .312" WT, X65, FBE w/ARO, TRL*
3	190	*12.75" OD, .375" WT, X65, FBE, TRL*

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 25, 36, T140N, R51W,
Sec. 31, T140N, R50W,
5th P.M., Cass Co., North Dakota

Sheet 1 | R0

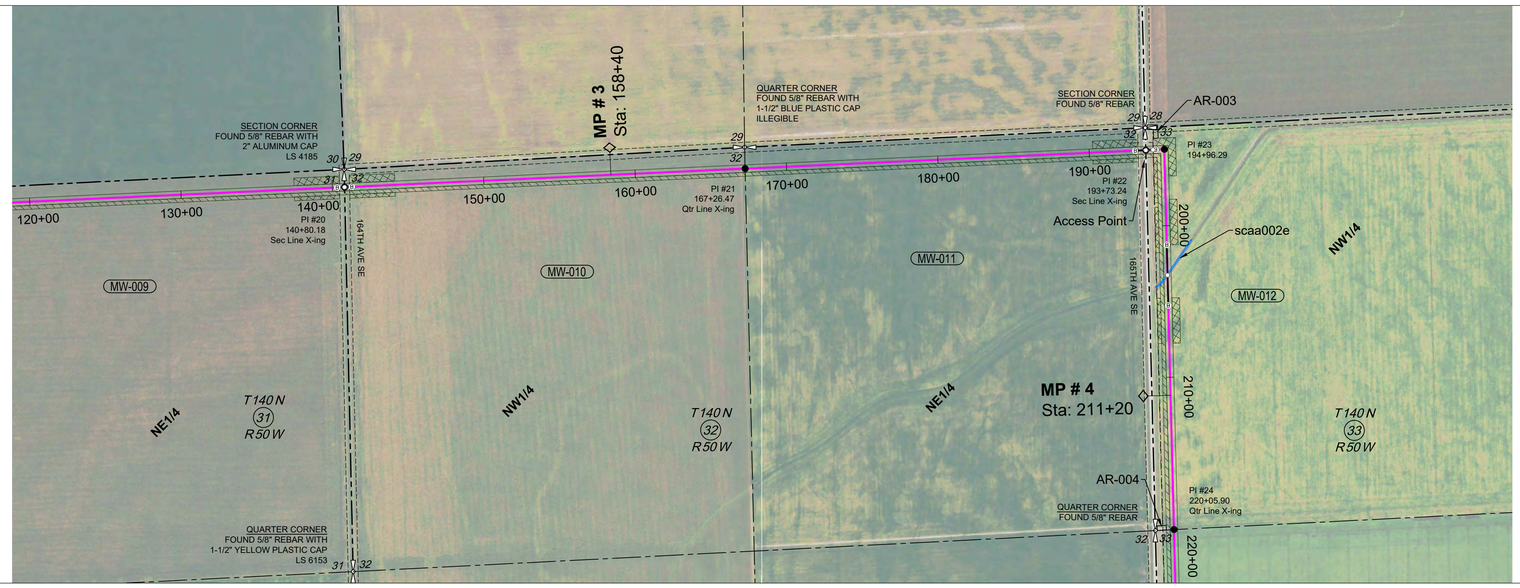
Co, State	SECTIONS 31, 32, 33, T140N, R50W, CASS COUNTY, NORTH DAKOTA			
OWNER	**MW-009** NE1/4 SEC. 31, T140N, R50W 2591' Cultivated - 33' Uncultivated	140+80	**MW-010** NW1/4 SEC. 32, T140N, R50W 2613' Cultivated - 34' Uncultivated	167+26
	MW-011 NE1/4 SEC. 32, T140N, R50W 2597' Cultivated - 50' Uncultivated	193+73	**MW-012** NW1/4 SEC. 33, T140N, R50W 2558' Cultivated - 75' Uncultivated	220+06
RODDAGE	2624.06' / 159.03 Rods		2646.91' / 160.42 Rods	
	2646.86' / 160.42 Rods		2632.65' / 159.55 Rods	

PIPE SCHMATIC

FEATURES

140+32 Begin Bore
140+80 164th Ave SE
141+28 End Bore
193+04 Begin Bore
193+73 165th Ave SE
194+21 Cenex Line
194+38 End Bore
201+27 Begin Bore
203+27 Irr Unit
205+27 End Bore

ALIGN



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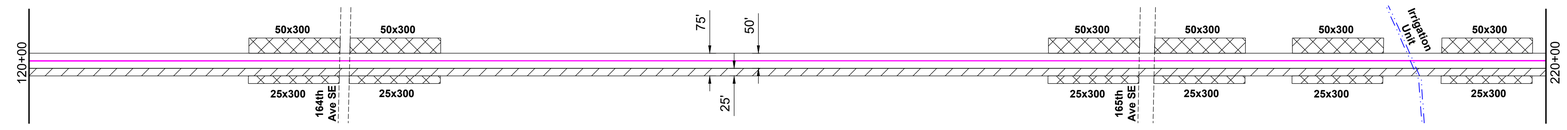
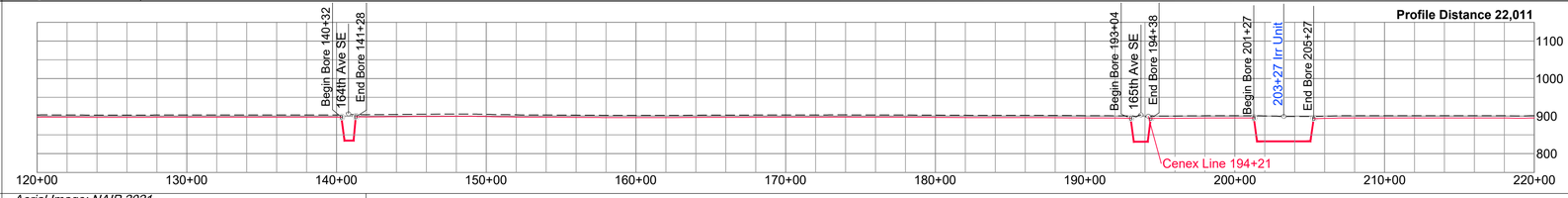


ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE

PI #	STATION	DEFLECTION
PI #20	140+80.18	00°00'
PI #21	167+26.47	00°00'
PI #22	193+73.24	00°00'
PI #23	194+96.29	91°00'R
PI #24	220+05.90	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
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* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

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FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,466	12.75" OD, .250" WT, X65, FBE, TRL
2	534	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

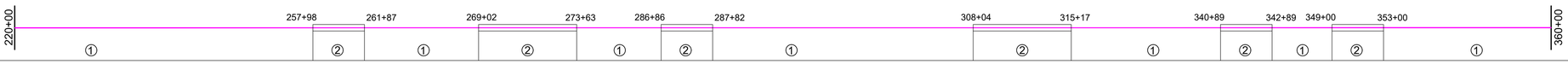
Sec. 31, 32, 33, T140N, R50W,
5th P.M., CASS Co., North Dakota

Sheet 2 | R0

Co, State	SECTION 33, T140N, R50W, SECTIONS 4, 8, 9, T139N, R50W, CASS COUNTY, NORTH DAKOTA

	MW-013	MW-014	MW-015	MW-016	MW-017	MW-018	MW-019	MW-020	MW-021	MW-022	MW-023	MW-024	MW-025
OWNER	N1/2 OF THE SW1/4 SEC. 33, T140N, R50W 2544' Cultivated	PART OF THE S1/2 OF SW1/4 SEC. 33, T140N, R50W 1264' Cultivated	SEC. 33, T140N, R50W SEC. 4, T139N, R50W 130' Uncultivated	PART OF THE N1/2 LYING NORTH OF RAILROAD R/W SEC. 4, T139N, R50W 821' Cultivated - 168' Uncultivated	SEC. 4, T139N, R50W 159' Cultivated - 243' Uncultivated	LOT 1, BLOCK 1, KINDRED I94 EXIT SUBD SEC. 4, T139N, R50W 1395' Cultivated - 39' Uncultivated	SW1/4 WITH EXCEPTION LESS R/W SEC. 4, T139N, R50W 2141' Cultivated	SEC. 4 & 9, T139N, R50W 60' Cultivated - 515' Uncultivated	LOT 1, BLOCK 1, LEO'S SUBD WITH EXCEPTIONS SEC. 9, T139N, R50W 2620' Cultivated	SEC. 8 & 9, T139N, R50W 30' Cultivated - 140' Uncultivated	PART OF NE1/4 WITH EXCEPTIONS SEC. 8, T139N, R50W 808' Cultivated	PART OF NE1/4 SEC. 8, T139N, R50W 100' Cultivated	PART OF NE1/4 WITH EXCEPTIONS SEC. 8, T139N, R50W 148' Cultivated
RODDAGE	2543.88' / 154.17 Rods	1263.50' / 76.58 Rods	130.00' / 7.88 Rods	988.54' / 59.91 Rods	402.11' / 24.37 Rods	1434.04' / 86.91 Rods	2141.34' / 129.78 Rods	575.01' / 34.85 Rods	2619.77' / 158.77 Rods	170.00' / 10.30 Rods	807.91' / 48.96 Rods	99.85' / 6.05 Rods	147.76' / 8.96 Rods

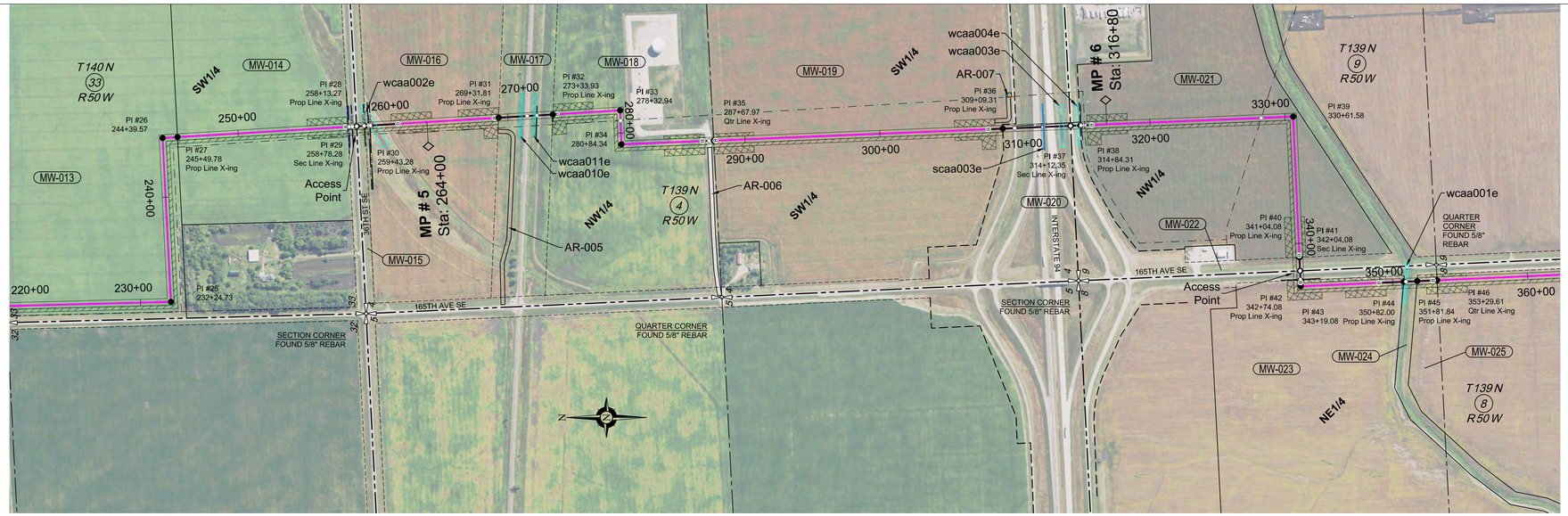
PIPE SCHMATIC



FEATURES

257+98 Begin Bore
258+16 OHE
258+22 Waterline
258+25 Nustar Line
258+46 UFO
258+78 36th St SE
259+35 UFO
259+66 UFO
259+80 UFO
261+87 End Bore
269+02 Begin Bore
271+43 BNSF RR
272+15 UFO
273+63 End Bore
279+08 Cenex Line
286+86 Begin Bore
287+34 Driveway
287+82 End Bore
308+04 Begin Bore
309+98 Access Rd
312+09 Interstate 94
314+12 Access Rd
314+90 UGE
315+17 Cenex Line
315+70 End Bore
328+25 Cenex Line
340+89 Begin Bore
342+04 165th Ave SE
342+68 UFO
342+89 End Bore
349+00 Begin Bore
350+99 Irr Unit
353+00 End Bore

ALIGN

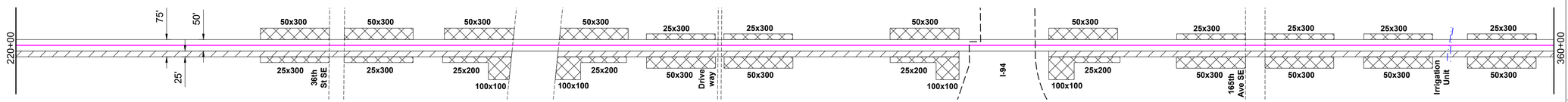


PI TABLE		
PI #	STATION	DEFLECTION
PI #25	232+24.73	91°30'L
PI #26	244+39.57	89°30'R
PI #27	245+49.78	00°00'
PI #28	258+13.27	00°00'
PI #29	258+78.28	00°00'
PI #30	259+43.28	00°00'
PI #31	269+31.81	00°00'
PI #32	273+33.93	00°00'
PI #33	278+32.94	91°30'R
PI #34	280+84.34	90°00'L
PI #35	287+67.97	00°00'
PI #36	309+09.31	00°00'
PI #37	314+12.35	00°00'
PI #38	314+84.31	00°00'
PI #39	330+61.58	90°00'R
PI #40	341+04.08	00°00'
PI #41	342+04.08	00°00'
PI #42	342+74.08	00°00'
PI #43	343+19.08	90°00'L
PI #44	350+82.00	00°00'
PI #45	351+81.84	00°00'
PI #46	353+29.61	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- *Wetlands Waterbodies*
- *Noxious Weeds*
- *Saline Soil*

WORK SPACE N.T.S.



- *Permanent Easement*
- *Temporary Workspace*
- *Additional Temp. Workspace*

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
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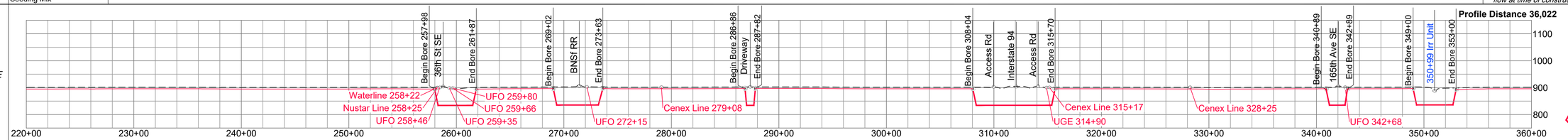
ENVIRO		
Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



PRELIMINARY

Ref. Dwgs. *Aerial Image: NAIP 2021*

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HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,689	12.75" OD, .250" WT, X65, FBE, TRL
2	1545	12.75" OD, .312" WT, X65, FBE w/ARO, TRL
3	766	12.75" OD, .500" WT, X65, FBE w/ARO, TRL (I-94)

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

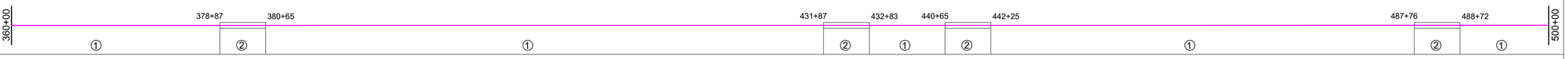
Sec. 33, T140N, R50W,
Sec. 4, 8, 9, T139N, R50W,
5th P.M., Cass Co., North Dakota

Sheet 3 | R0

Co, State	SECTION 8, 17, 20, 21, 28, T139N, R50W, CASS COUNTY, NORTH DAKOTA									
OWNER	**MW-026** PART OF SE1/4 WITH EXCEPTIONS SEC. 8, T139N, R50W 2619' Cultivated - 33' Uncultivated	379+81	**MW-027** PART OF NE1/4 WITH EXCEPTIONS SEC. 17, T139N, R50W 1283' Cultivated - 154' Uncultivated	394+18	**MW-028** PART OF SOUTH 72 RODS WITH EXCEPTIONS SEC. 17, T139N, R50W 1190' Cultivated	406+08	**MW-029** AUDITORS LOT 3 OF SOUTH HALF SEC. 17, T139N, R50W 887' Cultivated	414+95	**MW-030** AUDITORS LOT 1 OF SE1/4 SEC. 17, T139N, R50W 1707' Cultivated - 33' Uncultivated	432+35
RODDAGE	2651.84' / 160.72 Rods		1436.77' / 87.08 Rods		1190.04' / 72.12 Rods		886.67' / 53.74 Rods		1740.20' / 105.47 Rods	

OWNER	**MW-031** NE1/4 SEC. 20, T139N, R50W 845' Cultivated	440+80	**MW-032** SEC. 21 & 22, T139N, R50W 130' Uncultivated	442+10	**MW-033** NW1/4 SEC. 21, T139N, R50W 1949' Cultivated	461+58	**MW-034** PART OF THE SW 1/4 LESS R/W SEC. 21, T139N, R50W 2518' Cultivated - 148' Uncultivated	488+24
RODDAGE	844.78' / 51.20 Rods		130.00' / 7.88 Rods		1948.58' / 118.10 Rods		2665.68' / 161.56 Rods	

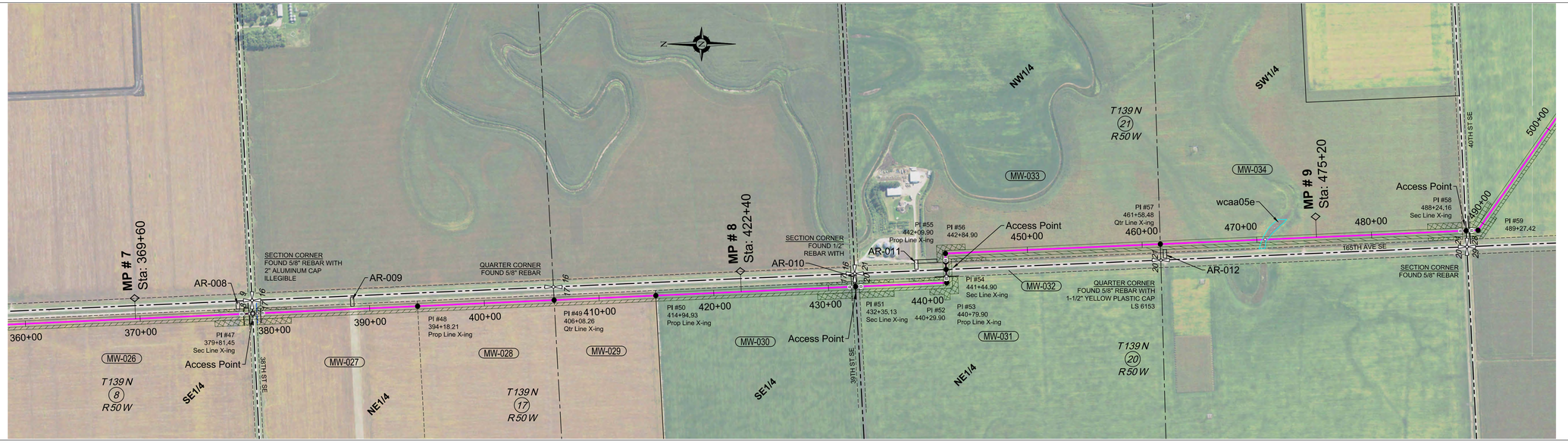
PIPE SCHMATIC



FEATURES

378+87 End Bore
379+02 UFO
379+53 UFO
379+81 38th St SE
380+19 Water Line
380+50 OHE
380+65 End Bore
431+87 Begin Bore
432+02 OHE
432+39 39th St SE
432+83 End Bore
440+65 Begin Bore
440+84 UFO
441+45 165th Ave SE
442+25 End Bore
470+72 Watercourse
487+76 Begin Bore
488+24 40th St SE
488+50 UFO
488+72 End Bore

ALIGN

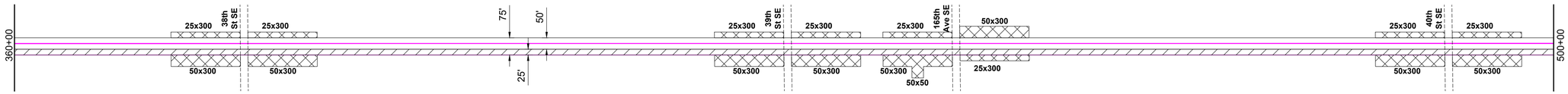


PI TABLE		
PI #	STATION	DEFLECTION
PI #47	379+81.45	00°00'
PI #48	394+18.21	00°00'
PI #49	406+08.26	00°00'
PI #50	414+94.93	00°00'
PI #51	432+35.13	00°00'
PI #52	440+29.90	90°00'L
PI #53	440+79.90	00°00'
PI #54	441+44.90	00°00'
PI #55	442+09.90	00°00'
PI #56	442+84.90	90°00'R
PI #57	461+58.48	00°00'
PI #58	488+24.16	00°00'
PI #59	489+27.42	52°30'L

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

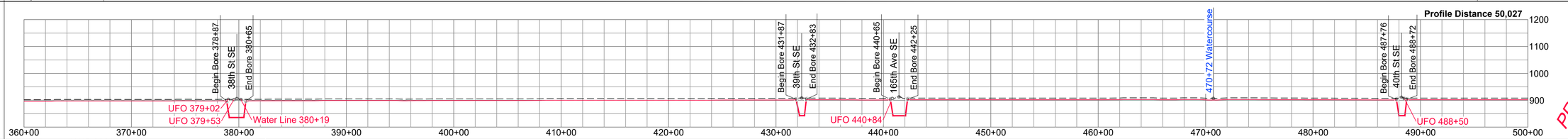
ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PROFILE



PRELIMINARY

Ref. Dwgs. *Aerial Image: NAIP 2021*

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
**Distances are Grid Distances.*
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	13,469	*12.75" OD, .250" WT, X65, FBE, TRL*
2	531	*12.75" OD, .312" WT, X65, FBE w/ARO, TRL*

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

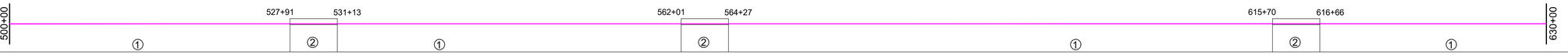
WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 8, 17, 20, 21, 28, T139N, R50W, 5th P.M., Cass Co., North Dakota

Sheet 4 | R0

Co, State	SECTIONS 28, 33, 34, T139N, R50W, SECTIONS 3, T138N, R50W, CASS COUNTY, NORTH DAKOTA													
OWNER	**MW-035** NW1/4 LESS PARCELS SEC. 28, T139N, R50W 3220' Cultivated - 33' Uncultivated	520+78	**MW-036** NE1/4 SEC. 28, T139N, R50W 878' Cultivated - 58' Uncultivated	530+13	**MW-037** SE1/4 SEC. 28, T139N, R50W 3191' Cultivated - 71' Uncultivated	562+75	**MW-038** NE1/4 SEC. 33, T139N, R50W 70' Uncultivated	563+45	**MW-038A** NW1/4 SEC. 34, T139N, R50W 2594' Cultivated - 33' Uncultivated	589+72	**MW-038B** SW1/4 SEC. 34, T139N, R50W 2613' Cultivated - 33' Uncultivated	616+18	**MW-041** NW1/4 SEC. 3, T138N, R50W 2440' Cultivated - 98' Uncultivated	
RODDAGE	3253.52' / 197.18 Rods		935.55' / 56.70 Rods		3261.75' / 197.68 Rods		69.93' / 4.24 Rods		2626.89' / 159.21 Rods		2646.29' / 160.38 Rods		2537.84' / 153.81 Rods	

PIPE SCHMATIC



FEATURES

527+91 Begin Bore
529+32 Watercourse
531+13 End Bore
562+01 Begin Bore
562+75 41st St SE
563+14 Strm Pipe
563+23 Strm Pipe
563+36 Strm Pipe
563+45 166th Ave SE
564+27 End Bore
615+70 Begin Bore
616+18 42nd St SE
616+66 End Bore

ALIGN

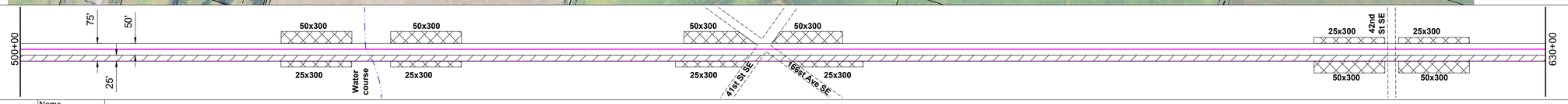
NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

PI TABLE

PI #	STATION	DEFLECTION
PI #60	520+77.68	00°00'
PI #61	527+91	16°30'R
PI #62	530+13.23	00°00'
PI #63	562+74.98	00°00'
PI #64	563+44.91	00°00'
PI #65	565+41.59	36°00'R
PI #66	589+71.80	00°00'
PI #67	616+18.09	00°00'

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

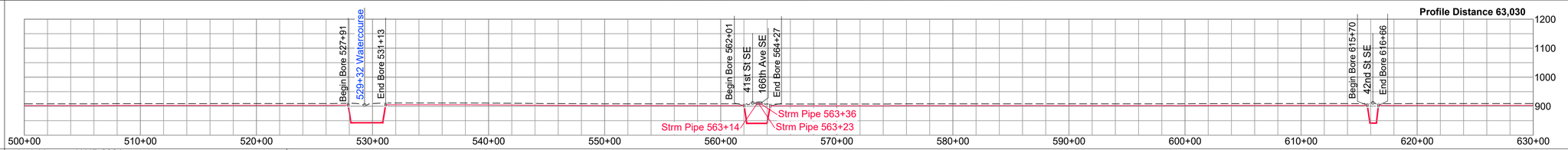
ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PROFILE



PRELIMINARY

Ref. Dwgs. *Aerial Image: NAIP 2021*

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
**Distances are Grid Distances.*
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	12,356	*12.75" OD, .250" WT, X65, FBE, TRL*
2	644	*12.75" OD, .312" WT, X65, FBE w/ARO, TRL*

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

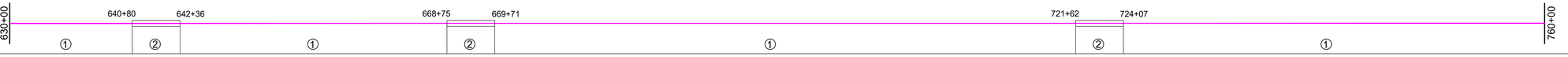
Sec. 28, 33, T139N, R50W,
Sec. 3, 4, T138N, R50W,
5th P.M., Cass Co., North Dakota

Sheet 5 | R0

Co, State	SECTIONS 4, 9, 15, 16, T138N, R50W, CASS COUNTY, NORTH DAKOTA								
OWNER	641+58	**MW-042** GOVT LOT 4 & SE1/4 OF THE NE1/4 SEC. 4, T138N, R50W 66' Uncultivated	642+24	**MW-043** N1/2 OF THE SE1/4 SEC. 4, T138N, R50W 1370' Cultivated	655+94	**MW-044** S1/2 OF THE SE1/4 WITH EXCEPTION SEC. 4, T138N, R50W 1296' Cultivated - 33' Uncultivated	669+23	**MW-045** NE1/4 SEC. 9, T138N, R50W 2615' Cultivated - 33' Uncultivated	695+71
RODDAGE		65.79' / 3.99 Rods		1370.27' / 83.05 Rods		1329.25' / 80.56 Rods		2647.65' / 160.46 Rods	

OWNER									
	695+71	**MW-046** SE1/4 SEC. 9, T138N, R50W 2630' Cultivated - 47' Uncultivated	722+48	**MW-047** E1/2 OF THE E1/2 OF THE NE1/4 SEC. 16, T138N, R50W 60' Uncultivated	723+08	**MW-048** NW1/4 SEC. 15, T138N, R50W 2609' Cultivated - 47' Uncultivated	749+64	**MW-049** SW1/4 SEC. 15, T138N, R50W 2641' Cultivated - 49' Uncultivated	
RODDAGE		2677.46' / 162.27 Rods		60.17' / 3.65 Rods		2655.99' / 160.97 Rods		2689.66' / 163.01 Rods	

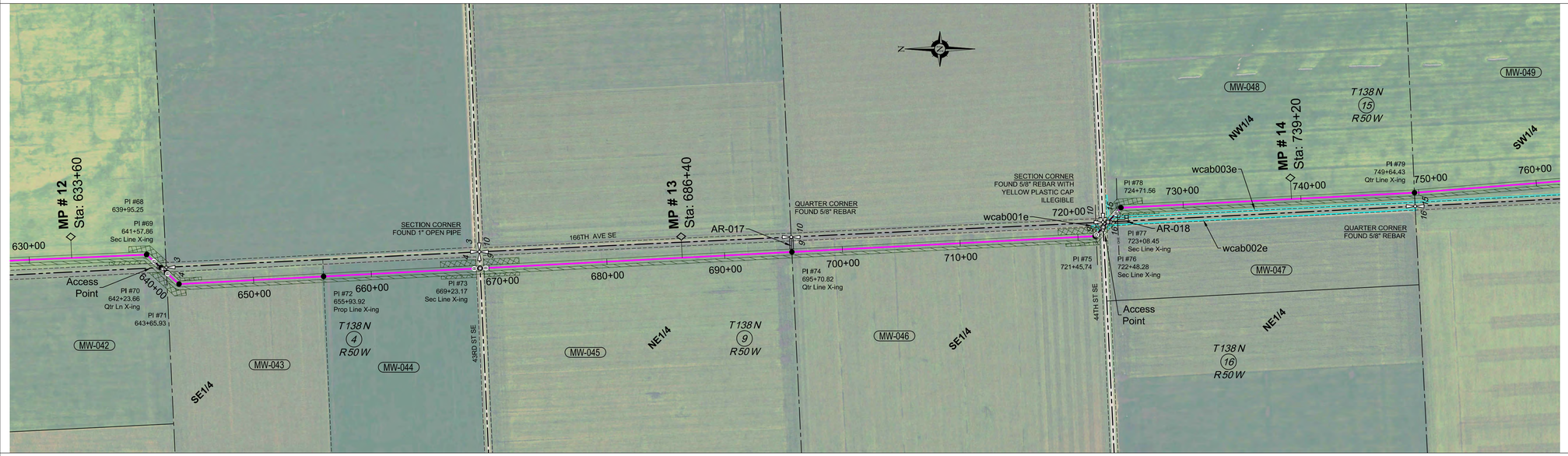
PIPE SCHMATIC



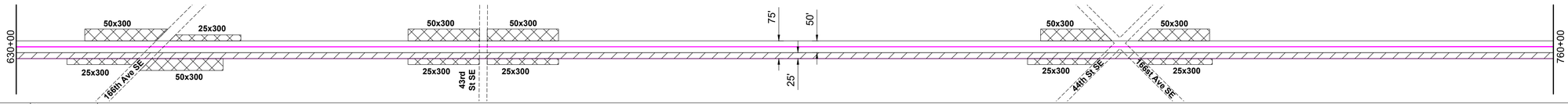
FEATURES

640+80 Begin Bore
641+77 166th Ave SE
642+36 End Bore
668+75 Begin Bore
669+23 43rd St SE
669+71 End Bore
721+62 Begin Bore
721+59 OHE
722+44 Strm Pipe
722+48 44th St SE
723+08 166th Ave SE
723+08 Strm Pipe
724+07 End Bore
724+26 OHE

ALIGN



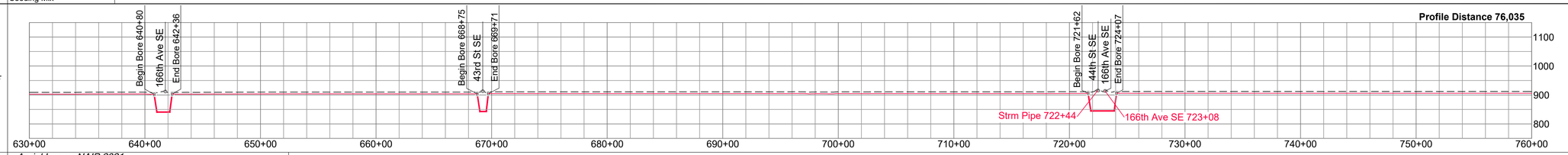
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE

PI #	STATION	DEFLECTION
PI #68	639+95.25	45°00'R
PI #69	641+57.86	00°00'
PI #70	642+23.66	00°00'
PI #71	643+65.93	45°00'L
PI #72	655+93.92	00°00'
PI #73	669+23.17	00°00'
PI #74	695+70.82	00°30'
PI #75	721+45.74	45°00'L
PI #76	722+48.28	00°00'
PI #77	723+08.45	00°00'
PI #78	724+71.56	45°00'R
PI #79	749+64.43	1°30'L

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- *Wetlands Waterbodies*
- *Noxious Weeds*
- *Saline Soil*
- *Permanent Easement*
- *Temporary Workspace*
- *Additional Temp. Workspace*

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
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PRELIMINARY

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	12,503	12.75" OD, .250" WT, X65, FBE, TRL
2	497	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

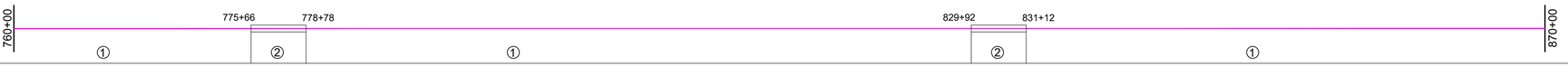
Sec. 4, 9, 15, 16, T138N, R50W,
5th P.M., Cass Co., North Dakota

Sheet 6 | R0

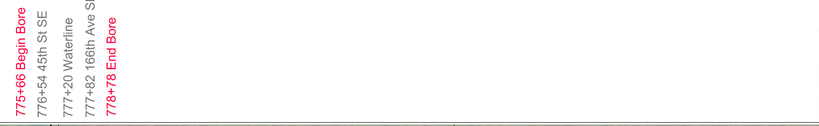
Co, State	SECTIONS 15, 21, 22, 28, T138N, R50W, CASS COUNTY, NORTH DAKOTA						
OWNER	776+54	**MW-050** NW1/4 SEC. 22, T138N, R50W 149' Uncultivated	777+82	**MW-051** NE1/4 SEC. 21, T138N, R50W 2664' Cultivated - 33' Uncultivated	803+90	**MW-052** SE1/4 SEC. 21, T138N, R50W 2629' Cultivated - 33' Uncultivated	830+52
RODDAGE		149.04' / 9.03 Rods		2696.66' / 163.43 Rods		2661.93' / 161.33 Rods	

OWNER	830+52	**MW-053** N1/2 OF THE NE1/4 SEC. 28, T138N, R50W 1294' Cultivated - 33' Uncultivated	843+78	**MW-054** S1/2 OF THE NE1/4 SEC. 28, T138N, R50W 1327' Cultivated	857+05	**MW-055** SE1/4 LESS R/W SEC. 28, T138N, R50W 2350' Cultivated
RODDAGE		1326.57' / 80.40 Rods		1326.57' / 80.40 Rods		2349.51' / 142.39 Rods

PIPE SCHMATIC



FEATURES



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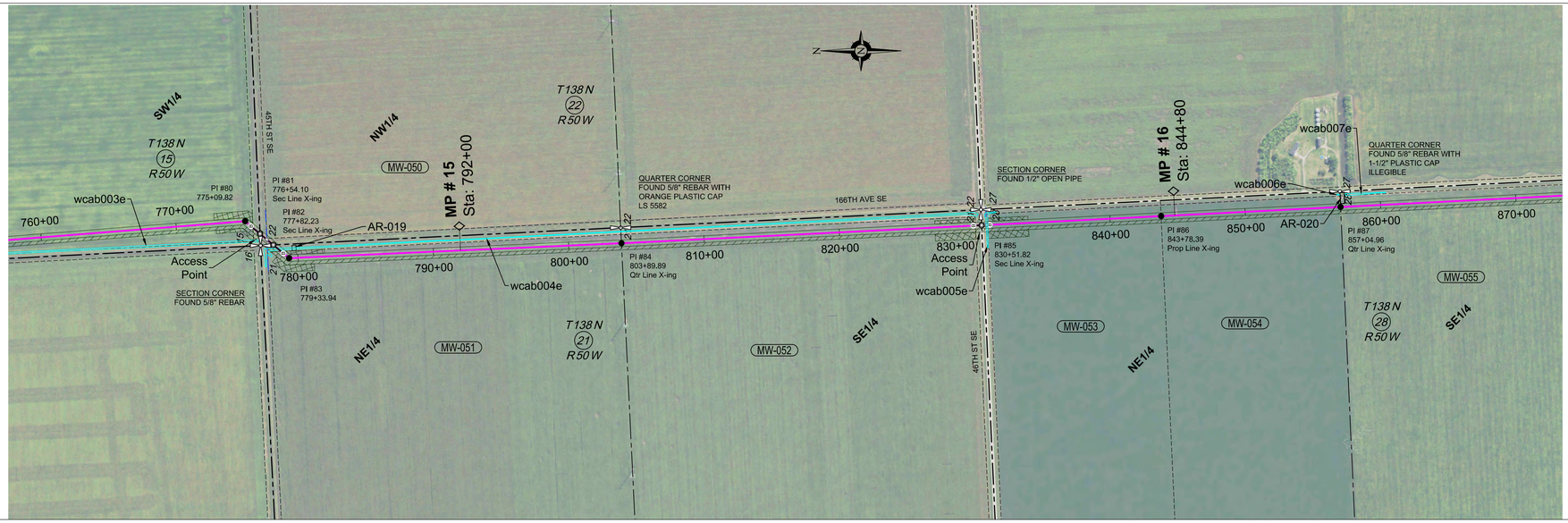
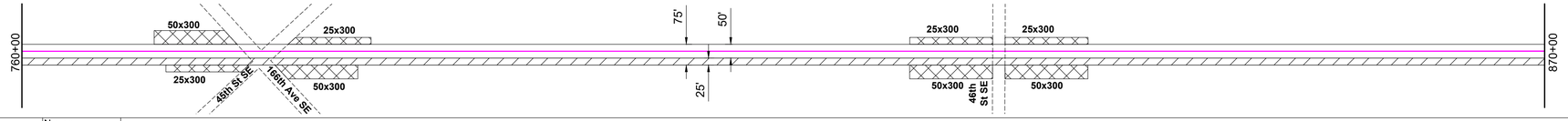
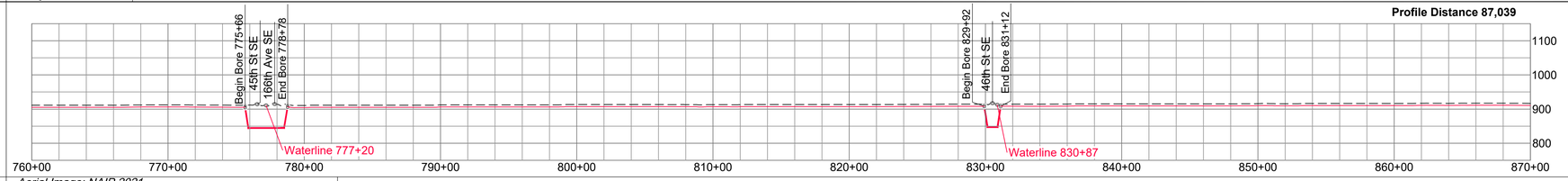


ENVIRO		
Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

WORK SPACE N.T.S.



PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE		
PI #	**STATION**	DEFLECTION
PI #80	775+09.82	44°30'R
PI #81	776+54.10	00°00'
PI #82	777+82.23	00°00'
PI #83	779+33.94	42°30'L
PI #84	803+89.89	00°00'
PI #85	830+51.82	00°00'
PI #86	843+78.39	00°00'
PI #87	857+04.96	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- *Wetlands Waterbodies*
- *Noxious Weeds*
- *Saline Soil*
- *Permanent Easement*
- *Temporary Workspace*
- *Additional Temp. Workspace*

ENVIRONMENTAL NOTES:

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11815 ROBINDALE ROAD
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HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,568	12.75" OD, .250" WT, X65, FBE, TRL
2	432	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

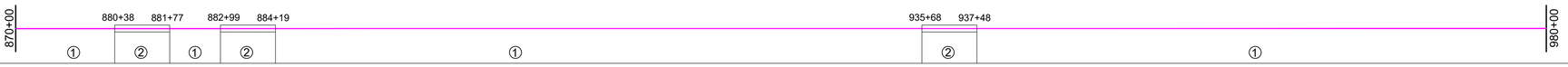
Sec. 15, 21, 22, 28, T138N, R50W,
5th P.M., Cass Co., North Dakota

Sheet 7 | R0

Co, State	SECTION 28, 33, T138N, R50W, SECTION 4, T137N, R50W, CASS COUNTY, NORTH DAKOTA

	880+54	MW-056	881+61	MW-057	883+59	MW-058	910+08	MW-059	935+83	MW-060	937+33	MW-061	963+65	MW-062	976+93	MW-063
OWNER		SEC. 28, T138N, R50W 107' Uncultivated		SE1/4 LESS R/W SEC. 3, T138N, R50W 198' Uncultivated		NE1/4 SEC. 33, T138N, R50W 2246' Cultivated - 304' Uncultivated		SE1/4 SEC. 33, T138N, R50W 2229' Cultivated - 346' Uncultivated		SEC. 33, T138N, R50W 150' Uncultivated		NE1/4 LESS R/W SEC. 4, T137N, R50W 2378' Cultivated - 254' Uncultivated		N1/2 OF THE NE1/4 LESS R/W SEC. 4, T137N, R50W 1065' Cultivated - 263' Uncultivated		S1/2 OF THE SE1/4 SEC. 4, T137N, R50W 1031' Cultivated - 263' Uncultivated
RODDAGE		106.82' / 6.47 Rods		197.58' / 11.97 Rods		2549.59' / 160.58 Rods		2574.86' / 156.05 Rods		150.00' / 9.09 Rods		2631.52' / 159.49 Rods		1328.30' / 80.50 Rods		1294.16 / 78.43 Rods

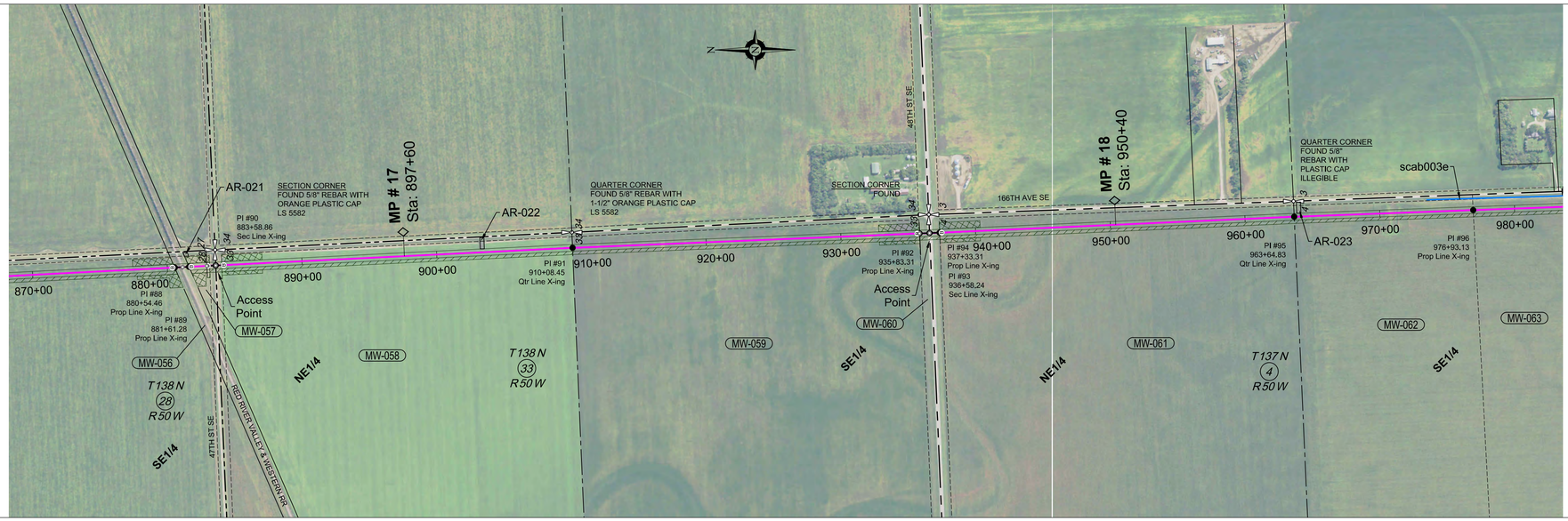
PIPE SCHMATIC



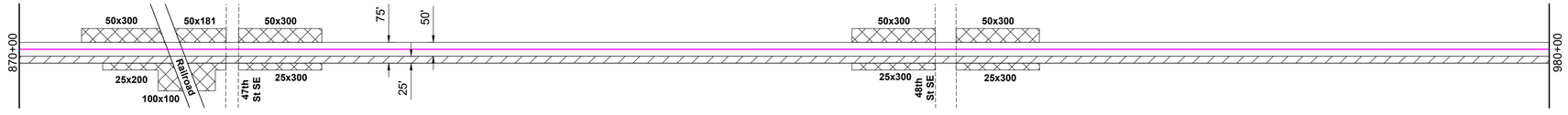
FEATURES

880+38 Begin Bore
881+13 Railroad
881+77 End Bore
882+93 OHE
882+99 Begin Bore
883+59 47th St SE
884+19 End Bore
935+68 Begin Bore
935+84 OHE
936+58 48th St SE
937+48 End Bore

ALIGN



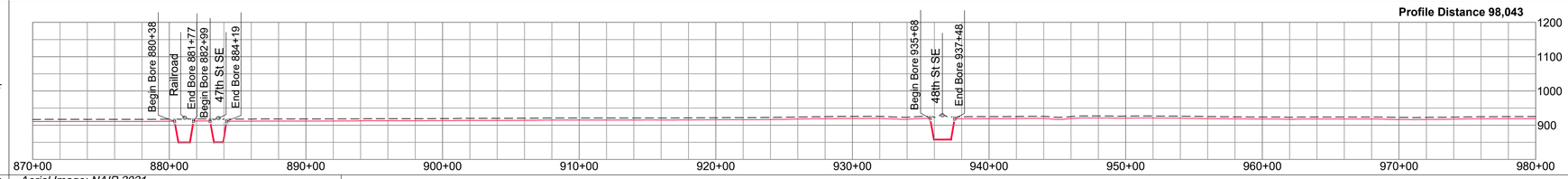
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE		
PI #	STATION	DEFLECTION
PI #88	880+54.46	00°00'
PI #89	881+61.28	00°00'
PI #90	883+58.86	00°00'
PI #91	910+08.45	00°00'
PI #92	935+83.31	00°00'
PI #93	936+58.24	00°00'
PI #94	937+33.31	00°00'
PI #95	963+64.83	00°00'
PI #96	976+93.13	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- Wetlands
- Waterbodies
- Noxious Weeds
- Saline Soil
- Permanent Easement
- Temporary Workspace
- Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,561	12.75" OD, .250" WT, X65, FBE, TRL
2	439	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

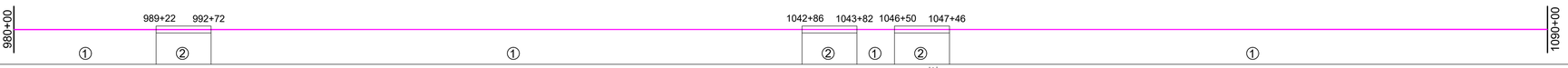
Sec. 28, 33, T138N, R50W,
Sec. 4, T137N, R50W,
5th P.M., Cass Co., North Dakota

Sheet 8 R0

Co, State	SECTIONS 4, 9, 15, 16, T137N, R50W, CASS COUNTY, NORTH DAKOTA									
OWNER	989+87	**MW-064** S1/2 OF THE SE1/4 SEC. 4, T137N, R50W 138' Uncultivated	991+25	**MW-065** PART OF THE NE1/4 SEC. 9, T137N, R50W 30' Uncultivated	991+55	**MW-066** E1/2 OF THE NE1/4 WITH EXCEPTIONS SEC. 9, T137N, R50W 2351' Cultivated - 169' Uncultivated	1016+75	**MW-067** SE1/4 WITH EXCEPTIONS SEC. 9, T137N, R50W 2626' Cultivated - 33' Uncultivated	1043+34	**MW-068** NE1/4 WITH EXCEPTIONS SEC. 16, T137N, R50W 297' Cultivated - 66' Uncultivated
RODDAGE		138.01' / 8.36 Rods		30.01' / 1.82 Rods		2519.89' / 152.72 Rods		2659.12' / 161.16 Rods		363.39' / 22.02 Rods

OWNER	1046+98	**MW-069** N1/2NW1/4 SEC. 15 T137N, R50W 1207' Cultivated - 33' Uncultivated	1059+37	**MW-070** SW1/4 OF THE NW1/4 SEC. 15, T137N, R50W 1327' Cultivated	1072+65	**MW-071** SW1/4 SEC. 15, T137N, R50W 2594' Cultivated - 60' Uncultivated
RODDAGE		1239.65' / 75.13 Rods		1327.14' / 80.43 Rods		2654.39' / 160.87 Rods

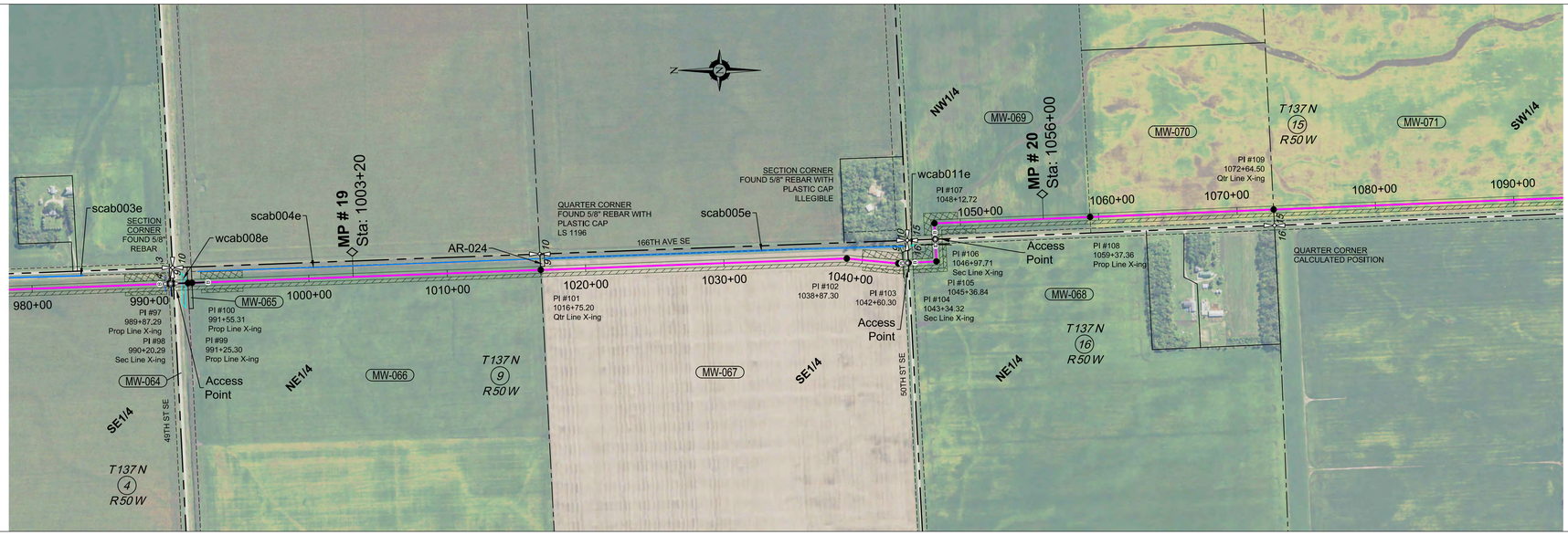
PIPE SCHMATIC



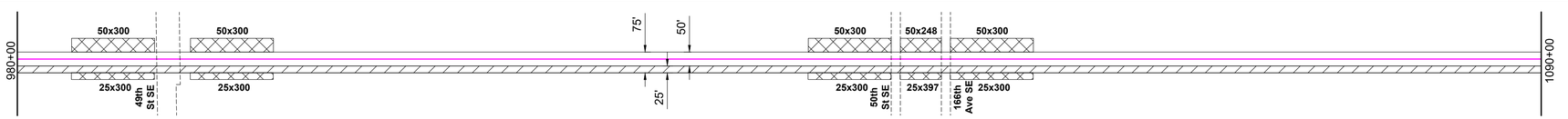
FEATURES

989+22 Begin Bore
989+61 Waterline
990+00 Waterline
990+00 UFO
990+02 OHE
990+41 49th St SE
992+72 End Bore
1042+86 Begin Bore
1042+94 OHE
1043+27 50th St SE
1043+82 End Bore
1046+50 Begin Bore
1046+57 OHE
1046+60 UGE
1046+98 166th Ave SE
1047+46 End Bore

ALIGN



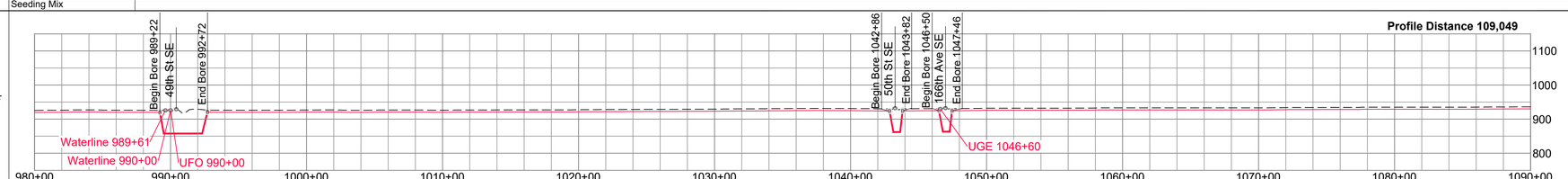
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE		
PI #	**STATION**	DEFLECTION
PI #97	989+87.29	00°00'
PI #98	990+20.29	00°00'
PI #99	991+25.30	00°00'
PI #100	991+55.31	00°00'
PI #101	1016+75.20	00°00'
PI #102	1038+87.30	7°30'R
PI #103	1042+60.30	8°30'L
PI #104	1043+34.32	00°00'
PI #105	1045+36.84	90°00'L
PI #106	1046+97.71	00°00'
PI #107	1048+12.72	90°30'R
PI #108	1059+37.36	00°00'
PI #109	1072+64.50	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- *Wetlands Waterbodies*
- *Noxious Weeds*
- *Saline Soil*
- *Permanent Easement*
- *Temporary Workspace*
- *Additional Temp. Workspace*

ENVIRONMENTAL NOTES:
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HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,458	12.75" OD, .250" WT, X65, FBE, TRL
2	542	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

scale 500 0 500 1000 feet
1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

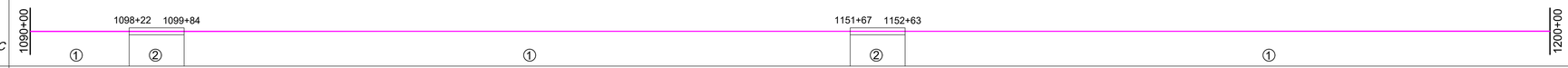
Sec. 4, 9, 15, 16, T137N, R50W,
5th P.M., Cass Co., North Dakota

Sheet 9 | R0

Co, State: SECTIONS 22, 27, T137N, R50W, CASS COUNTY, NORTH DAKOTA

OWNER		MW-072	MW-073	MW-074	MW-075	MW-075A
	1099+19	N1/2NW1/4 SEC. 22, T137N, R50W 1289' Cultivated - 33' Uncultivated	1112+41 S1/2 OF THE NW1/4 SEC. 22, T137N, R50W 1322' Cultivated	1125+63 SW1/4 SEC. 22, T137N, R50W 2620' Cultivated - 33' Uncultivated	1152+15 PART OF THE NW1/4 SEC. 27, T137N, R50W 2615' Cultivated - 33' Uncultivated	1178+64 NE1/4 SEC. 27, T137N, R50W 2650' Cultivated
RODDAGE		1321.80' / 80.11 Rods	1321.80' / 80.11 Rods	2652.98' / 160.79 Rods	2648.42' / 160.51 Rods	2649.80' / 160.59 Rods

PIPE SCHMATIC

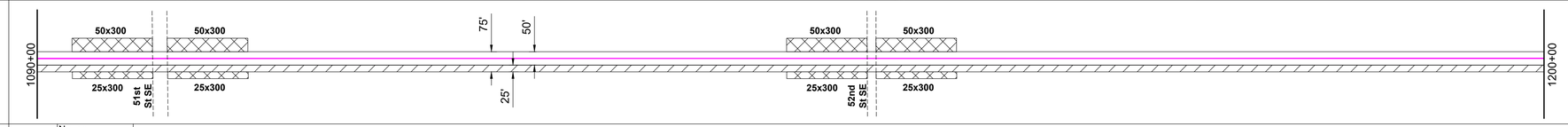


FEATURES

1098+22 Begin Bore
1098+37 UFO
1098+64 OHE
1099+19 51st St SE
1099+44 Waterline
1099+84 End Bore
1151+67 Begin Bore
1151+88 UFO
1151+92 UFO
1152+15 52nd St SE
1152+63 End Bore

ALIGN

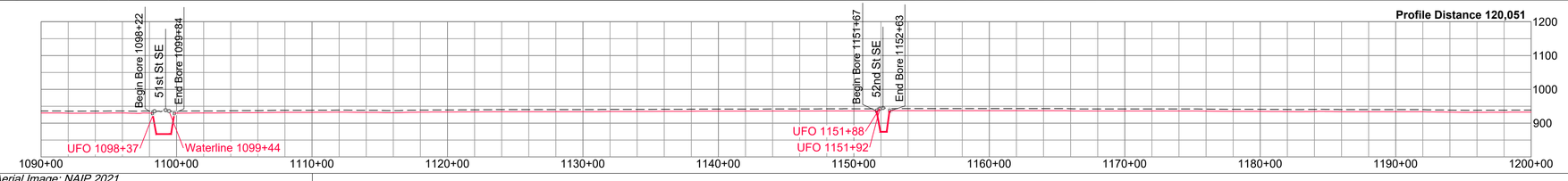
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs.: Aerial Image: NAIP 2021

PI TABLE		
PI #	STATION	DEFLECTION
PI #110	1099+18.90	00°00'
PI #111	1112+40.70	00°00'
PI #112	1125+62.50	00°00'
PI #113	1152+15.47	00°00'
PI #114	1153+15.47	90°00'L
PI #115	1178+63.89	00°00'
PI #116	1179+63.89	90°00'R

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
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PRELIMINARY

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11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,742	12.75" OD, .250" WT, X65, FBE, TRL
2	258	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 22, 27, T137N, R50W,
5th P.M., Cass Co., North Dakota

Sheet 10 | R0

Co, State	SECTIONS 27, 34, T137N, R50W, CASS COUNTY, NORTH DAKOTA

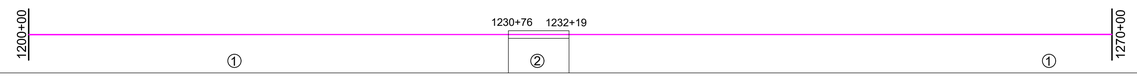
OWNER

1205+14	MW-075B	1218+44	MW-075C	1230+91	MW-077A	1231+71	MW-079
	N1/2SE1/4 SEC. 27, T137N, R50W 1330' Uncultivated		SW1/4SE1/4 SEC. 27, T137N, R50W 1247' Uncultivated		SOUTH 80 FEET OF THE SW1/4 SEC. 27, T137N, R50W 80' Uncultivated		PART OF NE1/4 NORTH OF RIVER SEC. 34, T137N, R50W 4117' - 203' Uncultivated

RODDAGE

1330.24' / 80.62 Rods	1246.57' / 75.55 Rods	80.00' / 4.85 Rods	4319.94' / 261.81 Rods

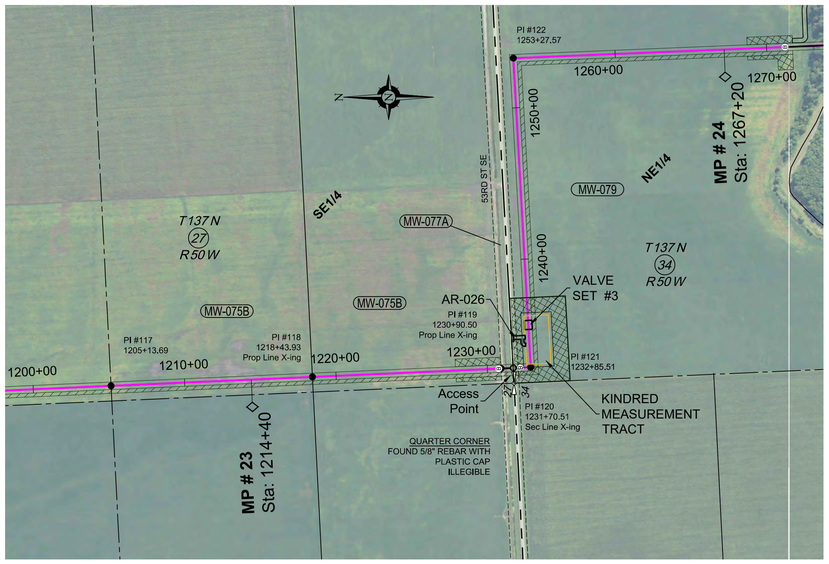
PIPE SCHMATIC



FEATURES

1230+76 Begin Bore
1231+71 53rd St SE
1232+19 End Bore

ALIGN



PI TABLE		
PI #	**STATION**	DEFLECTION
PI #117	1205+13.69	00°00'
PI #118	1218+43.93	00°00'
PI #118	1218+43.93	00°00'
PI #119	1230+90.50	00°00'
PI #120	1231+70.51	00°00'
PI #121	1232+85.51	90°00'L
PI #122	1253+27.57	90°00'R

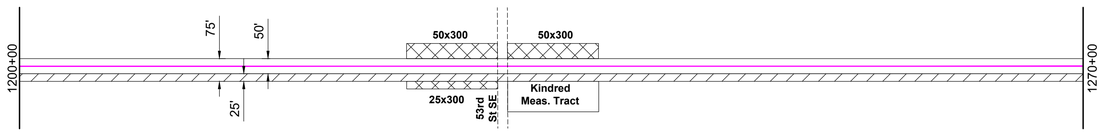
NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies

Noxious Weeds

Saline Soil

WORK SPACE N.T.S.



Permanent Easement

Temporary Workspace

Additional Temp. Workspace

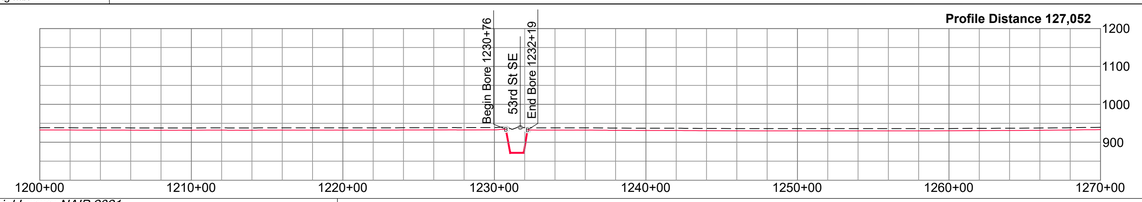
ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PROFILE



Ref. Dwgs. *Aerial Image: NAIP 2021*

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
**Distances are Grid Distances.*
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- *Proposed Block Valve*
- *Proposed Bore*
- *Alignment PI*
- *Utility Pole*
- *Well*
- *Valve*
- *Alignment*
- *Section Line*
- *Quarter Line*
- *Fence Line*
- *UG Fiber Optic*
- *UG Electric*
- *Overhead Elec*
- *Existing Pipeline*
- *Dirt Road*

SUMMARY of MATERIALS

Mark	Quantity	Description
1	6,857	*12.75" OD, .250" WT, X65, FBE, TRL*
2	143	*12.75" OD, .312" WT, X65, FBE w/ARO, TRL*

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale *1" = 500' - 22 x 34* *feet*
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 27, 34, T137N, R50W,
5th P.M., Cass Co., North Dakota

Sheet 11 | *R0*

PRELIMINARY

Co, State	SECTION 34, T137N, R50W, CASS COUNTY, SECTION 3, T136N, R50W, RICHLAND COUNTY, NORTH DAKOTA

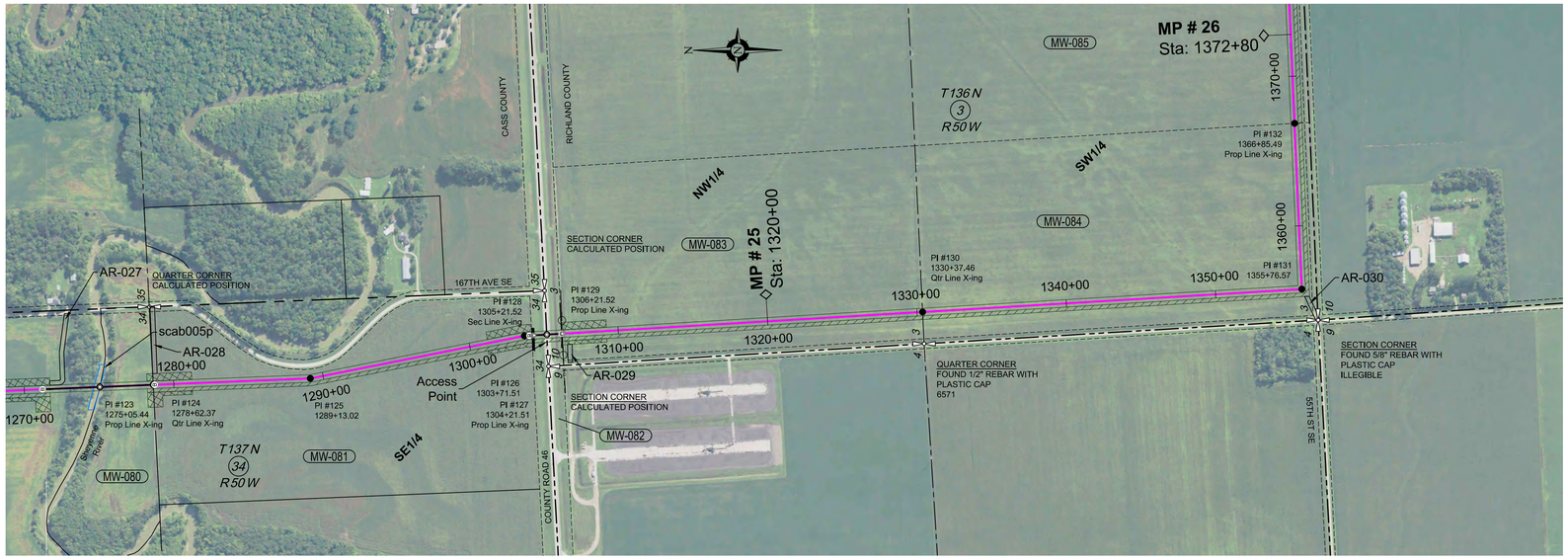
OWNER	1275+05	MW-080 PART OF NE1/4 SOUTH OF RIVER SEC. 34, T137N, R50W 261' Cultivated - 93' Uncultivated	1278+62	MW-081 E1/2 OF THE SE1/4 SEC. 34, T137N, R50W 2555' Cultivated	1304+22	MW-082 SEC. 3, T136N, R50W SEC. 34, T137N, R50W 201' Uncultivated	1302+22	MW-083 GOVT LOT 4 & SW1/4 OF THE NW1/4 EXCEPT HIGHWAY SEC. 3, T136N, R50W 2416' Cultivated	1330+37	MW-084 W1/2 OF THE SW1/4 SEC. 3, T136N, R50W 3648' Cultivated	1366+85	MW-085 E1/2 OF THE SW1/4 SEC. 3, T136N, R50W 1322' Cultivated
RODDAGE		356.93' / 21.63 Rods		2555.09' / 154.85 Rods		201.48' / 12.12 Rods		2416.27' / 146.44 Rods		3648.03' / 221.09 Rods		1321.51' / 80.09 Rods

PIPE SCHMATIC

FEATURES

1271+22 Begin Bore
1275+05 Sheyenne Rvr
1278+72 End Bore
1304+07 Begin Bore
1304+25 UFO
1304+30 UFO
1304+37 UFO
1305+22 Co Rd 46
1306+21 UFO
1306+26 OHE
1306+22 End Bore

ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #123	1275+05.44	00°00'
PI #124	1278+62.37	00°00'
PI #125	1289+13.02	9°00'L
PI #126	1303+71.51	8°00'R
PI #127	1304+21.51	00°00'
PI #128	1305+21.52	00°00'
PI #129	1306+21.52	00°00'
PI #130	1330+37.46	00°00'
PI #131	1355+76.57	89°00'L
PI #132	1366+85.49	00°00'

NOTE:
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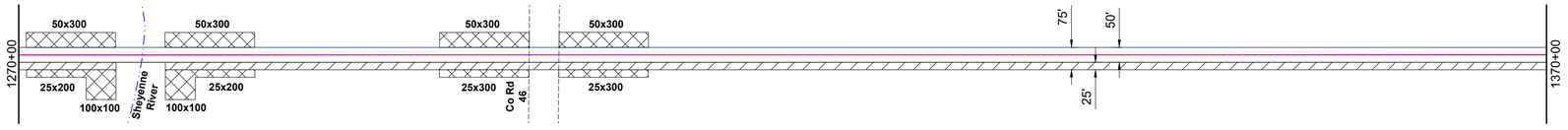
Wetlands
Waterbodies
Noxious Weeds
Saline Soil

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

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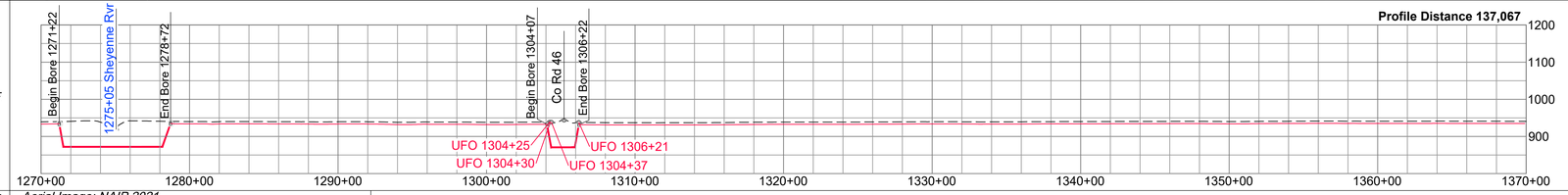

PRELIMINARY

Ref. Dwgs. *Aerial Image: NAIP 2021*

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HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
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- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,020	12.75" OD, .250" WT, X65, FBE, TRL
2	980	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

scale 500 0 500 1000 feet
1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

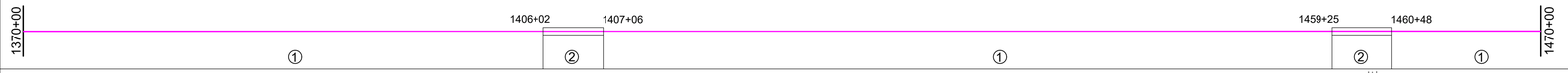
Sec. 34, T137N, R50W, Cass County
Sec. 3, T136N, R50W, Richland County
5th P.M., North Dakota

Sheet 12 | R0

Co, State	SECTIONS 1, 2, 3, T136N, R50W, RICHLAND COUNTY, NORTH DAKOTA

OWNER	1378+59	MW-086 SE 1/4, EXCEPT 1.5 AC DRAIN SEC. 3, T136N, R50W 2610' Cultivated - 33' Uncultivated	1405+02	MW-087 SW1/4, WITH EXCEPTIONS SEC. 2, T136N, R50W 2667' Cultivated - 33' Uncultivated	1433+50	MW-088 SE1/4, WITH EXCEPTIONS SEC. 2, T136N, R50W 2590' Cultivated - 24' Uncultivated	1459+39	MW-090A 3.10 AC DRAIN IN SE1/4 SEC. 2, T136N, R50W 37' Uncultivated	1460+00	MW-091 SW1/4 OF THE SW1/4 SEC. 1, T136N, R50W 1300' Cultivated - 33' Uncultivated
RODDAGE		2643.02' / 160.18 Rods		2699.59' / 163.61 Rods		2613.54' / 158.40 Rods		36.83' / 2.23 Rods		1332.62' / 80.76 Rods

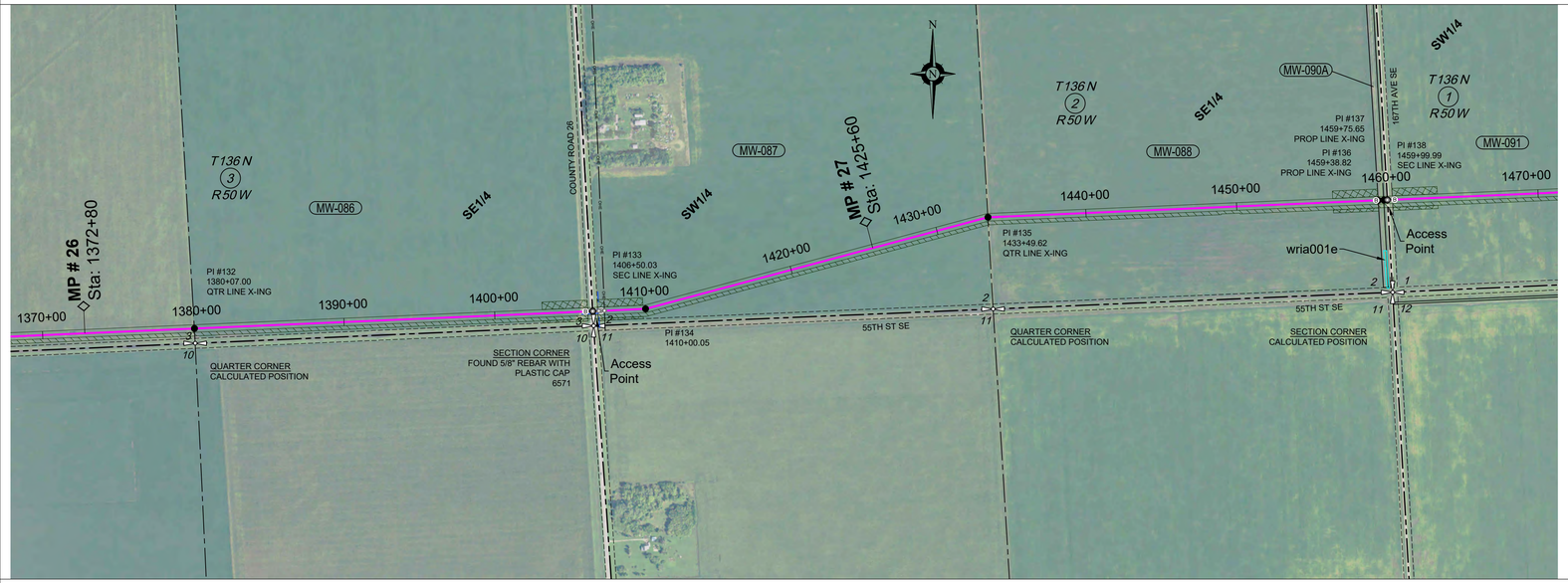
PIPE SCHMATIC



FEATURES

1406+02 Begin Bore
1406+50 Co Rd 26
1406+91 Waterline
1407+06 End Bore
1407+28 OHE
1459+25 Begin Bore
1460+00 167th Ave SE
1460+48 End Bore

ALIGN

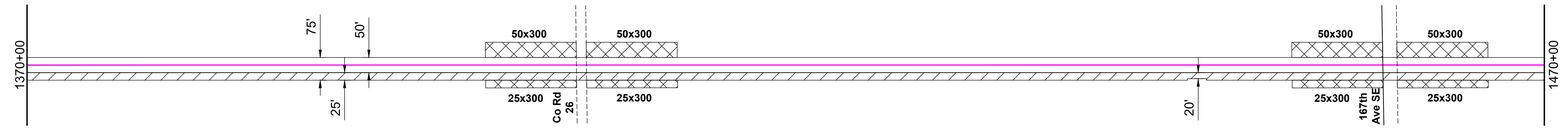


PI TABLE		
PI #	STATION	DEFLECTION
PI #132	1380+07.00	00°00'
PI #133	1406+50.03	00°00'
PI #134	1410+00.05	12°30'L
PI #135	1433+49.62	12°30'R
PI #136	1459+38.82	00°00'
PI #137	1459+75.65	00°00'
PI #138	1459+99.99	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

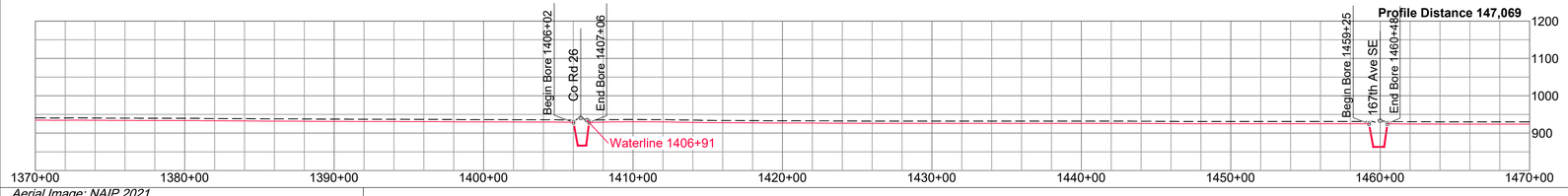
ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PROFILE



PRELIMINARY

Ref. Dwgs. Aerial Image: NAIP 2021

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,773	12.75" OD, .250" WT, X65, FBE, TRL
2	227	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 1, 2, 3, T136N, R50W,
5th P.M., Richland Co., North Dakota

Sheet 13 | R0

Co, State	SECTIONS 1, 12, 13, T136N, R50W, RICHLAND COUNTY, NORTH DAKOTA								
OWNER	**MW-092** E1/2 OF THE SW1/4 SEC. 1, T136N, R50W 1330' Cultivated	1486+62	**MW-093** SE1/4, WITH EXCEPTIONS SEC. 1, T136N, R50W 751' Cultivated - 33' Uncultivated	1494+17	**MW-094** N1/2 OF THE NE1/4 WITH EXCEPTIONS SEC. 12, T136N, R50W 66' Uncultivated	1494+83	**MW-095** S14' OF N80' OF THE N1/2 OF THE NE1/4 SEC. 12, T136N, R50W 14' Uncultivated	1494+97	**MW-096** N1/2 OF THE NE1/4 WITH EXCEPTIONS SEC. 12, T136N, R50W 1248' Cultivated
RODDAGE	1329.54' / 80.58 Rods		754.47' / 45.73 Rods		66.00' / 4.00 Rods		14.00' / 0.85 Rods		1247.88' / 75.63 Rods

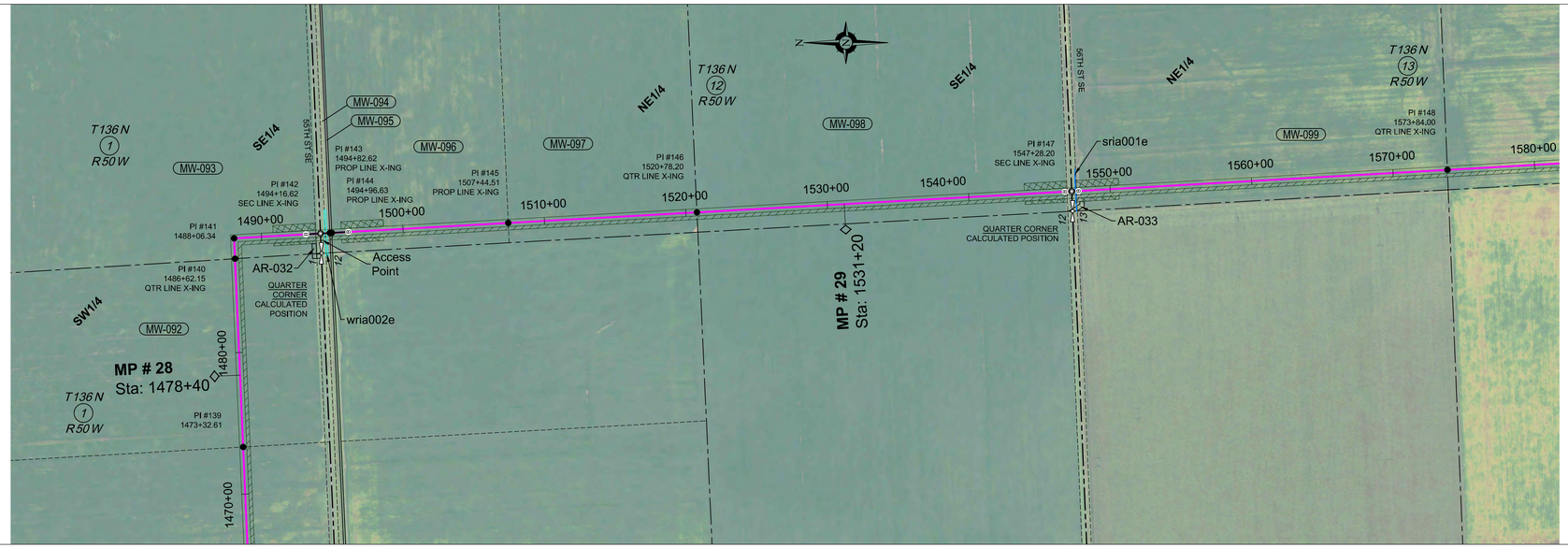
	1507+45	**MW-097** S1/2 OF THE NE1/4 SEC. 12, T136N, R50W 1334' Cultivated	1520+78	**MW-098** SE1/4 SEC. 12, T136N, R50W 2650' Cultivated	1547+28	**MW-099** NE1/4, WITH EXCEPTIONS SEC. 13, T136N, R50W 2596' Cultivated - 60' Uncultivated	1573+84
RODDAGE		1333.69' / 80.83 Rods		2650.00' / 160.61 Rods		2655.80' / 160.96 Rods	

PIPE SCHMATIC

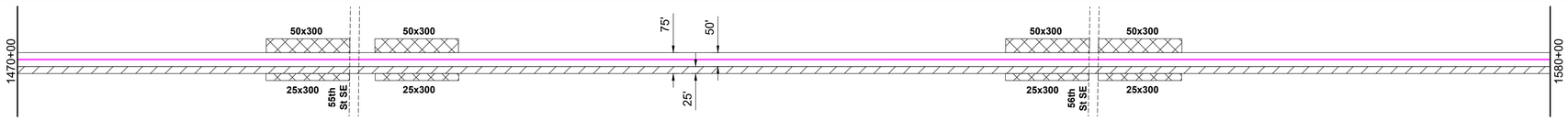
FEATURES

1493+14 Begin Bore
1494+17 55th St SE
1496+14 End Bore
1546+80 Begin Bore
1547+28 56th St SE
1547+76 End Bore

ALIGN



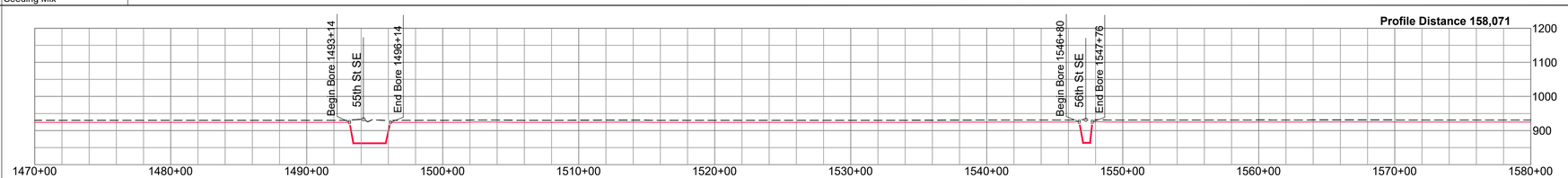
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE

PI #	STATION	DEFLECTION
PI #139	1473+32.61	00°00'
PI #140	1486+62.15	00°00'
PI #141	1488+06.34	89°30'R
PI #142	1494+16.62	00°00'
PI #143	1494+82.62	00°00'
PI #144	1494+96.63	00°00'
PI #145	1507+44.51	00°00'
PI #146	1520+78.20	00°00'
PI #147	1547+28.20	00°00'
PI #148	1573+84.00	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PRELIMINARY

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,604	12.75" OD, .250" WT, X65, FBE, TRL
2	396	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WAHPETON EXPANSION PROJECT

WBI ENERGY TRANSMISSION
An MDU Resources Group company

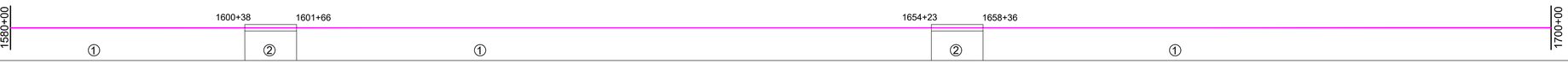
Sec. 1, 12, 13, T136N, R50W,
5th P.M., Richland Co., North Dakota

Sheet 14 | R0

Co, State	SECTIONS 13, 24, 25, T136N, R50W, RICHLAND COUNTY, NORTH DAKOTA									
OWNER	**MW-100** SE1/4, WITH EXCEPTIONS SEC. 13, T136N, R50W 2120' Cultivated - 448' Uncultivated	1599+52	**MW-101** WITH EXCEPTIONS SEC. 13, T136N, R50W 103' Cultivated - 47' Uncultivated	1601+01	**MW-102** E1/2 OF THE NW1/4 SEC. 24, T136N, R50W 2676' Cultivated - 87' Uncultivated	1628+65	**MW-103** SW1/4 SEC. 24, T136N, R50W 84' Cultivated	1629+48	**MW-104** SE1/4, WITH EXCEPTIONS SEC. 24, T136N, R50W 2594' Cultivated - 50' Uncultivated	1655+92
RODDAGE	2567.68' / 155.62 Rods		150.06' / 9.09 Rods		2762.97' / 167.45 Rods		83.69' / 5.07 Rods		2643.92' / 160.24 Rods	

OWNER	**MW-106** SEC. 24, T136N, R50W 66' Uncultivated	1656+91	**MW-105** NE1/4, WITH EXCEPTIONS SEC. 24, T136N, R50W 2550' Cultivated	1682+42	**MW-108** N1/2 OF THE SE1/4, WITH EXCEPTIONS SEC. 25, T136N, R50W 1322' Cultivated	1695+64	**MW-109** S1/2 OF THE SE1/4, WITH EXCEPTIONS SEC. 25, T136N, R50W 1291' Cultivated - 33' Uncultivated
RODDAGE	66.00' / 4.00 Rods		2550.47' / 154.57 Rods		1321.81' / 80.11 Rods		1323.75' / 80.23 Rods

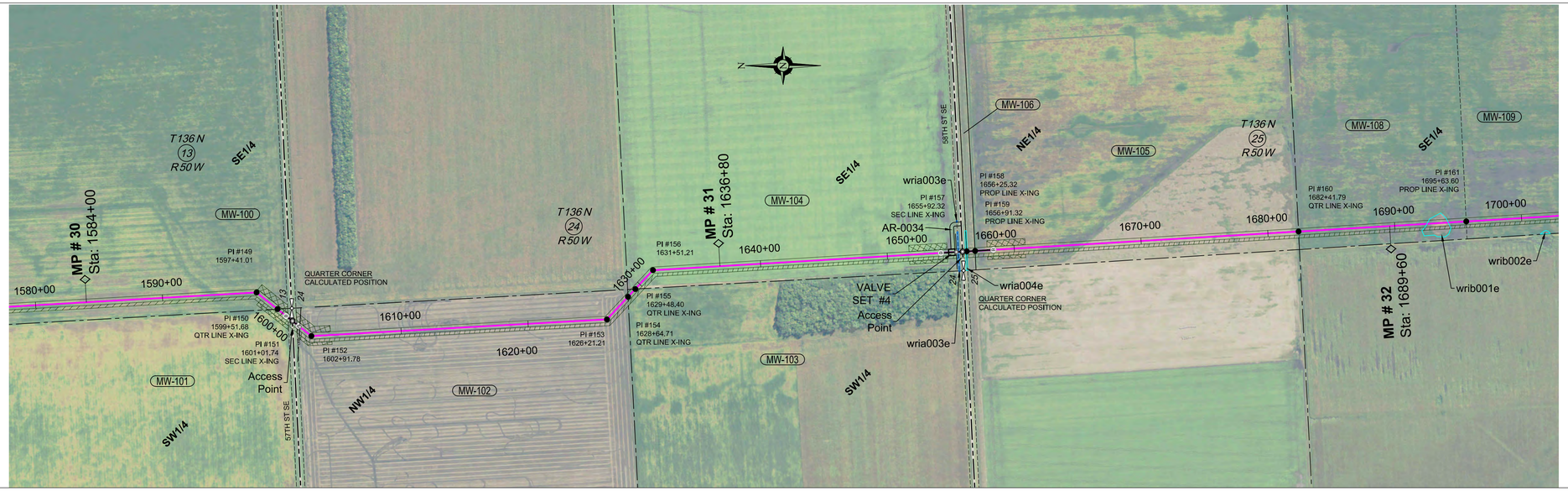
PIPE SCHMATIC



FEATURES

1600+38 Begin Bore
1601+02 57th St SE
1601+66 End Bore
1601+76 OHE
1654+23 Begin Bore
1655+44 OHE
1655+92 58th St SE
1658+36 End Bore

ALIGN

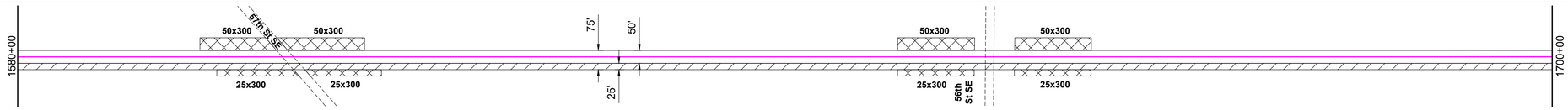


PI TABLE		
PI #	**STATION**	DEFLECTION
PI #149	1597+41.01	41°30'R
PI #150	1599+51.68	00°00'
PI #151	1601+01.74	00°00'
PI #152	1602+91.78	41°30'L
PI #153	1626+21.21	43°30'L
PI #154	1628+64.71	00°00'
PI #155	1629+48.40	00°00'
PI #156	1631+51.21	43°30'R
PI #157	1655+92.32	00°00'
PI #158	1656+25.32	00°00'
PI #159	1656+91.32	00°00'
PI #160	1682+41.79	00°00'
PI #161	1695+63.60	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
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2. *Actual wetland or stream width may vary at time of construction.*

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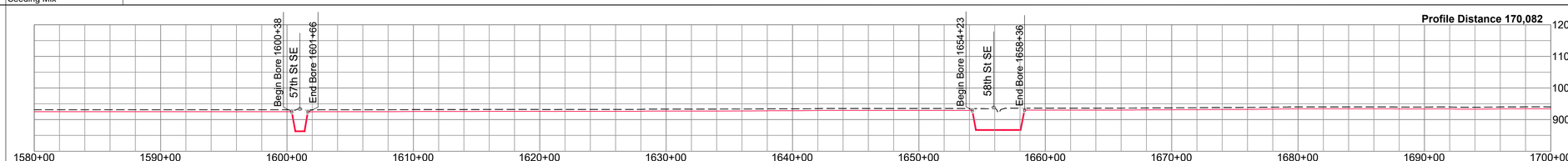
PROFILE



PRELIMINARY

Ref. Dwgs. *Aerial Image: NAIP 2021*

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,459	12.75" OD, .250" WT, X65, FBE, TRL
2	541	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

scale 500 0 500 1000 feet
1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WAHPETON EXPANSION PROJECT

WBI ENERGY TRANSMISSION
An MDU Resources Group company

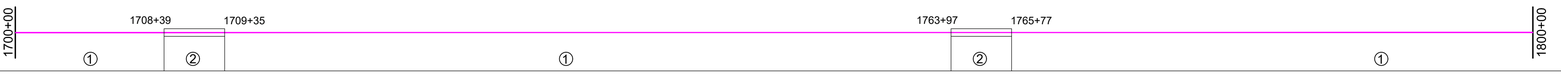
Sec. 13, 24, 25, T136N, R50W,
5th P.M., Richland Co., North Dakota

Sheet 15 | R0

Co, State: SECTION 36, T136N, R50W, SECTION 1, T135N, R50W, RICHLAND COUNTY, NORTH DAKOTA

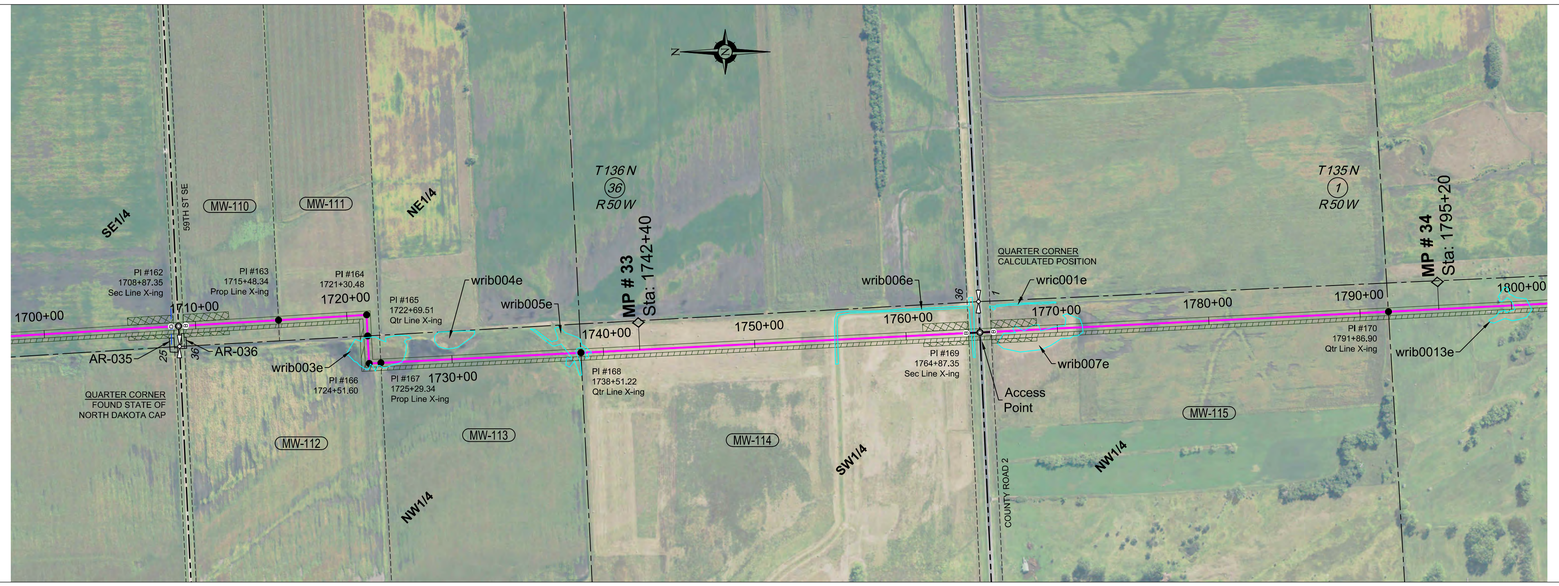
	1708+87	MW-110	1715+48	MW-111	1722+70	MW-112	1725+29	MW-113	1738+51	MW-114	1764+87	MW-115	1791+87
OWNER		N1/2 OF THE N1/2, OF THE NE1/4 SEC. 36, T136N, R50W 628' Cultivated - 33' Uncultivated		S1/2 OF THE N1/2,OF THE NE1/4 SEC. 36, T136N, R50W 721' Cultivated		N1/2 OF THE NW1/4 SEC. 36, T136N, R50W 260' Uncultivated		S1/2 OF THE NW1/4, WITH EXCEPTIONS, SEC. 36, T136N, R50W 929' Cultivated - 393' Uncultivated		SW1/4, WITH EXCEPTIONS SEC. 36, T136N, R50W 2529' Cultivated - 107' Uncultivated		GOVT LOT 3 & SE1/4 OF THE NW1/4 SEC. 1, T135N, R50W 2625' Cultivated - 75' Uncultivated	
RODDAGE		660.99' / 40.06 Rods		721.17' / 43.71 Rods		259.83' / 15.75 Rods		1321.87' / 80.11 Rods		2636.14' / 159.77 Rods		2699.55' / 163.61 Rods	

PIPE SCHMATIC



FEATURES

ALIGN



PI TABLE		
PI #	STATION	DEFLECTION
PI #162	1708+87.35	00°00'
PI #163	1715+48.34	00°00'
PI #164	1721+30.48	90°30'R
PI #165	1722+69.51	00°00'
PI #166	1724+51.60	90°00'L
PI #167	1725+29.34	00°00'
PI #168	1738+51.22	00°00'
PI #169	1764+87.35	00°00'
PI #170	1791+86.90	00°00'

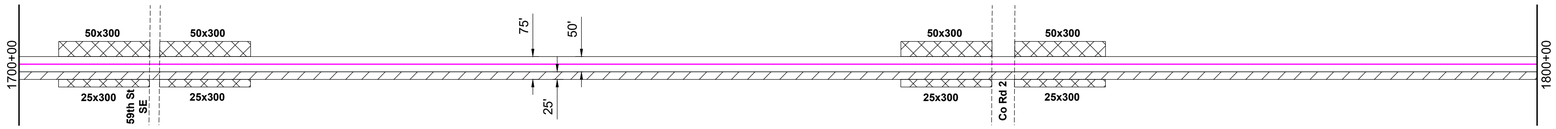
NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies

Noxious Weeds

Saline Soil

WORK SPACE N.T.S.



Permanent Easement

Temporary Workspace

Additional Temp. Workspace

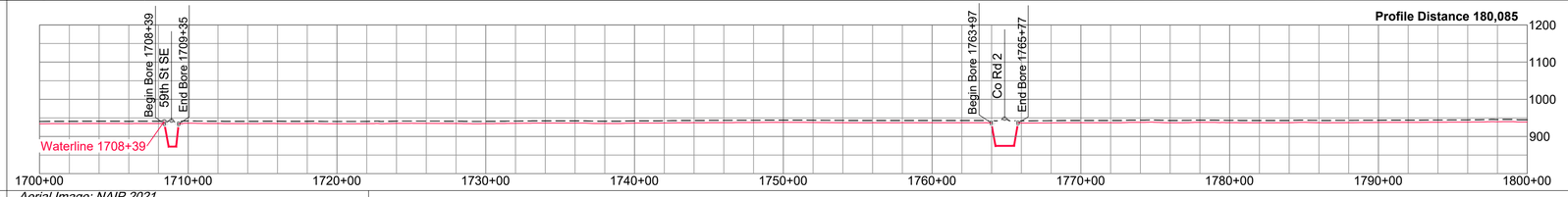
ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PROFILE



PRELIMINARY

Ref. Dwgs. Aerial Image: NAIP 2021

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,724	12.75" OD, .250" WT, X65, FBE, TRL
2	276	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 36, T136N, R50W,
Sec. 1, T135N, R50W,
5th P.M., Richland Co., North Dakota

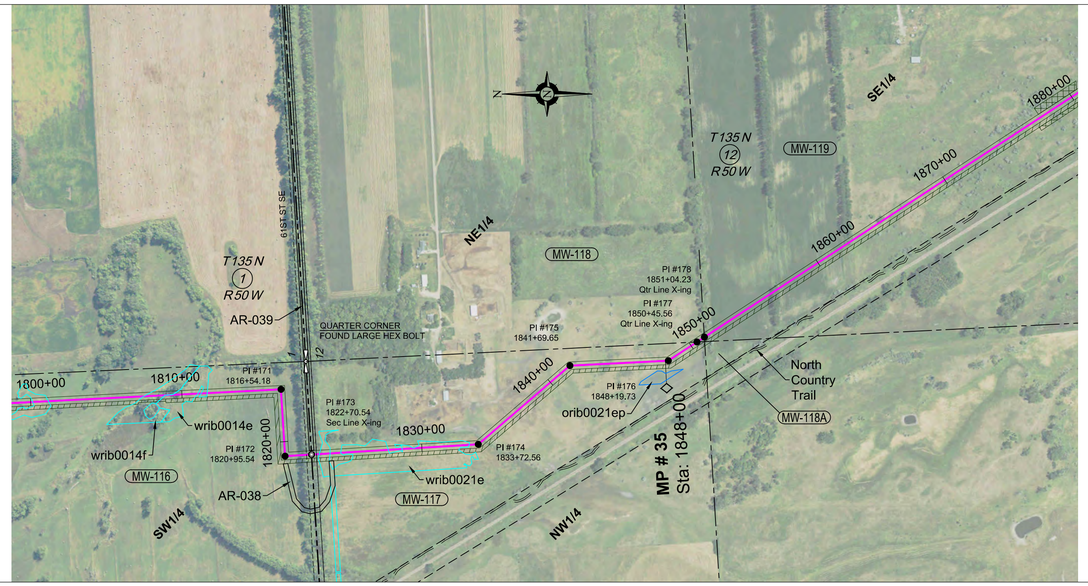
Sheet 16 | R0

Co, State	SECTIONS 1, 12, T135N, R50W, RICHLAND COUNTY, NORTH DAKOTA			
OWNER	**MW-116** SW1/4, EXCEPT RAILROAD SEC. 1, T135N, R50W 713' Cultivated - 2371' Uncultivated 1822+71	**MW-117** PART OF NW1/4 LYING NE OF RAILROAD SEC. 12, T135N, R50W 1036' Cultivated - 1739' Uncultivated 1850+46	**MW-118** NE1/4, WITH EXCEPTIONS SEC. 12, T135N, R50W 59' Uncultivated 1851+04	**MW-119** SE1/4 LYING EAST OF RAILROAD SEC. 12, T135N, R50W 1037' Cultivated - 1997' Uncultivated 1881+38
RODDAGE	3083.64' / 186.89 Rods	2775.02' / 168.18 Rods	58.67' / 3.56 Rods	3033.52' / 183.85 Rods

PIPE SCHMATIC

FEATURES

ALIGN

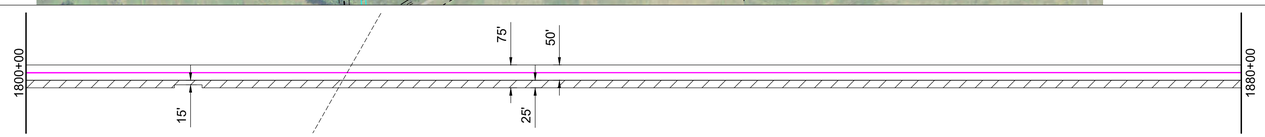


PI TABLE		
PI #	STATION	DEFLECTION
PI #171	1816+54.18	89°30'R
PI #172	1820+95.54	90°00'L
PI #173	1822+70.54	00°00'
PI #174	1833+72.56	37°00'L
PI #175	1841+69.65	38°00'R
PI #176	1848+19.73	30°30'L
PI #177	1850+45.56	00°00'
PI #178	1851+04.23	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- *Wetlands Waterbodies*
- *Noxious Weeds*
- *Saline Soil*

WORK SPACE N.T.S.



- *Permanent Easement*
- *Temporary Workspace*
- *Additional Temp. Workspace*

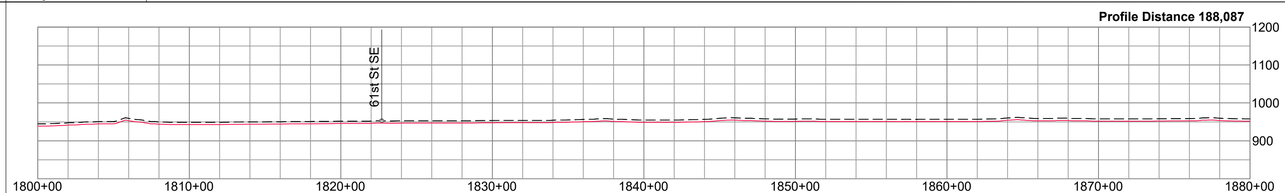
ENVIRO

Water Crossing	Name	
	Crossing Method	
Wetland Crossing	Bridge	
	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PROFILE



PRELIMINARY

Ref. Dwgs. *Aerial Image: NAIP 2021*

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	8,000	*12.75" OD, .250" WT, X65, FBE, TRL*

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 1. 12, T135N, R50W,
5th P.M., Richland Co., North Dakota

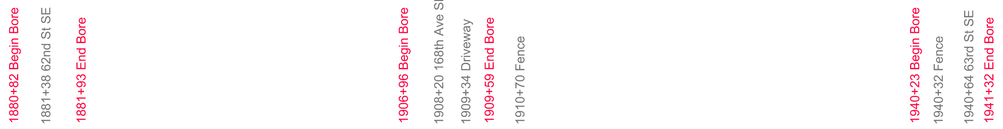
Sheet 17 | R0

Co, State	SECTION 13, T135N, R50W, SECTIONS 18, 19, T135N, R49W, RICHLAND COUNTY, NORTH DAKOTA

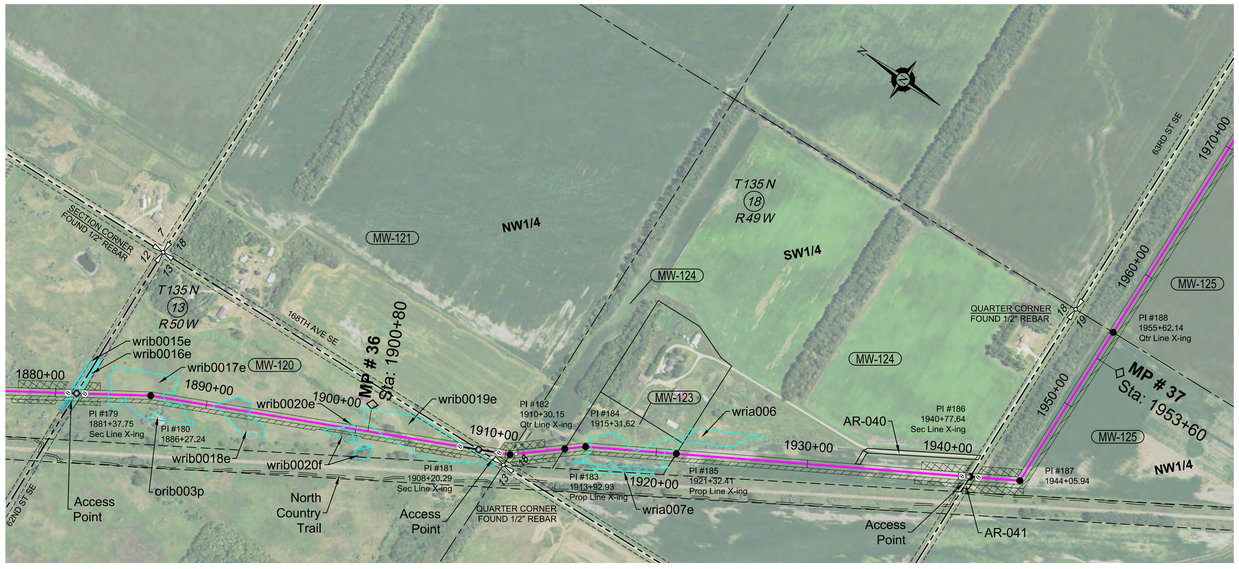
OWNER	1881+38	MW-120 NE1/4 LYING EAST OF RAILROAD WITH EXCEPTIONS SEC. 13, T135N, R50W 2683' Uncultivated	1908+20	MW-121 GOVT LOT 2 & SE1/4 OF THE NE1/4 SEC. 18, T135N, R49W 210' Uncultivated	1910+30	MW-123 PART OF THE SW1/4 SEC. 18, T135N, R49W 739' Uncultivated	1921+32	MW-124 GOVT LOTS 3-4 & E1/2 OF THE SW1/4 WITH EXCEPTIONS SEC. 18, T135N, R49W 2308' Uncultivated	1940+78	MW-125 ALL LYING EAST OF RAILROAD WITH EXCEPTIONS SEC. 19, T135N, R49W 3507' Cultivated - 619' Uncultivated
RODDAGE		2682.54' / 162.58 Rods		209.85' / 12.72 Rods		739.49' / 44.82 Rods		2308.01' / 139.88 Rods		4126.49' / 250.27 Rods

PIPE SCHMATIC

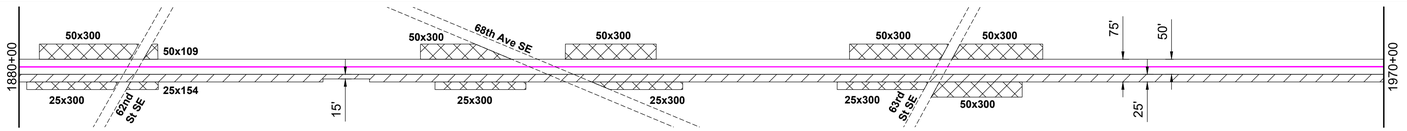
FEATURES



ALIGN



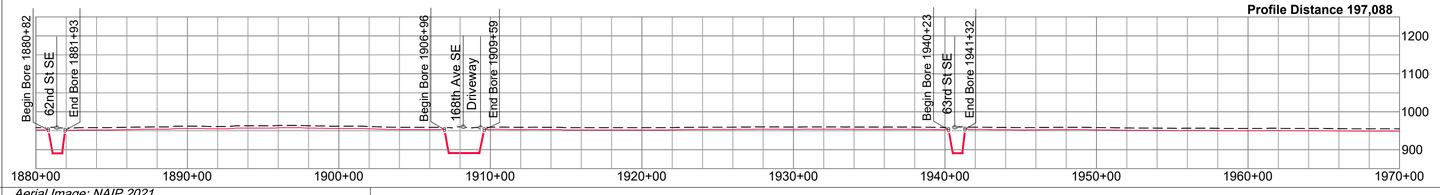
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE		
PI #	STATION	DEFLECTION
PI #179	1881+37.75	00°00'
PI #180	1886+27.24	7°30'R
PI #181	1908+20.29	00°00'
PI #182	1910+30.15	15°30'L
PI #183	1913+92.93	00°00'
PI #184	1915+31.62	10°30'R
PI #185	1921+32.41	00°00'
PI #186	1940+77.64	00°00'
PI #187	1944+05.94	62°30'L
PI #188	1955+62.14	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- *Wetlands Waterbodies*
- *Noxious Weeds*
- *Saline Soil*
- *Permanent Easement*
- *Temporary Workspace*
- *Additional Temp. Workspace*

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
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PRELIMINARY

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HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	8,518	12.75" OD, .250" WT, X65, FBE, TRL
2	482	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 13, T135N, R50W,
Sec. 18, 19, T135N, R49W,
5th P.M., Richland Co., North Dakota

Sheet 18 | R0

Co, State	SECTIONS 20, 21, T135N, R49W, RICHLAND COUNTY, NORTH DAKOTA

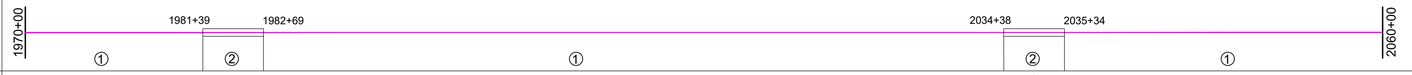
OWNER

1982+04	MW-126	1995+25	MW-127	2008+45	MW-129	2034+86	MW-130
	W1/2 OF THE W1/2 SEC. 20, T135N, R49W 1288' Cultivated - 33' Uncultivated		E1/2 OF THE W1/2, WITH EXCEPTIONS SEC. 20, T135N, R49W 1321' Cultivated		NE1/4 SEC. 20, T135N, R49W 2608' Cultivated - 33' Uncultivated		W1/2 OF THE NW1/4 SEC. 21, T135N, R49W 2542' Cultivated - 33' Uncultivated

RODDAGE

1320.55' / 80.03 Rods	1320.55' / 80.03 Rods	2641.04' / 160.06 Rods	2575.35' / 156.08 Rods

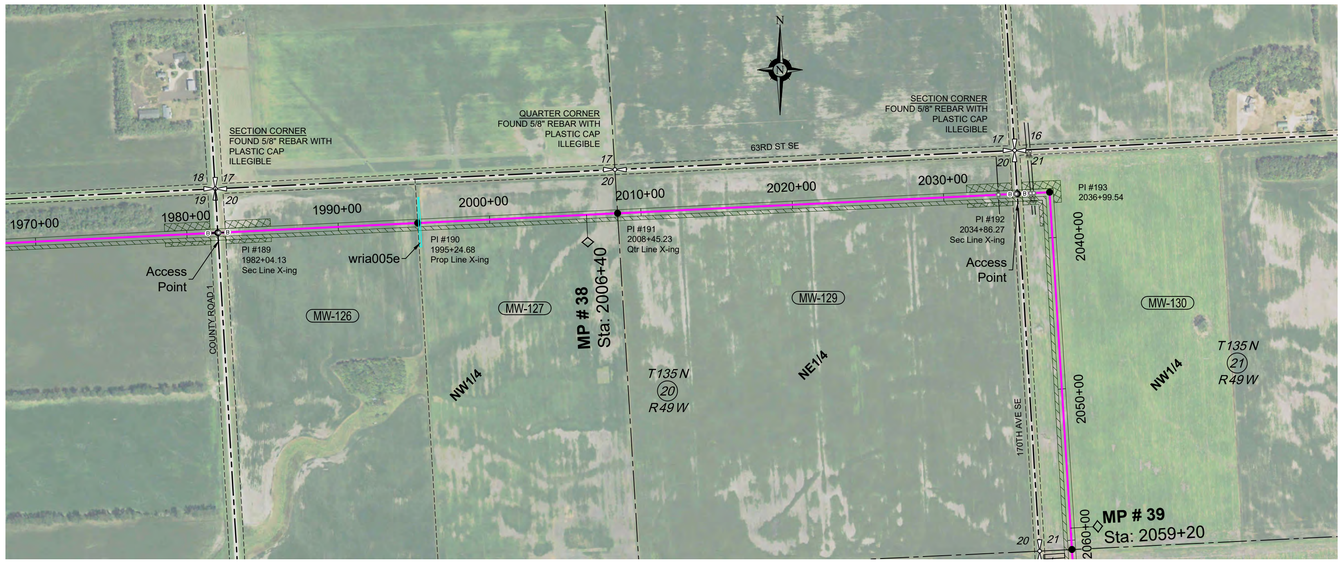
PIPE SCHMATIC



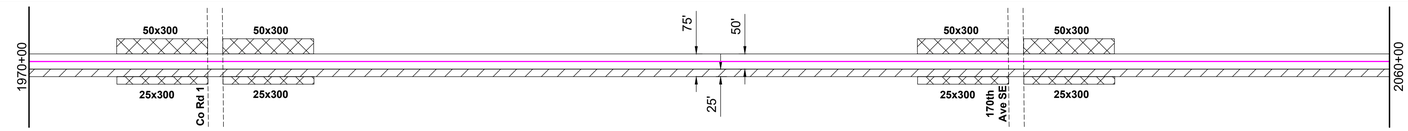
FEATURES

1981+39 Begin Bore
1982+09 Co Rd 1
1982+69 End Bore
2033+61 OHE
2034+38 Begin Bore
2034+80 170th Ave SE
2035+34 End Bore
2035+74 OHE
2035+95 OHE

ALIGN



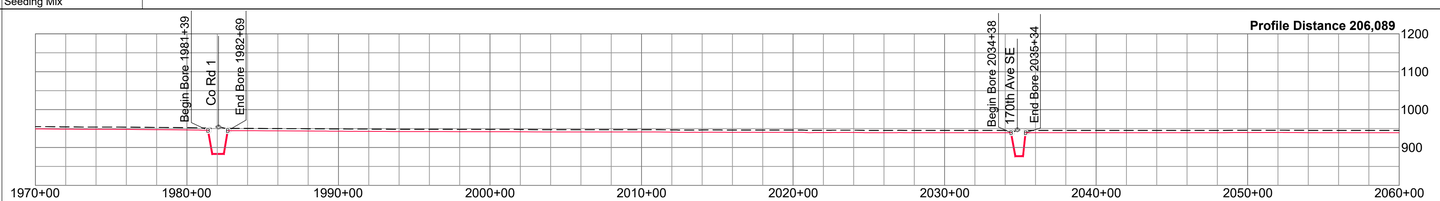
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE		
PI #	STATION	DEFLECTION
PI #189	1982+04.13	00°00'
PI #190	1995+24.68	00°00'
PI #191	2008+45.23	00°00'
PI #192	2034+86.27	00°00'
PI #193	2036+99.54	89°00'R

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
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* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PRELIMINARY

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	8,774	12.75" OD, .250" WT, X65, FBE, TRL
2	226	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 20, 21, T135N, R49W,
5th P.M., Richland Co., North Dakota

Sheet 19 | R0

Co, State	SECTIONS 21, 22, 27, T135N, R49W, RICHLAND COUNTY, NORTH DAKOTA

OWNER	2060+62	MW-131	2110+42	MW-132	2136+88	MW-133	2160+45	MW-140	2164+45	MW-135	2166+44	MW-137	2167+53
		SW1/4 SEC. 21, T135N, R49W 4981' Cultivated		S1/2 OF THE S1/2 OF THE SE1/4 SEC. 21, T135N, R49W 2592' Cultivated - 53' Uncultivated		SW1/4, WITH EXCEPTIONS SEC. 22, T135N, R49W 2324' Cultivated - 33' Uncultivated		SEC. 22, T135N, R49W 400' Uncultivated		SE1/4 EXC 1-29 ROW SEC. 22, T135N, R49W 200' Cultivated		S75' OF N108.5' LESS E33' & W116.8' OF NE1/4 SEC. 27, T135N, R49W 75' Uncultivated	
RODDAGE		4980.78' / 301.87 Rods		2645.44' / 160.33 Rods		2356.79' / 142.84 Rods		400.04' / 24.24 Rods		199.69' / 12.10 Rods		75.25' / 4.56 Rods	

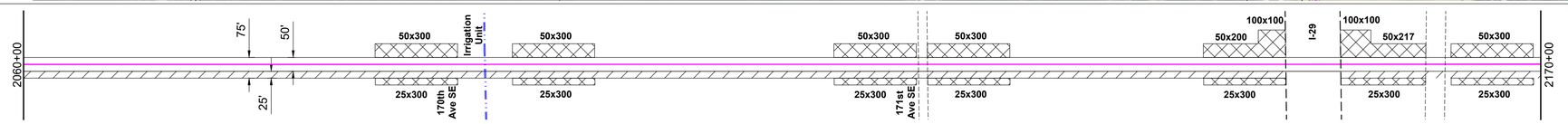
PIPE SCHMATIC

FEATURES

2102+97 Begin Bore
2104+97 Irr Unit
2106+97 End Bore
2136+25 Begin Bore
2136+35 OHE
2136+88 171st Ave SE
2137+36 End Bore
2159+95 Begin Bore
2160+46 Fence
2162+45 Interstate 29
2164+43 Fence
2164+95 End Bore
2165+45 Begin Bore
2166+44 64th St SE
2166+91 Irr Ditch
2168+45 End Bore

ALIGN

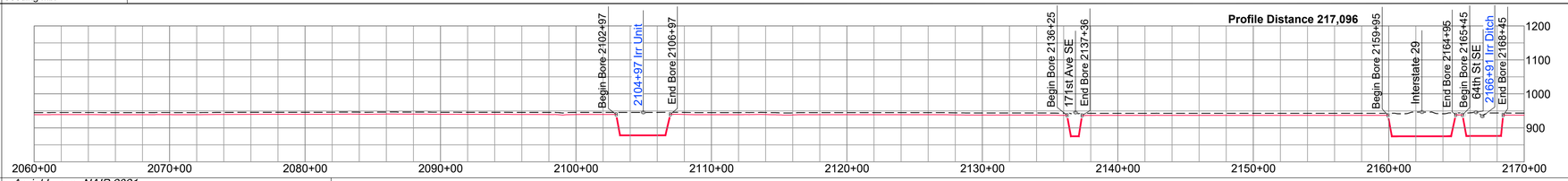
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



PI TABLE		
PI #	STATION	DEFLECTION
PI #194	2060+61.63	00°00'
PI #195	2086+10.22	89°30'L
PI #196	2110+42.40	00°00'
PI #197	2136+87.85	00°00'
PI #198	2160+44.63	00°00'
PI #199	2163+28.17	00°00'
PI #200	2164+44.67	00°00'
PI #201	2165+44.68	89°30'R
PI #202	2166+44.36	00°00'
PI #203	2167+52.62	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- *Wetlands Waterbodies*
- *Noxious Weeds*
- *Saline Soil*
- *Permanent Easement*
- *Temporary Workspace*
- *Additional Temp. Workspace*

ENVIRONMENTAL NOTES:

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PRELIMINARY

Ref. Dwgs. *Aerial Image: NAIP 2021*

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HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
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LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,689	12.75" OD, .250" WT, X65, FBE, TRL
2	811	12.75" OD, .312" WT, X65, FBE w/ARO, TRL
3	500	12.75" OD, .500" WT, X65, FBE , TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 21, 22, 27, T135N, R49W,
5th P.M., Richland Co., North Dakota

Sheet 20 | R0

Co, State	SECTIONS 27, 34, T135N, R49W, RICHLAND COUNTY, NORTH DAKOTA

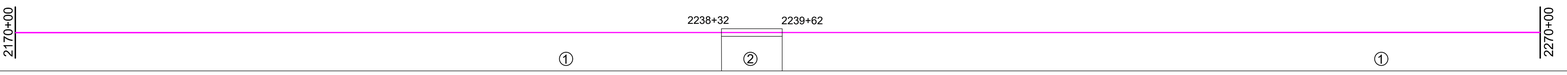
OWNER

MW-138	2192+92	MW-141	2238+97	MW-142	2265+45
NE1/4 EXC 4.49A DRN, 6.62A 1-29 ROW & 10.89A SEC. 27, T135N, R49W 2420' Cultivated - 152' Uncultivated		SE1/4 EXC 1-29 ROW SEC. 27, T135N, R49W 457'Z Cultivated - 33' Uncultivated		NE1/4 EXC 1-29 ROW & 6.61A SEC. 34, T135N, R49W 2568' Cultivated - 80' Uncultivated	

RODDAGE

2572.36' / 155.90 Rods	4604.77' / 279.08 Rods	2647.86' / 160.48 Rods

PIPE SCHMATIC

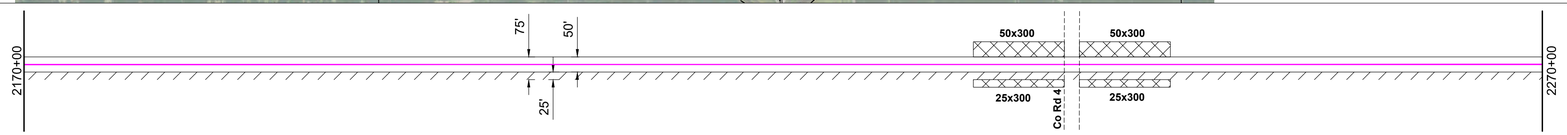


FEATURES

2238+32 Begin Bore
2238+50 UFO
2238+97 Co Rd 4
2239+04 Trail
2239+52 OHE
2239+62 End Bore

ALIGN

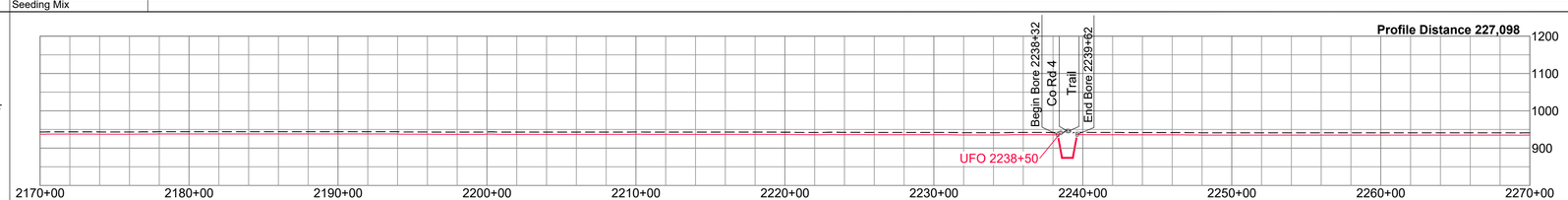
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE

PI #	STATION	DEFLECTION
PI #204	2192+91.97	00°00'
PI #205	2207+94.83	14°30'L
PI #206	2212+79.61	21°30'L
PI #207	2218+44.14	45°30'L
PI #208	2222+73.90	7°30'L
PI #209	2237+26.75	90°00'R
PI #210	2238+96.75	00°00'
PI #211	2265+44.60	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies

Noxious Weeds

Saline Soil

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
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HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
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Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

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Drawn By:	D. Smith
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- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
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- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,870	12.75" OD, .250" WT, X65, FBE, TRL
2	130	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 27, 34, T135N, R49W,
5th P.M., Richland Co., North Dakota

