Designated Trout Waters	Trout Stream Classification	Approximate Crossing Location (MP)	Project Component	Proposed Crossing/Bridge Method
Bad River	CLASS III	~~24.0~~24.2	Pipeline	HDD/None
UNT of Bad River	CLASS III	23.7*	Pipeline	DC/Bridge Type A
Gehrman Creek	CLASS II	~~28.5~~28.7	Access Road	N/A/Bridge Type A
		~~28.6~~28.8	Access Road	~~Timber mat bridge~~
UNT of Gehrman Creek	CLASS II	28.4*	Pipeline	N/A/Bridge Type A ~~Timber mat bridge~~ DC/ Bridge Type A
Camp Four Creek	CLASS II	~~29.6~~29.8	Pipeline	OC/DC/Bridge Type B
		~~29.7~~29.9	Access Road	N/A/Type B Bridge ~~Rail car bridge~~
Feldcher Creek [a]	CLASS II	~~31.6~~31.2	Pipeline	DC/Type A Bridge
		~~32.1~~32.2	Access Road	~~Wetland~~
UNT of Feldcher Creek	CLASS II	30.7*	Pipeline	N/A/Type A Bridge
		30.8*	Access Road	~~Timber mat bridge~~ DC/ Type A Bridge N/A/Type A Bridge
Tyler Forks	CLASS II	~~33.3~~33.4	Access Road	N/A/Type C Bridge
		~~33.9~~34.0	Pipeline	~~Rail car bridge~~ HDD/Type C Bridge
Vogue Creek	CLASS II	~~33.9~~34.3	Access Road	N/A/Type B Bridge
		~~34.1~~34.4	Access Road	N/A/Type A Bridge
		~~34.3~~	~~Access Road~~	~~Timber mat bridge~~ ~~Timber mat bridge~~ ~~TBD~~ [b]
Coil Creek	CLASS II	~~36.4~~36.6	Access Road	N/A/Type A Bridge
		~~36.7~~36.8 [b]	Access Road	N/A/Type B Bridge
		~~37.5~~	~~Access Road~~	~~Timber mat bridge~~ ~~TBD~~ [b] ~~Timber mat bridge~~
Potato River	CLASS II	~~37.7~~37.9	Pipeline	HDD/None
UNT of Potato River	CLASS II	~~37.7~~37.6*	Access Road	N/A/Bridge Type B ~~Rail car bridge~~
~~UNT of Vaughn Creek~~	~~CLASS II~~	~~38.4~~	~~Pipeline~~	~~OC/DC~~
		~~38.4~~	~~Pipeline~~	~~OC/DC~~
		~~38.5~~	~~Pipeline~~	~~OC/DC~~
		~~39.0~~	~~Access Road~~	~~Timber mat bridge~~
Vaughn Creek	CLASS II	~~39.5~~39.6	Pipeline	HDD/None
UNT of Vaughn Creek	CLASS II	38.6	Workspace	N/A/Bridge Type A
		~~39.6~~39.0*	Pipeline	~~OC/DC~~ ~~OC/DC~~DC/Bridge Type A

Notes:

* Crossing is of a perennial tributary of designated trout stream.

[a] Recent beaver activity on Feldcher Creek has impounded the waterbody, changing the feature from a stream to a wetland at the project crossing location. No defined channel was visible at the crossing location.~~Feldcher Creek was field delineated as a wetland; recent beaver activity in the project crossing location has impounded the waterbody changing the feature from a stream to a wetland. No defined channel was visible at the crossing location.~~

[b] Waterway delineated as a wetland. Pending Navigability Determination from WDNR.

MP – milepost; HDD – Horizontal Directional Drill; OC – Open-Cut; DC - Dry Crossing~~; TBD – To Be Determined~~

6.5.3.1 General Construction and Operation Impacts and Mitigation

Installation of the pipeline across streams may temporarily impact movement of fish upstream and downstream of crossing sites due to disturbances associated with construction. The physical disturbance of the streambed may temporarily displace adult fish and may dislodge other aquatic organisms. Some mortality of less mobile organisms, such as small fish and invertebrates, may occur within the trenching area. Enbridge will remove aquatic plants, woody debris, and boulders that provide instream fish habitat during trenching. Noise disturbances upstream and downstream of the sites will deter fish that may otherwise inhabit the area. These disturbances will be temporary and will not significantly affect fisheries resources.

Water Withdrawals

Water withdrawn from streams and rivers has potential to impact fisheries resources, which include entrainment of larvae and juvenile fish and invertebrates, impingement of fish and other aquatic organisms, and downstream impacts on water levels. As discussed in Section 6.4.1, during water appropriation, the intake hose will be equipped with a screen to prevent fish uptake and suspended off the stream bottom. Additionally, water withdrawn from cold- or warmwater streams has the potential to change temperature during uptake and hydrostatic testing, depending on ambient conditions (e.g., local temperature at time of use, duration of use, etc.). To prevent adverse effects on temperature-sensitive species found in cold- and warmwater streams, Enbridge will withdraw and discharged water in accordance with permit conditions.

Instream Construction

Construction activities within or adjacent to streams and adjacent wetlands could increase turbidity and sedimentation, alter stream channels or substrate composition, alter or remove cover, increase erosion, or degrade habitat. Impacts on fish could include displacement; changes in feeding or breeding behaviors; interference with passage; and stress, injury, or death. The open-cut crossing method will generate the greatest sediment and turbidity, but the elevated levels would be short term and occur over short distances downstream of the crossing. Fish migration through the waterbody during construction may be restricted, but due to the short timeframe for in-stream work, the effect on migrating fish will be minor. Dry crossing methods (e.g. dam and pump, flume) will reduce turbidity and sedimentation impacts on fisheries by isolating the trench area during construction. Temporary bridge placement and removal may also contribute to short-term turbidity increases. Increased sediment loads from open-cut, dry crossings, and bridge placement/removal may temporarily affect the more sensitive fish eggs, fish fry, and invertebrates inhabiting the downstream area. However, the suspended sediment levels will quickly attenuate over both time and distance and will not adversely affect resident fish populations or permanently alter existing habitat (McKinnon and Hnytka 1988). Enbridge will minimize instream disturbance to the extent practicable to allow suspended sediment levels to return to preconstruction levels upon completion of instream work.

Enbridge proposes to use the HDD crossing method at seven waterbody crossings which minimize potential streambed impacts (refer to Attachment H). While use of the HDD method will minimize impacts on fisheries and fish habitat within and adjacent to these waterbodies, there could be a risk of inadvertent surface releases of drilling fluid. An inadvertent release of drilling fluid into a stream will affect water quality and could smother fish eggs and degrade spawning habitat. Depending on the magnitude of drilling fluid loss and whether drilling fluids escape into the water column, sedimentation of substrates downstream from the release site could occur. If an inadvertent release occurs, Enbridge will implement the corrective action and cleanup measures outlined in the EPP (Attachment D filed on February 11, 2020) to minimize impacts on fishery resources.

Additionally, Enbridge will adhere to the WDNR-recommended timing restrictions for in-water work, as follows, unless otherwise permitted by the WDNR:

- Trout streams (and their perennial tributaries): no instream activity from September 15 through May 15.

- All other waterbodies: No instream activity from March 1 to June 15.

Enbridge anticipates construction will occur between February and August, which could overlap with fishery timing restrictions. Enbridge is requesting timing restriction waivers for bridge placement and removal at the waterbodies listed in Attachment H. A waiver of timing restrictions request form is included in Attachment P.

Streambank vegetation and structure, such as logs, rocks, and undercut banks, provide important fish habitat. Construction through waterbodies (except with HDD) will temporarily remove this habitat, which could displace fish to similar habitat upstream or downstream of the pipeline crossing. Displacement will result in increased competition for habitat and food sources that could affect fish health and survival. After construction, Enbridge will maintain an area over the pipeline in an herbaceous state to facilitate routine aerial inspections. Changes in the light and temperature characteristics of some streams may affect the behavioral patterns of fish, including spawning and feeding activities, at the pipeline crossing locations. The maintained streambanks, however, are not wide enough to have a significant impact on general temperature and light conditions of the affected streams.

Blasting may be required instream at some waterbodies (see Attachment H). Instream blasting would cause increased turbidity and downstream sedimentation and potentially harm fish directly in the blast zone. Sound-related behavioral effects could be caused by explosives used near fish-bearing waterbodies. Using the blasting method (in place of mechanical tools) for rock removal instream would allow the Project to minimize the amount of time required working in the stream and overall disturbance to the feature. Enbridge would implement measures in its Blasting Plan (Attachment E filed on February 11, 2020) to minimize instream impacts.

To minimize the potential for adverse impacts on the fisheries at river and stream crossings from increased turbidity and sedimentation, Enbridge will implement erosion and sediment control measures specified in the EPP (refer to Attachment D filed on February 11, 2020) and limit the duration of construction in waterbodies.

6.5.4 Threatened and Endangered Species

6.5.4.1 Federal Threatened and Endangered Resources

Enbridge initiated coordination on the Project with the Green Bay Ecological Services Field Office (Region 3) of the USFWS in September 2019. Additionally, Enbridge has been coordinating with the USACE. The USACE will initiate Section 7 informal consultation for the Project. Informal consultations with USACE, USFWS, and Enbridge will continue throughout 2020.

Six federally listed species have the potential to occur within the Project area in Ashland, Bayfield and Iron counties (refer to Table 5.5.4-1). None of these species are documented in the NHI data within one mile of the Project; however, the West Fireline [gray wolf] pack has been documented within 1.2 miles of the Project. Designated critical habitat for the piping plover also occurs in Ashland County along the shore of Lake Superior, approximately 6 miles north of the Project at its closest point. As part of formal consultation

with the USFWS, Enbridge will assess the potential effects for each species in the Project area by evaluating historic and present occurrences, availability of potential habitat within the Project area, the species' natural history, and results of desktop and field-based habitat assessments and surveys. Enbridge will consult with the USFWS regarding the effects of the proposed activities on each species and whether any species-specific surveys would be recommended in 2020.

Gray Wolf

There was one NHI occurrence of the gray wolf within 1.2 mile of the Project area. Given abundant prey and low rates of human-caused mortality, wolves can survive in proximity to human-dominated environments (Fuller 1989). Noise and/or physical disturbance would prompt wolves to vacate the area for a short period. Enbridge expects the Project's effects, if any, to be minor and temporary. Because the wolf is a mobile species, Enbridge anticipates that any wolf will move away from the local area of disturbance and may begin using the area again shortly after cessation of activities. Construction may temporarily impede wolf movement and displace individuals, but the impact on the wolf population would be minimal.

Canada Lynx

There were no NHI occurrences of Canada lynx within 1 mile of the Project area. Noise and/or physical disturbance would prompt lynx to vacate the area for a short period. Enbridge expects the Project's effects, if any, to be minor and temporary. Because the lynx is a mobile species, Enbridge anticipates that any lynx will move away from the local area of disturbance and may begin using the area again shortly after cessation of activities. Construction may temporarily impede lynx movement and displace individuals, but the impact on the lynx population would be minimal. Den sites are likely to be around downed logs and windfalls in the forest interior away from the cleared pipeline corridor.

Northern Long-Eared Bat

There were no NHI occurrences of northern long-eared bats within 1 mile of the Project area. Potential impacts on the northern long-eared bat may occur if clearing of forested habitat for construction workspace takes place during times of the year and at locations where individuals are breeding, foraging, raising pups, or roosting. Bats may be injured or killed if clearing of occupied trees occurs during the species' active window. Potential mitigation measures may include limiting tree clearing to the winter months when the species is in hibernation and limiting the amount of habitat cleared. There were no NHI occurrences of northern long-eared bats within 2 miles of the Project area.

Piping Plover

There were no NHI occurrences of piping plover within 1 mile of the Project area. The Project is within the interior of Ashland and Iron counties over 1.5 miles from the shoreline of Superior Bay. Impacts are not expected on piping plover form Project activities.

Rufa Red Knot

There were no NHI occurrences of rufa red knot within 1 mile of the Project area. Noise or presence of humans and equipment involved in the Project activities may cause migrating red knots to startle and flush from wetlands or fields or to avoid the area. Construction would temporarily affect some wetlands and cultivated fields that could temporarily affect the foraging and sheltering behaviors of individual migrating red knots.

Fassett's Locoweed

There were no NHI occurrences of Fassett's locoweed within 1 mile of the Project area, and Enbridge did not identify any Fassett's locoweed in the Project area during botanical field surveys. No impacts are expected on the Fassett's locoweed. If the species is identified during botanical surveys in 2020, Enbridge will consult with the USFWS.

6.5.4.2 State Threatened and Endangered Resources

A summary of state protected species surveys completed in 2020 is provided below. Survey reports are included in Attachment O.~~As per the NHI review described in section 5.5.4.2, there is one state endangered and one state threatened terrestrial species documented within 1 mile, and one state threatened aquatic species documented within 2 miles of the Project area.~~

Loggerhead Shrike

The NHI occurrence of the loggerhead shrike is less than one mile from the Project and is documented northwest of Minersville Township. Habitat cover within the project ROW consists of a combination of fallow and active agricultural/pasture land and forest edge. This cover type is suitable habitat for the loggerhead shrike, and the potential exists for the species to utilize this area for hunting and nesting. Noise or presence of humans and equipment involved in the Project activities may cause loggerhead shrikes to startle and flush from the forest or fields or to avoid the area. Construction would temporarily affect some cultivated fields that could temporarily affect the foraging and sheltering behaviors of individual shrikes. Some forested areas will be permanently affected by operation of the pipeline (e.g., routine maintenance mowing and clearing of vegetation).

