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February 27, 2020

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426

Re: WBI Energy Transmission, Inc.
Docket Nos. CP20-52-000 and PF19-7-000
North Bakken Expansion Project
Responses to Agency Comments on the Draft Applicant-Prepared Environmental Assessment

Dear Ms. Bose:

WBI Energy Transmission, Inc. herewith submits for filing its response to agency comments on the Draft Applicant-Prepared Environmental Assessment dated February 4, 2020 in the above-referenced docket.

Pursuant to 18 CFR § 385.2010 of Federal Energy Regulatory Commission's regulations, copies of these responses are being served to each person whose name appears on the official service list for this proceeding.

Should you have any questions or comments regarding this filing, please call the undersigned at (701) 530-1563.

Sincerely,

/s/ Lori Myerchin

Lori Myerchin
Director, Regulatory Affairs and
Transportation Services

Attachments

WBI Energy Transmission, Inc.
North Bakken Expansion Project
Docket Nos. CP20-52-000 and PF19-7-000

Responses to Agency Comments on the
Draft Applicant-Prepared Environmental Assessment Dated February 4, 2020

FEDERAL ENERGY REGULATORY COMMISSION (FERC)

Data Request No. 1

Clarify in section A.8 of the environmental assessment (EA) if WBI Energy Transmission Inc. (WBI Energy) is requesting to deviate from the FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* (FERC Plan) by using a 100-foot-wide right-of-way along the entire length of the pipeline (except in wetland areas), or only in areas with steep terrain. If requesting a 100-foot-wide pipeline corridor for the entire length, provide justification.

Response:

For construction of the proposed 12-inch-diameter Line Sections 25 and 30 Loop pipelines and the 20-inch-diameter Tioga Compressor Lateral, WBI Energy will use the standard 75-foot-wide construction right-of-way. Except through wetland areas and across U.S. Forest Service (USFS) land,[1] WBI Energy is requesting a 100-foot-wide construction right-of-way along the entire length of the proposed 24-inch-diameter Tioga-Elkhorn Creek and Elkhorn Creek-Northern Border pipelines. This additional 25 feet of right-of-way width will be necessary to provide sufficient workspace to accommodate increased amounts of topsoil and subsoil materials requiring additional storage space while allowing safe passage of construction equipment and material along the working side of the right-of-way during construction. As outlined in the attached typical construction right-of-way diagrams, to aid in revegetation efforts WBI Energy proposes to segregate topsoil in all non-saturated areas affected by standard pipeline construction and not just those areas required by the FERC Plan, which will require additional workspace for topsoil and subsoil storage.

Additionally, a 100-foot-wide right-of-way will allow implementation of proper safety precautions during construction. These safety measures may include but are not limited to:

- After trench excavation, work between the pipe and the trench will be prohibited.
- During lowering-in operations, workers will be positioned between the equipment and the pipe to monitor, inspect, and repair coating as needed or to adjust temporary pipe supports.
- To minimize the potential for trench collapse, construction equipment will be offset from the edge of the trench at a minimum distance equal to that of the depth of the trench.
- The 100-foot right-of-way ensures that will be travel land around construction equipment for first responders in the event of an incident.

Attachments:

75 foot right-of-way typical

100 foot right-of-way typical

[1] The construction right-of-way width across USFS land will be reduced to 50 feet (with an additional 25 feet of ATWS).

Data Request No. 2

Discuss in the Wetlands section of the EA, the additional measures WBI Energy would take to mitigate impacts on wetlands based on proposed deviations from FERC's *Wetland and Waterbody Construction and Mitigation Procedures* (FERC Procedures) listed in table A.8-1 [now table A-4].

Response:

To minimize impacts on wetland resources that will not be directly affected by the North Bakken Expansion Project (Project), but will be in close proximity to construction activities (within 50 feet), WBI Energy will install double row silt fence to prevent sedimentation into adjacent wetlands and will not conduct refueling operations within 100 feet of these wetlands.

Data Request No. 3

Provide a description of the horizontal directional drill (HDD) interconnect method in section A.8 [now section A.7] of the EA, as detailed in Resource Report 1, as well as an associated construction typical drawing illustrating this method.

Response:

The following description of the HDD intersect method has been added to section A.7.2 of the EA.

WBI Energy proposes to use the HDD intersect method to construct its pipeline across Lake Sakakawea (and a natural pond). The HDD intersect method involves using two drill rigs, one on each side of the HDD, and drilling two pilot holes towards each other until they intersect at a predetermined point. Unless unforeseen events occur, such as inadvertent releases of drilling fluid, use of the HDD method typically avoids impacts on water quality by precluding disturbance of the waterbody bed and banks.

WBI Energy's HDD contractor proposes to use either the Para-Track System or the Gyroscope System to complete the HDD intersect crossing (see the HDD intersect typical construction drawing). Both systems involve using a directional jetting bottom-hole assembly or a mud motor with a bit and bottom-hole assembly to advance a 12.25-inch-diameter drill bit from each of the HDD entry sites (one at the drill rig entry side and one at the pipe entry side). Because HDD intersect procedures do not need to occur at exactly the halfway point along the drill path, drilling can occur concurrently from both sides or start at different times. Although the HDD intersect point is predetermined, conditions encountered during drilling the pilot holes may dictate the exact location of the final intersect point. The two drill crews would maintain constant communication as the HDD pilot holes progress.

The Para-Track System would use a down-hole probe (Para-Track2 Probe) to monitor the progress of each pilot hole. The elevation, alignment, and distance from the drill bit to the drill rigs would be recorded at regular intervals. As the two pilot holes approach the HDD intersect location, the magnetic signal would increase in strength. Once the pilot holes approach within about 30 feet of overlapping, a passive magnetic ranging (PMR) survey would be conducted to determine the position offset between the two pilot holes. The PMR survey involves using the down-hole probe to collect static magnetic field readings relative to the adjacent drill stem. To perform this operation, the drill pipe positioned in the previously drilled pilot hole would be retracted in predetermined distance increments, which would be detected and recorded by the down-hole probe for the other pilot hole. The magnetic field readings would be analyzed to verify that a sufficiently accurate position offset between the two pilot holes can be determined. This PMR survey would be repeated once every 30 feet until the two pilot holes intersect.

The Gyroscope System would also involve the use of a down-hole probe (a Gyroscope) to monitor the progress of the pilot holes. The elevation, alignment, and distance from the drill bit to the drill rigs would be recorded at the end of every drill stem length (about every 30 feet). As the pilot holes approach the predetermined intersect point, the HDD contractor would place a radar behind each Gyroscope probe (one for each pilot hole). When the drill bits approach within 30 feet of overlapping, one of the drill crews would pull a joint of drill stem to the top of the drill rig and wait while drilling continues from the other side. HDD crews would monitor annular pressure (if applicable) and review survey readouts for indications of vibrations. When the drill intersects the opposite pilot hole (usually indicated by a change in drill push or rotation), the HDD crew would slowly push down on the opposite drill bit to see if the two drill bits bump

into each other. If the two drill bits do not make contact, additional drill stem would be pulled back on the non-drilling side, drilling would resume, and a radar survey would be taken every one to three drill stem joints to determine how best to achieve the pilot hole intersect. Once the drill bits make contact, the HDD superintendent and surveyors would analyze the angles of intersect, push and torque on the pipe strings, distance from the intersect point to each end of the drill, and existing ground conditions. This information would be used to decide which drill bit would proceed to the other side (i.e., push out of the ground at the opposite end of the HDD) and how much distance to maintain between the advancing drill bit and the retreating drill bit.

Once the pilot hole is completed, the pilot hole would be enlarged using one or more passes of a reamer until the hole is the necessary diameter to facilitate the pull-back (installation) of the pipeline. Once the reaming process is complete, a prefabricated segment of pipe would be attached to the drill string on one side of the crossing and pulled back through the hole toward the drill rig. The pipe segment is generally hydrostatically tested prior to its installation, and once installed, connected on either side of the crossing to adjoining sections of pipe. The pipe segment is generally hydrostatically tested a second time with the remainder of the pipeline system.

Attachment:

HDD Intersect Method Construction Typical

Data Request No. 4

If WBI Energy proposes to pipe water to the right-of-way, ensure all associated workspaces and impacts are described in section A.8 [now section A.7] of the EA. Additionally, identify and describe how WBI Energy would monitor the drill alignment during HDD construction at Lake Sakakawea, and identify any associated impacts (i.e., would electric-grid wire be used to steer the drill head, and would watercraft or unmanned aerial vehicles be used to monitor the alignment for inadvertent returns).

Response:

At this time it is not known if WBI Energy will be piping water to the right-of-way. As needed, WBI Energy will provide the required information (acres of impact, mapping, and survey results) of any additional areas required for piping water to the right-of-way in a supplemental filing or through the FERC variance request process.

WBI Energy will implement the measures outlined in its *Horizontal Directional Drill/Guided Bore Drilling Fluid Monitoring and Operations Plan* during the HDD crossing of Lake Sakakawea. The primary method for monitoring for a potential inadvertent release of drilling fluid will be the instrumentation in the drilling rig, which constantly monitors annulus mud pressure and flowrates. If these gauges indicate a loss of return, drilling activities will be temporarily stopped including a pump shut down. Then either a drone will be used to monitor the water surface for turbidity or a small boat will be launched from a dedicated boat ramp to view surface conditions. As Lake Sakakawea is actively used for recreation, the addition of one potential motorized boat is not anticipated to cause impacts on surface waters. No guide wires will be used to steer the drill head during the HDD crossing of Lake Sakakawea.