Sheet 21 | R0

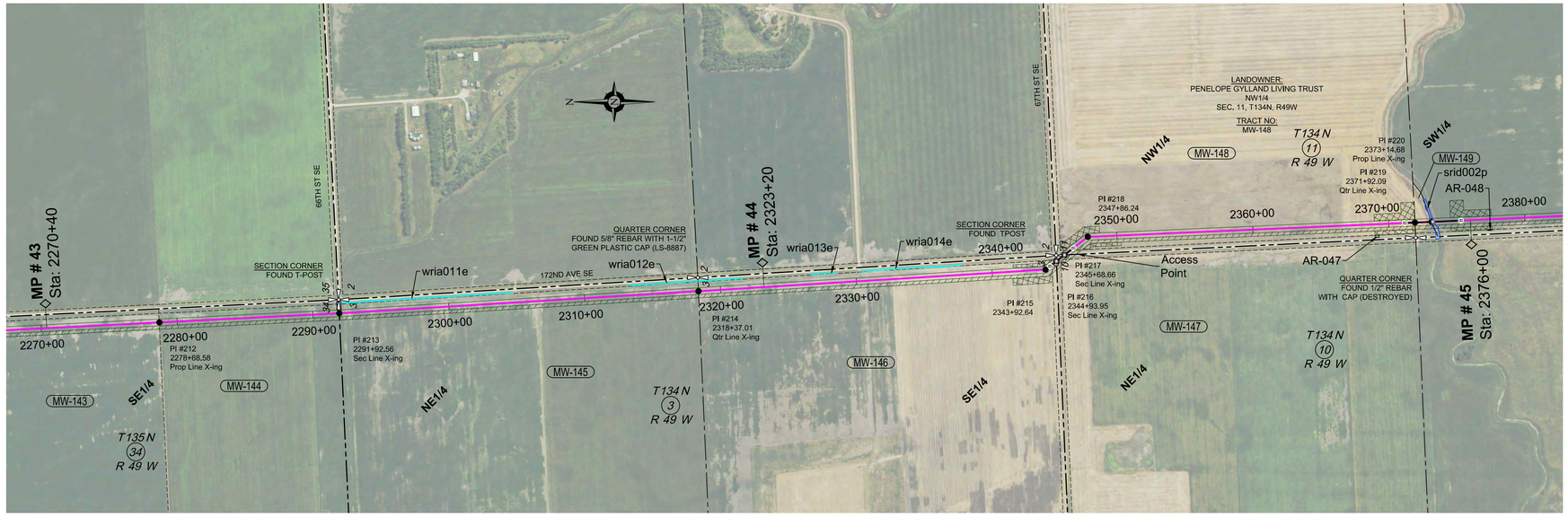
Co, State: SECTION 34, T135N, R49W, SECTIONS 3, 10, 11, T134N, R49W, RICHLAND COUNTY, NORTH DAKOTA

	MW-143	MW-144	MW-145	MW-146	MW-147	MW-148	MW-149
OWNER	N1/2SE1/4 EXC 1-29 ROW SEC. 34, T135N, R49W 1324' Cultivated	S1/2SE1/4 EXC 1-29 ROW SEC. 34, T135N, R49W 1324' Cultivated	NE1/4 EXC 1-29 ROW SEC. 3, T134N, R49W 2644' Cultivated	SE1/4 EXC 1-29 ROW SEC. 3, T134N, R49W 2638' Cultivated	NE1/4 EXC 1-29 ROW SEC. 10, T134N, R49W 168' Cultivated - 33' Uncultivated	NW1/4 SEC. 11, T134N, R49W 2617' Cultivated - 33' Uncultivated	PART OF SW1/4 SEC. 11, T134N, R49W 83' Cultivated - 40' Uncultivated
RODDAGE	1323.98' / 80.24 Rods	1323.98' / 80.24 Rods	2644.45' / 160.27 Rods	2638.31' / 159.90 Rods	201.16' / 12.19 Rods	2649.96' / 160.60 Rods	122.64' / 7.43 Rods

PIPE SCHMATIC: 2270+00 ① 2278+69 | 2291+93 ① 2318+37 | 2318+37 ① 2344+94 | 2344+35 ② 2345+69 | 2346+52 ① 2371+18 | 2371+92 ② 2373+15 | 2375+31 ① 2380+00

FEATURES: 2344+35 Begin Bore; 2344+94 67th St SE; 2345+69 172nd St SE; 2346+52 End Bore; 2371+18 Begin Bore; 2373+24 Pitcarin Crk; 2375+31 End Bore

ALIGN

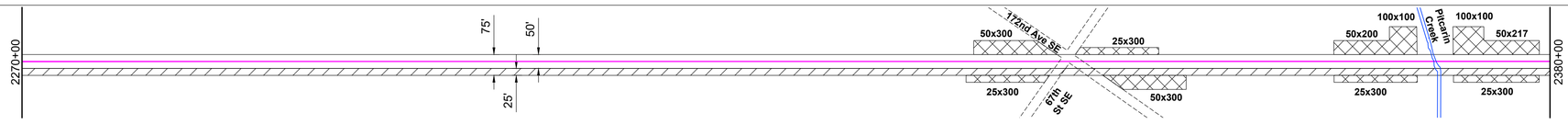


PI TABLE		
PI #	STATION	DEFLECTION
PI #212	2278+68.58	00°00'
PI #213	2291+92.56	00°00'
PI #214	2318+37.01	00°00'
PI #215	2343+92.64	34°30'L
PI #216	2344+93.95	00°00'
PI #217	2345+68.66	00°00'
PI #218	2347+86.24	35°30'R
PI #219	2371+92.09	00°00'
PI #220	2373+14.68	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands / Waterbodies
Noxious Weeds
Saline Soil

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

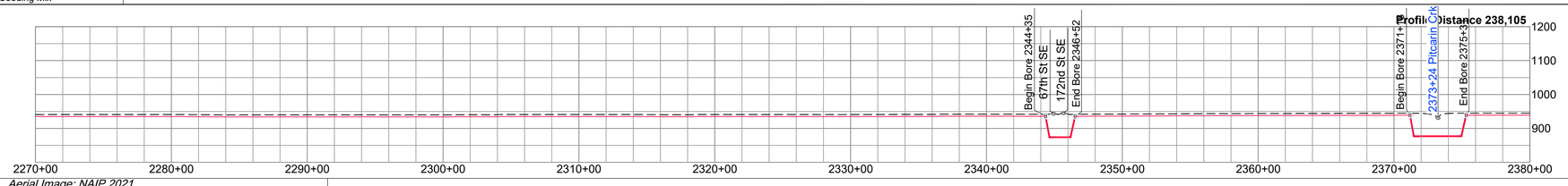
ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PROFILE



PRELIMINARY

Ref. Dwgs.: Aerial Image: NAIP 2021

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM
North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date: 01-19-2022
Drawn By: D. Smith
Checked by: J. Harned

LEGEND:
Proposed Block Valve
Proposed Bore
Alignment PI
Utility Pole
Well
Valve
Alignment
Section Line
Quarter Line
Fence Line
UG Fiber Optic
UG Electric
Overhead Elec
Existing Pipeline
Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	?	12.75" OD, .250" WT, X65, FBE, TRL
2	?	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

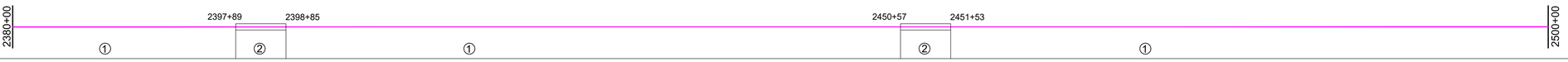
WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 34, T135N, R49W,
Sec. 3, 10, 11, T134N, R49W,
5th P.M., Richland Co., North Dakota

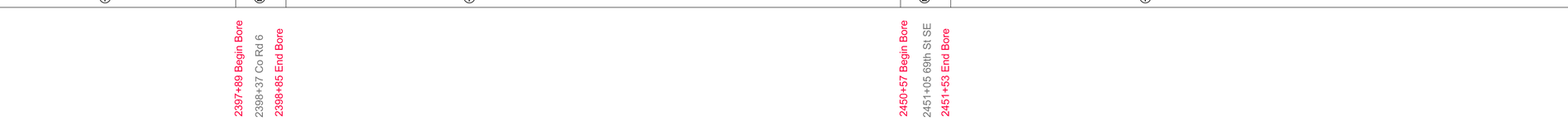
Sheet 22 | R0

Co, State	SECTIONS 11, 14, 23, T134N, R49W, RICHLAND COUNTY, NORTH DAKOTA					
OWNER	**MW-150** SW1/4, WITH EXCEPTIONS SEC. 11, T134N, R49W 2490' Cultivated - 33' Uncultivated	**MW-151** NW1/4 SEC. 14, T134N, R49W 2601' Cultivated - 33' Uncultivated	**MW-152** N 1/2 OF THE SW1/4 SEC. 14, T134N, R49W 1323' Cultivated	**MW-153** S 1/2 OF THE SW1/4 SEC. 14, T134N, R49W 1278' Cultivated - 353' Uncultivated	**MW-154** NW1/4 SEC. 23, T134N, R49W 2510' Cultivated - 135' Uncultivated	**MW-155** SW1/4 EXC I-29 ROW SEC. 23, T134N, R49W 4771' Cultivated - 73' Uncultivated
	2398+37	2424+71	2437+94	2451+05	2477+50	
RODDAGE	2522.70' / 152.89 Rods	2633.83' / 159.63 Rods	1322.68' / 80.16 Rods	1311.20' / 79.47 Rods	2644.54' / 160.28 Rods	4844.63' / 296.28 Rods

PIPE SCHMATIC



FEATURES



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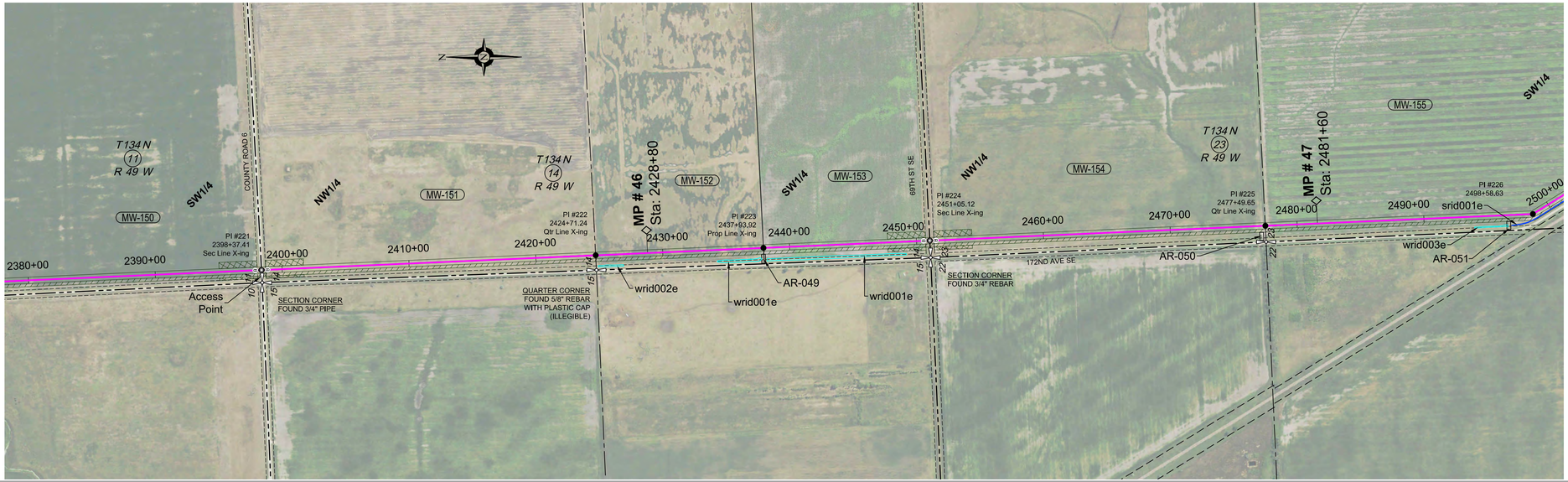
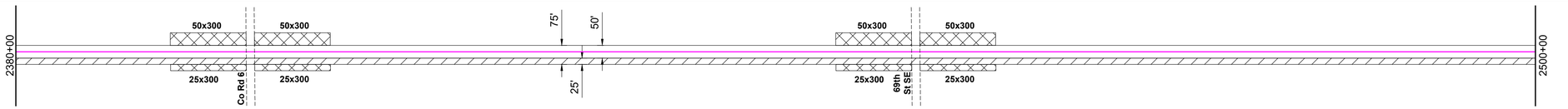


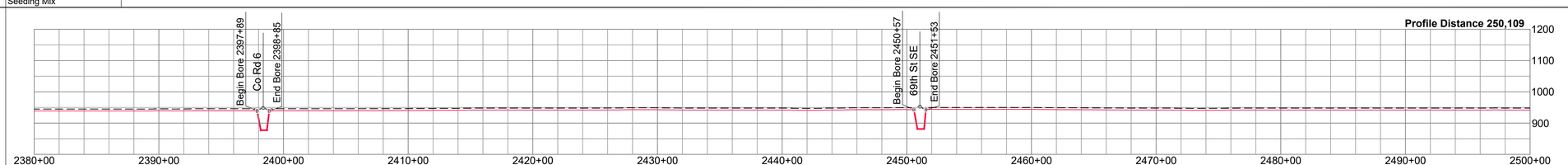
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE		
PI #	STATION	DEFLECTION
PI #221	2398+37.41	00°00'
PI #222	2424+71.24	00°00'
PI #223	2437+93.92	00°00'
PI #224	2451+05.12	00°00'
PI #225	2477+49.65	00°00'
PI #226	2498+58.63	29°00'L

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies

Noxious Weeds

Saline Soil

Permanent Easement

Temporary Workspace

Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PRELIMINARY

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	?	12.75" OD, .250" WT, X65, FBE, TRL
2	?	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WAHPETON EXPANSION PROJECT

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 11, 14, 23, T134N, R49W,
5th P.M., Richland Co., North Dakota

Sheet 23 | R0

Co, State	SECTIONS 23, 25, 26, T134N, R49W, RICHLAND COUNTY, NORTH DAKOTA

	MW-155	MW-156	MW-157	MW-158	MW-159	MW-160	MW-161	MW-162
OWNER	SW1/4 EXC 1-29 ROW SEC. 23, T134N, R49W 4771' Cultivated - 73' Uncultivated	PART OF THE SE1/4 SEC. 23, T134N, R49W 781' Cultivated - 27' Uncultivated	W1/2 OF THE SE1/4 WITH EXCEPTIONS 1744' Cultivated - 86' Uncultivated	E1/2 SE1/4 SEC. 23, T134N, R49W 1744' Cultivated - 86' Uncultivated	NE1/4 SEC. 26, T134N, R49W 2616' Cultivated - 33' Uncultivated	SE1/4, WITH EXCEPTIONS SEC. 26, T134N, R49W 155' Cultivated - 33' Uncultivated	SW1/4 SEC. 25, T134N, R49W 2592' Cultivated - 33' Uncultivated	SE1/4 SEC. 25, T134N, R49W 2605' Cultivated - 33' Uncultivated
RODDAGE	4844.63' / 296.28 Rods	808.07' / 48.97 Rods	1829.81' / 110.90 Rods	1829.81' / 110.90 Rods	2650.85' / 160.66 Rods	188.30' / 11.41 Rods	2625.01' / 159.09 Rods	2637.99' / 159.88 Rods

2526+44 | 2534+52 | 2539+66 | 2552+87 | 2579+38 | 2581+26 | 2607+66 | 2634+05

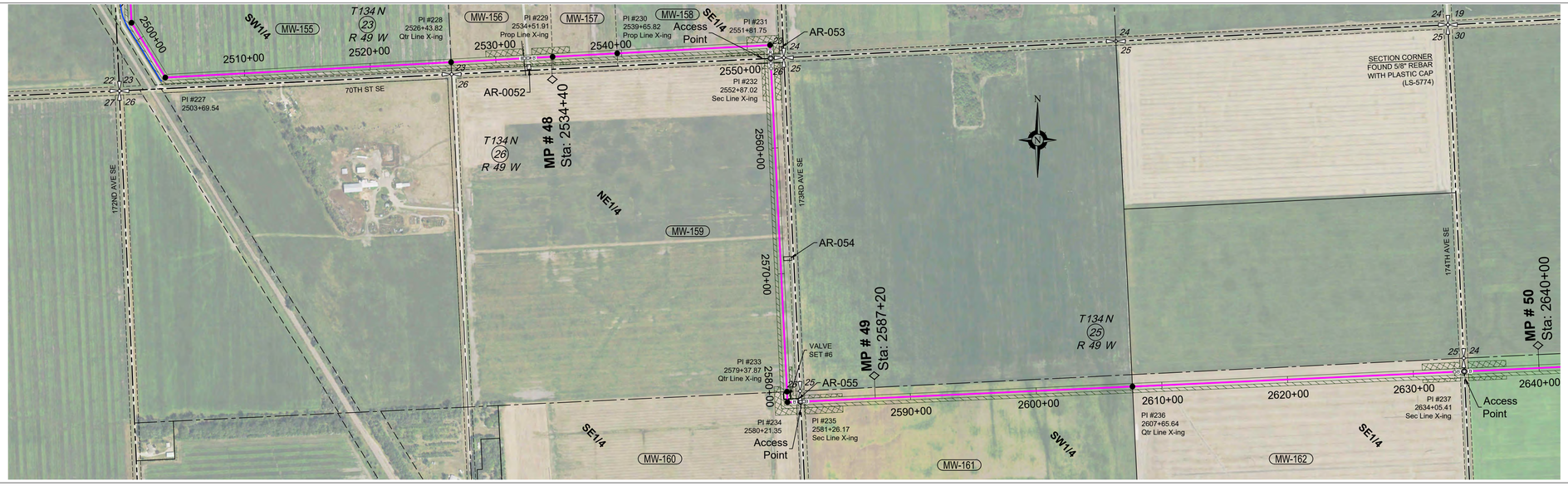
PIPE SCHMATIC

2500+00 ① 2532+08 ② 2533+04 ① 2552+39 ② 2553+35 2580+78 ② 2581+74 ① 2633+57 ② 2634+53 ① 2640+00

FEATURES

2532+08 Begin Bore
2532+22 OHE
2532+28 Utility
2532+57 Driveway
2533+04 End Bore
2552+39 Begin Bore
2552+54 Utility
2552+87 70th St SE
2553+26 OHE
2553+35 End Bore
2553+67 Utility
2580+78 Begin Bore
2581+26 173rd Ave SE
2581+52 Utility
2581+74 End Bore
2633+29 Utility
2633+57 Begin Bore
2634+05 174th Ave SE
2634+53 End Bore

ALIGN

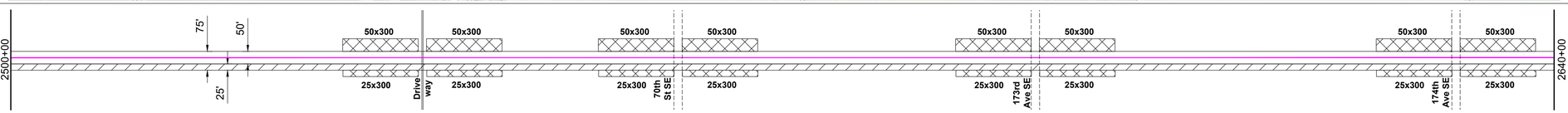


PI TABLE		
PI #	STATION	DEFLECTION
PI #227	2503+69.54	61°30'L
PI #228	2526+43.82	00°00'
PI #229	2534+51.91	00°00'
PI #230	2539+65.82	00°00'
PI #231	2551+81.75	90°00'R
PI #232	2552+87.02	00°00'
PI #233	2579+37.87	00°00'
PI #234	2580+21.35	90°00'L
PI #235	2581+26.17	00°00'
PI #236	2607+65.64	00°00'
PI #237	2634+05.41	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

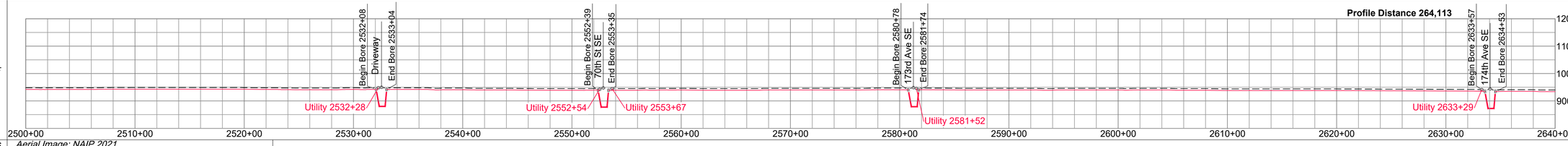
ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PROFILE



PRELIMINARY

Ref. Dwgs. Aerial Image: NAIP 2021

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

Proposed Block Valve
Proposed Bore
Alignment PI
Utility Pole
Well
Valve

Alignment
Section Line
Quarter Line
Fence Line
UG Fiber Optic
UG Electric
Overhead Elec
Existing Pipeline
Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	?	12.75" OD, .250" WT, X65, FBE, TRL
2	?	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

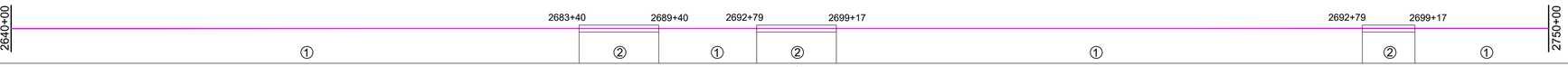
WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 23, 25, 26, T134N, R49W,
5th P.M., Richland Co., North Dakota

Sheet 24 R0

Co, State	SECTIONS 28, 29, 30, T134N, R48W, RICHLAND COUNTY, NORTH DAKOTA															
OWNER	**MW-163** SW1/4, WITH EXCEPTION SEC. 30, T134N, R48W 2599' Cultivated - 33' Uncultivated	2660+37	**MW-164** SE1/4 SEC. 30, T134N, R48W 1984' Cultivated	2680+22	**MW-165** E1/2 OF THE NE1/4 SEC. 30, T134N, R48W 387' Cultivated - 336' Uncultivated	2687+44	**MW-166** PART OF NW1/4 SEC. 29, T134N, R48W 1718' Cultivated - 1078' Uncultivated	2715+34	**MW-167** PART OF NW1/4 SEC. 29, T134N, R48W 104' Cultivated	2716+38	**MW-168** SE1/4 SEC. 29, T134N, R48W 2476' Cultivated	2741+14	**MW-169** NE1/4 SEC. 29, T134N, R48W 200' Uncultivated	2743+14	**MW-170** SE1/4 SEC. 29, T134N, R48W 1892' Cultivated	
RODDAGE	2631.77' / 159.50 Rods		1983.51' / 120.21 Rods		722.87' / 43.81 Rods		2795.57' / 169.43 Rods		103.56' / 6.28 Rods		2476.02' / 150.06 Rods		200.00' / 12.12 Rods		1892.23' / 114.68 Rods	

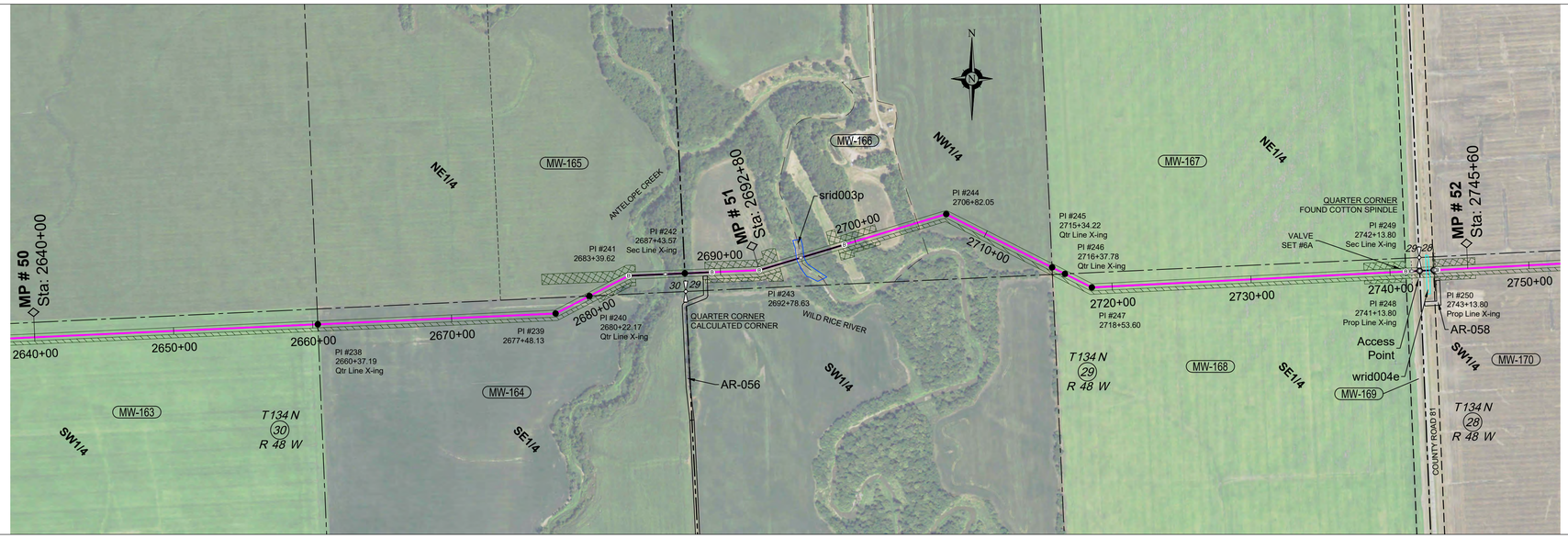
PIPE SCHMATIC



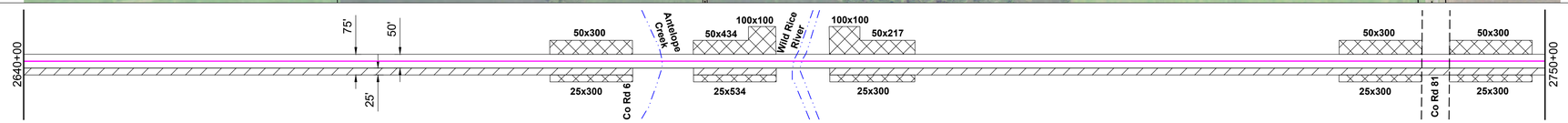
FEATURES

2683+40 Begin Bore
2686+03 Antelope Crk
2689+40 End Bore
2692+79 Begin Bore
2695+91 Wild Rice Rvr
2699+17 End Bore
2741+14 Begin Bore
2741+56 Utility
2742+14 Co Rd 81
2743+18 OHE
2743+26 Utility
2743+41 End Bore

ALIGN



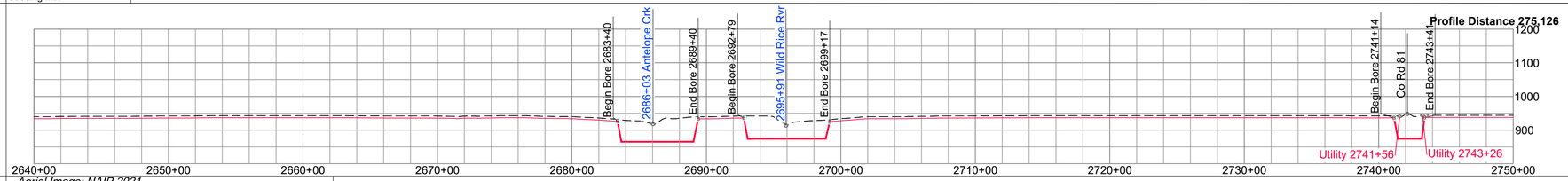
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE

PI #	STATION	DEFLECTION
PI #238	2660+37.19	00°00'
PI #239	2677+48.13	25°00'L
PI #240	2680+22.17	00°00'
PI #241	2683+39.62	25°00'R
PI #242	2687+43.57	00°00'
PI #243	2692+78.63	14°30'L
PI #244	2706+82.05	43°30'R
PI #245	2715+34.22	00°00'
PI #246	2716+37.78	00°00'
PI #247	2718+53.60	29°30'L
PI #248	2741+13.80	00°00'
PI #249	2742+13.80	00°00'
PI #250	2743+13.80	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- *Wetlands Waterbodies*
- *Noxious Weeds*
- *Saline Soil*
- *Permanent Easement*
- *Temporary Workspace*
- *Additional Temp. Workspace*

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PRELIMINARY

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	9,519	12.75" OD, .250" WT, X65, FBE, TRL
2	1,481	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

WBI ENERGY TRANSMISSION
An MDU Resources Group company

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

Sec. 28, 29, 30, T134N, R48W,
5th P.M., Richland Co., North Dakota

Sheet 25 | R0

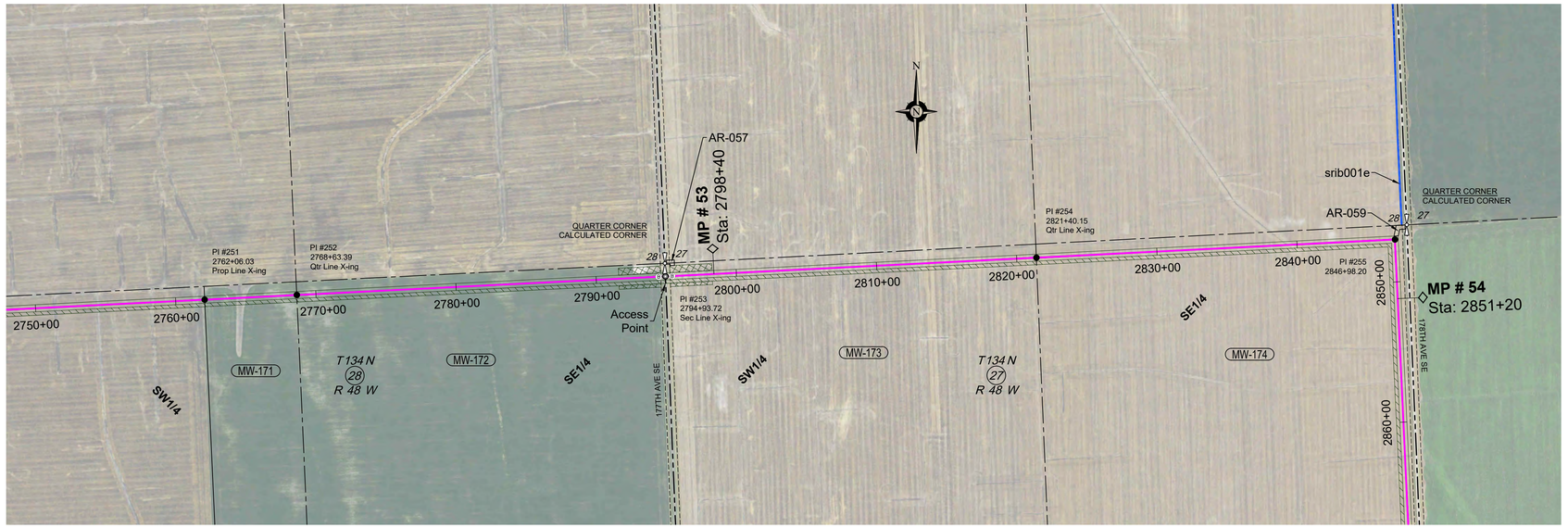
Co, State: SECTIONS 27, 28, T134N, R48W, RICHLAND COUNTY, NORTH DAKOTA

OWNER	MW-171	MW-172	MW-173	MW-174
	2762+06 – 2768+63	2768+63 – 2794+94	2794+94 – 2821+40	2821+40 –
	PART OF THE SW1/4 SEC. 28, T134N, R48W 657' Cultivated	SE1/4 SEC. 28, T134N, R48W 2597' Cultivated - 33' Uncultivated	SW1/4 SEC. 27, T134N, R48W 2597' Cultivated - 33' Uncultivated	SE1/4 SEC. 27, T134N, R48W 5045' Cultivated - 66' Uncultivated
RODDAGE	657.36' / 39.84 Rods	2630.33' / 159.41 Rods	2646.41' / 160.39 Rods	5110.65' / 309.74 Rods

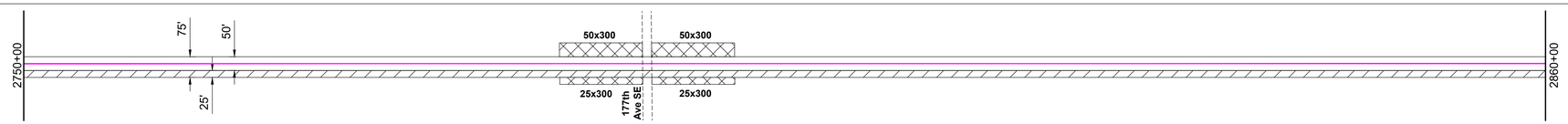
PIPE SCHMATIC

FEATURES

ALIGN



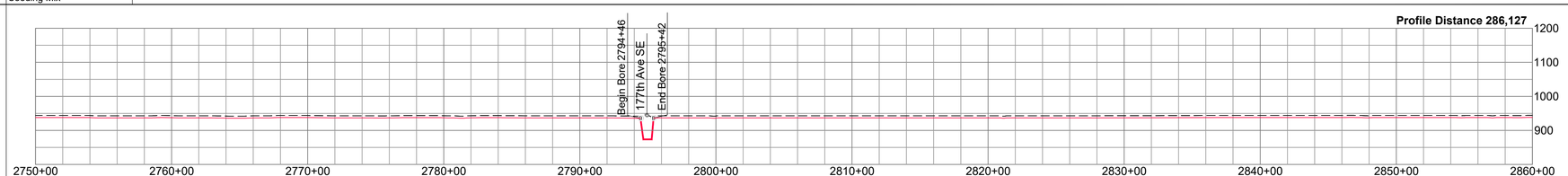
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE		
PI #	STATION	DEFLECTION
PI #251	2762+06.03	00°00'
PI #252	2768+63.39	00°00'
PI #253	2794+93.72	00°00'
PI #254	2821+40.15	00°00'
PI #255	2846+98.20	90°00'R

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

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OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	10,904	12.75" OD, .250" WT, X65, FBE, TRL
2	96	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

scale 500 0 500 1000 feet
1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WAHPETON EXPANSION PROJECT

WBI ENERGY TRANSMISSION
An MDU Resources Group company

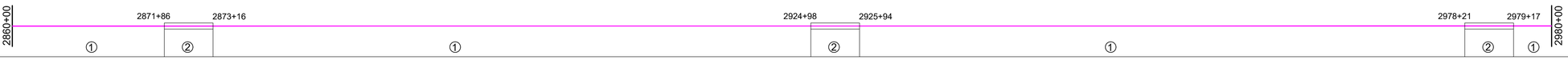
Sec. 27, 28, T134N, R48W,
5th P.M., Richland Co., North Dakota

Sheet 26 | R0

Co, State	SECTION 34, T134N, R48W, SECTION 3, T133N, R48W, RICHLAND COUNTY, NORTH DAKOTA

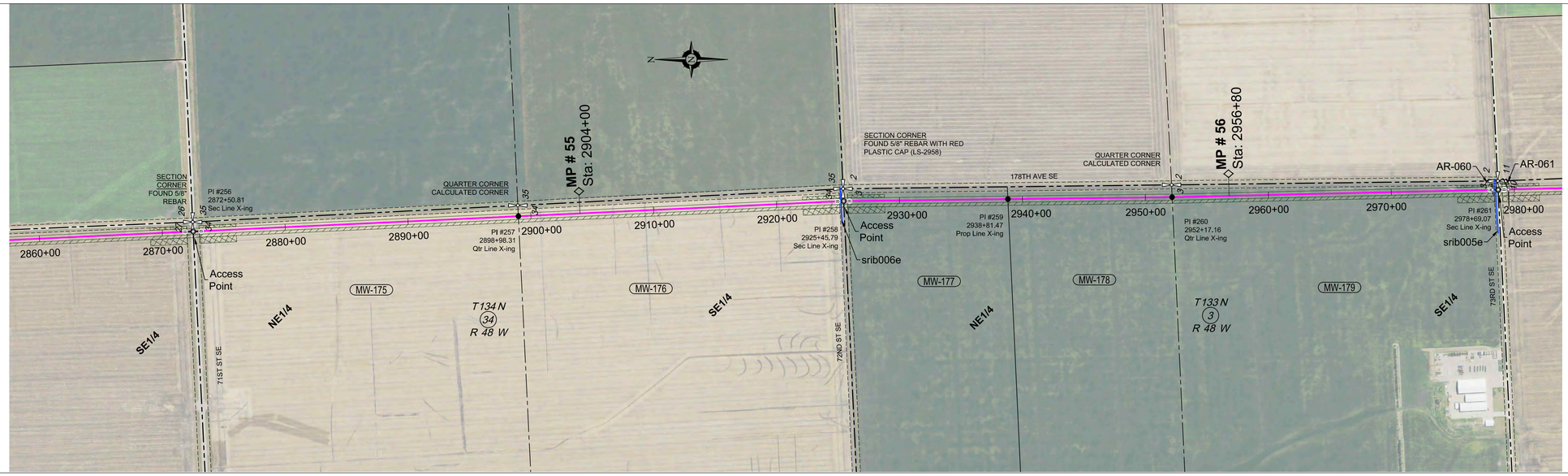
OWNER	2872+51	MW-175	2898+98	MW-176	2925+46	MW-177	2938+81	MW-178	2952+17	MW-179	2978+69
		NE1/4 SEC. 34, T134N, R48W 2615' Cultivated - 33' Uncultivated		SE1/4 SEC. 34, T134N, R48W 2614' Cultivated - 33' Uncultivated		GOVERNMENT LOTS 1-2 SEC. 3, T133N, R48W 1303' Cultivated - 33' Uncultivated		S1/2NE1/4 SEC. 3, T133N, R48W 1336' Cultivated		SE1/4 SEC. 3, T133N, R48W 2619' Cultivated - 33' Uncultivated	
RODDAGE		2647.51' / 160.46 Rods		2647.47' / 160.45 Rods		1335.68' / 80.95 Rods		1335.69' / 80.95 Rods		2651.91' / 160.72 Rods	

PIPE SCHMATIC

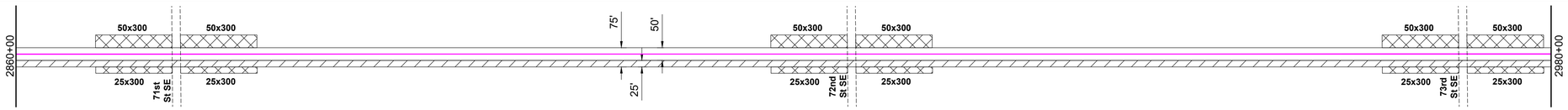


FEATURES

ALIGN



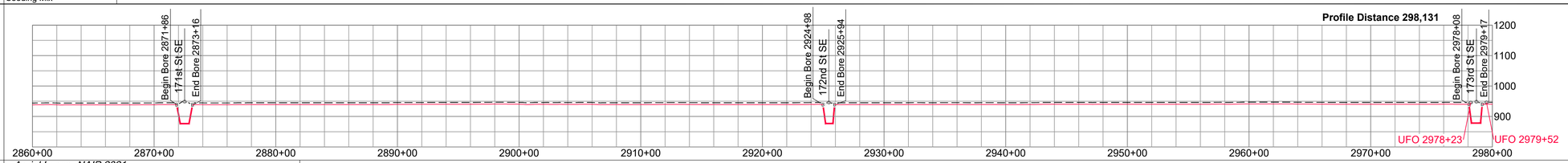
WORK SPACE N.T.S.



ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

PROFILE



Ref. Dwgs. Aerial Image: NAIP 2021

PI TABLE		
PI #	STATION	DEFLECTION
PI #256	2872+50.81	00°00'
PI #257	2898+98.31	00°00'
PI #258	2925+45.79	2°00'R
PI #259	2938+81.47	00°00'
PI #260	2952+17.16	00°00'
PI #261	2978+69.07	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

- Wetlands Waterbodies
- Noxious Weeds
- Saline Soil
- Permanent Easement
- Temporary Workspace
- Additional Temp. Workspace

ENVIRONMENTAL NOTES:
1. Wetlands depicted on these sheets represent actual field survey data or NWI.
2. Actual wetland or stream width may vary at time of construction.

* Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction

PRELIMINARY

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- Proposed Block Valve
- Proposed Bore
- Alignment PI
- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	11,665	12.75" OD, .250" WT, X65, FBE, TRL
2	335	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

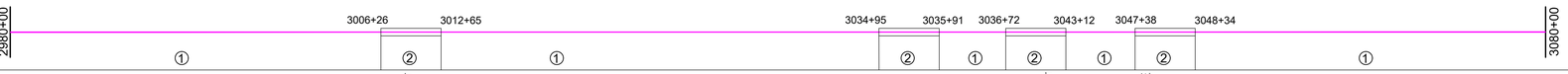
WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 34, T134N, R48W,
Sec. 3, T133N, R48W,
5th P.M., Richland Co., North Dakota

Sheet 27 | R0

Co, State	SECTIONS 10, 14, 15, T133N, R48W, RICHLAND COUNTY, NORTH DAKOTA						
OWNER	**MW-180** NE1/4 SEC. 10, T133N, R48W 2863' Cultivated - 136' Uncultivated	**MW-181** SE1/4 SEC. 10, T133N, R48W 2334' Cultivated - 312' Uncultivated	**MW-182** W1/2E1/2NE1/4 SEC. 15, T133N, R48W 169' Cultivated - 33' Uncultivated	**MW-183** E1/2E1/2NE1/4 SEC. 15, T133N, R48W 392' Cultivated - 228' Uncultivated	**MW-184** PART OF THE NW1/4 SEC. 14, T133N, R48W 396' Cultivated - 25' Uncultivated	**MW-185** PART OF THE NW1/4 SEC. 14, T133N, R48W 2202' Cultivated - 33' Uncultivated	**MW-186** NE1/4 SEC. 14, T133N, R48W 2615' Cultivated - 33' Uncultivated
RODDAGE	2999.07' / 181.76 Rods	2645.67' / 160.34 Rods	202.42' / 12.27 Rods	619.51' / 37.55 Rods	421.17' / 25.53 Rods	2226.62' / 134.95 Rods	2647.60' / 160.46 Rods

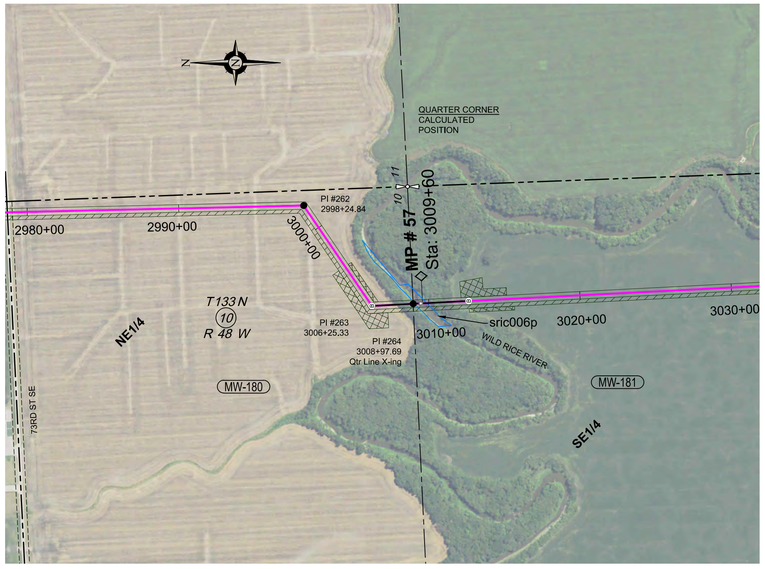
PIPE SCHMATIC

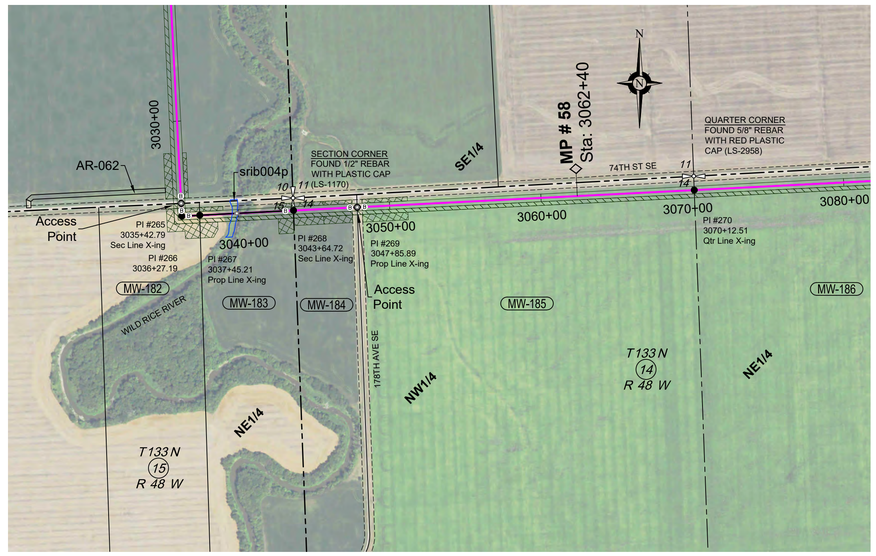


FEATURES

3006+25 Begin Bore
3009+48 Wild Rice Rvr
3012+65 End Bore
3034+95 Begin Bore
3035+43 74th St SE
3035+91 End Bore
3036+72 Begin Bore
3039+90 Wild Rice Rvr
3043+12 End Bore
3047+38 Begin Bore
3047+86 178th Ave SE
3048+34 End Bore

ALIGN



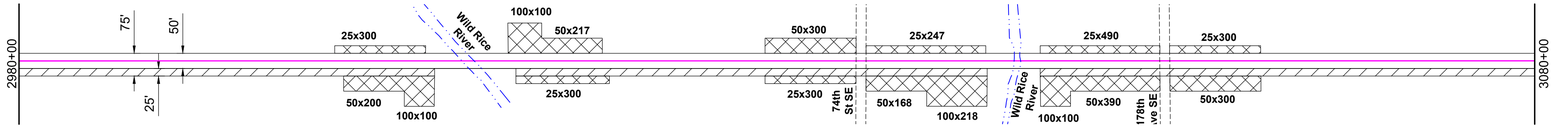


PI TABLE		
PI #	STATION	DEFLECTION
PI #262	2998+24.84	57°00'R
PI #263	3006+25.33	59°00'L
PI #264	3008+97.69	00°00'
PI #265	3035+42.79	00°00'
PI #266	3036+27.19	90°00'L
PI #267	3037+45.21	00°00'
PI #268	3043+64.72	00°00'
PI #269	3047+85.89	00°00'
PI #270	3070+12.51	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

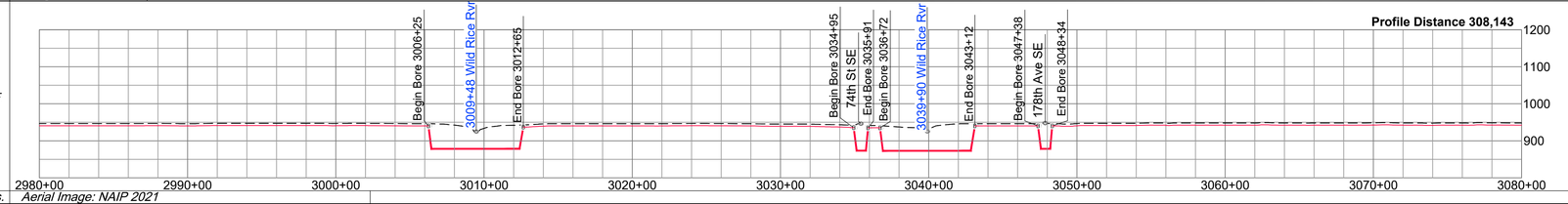
ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
1. *Wetlands depicted on these sheets represent actual field survey data or NWI.*
2. *Actual wetland or stream width may vary at time of construction.*

* *Open ("WET") trench if no distinguishable flow at the time of construction, dry crossing method if distinguishable flow at time of construction*

PROFILE



PRELIMINARY

Ref. Dwgs. *Aerial Image: NAIP 2021*

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
FAX (502) 254-6093

HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
*Distances are Grid Distances.
Combined Scale Factor = 0.99989766
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Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

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- Utility Pole
- Well
- Valve
- Alignment
- Section Line
- Quarter Line
- Fence Line
- UG Fiber Optic
- UG Electric
- Overhead Elec
- Existing Pipeline
- Dirt Road

SUMMARY of MATERIALS

Mark	Quantity	Description
1	?	12.75" OD, .250" WT, X65, FBE, TRL
2	?	12.75" OD, .312" WT, X65, FBE w/ARO, TRL

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000 feet
scale 1" = 500' - 22 x 34
1" = 1000' - 11 x 17

1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 10, 14, 15, T133N, R48W,
5th P.M., Richland Co., North Dakota

Sheet 28 | R0

Co, State	SECTIONS 13, 14, T133N, R48W, SECTION 18, T133N, R47W,RICHLAND COUNTY, NORTH DAKOTA

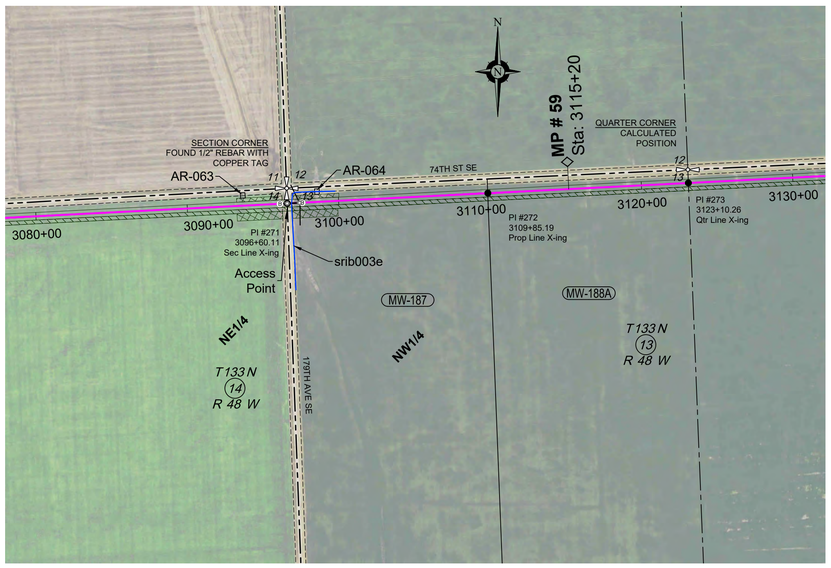
OWNER	3096+60	MW-187 W1/2NW1/4 SEC. 13, T133N, R48W 1292' Cultivated - 33' Uncultivated	3109+85	MW-188A E1/2NW1/4 SEC. 13, T133N, R48W 1325' Cultivated	3123+10	MW-189 NE1/4 SEC. 13, T133N, R48W 4993' Cultivated - 33' Uncultivated	3173+36	MW-190 EXCEPT ABANDONED RAILROAD PLUS ABANDONED RAILROAD SEC. 18, T133N, R47W 127' Uncultivated	3174+63	MW-191 sw1/4 SEC. 18, T133N, R47W 2555' Cultivated	3197+85
RODDAGE		1325.08' / 80.31 Rods		1325.07' / 80.31 Rods		5026.00' / 304.61 Rods		127.21' / 7.71 Rods		2554.56' / 154.82 Rods	

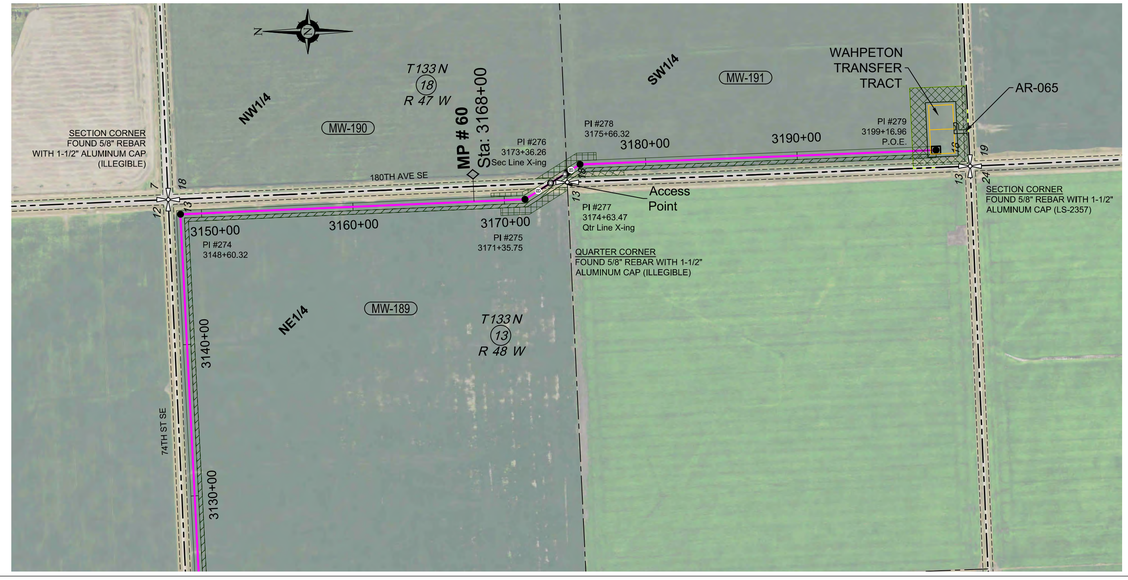
PIPE SCHMATIC

FEATURES

3096+12 Begin Bore
3096+60 179th Ave SE
3097+42 UFO
3097+60 End Bore
3172+40 Begin Bore
3173+36 180th Ave SE
3174+47 CMP
3174+97 End Bore

ALIGN



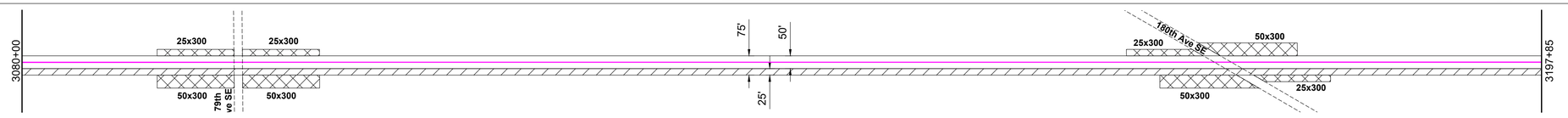


PI TABLE		
PI #	STATION	DEFLECTION
PI #271	3096+60.11	00°00'
PI #272	3109+85.19	00°00'
PI #273	3123+10.26	00°00'
PI #274	3148+60.32	90°00'R
PI #275	3171+35.75	30°00'L
PI #276	3173+36.26	00°00'
PI #277	3174+63.47	00°00'
PI #278	3175+66.32	30°00'R
PI #279	3199+16.96	00°00'

NOTE:
See Bore Surveys, Typical Bore and Typical Section Crossing sheets for Crossing Details.

Wetlands
Waterbodies
Noxious Weeds
Saline Soil

WORK SPACE N.T.S.



Permanent Easement
Temporary Workspace
Additional Temp. Workspace

ENVIRO

Water Crossing	Name	
	Crossing Method	
	Bridge	
Wetland Crossing	Name	
	Survey Extent	
Environmental Feature		
Miscellaneous/Comments		
Seeding Mix		

ENVIRONMENTAL NOTES:
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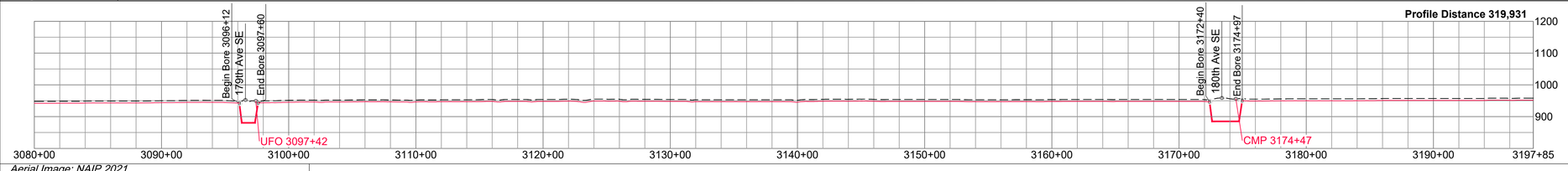
PROFILE



PRELIMINARY

Ref. Dwgs. *Aerial Image: NAIP 2021*

HSE INC
HARNED SURVEYING & ENGINEERING, INC.
11815 ROBINDALE ROAD
LOUISVILLE, KY 40243
OFFICE (502) 254-3921
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HSE Project # 19-21

SURVEY DATUM

North Dakota North (NAD 83)(2011)
International Foot
**Distances are Grid Distances.*
Combined Scale Factor = 0.99989766
Grid Dist. x 1.00010235 = Ground Dist.

Drawing Date:	01-19-2022
Drawn By:	D. Smith
Checked by:	J. Harned

LEGEND:

- *Proposed Block Valve*
- *Proposed Bore*
- *Alignment PI*
- *Utility Pole*
- *Well*
- *Valve*
- *Alignment*
- *Section Line*
- *Quarter Line*
- *Fence Line*
- *UG Fiber Optic*
- *UG Electric*
- *Overhead Elec*
- *Existing Pipeline*
- *Dirt Road*

SUMMARY of MATERIALS

Mark	Quantity	Description
1	?	*12.75" OD, .250" WT, X65, FBE, TRL*
2	?	*12.75" OD, .312" WT, X65, FBE w/ARO, TRL*

REVISIONS

No.	Date	Description

WAHPETON EXPANSION PROJECT

500 0 500 1000
scale 1" = 500' - 22 x 34 feet
1" = 1000' - 11 x 17

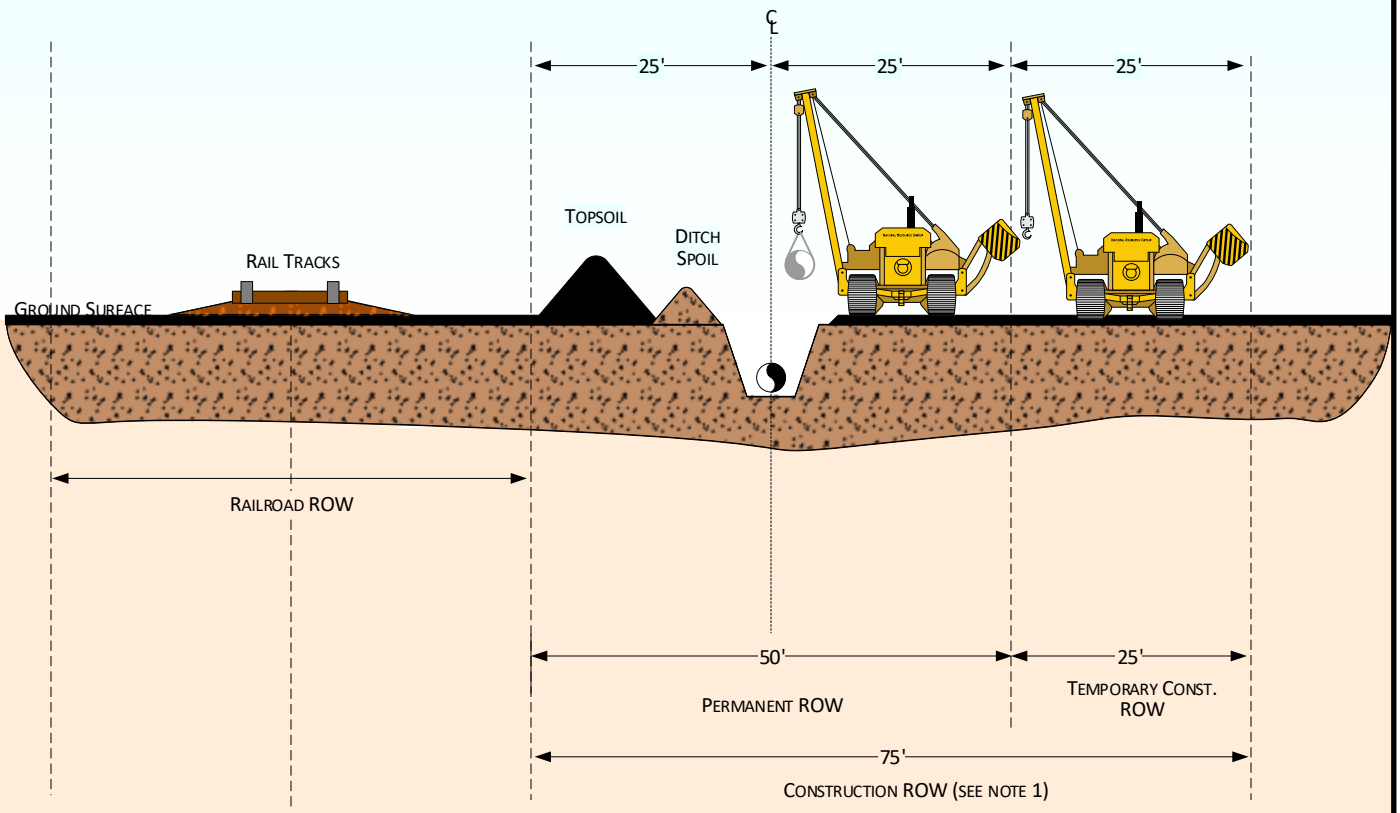
1" = 500' HORIZ.
1" = 200' VERT.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

Sec. 13, 14, T133N, R48W,
Sec. 18, T133N, R47W
5th P.M., Richland Co., North Dakota

Sheet 29 R0

APPENDIX 1C TYPICAL CONSTRUCTION DRAWINGS



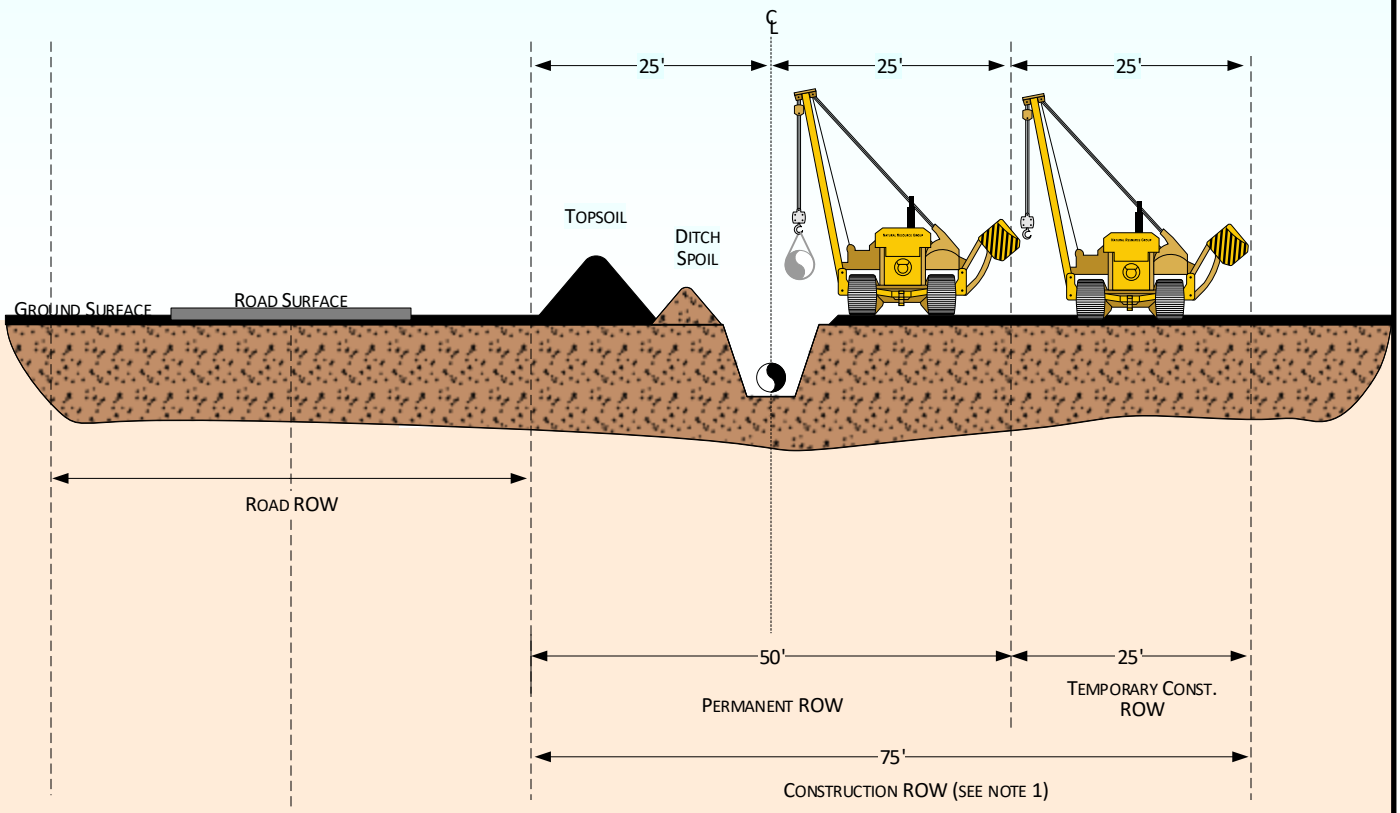
PROFILE

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75' WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50' WIDE AND WILL NOT OVERLAP THE EXISTING RAILROAD PERMANENT EASEMENT. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE.
3. STOCKPILE TOPSOIL SEPARATELY FROM DITCH SPOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE INSPECTOR.

Figure 1
Construction Right-of-Way Adjacent to Railroad
Wahpeton Expansion Project
WBI Energy Transmission, Inc.

MPLS: \M2W\Typicals	ROW_Adjacent_Railroad_Profile.vsd	Scale: NTS	Revised: 2/15/2022	Drawn By: RJC



PROFILE

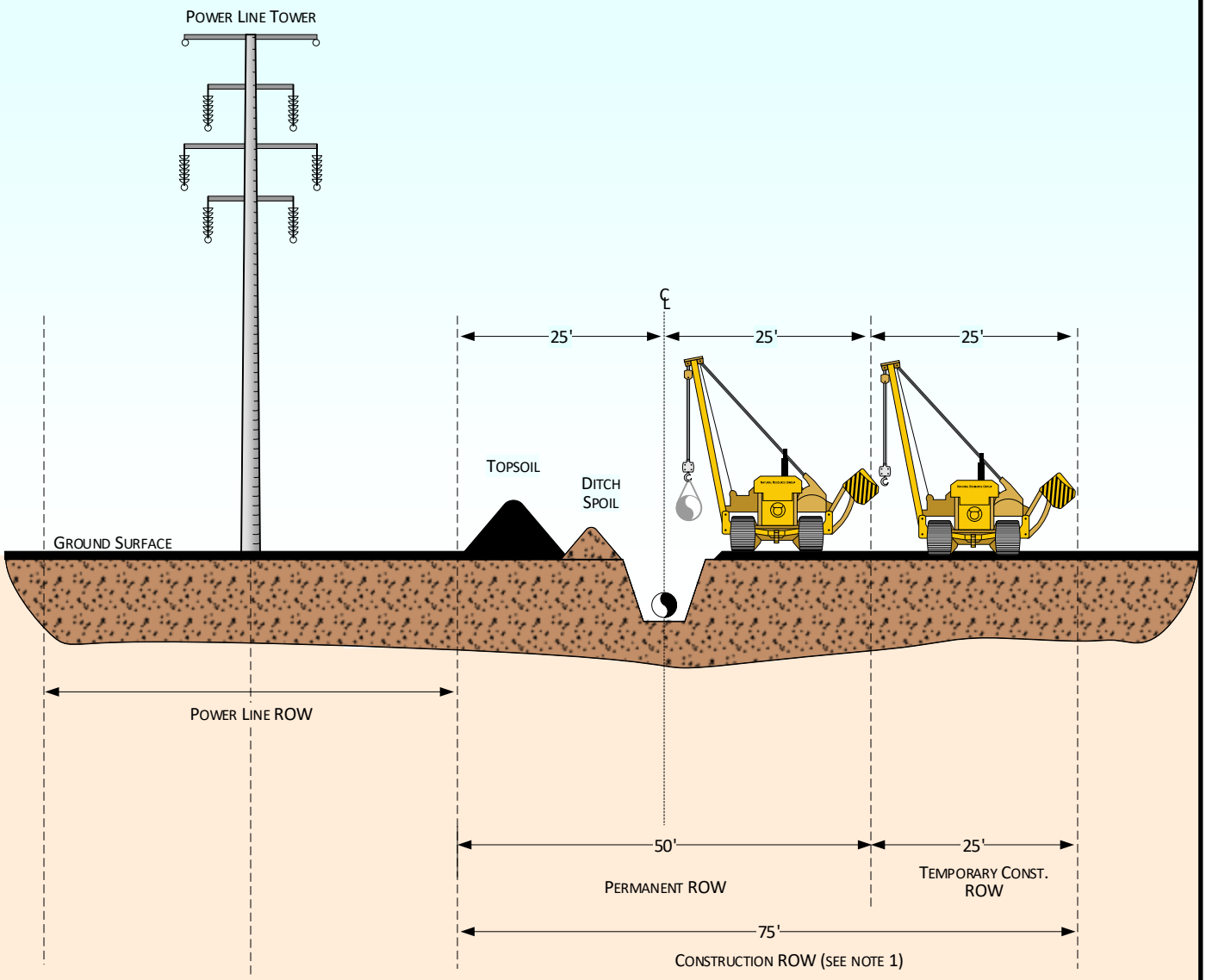
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75' WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50' WIDE AND WILL NOT OVERLAP THE EXISTING ROAD PERMANENT EASEMENT. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE.
3. STOCKPILE TOPSOIL SEPARATELY FROM DITCH SPOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE INSPECTOR.

For environmental review purposes only.

Figure 2
Construction Right-of-Way Adjacent to Road
Wahpeton Expansion Project
WBI Energy Transmission, Inc.

MPLS: \M2W\Typicals	ROW_Adjacent_Road_Profile.vsd	Scale: NTS	Revised: 10/15/2021	Drawn By: RJC



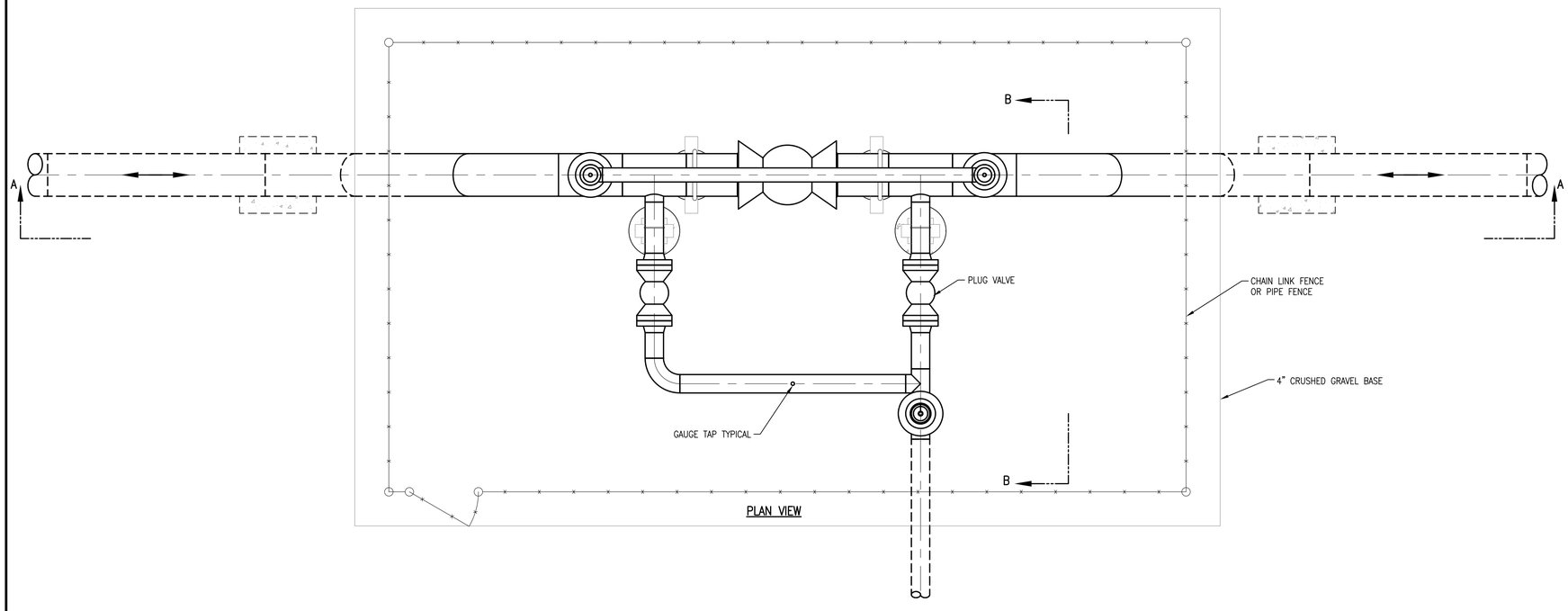
PROFILE

NOTES:

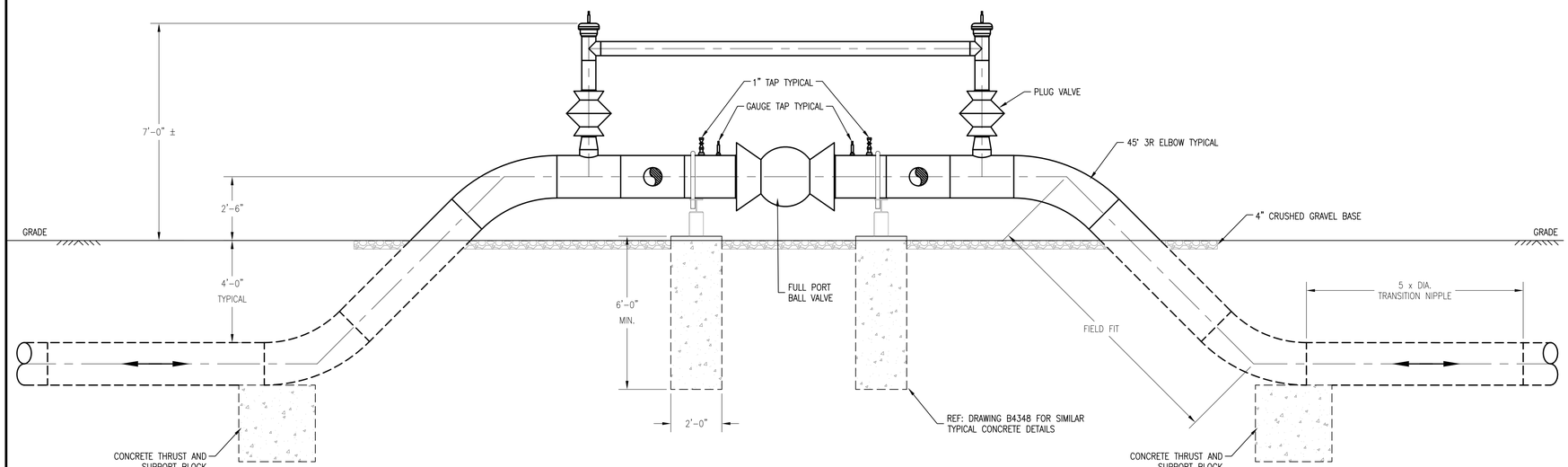
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75' WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50' WIDE AND WILL NOT OVERLAP EXISTING POWER LINE PERMANENT EASEMENT. ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED, AND OTHER SPECIAL CIRCUMSTANCES AS REQUIRED.
2. THIS DRAWING REFLECTS "TRENCH AND SPOIL SIDE" TOPSOIL STRIPPING PROCEDURE.
3. STOCKPILE TOPSOIL SEPARATELY FROM DITCH SPOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE INSPECTOR.

Figure 3
Construction Right-of-Way Adjacent to Power Line
Wahpeton Expansion Project
WBI Energy Transmission, Inc.

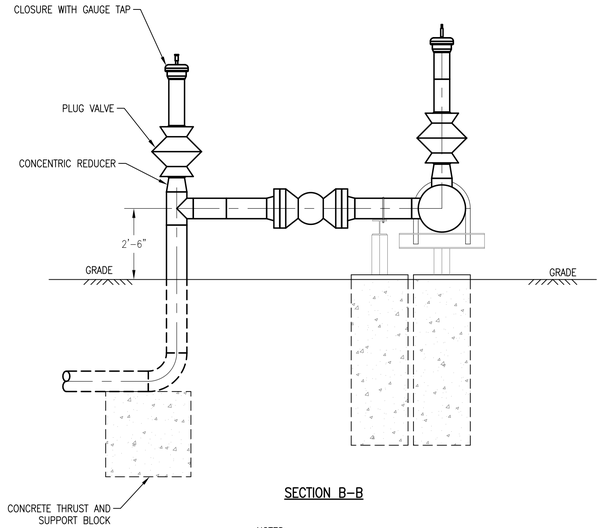
MPLS: \M2W\Typicals	ROW_Adjacent_Powerline_Profile.vsd	Scale: NTS	Revised: 10/15/2021	Drawn By: GIS



PLAN VIEW



SECTION A-A



SECTION B-B

NOTES:
- SUPPORTS MUST BE INSTALLED IN UNDISTURBED SOIL.
- TYPICAL 1" TAPS INCLUDE: 1" THREADOLET, 1" NIPPLE, 1" PLUG VALVE AND 1" HEX PLUG.
- TYPICAL GAUGE TAPS INCLUDE: 1/2" THREADOLET, H1C-24 AGCO VALVE AND 1/4" F.S. PLUG.

NO.	DATE	DRWN BY	DSGN BY	CHKD BY	DESCRIPTION
3	12/31/20	KM	P.R.	STAFF	UPDATED TYPICAL STANCHION REFERENCE DRAWING
2	11/7/16	KM	P.R.	STAFF	ADDED STACK TO TAKE-OFF, FENCE, GRAVEL & NOTES

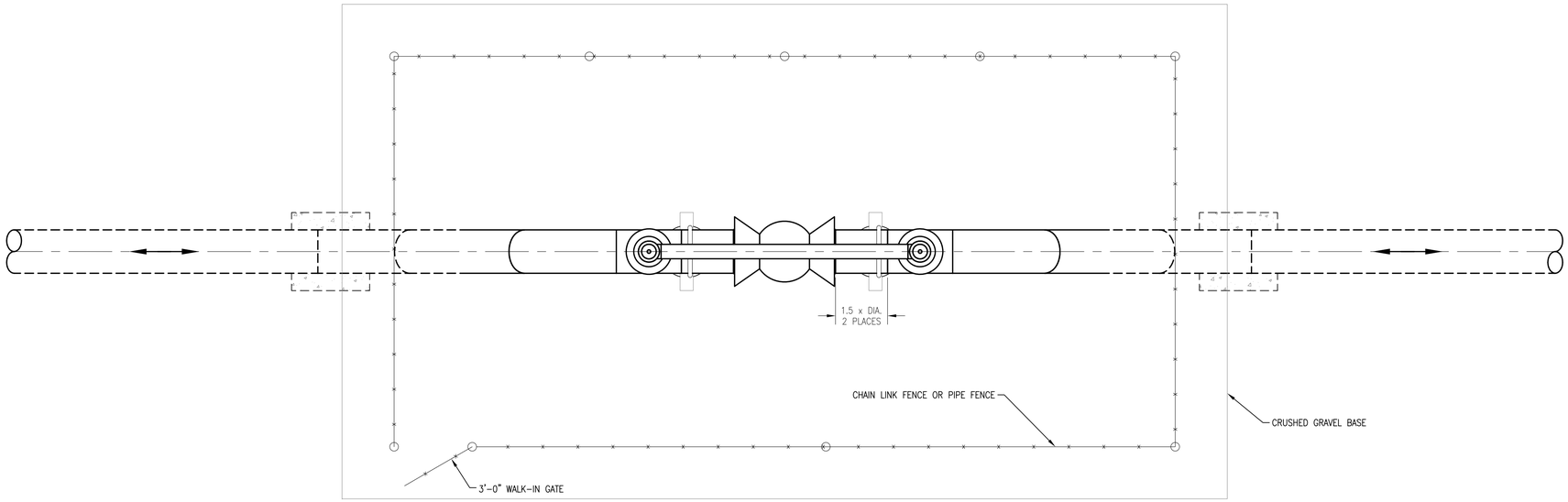
APPROVED AS FINAL
BY: K.MOTHERSHEAD
DATE: 12/31/20

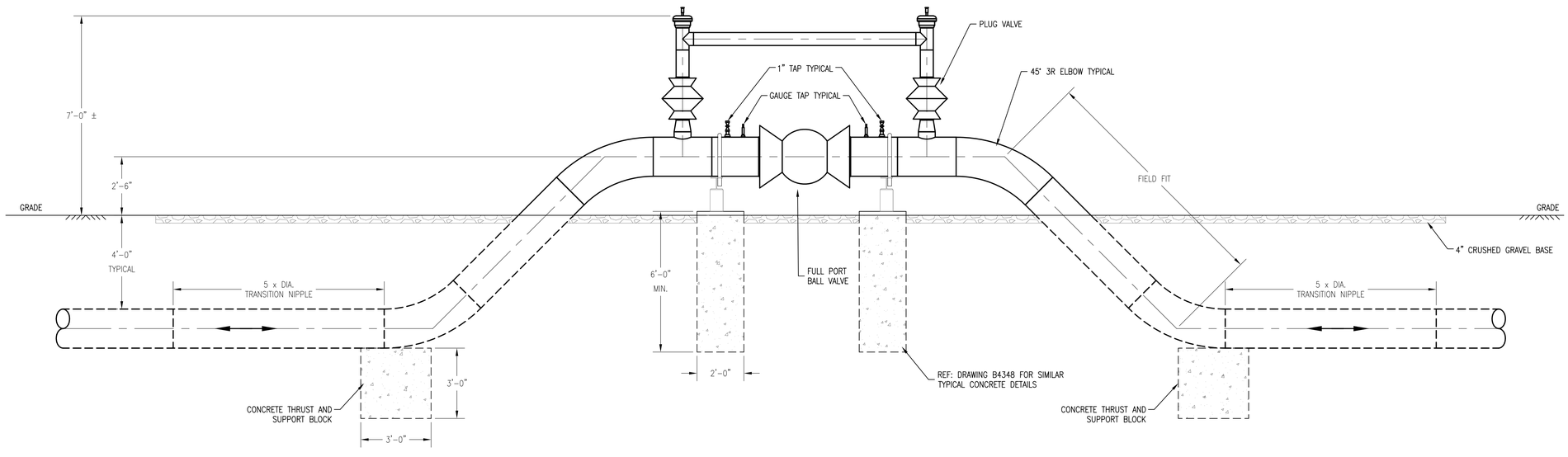
WBI ENERGY TRANSMISSION
An MDU Resources Group Company

TYPICAL BLOCK VALVE SETTING WITH SIAMESE

W.O. #	STD.5111
DESIGNED BY	P.RYAN
DRAWN BY	KM
CHECKED BY	STAFF
DATE CREATED	3/18/15

SCALE	FILE NAME	DWG. NO.	SHEET NO.
3/8"-1'-0"	C1660	C-06-1660	1 OF 1





NOTES:
- SUPPORTS MUST BE INSTALLED IN UNDISTURBED SOIL.
- TYPICAL 1" TAPS INCLUDE: 1" THREADOLET, 1" NIPPLE, 1" PLUG VALVE AND 1" HEX PLUG.
- TYPICAL GAUGE TAPS INCLUDE: 1/2" THREADOLET, H1C-24 AGCO VALVE AND 1/4" F.S. PLUG.