In 2020, surveys were conducted for the loggerhead shrike. The *2020 Loggerhead Shrike Surveys Report* is included in Attachment O. The surveys were conducted in accordance with the guidance provided by the WDNR and survey methods approved by the WDNR. Surveys were concentrated along the proposed pipeline route as well as proposed access roads in potential habitat areas. The Project area in these locations comprised four habitat types, including agricultural fields, old field, mesic hardwood forest, and two-track trails. Each of these habitat types within the survey area was surveyed for the presence of the loggerhead shrike. Surveys for the loggerhead shrike were conducted on May 15–16; May 26–28; and June 11–12, 2020 and did not result in any loggerhead shrike nest or individual observations.

Wood Turtle

There are seven NHI occurrences of the wood turtle within 2 miles of the Project. The Project will cross through areas of suitable wood turtle habitat, and may impact the species. Potential impacts on the wood turtle may occur if clearing of suitable habitat for construction workspace takes place during times of the year and at locations where individuals are overwintering, nesting, or foraging. Turtles may be injured or killed during construction if clearing occurs during the species' active window (March 15 – October 31). For disturbance occurring within suitable upland habitat during the active period, impacts can be avoided by installing exclusion fencing during the preceding non-active period. Work within overwintering habitat should only occur from May 1 to September 30 to minimize impacts. Potential mitigation measures may include limiting clearing to the winter months when the species is in hibernation and limiting the amount of habitat cleared.

Enbridge conducted preliminary habitat assessments concurrently with the wetland and waterbody field survey in late August through October 2019. In 2020, habitat surveys were conducted for the wood turtle.

The *2020 Wood Turtle Habitat Surveys Report* is included in Attachment O. The surveys were conducted in accordance with the guidance provided by the WDNR. Surveys were conducted to assess the presence of suitable wood turtle habitat within areas of suitable waterbody crossings identified by the ERR within the proposed project area. Any incidental wood turtle observations encountered during habitat surveys were documented with spatial points in addition to digital photos of the individuals. Wood turtle habitat surveys resulted in the documentation of 9 suitable waterbody crossings, 17 suitable nesting habitats, and 3 incidental observations of wood turtles.~~Additional surveys will be completed in 2020, pending continued USFWS and WDNR coordination. Enbridge submitted an Environmental Review Request to WDNR on January 15, 2020. WDNR's response to that review is included in Attachment I.~~

Sensitive Plant Species

Biologists observed three different sensitive plant species within the 2019 survey area:

- Butternut (*Juglans cinerea*) was reported northwest of Mellen Township on September 9, 2019. This tree is listed as Special Concern in Wisconsin. Butternut is a wetland-associated tree found in mesic hardwood forests and riparian hardwood forests. The tree was located approximately 0.4 mile outside of the Project area; therefore will not be affected by Project activities.

- Braun's holly-fern was reported northeast of Mellen Township on October 1, 2019 by field survey teams. This fern is listed as Threatened in Wisconsin. It occurs in several counties in northern Wisconsin, including Ashland County. Found in rich, hardwood or mixed conifer-hardwood forests, Braun's holly-fern is typically associated with ravine bottoms. The state-listed threatened Braun's holly-fern was also documented within 1 mile of the Project per the NHI review, but will not be impacted by the Project as it is outside of the Project workspace.

- Arrow leaved sweet coltsfoot (state-listed as Threatened) was identified during the field surveys on land owned by Iron County (e.g., public land) north northeast of Rouse Township on September 20, 2019. This wildflower is listed as Threatened in Wisconsin. It occurs in several counties in northern Wisconsin, including Iron County. Arrowleaf sweet coltsfoot is found in cool wetlands. A proposed access road currently overlaps with the population of arrowleaf sweet coltsfoot that was identified during the field survey. Enbridge will modify the access to avoid impacting the plant population at this location.

In 2020, surveys were conducted for the Braun's holly fern. The *2020 Braun's Holly Fern Survey Report* is included in Attachment O. The surveys were conducted in accordance with guidance provided by the WDNR and survey methods approved by the WDNR. Surveys for the Braun's holly fern occurred in areas determined suitable through the WDNR ERR. Specifically, presence/absence surveys were conducted on suitable woodland habitat on public lands within 1.0 mile from a WNDR NHI element occurrence for this species. Surveys were conducted within the Project's environmental survey corridor and associated Project access roads (buffered) on public lands. These efforts did not result in any Braun's holly fern observations. One incidental detection of the Braun's holly fern was documented during wetland and waterbody surveys on public lands. A single individual was observed growing in a transition between a mesic hardwood forest and a black ash seepage swamp. The single observance location is outside the proposed Project workspace. Enbridge will continue to work with the WDNR on the consultation for this species.

Species of Greatest Conservation Need and Priority Habitats

The WWAP's Implementation Plan (WDNR 2008) also identifies Natural Communities that are a priority for SGCNs. According to the NHI, the terrestrial Natural Community (Boreal Forest; refer to Section

6.5.1.2) found within 1 mile of the Project is a high priority for SGCN habitat in the Superior Coastal Plain because this Ecological Landscape presents a major opportunity for sustaining these communities (WDNR 2008). This Natural Community is 0.5 mile from the project workspace at its closest point; therefore would not be affected by project activities.

6.5.4.3 General Construction and Operation Impacts and Mitigation

To the greatest extent practicable, Enbridge will adhere to the following species-specific timing restrictions in suitable habitat:

- Northern long-eared bat (pending discussions with USFWS): no tree clearing June 1 through July 31
- Species (only in and adjacent to suitable habitat)
    - Loggerhead shrike: avoid activities April 20 to August 1
    - Peregrine falcon: avoid activities March 15 to July 10
    - Spruce grouse: avoid activities May 1 to July 1
    - Upland sandpiper: avoid activities April 30 to July 25
    - Wood turtle: avoid activities March 15 to October 31

Enbridge anticipates abiding by the recommended timing restrictions described above for bird species during Project construction in and adjacent to suitable habitat. As adherence to timing windows is largely driven by receipt of project approvals, in the event the timing restrictions cannot be observed and clearing must occur, surveys for the species will be conducted prior to construction, and Enbridge would apply for an Incidental Take Authorization. Enbridge would implement conservation measures as recommended in WDNR's Broad Incidental Take Permit for wood turtles in areas of suitable habitat, including:

- Primary overwintering, courtship, basking, and foraging habitat occurs in moderate- to fast-flowing, clear streams or rivers associated with forested riparian corridors for (WDNR, 2013b). Typically, these waterways possess a sand, gravel, or cobble substrate with limited silt or muck.

- Nesting occurs in well-drained, open or sparsely vegetated sandy soils, typically within 200 feet of suitable aquatic habitat. Nesting habitat includes native dry prairies, moderately sloughing sand banks, sandbars, agricultural fields, or areas of disturbed sandy soils that support no or sparse ground layer vegetation (WDNR, 2013b).

Enbridge will continue to consult with the USFWS and the WDNR on the status of mitigation strategies for protected species. Enbridge will continue to work with the WDNR on the consultation for the wood turtle, Braun's holly fern, and Arrowleaf sweet coltsfoot.~~If Enbridge identifies any of these species in the construction right-of-way during surveys, they will work with these agencies to develop mitigation plans to avoid or minimize impacts on the potentially affected species.~~

6.6 LAND USE AND PUBLIC LANDS

The total land requirements for the Project generally include a 120-foot-wide construction right-of-way, with ATWS at feature crossings (e.g., roads, waterbodies). Table 6.6-1 presents the land use classification impacts associated with the Project. As shown in Table 6.6-1, forestland, grassland, and agriculture are the most prevalent land uses along the route, followed by wetlands, urban/developed land, barren land, and finally open water areas.

Table 6.6-1: Land Use Types Affected by Construction and Operation of the Project [a, b] (in acres)

	Forestland		Grassland		Agriculture		Wetland [c]		Urban/ Developed		Barren		Open Water		Total	
Facility Type	**Total Temp**	**Total Perm**	**Total Temp**	**Total Perm**	**Total Temp**	**Total Perm**	**Total Temp**	**Total Perm**	**Total Temp**	**Total Perm**	**Total Temp**	**Total Perm**	**Total Temp**	**Total Perm**	**Total Temp**	**Total Perm**
Pipeline Facilities [c]																
ATWS	~~63.5~~81.3	0.0	~~29.8~~63.7	0.0	~~33.3~~53.4	0.0	~~5.4~~10.0	0.0	~~2.1~~3.1	0.0	~~0.2~~0.3	0.0	~~<0.1~~0.0	0.0	~~134.4~~211.8	0.0
Temporary Workspace	~~196.9~~140.0	0.0	~~58.8~~52.1	0.0	~~47.1~~43.8	0.0	~~16.4~~35.2	0.0	~~5.1~~3.1	0.0	~~0.5~~0.4	0.0	~~0.1~~0.0	0.0	~~324.9~~274.8	0.0
Permanent Right-of-Way [d, e]	~~150.7~~0.0	~~150.7~~118.0	~~44.0~~39.6	0.0	~~34.6~~34.1	0.0	~~15.1~~43.0 [d]	~~e~~0.0	~~3.4~~0.0	~~3.4~~3.1	~~0.5~~0.4	~~0.5~~0.0	~~0.2~~ [d]0.5	~~e~~0.0	~~248.5~~117.6	~~154.6~~ [e]121.1
Pipeline Facilities Total	**~~411.12~~21.3**	**~~150.71~~18.0**	**~~132.61~~55.4**	**0.0**	**~~115~~13 1.3**	**0.0**	**~~36.9~~ [d]88.2**	**~~e~~0.0**	**~~10.66.~~2**	**~~3.4~~3.1**	**~~1.2~~1.1**	**~~0.5~~0.0**	**~~0.4~~ [d]0.5**	**~~e~~0.0**	**~~707.860~~4.2**	**~~154.6~~ [e]121.1**
Valves	~~0.1~~0.6	0.1	~~0.4~~7.4	~~0.4~~0.5	~~0.1~~1.7	~~0.1~~0.3	~~0.0~~0.3	0.0	~~0.0~~0.4	0.0	0.0	0.0	0.0	0.0	~~0.6~~10.4	~~0.6~~0.9
Access Roads	~~107.8~~75.7	~~0.0~~1.5	~~14.9~~10.5	~~0.7~~0.8	~~11.5~~8.6	~~0.2~~0.7	~~9.6~~14.3	~~e~~<0.1	~~6.2~~7.7	~~0.2~~0.4	~~0.6~~0.4	0.0	~~0.0~~0.1	0.0	~~150.6~~117.2	~~1.1~~ [e]3.4
Pipe Yards	~~5.0~~0.8	0.0	~~54.2~~9.1	0.0	~~69.6~~1.5	0.0	~~4.0~~0.3	0.0	~~4.6~~29.0	0.0	~~0.0~~17.4	0.0	0.0	0.0	~~137.4~~57.9	0.0
PROJECT TOTAL	**~~524~~298.4**	**~~150.8~~119.6**	**~~202.1~~182.4**	**~~1.1~~1.3**	**~~196.2~~143.1**	**~~0.3~~1.0**	**~~50.5~~103.1**	~~e~~<0.1	**~~21.4~~43.3**	**~~3.6~~3.5**	**~~1.8~~18.9**	**~~0.5~~0.0**	**~~0~~0.6**	~~e~~0.0	**~~996~~789.7**	~~158.1~~125.4

Notes:

[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] The land temporarily affected during construction includes both temporary construction and long-term/permanent operational activities and impacts.

[c] Wiscland 2.0 data for wetlands and open water is for general characterization purposes only and is not used for assessing Project-specific impacts. Wiscland 2.0 data was not used to estimate permanent wetland and open water impacts. These impacts were assessed based on site-specific data.~~Pipeline facilities include the temporary workspace, ATWS, and permanent right-of-way.~~

[d] The permanent right-of-way includes cathodic protection, HDD paths, and permanent easement.~~Wiscland 2.0 data for wetlands and open water is for general characterization purposes only and is not used for assessing Project-specific impacts.~~

[e] Impacts are considered temporary within the permanent right-of-way where land use will not change due to operational maintenance, and permanent where land use type will change (i.e., forested areas will be maintained as herbaceous for operational safety and inspection).~~Wiscland 2.0 data was not used to estimate permanent wetland and open water impacts. These impacts were assessed based on site-specific data.~~

ATWS = additional temporary workspace; Temp = Temporary Impact; Perm = Permanent Impact

6.6.1 Forestland

Forestland impacted by the Project includes coniferous forest, broad-leaved deciduous forest, and mixed deciduous/coniferous forest. The majority of the forestland crossed by the Project is privately owned, and approximately 7.4 miles of forestland owned by Iron County will be crossed between MP 30.~~4~~ 6 and ~~37.8~~38.0. One area crossed by the Project is currently enrolled in the MFL Program. Enbridge will work with affected landowners to determine if impacts to MFL lands will occur because of construction activities and will compensate them accordingly if their land is affected.

The majority of forestland impacts are associated with clearing activities within the right-of-way and associated temporary workspaces, as well as access roads. Enbridge will minimize forest clearing where possible. Enbridge will minimize the potential for erosion and other effects that may be associated with clearing through the implementation of its EPP (refer to Attachment D filed on February 11, 2020). Following construction, Enbridge will restore and reseed forestland located within the new permanent easement as indicated in the Revegetation section of its EPP (refer to Attachment D filed on February 11, 2020). Enbridge maintains its permanent easement on a regular basis to prohibit the growth of woody vegetation over its pipelines for safety and pipeline integrity issues. Enbridge will allow forestland located within temporary work areas to revert to its preconstruction land use. In addition, there will be permanent impacts to ~~0.1~~1.6 acre of forestland associated with valve site construction and operation, including associated access roads.