Data Request No. 5

WBI Energy describes in section B.2.1, its proposed measures for mitigation of "damage" to nearby water supply wells. Clarify if these same measures would be implemented in the event of impacts on water quality or yield, or identify WBI Energy's proposed mitigation measures to address any such impacts.

Response:

Text of the EA has been updated to read:

"For known active wells and any additional active wells identified within 150 feet of construction work areas, WBI Energy would conduct preconstruction and post-construction water quality and yield testing and/or sampling to verify that Project construction does not permanently affect water wells. WBI Energy would obtain landowner or municipality permission prior to testing. WBI Energy would analyze any damaged well or water supply system (including changes in water quality or yield) and perform the necessary repairs and/or modifications to return it to its former capacity as determined by testing and/or sampling. In the event that a private well or water supply system is damaged beyond repair due to construction-related activities, WBI Energy would provide for a temporary water source and replace the well as necessary. Within 1 year of the completion of construction, WBI Energy would file a report identifying all potable water supply systems damaged by construction and how they were repaired. With implementation of these measures, we believe that any Project-related impacts on groundwater resources would be temporary and insignificant."

Data Request No. 6

WBI Energy identifies (section [B.1.1]) 12 oil and gas fields that the Project would cross. Identify by milepost where each of these oil and gas fields are crossed.

Response:

The entire Project is located within North Dakota Department of Mineral Resources mapped oil and gas fields. Table B-2 below summarizes the oil and gas field crossings by proposed pipeline facility. This table will be included in section B.1.1 of the EA.

TABLE B-2

North Bakken Expansion Project
Oil and Gas Fields Crossed by the Project

Facility	Start Milepost	End Milepost	Oil and Gas Field
PIPELINE FACILITIES			
Tioga-Elkhorn Creek			
	0.0	3.1	Tioga
	3.1	16.1	Beaver Lodge
	16.1	21.7	West Capa
	21.7	26.2	Grinnell
	26.2	33.2	Sand Creek
	33.2	41.5	Banks
	41.5	43.6	Garden
	43.6	55.0	Siverston
	55.0	61.9	Pembroke
Line Section 25 Loop			
	0.0	11.4	Tioga
	11.4	20.4	North Tioga
Line Section 30 Loop			
	0.0	5.2	West Bank
	5.2	9.4	Tioga
Tioga Compressor Lateral			
	0.0	0.5	Tioga
Tioga to Northern Border			
	0.0	0.3	Pembroke
Uprate Line Section 25			North Tioga, Foothills, and Black Slough

Source: North Dakota Department of Mineral Resources. 2019. Oil and Gas Division – Oil and Gas GIS Shapefiles. Available online at https://www.dmr.nd.gov/OaGIMS/viewer.htm. Accessed September 2019.

Beginning in January 2019 approximately 76 North Dakota One-Call tickets were developed and submitted to have existing utility and foreign pipeline infrastructure flagged in the field for survey as WBI Energy developed pipeline routes, valve sites, compressor stations, and transfer, receipt, and delivery station locations. In addition to this effort, both contracted and WBI Energy civil surveys utilized their own locating equipment to mark and survey existing infrastructure in areas where foreign lines were thought to exist and not marked by other services. For areas where potential conflict existed with existing or planned foreign pipelines, WBI Energy worked with developers to coordinate their respective routes and crossings. The proposed route considers all of the listed sources of foreign infrastructure. Each identified crossing is depicted on the alignment sheets provided as appendix 1B of Resource Report 1 filed with WBI Energy's FERC Application on February 14, 2020.

During construction, third-party utilities will be notified of a potential crossing via the One-Call system. When the third-party representative arrives to locate and mark the line, WBI Energy's contractor will discuss any special crossing criteria that the third-party may have. Prior to crossing the marked line, a hydrovac excavator will be used to daylight the line and verify depth. Crossing of the third-party line will be conducted according to any agreements between WBI Energy and the third-party utility.

Data Request No. 7

If the proposed facilities are found to overlie inactive or abandoned coal or salt mines, as applicable, discuss potential impacts and mitigation measures for associated geologic hazards (i.e. subsidence, mine/coal seam fires, encountering mine waste or acid mine drainage) in section [B.1.1].

Response:

Although lignite beds underlie the entire Project area, there are no active lignite coal mines in the vicinity of the proposed Project facilities. Additionally, there are no commercial halite or potash mines near the Project facilities.

Based on review of the North Dakota Public Service Commission (NDPSC) Abandoned Mine Lands Program database (NDPSC, 2019), one abandoned subsurface coal mine and two abandoned surface coal mines were identified within 0.25 mile of the proposed Tioga-Elkhorn Creek pipeline. The Quality Coal Company mine is located approximately 0.1 mile south of milepost (MP) 19.0 in Williams County; however, based on review of available aerial imagery and correspondence with the NDPSC, no sinkholes or signs of subsidence were identified in the mapped mine location and the NDPSC was not able to verify the location of the subsurface mine in NDPSC records. At MP 19.0, the proposed Tioga-Elkhorn Creek pipeline is located immediately adjacent to an existing, previously cleared utility corridor in an area with existing infrastructure. Due to the distance from the abandoned mine location and the presence of existing infrastructure, the potential that the Project would be affected by subsidence associated with the mine or encounter acid mine drainage during construction is low. The Skogheim Coal Mine and John Gustafson Mine are abandoned surface coal mines located approximately 0.1 mile west and 0.2 mile east of the Tioga-Elkhorn Creek pipeline at MPs 38.3 and 39.8, respectively. Based on available information from the NDPSC, the precise location and boundary of the Skogheim Coal Mine is not well documented; however, aerial imagery and local topography do not indicate the presence of a former surface coal mine near the Project area. The John Gustafson Mine surface mine boundary is visible in aerial imagery and does not extend north of the tributary to Tobacco Garden Creek or west near the Project area. As such, it is unlikely that the Project will have an impact on coal mining or be affected by geologic hazards associated with the abandoned mine sites.

Reference:

North Dakota Public Service Commission, 2019. Abandoned Mine Lands. Available online at: https://ndgov.maps.arcgis.com/home/webmap/viewer.html?webmap=0c4eb5ce19a84a069c1d04b449c39d43. Accessed January 2020

Attachments:

NDPSC Call Log

Data Request No. 8

In section [B.1.1], discuss if the Project facilities could be impacted by blasting at any active mines.

Response:

Based on review of available aerial imagery, U.S. Geological Survey topographic maps, and landmarks mapped by the North Dakota Department of Transportation, the Project is within 0.25 mile of 14 gravel or scoria pits (U.S. Geological Survey, 2019; North Dakota Department of Transportation, 2019). The closest mapped gravel or scoria pit is less than 0.1 mile east of the Tioga-Elkhorn Creek pipeline at MP 38.3; however, the status of the pit is listed as inactive. The closest gravel pit that has an active status is located approximately 0.2 mile southeast of MP 58.7 of the Tioga-Elkhorn Creek pipeline; however, the portion of the pit that appears to be actively mined based on 2018 aerial photography is farther than 0.25 mile from the Project. As such, it is unlikely that blasting at active mines will affect the Project facilities.

References:

U.S. Geological Survey. 2019. Geographic Names Information System Landmarks Data. Available online at: https://gishubdata.nd.gov/dataset/gnis-landmarks.

North Dakota Department of Transportation. 2019. Landmarks. Available online at: https://gishubdata.nd.gov/dataset/nddot-landmarksp. Accessed: September 30, 2019.

Data Request No. 9

WBI Energy states in section [B.1.1] "a retired scoria pit is located at the proposed location of the Elkhorn Creek Compressor Station." Identify the distance from the proposed Elkhorn Creek Compressor Station to areas that were mined, as well as any spoil storage areas. Identify the status of the mining permit associated with these operations, and any measures that would be taken to protect Project facilities should scoria extraction recommence at this location.

Response:

A retired and depleted scoria pit is located within the footprint of the proposed Elkhorn Creek Compressor Station. This unpermitted scoria pit was used for personal use by the landowners. Per the landowners, bulldozers and backhoes were used to excavate the private scoria pit, and no blasting occurred at the site. WBI Energy has a signed purchase agreement to acquire the compressor station property in fee and negotiations with the current landowners prohibit any continued scoria extraction within the easement boundaries. WBI Energy will perform earthwork to prepare and grade the site, including the depleted scoria pit, prior to compressor station construction. WBI Energy plans to maintain open communication with this landowner regarding any future plans for scoria extraction. If the landowner intends to extract scoria in lands adjacent to the compressor station property, no blasting is expected to occur. Therefore, no impacts on the compressor station are anticipated.

Data Request No. 10

Identify any known coal seam fires crossed by or within 0.25 mile of Project facilities.

Response:

Based on consultations with the NDPSC, there are no documented coal seam fires within 0.25 mile of Project facilities. As noted in the attached call log, WBI Energy was referred to a contact (Oscar Knudston) at the U.S. Department of Agricultural National Grasslands for more information. WBI Energy called and left a voicemail with Mr. Knudston and additionally followed up with the main Project contact at the USFS (Cale Bickerdyke). To date, WBI Energy has received no additional information on potential coal seam fires in the Project area.

Attachment:

NDPSC Call Log

Data Request No. 11

Clarify language used to describe the potential for ground subsidence hazards to impact the Project. Specifically, WBI Energy states in section [B.1.1], "no karst topography, recent subsidence events, or large-scale mineral mining sites are in or near the Project area." Revise this statement to better clarify what is meant by "recent," "large-scale," and "near the Project area."