NO.	DATE	DRWN BY	DSGN BY	CHKD BY	DESCRIPTION
3	12/31/20	KM	P.R.	STAFF	UPDATED TYPICAL STANCHION REFERENCE DRAWING
2	11/7/16	KM	P.R.	STAFF	ADDED NOTES AND 1" TAP CALLOUT

APPROVED AS FINAL
BY: K.MOTHERSHEAD
DATE: 12/31/20

WBI ENERGY TRANSMISSION
An MDU Resources Group Company

TYPICAL BLOCK VALVE

W.O. #	STD.5111
DESIGNED BY	P.RYAN
DRAWN BY	KM
CHECKED BY	STAFF
DATE CREATED	3/13/15

SCALE	FILE NAME	DWG. NO.	SHEET NO.
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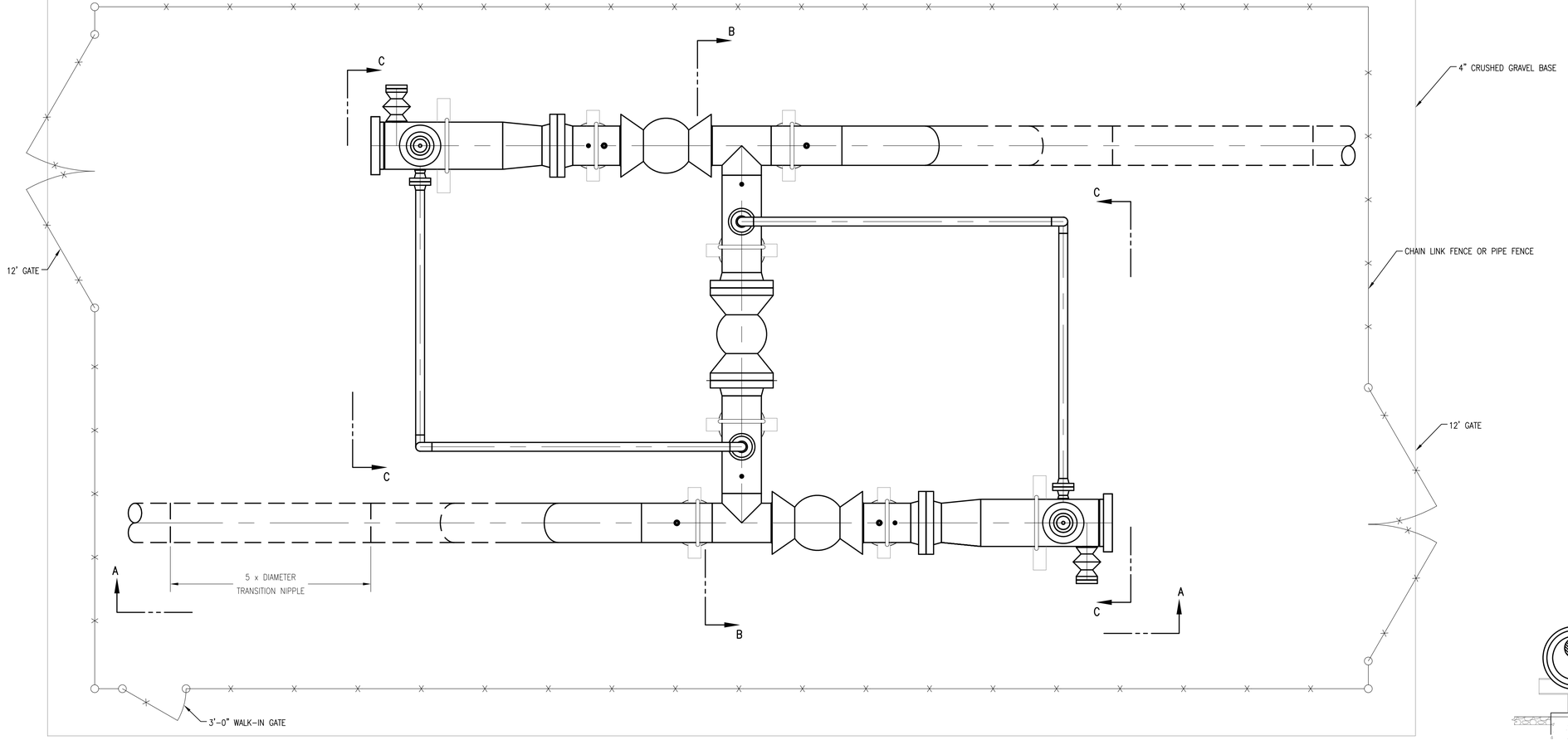
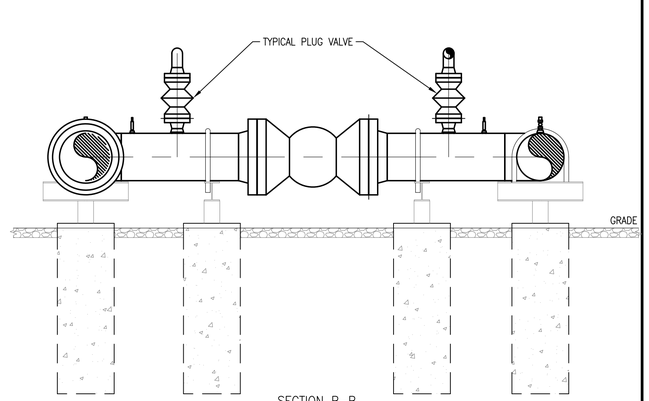
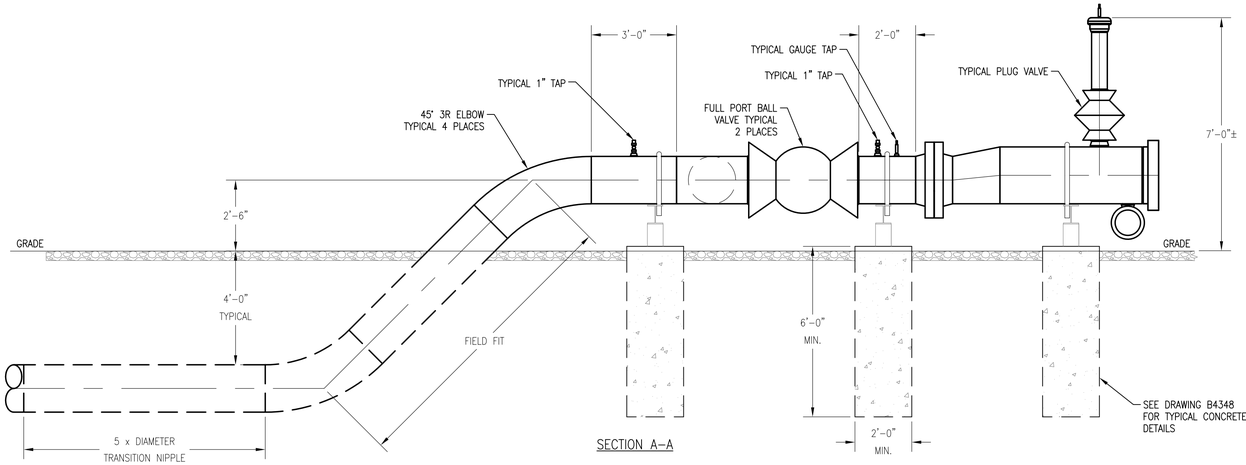


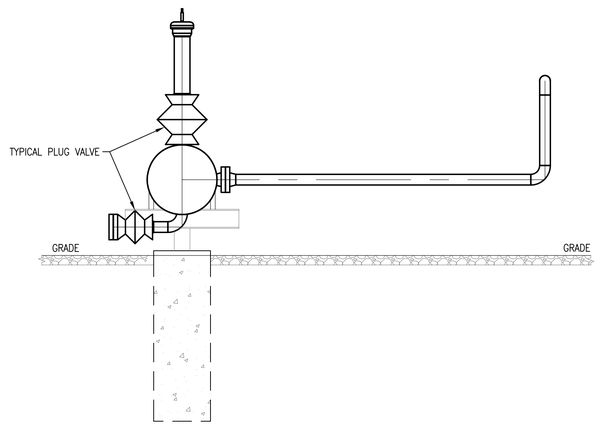
PLAN VIEW



SECTION B-B



SECTION A-A



SECTION C-C

NOTES:
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- TYPICAL 1" TAPS INCLUDE: 1" THREADOLET, 1" NIPPLE, 1" PLUG VALVE AND 1" HEX PLUG.
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NO.	DATE	DRWN BY	DSGN BY	CHKD BY	DESCRIPTION
2	12/31/20	KM	PR	STAFF	UPDATED TYPICAL STANCHION REFERENCE DRAWING
1	11/7/16	KM	PR	STAFF	REMOVED BOM, ADDED NOTE, AND CALLOUTS

APPROVED AS FINAL
BY: K.MOTHERSHEAD
DATE: 12/31/20

WBI ENERGY TRANSMISSION
An MDU Resources Group Company

TYPICAL DOUBLE PIG LAUNCHER VALVE SETTING

W.O. #	STD.5111
DESIGNED BY	P.RYAN
DRAWN BY	KM
CHECKED BY	GWH
DATE CREATED	10/05/16

SCALE	FILE NAME	DWG. NO.	SHEET NO.
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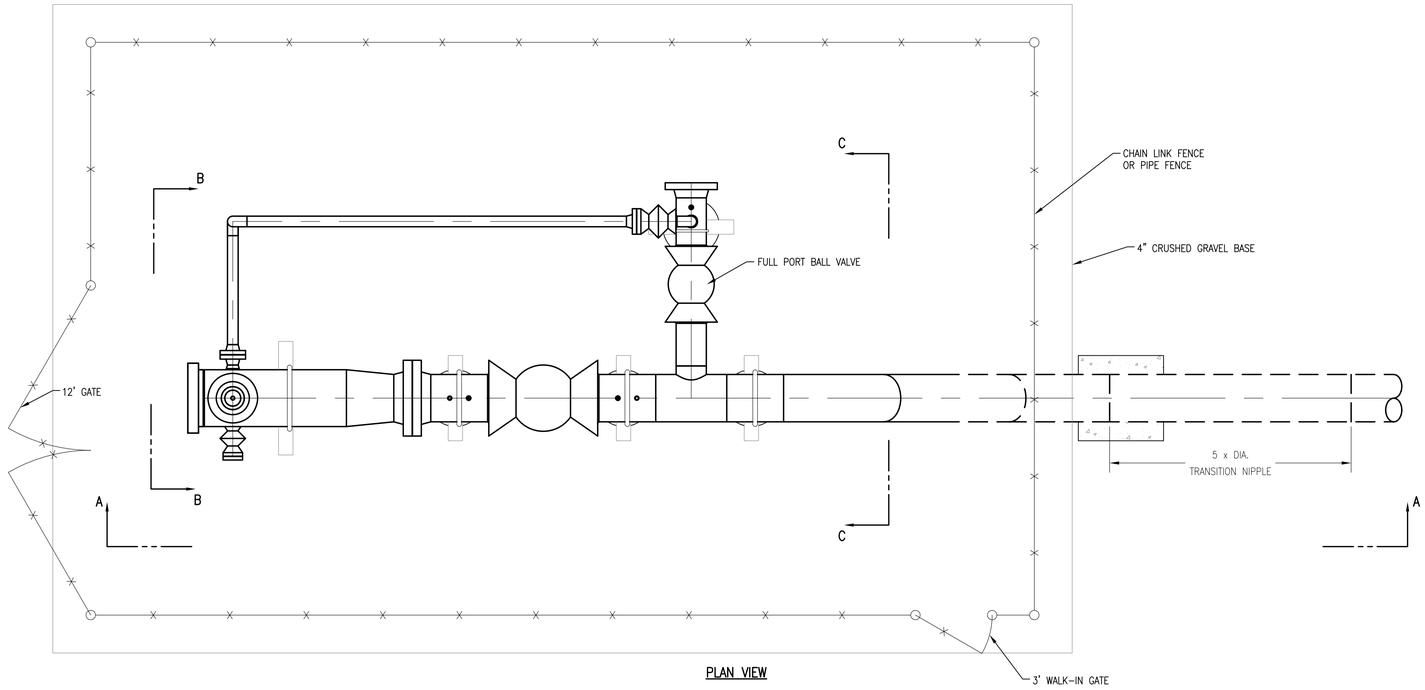
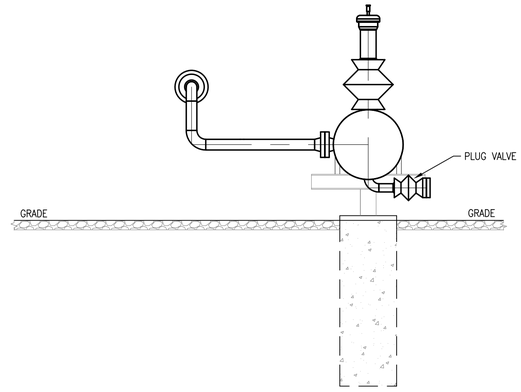


PLAN VIEW



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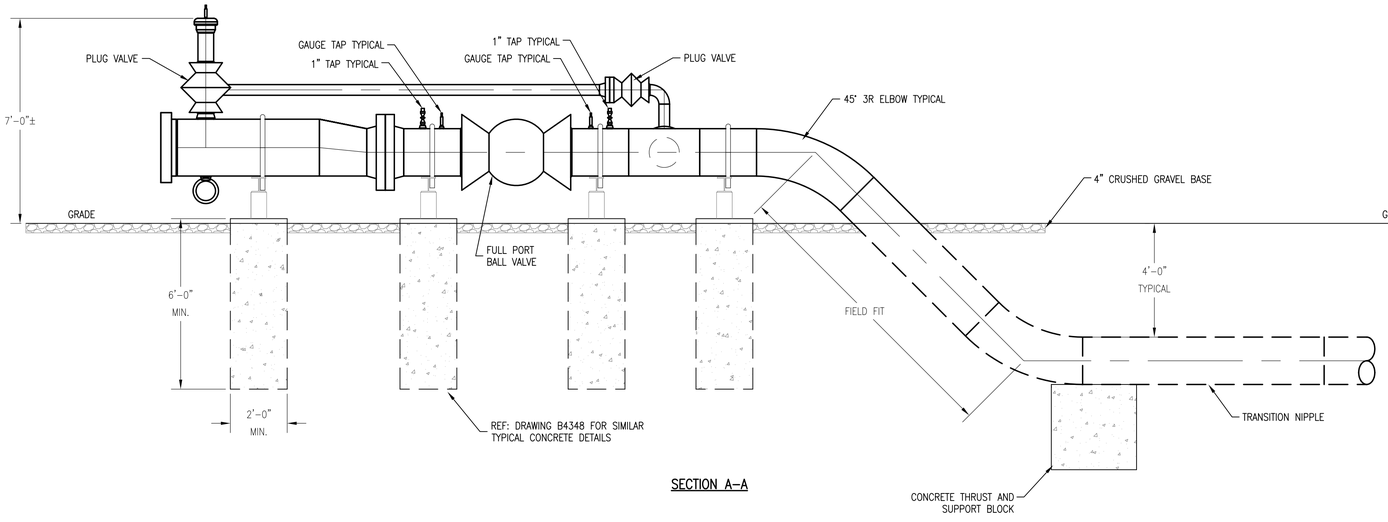

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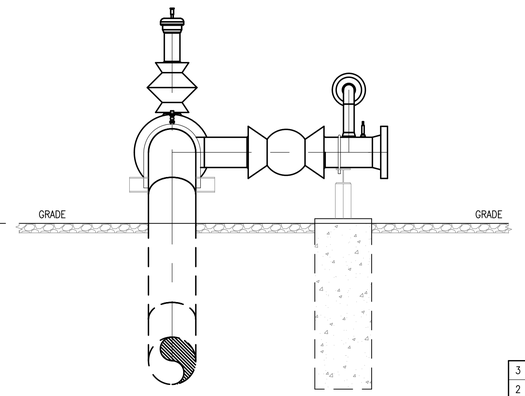

SECTION C-C

NOTES:
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- TYPICAL 1" TAPS INCLUDE: 1" THREADOLET, 1" NIPPLE, 1" PLUG VALVE AND 1" HEX PLUG.
- TYPICAL GAUGE TAPS INCLUDE: 1/2" THREADOLET, H1C-24 AGCO VALVE AND 1/4" F.S. PLUG.

NO.	DATE	DRWN BY	DSGN BY	CHKD BY	DESCRIPTION
3	12/31/20	KM	P.R.	STAFF	UPDATED TYPICAL STANCHION REFERENCE DRAWING
2	11/7/16	KM	P.R.	STAFF	ADDED FENCE, GRAVEL, NOTE AND CALLOUTS

APPROVED AS FINAL

BY: GREG HECKMAN

DATE: 12/16/16

WBI ENERGY TRANSMISSION
An MDU Resources Group Company

TYPICAL LAUNCHER/RECEIVER VALVE SETTING

W.O. #	STD.5111
DESIGNED BY	P.RYAN
DRAWN BY	KM
CHECKED BY	STAFF
DATE CREATED	3/16/15

SCALE	FILE NAME	DWG. NO.	SHEET NO.
3/8"=1'-0"	C1661	C-06-1661	1 OF 1

APPENDIX 1D SUMMARY OF COLLOCATED FACILITIES

APPENDIX 1D
Wahpeton Expansion Project
Summary of Collocated Facilities

Collocated Utility Owner	Utility Type	Begin Milepost	End Milepost	Direction to Existing Utility/Road Right-of-Way	Paralleled Length (miles) [a]
Road	Road	3.6	4.4	North, West	0.8
Road	Road	6.4	9.3	East, West	2.8
Road	Road	10.6	14.4	West, East	3.8
Road	Road	14.7	18.8	East	4.1
Road	Road	18.8	19.7	East	1.0
Road	Road	19.8	21.8	West	2.0
Road	Road	21.8	22.4	North	0.6
Road	Road	23.3	23.7	North	0.4
Road	Road	24.3	24.5	East	0.1
Unknown, Road	Electric utility, road	25.7	26.8	South	0.1
Unknown, Road	Electric utility, road	25.7	26.6	South	1.0
None	Road	36.6	36.8	Northeast	0.2
Minnkota, Road	Electric utility, road	38.5	39.5	West	1.0
Road	Road	39.5	40.5	South	1.0
Road	Road	40.9	41.0	South	0.1
Red River Valley and Western, Road	Railroad, road	42.4	47.4	East, West	5.0
Red River Valley and Western, Road	Railroad, road	47.3	47.4	Southwest	0.1
Red River Valley and Western, Road	Railroad, road	47.4	48.4	South	0.9
Road	Road	48.4	48.9	East	0.5
Road	Road	53.9	56.4	East	2.5
Road	Road	57.5	59.6	North	2.2
Road	Road	59.6	60.6	East, West	0.9
PROJECT TOTAL					**31.0**

[a] The totals may not match the sum of addends due to rounding.

APPENDIX 1E PLOT PLANS FOR ABOVEGROUND FACILITY SITES (FILED UNDER SEPARATE COVER AS CONTROLLED UNCLASSIFIED INFORMATION / CRITICAL ENERGY INFRASTRUCTURE INFORMATION)

APPENDIX 1F-1 SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

WBI ENERGY TRANSMISSION, INC.

Wahpeton Expansion Project

Appendix 1F-1

Spill Prevention, Control, and Countermeasure Plan

Draft

Docket No.
PF21-4-000

March 2022

WBI ENERGY TRANSMISSION, INC.
WAHPETON EXPANSION PROJECT
SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

TABLE OF CONTENTS

LIST OF ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

EI	Environmental Inspector
Project	Wahpeton Expansion Project
SPCC Plan	Spill Prevention, Control, and Countermeasure Plan
WBI Energy	WBI Energy Transmission, Inc.

1.0 INTRODUCTION

This Spill Prevention, Control, and Countermeasure Plan (SPCC Plan) was prepared for implementation during construction of WBI Energy Transmission, Inc.'s (WBI Energy) proposed Wahpeton Expansion Project (Project). This SPCC Plan outlines specific preventive measures and practices to reduce the likelihood of an accidental release of a hazardous or regulated liquid and, in the event such a release occurs, to expedite the response to and remediation of the release.

This SPCC Plan restricts the location of fuel storage, fueling activities, and construction equipment maintenance along the construction right-of-way and provides procedures for these activities. Training and lines of communication to facilitate the prevention, response, containment, and cleanup of spills during construction activities are also described.

All contractor personnel working on the Project are responsible for implementation of the measures and procedures defined in this SPCC Plan. Contractors are expected to meet or exceed WBI Energy's standards for spill response, reporting, and cleanup. Contractors whose activities could result in a spill of fuel or other regulated or hazardous materials on the right-of-way will adopt the measures identified in this SPCC Plan. All measures outlined in this SPCC Plan are consistent with the applicable requirements of the Federal Energy Regulatory Commission's *Wetland and Waterbody Construction and Mitigation Procedures*.

A complete copy of the SPCC Plan shall be maintained on site. A copy of the SPCC Plan will be available for a review during normal working hours.

1.1 TRAINING

Experienced and well-trained staff are essential for the successful implementation of the SPCC Plan. Contractors will provide spill prevention training and safety training to their work crews. The training program will be designed to improve awareness of safety requirements, pollution control laws, and proper operation and maintenance of equipment. Contractors will train all employees who handle fuels and other regulated substances to prevent spills and to quickly and effectively contain and clean up spills in accordance with applicable regulations and the provisions of this plan.

1.2 ROLES AND RESPONSIBILITIES

1.2.1 Spill Coordinator

Contractors will appoint a Spill Coordinator who will be responsible for coordinating Contractor Work Crews for spill cleanup, conducting site investigations, and assisting with completing spill reports. The Spill Coordinator will report all spills to an Environmental Inspector (EI). The Spill Coordinator will be responsible for completing WBI Energy's internal Spill Report Form as soon as possible but no later than the end of the workday on the day that the spill occurred, regardless of the size of the spill. The Spill Report Form will be submitted to the WBI Energy Designated Representative.

Spill Coordinator:	To Be Determined
Phone Number:	To Be Determined

1.2.2 Contractor Work Crews

Contractor Work Crews will comply with this SPCC Plan and will notify the Spill Coordinator immediately of any spill of fuel or other regulated or hazardous material, regardless of the volume of the spill. Contractor Work Crews will assist with the cleanup of the spill as directed by the Spill Coordinator, if trained to do so.

1.2.3 Environmental Inspectors

The EIs will monitor the Contractors' compliance with the provisions of the SPCC Plan to ensure that spill resources are allocated and cleanup is accomplished in accordance with this plan and any applicable regulatory requirements. The EIs will work in conjunction with WBI Energy's Designated Representative to promptly report spills to appropriate federal, state, and local agencies, as required, and to coordinate with these agencies regarding contacting additional parties or agencies.

Environmental Inspector:	To Be Determined
Phone Number:	To Be Determined

1.2.4 WBI Energy's Designated Representative

The Designated Representative has the authority to commit resources to implement this SPCC Plan. The Designated Representative will work in conjunction with the EIs to promptly report spills to appropriate federal, state, and local agencies.

ALL SPILLS, REGARDLESS OF SIZE, MUST BE REPORTED TO THE SPILL COORDINATOR AND ENVIRONMENTAL INSPECTORS

2.0 PREVENTATIVE MEASURES

Contractors will minimize the potential for a spill during construction activities at WBI Energy's facilities and on its right-of-way by implementing appropriate measures to prevent and contain spills. Equipment and materials will be located on the site to meet the provisions of this SPCC Plan. The Contractor shall supply each construction crew with a quantity of absorbent and barrier materials sufficient to contain and recover spills that could potentially occur from the equipment with the largest on-board volume of fuel and lubricant. These materials may include—but are not limited to—drip pans, buckets, absorbent pads, containment booms, straw bales, absorbent clay, saw dust, floor drying agents, spill containment barriers, plastic sheeting, skimmer pumps, covered holding tanks, and fire extinguishers.

The Contractor shall inform all construction personnel of the locations of staging areas where spill response equipment and materials are stored and have them readily accessible during construction. Contractors will comply with applicable environmental and safety laws and regulations and will ensure that a copy of this plan is available on the site to all Construction Work Crew members.

In addition, periodic discussions between construction personnel and their supervisors must be held. These are conversations where problems in field operations are discussed and solved. This SPCC Plan, together with specific techniques, will be reviewed with the appropriate employees at a safety meeting before construction starts.

The contractor will provide, maintain, and make available the appropriate Safety Data Sheets for vehicle and equipment fuel, lubricating oil, and any other regulated or hazardous materials utilized for the Project.

The following sections describe spill prevention measures to be taken on Project locations.

2.1 PETROLEUM AND HAZARDOUS LIQUID STORAGE, REFUELING, AND EQUIPMENT MAINTENANCE

2.1.1 Staging Areas and Facility Sites:

- Contractors will construct temporary liners and seamless impermeable berms, or other appropriate containment, around aboveground storage containers so that liquids will be contained and collected in specified areas isolated from waterbodies in the event of a leak or spill. Storage containers will not be placed in areas subject to periodic flooding and washout.

- Contractors will visually inspect aboveground storage containers for leaks and spills frequently and whenever containers are refilled.

- Secondary containment structures must provide a containment volume equal to a minimum of 110 percent of the maximum storage volume of the largest storage container in the containment structure.

- Secondary containment structures must be constructed so that no outlet is provided and any spill will be contained within the containment structure. Accumulated rainwater may be removed if authorized by an EI. Accumulated water with a visible sheen will be collected for proper storage, transport, and disposal.

- Contractors will remove all secondary containment structures at the conclusion of the Project. Contractors also will be responsible for returning any storage impoundment areas to original contours and appearance upon completion of the Project.

- Fuels and lubricants will be stored only at designated staging areas and in appropriate service vehicles. The storage areas will be located at least 100 feet away from edges of wetlands and waterbodies, at least 100 feet away from designated municipal watershed areas, at least 200 feet away from private water supply wells, and at least 400 feet away from municipal water-supply wells unless a larger buffer is required by regulatory agencies.

- Storage containers will display labels that identify the contents of the container and whether the contents are hazardous. Contractors will maintain and provide to WBI Energy, when requested, copies of all Safety Data Sheets.

- Contractors will conduct routine equipment maintenance such as oil changes in staging areas, or as necessary in additional temporary workspace, and will dispose of waste oil in an appropriate manner (e.g., the Contractors will collect the waste oil in labeled, sealed containers and transport the waste oil to a recycling facility).

- Contractors will correct visible leaks in storage containers as soon as possible. Leaks outside of secondary containment, regardless of volume, will be reported to an EI.

- All fuel nozzles will be equipped with functional automatic shut-off valves.

- The drivers of tank trucks will be responsible for spill prevention and secondary containment during loading and unloading operations. Procedures for loading and unloading tank trucks will meet the minimum requirements established by applicable regulations. Drivers will observe and control the fueling operations at all times to prevent overfilling. Contractors will be responsible for training drivers of tank trucks to comply with these provisions.

- Prior to departure of any tank truck, all outlets of the vehicle will be closely examined by the driver for leakage and tightened, adjusted, or replaced as necessary to prevent liquid leakage while in transit. Contractors will be responsible for training drivers of tank trucks to comply with these provisions.

2.1.2 Project Right-of-Way

- All machinery will arrive on the right-of-way in a clean, washed condition and free of fluid leaks.

- Contractors will wash, refuel, and service machinery at locations well away from any wetlands and waterbodies to prevent petroleum or chemical substances from entering surface waters.

- Overnight parking of equipment and refueling and lubricating construction equipment will be restricted to upland areas at least 100 feet away from stream channels and wetlands, at least 200 feet from private water-supply wells, and at least 400 feet from municipal water-supply wells. Where this is not possible and where an EI finds no reasonable alternative in advance, the equipment will be fueled by designated personnel with specific training in refueling, spill containment, and cleanup under the supervision of an EI. Prior to refueling, appropriate steps will be taken (including deployment of secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill.

- Fuel trucks transporting fuels to construction areas will only travel on approved access roads.

- Contractors will keep a spill kit on the site in case of machinery leaks or spills.

2.1.3 Restricted Refueling Areas

Restricted refueling areas include areas where the appropriate buffer (e.g., 100 feet from a wetland or waterbody) cannot be maintained. All restricted refueling areas will be identified in the field with flagging or signs. A site-specific plan and written approval from an EI will be required to refuel in restricted areas.

- Approval must be received from an EI and, where necessary, appropriate regulatory permits must be obtained prior to refueling in restricted refueling areas.

- In large wetlands where no upland site is available for refueling, auxiliary fuel tanks may be mounted to equipment to minimize the need for refueling.

- Trained personnel must be available for refueling and an EI must be present unless a case-specific exemption is obtained in writing from WBI Energy's Designated Representative.

- Equipment such as large, stationary pumps will be fitted with auxiliary tanks as appropriate. The auxiliary tanks will be placed within secondary containment which provides for a containment volume equal to a minimum of 110 percent of the volume of the largest tank in the containment structure.

- Refueling within restricted refueling areas will take place only in areas designated by an EI. Fuel trucks with a capacity in excess of 300 gallons will not be allowed within a restricted refueling area unless adequate secondary containment is provided.

- Refueling of dewatering pumps, generators, and other small, portable equipment will be performed using approved containers with a maximum volume of 5 gallons.

- Fuel trucks will be prohibited from traveling on temporary equipment bridges at stream crossings. An EI may waive this restriction on a site-specific basis if a reasonable refueling option is not available. Such case-specific exemptions must be approved in writing by WBI Energy's Designated Representative.

2.2 SPILL RESPONSE EQUIPMENT

2.2.1 Staging Areas and Facility Sites

- Contractors will stock a sufficient supply of sorbent and barrier materials at construction staging areas to allow the rapid containment and recovery of spilled material. Sorbent and barrier materials will also be used to contain runoff from spill areas.

- Shovels and labeled drums will be kept at each of the individual staging areas. If small quantities of soil become contaminated within the staging area, they will be

collected and placed in the drums. Large quantities of contaminated soil will be collected prior to disposal using heavy equipment and will be stored in drums, lined bermed areas, or other suitable containment. The Contractors will dispose of all contaminated soil in accordance with applicable state and federal regulations.

2.2.2 Project Right-of-Way

- Each construction crew must have adequate absorbent materials and containment booms on hand to enable the rapid and complete cleanup of spills and sufficient tools and materials to stop leaks.

- Contractors must maintain spill kits containing a sufficient quantity of absorbent and barrier materials to adequately contain and recover foreseeable spills. These kits may include—but are not limited to—absorbent pads, straw bales, absorbent clay, saw dust, floor drying agents, spill containment barriers, plastic sheeting, skimmer pumps, and drums. The equipment will be located near fuel storage areas and other locations as necessary to be readily available in the event of a spill.

- All fuel (where possible) service trucks will carry adequate spill response materials. Spill response materials present on trucks should consist of absorbent pads, absorbent material, plastic bags, and a shovel.

- The Spill Coordinator will inform an EI and all Contractor personnel of the location of spill control equipment and materials and have the equipment and materials readily accessible while construction activities are occurring.

2.3 CONCRETE COATING

Concrete coating activities will not be performed within 100 feet of a wetland or waterbody unless the location is an existing industrial site designated for such use.

3.0 STORAGE, CONTAINMENT AND FACILITY TRANSFER

All chemical storage containers, tanks, or barrels will be made of compatible materials with the appropriate temperature and pressure rating, overpressure protection, valving, and equalization lines necessary to comply with the appropriate state and federal regulations regarding storage of regulated substances. All chemicals, regardless of container size, will be stored in secondary containment or designated storage areas when not actively in use.

Fuel valves used for the final control of flow shall be of the self-closing type and shall be manually held open except were automatic means are provided for shutting off the flow when the vehicle is full.

Contaminated liquids inside containment areas will not be allowed to be drained outside the containment structures onto the ground or into any open water course. These liquids will be pumped or wiped out of containment structures and disposed of appropriately.

4.0 SPILL RESPONSE

Any employee who detects a spill incident while it is occurring should take the necessary measures to stop the flow but only if that employee has been trained to do so. If the employee is unprepared to effectively control the spill, caution and good judgment should be used as to personal safety until a cleanup crew arrives. Immediate containment by the discovering person can reduce the extent of the spill damage.

4.1 FIRST PRIORITIES

The first priorities after discovering a spill are to protect the safety of personnel and the public, minimize damage to the environment, and control costs associated with cleanup and reclamation. Actions to be taken immediately following a spill include the following:

1. Assess the safety of the situation (including the surrounding public).
2. Sources of ignition will be removed from the area **if it is safe to do so**.
3. The source of the spill will be shut off **if it is safe to do so**.
4. Efforts to contain the spill immediately will be initiated **if it is safe to do so**.

Cleanup activities will be initiated as soon as possible after the spill is contained using properly trained and protected personnel with adequate spill cleanup materials and equipment.

5.0 SPILL REPORTING

All spills will be reported immediately to the Spill Coordinator who will in turn work with an EI and WBI Energy's Designated Representative to address and report the spill as necessary. The Spill Coordinator will record, at a minimum, the following information (found on the Spill Report Form in attachment A):

1. date, time, and location of the spill;
2. type of material spilled;
3. amount of material spilled;
4. extent of spill area;
5. whether the material has reached or has the potential to reach a waterbody;
6. status of spill containment and cleanup; and
7. circumstances leading up to the spill.

WBI Energy's Designated Representative will report the spill to the appropriate regulatory agencies if the spill meets or exceeds a reportable threshold. Appropriate agencies include, but may not be limited to, the following:

1. North Dakota Department of Health at 1-701-328-5210 for non-emergencies or North Dakota Department of Emergency Services at 1-800-472-2121 (24 hour hotline) for emergencies. The North Dakota Department of Health also requires completion of an online "General Environmental Incident" form available at http://www.ndhealth.gov/ehs/eir/eirform.htm for any spill of any volume.

2. National Response Center (Washington D.C.) at 1-800-424-8802 (24 hours).

Contractors are responsible for assisting WBI Energy with preparing follow-up written incident reports to regulatory agencies upon request and with accommodating any inspections performed by regulatory agencies.

WBI Energy's internal Spill Report Form will be completed by the Spill Coordinator and provided to WBI Energy's Designated Representative as soon as possible but no later than the end of the workday on the day that the spill event occurred so agencies can be notified in a timely manner and pertinent information is available for reporting. State and federal agencies must be notified within 24 hours of a reportable spill event. Field personnel will report the spill to the state and federal agencies only if WBI Energy's Designated Representative is unavailable to do so. All Spill Report Forms and other reporting documentation will be kept on file by WBI Energy's Designated Representative.

6.0 SPILL CONTROL AND CLEANUP

Spill control should only be done by employees trained and prepared to effectively control the spill. Employees should make good judgment as to their personal role in the containment actions; however, prompt action can often prevent extensive spill damage. Employees engaged in spill control will use the proper precautions and safety equipment as specified in the Safety Data Sheet(s). The Designated Representative and EI will devise a cleanup plan as necessary based on location, quantity, and type of substance spilled.

Upon learning of the spill, the Spill Coordinator will implement the measures in the following sections.

6.1 LAND SPILL

- As necessary, berms will be constructed with available equipment to physically contain the spill and sorbent materials will be applied to the spill area. Traffic on contaminated soils will be minimized.
- Contaminated soils and vegetation will be removed and disposed of at a licensed waste disposal facility.
- Waste materials from the spill will be disposed of according to state and federal regulatory requirements.
- The following information will be provided to the EI and the WBI Energy Designated Representative:
    - The amount of spilled material that was recovered during cleanup.
    - Proposed reclamation of remaining contaminated areas.
    - Storage method for the contaminated waste material before transport and disposal.
    - Transport and disposal documentation for the contaminated waste material.

6.2 WETLAND AND WATERBODY SPILL

Regardless of size, the following conditions apply if a spill occurs near or into a stream, wetland, or an open surface water source.

- For spills in standing water, floating booms, skimmer pumps, and holding tanks shall be used as appropriate by the contractor to recover and contain released materials on the surface of the water.

- For a spill threatening a waterbody, berms and/or trenches will be constructed to contain the spill before it reaches the waterbody. Deployment of booms, sorbent materials, and skimmers may be necessary if the spill reaches the water. The spilled product will be collected and the affected area cleaned up in accordance with appropriate state or federal regulations.

- Contaminated soils in wetlands must be excavated from the wetland. The soils must be placed on and covered by plastic sheeting in approved containment areas at a minimum of 100 feet away from wetlands or waterbodies. Contaminated soil will be disposed of as soon as possible in accordance with appropriate state or federal regulations.

All cleanup activities will be conducted according to this SPCC Plan. Personnel involved in cleanup activities will meet the minimum requirements for hazardous materials training and will use approved Occupational Safety and Health Administration safety equipment.

ATTACHMENT A Spill Report Form

Wahpeton Expansion Project Spill Report Form		
Date of Spill:	Date of Spill Discovery:	
Time of Spill:	Time of Spill Discovery:	
Name and Title of Discoverer:		
Type of material spilled and manufacturer's name:		
Legal description of spill location to the quarter section:		
Directions to nearest community:		
Estimated volume of spill (gallons):		
Weather conditions:		
Topography and surface conditions of spill site:		
Spill medium (pavement, sandy soil, water, etc.)		
Proximity of spill to surface waters:		
Did the spill reach a waterbody?	Yes	No
If so, was a sheen present?	Yes	No
Describe the causes and circumstances of the spill:		
Describe the extent of observed contamination, both horizontal and vertical (i.e., spill-stained soil in a 5-foot radius to a depth of 1 inch):		
Describe immediate spill control and/or cleanup methods used and implementation schedule:		
Current status of cleanup actions:		
Name and Company of:		
Construction Superintendent:		
Spill Coordinator:		
Environmental Inspector:		
Person who reported spill:		
Form completed by:	Date:	

APPENDIX 1F-2 GUIDED BORE DRILLING FLUID MONITORING AND OPERATIONS PLAN

WBI ENERGY TRANSMISSION, INC.

Wahpeton Expansion Project

Appendix 1F-2

Guided Bore Drilling Fluid Monitoring and Operations Plan

Draft

Docket No.
PF21-4-000

March 2022

WBI ENERGY TRANSMISSION, INC.
WAHPETON EXPANSION PROJECT
GUIDED BORE DRILLING FLUID MONITORING AND OPERATIONS PLAN

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ACRONYMS ABD ABBREVIATIONS

EI	environmental inspector
FERC	Federal Energy Regulatory Commission
Guided Bore Contractors	contractors retained by WBI Energy to complete guided bore activities for the Project
Guided Bore Plan	*Guided Bore Drilling Fluid Monitoring and Operations Plan*
Project	Wahpeton Expansion Project
WBI Energy	WBI Energy Transmission, Inc.

1.0 INTRODUCTION

This *Guided Bore Drilling Fluid Monitoring and Operations Plan* (Guided Bore Plan) describes procedures that WBI Energy Transmission, Inc. (WBI Energy) and its contractors (Guided Bore Contractors) will follow during guided bore operations associated with the proposed Wahpeton Expansion Project (Project). The intent of the Guided Bore Plan is to identify procedures to be implemented that minimize environmental impacts in the event that an inadvertent return of drilling fluids occurs during Project construction. The Guided Bore Plan communicates the roles and responsibilities of personnel involved with the guided bores, provides monitoring procedures, and describes contingency plans in the event of an unsuccessful guided bore. *[Note: An updated version of this plan will be filed with the Federal Energy Regulatory Commission (FERC) as more detailed information is finalized.]*

1.1 DESCRIPTION OF GUIDED BORE WATERBODY CROSSINGS

As part of the Project, WBI Energy proposes to install a 12-inch-diameter natural gas pipeline using the guided bore method at six waterbodies. One of these waterbodies is the Wild Rice River, which will be crossed by the pipeline at three separate locations. Table 1 provides additional details regarding the guided bore crossings of perennial waterbodies.

TABLE 1

Wahpeton Expansion Project
Waterbodies Proposed to be Crossed by Guided Bore Method [a]

Milepost	Unique ID	Waterbody Name[b]	North Dakota Water Quality Classification[c]	Flow Regime[d]	Crossing width (feet)[e]	Pipeline Crossing Method
1.2	scad001p	Maple River	Class II	PN	79	Bore
24.1	scab006p	Sheyenne River	Class IA	PN	42	Bore
41.0	sric002p	Unnamed tributary to Wild Rice River	Class III	PN	23	Bore
45.0	srid002p	Pitcairn Creek	Class III	PN	15	Bore
50.9	Desktop	Antelope Creek	Class II	PN	65	Bore
51.1	sird003p	Wild Rice River	Class II	PN	56	Bore
57.0	sirc006p	Wild Rice River	Class II	PN	78	Bore
57.6	srib004p	Wild Rice River	Class II	PN	38	Bore

[a] Based on data from the Project field surveys to date, United States Geological Survey mapping, National Hydrography Dataset data, the North Dakota State Water Commission's geographic information system data viewer, and review of aerial photographs.

[b] Waterbody names are based on United States Geological Survey topographic maps.

[c] None of the Class III streams are specifically identified in the Stream Classifications Table located in Appendix I of the North Dakota Department of Environmental Quality Standards of Quality for Waters of the State and are classified as Class III as a default based on specifications included in that appendix.

[d] Based on field surveys, National Hydrography Dataset designations, and/or aerial photography interpretation for unmapped streams:
PN = Perennial

[e] Approximate width based on field surveys and/or estimated from aerial photography.

[Note: The detailed scaled construction plans, crossing profile, and information regarding features that may increase the potential for an inadvertent return are currently pending and will be provided as attachment A in a future draft of this plan.]

2.0 PERSONNEL AND RESPONSIBILITIES

This section lists the personnel that will be involved with planning and performing the guided bores and specifies the responsibilities of WBI Energy and its Guided Bore Contractors. Qualified Guided Bore Contractors will be retained for completion of guided bore activities associated with the Project. The Guided Bore Contractors will be trained and knowledgeable of requirements and procedures outlined in this Guided Bore Plan. Environmental inspectors (EI) will work with the Guided Bore Contractors to monitor drilling activities and conduct inspections for potential signs of inadvertent returns. The EI will work with WBI Energy personnel to notify regulatory and/or resource agency staff of any releases that occur. More detailed descriptions of the roles and responsibilities of personnel involved in guided bore activities are described below.

- Guided Bore Contractors: The Guided Bore Contractors will be responsible for overall operation and monitoring of drill equipment and drilling conditions. The Guided Bore Contractors must be trained and knowledgeable of the requirements and procedures described in this Guided Bore Plan. The Guided Bore Contractors will continually monitor drilling conditions and maintain the records described in this Guided Bore Plan. The Guided Bore Contractors are responsible for communicating loss of drilling fluid circulation and stopping or changing the drill program in the event of an observed or anticipated inadvertent return. *[Note: The Guided Bore Contractor information is currently pending and will be provided with a future draft of this plan.]*

- EI: The EI, in conjunction with the Guided Bore Contractors, will periodically visually inspect the bore alignment for signs of inadvertent returns. In the event of an inadvertent return, the EI will work with the Guided Bore Contractors to implement the remediation activities described in this Guided Bore Plan. The EI will report any inadvertent returns to the designated WBI Energy Representative and work with the WBI Energy Representative to notify regulatory and/or resource agencies of the inadvertent return as required. The EI will document response and remediation actions taken for the inadvertent return.