6.6.2 Grassland

Construction of the Project will temporarily impact both forage and idle grasslands. Following construction, Enbridge will reseed impacted grasslands in accordance with the EPP (Attachment D filed on February 11, 2020) and/or specific landowner requests and return as near to preconstruction conditions as practicable. Additional detail regarding revegetation procedures is provided in Section 4.3.14. In addition, there will be permanent impacts to 1.~~1~~ 3 acres of grassland associated with valve site construction and operation, including associated access roads.

6.6.3 Agriculture

The Project will temporarily affect agricultural land used for row crop production, including areas designated as Prime Farmland. Impacts to prime farmland are discussed in Section 6.2.2.1, and the socioeconomic impacts to agricultural activities in the Project area are discussed in Section 6.7.1.4.

Enbridge reviewed information provided on the DATCP website and confirmed there are no certified organic farms crossed by the Project. One organic farm was identified approximately 0.5 mile west of the proposed route at MP 3.0. Organic farmers are not required to register with the DATCP. Farms exempt from the requirement to certify and farms in transition to organic were not available.

The Project will cross approximately 31.3 miles of FPAs and approximately 13.~~6~~ 8 miles of 1 AEA, the Fields, Waters and Woods AEA. In addition, the Project will cross ~~twelve~~ five tracts with DATCP Soil and Water Resource Management Grant Program Agreements and ~~eight~~ five tracts with Farmland Preservation Program Agreements. Enbridge will continue to work with affected landowners and will plan construction activities accordingly.

The Project will be constructed in accordance with the ~~APP~~ EPP (see Attachment ~~A~~D filed on February 11, 2020). The ~~APP~~ EPP identifies measures that Enbridge will implement to ~~avoid, mitigate, and provide compensation for~~minimize impacts on agricultural ~~impacts~~ lands associated with the Project. As a result,

Enbridge does not anticipate long-term effects on agricultural lands associated with this Project, with the exception of minor (~~0.3~~1.0 acre) permanent impacts associated with construction and operation of valve sites, and associated access roads.

6.6.4 Wetlands and Open Water

Approximately ~~50.5~~103 acres of wetlands and 0.~~4~~ 6 acres of open water are mapped within the Project footprint ~~using the Wiscland 2.0 data. The Wiscland 2.0 data is for general characterization purposes only and is not used for assessing Project-specific impacts.~~ Section 6.4 provides more detailed information regarding wetland and waterbody impacts and mitigation based on Project-specific delineations and permitting requirements.

6.6.5 Urban/Developed Land

The Project will temporarily affect urban/developed land classified as low and high intensity. Based on examination of aerial photographs, there are approximately 129 residences within 300 feet of the route; of these, 10 are within 25 feet of the route. Enbridge will restore urban/developed lands as close as possible to preconstruction conditions and in accordance with landowner instructions. Enbridge will continue to work with affected landowners and will plan construction and restoration activities accordingly.

6.6.6 Barren Land

The Project will temporarily impact approximately ~~1.8~~18.9 acres of barren land during construction. Barren land is classified as land with less than one-third vegetation cover. Based on review of aerial photography, the barren land areas impacted by the Project appears to be ATV or other off-road recreational vehicle use areas and areas in industrial/commercial use. Enbridge will restore affected barren land as close as possible to preconstruction conditions and in accordance with the EPP (refer to Attachment D filed on February 11, 2020) and landowner requirements.

6.6.7 Special Land Uses

6.6.7.1 Recreational Uses

There will be two crossings of the North Country NST, the first near MP 24.~~1~~ 3 and the second near MP ~~34.9~~35.1. Enbridge will make efforts to alert recreational users of the North Country NST to the anticipated time and duration of construction activities. In addition, the Project intersects a number of ATV, county, and snowmobile trails. Enbridge will post appropriate warning signs during construction activities and will restore trails to preconstruction conditions. They will also work with landowners and managing entities to maintain trail access and minimize disruptions

6.6.7.2 Visual Resources

Pipeline construction will affect visual resources along the parts of the route in forested areas that are visible from residences, roads, and trails. The Project will not affect scenic or rustic roads, and the impact on motorists will be brief and limited to the time it takes to pass the right-of-way. North Country NST, ATV, county and snowmobile trail users will experience visual impacts. Visual impacts will be minimized to the extent practicable, and the majority of visual impacts will be limited to periods of active construction. Visual impacts include primarily the time it takes to install the pipeline and restore the right-of-way. The visual impact of construction will improve quickly after grass and other vegetation becomes established.

Limited permanent visual impacts will occur at the two crossings of the North Country NST. However, the North Country NST near the MP 24.~~1~~ 3 crossing is located parallel and in close proximity to an existing road that interrupts the forested landscape. Similarly, the North Country NST near the MP ~~34.9~~35.1 crossing is collocated with an existing road. Limited long-term visual impacts associated with these crossings will result from maintenance of the permanent right-of-way. Given the locations of the North Country NST crossings near and along existing roads, the Project's visual impacts will be minimal.

6.7 SOCIOECONOMICS

Construction and operation of the Project will result in temporary and long-term socioeconomic impacts in Ashland, Bayfield, and Iron counties. During construction, there will be temporary increases in local population, demand for short-term housing, use of transportation systems, and expenditures in local economies for goods and services. Construction will also result in temporary impacts on agricultural production. Long-term impacts associated with the Project include payment of local property and/or ad valorem taxes and the creation of temporary jobs for pipeline operation and maintenance activities.

6.7.1 General Construction and Operation Impacts and Mitigation

6.7.1.1 Construction Schedule and Workforce

Construction activities will occur over approximately ~~10~~ 9 months. Through its construction contractors and subcontractors, Enbridge will hire qualified local workers, where applicable. Construction personnel hired beyond the Project area would augment the local workforce and likely consist of supervisors, environmental inspectors, and those highly skilled in the mechanical, electrical, and instrumentation/control trades. Nonlocal workers would relocate to the Project area for the duration of construction. Rather than concentrate at a single work site, workers generally will disperse along the length of the construction route.

Local workers will commute from their residences to the Project work sites on a daily basis. Nonlocal workers will reside for short periods near the Project route. As a result, incremental demand from nonlocal workers for public services will be small.

Local communities will benefit from income paid to construction workers. Historically, construction workers spend a portion of their earnings locally, thereby providing significant revenues to local communities. Local and nonlocal workers will use hospitality services, such as restaurants, grocery stores, and gasoline stations. Nonlocal workers will require temporary housing and hospitality services. Additionally, construction contractors and subcontractors could purchase materials from local vendors, and lease land and equipment for temporary field offices and material storage areas.

Local communities also will benefit from periodic employment created by pipeline operation and maintenance activities. Workers for these activities could be local or nonlocal. Similar to the construction phase, communities will benefit from the monies temporary workers likely will spend on local hospitality services and temporary housing. Additionally, construction contractors or Enbridge employees could purchase materials from local vendors.

6.7.1.2 Housing

Short-term impacts on housing might result from workers seeking accommodations near the construction spreads. Enbridge does not expect these impacts to be significant and anticipates that construction crews will be able to find temporary housing in the Project area. Local workers will commute from their residences, and nonlocal workers will use hotels, motels, and apartments or bring their own mobile housing units (such as travel trailers or campers) and stay at local campgrounds. Enbridge does not expect rental

rates to rise significantly because of the Project, as the construction timeline is relatively short and workers will distribute across construction spreads.

6.7.1.3 Transportation

The Project will have four railroad crossings, a number of local, county, and state road crossings, and one crossing of a US highway and may result in short-term impacts on local transportation systems associated with pipeline crossings, movement of construction equipment and material, and daily commuting of the construction workforce to work sites. Enbridge does not expect these impacts to be significant.

Enbridge will typically construct the pipeline crossing paved roadways and active railroads using trenchless methods such as boring or HDDs. During this activity, road surfaces and rails are left intact and usable without closing them thereby avoiding disruptions to traffic. Enbridge will install the pipeline across unpaved roadways and inactive railroads by a trenchless method or using the open-cut method. The latter will temporarily disrupt traffic as a trench is created across the road/rail to install the pipe.

To minimize traffic delays at open-cut crossings, Enbridge will establish traffic detours before excavating the roadbed. If no reasonable detours are feasible, Enbridge will maintain at least one traffic lane of the road except for brief periods when road closure is essential to install the pipeline. Enbridge will minimize the duration of open-cut crossings, and in most cases, complete these road crossings in one day or less. Enbridge will notify local residents prior to road closures. Additionally, Enbridge will attempt to avoid closing roads during peak traffic hours.

To maintain safe conditions, Enbridge will direct its construction contractors to adhere to local weight restrictions and limitations for its construction vehicles, and to remove incidental soil from the road surface that results from construction equipment crossings. Additionally, the Contractor will use mats or other appropriate measures to prevent damage to the road surface when construction equipment needs to move across paved roads.

Truck traffic associated with transporting pipe, as well as other construction-related travel associated with the Project, might increase the workload of local authorities to assist with traffic control. Local authorities also might need to assist with short-term detours at pipeline road crossings or delays in traffic flow from large, slow-moving vehicles. Enbridge does not anticipate these Project-related demands on local authorities will be significant.

The movement of construction personnel, equipment, and materials from contractor and pipe storage yards to the construction work area will result in additional short-term impacts on the local transportation system. Enbridge anticipates several construction-related trips will occur each day to and from the job site. Traffic flow should remain consistent throughout the construction period, though typically will peak during early morning and evening hours. Construction-related activities will not disrupt the normal flow of travel, though Enbridge anticipates road congestion will increase during peak travel hours.

Construction workers commuting to and from work sites on a daily basis could cause incremental road congestion; however, Enbridge does not anticipate notable rush-hour increases due to the generally rural location of the Project. With pipeline construction generally occurring during daylight hours, most workers will also commute during off-peak hours (i.e., early morning and evening). Additionally, construction workers typically will leave their personal vehicles at contractor yards and participate in ride shares to work sites; this will help reduce road congestion. Enbridge's contractor may also bus contractor personnel from yards and other central locations to the construction right-of-way to minimize the number of personal vehicles accessing the right of way.

6.7.1.4 Agriculture and Timber Production

Construction will affect agricultural land, including row crop production and one area currently enrolled in the MFL. Enbridge will compensate landowners for agriculture-related losses according to negotiated agreements. Enbridge will construct the Project in accordance with the ~~APP~~ EPP (see Attachment ~~A~~D filed on February 11, 2020). The ~~APP~~ EPP identifies measures that Enbridge will implement to ~~avoid, mitigate, and provide compensation~~minimize impacts on ~~for~~ agricultural ~~impacts~~ lands associated with the Project. As a result, Enbridge does not anticipate long-term effects on agriculture associated with this Project.

Woody vegetation removed during construction will be processed in various ways; in all cases the landowner has first preference as to the disposition of removed woody vegetation. Should the landowner have no preference, Enbridge will allow its contractor to decide the disposition of timber at its discretion; this may include chipping, grinding, burning, selling, and/or hauling offsite to an approved disposal facility. Enbridge will allow burning only where the contractor acquires all applicable permits and approvals (e.g., agency and landowner) and in accordance with the EPP and all Federal, state, and local regulations.

6.7.1.5 Tax Revenues

Long-term economic benefits associated with operation of the pipeline include increased tax revenues from the Project at the state level in the form of property and/or ad valorem taxes.

6.8 CULTURAL RESOURCES

6.8.1 Environmental Review of Impacts on Historic Sites

Enbridge reviewed the WHS list of state sites, which did not identify any state historic places within 1.0 mile of the Project corridor. A review of the properties listed on the NRHP in Ashland and Iron Counties, Wisconsin did not identify any nationally listed historic properties within 1.0 mile of the Project corridor.

6.8.2 Previously Recorded Archaeological and Historic Sites

Enbridge reviewed existing site file data maintained by the SHPO at the WHS to identify previously recorded archaeological and historical resources within the Project survey corridor, and to identify any cultural resources investigations conducted within the same area. Based on the site file data review, no previously recorded archaeological sites are present within 1.0 mile of the Project area. The Ashland County Poor Farm (BAS-0041) has been plotted within the Project area; however, no evidence of a cemetery, burial feature, or historic artifacts was noted during the Phase I survey in 2019. Enbridge conducted additional surveys in 2020 which~~.~~ identified cemetery features within the Wisconsin SHPO defined boundary and also outside of the Wisconsin SHPO defined boundary, which necessitated expansion of the Wisconsin SHPO defined boundary for the site. Although the site lies within an area surveyed for the Project, the centerline and workspaces have been shifted to avoid any impacts to the cemetery.

6.8.3 Previously Conducted Investigations

Enbridge also reviewed the SHPO site files to determine what cultural resources investigations occurred within the Project survey corridor. The file search did not identify any previous Phase I surveys conducted within the Project area.

6.8.4 Phase I Survey Approach

Enbridge ~~is conducting a~~has completed Phase I surveys to comply with state and federal guidelines, and assist in planning for the Project. Professional archaeologists and architectural historians employed by ERM and ERM's sub-consultants SEARCH, Inc., and Gray & Pape conducted the Phase I survey. ERM prepared a comprehensive report of the findings in accordance with the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716), the *Guide to Public Archaeology in Wisconsin* (Dudzik et al., 2012) , and the *Survey Manuel for Wisconsin's Buildings, Structures, and Landscapes (WDHP n.d.)*. ERM obtained Wisconsin Public Lands Field Archaeological Permits for work performed on non-federal public lands subject to requirements of Wisconsin Statute 44.47. Enbridge has submitted ERM's technical report documenting the survey and results to the WDNR and USACE separately.