Response:

Ground subsidence, involving the localized or regional lowering of the ground surface, may be caused by karst dissolution; sediment compaction due to oil, gas, and/or groundwater extraction; and underground mines. Potential subsidence in the vicinity of the Project area could occur from the dissolution of evaporate rocks (salt) deep beneath the land surface, dissolution and collapse of karst or pseudokarst features, underground coal seam fires, or mining exploration and extraction activities (Trimble, 1979). As described previously, there are no documented salt mines within 0.25 mile of Project facilities; as such, the risk of dissolution of evaporates affecting the Project is low. The U.S. Geological Survey Digital Map Compilation and Database for karst in the United States indicates that areas of the Sentinel Butte Formation may locally contain pseudokarst features including erosional piping; the closest of these areas is located approximately 0.8 mile east of MP 60.4 of the Tioga-Elkhorn Creek pipeline (Weary and Doctor, 2014). Erosional piping has been documented within the Sentinel Butte Formation basal sandstone in Theodore Roosevelt National Park at the base of steep slopes. In these areas, percolating water dissolves and removes soluble materials and sheet-wash erosion form rills and gullies that can lead to the formation and collapse of pipe structures (KellyLynn, 2007). The Project facilities that cross the Sentinel Butte Formation are not located at the base of steep slopes where erosional piping features typically form; as such, the risk that the collapse of piping features would affect the Project is low.

Per correspondence with the NDPSC, there are no documented coal seam fires within 0.25 mile of Project facilities. As described previously in the response to Data Request No. 7, three abandoned mines are located within 0.25 mile of the Project. However, based on available information regarding the mines, aerial imagery, and discussion with the NDPSC, the risk of abandoned mine-related subsidence affecting the Project is low. Therefore, there is low risk for subsidence to occur in the Project area or to significantly affect the pipelines or aboveground facilities.

References:

KellyLynn, K. 2007. Theodore Roosevelt National Park Geologic Resource Evaluation Report. Natural Resource Report NPS/NRPC/GRD/NRR-2007-006. Available online at: http://npshistory.com/publications/thro/nrr-2007-006.pdf. Accessed February 2020.

Trimble, D.E. 1979. Unstable Ground in Western North Dakota. U.S. Geological Survey Circular 798. Available online at https://pdfs.semanticscholar.org/615b/28464bd4b78146c9510447c760df73498f4f.pdf?_ga=2.63548911.1749428853.1570203242-34509855.1570203242. Accessed September 2019.

Weary, D.J., and Doctor, D.H., 2014. Karst in the United States: A digital map compilation and database: U.S. Geological Survey Open-File Report 2014–1156, 23 p. Available online at: https://dx.doi.org/10.3133/ofr20141156. Accessed February 2020.

Data Request No. 12

Clarify if WBI Energy would complete topsoil segregation at all proposed staging areas, including those that are not in current agricultural use.

Response:

Topsoil segregation will only occur at staging areas currently being used for agricultural purposes. Topsoil segregation will not occur at staging areas that have already been disturbed and utilized for commercial/industrial uses.

Data Request No. 13

To identify areas of potential existing soil or groundwater contamination near Project areas, ensure that both state and federal databases are reviewed. Identify any sites within 0.25 mile of the Project that are associated with known or suspected releases, the distance to Project workspaces, the media affected by the release (soil, groundwater, surface water, sediments), chemicals of concern, and the status of remediation efforts.

Response:

An updated version of the table of hazardous waste sites within 0.25 mile of the project is included below and will also be included as table B-14 in the Land Use section of the EA. In addition to the U.S. Environmental Protection Agency database of hazardous waste sites, the following North Dakota Department of Environmental Quality databases were reviewed: Solid Waste Facilities; Environmental Incident Reports; Underground Storage Tank Registry; Leaking Underground Storage Tank Registry; Brownfield Sites in North Dakota; and publicly available North Dakota Department of Environmental GIS data. The media affected, substance of concern, and remediation status are provided for those sites where this information was available in the applicable dataset.

TABLE B-14

North Bakken Expansion Project
Hazardous Waste Sites Within 0.25 Mile of the Project

Facility Site	Location	Distance to Project (miles)	Direction from Project to Site	Media Affected	Substance of Concern	Status of Remediation
Andeavor High Plains Company LLC Tioga Station	10318 68th Street NW Tioga, ND 58852	0.1	Southeast	N/A	N/A	N/A
Former “The Attic” Building	302 Elm St. NE Tioga, ND 58852	0.2	North	N/A	N/A	N/A
Triple Aggregate LLC – White Earth Pit	1027 S Welo St Tioga, ND 58852	0.1	North	N/A	N/A	N/A
Tioga Gas Processing Plant	10340 68th Street Northwest	0.1	Southeast	N/A	N/A	N/A
Tioga Airport Authority – Tioga Municipal Airport	67th St. NW Tioga, ND 58852	<0.1	South	N/A	N/A	N/A
Hess Corporation – Tioga Gas Plant Lab	10340 68th Street NW Tioga, ND 58852	0.1	Southeast	Surface Water	Effluent	Complete
Hess Corporation	48.379807, -102.928248	<0.1	North	N/A	N/A	N/A
Lignite Gas Plant	10050 84th Avenue Lignite, ND 58752	<0.1	South	Soil	Brackish Water	In Progress
Lignite Gas Plant	10050 84th Avenue Lignite, ND 58752	<0.1	South	Soil	Condensate	In Progress
Slawson Exploration Company, Inc. – Gunslinger 327 Right of Way	48.08890, -103.10250	<0.1	West	Soil	Bentonite Clay and Water	Complete

TABLE B-14

North Bakken Expansion Project
Hazardous Waste Sites Within 0.25 Mile of the Project

Facility Site	Location	Distance to Project (miles)	Direction from Project to Site	Media Affected	Substance of Concern	Status of Remediation
Area Adjacent to WBI Energy Pipeline Access Road	47.80530, -103.16470	0.3	East	Soil	Hydraulic Fluid	Complete
OXY USA, Inc. – Storage Tank	10050 84th Avenue Lignite, ND 58752	<0.1	North	N/A	N/A	N/A
Balsam, Inc. – Northern Tank Line Terminal	48.401767, -102.91635	<0.1	South	N/A	N/A	N/A

Sources: U.S. Environmental Protection Agency, 2019a and 2019b; North Dakota Department of Environmental Protection, 2020
Notes: N/A = Not applicable

References:

U.S. Environmental Protection Agency, 2019a. Envirofacts Multisystem Search. Available online at https://enviro.epa.gov/facts/multisystem.html. Accessed August 2019.

U.S. Environmental Protection Agency. 2019b. Project and Landfill Data by State. Available online at https://www.epa.gov/lmop/project-and-landfill-data-state. Accessed August 2019.

North Dakota Department of environmental Protection. 2020. Division of Waste Management. Available online at: https://deq.nd.gov/WM/. Accessed February 2020.

Data Request No. 14

In section B.10, provide the acreage of impacts for each project that would affect the geographic scope (Hydrologic Unit Code-12 watershed), and each project schedule to identify any overlapping.

Response:

An updated version of the Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project appendix M table is attached. The table has been updated to include the approximate total acres for each of the projects. In some cases, this information was not publicly available and is indicated as "unknown." Additionally, the approximate acres of overlap between those projects and the proposed Project has been provided.

Attachment:

Appendix M - Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project

U.S. BUREAU OF LAND MANAGEMENT (BLM)

Data Request No. 15

Insert the following text as the fourth sentence, second paragraph, under section A.1.c [now section A.1.3], "The BLM will consider adopting this EA for agency decisions pursuant to 40 CFR 1506.3(c) if, after an independent review of the document, the BLM concurs that the analysis provides sufficient evidence to support agency decisions and is satisfied that agency comments and suggestions have been addressed."

Response:

This text has been added to the final draft of the applicant-prepared EA.

Data Request No. 16

Insert the following text as the last paragraph under section A.1.c [now section A.1.3], "Based on its participation as a cooperating agency and its consideration of the EA, the BLM would issue a Decision Record to formally document its decision on whether to issue a right-of-way grant over federal lands administered by the U.S. Army Corps of Engineers (USACE) and USFS for the project."

Response:

This text has been added to the final draft of the applicant-prepared EA.

U.S. ARMY CORPS OF ENGINEERS (USACE)

Data Request No. 17

In table A.10-1 [now table A-6], replace "Clearance to work on any USACE-controlled property" with "issuance of an easement and temporary construction license for crossing of Lake Sakakawea."

Response:

This text edit has been incorporated into the final draft of the applicant-prepared EA.

Data Request No. 18

Section B.7.b [now section B.7.2], *Archaeological Resources,* paragraph 1 - The "We" statement has me a bit confused. To my knowledge there has not been any other federal cultural resource departments in North Dakota involved in this project thus far—so who has defined the area of potential effects for the other lands involved here?

Response:

Comment noted. The EA text has been updated to include the definition of the area of potential effects (APE) provided at Title 36 of the Code of Federal Regulations Part 800.16(d). The text has also been updated to include WBI Energy's definition of the APE with regard to the width of the survey area for archaeological sites and historic structures.

Data Request No. 19

Section B.7.b [now section B.7.2], *Archaeological Resources*, paragraph 2 - What proportion of the 2-mile-wide corridor had been surveyed previously? 90%, 10%? Were these lands surveyed by Environmental Resources Management (ERM)? I suppose this will be in the report whenever it is made available.

Response:

Prior to survey, WBI Energy conducted a Class I literature review at the State Historical Society of North Dakota (SHSND) to identify previously recorded sites within and near the survey areas for the Project. The review generally examined a 2-mile-wide corridor encompassing the proposed Project facilities. Based on an approximation of digital data from previous inventories in the SHSND database, approximately 13 percent of this corridor had been previously surveyed. This entire 2-mile-wide corridor was not surveyed by WBI Energy as part of the project field surveys. Field surveys for archaeological resources occurred within a 300-foot-wide corridor along the proposed pipeline routes, a 50-foot-wide corridor along access roads, and the construction footprints for other facilities and staging areas.