- WBI Energy Representative: A designated WBI Energy Representative will be responsible for notifying regulatory and/or resource agencies of inadvertent returns as required and working with the agencies, Guided Bore Contractors, EIs, and other Project personnel as appropriate to develop and implement any corrective actions associated with an inadvertent return.

3.0 PRECONSTRUCTION ACTIVITIES

3.1 TRAINING

Prior to initiation of Project activities, all Guided Bore Contractors and WBI Energy personnel involved in Project construction will be required to attend formal environmental training. The training will include review of the elements and procedures described in this Guided Bore Plan. The WBI Energy Representative will maintain documentation of training topics and personnel in attendance. The EI will provide subsequent training to personnel who arrive on the Project during construction. The level of training received will be commensurate with the roles

and responsibilities of the individuals and will focus on measures to be implemented to minimize risk of an inadvertent return, on the guided bore-specific health and safety topics, and on the inadvertent return containment equipment and materials.

Additional training will be completed in the event that personnel or conditions change and affect the implementation of the guided bore (e.g., weather, scope changes).

3.2 INSPECTION

Guided Bore Contractor personnel and the EI will inspect the land-based portions of the drill path prior to construction to identify any conditions that would impede the visual and pedestrian field inspection and will develop modifications to the inspection routine as needed.

3.3 NOTIFICATION PROCEDURES

3.3.1 Landowner Notification

Prior to commencing the guided bore, landowners will be notified in writing of the upcoming construction, which will include the anticipated guided bore start and end dates, planned access routes to the construction sites, and contact information for WBI Energy personnel. Landowner permission will be obtained prior to conducting the pedestrian survey and land-based inspection of the drill path.

3.3.2 Agency Notification

WBI Energy will notify appropriate agencies—including FERC, the United States Army Corps of Engineers, and state agencies—prior to the commencement of the guided bore crossing if required by agency permits. The notification will include the anticipated duration of drilling and contact information for appropriate WBI Energy personnel.

4.0 DOCUMENTATION

This Guided Bore Plan will be available and accessible to all personnel on the site during guided bore activities. Additional documentation that will be available and accessible on site is described in table 2.

TABLE 2

Wahpeton Expansion Project
Documentation to Be Available/Accessible on Site

Procedure	Responsible Party	Documentation
Employee Training	WBI Energy Representative and EI	Record of employee training detailing when training was conducted, material covered, and employees in attendance.
Visual Monitoring	Guided Bore Contractor and EI	Record name of inspector, time of inspection, and observations for each inspection.
Instrument Logs	Guided Bore Contractor	Logs that document pilot hole progression, drill string axial and torsional loads, annulus pressures, and drilling fluid discharge rate and pressure.
Drilling Fluid Composition	Guided Bore Contractor	Logs of drilling fluid composition and physical properties throughout drilling activities. Safety Data Sheets for drilling fluid and any additives will be maintained.

TABLE 2

Wahpeton Expansion Project
Documentation to Be Available/Accessible on Site

Procedure	Responsible Party	Documentation
Public and Agency Correspondence	WBI Energy Representative and EI	Records of communication with the public and agencies and any response actions taken if required.

A summary of guided bore activities will be included in construction status reports provided to FERC.

5.0 DRILLING FLUID MANAGEMENT

Drilling fluid (also referred to as drilling mud) will consist of water mixed with in-situ material and/or bentonite—a non-toxic, naturally occurring sedimentary clay. Although not currently determined, there is potential that the Guided Bore Contractors may propose to use drilling fluid additives. Drilling fluid additives used during construction will be limited to non-petrochemical-based, non-hazardous additives currently certified to the American National Standards Institute / National Sanitation Foundation International Standard 60. Use of additives other than those certified to the American National Standards Institute / National Sanitation Foundation International Standard 60 would not be allowed unless approved by the appropriate regulatory authorities. In addition, use of any drilling fluid additive or lost circulation material that has not been previously disclosed would require advance notification to, and approval by, FERC. Documentation of the composition and properties of all drilling fluids to be used will be maintained at the job site and available for review by WBI Energy, the EI, and by any jurisdictional authorities. No fluid additives will be used that do not comply with the permit requirements and environmental regulations applicable to the Project.

[Note: Additional information regarding sources of drilling water and laboratory analysis (as applicable), drilling fluid additives and Safety Data Sheets, anticipated volumes, and drilling fluid disposal will be provided as attachment B in a future draft of this plan.]

6.0 DRILLING OPERATIONAL CONDITIONS AND MONITORING AND RESPONSE ACTIONS

Table 3 provides an overview of the drilling operational conditions and corresponding monitoring and response actions. Subsequent sections of this Guided Bore Plan provide details regarding each of the three conditions identified in table 3.

TABLE 3

Wahpeton Expansion Project
Overview of Drilling Operational Conditions and Monitoring and Response Actions

Condition	Status	Actions
Condition 1: Normal Drilling Conditions	Normal drilling fluid circulation is maintained	• Perform routine collection of drilling fluid at endpoints. • Perform routine drilling data collection. • Conduct routine visual monitoring.
Condition 2: Loss of Circulation	Loss, or significant reduction, of drilling fluid circulation	• Discontinue drilling; continue pumping and rotating, and slowly swab the drill string, if appropriate. • Notify the EI.

TABLE 3

Wahpeton Expansion Project
Overview of Drilling Operational Conditions and Monitoring and Response Actions

Condition	Status	Actions
		• Adjust drilling fluid and parameters in an effort to regain circulation. • Perform focused visual monitoring. • Continue drilling if no release to surface is detected.
Condition 3: Drilling Fluid Release and Remediation	Drilling fluid release to surface or waterbody is confirmed	• Notify EI and the WBI Energy Representative. • Notify regulatory agencies and authorities having jurisdiction. • Discontinue pumping; continue rotating and slowly swab the drill string, if appropriate. • Monitor and document the release area. • Contain and collect the release, if practical. • If the release is contained and collected, resume pumping and drilling. • If containment and collection is not practical, suspend guided bore operations. • WBI Energy, in consultation with jurisdictional authorities, will issue a notice to proceed, notice to relocate, or notice to shut down.

6.1 CONDITION 1—NORMAL DRILLING CONDITIONS

6.1.1 Drilling Operations

Documentation of the composition and properties of all drilling fluids to be used will be maintained at the job site and will be available for review by WBI Energy, its designated representative, the EI, and authorities having jurisdiction. Documentation shall include complete manufacturer's literature and Safety Data Sheets. No fluid will be used that does not comply with permit requirements and environmental regulations.

The Guided Bore Contractor shall maximize reuse of drilling fluid surface returns by providing solids control and fluid cleaning equipment of a configuration and capacity that can process surface returns and produce drilling fluid suitable for reuse.

The Guided Bore Contractor shall provide and maintain instrumentation that will accurately locate the pilot hole, measure drill string axial and torsional loads, and measure drilling fluid discharge rate and pressure. Drilling fluid pressure can only be monitored during drilling of the pilot hole. During reaming and swab passes, drilling fluid pressure is negligible due to the open ends of the drill path. WBI Energy and its designated representatives will have access to these instruments and readings at all times. If requested, WBI Energy will provide this information to regulatory agencies having jurisdiction. A log of all recorded readings shall be maintained at the drill rig site and will become a part of the "As-Built" information to be supplied by the Guided Bore Contractor.

6.1.2 Routine Monitoring

Routine monitoring under Condition 1 will consist of a visual examination by Guided Bore Contractor personnel or the EI along the drilled alignment, including observing for turbidity plumes within the waterbody being crossed. These examinations will be made periodically on a time interval not to exceed 4 hours and may be curtailed during hours of darkness. If a sudden loss in

drilling fluid pressure is detected, then powerboats, unmanned drones, and/or other aerial or over-water equipment will be used to observe and monitor for turbidity plumes at the surface of the waterbody during the guided bore crossing. The Guided Bore Contractor personnel or EI will have appropriate operational communication equipment (e.g., radio, cell phone) available at all times while observing the installation of the guided bore crossing. The name of the examiner, time of the examination, and observations shall be kept in a log at the rig site and will be available for inspection by WBI Energy and its designated representatives. Upon request, WBI Energy will also make the logs available to the regulatory agencies having jurisdiction.

If loss of circulation and possible release of drilling fluid to the surface is detected, Condition 2 will be implemented.

6.2 CONDITION 2—LOSS OF CIRCULATION

6.2.1 Drilling Operations

The following procedures shall be implemented if a loss, or significant reduction, of drilling fluid circulation occurs:

- Discontinue drilling or reaming activities. Continue pumping and rotating and slowly swab the drill string, if appropriate. Swabbing involves withdrawing the drill string to mechanically clean the drilled hole and reduces chances of the drill string getting stuck.
- The Guided Bore Contractor shall immediately notify the EI. The EI will document that operations are continuing under Condition 2 in the daily report and notify the WBI Energy representative as necessary.
- The Guided Bore Contractor shall immediately take steps to restore circulation, which include, but are not limited to, the following:
    - Adjust drilling fluid properties and parameters to encourage annular flow by specifically weighting up or down, increasing viscosity, or adding lost circulation material (walnut shells, mica, or other additives to promote circulation) to plug the seam where fluid is being lost. Flow shall be maintained such that annular velocities promote returns to the drilling pits.
    - At the Guided Bore Contractor's option, employ lost circulation material as long as such materials have been approved by WBI Energy and comply with permit requirements and environmental regulations.
- Perform focused monitoring along the drill path for drilling fluid release to surface.
- If circulation is restored or drilling fluid is not observed at surface, drilling will continue under Condition 2 for a period of not less than 8 drilling hours. If a release is not identified and loss or significant reduction of drilling fluid circulation does not occur, the Guided Bore Contractor shall notify the EI that drilling under Condition 1 has resumed. The EI will document that drilling under Condition 1 has resumed.

- If drilling fluid release is identified through focused monitoring, Condition 3 shall be implemented.

- If circulation cannot be restored, the Guided Bore Contractor shall notify the EI and WBI Energy and continue drilling under Condition 2.

6.2.2 Focused Monitoring

Focused monitoring under Condition 2 will consist of continuous visual observation along the drilled alignment by Guided Bore Contractor personnel and/or the EI with no other jobsite responsibilities. Focused monitoring will take place over the minimum 8-hour Condition 2 drilling timeline, as indicated above. The time and results of drilled alignment observations shall be kept in a log at the rig site and shall be available for inspection by WBI Energy and its designated representatives. Upon request, WBI Energy will also make the logs available to the regulatory agencies having jurisdiction. If a drilling fluid release to the surface is detected, Condition 3 shall be implemented.

6.3 CONDITION 3—DRILLING FLUID RELEASE AND REMEDIATION

6.3.1 Drilling Operations

The following procedures will be implemented if a drilling fluid release to the surface is detected:

- The Guided Bore Contractor will cease drilling immediately and notify the EI. The EI will document the location of the release and the containment and cleanup of the release in the daily report. WBI Energy will be notified immediately of any releases into a waterbody or other sensitive areas, or if a release threatens to enter these areas.

- In the event of a release into a waterbody, WBI Energy shall immediately notify the following agencies and contacts listed in table 4 below *[names and contact information to be provided in a future draft of this plan*].

TABLE 4

Wahpeton Expansion Project
Inadvertent Release Notification Information

Agency	Name	Phone Number
FERC	David Hanobic	202-502-8312
United States Army Corps of Engineers	*TBD*	*TBD*
United States Fish and Wildlife Service	*TBD*	*TBD*
Department of Health, Division of Water Quality	*TBD*	*TBD*
State Water Commission	*TBD*	*TBD*
Game and Fish Department	*TBD*	*TBD*

- The Guided Bore Contractor will discontinue pumping and will rotate and slowly swab the drill string if appropriate. Swabbing involves withdrawing the drill string to mechanically clean the drilled hole and reduces chances of the drill string getting stuck.

- If public health and safety are threatened by the inadvertent release, drilling operations will be shut down until the threat is eliminated.

- If the release occurs on land, it shall be contained with hand-placed barriers (e.g., hay bales, sand bags, silt fences) and collected for disposal or reuse. If the amount of the release exceeds that which can be contained with hand-placed barriers, small excavated collection sumps (less than 5 cubic yards) may be used. Pumping and drilling may continue under Condition 2 as long as the release is being contained and collected.

- If the amount of the release occurring on land exceeds that which can be contained and collected using small sumps, drilling operations shall be suspended until released volumes can be brought under control.

- It is considered generally ineffective and unfeasible to contain drilling fluids that may be released into a large waterbody. If the release occurs directly into a river, natural river currents would dissipate the drilling fluid such that—depending on the fluid volume—it is not anticipated that a release would significantly increase the natural turbidity of the affected river. Bentonite would be suspended in the water column and then settle out downstream. However, if the EI determines that the turbidity plume would adversely affect sensitive resources or the plume is excessively large, a floating turbidity curtain or floating silt booms may be implemented over the release to contain the fluid and facilitate settling of the suspended solids. In those areas that can be contained, the underwater release will be collected using pumps.

- If the release occurs near a potable water source or water well, the Guided Bore Contractor will test the water quality and yield for the water well owner and will provide an alternate supply of water to affected landowners until the water source or well is repaired. Water well repairs will occur at WBI Energy's expense.

- If the amount of any drilling fluid release on land exceeds that which can be practically contained and collected or if a turbidity plume within a waterbody is observed to be excessively large, drilling operations shall be suspended and the Guided Bore Contractor will notify WBI Energy that drilling cannot continue without a continuous release of drilling fluid. WBI Energy, in consultation with jurisdictional authorities, will then issue a notice to proceed or issue a notice to shut down until further notice.

- If impacts are noted to be occurring to fish or wildlife due to exposure to released drilling fluids, drilling operations shall be suspended and the Guided Bore Contractor will notify WBI Energy immediately. WBI Energy, in consultation with jurisdictional authorities, will issue a notice to proceed or issue a notice to shut down until further notice.

6.3.2 Focused Monitoring

Focused monitoring under Condition 3 will consist of continuous visual observation along the drilled alignment and at any and all release areas. Focused monitoring shall be conducted by Guided Bore Contractor personnel and/or the EI with no other jobsite responsibilities. The time and results of the focused monitoring observations shall be kept in a written log at the jobsite and shall be available for inspection by WBI Energy and its designated representatives. Upon request, WBI Energy will also make the logs available to the regulatory agencies having jurisdiction.

7.0 RESPONDING TO INADVERTENT RETURNS

7.1 MATERIALS AND EQUIPMENT

Materials that will be stored on the site in the event of an inadvertent return include the following:

- wood stakes;
- sandbags;
- plastic sheeting;
- spill sorbent pads and booms;
- certified weed-free straw bales;
- silt fence;
- corrugated plastic pipe;
- shovels; and
- push brooms.

Mechanical equipment that will be either immediately available or staged on the site in case of an inadvertent return include the following:

- vacuum truck;
- centrifugal, trash, and sup pumps;
- rubber-tired or wide-track backhoe;
- storage tanks;
- floating turbidity curtains;
- powerboats, unmanned drones, or other means of monitoring the lake surface; and
- skidsteer, as needed.

7.2 RETURNS WITHIN CERTIFICATED WORKSPACE

Containment and cleanup of returns within uplands and wetlands within the certificated workspace will occur immediately following the discovery. Guided Bore Contractor personnel will utilize the materials described above to contain and control the spread of any released drilling fluid. Drilling fluid will generally be cleaned by hand using hand shovels, buckets, and soft-bristled brooms where possible to avoid damage to existing vegetation. In heavily impacted areas, mechanized equipment may be utilized and restoration techniques will be implemented in accordance with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* and *Wetland and Waterbody Construction and Mitigation Procedure*s. Fresh water washes will also be employed if deemed beneficial and feasible. Material will be collected in containers for temporary storage prior to removal from the site.

7.3 RETURNS OUTSIDE CERTIFICATED WORKSPACE

Should an inadvertent return be discovered outside of certificated workspace, WBI Energy will attempt to gather landowner permission, obtain all required environmental clearances, and seek a FERC variance in order to access the impacted area as soon as possible.

8.0 RESTORATION

If an inadvertent return were to occur, the Guided Bore Plan will be implemented to contain and recover the drilling fluid. Areas that were affected by the inadvertent return will be restored to preconstruction conditions to the extent practicable in accordance with FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* and *Wetland and Waterbody Construction and Mitigation Procedures.*

9.0 CONTINGENCY PLANNING

If the actions described above do not address the issue, WBI Energy may implement mitigation measures, select a new drill path, or abandon the drill and consider alternate crossing measures. Abandonment procedures and alternative crossing measures will be discussed with appropriate permitting and regulatory agencies and required approvals will be obtained prior to implementing alternative crossing measures.

9.1 MITIGATION MEASURES

Before identifying alternative crossing locations or techniques, an attempt will be made to identify and assess the reason for the drill failure and implement measures to reduce additional inadvertent returns. Potential mitigation measures include the following:

- utilize surface (conductor) casing(s);
- use the intersect drill method;
- pre-grout permeable ground or fractured rock;
- install relief wells to provide a preferential pathway for drilling fluids to migrate to the surface; and/or

- plan for use of special drilling fluids, viscosity, pressure, and/or drill speed.

9.2 NEW DRILL PATH

Depending on the nature of the problem, WBI Energy may choose to select a new drill path that mitigates the cause of the problem. This would result in an altered alignment or depth of drill path, which may retain sections of the original drilled path that are not at risk to the problem. For any section of abandoned hole, the abandonment procedures identified in section 9.3 below would apply only to the abandoned section of the hole.

9.3 ABANDONMENT

In the event a drill hole is to be abandoned, the following procedures will be implemented:

- heavy drilling mud or cement mixture will be pumped into the hole as the drill assembly is extracted to seal the abandoned drill hole; and
- the drill end points will be cut and sealed within approximately 5 feet of the surface, filled with soil, and graded to the original contour.

9.4 ALTERNATIVE CROSSING METHODS

WBI Energy proposes to cross the waterbodies addressed in this plan via guided bore; however, in the event that the above options have been exhausted at a guided bore waterbody crossing, WBI Energy is committed to completing the Project in an effective and timely manner and will consider alternative crossing options. In developing an appropriate alternative to the proposed guided bore crossings, consideration will be given to the following:

- stream bank type, flow width, depth, velocity, and flow volume;
- surrounding topography;
- waterbody substrate;
- condition of riparian areas;
- condition and extent of wetlands, if any, on each side of the crossing; and
- aquatic biota.

These and other factors will be considered and discussed with the appropriate regulatory agencies to minimize environmental impact and secure appropriate approvals. WBI Energy will conduct a site-specific analysis to select other feasible crossing methods that do not utilize the guided bore method. This could include a new route alignment and trenching and backfilling the pipeline across the waterbody bed. Final selection of an alternative crossing method will be submitted to FERC and other jurisdictional agencies with supporting data.

Attachment A Draft Detailed Scaled Guided Bore Plan and Profile Drawings

(***Final to be provided with a future draft of this plan***)

Attachment B Drilling Fluid Additive Safety Data Sheets (*to be provided with a future draft of this plan*)

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APPENDIX 1G LANDOWNER LIST (FILED UNDER SEPARATE COVER AS CONTROLLED UNCLASSIFIED INFORMATION / PRIVILEGED AND CONFIDENTIAL)

APPENDIX 1H CUMULATIVE IMPACTS OUTREACH CORRESPONDENCE

ERM

Environmental Resources Management
CityCentre Four
840 West Sam Houston Parkway North,
Suite 600
Houston, Texas 77024-3920

Telephone: +1 281-600-1000
Fax: +1 281-520-4625

www.erm.com

1 December 2021

Grace Puppe
County Planner
Cass County Planning Office
1201 Main Ave. W
West Fargo, North Dakota 58078

Subject: WBI Energy Transmission, Inc. Proposed Wahpeton Expansion Project
Request for Information on Projects in the Vicinity

Dear Ms. Puppe,

WBI Energy Transmission, Inc. (WBI Energy) operates an interstate natural gas transmission pipeline system in the Northern Plains and is proposing to expand its system in southeastern North Dakota. The proposed Wahpeton Expansion Project (Project) will involve constructing approximately 60 miles of 12-inch diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota, to a new delivery station near Wahpeton, North Dakota. The Project will also include minor modifications at the Mapleton Compressor Station and two new delivery stations, one near Kindred, North Dakota and (as previously mentioned) one near Wahpeton. The enclosed map shows the preliminary proposed pipeline route and locations of project facilities.

The Federal Energy Regulatory Commission (FERC) is the lead federal agency responsible for the review of the Project. ERM-West, Inc. (ERM) is assisting WBI Energy with assessing the potential environmental impacts of the Project for the FERC application. This assessment will include a discussion of cumulative impacts, which requires us to identify and analyze other past, present, and future projects in the vicinity of the Project.

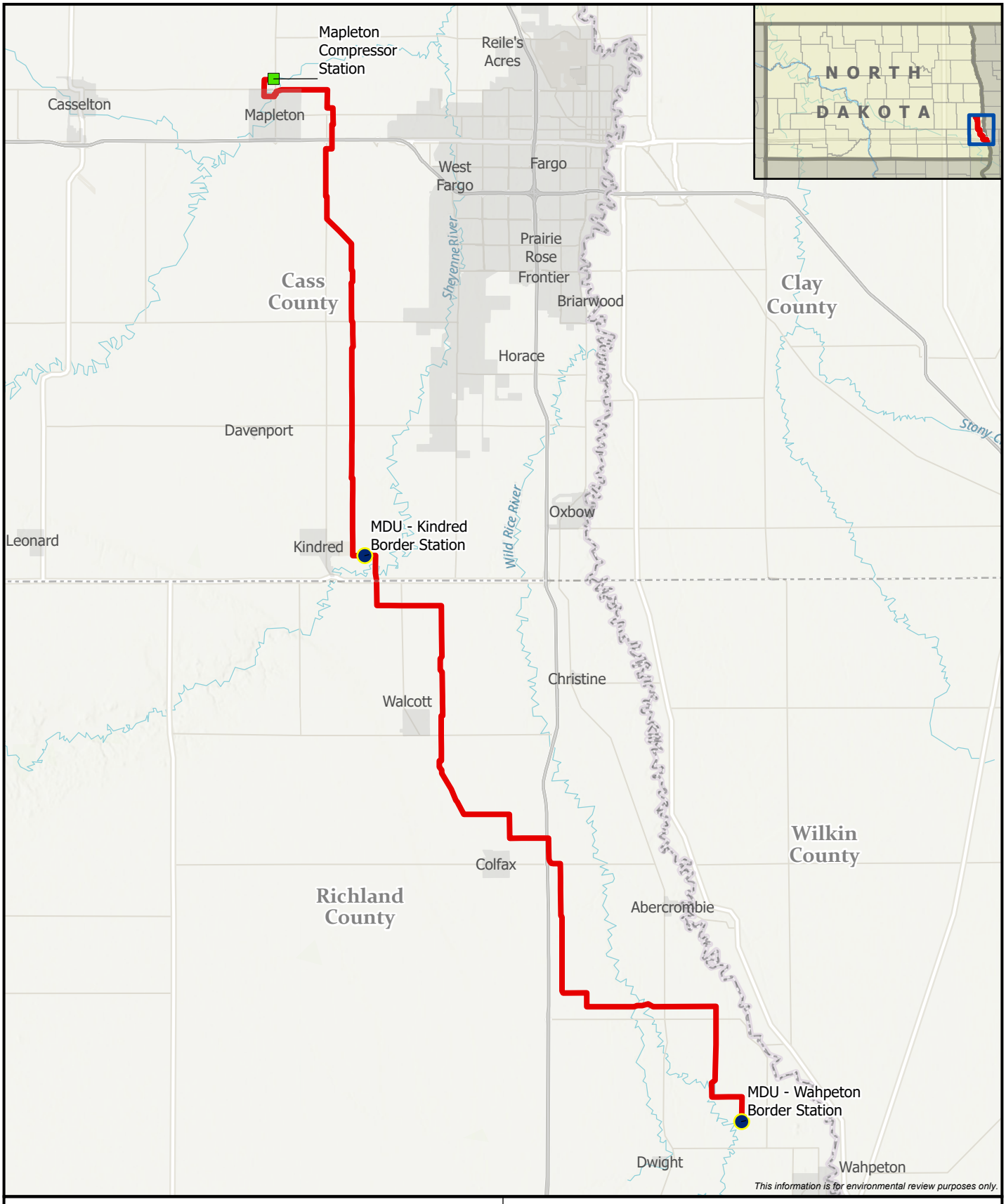
We are requesting your assistance in identifying recently completed, current, or proposed/planned projects within the vicinity of the Wahpeton Expansion Project that should be considered in our assessment. The types of projects that are typically considered include road, bridge, flood control, airport, and highway projects; industrial, commercial, recreational facilities, and residential developments; and pipeline and electrical transmission lines; however, information on any type of nearby project would be helpful. Information regarding the timing of these projects and maps or other locational information that would allow us to graphically display the locations of these projects relative to the Wahpeton Expansion Project would also be appreciated.

Thank you for your assistance with this matter. Receiving your responses within 30 days or by December 31, 2021 will allow WBI Energy to maintain the project schedule. If you have questions, I can be reached at (832) 786-5942 or by email at reina.foster@erm.com.

Sincerely,

Reina Foster
ERM

Attachment – Project Overview Map



Compressor Station
Delivery Point
Proposed Route

1:331,048

0 2.5 5 Miles

Project Overview
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

ERM

MPLS M:\Clients\V-X\WBI\Mapleton_to_Wahpeton\ArcGIS\M2W_FERC_Filing_Report\M2W_FERC_Filing_Report.aprx | REVISED: 12/01/2021 | SCALE: 1:331,048 DRAWN BY: RJC

ERM

Environmental Resources Management
CityCentre Four
840 West Sam Houston Parkway North,
Suite 600
Houston, Texas 77024-3920

Telephone: +1 281-600-1000
Fax: +1 281-520-4625

www.erm.com

1 December 2021

Kyle Krump
Councilman
Colfax City Council
PO Box 51
Colfax, ND 58018

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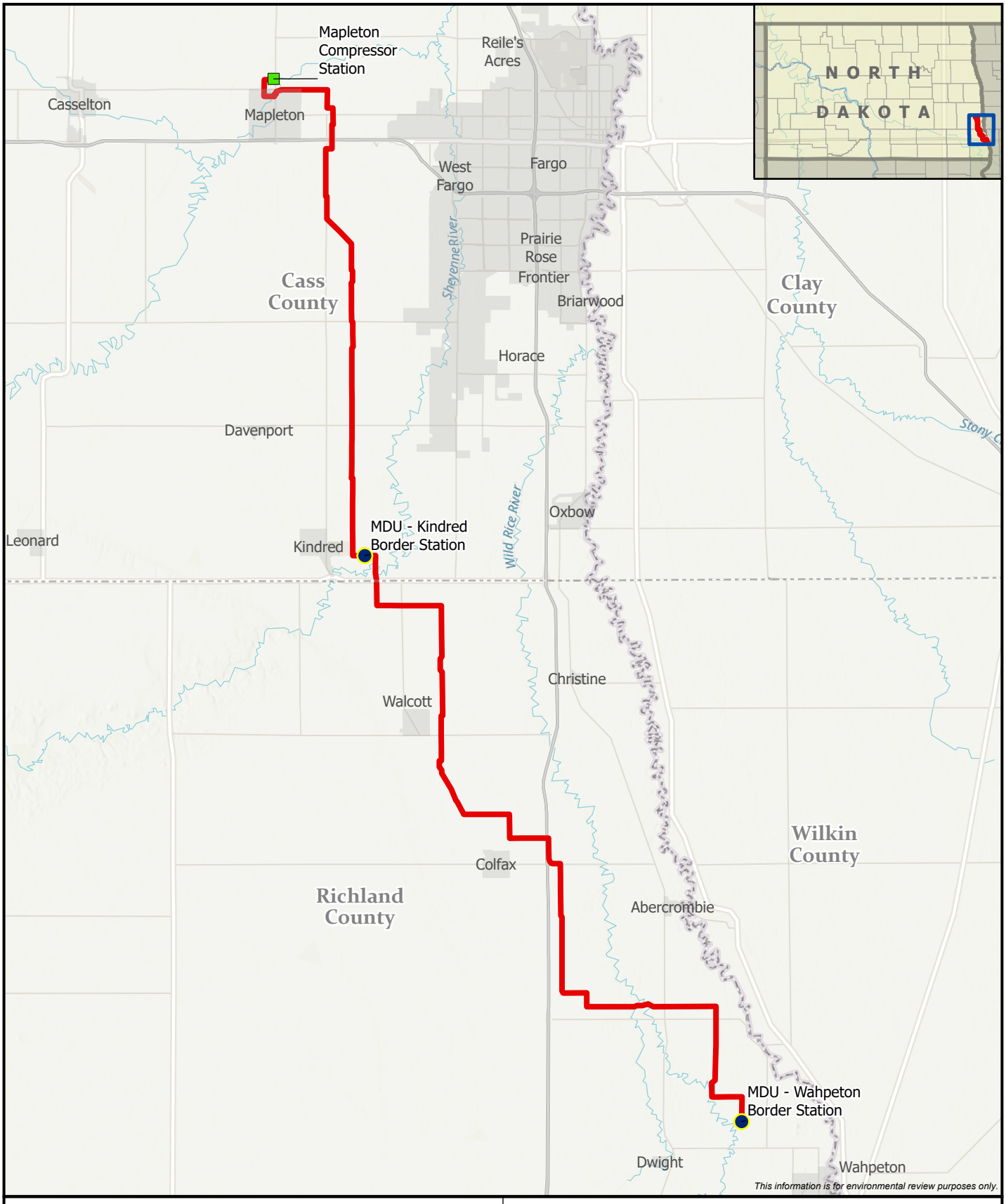
Sincerely,

Reina Foster
ERM

Attachment – Project Overview Map



Compressor Station
Delivery Point
Proposed Route

1:331,048

0 2.5 5 Miles

Project Overview
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

ERM

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ERM

Environmental Resources Management
CityCentre Four
840 West Sam Houston Parkway North,
Suite 600
Houston, Texas 77024-3920

Telephone: +1 281-600-1000
Fax: +1 281-520-4625

www.erm.com

1 December 2021

Russel Sahr
Chairman
City of Horace Planning Commission
215 Park Drive East
Horace, ND 58047

Subject: WBI Energy Transmission, Inc. Proposed Wahpeton Expansion Project
Request for Information on Projects in the Vicinity

Dear Chairman Sahr,

WBI Energy Transmission, Inc. (WBI Energy) operates an interstate natural gas transmission pipeline system in the Northern Plains and is proposing to expand its system in southeastern North Dakota. The proposed Wahpeton Expansion Project (Project) will involve constructing approximately 60 miles of 12-inch diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota, to a new delivery station near Wahpeton, North Dakota. The Project will also include minor modifications at the Mapleton Compressor Station and two new delivery stations, one near Kindred, North Dakota and (as previously mentioned) one near Wahpeton. The enclosed map shows the preliminary proposed pipeline route and locations of project facilities.

The Federal Energy Regulatory Commission (FERC) is the lead federal agency responsible for the review of the Project. ERM-West, Inc. (ERM) is assisting WBI Energy with assessing the potential environmental impacts of the Project for the FERC application. This assessment will include a discussion of cumulative impacts, which requires us to identify and analyze other past, present, and future projects in the vicinity of the Project.

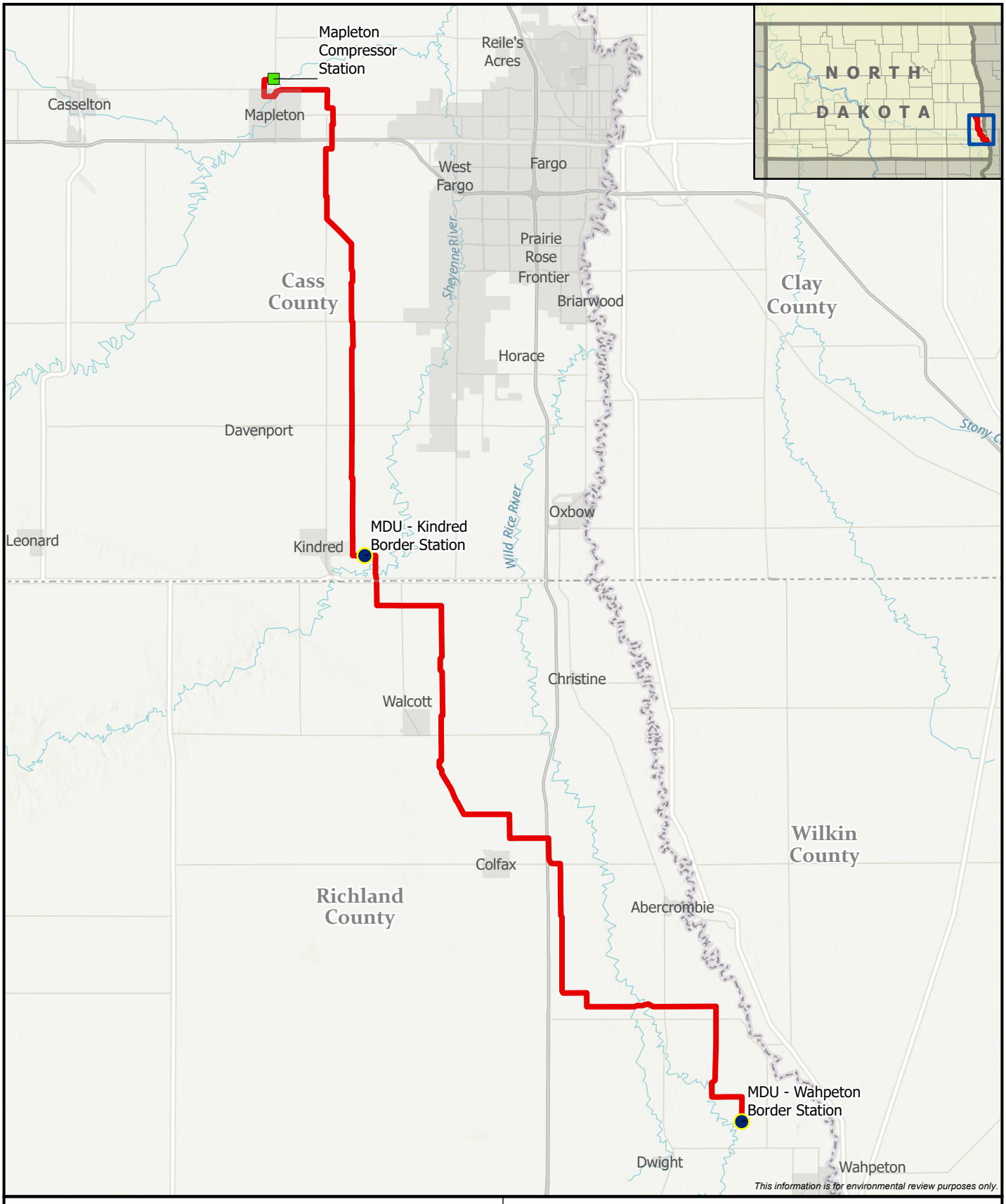
We are requesting your assistance in identifying recently completed, current, or proposed/planned projects within the vicinity of the Wahpeton Expansion Project that should be considered in our assessment. The types of projects that are typically considered include road, bridge, flood control, airport, and highway projects; industrial, commercial, recreational facilities, and residential developments; and pipeline and electrical transmission lines; however, information on any type of nearby project would be helpful. Information regarding the timing of these projects and maps or other locational information that would allow us to graphically display the locations of these projects relative to the Wahpeton Expansion Project would also be appreciated.

Thank you for your assistance with this matter. Receiving your responses within 30 days or by December 31 2021 will allow WBI Energy to maintain the project schedule. If you have questions, I can be reached at (832) 786-5942 or by email at reina.foster@erm.com.

Sincerely,

Reina Foster
ERM

Attachment – Project Overview Map



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WBI Energy Transmission, Inc.
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Fax: +1 281-520-4625

www.erm.com

1 December 2021

Sue Kersting
Committee Member
Kindred Planning and Zoning Committee
31 5th Avenue N
Kindred, North Dakota 58051

Subject: WBI Energy Transmission, Inc. Proposed Wahpeton Expansion Project
Request for Information on Projects in the Vicinity

Dear Ms. Kersting,

WBI Energy Transmission, Inc. (WBI Energy) operates an interstate natural gas transmission pipeline system in the Northern Plains and is proposing to expand its system in southeastern North Dakota. The proposed Wahpeton Expansion Project (Project) will involve constructing approximately 60 miles of 12-inch diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota, to a new delivery station near Wahpeton, North Dakota. The Project will also include minor modifications at the Mapleton Compressor Station and two new delivery stations, one near Kindred, North Dakota and (as previously mentioned) one near Wahpeton. The enclosed map shows the preliminary proposed pipeline route and locations of project facilities.

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Sincerely,

Reina Foster
ERM

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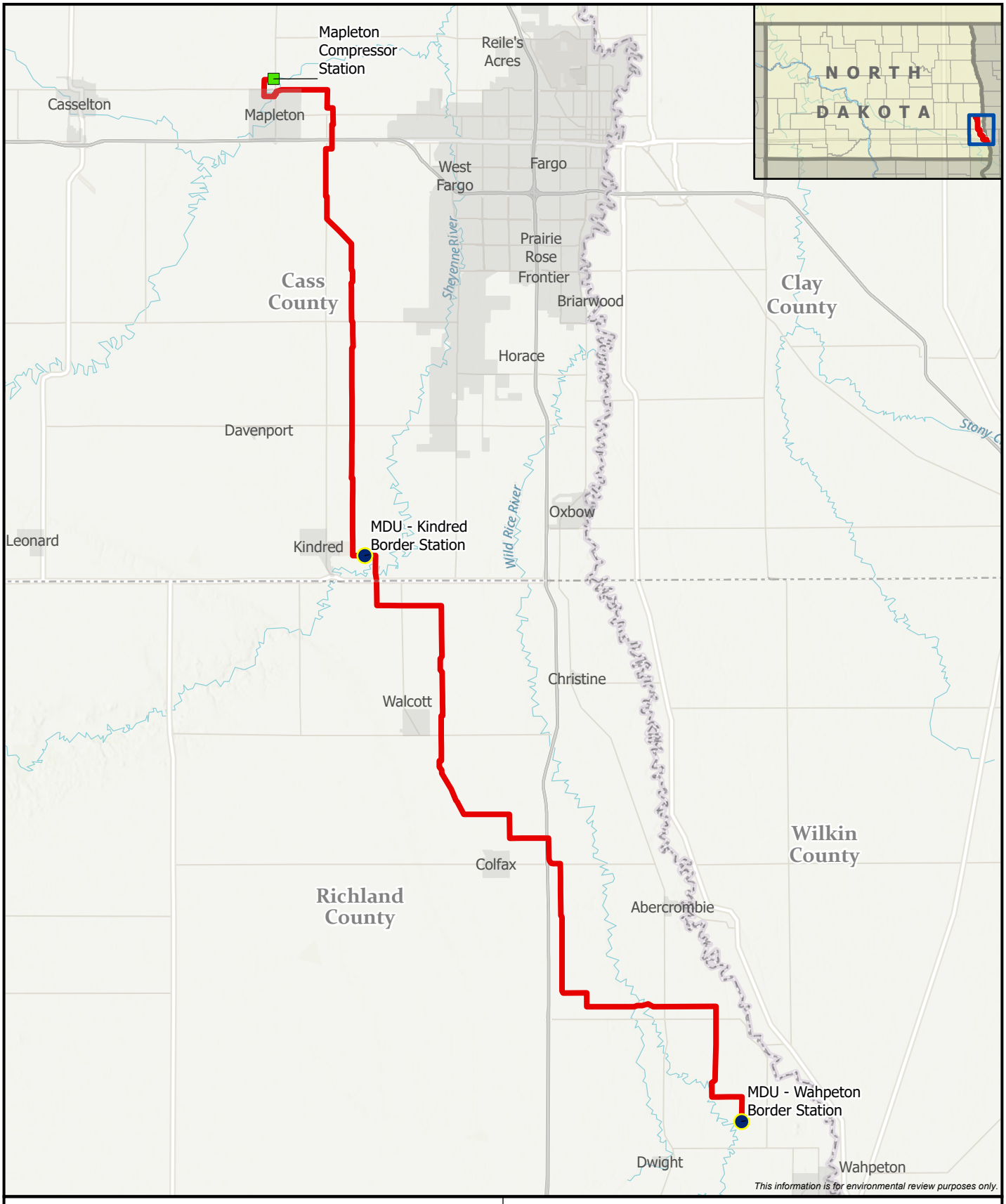

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WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

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Davis Gray

From: City of Kindred <cityofkindred@msn.com>
Sent: Tuesday, January 11, 2022 4:01 PM
To: Davis Gray
Subject: WBI/MDU Information Requests on Projects in the Vicinity
Attachments: ERM_WBI Energy Transmission_MDU Kindred-Wahpeton Extension_ROI on Projects in the Vicinity_12.09.2021.pdf

Hello Davis,

Thank you for calling today. As we discussed, the City of Kindred is not aware of any projects within our immediate area that would affect the Wahpeton Expansion Project. We look forward to this project filling the need for natural gas in our area. Please let us know if you have any further questions.

Thanks!

Tabitha Arnaud
Kindred City Auditor
Phone: (701) 428-3115
www.KindredND.com

OFFICE HOURS
Monday - Thursday: 8:30am-3:30pm
Friday: CLOSED

From: City of Kindred
Sent: Wednesday, December 15, 2021 1:33 PM
To: Mike Blevins <midwestinspectionservicesnd@gmail.com>
Cc: Sue Kersting <suzyquack@yahoo.com>
Subject: WBI/MDU Information Requests on Projects in the Vicinity

Hi Mike,

I shared the attached letter with Sue Kersting (copied). I know you are helping with building permits in the surrounding townships/areas too, so we felt you may be the best contact to help answer the questions within the letter. Can you please review and let me know if there would be anything in our area that should be shared with ERM? Or if you have already responded on behalf of another entity?

Thanks for your help!

Tabitha Arnaud
Kindred City Auditor
Phone: (701) 428-3115
www.KindredND.com

OFFICE HOURS
Monday - Thursday: 8:30am-3:30pm
Friday: CLOSED

If you would like to register for email updates and notices from the City of Kindred, simply reply or email us with "EMAIL LIST" in the Subject line.