ERM and its sub-consultants performed archaeological Phase I survey on 29.6 miles (72 percent) of the Projects' centerline and 27.8 miles (68 percent) of access roads between September and November 2019. ERM recorded 22 archaeological sites and two isolated finds during the survey. ERM recommends 18 of the sites and both isolated finds not eligible for inclusion in the NRHP and four sites that require additional information before a recommendation can be made. The four sites that require additional information (47AS0417, 47AS0423, 47AS0428, and 47IR0052) include one rock wall, one rock pile (possible cairn), a historic mine, and a historic foundation with possible associated grave. ERM recorded 18 historic structures and one trail (North Country National Scenic Trail) within the Project area. ERM recommends 17 historic structures not eligible for inclusion in the NRHP; one structure (HS-DP-01) and the trail require more information before a recommendation can be made.

Enbridge has prepared an addendum archaeological survey report covering the results of the 2020 surveys, which is included in Attachment J-1 in the Supplemental Application Information. Additionally, Enbridge has completed a Traditional Cultural Property survey of the proposed Project. This report is included in Attachment M in the Supplemental Application Information.~~Enbridge will complete survey throughout the Project area in 2020.~~

~~Enbridge is also conducting a TCR survey and interviews with citizens of tribal nations to identify TCPs that may be considered eligible under NRHP and other areas that may have historical and cultural significance. Interviews with tribal citizens and associated field surveys to identify and record TCRs will be completed in 2020.~~

6.8.5 Cultural Resource Impacts and Mitigation

The preferred method of treatment for identified cultural resources is avoidance. In the event that Enbridge cannot avoid a historic property, they will consult with the USACE, who in turn will consult with WHS, and Native American Tribes, as applicable, depending on the jurisdiction of the location and the resource, to mitigate adverse effects and implement appropriate treatment plans.

In the event that an unrecorded cultural site is uncovered during construction, Enbridge developed an Unanticipated Discoveries Plan (refer to Attachment B filed on February 11, 2020) for use during all Project construction activities. The Unanticipated Discoveries Plan describes the actions to take in the event that Enbridge discovers a previously unrecorded cultural resources site during construction activities. The Plan directs the Construction Contractor and the Lead EI to stop activity and protect the find, then notify Enbridge. Enbridge will then contact the appropriate expert or authority.

7 SECONDARY AND CUMULATIVE IMPACTS

7.1 ENBRIDGE PIPELINE SYSTEM HISTORY

In Wisconsin, Enbridge operates ten pipelines: Line 1, Line 2, Line 3, Line 4, Line 5, Line 6A, Line 13 (Southern Lights Pipeline), Line 14, Line 61, and Line 67 (Alberta Clipper Pipeline). Of these, only Line 5 crosses Ashland, Bayfield, and Iron Counties. Line 1, Line 2, Line 3, Line 4, and Line 67 enter Wisconsin from Carlton County, Minnesota and terminate at the Superior Terminal. Line 6A, Line 13, Line 14, and Line 61 generally follow a similar route across Wisconsin between Superior and the southeastern border with Illinois. None of the other Enbridge pipelines in Wisconsin are geographically collocated with Line 5 in the Project area. Figure 7.1-1 shows these existing Enbridge pipeline corridors.

7.2 OTHER MAJOR PROJECTS IN THE REGION

NR 150.03(4) defines "'Cumulative effects' means compounding effects resulting from repeated or other proximal actions, activities or projects." Cumulative impacts represent the incremental effects of a proposed action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over a given period.

The purpose of this analysis is to identify and describe cumulative impacts that would potentially result from implementation of the Project. After identification of potential cumulative impacts, cumulative impacts analyses are also used to modify projects where impacts are avoidable, to determine if additional or more appropriate mitigation is necessary, and to include effective monitoring for any impacts of concern. This cumulative impacts analysis uses an approach consistent with the methodology set forth in relevant guidance (CEQ 1997; CEQ 2005; USEPA 1999). Under these guidelines, inclusion of other potential future actions includes identifying commonalities between the potential impacts that would result from the Project and the impacts likely associated with those other potential future projects. In order to avoid unnecessary discussions of insignificant impacts and projects and to adequately address and accomplish the purposes of this analysis, Enbridge utilized the following guidelines to conduct the cumulative impact analysis for the proposed Project:

- Other projects must impact a resource category potentially affected by the proposed Project. For the most part, these other projects are in the same region of influence or county directly affected by the construction of the proposed Project. Enbridge generally did not assess the effects of more distant projects because their localized impacts do not contribute significantly to cumulative impacts in combination with the proposed Project.

- Enbridge based the distance into the future that other planned or proposed projects could potentially cumulatively impact the Project area on whether the impacts would be short-term, long-term, or permanent. Most of the impacts associated with the proposed Project would occur during construction, anticipated to take place in 2021. Enbridge extended the temporal range for other projects where the impacts are long-term or permanent.

- Enbridge identified the other projects in the area from internet research and communications with relevant agencies and municipal authorities. Enbridge quantified the potential for cumulative impacts to the extent practicable; however, in the majority of cases, Enbridge could only qualitatively describe the impacts. This is particularly the case for projects that are in planning stages or are contingent on economic conditions, availability of financing, or the issuance of permits.

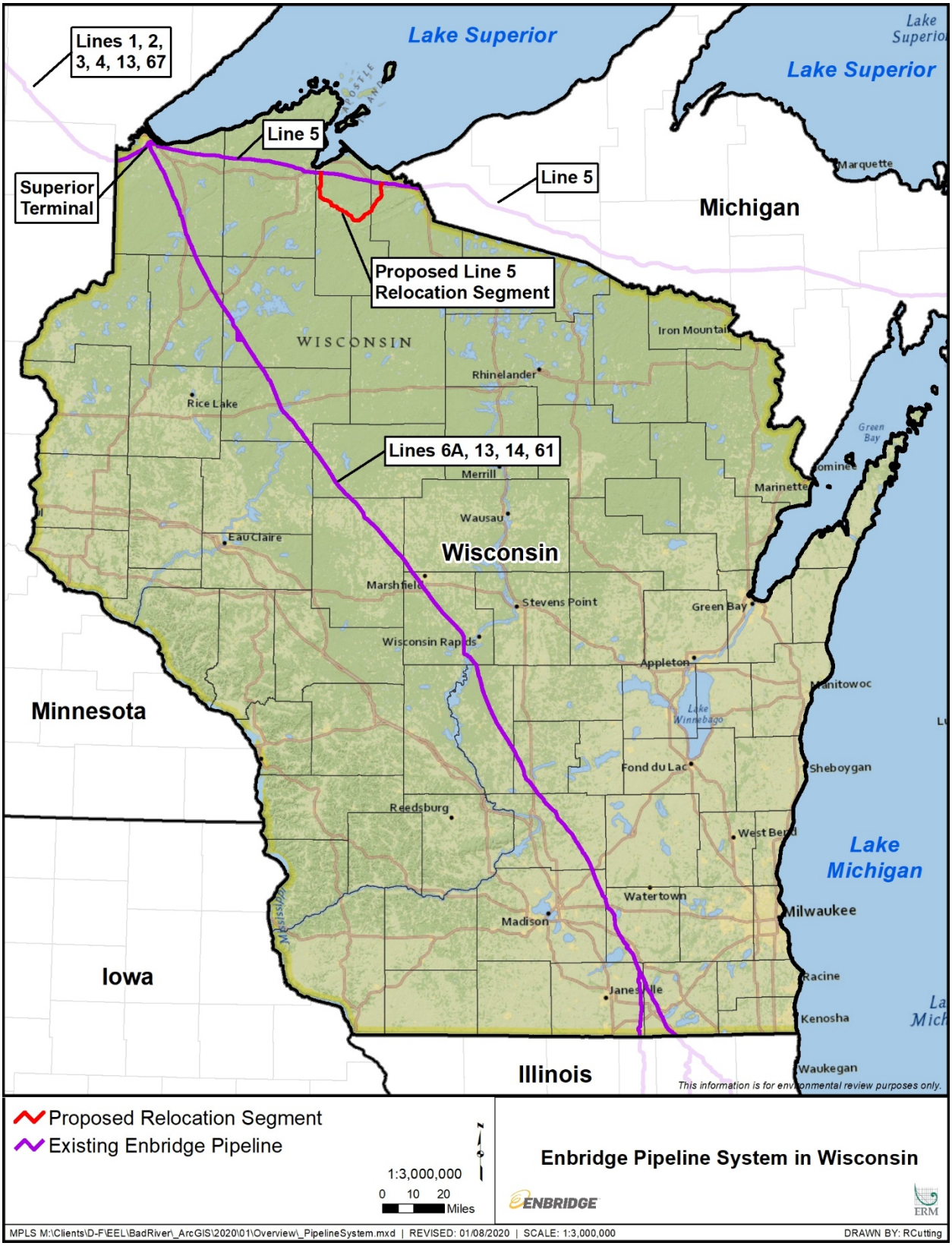

Figure 7.1-1: Existing Enbridge Pipeline Corridors

The geographic scope for each resource is unique, and is generally more localized for somewhat stationary resources, such as soil and geological resources; more expansive for resources with a large geographic area, such as air emissions; and based on jurisdictional boundaries for resources such as public lands and socioeconomics. Cumulative impacts were analyzed from a geographical perspective recognizing that the proximity of other actions to the Project is a major predictor of where cumulative impacts would most likely result. Table 7.2-1 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 the potential for these actions to contribute to a cumulative impact diminishes with increasing distance from the Project.

Table 7.2-1: Resource-Specific Geographic Regions for Cumulative Impact Analysis

Environmental Resource	Geographic Scope for Cumulative Impacts	Justification for Geographic Scope
Air Quality – Construction	0.25 mile	Air emissions during construction would be localized to the project construction sites.
Air Quality – Operations	31.1 miles	Impacts on air quality beyond 31.1 miles would be *de minimis*.
Noise – Construction	0.25 mile	Areas in the immediate proximity of construction activities (within 0.25 mile) would have the potential to be affected by construction noise.
Noise – Operations	1 mile	Noise from permanent facilities is not anticipated to have an impact beyond 1.0 mile.
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.
Groundwater, Surface Water, and Wetlands	HUC-12 sub-watershed	Impacts on groundwater and surface water resources could reasonably extend throughout a 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, Wildlife and Fisheries	HUC-12 sub-watershed	Consideration of impacts within a HUC-12 sub-watershed sufficiently accounts for impacts on vegetation and wildlife that would be directly affected by construction activities and for indirect impacts such as changes in habitat availability and displacement of transient species.
Land Use and Public Lands	1.0-mile radius	Impacts on general land uses 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 aboveground facility sites.
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.
Cultural Resources	Overlapping impacts within the project footprint	Includes areas subject to ground disturbance. I

Notes: HUC = hydraulic unit code; NRHP = National Register of Historic Places

Based on the resource-specific geographic scope and timeframes discussed above, 11 past, present, and reasonably foreseeable future projects are considered in this cumulative impact analysis. While these projects do not involve the construction or operation of an NGL pipeline and are not in any way connected to the Project, these projects are listed below, and project details are provided in Attachment J, filed on February 11, 2020, including a summary of the resources potentially affected by each project.

7.2.1 Past Projects

- Ashland-Ironwood Transmission Line Relocation
- Ashland County Solar Garden
- Saxon Harbor Dredging

7.2.2 Present Projects

- WIS 13 Corridor Project: Morse Road to Caguya Road
- WIS 13 Corridor Project: Caguya Road to Jefferson Avenue
- WIS 13 Corridor Project: Soo Line Railroad Bridge
- WIS 13 Corridor Project: Morse Road to Jefferson Avenue
- Trail System Expansion
- Broadband Initiative Project

7.2.3 Future Projects

- Saxon Harbor Campground
- Ashland Ore Dock Redevelopment

7.3 CUMULATIVE IMPACT ANALYSIS

Based on the nature and location of these projects, cumulative effects associated with the proposed Project are not anticipated related to cultural resources, soils, and geology. None of the identified projects are located with the geographic scope of analysis for cumulative impacts to these resources. The geographic boundary for cultural resources, soils, and geology is the construction workspace footprint, and none of the identified projects occur within the Project footprint. Potential cumulative effects to the remaining resources are discussed below.

7.3.1 Air Quality

Construction phase air quality impacts associated with the Project will include emissions from construction equipment, vehicle traffic, and fugitive dust. Such air quality impacts will be temporary, short-term, and localized. One other project was identified within 0.25 mile of the Project, the proposed future Ashland-Ironwood Transmission Line Relocation. Given that the Project's construction phase impacts will be temporary and localized and that the Ashland-Ironwood Transmission Line Relocation would have similar temporary, short-term, and localized construction emissions at some point in the future (potentially 2025-2028), well after the completion of the Line 5 Project, it is not expected that significant cumulative impacts would occur.

None of the identified other projects represent major air quality emission sources, and the Line 5 Project will have *de minimis* emissions during operation and will be constructed of corrosion protected steel, which has a low fugitive leak potential. As a result, operation of the Project, when combined with other past, present, and foreseeable future projects, is not expected to result in significant cumulative impacts on air quality.

7.3.2 Noise

Construction phase noise impacts from the Project are considered short term and related to the use of heavy construction equipment. As noted above, only one future project was identified within 0.25 mile of the

Line 5 Project, the Ashland-Ironwood Transmission Line Relocation. Given that the Project's construction phase impacts will be temporary and localized and that the Ashland-Ironwood Transmission Line Relocation would have similar temporary, short-term and localized noise impacts at some point in the future (potentially 2025-2028), well after the completion of the Line 5 Project, it is not expected that significant cumulative noise impacts would occur.