Data Request No. 20

Section B.7.b [now section B.7.2], *Archaeological Resources*, paragraph 4, bullet 2 - It is difficult to understand how this section is being justified – if a site is within 25 feet of the construction limits, then there is potential for effect and this needs to be addressed. When there are historic properties this close to a proposed construction area, then there should have been Tribal Historic Preservation Offices and/or Tribal Cultural Specialists on site to make sure all features of significance have been identified. Tribes possess special expertise in these matters and should be involved in these evaluations and avoidance planning.

Response:

Comment noted. The recommendation to fence the edge of the construction right-of-way in the vicinity of these sites is intended to ensure the sites are not affected during construction. This is a fairly standard measure for FERC projects.

The status of WBI Energy's tribal consultations is addressed in section B.7.2 in the Cultural Resources section of the EA and Resource Report 4 of WBI Energy's February 14, 2020 FERC Application. Beginning April 15, 2019, WBI Energy sent multiple letters, made follow-up calls, and sent emails to solicit input from tribes. After surveys started, three tribes (Assiniboine and Sioux Tribes of the Fort Peck Reservation, Fort Belknap Indian Community, and Rosebud Sioux Tribe) expressed interest in participating in surveys. WBI Energy negotiated with each tribe to set up survey agreements. The Assiniboine and Sioux Tribes of the Fort Peck Reservation subsequently declined to participate; the Fort Belknap Indian Community stopped communicating with WBI Energy; and the Rosebud Sioux Tribe joined the survey effort starting in late September, 2019. The tribal monitor from the Rosebud Sioux Tribe was present for site delineations that were completed while he was in the field. A fourth tribe (Northern Cheyenne Tribe) expressed interest in participating in surveys after surveys were completed for the 2019 field season. Two other tribes have expressed interest in the survey results (Three Affiliated Tribes of the Fort Berthold Reservation and Oglala Sioux Tribe) but neither has asked to participate in field surveys.

WBI Energy has sent copies of the survey reports to the six tribes (Assiniboine and Sioux Tribes of the Fort Peck Reservation, Fort Belknap Indian Community, Rosebud Sioux Tribe, Northern Cheyenne Tribe, Three Affiliated Tribes of the Fort Berthold Reservation, and Oglala Sioux Tribe) who expressed interest in the survey results, so these tribes will have the opportunity to comment on avoidance of sites. For the four tribes who have expressed interest in participating in surveys, the report transmittal letters acknowledge their interest and commit WBI Energy to contacting the tribes prior to the start of the 2020 field survey effort to discuss tribal participation and/or site visits.

Data Request No. 21

In table B.7.b-1 [now table B-19] footnotes, I believe the minimum standoff area for sites in North Dakota is 50 feet, not 25 feet. The USACE maintains a minimum standoff area of at least a 100-foot buffer for avoidance planning as a general rule.

Response:

The North Dakota Guidelines Manual for Cultural Resource Inventory Projects does not specify a buffer as a cutoff for site avoidance. WBI Energy used 25 feet as a buffer cutoff because this is what FERC traditionally has used for defining the limits of site avoidance. The one site that was documented on USACE lands will be crossed by HDD. Agencies (including the USACE and SHSND and tribes receiving copies of the cultural survey report will have the opportunity to comment on the potential for effects on sites.

Data Request No. 22

Section B.7.b [now section B.7.2], *Archaeological Resources*, paragraph 5 - What is the plan for Tribal involvement in this additional survey work?

Response:

See response to Data Request No. 20. To date, four tribes have expressed interest in participating in surveys. WBI Energy will continue to coordinate with these tribes during survey planning for the upcoming 2020 field season to discuss tribal participation and/or site visits.

Data Request No. 23

Section B.7.b [now section B.7.2], *Archaeological Resources*, paragraph 6 - Does this investigation include federal lands? Has ERM submitted any work plans for this effort to the SHSND or any federal agencies?

Response:

WBI Energy has not submitted work plans for the geomorphological testing, these plans will be submitted to the SHSND in early spring of 2020. There are currently no plans to conduct geomorphological testing on USACE lands.

Data Request No. 24

Section B.7.b [now section B.7.2], *Unanticipated Discovery Plan* - It would be preferable to do one discovery plan, as it would also be preferable to do one cultural resources report for the Project rather than breaking them up by landowner.

Response:

WBI Energy has prepared a single finds plan for the project, which was included as Appendix B to the Class III archaeological survey report. Copies of this report were filed with WBI Energy's FERC Application on February 14, 2020 and sent to the USACE, USFS, SHSND, and six tribes, all of whom will have an opportunity to comment on the plan. The current format of the plan is standard for a FERC project. WBI Energy can make adjustments to the plan based on comments received from agencies and tribes. The plan includes as attachments the USACE-Omaha District's flyer titled *Discovery of Human Remains* and the USFS-Northern Region's pamphlet titled *Unanticipated Discovery Plan and Discovery of Human Remains Protocols*.

WBI Energy acknowledges that FERC and the USACE prefer a single cultural resources report. During consultation with the USFS, the agency requested a standalone report for USFS lands if possible. WBI Energy reconciled these requests by preparing a single archaeology report for the entire project and a standalone report for USFS lands. The latter is abstracted from the larger report.

Data Request No. 25

Section B.7.b [now section B.7.2], *Traditional Cultural Properties* - Does WBI Energy intend to coordinate a Traditional Cultural Specialists survey for this proposed project?

Response:

To date, none of the agencies or tribes have requested a traditional cultural properties survey and at this time WBI Energy does not intend to coordinate a Traditional Cultural Specialists survey for the Project.

Data Request No. 26

Section B.7.e [now section B.7.5], *Compliance with the National Historic Preservation Act* - This section makes no mention of consulting with Tribes regarding avoidance plans – I believe FERC should lead this consultation. It is my impression that many Tribal Historic Preservation Offices may have disregarded the letters they received from WBI Energy/ERM in the expectation that consultation for this pipeline project would be initiated by a federal agency. It is very likely that representatives from many Tribal Nations do have opinions and concerns about this proposed action that these concerns have not yet been communicated.

Response:

Comment noted. The text referenced in this comment is standard for a FERC EA. WBI Energy has added tribes to bullet a.iii. This request will be handled via coordination between FERC staff and the USACE during finalization of the EA.

Data Request No. 27

Section B.7.e [now section B.7.5], C*ompliance with the National Historic Preservation Act* - "Should not"? If this a major federal action, then WBI Must Not begin until National Historic Preservation Act & National Environmental Policy Act requirements have been satisfied.

Response:

The text referenced in this comment is standard for a FERC EA. The comment will be handled via coordination between FERC staff and the USACE during finalization of the EA.

Data Request No. 28

Section B.10.b [now section B.10.2], *Cultural Resources*, paragraph 1 – Clarify if you are saying whether there are cumulative impacts that need to be addressed. Federal agencies will need to address the adequacy of the proposed area of potential effects.

Response:

The text acknowledges that the Project could affect sites also affected by other actions, but notes that adverse effects on historic properties, if any, would be addressed through the section 106 process. The second part of this question will be handled via coordination between FERC staff and the USACE during finalization of the EA.

Data Request No. 29

Section B.10.b [now section B.10.2], *Cultural Resources*, paragraph 2, last sentence – This will need to be confirmed during the review of the Class III report.

Response:

Comment noted. Agencies will have the opportunity to comment on the Class III reports. Any updates needed to this section of the EA based on agency review of the reports will occur during coordination between FERC and the agencies.

Data Request No. 30

Section B.10.b [now section B.10.2], *Cultural Resources*, paragraph 3, last sentence – This statement is a bit pre-emptive given the significance and eligibility of the recently recorded historic properties is not yet complete. What Tribes were involved in this effort to assess the significance of the identified historic properties?

Response:

This request will be handled via coordination between FERC staff and the USACE during finalization of the EA.

U.S. FISH AND WILDLIFE SERVICE (FWS)

Data Request No. 31

Northern Long eared bat - Refer to 4d rule in FWS Information, Planning and Conservation System.

Response:

Comment noted. WBI Energy completed a FWS Information, Planning and Conservation submission for the Project and, based on that submission, the FWS determined the activities related to the Project are consistent with those analyzed in the agency's January 5, 2016 Programmatic Biological Opinion. Therefore, given the small amount of tree clearing that will occur as part of the Project, and the lack of documented occurrences of northern long-eared bat in the Project area, the Project may affect, but is not likely to adversely affect the northern long-eared bat. As noted in the January 5, 2016 Programmatic Biological Opinion, any take that may occur as a result of the Project is not prohibited under the Endangered Species Act section 4(d) rule adopted for this species at Title 50 of the Code of Federal Regulations Part 17.40(o). The EA has been updated to include this information.

Data Request No. 32

FWS has survey protocol for construction projects; recommend no construction near the lake April 1–August 31 in areas with piping plovers.