If you would like to be removed from our email list, please reply back with "UNSUBSCRIBE" in the Subject line.

ERM

Environmental Resources Management
CityCentre Four
840 West Sam Houston Parkway North,
Suite 600
Houston, Texas 77024-3920

Telephone: +1 281-600-1000
Fax: +1 281-520-4625

www.erm.com

1 December 2021

Jay Dietz
Chairman
Mapleton Planning & Zoning Commission
PO Box 9
Mapleton, ND 58059

Subject: WBI Energy Transmission, Inc. Proposed Wahpeton Expansion Project
Request for Information on Projects in the Vicinity

Dear Chairman Dietz,

WBI Energy Transmission, Inc. (WBI Energy) operates an interstate natural gas transmission pipeline system in the Northern Plains and is proposing to expand its system in southeastern North Dakota. The proposed Wahpeton Expansion Project (Project) will involve constructing approximately 60 miles of 12-inch diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota, to a new delivery station near Wahpeton, North Dakota. The Project will also include minor modifications at the Mapleton Compressor Station and two new delivery stations, one near Kindred, North Dakota and (as previously mentioned) one near Wahpeton. The enclosed map shows the preliminary proposed pipeline route and locations of project facilities.

The Federal Energy Regulatory Commission (FERC) is the lead federal agency responsible for the review of the Project. ERM-West, Inc. (ERM) is assisting WBI Energy with assessing the potential environmental impacts of the Project for the FERC application. This assessment will include a discussion of cumulative impacts, which requires us to identify and analyze other past, present, and future projects in the vicinity of the Project.

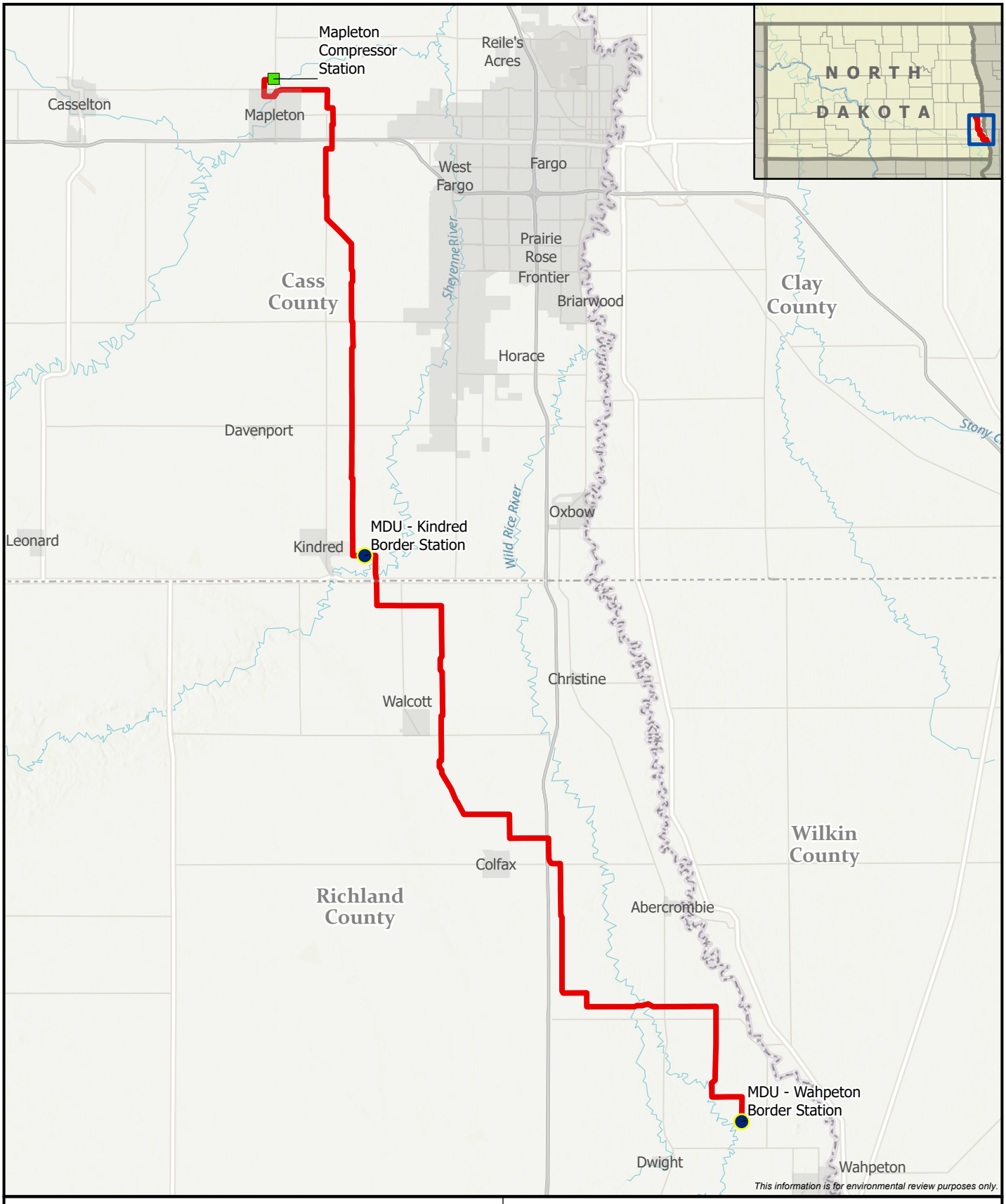
We are requesting your assistance in identifying recently completed, current, or proposed/planned projects within the vicinity of the Wahpeton Expansion Project that should be considered in our assessment. The types of projects that are typically considered include road, bridge, flood control, airport, and highway projects; industrial, commercial, recreational facilities, and residential developments; and pipeline and electrical transmission lines; however, information on any type of nearby project would be helpful. Information regarding the timing of these projects and maps or other locational information that would allow us to graphically display the locations of these projects relative to the Wahpeton Expansion Project would also be appreciated.

Thank you for your assistance with this matter. Receiving your responses within 30 days or by December 31 2021 will allow WBI Energy to maintain the project schedule. If you have questions, I can be reached at (832) 786-5942 or by email at reina.foster@erm.com.

Sincerely,

Reina Foster
ERM

Attachment – Project Overview Map



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Project Overview
Wahpeton Expansion Project
WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

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840 West Sam Houston Parkway North,
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Houston, Texas 77024-3920

Telephone: +1 281-600-1000
Fax: +1 281-520-4625

www.erm.com

1 December 2021

Sid Berg
Commissioner
Richland County Board of Commissioners
PO Box 55
Colfax, ND 58018

Subject: WBI Energy Transmission, Inc. Proposed Wahpeton Expansion Project
Request for Information on Projects in the Vicinity

Dear Commissioner Berg,

WBI Energy Transmission, Inc. (WBI Energy) operates an interstate natural gas transmission pipeline system in the Northern Plains and is proposing to expand its system in southeastern North Dakota. The proposed Wahpeton Expansion Project (Project) will involve constructing approximately 60 miles of 12-inch diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota, to a new delivery station near Wahpeton, North Dakota. The Project will also include minor modifications at the Mapleton Compressor Station and two new delivery stations, one near Kindred, North Dakota and (as previously mentioned) one near Wahpeton. The enclosed map shows the preliminary proposed pipeline route and locations of project facilities.

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Sincerely,

Reina Foster
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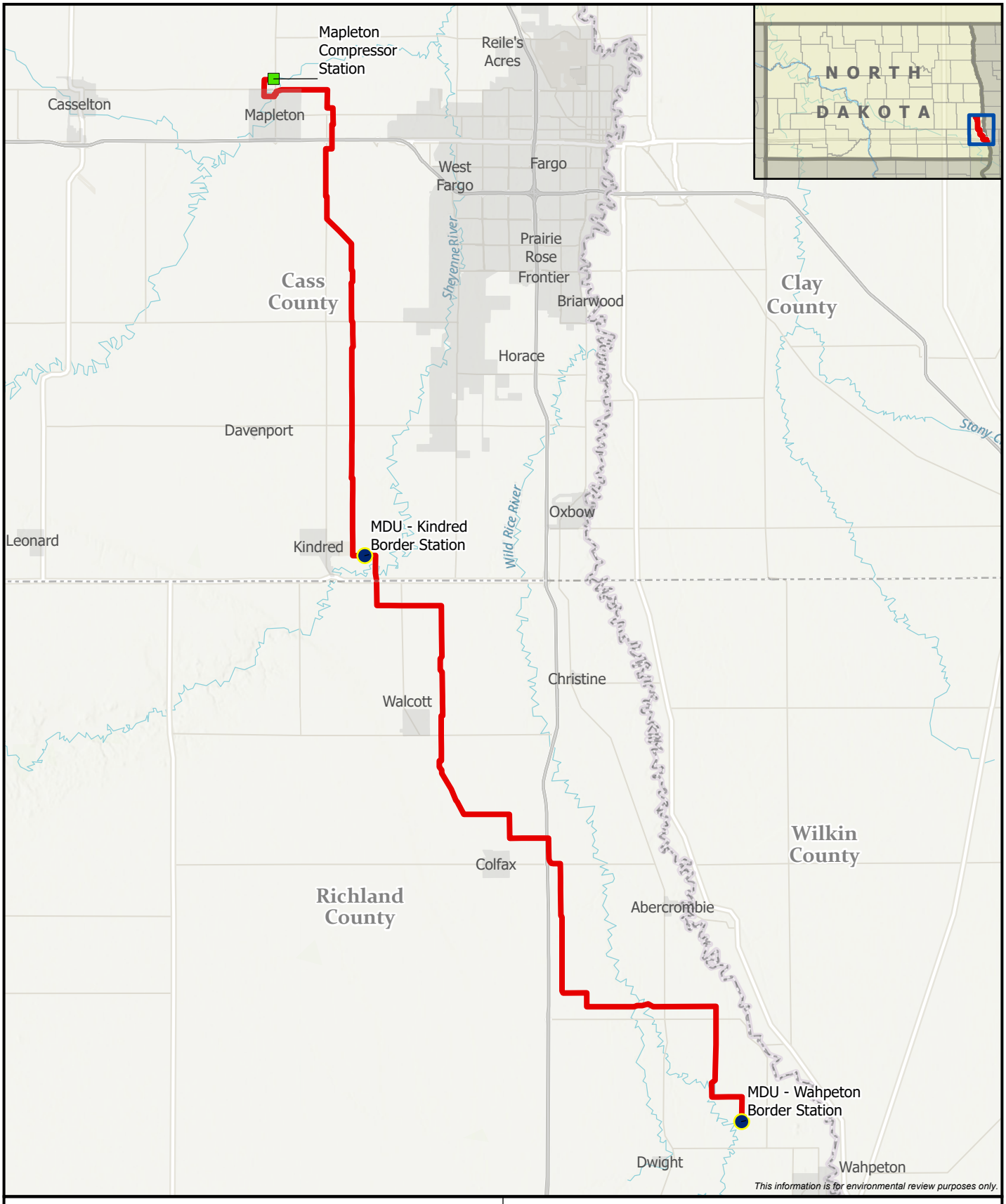

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WBI Energy Transmission, Inc.
Cass and Richland County, North Dakota

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Houston, Texas 77024-3920

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Fax: +1 281-520-4625

www.erm.com

1 December 2021

Chris DeVries
Community Development Director
Wahpeton Community Development
1900 4th Street
Wahpeton, ND 58075

Subject: WBI Energy Transmission, Inc. Proposed Wahpeton Expansion Project
Request for Information on Projects in the Vicinity

Dear Mr. DeVries,

WBI Energy Transmission, Inc. (WBI Energy) operates an interstate natural gas transmission pipeline system in the Northern Plains and is proposing to expand its system in southeastern North Dakota. The proposed Wahpeton Expansion Project (Project) will involve constructing approximately 60 miles of 12-inch diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota, to a new delivery station near Wahpeton, North Dakota. The Project will also include minor modifications at the Mapleton Compressor Station and two new delivery stations, one near Kindred, North Dakota and (as previously mentioned) one near Wahpeton. The enclosed map shows the preliminary proposed pipeline route and locations of project facilities.

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Reina Foster
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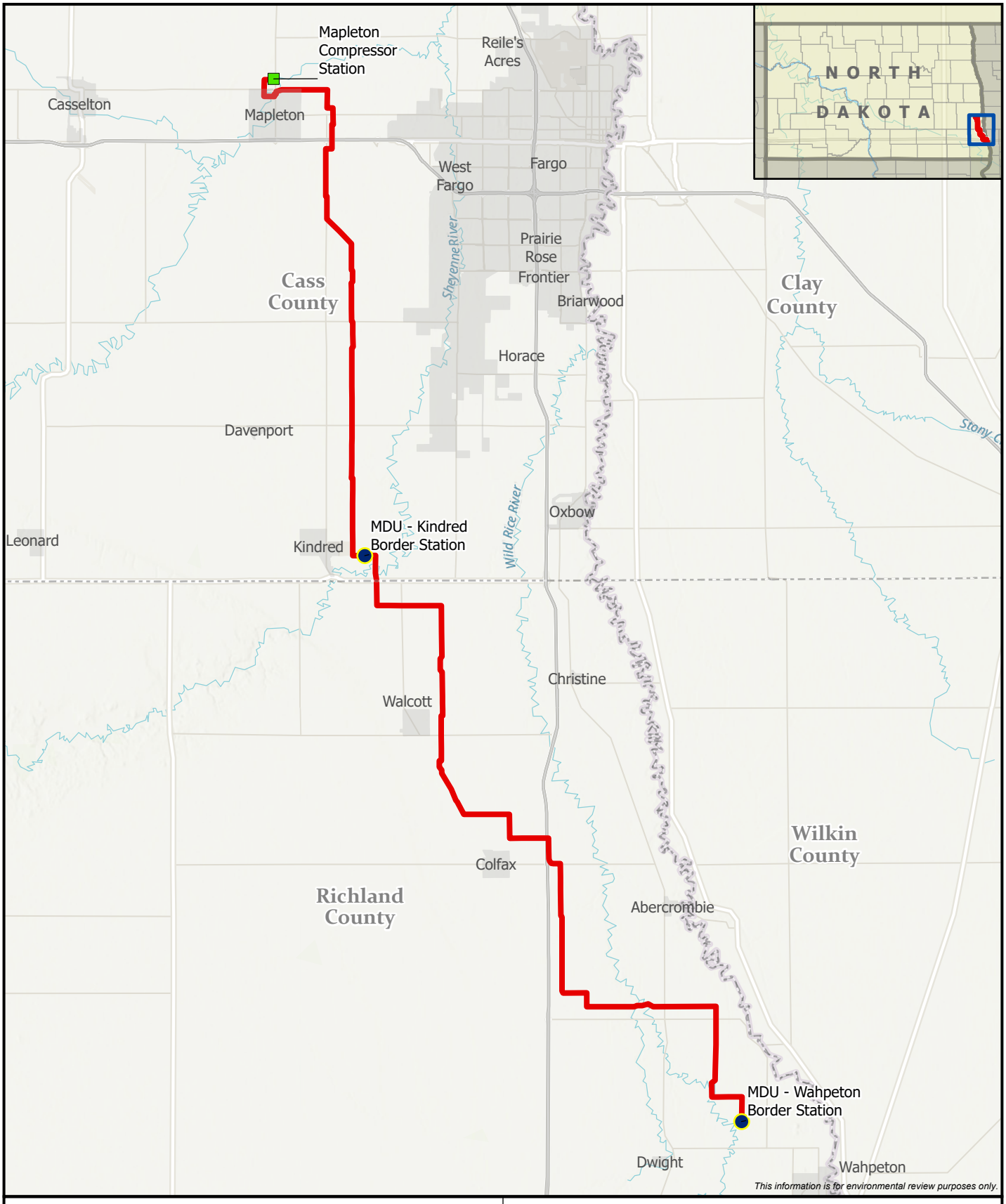

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Houston, Texas 77024-3920

Telephone: +1 281-600-1000
Fax: +1 281-520-4625

www.erm.com

1 December 2021

Tim Solberg
Assistant City Administrator
West Fargo Planning and Community Development Department
800 Fourth Ave. E, Suite 1
West Fargo, ND 58078

Subject: WBI Energy Transmission, Inc. Proposed Wahpeton Expansion Project
Request for Information on Projects in the Vicinity

Dear Mr. Solberg,

WBI Energy Transmission, Inc. (WBI Energy) operates an interstate natural gas transmission pipeline system in the Northern Plains and is proposing to expand its system in southeastern North Dakota. The proposed Wahpeton Expansion Project (Project) will involve constructing approximately 60 miles of 12-inch diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota, to a new delivery station near Wahpeton, North Dakota. The Project will also include minor modifications at the Mapleton Compressor Station and two new delivery stations, one near Kindred, North Dakota and (as previously mentioned) one near Wahpeton. The enclosed map shows the preliminary proposed pipeline route and locations of project facilities.

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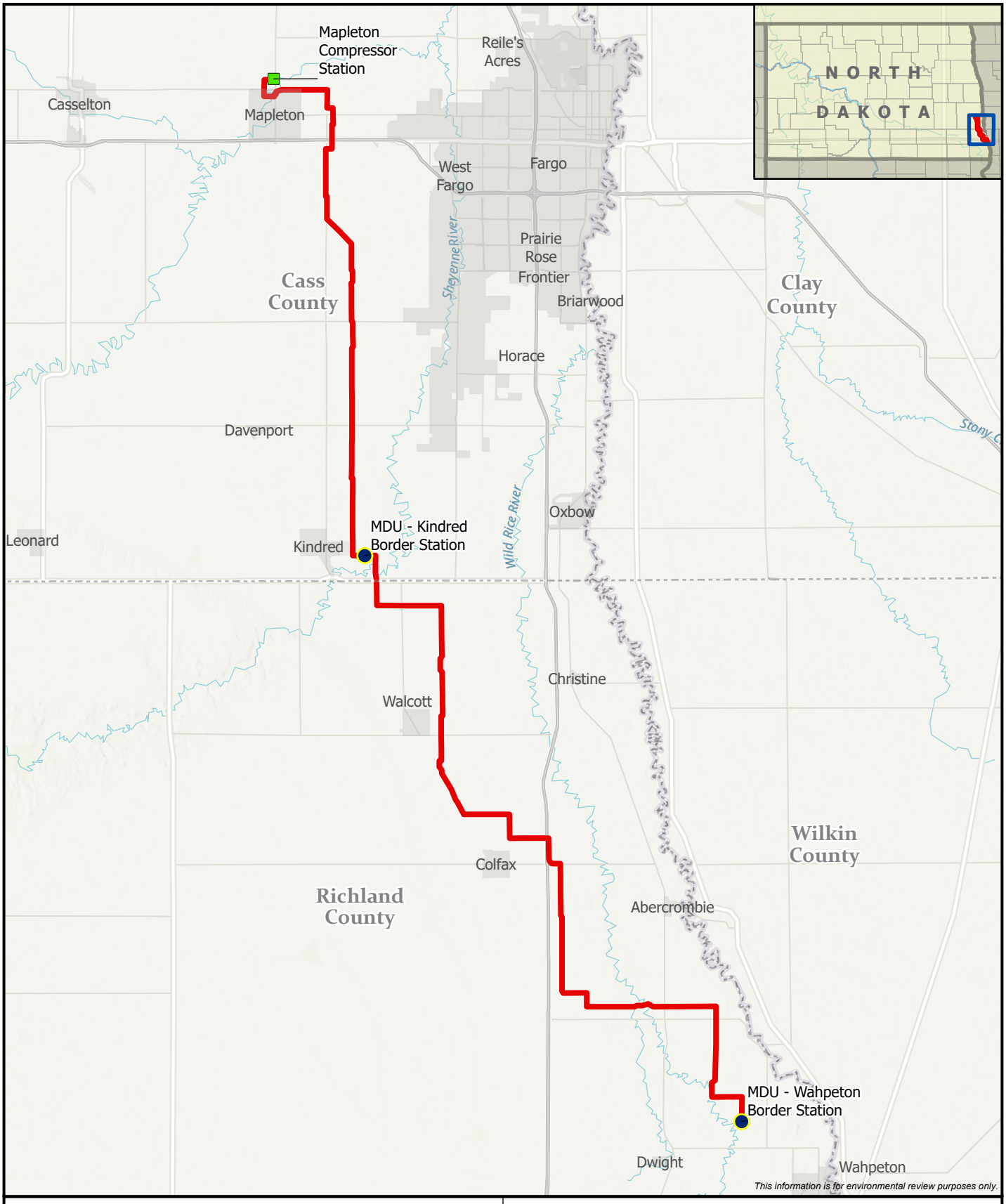

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1 December 2021

Joe Kolb
Chairman
Planning and Zoning Commission
800 Fourth Ave. E., Suite 1
West Fargo, ND 58078

Subject: WBI Energy Transmission, Inc. Proposed Wahpeton Expansion Project
Request for Information on Projects in the Vicinity

Dear Mr. Kolb,

WBI Energy Transmission, Inc. (WBI Energy) operates an interstate natural gas transmission pipeline system in the Northern Plains and is proposing to expand its system in southeastern North Dakota. The proposed Wahpeton Expansion Project (Project) will involve constructing approximately 60 miles of 12-inch diameter natural gas pipeline from WBI Energy's existing Mapleton Compressor Station near Mapleton, North Dakota, to a new delivery station near Wahpeton, North Dakota. The Project will also include minor modifications at the Mapleton Compressor Station and two new delivery stations, one near Kindred, North Dakota and (as previously mentioned) one near Wahpeton. The enclosed map shows the preliminary proposed pipeline route and locations of project facilities.

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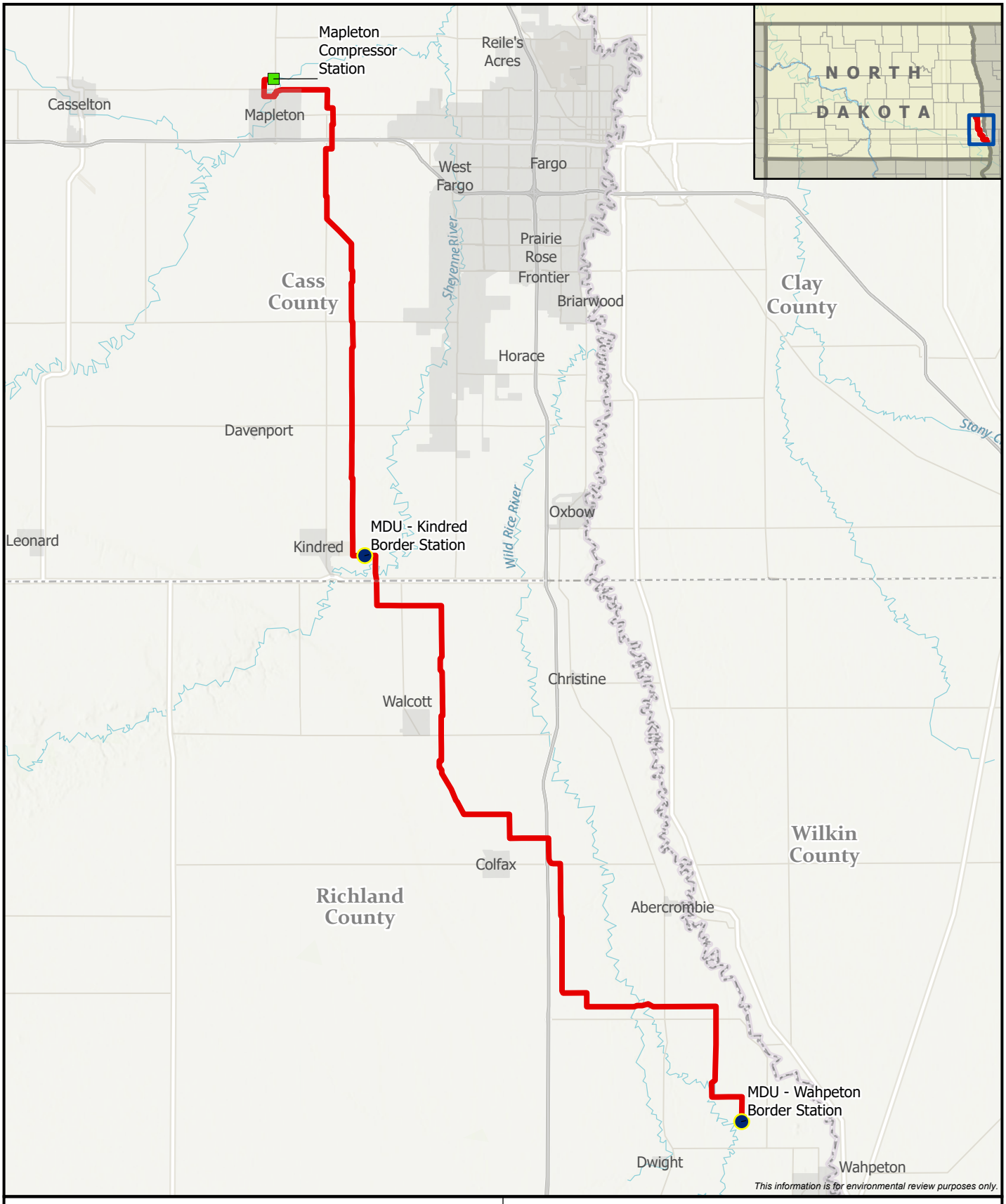

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APPENDIX 1I PAST, PRESENT, AND REASONABLY

Foreseeable Future Projects Evaluated for Potential Cumulative Impacts

APPENDIX 1I
Wahpeton Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the Wahpeton Expansion Project [a]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Location relative to Project	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Meridian Grove 2nd Addition	Residential	Verity Homes plans to expand the Meridian Grove 2nd Addition Project subdivision project approximately 1.4 miles south of MP 1.9.	Under construction	Under construction	Unknown	Cass	1.0 mile north of MP 1.4	0	WW, WF, VG, SO	Mapleton, North Dakota, 2021
Asmoor Glen	Residential	Beyond Reality plans to expand the Asmoor Glen subdivision along the Maple River Golf Course approximately 1.5 miles south of MP 1.0.	Under construction	Under construction	Unknown	Cass	1.5 miles south of MP 1.0	0	WW, WF, VG, SO	Mapleton, North Dakota, 2021
Flickertail Solar Project	Energy	Savion is developing a 350-megawatt solar project that will provide power to approximately 100,000 homes near Colfax, North Dakota. The project will take place on a 3,000-acre site in an upside down horseshoe shape to the east, north, and west of the city of Colfax, North Dakota. Construction of the project is expected to last 9 months and is expected to create hundreds of jobs during construction and 2 to 3 permanent jobs once construction is complete. The project will also create tax benefits for Richland County.	Permit obtained	2022	2024	Richland	Likely 0.8 mile north of MP 39.7 (Exact location unknown)	0	WW, WF, VG, SO	Wahpeton Daily News, 2020
Harmony Solar Project	Energy	National Grid Renewables (formerly Geronimo Energy) is planning to spend $320 million on the Harmony Solar Project, a 200-megawatt system located near Fargo, in Harmony Township. State and local officials approved the project in 2019; however, the project has not started construction as of June 202.	Permit obtained	Unknown	Unknown	Cass	2.8 miles south of MP 0.3	0	SO	Grand Forks Herald, 2018
NuStar Pipeline Operating Partnership Pipeline Relocation Project	Energy	NuStar Pipeline Operating Partnership L.P. (NuStar) is proposing to relocate the portion of NuStar's existing North System Pipeline that will be impacted by construction of the Fargo-Moorhead Diversion Channel. The project will involve installation of approximately 2.21 miles of 10-inch inside diameter steel pipeline.	Permit obtained	Unknown; but prior to the Fargo-Moorhead Diversion Channel construction in the region	Unknown	Cass	0.2 miles west of MP 6.1	0	WW, VG, WF, SO, LU, RS, AQ-con	North Dakota Public Service Commissio n, 2020

APPENDIX 1I
Wahpeton Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the Wahpeton Expansion Project [a]

Project Name	Category	Project Description	Status	Construction Commences	Operation Commences	County(ies)	Location relative to Project	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
MDU Distribution System for Kindred	Energy	MDU will build a new nonjurisdictional distribution system to provide natural gas to industrial and residential customers in Kindred that want to convert from propane to natural gas service.	Planned	2024	2024 after construction of the Wahpeton Expansion Project	Cass and Richland	Will connect with the Wahpeton Expansion Project facilities at the MDU-Kindred Border Station and extend west to customers in Kindred	1.0	WW, VG, WF, CR, SO, GS, LU, RS, N-con, AQ-con	Applicant
MDU Distribution System for Wahpeton	Energy	MDU will build an incremental nonjurisdictional distribution line to connect the new MDU—Wahpeton Border Station to customers in Wahpeton.	Planned	2024	2024 after construction of the Wahpeton Expansion Project	Cass and Richland	Will connect with the Wahpeton Expansion Project facilities at the MDU-Wahpeton Border Station and extend east to customers in Wahpeton	1.0	WW, VG, WF, CR, SO, GS, LU, RS, N-con, AQ-con	Applicant
MDU Distribution - Farm Tap Service	Energy	If WBI Energy builds farm taps off the mainline, MDU could run nonjurisdictional service lines to potential landowners for grain dryers, workshops, and residences. The number and type of service has still not been determined.	Unknown	Unknown; likely 2024	Unknown; likely 2024 after construction of the Wahpeton Expansion Project	Cass and Richland	Facilities would connect to as yet to be determined farm taps along Wahpeton Expansion Project right-of-way	1.0, various locations	WW, VG, WF, CR, SO, GS, LU, RS, N-con, AQ-con	Applicant
Fargo-Moorhead Area Diversion Project	Utilities (Non Energy)	This USACE Flood Risk Management Project is a 20,000-cubic foot per second diversion channel in North Dakota with upstream staging.	Under construction	2017	2025	Cass and Richland	At its closest point 1.3 miles west of MP 5.2	0	WW, WF, VG, SO	Metro Flood Diversion Authority. 2021

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Power lines	Utilities (Non Energy)	Power lines will need to be built to serve the nonjurisdictional facilities.	Planned	2024	2024 after construction the Wahpeton Expansion Project	Cass and Richland	Unknown but a portion of the power lines could be adjacent to the proposed MDU-Kindred and MDU-Wahpeton border stations	<0.5	WW, VG, WF, CR, SO, GS, LU, RS, VSN-con, AQ-con	Applicant
Kindred Airport Runway Expansion	Transportation	The Kindred Airport has plans to expand the runway and departure surface to cross 53rd Street and 166th street.	Expansion plans have been developed	First expansion - 2027; Future expansion - unknown	First expansion - 2029; Future expansion - Unknown	Cass	0.4 miles east of MP 23.3	0	WW, VG, WF, SO, LU, RS, VS, N-con	Applicant
Ongoing agricultural Activity	Other	The majority of lands crossed by the project are existing agricultural fields. The agricultural activity is expected to continue in this area for the life of the project.	Past, present, future	Not Applicable	Ongoing	Cass and Richland	Entire Project	702.2	WW, VG, WF, CR, SO, GS, LU, RS, VS, N-op, N-con, AQ-con	N/A
New unnamed pipeline	Energy	The North Dakota Legislature approved $150 million appropriation from federal pandemic relief funds to support construction of a major natural gas pipeline project to capture gas from western North Dakota and transport it to eastern North Dakota. The additional natural gas takeaway capacity is needed soon or oil producers will be forced to constrain production to avoid flaring the associated natural gas.	Unknown	Unknown	Unknown	Cass (and many other counties)	Information Not Available	0	SO	Western Dakota Energy Association, 2021
NDDOT 1	Transportation	NDDOT structure repair project on I-29 southbound bridge at the Wild Rice River.	Complete	April 2021	July 2021	Cass	7.5 miles west of MP 18.1	0	SO	North Dakota Department of Transportation (NDDOT), 2021a

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NDDOT 2	Transportation	NDDOT project including spall repair, joint repair, Concrete Pavement Repair (CPR), and deck repair on I-94, 9th St, 45th St, and I-29 interchange.	Complete	2021	2021	Cass	6.2 miles west of MP 10.7	0	SO	NDDOT, 2021a
NDDOT 3	Transportation	NDDOT project including grading, Plain Cement Concrete, bridge, and bike path work on 64th Ave S and 38th St S to 33rd St S in Fargo.	Under construction	Spring 2021	Fall 2022	Cass	7.1 miles west of MP 12.1	0	SO	NDDOT, 2021a
NDDOT 4	Transportation	NDDOT paving on I-29, Northbound, 3.8 miles south of Grandin to 1.2 miles north of ND 200.	Unable to confirm construction schedule.	Unknown	Unknown	Cass	19.3 miles south of MP 0	0	SO	NDDOT, 2021a
NDDOT 5	Transportation	NDDOT project involving mill and overlay on Hwy 38 from JCT I-94 North to Page.	Upcoming; went to bid in December 2021	2022	2022	Cass	23.4 miles east of MP 0.4	0	SO	NDDOT, 2021a
NDDOT 6	Transportation	NDDOT project involving intersection turn lane improvements on I-29 /38th St. Intersection.	Complete	May 2021	October 2021	Cass	7.0 miles west of MP 10.8	0	SO	NDDOT, 2021a
NDDOT 7	Transportation	NDDOT CPR on I-29 from Main Ave to Co 20 north and southbound lanes.	Complete	2021	2021	Cass	7.8 miles west of MP 5.2	0	SO	NDDOT, 2021a
NDDOT 8	Transportation	NDDOT chip seal on I-29 near South Dakota border (SD line to RP 11, 11.3 Miles).	Bid opens February 2022	2022	Unknown	Richland	23.3 miles north of MP 60.5	0	SO	NDDOT, 2021a
NDDOT 9	Transportation	NDDOT construction of the I-94 Raymond Interchange.	Complete	July 2021	September 2021	Cass	0.0 miles Crosses the project at MP 6.0	0.25	WW, VG, WF, CR, SO, GS, LU, RS, N-op, N-con, AQ-con	NDDOT, 2021a
NDDOT 10	Transportation	NDDOT project involving mill and overlay on Highway 10 Junction 18 Casselton to Mapleton.	Complete	2020	Unknown	Cass	Crosses the project at MP 0.7	1.0	WW, VG, WF, CR, SO, GS, LU, RS, VS, N-con, AQ-con	NDDOT, 2021a
NDDOT 11	Transportation	NDDOT deck overlay on 12th Avenue North in Fargo.	Complete	2020	August 2020	Cass	7.3 miles west of MP 5.1	0	SO	NDDOT, 2021a

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NDDOT 12	Transportation	NDDOT concrete median barrier on I-29 south of 17th Avenue South in Fargo.	Complete	June 2020	October 2020	Cass	7.2 miles west of MP 10.7	0	SO	NDDOT, 2021a
NDDOT 13	Transportation	NDDOT deck Overlay on the Wild Rice River structure at RP 14.58 North Bound Roadway, Deck Replacement Exit 15 (Great Bend Interchange), and Deck Overlay on the BNSF Separation (RP 33.013) South Bound Roadway.	Complete	2020	2020	Richland	7.6 miles west of MP 18.1	0	SO	NDDOT, 2021a
NDDOT 14	Transportation	NDDOT Concrete pavement repair and chip sealing on ND 13 from I-29 to Wahpeton.	Complete	2020	2020	Richland	4.4 miles north of MP 60.5	0	WW, VG, WF, SO, LU, RS,	NDDOT, 2021b
NDDOT 15	Transportation	NDDOT Project on Highway 13 E, Junction 13E to Junction 127 thin overlay.	Upcoming	2022	Unknown	Richland	4.4 miles north of MP 60.5	0	WW, VG, WF, SO, LU, RS,	NDDOT, 2021b
NDDOT 16	Transportation	NDDOT project on Highway 18N, 0.8 mile of curb ramps from 7th Street to 3rd Street in Casselton.	Upcoming	2022	Unknown	Cass	7.1 miles east of MP 1	0	SO	NDDOT, 2021b
NDDOT 17	Transportation	NDDOT project on Hwy 29 12.6 miles Major Rehabilitation, Hunter to Near Blanchard.	Upcoming	2022	Unknown	Cass, Traill	20.9 miles southeast of MP 0.3	0	SO	NDDOT 2021b
NDDOT 18	Transportation	NDDOT project involving about 8 miles of preventative maintenance on Highway 94 between west of Wheatland to east of Cassleton.	Upcoming	2022	Unknown	Cass	4.8 miles northeast of MP 1	0	SO	NDDOT, 2021b
NDDOT 19	Transportation	NDDOT project involving 10.9 miles of preventative maintenance on Highway 94 between east Casselton to near West Fargo.	Upcoming	2022	Unknown	Cass	Crosses the project at MP 5.9	1.0	WW, VG, WF, CR, SO, GS, LU, RS, N-con, AQ-con	NDDOT, 2021b
NDDOT 20	Transportation	NDDOT project involving 2.9 miles of minor road rehabilitation on Highway 210 from Highway 13 to Red River.	Upcoming	2022	Unknown	Richland	3.1 miles northwest of MP 60.5	0	WW, VG, WF, SO, LU, RS,	NDDOT, 2021b
NDDOT 21	Transportation	NDDOT Bridge Repair, Highway 11, East of Fairmount.	Upcoming	2022	Unknown	Richland	19.6 miles north of MP 60.5	0	SO	NDDOT, 2021b
NDDOT 22	Transportation	NDDOT project involving 11.3 miles minor rehabilitation on I 29, state line to Junction 13.	Upcoming	2022	Unknown	Richland	8.6 miles northeast of MP 57.5	0	SO	NDDOT, 2021b

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NDDOT 23	Transportation	NDDOT project involving 10.9 miles of structural overlay work on I-29 north of junction with Hwy 13.	Upcoming	Between 2023-2025	Between 2023-2025	Richland	0.5 miles east of MP 46.5	0	WW, VG, WF, SO, LU, RS, N-op, N-con, AQ-con	NDDOT, 2021b
NDDOT 24	Transportation	NDDOT project involving I-94 Road improvements from I-29 to 25th Street interchange.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	7.3 miles west of MP 10.7	0	SO	NDDOT, 2021b
NDDOT 25	Transportation	NDDOT project involving 2.9 miles of Road Improvements on East Wahpeton Bypass, Highway 210.	Upcoming	Between 2023-2025	Between 2023-2025	Richland	3.1 miles northwest of MP 60.5	0	WW, VG, WF, SO, LU, RS,	NDDOT, 2021b
NDDOT 26	Transportation	NDDOT project involving 2.7 miles of County Road 10 Improvements, Lynchburg Interstate to ND 18 S Casselton.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	7.5 miles east of MP 0.8	0	SO	NDDOT, 2021b
NDDOT 27	Transportation	NDDOT project involving 25.0 miles of thin overlay (preventative maintenance) on I-18 N.	Upcoming	Between 2023-2025	Between 2023-2025	Richland	7.3 miles east of MP 21.8	0	SO	NDDOT, 2021b
NDDOT 28	Transportation	NDDOT project involving 19.2 miles of preventative maintenance on I-18 N from Junction 46 to Casselton.	Upcoming	Between 2023-2025	Between 2023-2025	Richland	7.0 miles east of MP 1	0	SO	NDDOT, 2021b
NDDOT 29	Transportation	NDDOT project involving I-29 NE Ramp preventative maintenance at 13th Avenue NE Ramp.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	7.7 miles southwest of MP 10.7	0	SO	NDDOT, 2021b
NDDOT 30	Transportation	NDDOT project involving 4.9 miles I-94 Road Repairs 1 mile west of 45th to Red River.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	5.8 miles southwest of MP 10.7	0	SO	NDDOT, 2021b
NDDOT 31	Transportation	NDDOT project involving 1.9 miles of lift station and storm sewer repairs on I-94, 25th Street to Red River.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	8.3 miles west of MP 10.7	0	SO	NDDOT, 2021b
NDDOT 32	Transportation	NDDOT project involving 12.7 miles of preventative maintenance on I-11 from Ligerwood to Hankinson.	Upcoming	Between 2023-2025	Between 2023-2025	Richland	21.3 miles northeast of MP 57.5	0	SO	NDDOT, 2021b
NDDOT 33	Transportation	NDDOT project involving 3.5 miles of preventative maintenance on I-11 from Hankinson to I-29.	Upcoming	Between 2023-2025	Between 2023-2025	Richland	20.9 miles north of MP 57.5	0	SO	NDDOT, 2021b

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NDDOT 34	Transportation	NDDOT project involving 13.0 miles of preventative maintenance on I-11 from I-29 to State Line.	Upcoming	Between 2023-2025	Between 2023-2025	Richland	19.1 miles north of MP 60.5	0	SO	NDDOT, 2021b
NDDOT 35	Transportation	NDDOT project involving 12.1 miles of preventative maintenance on I-29 from Wild Rice River to N Main.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	7.1 miles west of MP 10.8	0	SO	NDDOT, 2021b
NDDOT 36	Transportation	NDDOT project involving Ramp Revisions on I-29 64th Avenue South Interchange.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	7.2 miles west of MP 12.1	0	SO	NDDOT, 2021b
NDDOT 37	Transportation	NDDOT project involving 9.0 miles of preventative maintenance on I-94 from E Buffalo to Wheatland.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	13.6 miles east of MP 1	0	SO	NDDOT, 2021b
NDDOT 38	Transportation	NDDOT project involving 1.0 mile of Road Reconstruction, Main Avenue from University to 25th Street.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	8.8 miles west of MP 5.2	0	SO	NDDOT, 2021b
NDDOT 39	Transportation	NDDOT project involving Ongoing road and bridge maintenance in West Fargo and Fargo.	Upcoming	Between 2023-2025	Between 2023-2025	Cass	7.9 miles southwest of MP 10.7	0	SO	NDDOT, 2021b

AQ-con = air quality (construction); AQ-op = air quality (operations); CR = cultural resources; GS = geology and soils; LU = land use; N/A = Not available; N-con = noise (construction); N-op = noise (operation); RS = recreation and special interest areas; SO = socioeconomics; TE = threatened and endangered species; VG = vegetation; VS = visual resources; WF = wildlife, fish; WW = wetlands, water resources

[a] A description of the geographic scope of the analysis for each resource is provided in table 1.10-1 of Resource Report 1.

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