No noise is expected to be generated by the relocated Line 5 pipeline during normal operations. Maintenance activities on the new right-of-way, such as excavation or mowing, may generate some noise but these activities and the associated noise will be temporary, localized, and intermittent. A small amount of operational noise would be generated at the valve sites; however, the sound level associated with the operation of the valve sites would be low and would not likely be perceptible outside of the new right-of-way during normal operations. Other projects identified within 1 mile of the Project include current and future transportation projects (various WIS 13 Corridor Projects) and the Ashland-Ironwood Transmission Line Relocation. None of these other projects are expected to have significant long-term operational noise impacts. As a result, operation of the Project, when combined with other past, present, and foreseeable future projects, is not expected to result in significant cumulative noise impacts.

7.3.3 Water Resources

The majority of the other projects identified are located with the cumulative impact geographic region for water resources and have the potential to affect water resources, including jurisdictional wetlands and waterbodies. Impacts associated with these projects may be temporary or long-term, and these other projects would need to obtain and adhere to applicable permits (including mitigation, if required) for impacts to jurisdictional features.

Construction activities associated with the proposed Project will result in temporary impacts on water resources, including minor short-term fluctuations in groundwater levels within an aquifer and temporary impacts to wetlands and waterbodies. In addition, limited long-term impacts will result from the permanent filling of ~~less than 0.1~~0.02 acre of PEM and PSS wetlands and conversion impacts. Enbridge is proposing to provide compensatory wetland mitigation for unavoidable Project-related wetland type permanent fill and conversion of scrub-shrub and forested wetlands as well as temporal loss. Enbridge will continue to work with the WDNR and the USACE to consider additional factors that may result in adjustment of baseline compensation ratios. Operation of the Project may periodically result in additional temporary impacts to water resources associated with maintenance activities; however, no long-term impacts on water resources are associated with operation and maintenance of the Project. Enbridge will avoid and minimize impacts on water resources by implementing measures described in its EPP and adhering to applicable permit requirements.

Temporary impacts will be greatest during and immediately following construction, and the majority of construction impacts on water resources will be fully restored. Permanent impacts are limited and will be mitigated in consultation with state and federal agencies. Therefore, the greatest potential for cumulative impacts would be with concurrent construction projects. Current other projects that may result in temporary water resource impacts that temporally overlap with the Line 5 Project include culvert replacement and resurfacing transportation projects, and trail expansion project and a broadband initiative project.

Based on the temporary nature of the majority of the Line 5 Project impacts, the compensatory mitigation required for permanent Project impacts, and the limited temporary impacts anticipated associated with concurrent projects in the region, construction and operation of the Project, when combined with other past, present, and foreseeable future projects, is not expected to result in significant cumulative impacts on water resources.

7.3.4 Vegetation, Wildlife and Fisheries

Similar to water resources, the majority of the other projects identified are located within the cumulative impact geographic region for vegetation, wildlife, and fisheries. Impacts associated with these other projects may be temporary or long-term.

The majority of impacts to vegetation, wildlife, and fisheries associated with the proposed Project are expected to be temporary and short-term. Temporary impacts to vegetation and wildlife will occur during construction due to clearing of vegetation and disturbance in the right-of-way, and installation of the pipeline across streams may temporarily impact movement of fish upstream and downstream of crossing sites due to disturbances associated with construction. Some mortality of less mobile organisms, such as small fish and invertebrates, may occur within the trenching area.

Active revegetation measures and rapid colonization by annual and perennial herbaceous species in the disturbed areas will restore most vegetative cover within the first growing season. It is expected that wildlife displaced during construction will recolonize available habitats within the permanent right-of-way and temporary workspace following construction. Clearing of woody shrubs and trees will be the primary long-term impact on vegetation associated with the Project. To the greatest extent practicable, Enbridge will adhere to applicable state- and federal-listed species-specific timing restrictions to minimize impacts on vegetation, wildlife, and fisheries resources. In addition, Enbridge will minimize instream disturbance to the extent practicable. To further minimize the potential for adverse impacts on vegetation, wildlife, and fisheries, Enbridge will implement erosion and sediment control measures specified in the EPP (refer to Attachment D filed on February 11, 2020).

With respect to protected species, Enbridge will continue to consult with the USFWS and the WDNR on the status of avoidance and minimization strategies for protected species. If Enbridge identifies any of these species in the Project area during surveys, they will work with these agencies to develop mitigation plans to avoid or minimize impacts on the potentially affected species.

Temporary impacts will be greatest during and immediately following construction. Therefore, the greatest potential for cumulative impacts would be with concurrent construction projects. Other projects that may result in temporary impacts to vegetation, wildlife and fisheries that temporally overlap with the Line 5 Project include culvert replacement and resurfacing transportation projects, a trail expansion project, and a broadband initiative project. These projects could potentially impact vegetation, wildlife, and fisheries resources similar to those that will be temporarily impacted by the proposed Line 5 Project. However, impacts associated with the other projects are similarly expected to be temporary short-term impacts.

Based on the temporary nature of the majority of the Line 5 Project impacts, and the limited number of concurrent construction projects in the region, construction and operation of the Project, when combined with other past, present, and foreseeable future projects, is not expected to result in significant cumulative impacts on vegetation, wildlife, and fishery resources.

7.3.5 Land Use and Public Lands

Other projects identified within 1 mile of the Project include current and future transportation projects (various WIS 13 Corridor Projects) and the Ashland-Ironwood Transmission Line Relocation. The transportation projects are associated with existing facilities and are not expected to impact land use. The Ashland-Ironwood Transmission Line Relocation could have localized long-term impacts on land use, including visual resources.

The primary land uses temporarily affected by construction of the Project include forestland, grassland, and agriculture. General vegetation impacts and restoration are discussed above and are expected to predominantly be temporary and associated with construction. Limited long-term impacts to forestland is associated with maintenance of the new permanent right-of-way. Agricultural land used for row crop production will be affected by the Project, including impacts on MFL, FPA, and AEA lands, as well as other conservation easements. The Project will be constructed in accordance with the ~~APP~~ EPP (see Attachment ~~A~~D filed on February 11, 2020). Enbridge will work with potentially affected landowners to determine if any impacts on MFL lands, FPAs, AEAs or conservation easements will occur from construction of the Project and will compensate landowners accordingly if their status under these programs/agreements is affected. In addition, temporary impacts on recreational users of trails would be limited to the duration of active construction, and long-term visual impacts are expected to be minimal.

Temporary impacts will be greatest during and immediately following construction. Therefore, the greatest potential for cumulative impacts would be with concurrent construction projects. As noted above, the transportation projects which are likely to have concurrent construction timeframes are associated with existing facilitates and are not expected to impact land use. Based on the temporary nature of the majority of the Line 5 Project impacts, and the limited number of concurrent construction projects in the region which are associated with existing facilities, construction and operation of the Project, when combined with other past, present, and foreseeable future projects, is not expected to result in significant cumulative impacts on water resources.

7.3.6 Socioeconomics

All of the other projects identified are within the cumulative impact geographic region for socioeconomics and may have both positive and adverse impacts on socioeconomics in the region.

Temporary socioeconomic impacts of the Line 5 Project could include an incremental increase in the demand on public services and housing from nonlocal workers who temporarily relocate to the area during the construction period. In addition, there could be short-term traffic impacts during the construction period. However, there is no evidence that the Project would result in disproportionate effects on minority or low-income communities, and both short-term and long-term positive economic benefits may result from the Project.

Construction and operation of the Project is not expected to result in significant socioeconomic impacts. As a result, construction and operation of the Project, when combined with other past, present, and foreseeable future projects, is not expected to result in significant cumulative impacts on socioeconomics.

8 CONCLUSIONS

The Project includes construction and operation of approximately 41 miles of new 30-inch outside diameter, crude oil and NGL pipeline in Ashland, Bayfield, and Iron Counties. Enbridge proposes to use a 120-foot-wide construction right-of-way, which will allow for temporary storage of topsoil and spoil as well as accommodate safe operation of construction equipment. Enbridge will reduce the construction right-of-way to 95 feet in wetlands, where practicable, to minimize wetland disturbance. ATWS areas may be necessary where the proposed route crosses features such as waterbodies, wetlands, roads, railroads, and existing pipelines and utilities.

During construction, Enbridge will implement the measures in the EPP, which contains elements of industry and company-wide BMPs for mitigation measures; addresses construction spill prevention, containment, and control; drilling mud releases; noxious and invasive weeds; and restoration/revegetation measures. In

addition, Enbridge will implement standardized erosion control and restoration measures to minimize potentially adverse environmental effects resulting from right-of-way preparation, construction, and maintenance of the pipeline.

8.1.1 Alternatives Considered

Enbridge analyzed several types of alternatives to determine whether they would be reasonable and environmentally preferable to the proposed route, including consideration of the No-Action Alternative, system alternatives, and alternative transport modes. In addition, Enbridge considered three route alternatives.

While the No-Action Alternative would eliminate the environmental impacts directly associated with the proposed Project, it would not meet the proposed purpose and need for the Project. Further, the product would need to be shipped by other, potentially less safe, methods, resulting in additional environmental impacts associated with the alternative shipping method. Therefore, Enbridge believes the No-Action Alternative is not a reasonable alternative.

Enbridge assessed pipeline system alternatives and the use of alternative transport modes. Alternative pipeline systems to the Project are not considered feasible because there is currently no pipeline system that services the same product delivery and receipt points that Enbridge's Line 5 system services and/or existing pipeline systems designed to accommodate both crude oil and NGL products. To fulfill the same purpose as Enbridge's existing Line 5 system, a new pipeline and/or multiple pipelines would be required. As such, Enbridge does not consider a new pipeline system alternative feasible or environmentally preferable. Alternative transport modes could include trucking or the use of railroads to transport the crude oil associated with the proposed Project. However, safety and environmental risks, logistical requirements, and high costs eliminate both the trucking and rail options as viable and practicable alternatives.

Enbridge analyzed three route alternatives. Each of these alternatives, while viable, generally had more environmental resource impacts or affected additional sensitive areas; therefore, Enbridge rejected the alternatives.

8.1.2 Air Quality and Noise

Air quality impacts associated with construction of the Project would include emissions from fossil-fueled construction equipment and fugitive dust. Such air quality impacts would generally be temporary and localized, and are not expected to cause or contribute to a violation of applicable air quality standards. Similarly, noise impacts will be temporary and associated with construction activities. Operation of the Project would not result in long-term impacts on air quality or noise.

8.1.3 Soils

Construction activities associated with the Project, such as clearing, grading, trenching, and backfilling, could adversely affect soil resources by causing erosion, compaction, and loss of soil productivity and fertility by mixing of topsoil and subsurface soil horizons and changing drainage patterns. However, Enbridge will implement the mitigation measures contained in its EPP ~~and APP~~ to control erosion, enhance successful revegetation, and minimize any potential adverse impacts on soil resources.

The Project will temporarily affect prime farmland soils and farmland of statewide importance, and there will be a small permanent loss of prime farmland soils and farmlands of statewide importance. Enbridge will minimize impacts on prime farmland and farmland of statewide importance during construction by implementing the measures in its ~~APP~~EPP, including topsoil segregation, compaction alleviation, removal

of excess rock, and restoration of agricultural drainage systems and existing erosion control structures. As such, construction impacts on prime farmland and farmland of statewide importance will be temporary and overall impacts will result in minimal permanent decrease in soil productivity.

To reduce disturbance of topsoil and prevent topsoil subsoil mixing during construction in cropland, hay fields, pasture, residential areas, and other areas as requested by the landowner, Enbridge will remove and segregate topsoil to a maximum depth of 12 inches, unless otherwise requested by the landowner. In the event the topsoil depth is less than 12 inches, Enbridge will make every attempt to segregate it to the present depth. Enbridge will separately stockpile segregated topsoil and subsoil and replace in the proper order during backfilling.

8.1.4 Geology and Groundwater

Geology of the Project area consists of low lacustrine plains and glacial till. There are three active sand and gravel producers, and three sand and gravel deposit occurrences within 0.5 mile of the Project. Due to shallow bedrock within the Project area, blasting may be necessary. Enbridge will minimize impacts by implementing its Blasting Plan.

The Project centerline crosses, or is within 0.5 mile of, five township sections identified as having high capacity water withdrawal features and is within 150 feet of 32 active private water wells. Enbridge will consult with the individual landowners to determine the location of private water wells.

To prevent impacts due to spills during pipeline construction, Enbridge will implement protective measures described in the EPP. To prevent impacts due to leaks during pipeline operation, Enbridge will implement an ongoing inspection program, which includes regular inspections of the cathodic protection system, computerized inspection tools, and regular areal flyover inspections.

The overall effects of construction and operation of the proposed Project on topography and geology will be minor. Primary impacts will be limited to construction activities and will include temporary disturbance to slopes within the rights-of-way resulting from grading and trenching operations. Enbridge will minimize impacts by returning contours to preconstruction conditions to the maximum extent practicable. Construction activities, such as trenching, backfilling, and dewatering that encounter shallow surficial aquifers, may result in minor short-term fluctuations in groundwater levels within the aquifer; however, the groundwater levels will typically recover quickly following construction.

8.1.5 Surface Water

Installation of a pipeline across a stream or river can temporarily displace stream bottom sediments and increase erosion of soils adjacent to the waterbody. The magnitude and duration of these effects depends on the soils and topography of the site, and the proposed crossing method. Construction could also change the stream bottom profile, resulting in increased siltation or erosion at the site or further downstream. Enbridge would avoid and minimize impacts on waterbodies by implementing measures described in its EPP. Enbridge would also limit the duration of construction within waterbodies and limit equipment operation within waterbodies to the area necessary to complete the crossing. Disturbed areas at crossings would be restored and stabilized as soon as practical after pipeline installation.

Enbridge would minimize the potential impact of spills of hazardous materials by implementing the measures described in the Spill Prevention, Containment, and Control section of its EPP.