Response:

Comment noted. WBI Energy is continuing to coordinate with the FWS on survey protocols for least tern and piping plover. To reduce the likelihood of disturbing nesting piping plovers and least terns, prior to the commencement of the HDD crossing of Lake Sakakawea, a qualified wildlife biologist will survey all sandbars and shoreline within 0.5 mile or line of sight (whichever is a shorter distance) from the Project area. Surveys will be performed during daylight hours, for a minimum of 2-hour survey periods, beginning 0.5 hour prior to sunrise. Evening surveys will end approximately one 0.5 hour after sunset. Surveys will be performed daily for 7 days prior to mobilization of construction crews, equipment staging, and the start of construction. Daily survey periods will occur at different 2-hour periods of each day. If plovers or terns are observed during these preconstruction surveys, WBI Energy will contact the FWS to determine what, if any, avoidance/minimization measures should be implemented. Given that HDD activities will occur 7 days per week from sunrise to sunset, if no plovers or terns are detected during the 7-day preconstruction survey, no additional survey work will be required.

Data Request No. 33

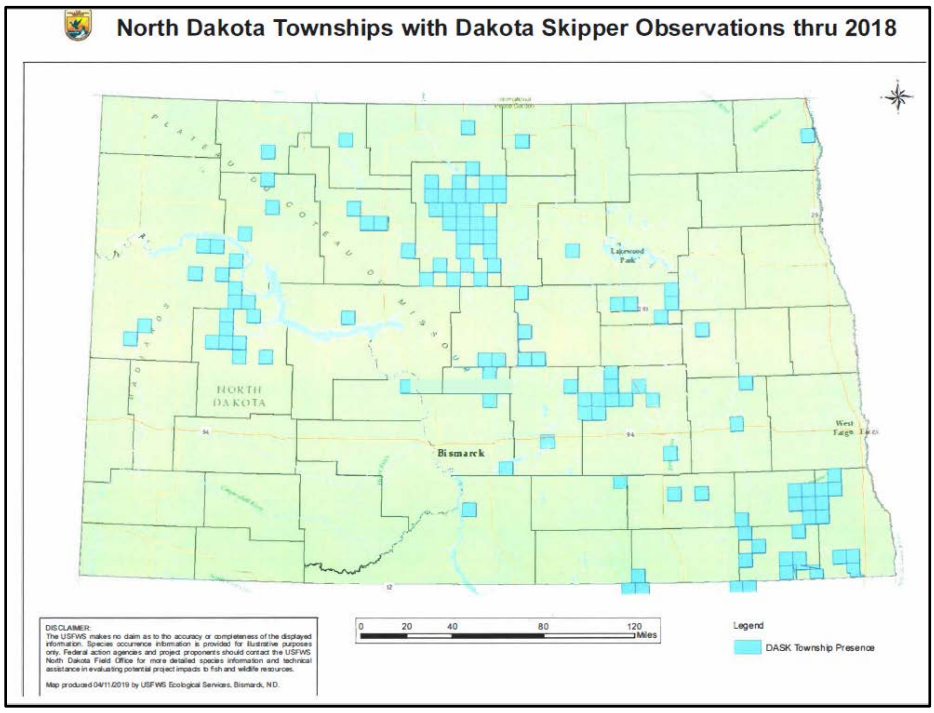
Whooping cranes - Include notifying FWS if sighting within 1.0 mile of construction.

Response:

Comment noted. The text of the EA has been updated to note that Project environmental inspectors (EI) will be trained in whooping crane identification prior to the start of construction. In the event that individual cranes are observed along the Project right-of-way during construction, the FWS will be notified of the location of the observance, the cranes will be left undisturbed, and construction within 1 mile of the cranes will cease until they vacate the area, at which time construction activities will resume.

Data Request No. 34

Dakota skipper (DASK) - Please review township map (below) as many more locations are present than in the report. No habitat maps for the alignment are included, suitable habitat? No reports of occupancy of DASK in suitable habitat?



Response:

Comment noted. WBI Energy filed its DASK survey report as part of the Biological Assessment for the Project. Habitat maps were included along with delineated reproductive, foraging, and dispersal habitat. No reports of DASK occupancy were noted during the habitat surveys. WBI Energy will continue to work with the FWS on potential impacts and mitigation measures for DASK.

Data Request No. 35

FERC Plan and Procedures - Explain what you plan to do to meet these recommendations.

Response:

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. During construction, if the contractor does not comply with environmental requirements, 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.

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 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 each work crew begins construction. Periodic follow-up training for groups of newly assigned personnel will be provided as necessary by the EIs.

WBI Energy will assign EIs to the Project, with additional inspectors 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 EIs' responsibilities 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 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 the Commission'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.

Data Request No. 36

Pallid sturgeon - No work in lake recommended during spawning season of April 1–July 31.

Response:

Comment noted. WBI Energy will cross Lake Sakakawea using the HDD crossing method and no in-lake work is planned during the crossing.

Data Request No. 37

The above information should also be included in the draft EA. Especially the additional information needed to complete the DASK analysis.

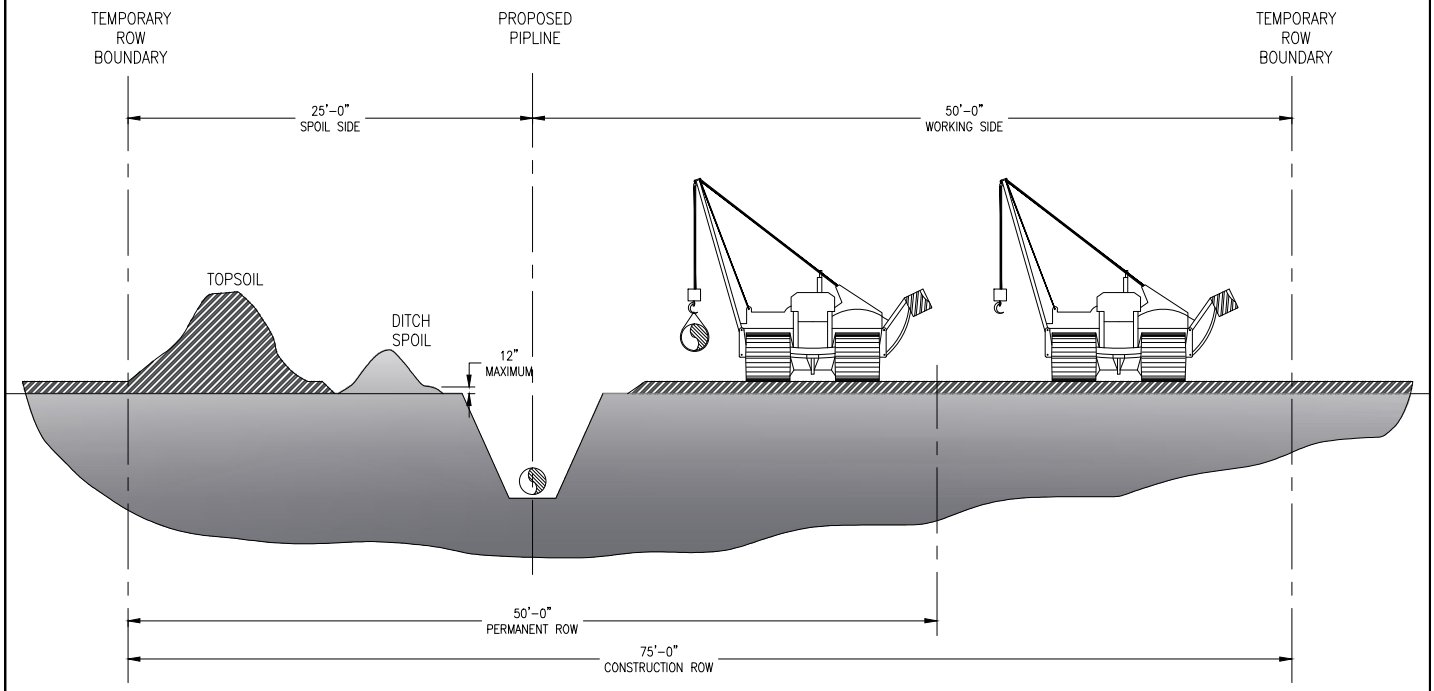
Response:

Comment noted. The DASK survey results were provided in the Biological Assessment for the Project. The EA is a summary document and the FWS will have the opportunity to continue to work with FERC staff to finalize the document and the level of detail to be included for DASK.