Operation and maintenance of the Project would not be expected to result in long-term effects on water quality. Enbridge will implement an ongoing inspection program to monitor the integrity of the pipeline

system and for accidental leaks from the pipeline system during operations. Monitoring activities include regular inspection of the cathodic protection system, which addresses the possible corrosion potential for a steel pipe installed below the ground surface. In addition, Enbridge will use computerized inspection tools that travel through the inside of the pipeline to check pipe integrity. Enbridge also performs regular aerial flyovers to inspect the pipeline right-of-way. As required by federal law, Enbridge will maintain an Emergency Response Plan to address pre-planning, equipment staging, notifications, and leak containment procedures to be implemented in the event of a pipeline leak.

8.1.6 Wetlands

Construction of the Project will temporarily affect wetlands. The primary impacts of pipeline construction on wetlands will be the temporary removal of wetland vegetation. In addition, construction will also temporarily diminish the recreational and aesthetic value of the wetlands crossed during and immediately following construction. Construction impacts in emergent wetlands will be relatively brief, because herbaceous vegetation will regenerate within one or two seasons. Impacts from construction in forested and shrub-scrub wetlands will last longer due to the slower recovery period of these vegetation types. Clearing of wetland vegetation will also temporarily remove or alter wetland wildlife habitat.

Enbridge will implement the measures in its EPP to minimize impacts on wetlands. In addition, Enbridge is proposing to acquire appropriate credits from an approved mitigation bank and also potentially use the in-lieu fee program to compensate for unavoidable Project wetland impacts.

8.1.7 Vegetation

Clearing of herbaceous vegetation during construction will result in a short-term impact on vegetation. Enbridge's revegetation measures, as well as rapid colonization by annual and perennial herbaceous species in the disturbed areas, will restore most vegetative cover within the first growing season. Clearing of woody shrubs and trees will be the primary long-term impact on vegetation associated with the Project. Enbridge will allow woody shrubs and trees to recolonize the temporary construction right-of-way and extra workspaces as described in the EPP. However, recolonization of disturbed areas by woody shrubs and trees will be slower than herbaceous species.

The Project will result in clearing of forestland during construction. Enbridge will maintain a corridor of forestland clear of trees for operational purposes, including facilitating aerial inspections, preserving pipeline integrity, and providing access for maintenance or emergency work in compliance with federal regulations.

Enbridge will minimize impacts on vegetation adjacent to the Project area through adherence to soil erosion control specifications and by confining clearing activities to the approved right-of-way and extra workspaces. To prevent damage to adjacent trees, Enbridge will fell trees toward the cleared right-of-way. Upon completion of construction, Enbridge will revegetate disturbed areas in accordance with the EPP, unless otherwise directed by landowners or land managing agencies. Timely restoration of the construction right-of-way and reseeding with an appropriate seed mix will minimize the duration of vegetative disturbance.

Following construction, Enbridge will employ best management practices to control the spread of noxious weeds and invasive plants as described in the EPP.

8.1.8 Wildlife

Temporary impacts on mammals, birds, reptiles, or amphibians will occur during construction due to clearing of vegetation and disturbance in the right-of-way. However, Enbridge does not expect the construction and operation of the Project to have a significant impact on wildlife species.

Clearing the construction right-of-way will remove vegetative cover and will cause temporary displacement of wildlife species along the route. The construction right-of-way and extra workspaces will remain relatively clear of vegetation until mechanical restoration occurs.

Enbridge will utilize herbaceous seed mixes on disturbed areas following the completion of pipeline construction. Enbridge expects that pre-existing vegetation habitats will quickly become reestablished and that the wildlife species that use these habitats will also return relatively soon after construction. In addition, following construction Enbridge will employ best management practices included in its EPP to limit the introduction or spread of invasive plant species.

Forested areas outside of the permanently maintained right-of-way will be allowed to revegetate naturally with tree and shrub species common to the area, resulting in longer-term impacts on wildlife that use forests due to the conversion of previously forested habitat to herbaceous-dominated habitat on the temporary construction right-of-way. Over time, natural growth and succession will restore the temporary portion of the construction right-of-way and extra workspaces to a forested community, with wildlife typical of forest habitats returning.

The Project will involve the permanent removal of forested habitat along the permanent right-of-way, which will remain non-forested habitat for operation of the pipelines. Enbridge anticipates that the incremental loss of this forested habitat along the existing cleared right-of-way will not have a significant effect on wildlife species.

8.1.9 Fisheries

Construction activities across streams may temporarily impact movement of fish upstream and downstream of crossing sites. The physical disturbance of the streambed may temporarily displace adult fish and may dislodge other aquatic organisms, and result in some mortality of less mobile organisms within the trenching area. During trenching, Enbridge will also remove aquatic plants, woody debris, and boulders that provide instream fish habitat. Noise disturbances upstream and downstream of the sites will deter fish that may otherwise inhabit the area. These disturbances will be temporary and are not expected to significantly affect fisheries resources.

Sediment loads may temporarily increase downstream during open-cut stream crossings, which may temporarily affect the more sensitive fish eggs, fish fry, and invertebrates inhabiting the downstream area. However, the suspended sediment levels will quickly attenuate over both time and distance and will not adversely affect resident fish populations or permanently alter existing habitat. Enbridge will install the pipeline at stream crossings as quickly as possible to allow suspended sediment levels to return to pre-construction levels upon completion of instream work.

Enbridge will remove most streambank vegetation across the right-of-way during construction. After construction, Enbridge will maintain an area over the pipeline in an herbaceous state to facilitate routine aerial inspections. Changes in the light and temperature characteristics of some streams may affect the behavioral patterns of fish, including spawning and feeding activities, at the pipeline crossing locations.

The maintained streambanks, however, are not wide enough to have a significant impact on general temperature and light conditions of the effected streams.

To minimize the potential for adverse impacts on the fisheries at river and stream crossings, Enbridge will abide by agency recommended instream activity periods, determine site specific crossing techniques that have the potential to avoid instream impacts at some waterbody crossings, implement erosion and sediment control measures specified in the EPP, and limit the duration of construction in these waterbodies.

8.1.10 Special Status Species

Enbridge initiated coordination on the Project with the Green Bay Ecological Services Field Office (Region 3) of the USFWS in September 2019. The USACE will initiate Section 7 informal consultation for the Project. Informal consultations with USACE, USFWS, and Enbridge will continue throughout 2020.

Enbridge conducted preliminary habitat assessments in 2019. ~~Additional~~ Species-specific surveys ~~will be~~were completed in 2020~~, pending continued USFWS and WDNR coordination~~. Enbridge submitted an Environmental Review Request to WDNR on January 15, 2020, and an updated Environmental Review Request on August 3, 2020.

Enbridge will continue to consult with the USFWS and the WDNR on the status of mitigation strategies for protected species identified in the Project area. ~~If Enbridge identifies any of these species in the Project area during surveys, they will work with these agencies to develop mitigation plans to avoid or minimize impacts on the potentially affected species.~~

8.1.11 Land Use and Public Lands

Construction of the Project will temporarily affect ~~996~~ 915 acres of land. Forestland, grassland, and agriculture are the primary land use classifications affected by the Project.

Enbridge will minimize forest clearing where possible and will minimize the potential for erosion and other effects that may be associated with clearing through the implementation of its EPP. Following construction, Enbridge will restore and seed forestland located within the new permanent easement as indicated in the Revegetation section of the EPP. Enbridge maintains its permanent easement on a regular basis to prohibit the growth of woody vegetation over its pipelines for safety and pipeline integrity issues. Forestland located within temporary work areas will be allowed to revert to its preconstruction land use. Similarly, Enbridge will reseed impacted grasslands in accordance with the EPP and/or specific landowner requests and return as near to preconstruction conditions as practicable.

Agricultural land used for row crop production will be affected by the Project. The Project will be constructed in accordance with the ~~APP~~EPP. The ~~APP~~ EPP identifies measures that Enbridge will implement to ~~avoid, mitigate, and provide compensation for~~minimize impacts on agricultural ~~impacts~~ lands associated with the Project.

Enbridge will work with potentially affected landowners to determine if any impacts on MFL lands, FPAs, AEAs or conservation easements will occur from construction of the Project and will compensate landowners accordingly if their status under these programs/agreements is affected.

During construction, impacts on recreational users of trails would be temporary and limited to the duration of active construction. Enbridge will post appropriate warning signs during construction and will restore trails to original condition following construction.

Long-term visual impacts are expected to be minimal.

8.1.12 Socioeconomics

Construction and operation of the Project is not expected to result in significant socioeconomic impacts. The Project area would see an incremental demand on public services from nonlocal workers who temporarily relocate to the area during the construction period. Local communities will benefit from income paid to local and nonlocal workers through spending of a portion of their earnings locally. In addition, construction contractors and subcontractors may purchase materials from local vendors. Long-term economic benefits associated with operation of the pipeline include increased tax revenues at the state level in the form of property and/or ad valorem taxes.

The influx of nonlocal workers would result in a short-term impact on housing near the Project area during construction. However, because of the relatively short construction timeline, no significant impacts on the availability of housing are expected.

Short-term impacts on local transportation systems may result from construction of the pipeline across roads and railroads, movement of construction equipment and material to work areas, and daily commuting of the construction workforce to work sites. To maintain safe conditions, Enbridge will direct its construction contractors to adhere to local weight restrictions and limitations for its construction vehicles, and to remove soil left on the road surface by the crossing of construction equipment. In addition, when it is necessary for construction equipment to move across paved roads, the Contractor will use mats or other appropriate measures to prevent damage to the road surface.

Truck traffic associated with transporting pipe to the construction work area as well as other construction-related travel associated with the Project may increase the workload of local authorities to assist with traffic control. In addition, local authorities may need to assist with short-term detours at pipeline road crossings or delays in traffic flow from large, slow-moving vehicles. Enbridge does not anticipate that these Project-related demands on local authorities will be significant.

Several construction-related trips by personnel, equipment, and materials will be made each day to and from the job site. Traffic will remain consistent throughout the construction period and will typically peak during early morning and evening hours. Enbridge anticipates that road congestion will increase during these peak hours but will not significantly disrupt the normal flow of traffic in the Project area.

8.1.13 Cultural Resources

Enbridge ~~will~~ completed Phase I surveys of the Project area to identify archaeological sites and historic standing structures, to evaluate these sites regarding NRHP eligibility, and to assess impacts. ~~Enbridge completed Phase I surveys of the majority of the Project area in 2019. Twenty-two archaeological sites and two isolated finds were recorded during surveys; ERM recommends 18 sites and both isolated finds as not eligible for listing in the NRHP and four require additional information before a recommendation can be made. ERM also recorded 18 historic structures and one trail within the Project area. ERM recommends 17 historic structures not eligible for inclusion in the NRHP; one structure and the trail require more information before a recommendation can be made.~~

Enbridge has submitted the 2019 technical reports documenting the surveys and results under separate cover to the WDNR and USACE; 2020 reports have been included in Attachment J-1 in the Supplemental Application Information. Additionally, Enbridge has completed a Traditional Cultural Property survey of the proposed Project. This report is included in Attachment M in the Supplemental Application

Information.~~Enbridge will complete additional surveys in 2020 and evaluate any archaeological sites, standing structure sites, or TCRs identified, and gather sufficient information to make a recommendation regarding NRHP eligibility.~~

Enbridge's preferred method of treatment for identified cultural resources is avoidance. In the event that a historic property cannot be avoided, Enbridge will coordinate with the USACE, who would then consult with the Wisconsin SHPO and other agencies depending on the jurisdiction of the location and the resource, to mitigate adverse effects and implement appropriate treatment plans.

In the event that an unrecorded cultural site is uncovered during construction, Enbridge developed an Unanticipated Discoveries Plan for use during all Project construction activities. The Unanticipated Discoveries Plan describes the actions to take in the event that a previously unrecorded cultural resources site is discovered during construction activities.

8.1.14 Cumulative Effects

Three types of projects (past, present, and reasonably foreseeable projects) could contribute to a cumulative impact when considered with the Project. The Project would predominantly have only minor or temporary impacts on environmental resources. In addition, Enbridge will implement impact avoidance, minimization, and mitigation measures as described in the EPP~~ and the APP~~, as well as adherence to applicable permit conditions. As such, the majority of Project impacts would be largely limited to the construction timeframe. Further, the impacts of the Project would generally be localized and short-term with little temporal overlap with past, present, and reasonably foreseeable future projects. Therefore, the Project's impacts will not be significant and will not contribute substantially to cumulative impacts.

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Line 5 Wisconsin Segment Relocation Project

Ashland, Bayfield, Douglas, and Iron Counties Wisconsin

Water Resources Application for Project Permits

Environmental Impact Report

Updated August 2020

EIR Attachments

Line 5 Wisconsin Segment Relocation Project

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Water Resources Application for Project Permits

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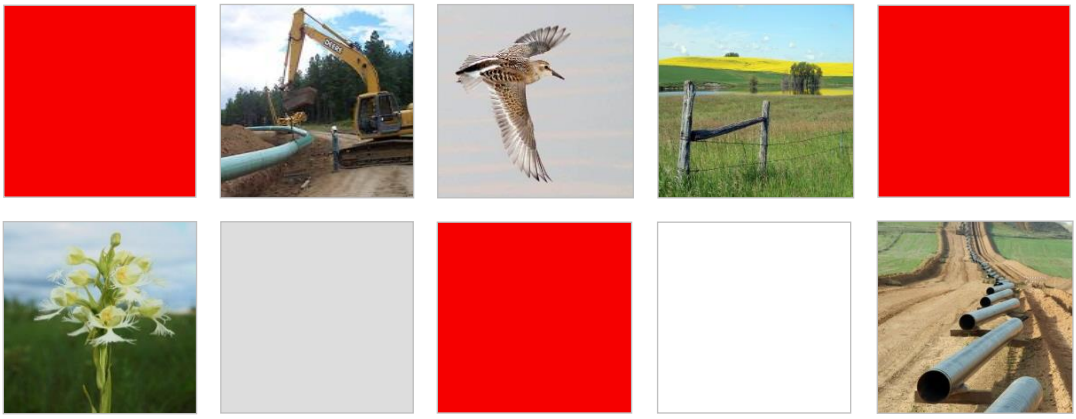
EIR Attachment A

Agricultural Protection Plan



Enbridge Energy, Limited Partnership
Line 5 Wisconsin Segment
Relocation Project

Draft Agricultural Protection Plan

August 2020

ENBRIDGE

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DEFINITIONS

Agricultural Inspector	On-site inspector retained by Enbridge to verify compliance with requirements of this Plan during construction of the Line 5 Wisconsin Segment Relocation Project.
Agricultural Land	Land that is actively managed for agricultural purposes, including: cropland, hayland, or pasture; silvicultural activities (i.e., tree farms); and land in government set-aside programs such as Conservation Reserve Program and Conservation Reserve Enhancement Program. Agricultural Land may also include land that is otherwise fallow but would likely be cultivated within 5 years of Project completion.
APP	Agricultural Protection Plan.
ATWS	Additional Temporary Workspace.
BMP	Best Management Practices.
CFR	Code of Federal Regulations.
Cropland	Land actively managed for growing row crops, small grains, or hay.
WDATCP	Wisconsin Department of Agricultural, Trade, and Consumer Protection
USDOT	United States Department of Transportation
Easement	The agreement(s) and/or interest in privately owned Agricultural Land held by Enbridge by virtue of which it has the right to construct and operate the Project together with such other rights and obligations as may be set forth in such agreement.
Enbridge	Enbridge Energy, Limited Partnership
EPP	Environmental Protection Plan
Final Cleanup	Pipeline construction activity that occurs after backfill but before restoration of fences and required reseeding. Final Cleanup activities include: replacing Topsoil, removal of construction debris, removal of excess rock, decompaction of soil as required, final grading, and installation of permanent erosion control structures.
Landowner	Person(s) holding legal title to Agricultural Land on the Project route from whom Enbridge is seeking, or has obtained, a temporary or permanent Easement. The term “Landowner” shall include any person(s) authorized in writing by the actual Landowner to make decisions regarding the mitigation or restoration of agricultural impacts to such Landowner’s property.

Non-Agricultural Land	Any land that is not "Agricultural Land" as defined above.
Person	An individual or entity, including any partnership, corporation, association, joint stock company, trust, joint venture, limited liability company, unincorporated organization, or governmental entity (or any department, agency, or political subdivision thereof).
Planned Tile	Locations where the proposed Tile installation is made known in writing to Enbridge by the Landowner either: 1) within 60 days after the signing of an Easement; or 2) before the issuance of a Routing Permit to Enbridge; whichever is sooner.
Project	Line 5 Wisconsin Segment Relocation Project
Right-of-way	The land included in permanent and temporary Easements that Enbridge possess for the purpose of constructing and operating the Project.
Spoil Storage Side	Non-working side of the construction Right-of-way where ditch spoil and temporary Topsoil are stored (as needed).
Tenant	Any person, other than the Landowner, lawfully residing on or in possession or control of the land that makes up the "right-of-way" as defined in this Plan.
Tile	Subsurface drainage systems and their aboveground appurtenances.
Topsoil	The uppermost horizon (layer) of the soil, typically with the darkest color and highest content of organic matter and nutrients.
Trench Crown	The placement of subsoil and Topsoil in the trench to a finished elevation somewhat above the surrounding ground surface to account for post-construction settling of soil returned to the trench.
TWS	Temporary Workspace
USC	United States Code
USDA	United States Department of Agriculture

PURPOSE AND APPLICABILITY

This Agricultural Protection Plan (”Plan”) is under development by Enbridge Energy, Limited Partnership (“Enbridge”) in consultation with the Wisconsin Department of Agricultural, Trade, and Consumer Protection (“WDATCP”) for the Line 5 Wisconsin Segment Relocation Project (“Project”). Once finalized, this Plan may also be incorporated by reference into other federal, state, and local permits issued for the Project.

The objective of the Plan is to identify measures that Enbridge will implement to avoid, mitigate, or provide compensation for negative agricultural impacts that may result from pipeline construction. The construction standards described in this document apply only to construction activities occurring partially or wholly on privately owned Agricultural Land. Furthermore, Best Management Practices (“BMPs”) identified in the Project’s Environmental Protection Plan (“EPP”) may be installed on Agricultural Land in conjunction with mitigation measures outlined in this Plan.

Unless the easement or other agreement, regardless of nature, between Enbridge and the Landowner specifically requires the contrary, the mitigation measures specified in this Plan will be implemented in accordance with the conditions discussed below.

GENERAL PROVISIONS

All mitigation measures are subject to change by Landowners, provided such changes are negotiated in advance of construction and acceptable to Enbridge. If any provision of this Plan is held to be unenforceable, no other provision will be affected by that holding, and the remainder of the Plan will be interpreted as if it did not contain the unenforceable provision.

Enbridge will consider any federal, state, and local permit issued for the Project to be the controlling authority. To the extent a mitigation measure contemplated by this Plan is determined to be unenforceable in the future due to requirements of other permits issued for the Project, Enbridge will inform the regulatory authority and will develop reasonable alternative measures. Certain provisions of this Plan require Enbridge to consult and/or reach agreement with the Landowner of a property. Enbridge will engage in a good faith effort to secure the agreement. Tenants will not be consulted except where a Landowner has designated in writing that a Tenant has decision making authority on their behalf.

Enbridge will retain qualified contractors to perform mitigation measures; however, Enbridge may negotiate with Landowners to implement the mitigation measures that Landowners wish to perform themselves.

Enbridge will employ an Agricultural Inspector whose role is to verify compliance with the requirements of this Plan during construction of the pipeline. The Agricultural Inspector will be employed by and report to Enbridge, and will be a part of Enbridge’s environmental inspection team.

The Agricultural Inspector will:

- Be a full-time member of Enbridge’s environmental inspection team
- Provide construction personnel with training on provisions of this Plan before construction begins;
- Provide construction personnel with field training on specific topics, such as protocols for Topsoil stripping;

- Observe construction activities on Agricultural Land on a continual basis;
- Be responsible for verifying Enbridge's compliance with provisions of this Plan during construction;
- Work collaboratively with other Enbridge inspectors and right-of-way agents in achieving compliance with this Plan;
- Document instances of noncompliance and work with construction personnel to identify and implement appropriate corrective actions as needed; and
- Have the authority to stop construction activities that are determined to be out of compliance with the provisions of this Plan.

The Agricultural Inspector will have a bachelor's degree in agronomy, soil science, or equivalent work experience. In addition, the Agricultural inspector will have demonstrated practical experience with pipeline construction and restoration on Agricultural Land.

Enbridge will provide each Landowner with a telephone number and address that can be used to contact Enbridge, during and following the completion of construction, regarding the agricultural mitigation work that is performed on their property or other construction-related matters. If the contact information changes following construction, Enbridge will provide the Landowner with updated contact information. Enbridge will respond to Landowner telephone calls and correspondence within a reasonable time.

Mitigation measures identified by Enbridge pursuant to this Plan, unless otherwise specified in this Plan or in an Easement or other agreement with an individual Landowner, will be initiated within forty-five (45) days following completion of Final Cleanup on an affected property, weather permitting or unless otherwise delayed at the request of the Landowner. If implementation of mitigation measures requires additional time, Enbridge will make temporary repairs, as needed, to minimize the risk of additional property damage or interference with the Landowner's access to or use of the property.

MITIGATION MEASURES

1. Right-of-Way Width

Prior to construction, Enbridge will establish the right-of-way width for construction and temporary workspace ("TWS") in Agricultural Lands based on prior project experience, engineering and construction requirements or best practices, and safety needs. The construction limits will be shown on alignment sheet drawings provided to the construction contractor, Environmental Inspector, and the Agricultural Inspector.

A. The typical construction workspace will be governed by Project permits, but will typically be 120 feet wide in uplands, of which 50 feet will typically be retained in a permanent Easement, and 70 feet, respectively, will typically be TWS. The TWS will be used during construction for soil storage and operation of equipment and vehicles along the entire length of the pipeline. At certain select areas where the pipeline crosses natural geographic or larger man-made features such as roads, railroads, streams, or wetland crossings, a defined area of additional temporary workspace ("ATWS") will be required on each side of the feature.

B. The construction boundaries will be staked prior to the work at each location.

C. If the area of the ATWS is not sufficient to perform the work and implement BMPs, Enbridge will refrain from construction in that area until an adequate work area is available and approved. Enbridge will discuss the need for ATWS with the construction contractor, construction inspection team, Agricultural Inspector and the Landowner, and will not use any additional workspace until approved by the Landowner and regulatory authorities, as applicable.

2. Pipeline Depth of Cover

A. Except for aboveground facilities, such as mainline block valves, and except as otherwise stated in this Plan, the pipeline will be buried with the following depths of cover on Agricultural Land:

1) The pipeline will be constructed with a minimum depth of cover of 30 inches as required by U.S. Department of Transportation (DOT) regulations in 49 CFR Part 195.248.

2) Where existing or planned Tile systems are present, the pipeline will be installed at a depth that will achieve at least a 12-inch-wide separation between the pipeline and overlying Tiles as described in Section 2.C. of this Plan.

B. Enbridge will construct the pipeline under existing non-abandoned Tile and Planned Tile within six (6) feet of the surface, unless the Landowner determines otherwise in writing. Enbridge may install the pipeline over Tile buried deeper than six (6) feet. If the Landowner plans to install a new Tile system, the Landowner must provide to Enbridge plans drawn by a qualified professional with experience in Tile design and installation. In determining the proper depth of the pipeline, Enbridge will accommodate the depth and grade needed for both existing and Planned Tile to function properly. Enbridge will not change the grade of existing Tile to accommodate the pipeline without the Landowner's advance written consent.

C. A minimum of twelve (12) inches of separation will be maintained between the pipeline and Tile unless the Landowner agrees in writing to a lesser separation. If unforeseen physical conditions are discovered during construction that prevents minimum separation, the Landowner will be informed of the situation prior to the installation of the pipeline over the Tile. If a good faith effort is made and the Landowner is unavailable, the Agricultural Inspector will be informed and construction will continue.

3. Winter Construction

Enbridge intends on avoiding construction in Agricultural Lands in the winter season, where practicable. However, to protect the productivity of Agricultural Lands in the event that winter construction is unavoidable as a result of weather, permit acquisition, or any other unforeseen delays, the following mitigation measures are proposed:

A. *Minimize Topsoil Stripping in frozen conditions.* Frozen conditions can preclude effective Topsoil stripping. When soil is frozen to a depth greater than the depth of the Topsoil, Topsoil cannot be efficiently stripped from the subsoil. If Topsoil stripping must proceed under these conditions, it will only be removed from the area of the trench. A ripper will be used to break up the frozen Topsoil over the trenchline and a

backhoe will remove the Topsoil layer and store the material in a separate pile. The ripper will extend to the depth of Topsoil or to a maximum depth of twelve (12) inches.

B. *Minimize Final Clean-up activities in frozen conditions*. Frozen conditions can preclude effective Topsoil replacement, removal of construction debris, removal of excess rock, decompaction of soil as required, final grading, and installation of permanent erosion control structures. If seasonal or other weather conditions preclude Final Clean-up activities, the trench and temporary workspace areas will be backfilled, stabilized, and temporary erosion control measures will be installed until restoration can be completed. If Topsoil/spoil piles remain throughout the winter, the Topsoil/spoil piles will be stabilized by an application of mulch and a tackifier or other methods approved by the regulatory authority. To prevent subsidence, backfill operations will resume when the ground is thawed and the subsoil will be compacted (as needed) prior to Final Clean-up activities. The construction contractor must monitor these areas until final restoration is complete.

4. Temporary Erosion and Sediment Control

Temporary erosion and sediment controls will be implemented as required and are described in the EPP.

5. Topsoil Stripping, Trenching, Soil Storage, and Replacement

A. Full and partial Topsoil stripping methods are similar except for the area where the Topsoil is removed. With full Topsoil stripping, the Topsoil is removed from the entire working side (traffic lane, trench spoil storage, and trench area) of the right-of-way. Under partial Topsoil stripping, the Topsoil will not be removed from under the Topsoil storage piles. Topsoil will also be removed and segregated in other areas, such as bore pits at road and railroad crossings, where the footprint may be larger and/or irregularly shaped. Topsoil is typically stored on the outer most edge of the working side of the construction right-of-way, however, Enbridge may also store Topsoil on the spoil storage side of the construction workspace where there are workspace constraints. Typical details for each Topsoil stripping method are presented in the EPP.

Enbridge will use the following Topsoil segregation methods during construction of the Project on Agricultural lands. The method selected will be dependent on specific Landowner approvals or agreements, field conditions, regulatory authority or permit requirements, and/or other factors.

- Modified Ditch-Plus-Spoil-Side Method – This method involves stripping Topsoil horizon from the spoil storage area, the pipeline trench, and the primary portion of the travel lane.

- Full Right-of-Way Method – This method involves stripping Topsoil from the entire width of the construction right-of-way. Topsoil will be removed from the full right-of-way because this method typically results in less soil mixing between Topsoil and subsoil caused by equipment rutting over areas where Topsoil was not stripped. A larger volume of Topsoil will be generated using this method and, consequently, may warrant the need for Topsoil to also be stored on both sides of the construction right-of-way.

- Trenchline-Only Method – This method involves removing Topsoil from over the proposed trench only, and may be used where Enbridge determines that the width of the construction right-of-way is insufficient for storing Topsoil and maintaining a sufficient width to perform construction activities and allow equipment to pass.