DATA REQUEST RESPONSE ATTACHMENTS

Data Request Number 1 Attachment

Right-of-Way Typicals



PROFILE

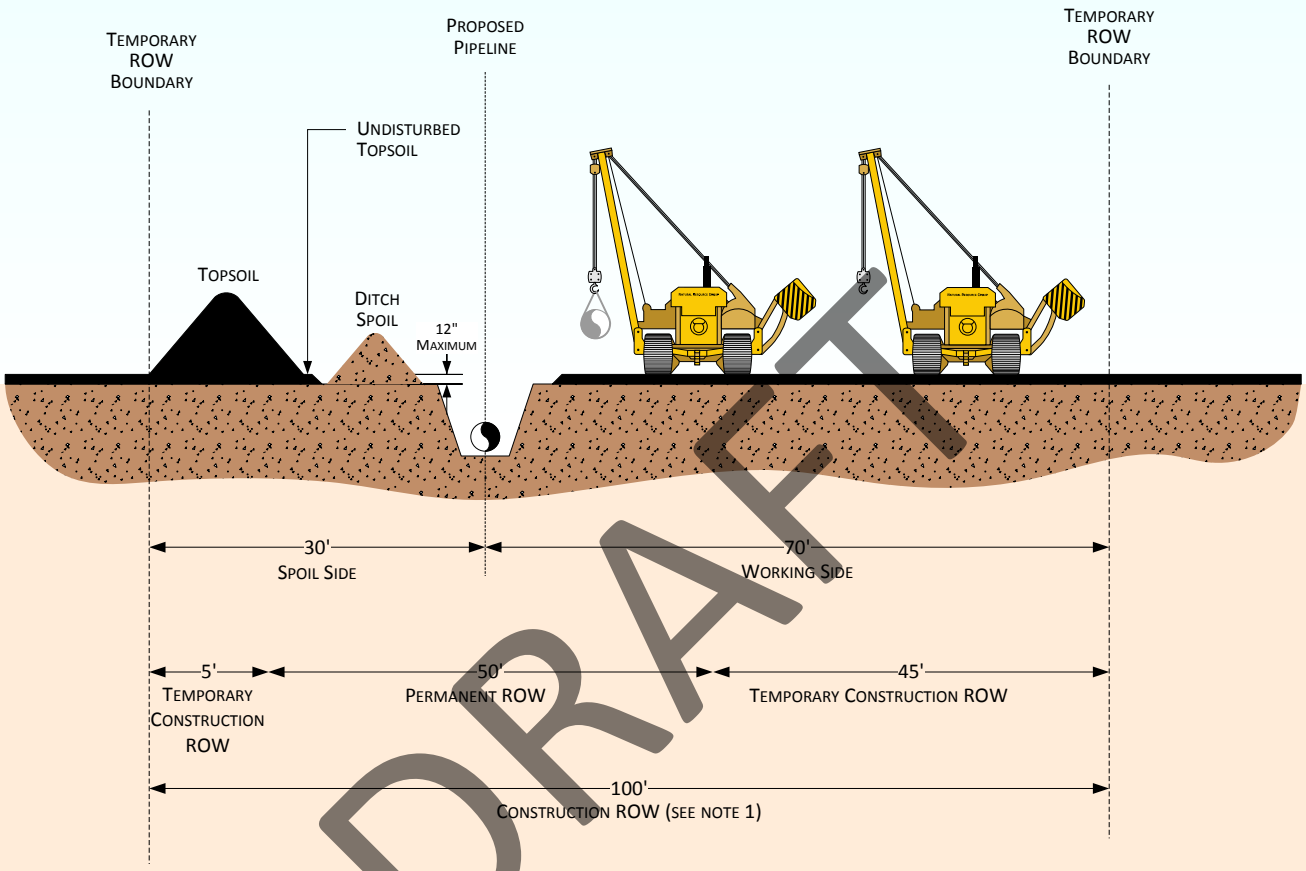
NO.	DATE	DRWN BY	DSGN BY	CHKD BY	DESCRIPTION
–	–	–	–	–	–

WBI ENERGY TRANSMISSION
An MDU Resources Group Company

TYPICAL CONSTRUCTION ROW

W.O. #	XXXXXXX.XXXX.XXXX
DESIGNED BY	TJR
DRAWN BY	TJR
CHECKED BY	–
DATE CREATED	4/7/15

SCALE	FILE NAME	DWG. NO.	SHEET NO.
NONE	A-8-9670	A9670	1 OF 1



PROFILE

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100' WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50'. 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 ENVIRONMENTAL INSPECTOR.

For environmental review purposes only.

WBI ENERGY TRANSMISSION
An MDU Resources Group company

North Bakken Expansion Project

Typical Construction ROW
100 foot ROW

Data Request Number 3 Attachment

HDD Intersect Method Construction Typical

MICHELS®

Michels Directional Crossings
Typical Hole Intersect Procedure / Description

Michels uses two main pilot hole tracking systems for large scale HDDs. The first being a wireline tracking system called the Para-track system. This system requires a surface cable or solenoid. The second pilot hole tracking system is the Gyroscope which requires no surface cable or solenoid. The typical hole intersect procedure for the two systems are described separately below.

Hole Intersect using the Para-Track System

A 12-1/4" drill bit is advanced from the entry points (Rig Side Entry and Pipe Side Entry) toward the pre-designated intersect point along the proposed bore-hole path alignment using a directional jetting bottom-hole assembly or mud motor with bit and bottom-hole assembly. The pilot hole drilling from Rig Side Entry can be prior to or concurrent with pilot hole drilling from the pipe side entry as intersect procedures do not have to occur at exactly half the distance. The intersect location ±500 feet is pre-determined prior to drilling however, conditions encountered during pilot hole drilling will dictate the approximate location of performing the intersect. The bottom-hole assembly will be advanced from the entry side toward the second pilot-hole projection which will be drilled or is being drilled from the other side. The bottom-hole assembly includes the bit (12-1/4" in diameter), drilling mud motor if required, orientation and pressure measurement sub, steering guidance tool (Vector Magnetics Para Track2 Survey and Guidance System) and non-magnetic drill collars. The drill stem added behind this bottom-hole assembly will be S-135 grade 7 5/8" FHDS (Full Hole Double Shoulder) series drill pipe or better and in random 30(±) foot lengths.

The location of the pilot-hole drill paths will be continuously monitored, surveyed then recorded from its respective drill rig location utilizing the data from the down-hole probe (Para Track2 Probe) as drilling proceeds. Critical tracking information to be processed includes elevation, alignment and distance away from each rig which is calculated then recorded in accordance with industry standard, once at the end of every drill stem length (approximately 30-feet).

Constant communication is maintained between the two drill crews as pilot-hole intersect operations progress. Prior to the pilot holes reaching the projected intersect location, the magnetic signal being monitored on the instrument tracking computer inside the control trailer will increase in strength. After the two pilot holes are overlapped by approximately 30', a PMR (Passive Magnetic Ranging) survey will be conducted. At this time, the Para Track2 Probe will be used to collect static magnetic field readings relative to the adjacent drill stem. To perform this operation, the 7 5/8" drill pipe positioned in the previously drilled borehole from the entry end will be retracted in predetermined distance increments, these distance retractions are sensed by the probe and recorded. The magnetic field readings collected by the Para Track2 probe will then be analyzed to verify that sufficient and accurate data has been collected and a position offset between the two boreholes can be calculated and determined. This PMR survey will be repeated once every 30' until the two boreholes are connected.

MICHELS®

Hole Intersect using the Gyroscope System

A 12-1/4” drill bit is advanced from the entry points (Rig Side Entry and Pipe Side Entry) toward the pre-designated intersect point along the proposed bore-hole path alignment using a directional jetting bottom-hole assembly or mud motor with bit and bottom-hole assembly. The pilot hole drilling from Rig Side Entry can be prior to or concurrent with pilot hole drilling from the pipe side entry as intersect procedures do not have to occur at exactly half the distance. The intersect location (±500 feet) is pre-determined prior to drilling however, conditions encountered during pilot hole drilling will dictate the approximate location of performing the intersect. The bottom-hole assembly will be advanced from the entry side toward the second pilot-hole projection which will be drilled or is being drilled from the other side. The bottom-hole assembly includes the bit (12-1/4” in diameter), drilling mud motor if required, orientation and pressure measurement sub, steering guidance tool (Gyroscope Guidance System). The drill stem added behind this bottom-hole assembly will be S-135 grade minimum 7 5/8” FHDS (Full Hole Double Shoulder) series drill pipe or better and in random 30(±) foot lengths.

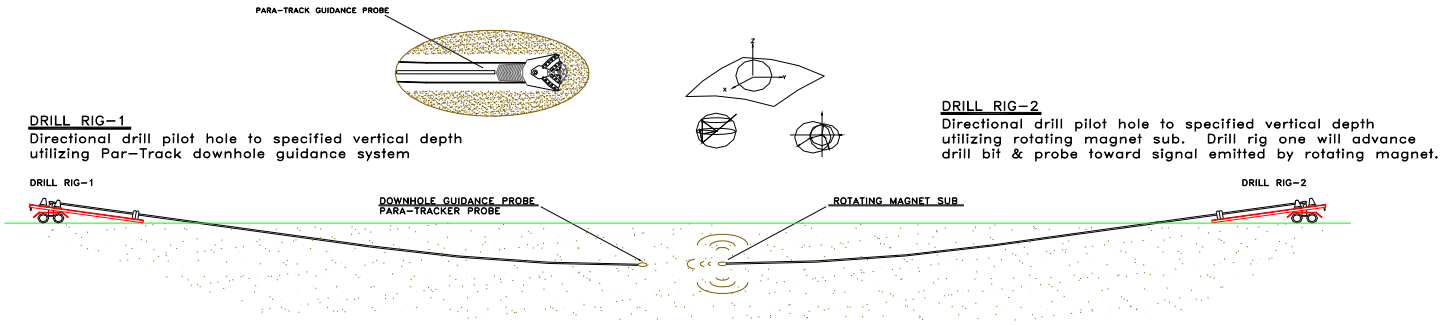
The location of the pilot-hole drill paths will be continuously monitored, surveyed then recorded from its respective drill rig location utilizing the data from the down-hole probe (Gyroscope) as drilling proceeds. Critical tracking information to be processed includes elevation, alignment and distance away from each rig which is calculated then recorded in accordance with industry standard, once at the end of every drill stem length (approximately 30-feet).

As the pilot holes approach the planned intersect area the following steps are typically followed to complete the intersect:

1. A pair of radars are placed, one behind each gyro on either side.
2. The drilling surveyors on both sides stay in contact sharing their survey data as the bore progresses.
3. When they get within 30’ of the bits overlapping, one side will pull a joint of pipe to the top of the rig and wait for the opposite side to overlap their hole with the bit.
4. While the drilling side is progressing, the other side will monitor annular pressure (if annular pressure is being monitored) and watch for vibrations indicated on survey readouts.
5. If at this time the drilling side notices any changes to the push or rotation indicating they may be coming into the hole drilled from the opposite side, the side which is waiting will slowly push down and see if they bump into the other bit. If they do bump, the drilling superintendent and surveyors will then decide based on the angles at which the intersect occurred, the push and torque on the strings of pipe, and the distance from the intersect point to the ends of the hole, which side will push out of the ground. They will also decide, based on ground conditions how much space to keep between the bits as one side pulls back and the other pushes forward.
6. If the bits do no bump after the two holes are overlapped in a horizontal direction, the side which is not drilling forward will pull back drill stem and bit an appropriate distance so that the drilling side can drill far enough forward without the bits being overlapped until the side which is waiting can push down slowly while the other side monitors for vibrations until the radars are parallel to each other.
7. At this time the surveyors will take a radar survey. Based on the survey, the drilling superintendent and surveyors will determine the best option to drill from one side or the other until the holes are intersected. Usually, another radar survey will be taken in 1 to 3 drill pipes as the hole progresses to verify that the distance between the holes is matching what is expected based on the first set of data.

8. When the holes get close enough in a lateral and vertical direction that intersection is expected one side will pull back far enough that the drilling side can safely drill into the hole without causing damage to the tools. When the drilling superintendent and surveyor believe based on the pressures and survey data the holes are intersected, the other side will push down slowly until the bits are verified to have touched. Usually this is accomplished by pushing until either the push pressure rises above that in open hole, or the other side notices movement. Then one side will move a set distance and see if the other side can now push freely again.
9. When it is verified that the holes are intersected the drilling superintendent and surveyors will then decide based on the angles at which the intersect occurred, the push and torque on the strings of pipe, and the distance from the intersect point to the ends of the hole, which side will push out of the ground. They will also decide, based on ground conditions how much space to keep between the bits as one side pulls back and the other pushes forward. They will also decide, based on ground conditions how much space to keep between the bits as one side pulls back and the other pushes forward.
10. If the ground is soft, it can be necessary for both sides to bump the bits against each other and one side to push as the other side pulls back slowly maintaining contact with the bits to insure that the pushing side stays in the hole.

Pilot Hole Intersect Sketch



Data Request Number 7 Attachment

NPDSC Call Log

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Matthew Fischer
Phone number	(701) 328-4779
Company	North Dakota Public Service Commission
ERM Contact	Lauren Colwell
Phone number	(612) 359-5681
Date	2/13/2020
Time of Conversation	3:45pm
Reference	Abandoned Mine Locations near the North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called Mr. Fischer from the Abandoned Mine Lands Division of the Public Service Commission. I asked if Mr. Fischer could provide any additional information regarding the locations and/or boundaries of three abandoned surface and subsurface mines located in Williams and McKenzie counties for an environmental review of a proposed project.

I provided the names of the Quality Coal Mine in Williams County and the Skogheim Coal Mine and John Gustafson Mine in McKenzie County. Mr. Fischer indicated that the Quality Coal Mine location is based only on a USGS point location and there is no additional AML information regarding the mine. Mr. Fischer conducted an additional check of available aerial imagery and could not confirm the existence, location, or boundaries of the Quality Coal Mine (labeled as an underground mine in AML files).

Mr. Fischer looked at the Skogheim Coal Mine location in McKenzie County and was not able to confirm the presence, location, or boundaries of the surface coal mine based on available aerial imagery. Mr. Fischer indicated that there was no indication of a steep mine wall from a former surface coal mine that suggests that the mine is present at the point location.

Finally, Mr. Fischer evaluated the John Gustafson surface coal mine location in McKenzie County and confirmed that aerial imagery and high-low topography confirms that the point location represents the eastern extent of the mine. He asked how close the project will be to the mine, and I confirmed that the proposed corridor is located on the north side of the tributary to Tobacco Garden Creek. Mr. Fischer confirmed that based on available information, he would not have concerns about the mine extending toward the project area across the waterbody.

Mr. Fischer reiterated that he would not be too concerned about surface coal mines because the steep topography associated with historic surface mine walls would dictate the project route. I thanked Mr. Fischer for his time and ended the call.

Data Request Number 10 Attachment

NDPSC Call Log

ERM

1050 SW 6th Ave
Suite 1650
Portland, OR 97204

Telephone: +1 603 488 5282

www.erm.com

Call Log

Log of Telephone Conversation

Call To/From Whom	To: Matthew Fischer
Phone number	(701) 328-4779
Company	North Dakota Public Service Commission
ERM Contact	Lauren Colwell
Phone number	(612) 359-5681
Date	2/4/2020
Time of Conversation	2:30pm
Reference	North Bakken Expansion Project
Signature	

LOG OF CONVERSATION

I called the Public Service Commission and was directed to Mr. Fischer from the Abandoned Mine Lands Division. I asked if Mr. Fischer was aware of any resources, databases, or online records that would provide the locations of known coal seam fires in North Dakota for an environmental review of a proposed project. Mr. Fischer indicated that there were no databases or online resources available, and the last coal seam fire that the AML Division was involved with was over 10 years ago. Mr. Fischer indicated that the AML Division is no longer allowed to use federal funds to suppress coal seam fires unless the fires were associated directly with an abandoned mine. I asked if Mr. Fischer would provide any available summaries regarding coal seam fires from the older projects, and Mr. Fischer replied that he would.

Mr. Fischer emailed two summaries of coal seam fire projects from 2003 and 2007 in McKenzie and Slopes counties on February 4 at 3:55pm, and followed up with another coal seam fire project in McKenzie County from 2012 on February 5 at 8:07am. The 2003 and 2012 fires in McKenzie County were located in western North Dakota near Sathers Lake.

Mr. Fischer emailed again on February 5 at 9:30am and indicated that Oscar Knudston with the USDA, National Grasslands (701-842-8517) may know more about coal seam fires in the area.

Data Request Number 14 Attachment

Appendix M – Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project

APPENDIX M

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Approx. Total Acres [c]	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Montana-Dakota Utilities Transmission Line	Energy	Montana-Dakota Utilities is seeking to purchase a 50' wide strip of land from Stenehjem Holdings for the purpose of constructing an overhead electric transmission line in or near Watford City.	73	Early permitting phases	Unknown	Unknown	Williams	1	0	WW, VG, WF, TE, SO, LU, VS	(Watford City Planning and Zoning Commission, 2015)
Aurora Wind Electric Transmission Line	Energy	The Aurora Wind electric transmission line is an approximately 20-mile-long 345-kilovolt aboveground transmission line. It would extend from the proposed Aurora Wind Project substation in Williams County to the existing Basin Electric Power Cooperative Tande Substation located in Mountrail County.	364	PSC Application submitted	2Q 2019	4Q 2019	Mountrail, Williams	0	<1	WW, VG, WF, TE, CR, GS, N-con, N-op, SO, LU, RS, VS	(Burns & McDonnell, 2018a)
Aurora Wind Project	Energy	The Aurora Wind Project is a proposed wind energy development that would generate up to 300 megawatts of electricity at rated capacity. It would include construction of up to 121 wind turbines located on a 48,000 acre site approximately 5 miles northwest of Tioga.	48,000	Permit obtained	2Q 2019	4Q 2019	Williams, Mountrail	5.2	0	N-op, SO, LU, VS	(Burns & McDonnell, 2018b)

APPENDIX M (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Approx. Total Acres	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Demicks Lake Plant II	Energy	ONEOK is constructing the Demicks Lake Plant II, a 200-million cubic feet per day natural gas processing facility northeast of Watford City and about 14 miles east of the proposed Tioga-Elkhorn Creek pipeline MP 45.	Unknown	Under construction	Under construction	1Q 2020	McKenzie	14	0	AQ-op, SO	(ONEOK, 2019)
Nesson Gathering Gas Plant (LU-0036-19)	Energy	Nesson Gathering Inc. proposes to construct a natural gas gathering plant on 76 acres and located in the SE/4 of section 35, T154N R102W.	76	Permit obtained	Unknown	Unknown	Williams	36	0	AQ-op, SO	(Williams County Planning and Zoning Commission, 2019b)
Nesson Gathering Gas Plant (LU-0001-19)	Energy	Nesson Gathering Inc. proposes to construct a natural gas gathering plant on a 158 acre property, located NE/4 of Section 1, T153N R104W.	158	Permit obtained	Unknown	Unknown	Williams	40	0	AQ-op, SO	(Williams County Planning and Zoning Commission, 2019b)
Natural Gas Plant Expansion (LU-0191-18)	Energy	An existing gas plant located about 5 miles south-southwest of Tioga will expand to include additional laydown space. The property is 73 acres and located in NW/4 of Section 4.	73	Permit obtained	Unknown	Unknown	Williams	1	0	WW, VG, SO	(Williams County Planning and Zoning Commission, 2019c)
Kinder Morgan Roosevelt Gas Plant Expansion	Energy	The expansion would increase the capacity to process 150 million cubic feet per day; located about 7 miles south of Watford City and about 10 miles west of proposed project MP 37.	30	Approved by ND PSC 4Q 2018	Unknown	4Q 2019	McKenzie	10	0	WW, AQ-op, SO	(Hilland Partners, 2018a)

APPENDIX M (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Approx. Total Acres	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Arrow Bear Den Gas Processing Plant II	Energy	McKenzie Arrow Field Services, LLC proposes to construct the Arrow Bear Den Gas Processing Plant II, a 200mcfd capacity processing plant. The proposed site is within 1 mile of MP 59 of the proposed Tioga-Elkhorn Creek pipeline.	52	Under construction	3Q 2018	4Q 2019	McKenzie	Under 1	0	AQ-op, SO, LU, RS, VS	(Arrow Field Services, LLC, 2017)
Robinson Lake Gas Plant	Energy	The Robinson Lake Gas Plant Expansion is located 30 miles west of the proposed Tioga-Elkhorn Creek pipeline MP 30.	23	Under construction	3Q 2019	Unknown	Mountrail	30	0	AQ-op, SO	(Whiting Oil and Gas Corporation, 2013)
Demicks Lake - Cherry Creek Pipeline Project	Energy	WBI Energy's Demicks Lake - Cherry Creek Pipeline Project will carry gas from ONEOK Rockies Midstream LLC's Demicks Lake gas processing plant near Keene, North Dakota, to an interconnect with Northern Border Pipeline Co.'s mainline outside of Watford City, North Dakota. The proposed Tioga-Elkhorn Creek pipeline would cross the 12.2 mile pipeline near MP 47.	261	Completed	1Q 2019	3Q 2019	McKenzie	0	2	WW, VG, WF, TE, CR, SO, LU	(WBI Energy Transmission, Inc., 2018)
Wild Basin to Sax Valve Looped Pipeline	Energy	WBI Energy's Wild Basin to Sax Valve Looped Pipeline consists of approximately 2 miles of 20-inch-diameter natural gas pipeline in McKenzie County, North Dakota. Project falls under WBI Energy's Blanket Authorization.	42	Under Construction	4Q 2019	1Q 2020	McKenzie	1	0	WW, VG, WF, TE, CR, GS, SO, LU, VS	(WBI Energy Transmission, Inc. 2019)

APPENDIX M (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Approx. Total Acres	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Bakken Pipeline LLC	Energy	The ONEOK Bakken Pipeline Project is a 10.8-mile, 12-inch-diameter steel natural gas liquids pipeline that would originate at the Targa Badlands, LLC. Little Missouri Gas Processing Plant and terminate at an interconnection with ONEOK's Demicks Lake Plant. The Project would be located in McKenzie County, and is approximately 2 miles west of the proposed Tioga-Elkhorn Creek pipeline MP 60.	118	PSC Approved 2Q 2019	2Q 2019	4Q 2019	McKenzie, Richland	2	0	WW, VG, WF, TE, CR, GS, AR-con, N-con, SO	(ONEOK Bakken Pipeline, LLC, 2019)
Bakken Missouri River Crossing Project	Energy	Kinder Morgan's Bakken Missouri River Crossing Project plans to connect the existing Kinder Morgan Brogger compressor station located in Williams County, North Dakota, to a Kinder Morgan natural gas gathering system located in McKenzie County, North Dakota. The project will include the installation of approximately 10 miles of 20-inch diameter pipeline between the Brogger compressor station and Kinder Morgan natural gas gathering system.	38	Unknown	2Q 2019	Unknown	Williams	7	0	SO	(Hilland Partners, 2018b)

APPENDIX M (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Approx. Total Acres	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Gunslinger Federal and Gladstone Oil and Gas Well Pads	Energy	The Gunslinger Federal well pad would have 10 wells and be operated by Slawson. The Gladstone well pad would have seven wells and be operated by Burlington. The proposed project also includes construction of a new access road and associated oil and gas equipment and utilities. The well pads would be constructed on the Little Missouri National Grasslands (LMNG), which are part of the Dakota Prairie Grasslands (DPG) managed by the USFS in the Tobacco Gardens Area of McKenzie County, North Dakota.	14	Decision Notice and Finding of No Significant Impacts received	Unknown	Unknown	McKenzie	0	3	WW, VG, WF, CR, LU	(U.S. Forest Service, 2019)
Other Oil and Gas Well Developments (various)	Energy	Various Bureau of Land Management oil and gas developments including well pads, directional drill (horizontal) wells, and access roads are planned throughout the state.	Unknown	Analysis and document preparation	Unknown	Unknown	Various	Various, nearest is about 7 miles	0	WW, VG, AQ-con, SO	(U.S. Bureau of Land Management, 2019)
North Bakken Expansion Project Customer Tie-In Facilities	Energy	Customer tie-in facilities at the proposed transfer/receipt/delivery stations that are part of the proposed North Bakken Expansion Project.	Unknown	Under Development	2020-2021	2021	Various	0	Unknown	WW, VG, WF, CR, LU	N/A

APPENDIX M (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Approx. Total Acres	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Lower Sundhagen Scoria Mine Reclamation	Energy	Reclamation of scoria (clinker) pits in Williams County would require backfill of 6,300 cubic yards of soil and revegetation of 3 acres.	3	Decision and Appeal	Unknown	Unknown	Williams	5	0	N/A	(U.S. Bureau of Land Management, 2016)
Williston Basin International Airport	Commercial	The Williston Basin International Airport will have 2 runways and 110,000 square foot terminal building and will be located about 10 miles NW of Williston.	1,570	Under construction	2018	4Q 2019	Williams	33	0	AQ-op, N-op, SO	(KLJ, 2015)
Cenex Pipeline	Energy	Cenex Pipeline, LLC plans to construct a 10" refined fuels pipeline from Sidney, Montana, to Minot, North Dakota, to replace a portion of an existing 8-inch pipeline system, while adding throughput capacity. The proposed route is in the early permitting phase and would intersect the proposed Tioga-Elkhorn Creek pipeline near MP 10.	1,360	Unknown	Unknown	Unknown	Williams, Mountrail	0	<1	WW, VG, WF, CR, GS, N-con, SO, LU, RS, VS	(KLJ, 2017)
Water transmission line in Watford City	Utilities (Non Energy)	A proposed water transmission line in Watford City pipeline would furnish water to "The Crossings at Watford City" and to support the oil industry.	Unknown	Early permitting phases	Unknown	Unknown	McKenzie	2	0	WW, VG, WF, TE, CR, GS, AR-con, N-con, SO	(Watford City Planning and Zoning Commission, 2019)

APPENDIX M (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Approx. Total Acres	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Western Area Water Supply Project	Utilities (Non Energy)	The Western Area Water Supply Project (WAWSP) was developed to supply drinking water from the Missouri River supplemented with groundwater from the R&T Water Supply Commerce Authority (WSCA) to meet the municipal, rural, and industrial water needs for all or parts of McKenzie, Williams, Divide, Burke, and Mountrail Counties. Two of the development areas, East White Earth and System I Spring Creek, intersect the proposed Tioga-Elkhorn Creek pipeline near MP 61.9.	Unknown	Under construction	Under construction	Unknown	Mountrail, McKenzie	0	Unknown – Exact locations of projects are not known, only the development areas.	WW, VG, WF, TE, CR, GS, AR-con, N-con, SO, LU	(Western Area Water Supply Authority, 2019)
Route 9 Reconstruction	Transport-ation	USACE has issued a permit for reconstruction of Route 9 approximately 6 miles east of the proposed Tioga-Elkhorn Creek pipeline MP 6.	15	Permit issued by USACE 4Q 2018	Unknown	Unknown	Mountrail	6	0	WW, TE	(U.S. Army Corps of Engineers, 2018)
DOT Road Improvements - Red Mike Area to County Road 42	Transport-ation	Improvements are planned along ND 1804 from Red Mike Area to CR 42 (Epping Road). Improvements include increasing structural capacity, widening the shoulders, improving the road surface and installing a stop light.	183	Unknown	2020	2020	Williams	2	0	WW, VG, AQ-op, SO, VS	(North Dakota Department of Transportation, 2019a)

APPENDIX M (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Approx. Total Acres	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
US 85 - I-94 to Watford City Bypass	Transport-ation	The U.S. Highway 85 Project encompasses approximately 62 miles of roadway in Stark, Billings, and McKenzie counties, North Dakota. The project begins at the Interstate 94 (I-94) interchange and extends north to the Watford City Bypass (McKenzie County Road 30). The proposed action is to expand this segment of U.S. Highway 85 from a two-lane highway to a four-lane highway. The north end of the improvements are approximately 3 miles west of the south end of the proposed Tioga-Elkhorn pipeline.	842	Record of Decision 2Q 2019	2019	2020	McKenzie	3	0	WW, VG, WF, TE, AQ-op, SO, VS	(North Dakota Department of Transportatio n, 2019b)
Pine Ridge Development	Residential	The Pine Ridge Development would include curbs, gutters, paved streets, and the addition of single-family homes and additional duplexes and a four-plex in Tioga.	119	Unknown	Unknown	2019	Williams	1	0	WW, VG, WF, TE, CR, GS, N-con, SO, VS	(Landgrid, 2016)
Homestead at Watford City First Addition	Residential	Homestead at Watford City First Addition is a development of six single family homes in Watford City.	640	Unknown	Unknown	Unknown	McKenzie	5	0	VG, SO	(Homestead at Watford City, 2015)
Aspen Heights Condominiums	Residential	Aspen Heights Condominiums would include 48 new apartment units at 1000 South Pheasant Ridge Street.	Unknown	Early permitting phases	Unknown	Unknown	McKenzie	5	0	VG, SO	(Orange Property Management, 2019)

APPENDIX M (cont'd)

North Bakken Expansion Project
Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the North Bakken Expansion Project [a,b]

Project Name	Category	Project Description	Approx. Total Acres	Status	Construction Commences	Operation Commences	County(ies)	Distance from Project (miles)	Approximate Acres of Overlap	Resources with Potential for Cumulative Impacts	Citation
Elementary School	Government	McKenzie County School District is proposes to build a new elementary school in Watford City, in the Fox Hills Village Subdivision.	53	Rezoning process	Unknown	Unknown	McKenzie	3	0	WW, VG, CR, GS, N-con, VS	(McKenzie County, 2019)

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] The impacts of past actions are expressed as the baseline environmental conditions and are not included in this table, although recent past actions that continue to contribute to discernable impacts on a resource are included.

[b] A description of the geographic and temporal scope of the analysis for each resource is provided tables 1.10-1 and 1.10-2 of Resource Report 1.

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