B. The maximum depth of Topsoil stripping will be twelve (12) inches. The Agricultural Inspector or the designated Enbridge inspector will observe Topsoil operations so that appropriate depths are removed.

C. Equipment operators will be trained to discriminate between Topsoil and subsoil based on obvious color changes. In locations where the Topsoil/subsoil color changes are not easily distinguishable or variable, the Agricultural Inspector will determine the depth.

D. Before removing Topsoil during wet soil conditions, the Agricultural Inspector will assess whether the moisture content in the surface horizon is suitable for grading. If the soil is considered too wet to segregate, stripping may be postponed. Based on the Agricultural Inspector's recommendation, Enbridge may allow Topsoil removal in areas where soils are persistently wet.

E. Enbridge may also remove Topsoil from ATWS as dictated by site-specific conditions and Landowner agreements. Topsoil will be removed in all "cut and fill" areas prior to grading.

F. In specific areas of deep Topsoil and as determined in consultation with the Agricultural Inspector, the modified ditch-plus-spoil method will be used. However, the area requiring Topsoil stripping may be adjusted from the modified ditch-plus-spoil method where the Agricultural Inspector determines that such modification is necessary for safety or would be more protective of the soil resource. The adjusted method may include trenchline-only Topsoil segregation, such as in instances where Topsoil is removed under frozen conditions (i.e., winter construction). In all cases where modifications are proposed, approval from Enbridge or other regulatory authority is required.

G. Trench spoil will be placed in a stockpile that is separate from Topsoil. Enbridge will maintain a minimum one (1)-foot-wide separation or place a barrier between Topsoil and subsoil piles to avoid mixing. In areas where the Topsoil has not been stripped from the subsoil storage area, subsoil can be stored on a thick layer of mulch or another physical barrier that identifies and protects the unstripped Topsoil.

J. Backfilling will follow lowering the pipe into the trench. During trench backfilling, subsoil material will be replaced first, followed by Topsoil. To prevent subsidence, subsoil will be backfilled and compacted. Compaction by operating construction equipment along the trench is acceptable.

K. Rock excavated from the trench may be included with backfill provided the rock content of the pre-construction soils is not significantly increased. In the event excess rock cannot be returned to the trench without substantially increasing pre-existing rock content, rocks will be considered construction debris and removed (see Section 8 of this Plan).

L. Replacing Topsoil will be initiated within fourteen (14) days after backfilling the trench. If seasonal or other weather conditions prevent compliance with this timeframe, temporary erosion control measures must be implemented and maintained until conditions allow completion of cleanup. Topsoil will be replaced across the stripped area as near as practicable to its original depth. A Trench Crown over the trenchline is permissible to offset potential settling. Following placement of the subsoil crown, Topsoil would be uniformly returned across the stripped area. The height of the crown will generally be equal to, or less than, twelve (12) inches at the center. Breaks in the crown may be cut to accommodate overland water flow across the right-of-way.

6. Repair of Damaged and Adversely Affected Tile

If Tile is damaged during installation of the pipeline, the Tile will be repaired in a manner that restores operating condition. If Tile lines immediately adjacent to the construction area are adversely affected by the pipeline installation, Enbridge will restore the Tile, including the relocation, reconfiguration, or replacement of the Tile. The affected Landowner may settle with Enbridge for payment to repair, relocate, reconfigure, or replace the damaged Tile. In the event the Landowner chooses to perform the repair, relocation, reconfiguration, or replacement of the damaged Tile, Enbridge will not be responsible for correcting Tile repairs after completion of the pipeline and the Landowner's repairs. Enbridge is only responsible for correcting Tile repairs if the repairs were made by Enbridge or its agents or designees.

Prior to pipeline installation, Enbridge will contact Landowners to determine if Tile systems will be affected. Tile systems that will be damaged, cut, or removed during construction will be marked by placing a highly visible flag at the edge of the construction right-of-way directly over the Tile lines. These markers will not be removed until the Tile has been permanently repaired and approved and accepted by the Landowner.

The pipeline trench shall provide a minimum of twelve (12) inches of clearance, where practicable, between the pipe and drainage Tiles. In most situations, the pipe will be installed under the drainage Tile; however, where drain Tiles are deeper than six (6) feet Enbridge may elect to install the pipe above the Tile lines.

Enbridge will ensure that the construction contractor repairs damaged Tile in a manner consistent with industry-accepted methods. At the Landowner's request and with Enbridge's approval, local contractors may perform the repair, replacement, or reconfiguration of the Tiles damaged or cut during pipeline construction.

Where damaged Tile is repaired by Enbridge, the following procedures will apply:

A. Before completing permanent repairs, Tiles will be examined on both sides of the trench for their entire length within the work area to check for damage by construction equipment. If Tiles are found to be damaged, they will be repaired to preconstruction conditions.

B. Tiles will be repaired with material of the same or better quality as that which was damaged.

C. Filter-covered drain Tiles will be replaced with filter-covered drain Tiles.

D. If the Tile is clay, ceramic, or concrete, any connection made with new material must be made with commercially available connectors, wrapped in plastic, or sealed with Sakrete to prevent soil intrusion.

E. If water is flowing through a damaged Tile, temporary repairs will be promptly completed and maintained until permanent repairs can be made.

F. Where Tiles are damaged or severed by the pipeline trench, repairs will be made according to the following procedures:

1) Where Tiles are severed by the pipeline trench, double-walled drain Tile pipe, or its equivalent material, will be used for Tile repairs.

2) Within the trench, one and one-half (1.5) inch river gravel, four (4) inch crushed stone, sandbags, bags of Sakrete (or an equivalent), or poured concrete will be backfilled under Tiles, as needed, to provide support and prevent settling. Concrete blocks are also acceptable forms of support as are protective pads on the pipeline.

3) The support member will be of sufficient strength to support loads expected from normal farming practices (i.e., loads up to a ten (10) ton point load) on the surface directly above the repaired Tile.

4) The support member will extend a minimum of two (2) feet into the soil on both sides of the trench and will be installed in a manner that will prevent it from overturning. If the repairs involve clay Tile, the support member will extend to the first Tile joint beyond the minimum two (2) -foot-wide distance.

5) There will be a minimum clearance as required by Section 2.C. of this APP.

6) The grade of the Tile will not be changed.

G. Enbridge will initiate efforts to complete permanent Tile repairs within a reasonable timeframe after Final Cleanup, weather and soil conditions permitting.

H. Following completion of the Final Cleanup, Enbridge will be responsible for correcting repairs to Tile that fail, but only if Enbridge or its agents or designees made the initial repairs. Enbridge will not be responsible for Tile repairs that Enbridge has paid the Landowner to perform.

I. Any necessary modifications to the configuration of existing Tile systems must be consistent with the U.S. Department of Agriculture (“USDA”), Natural Resources Conservation Service and other regulatory authorities on wetland drainage.

7. Agricultural Drainage Ditches

Where the pipeline route crosses agricultural drainage ditches that are operated by the Landowner, the pipeline will be installed at a depth that is sufficient to allow for ongoing maintenance of the ditch. After the pipeline is installed, the ditch will be restored to its preconstruction contours with erosion controls as needed. Ditches that are operated and maintained by a public entity will be crossed in accordance with applicable permits.

8. Rock Removal

The following conditions will apply on Agricultural Land:

A. If trenching, blasting, or boring operations are required in bedrock, suitable precautions will be taken to minimize the potential for rocks to become mixed with the backfill.

B. After the construction right-of-way has been decompacted as required in Section 10 of this Plan and the Topsoil replaced, Enbridge will remove rocks from the surface of the entire construction area so that the size, density, and distribution of rock on the right-of-way is similar to that on adjacent off-right-of-way areas. Enbridge will consult with the Landowner to identify suitable rock disposal locations on the construction right-of-way, or the rocks will be removed for disposal at another approved disposal location. Written authorization from the Landowner is required for disposal on the Landowner's property. Rock disposal will comply with any federal, state, or local regulations involving fill and disposal of construction debris.

9. Removal of Construction Debris

Construction-related debris, material, and litter will be removed from the Landowner's property at Enbridge's expense. The Landowner or land-managing agency may approve leaving specific materials onsite that may provide for beneficial uses for stabilization or habitat restoration.

10. Compaction, Rutting, and Soil Restoration

A. In an effort to minimize soil compaction prior to trenching activities, Enbridge will, where practical, transport pipe joints (i.e., "stringing trucks") as closely as possible along the pipeline centerline.

B. After construction, compaction of the subsoil will be alleviated on Cropland using deep-tillage equipment, as needed. Decompaction of the topsoil, if necessary, will be performed during favorable soil conditions. If the Agricultural Inspector determine that the soil is too wet, decompaction will be delayed until the subsoil is friable/tillable in the top twelve (12) inches.

C. Deep subsoil ripping in cropland will occur in all traffic and work areas of the pipeline right-of-way where there was full right-of-way Topsoil stripping, unless the Agricultural Inspector(s) determines compaction has not occurred. This includes ATWS.

D. Subsoil ripping equipment may include v-rippers, chisel plows, or equivalents.

E. If the Landowner makes a written claim for damages related to soil compaction greater than that of immediately adjacent Agricultural Land owned by the Landowner but unaffected by pipeline construction, Enbridge will retain a Professional Licensed Soil Scientist, or an appropriately qualified professional engineer. The Professional Soil Scientist or engineer will perform a survey of the construction right-of-way, ATWS, and adjacent unaffected land owned by the Landowner for soil compaction using field equipment such as a soil penetrometer. In addition, where there are row crops, samples will be taken in the middle of the row, but not in rows where the drive wheels

of farm equipment normally travel. Copies of the results of the survey will be provided to the Landowners making such claim within thirty (30) days of completion of the soil survey. These surveys for soil compaction will be completed at Enbridge's expense.

F. Enbridge will restore rutted land as near as practical to its preconstruction condition.

G. Enbridge will compensate Landowners, as appropriate, for damages caused by Enbridge during Project construction. Damages will be paid for the cost of soil restoration on the construction right-of-way and ATWS to the extent such restoration work is not performed by Enbridge.

H. In the event of a dispute between the Landowner and Enbridge regarding what areas need to be deep tilled (i.e., “ripped”) or chiseled, or the depth at which compacted areas should be ripped or chiseled, Enbridge will determine the appropriate actions based on soil compaction testing.

11. Fertilization and Liming

Fertilizers and lime will be applied based on Landowner requirements.

12. Land Leveling

Following completion of the Project, Enbridge will restore the construction work areas as practicable to the original preconstruction contours. If uneven settling occurs or surface drainage problems develop as a result of pipeline construction, Enbridge will provide additional land leveling services within eighteen (18) months of receiving a Landowner's written notice, weather permitting. Alternatively, Enbridge will negotiate with the Landowner for reasonable compensation in lieu of restoration.

13. Prevention of Soil Erosion

Enbridge will install permanent erosion control devices during restoration to prevent erosion as described in Enbridge’s EPP.

14. Repair of Damaged Soil Conservation Practices

Soil conservation practices (e.g., terraces, grassed waterways) that are damaged by pipeline construction will be restored to their preconstruction condition.

15. Interference with Irrigation Systems

A. If it is feasible and mutually acceptable to Enbridge and the Landowner, temporary measures will be implemented to allow an irrigation system to continue to operate across land on which the pipeline is being constructed.

B. If the pipeline right-of-way and/or ATWS interfere with an operational (or soon-to-be operational) spray irrigation system, Enbridge will inform the Landowner of the need to take the irrigation system out of service. Enbridge and the Landowner will agree upon an acceptable amount of time the irrigation system may be out of service. If Enbridge and the Landowner are unable to agree on the amount of time within ten (10) days of Enbridge informing the Landowner of the need to take the irrigation system

out of service, construction will proceed and the Landowner will be asked to take the irrigation system out of service.

C. If, as a result of pipeline construction, interruption of an irrigation system results in crop damages, either on the right-of-way or off-right-of-way, compensation of Landowners will be determined as described in Section 21 of this Plan.

16. Ingress and Egress

Prior to pipeline construction, Enbridge will identify the means of entering and exiting the right-of-way should access to the right-of-way not be practical or feasible from adjacent tracts or from public highway or railroad rights-of-way, consistent with Enbridge's Easement rights. Temporary access ramps may be constructed using locally obtained Topsoil as needed to facilitate the movement of equipment between public highways and the right-of-way.

17. Temporary Roads

A. If public roads do not provide sufficient access, Enbridge will attempt to use existing farms roads for access to and from the right-of-way, subject to approval from the Landowner or Enbridge's Easement rights. If Enbridge needs to construct a new temporary access road across Agricultural Land, the location will be made in collaboration with the Landowner. Temporary roads that are needed during construction will be located to minimize impacts on the landowner's or tenant's use of the agricultural land. If temporary roads in Agricultural Lands require gravel stabilization, geotextile construction fabric will be placed beneath the rock to add stability and to provide a distinctive barrier between the rock and soil surface. During restoration of the right-of-way, temporary access roads will be removed or restored to preconstruction conditions, except as described in Section 17C of this Plan.

B. Temporary roads will be designed so as not to impede drainage and will be constructed to minimize soil erosion.

C. Following construction, new temporary roads may be left intact through mutual agreement of the Landowner and Enbridge unless otherwise restricted by federal, state, or local regulations.

D. If the temporary roads are to be removed, the Agricultural Land on which the temporary roads are constructed will be returned to its previous use and restored to a condition equivalent to what existed prior to construction. Restoration techniques for temporary roads will be similar to those used in restoring the Project right-of-way (e.g., decompaction).

18. Weed Control

Enbridge has identified and will implement weed control measures as described in the EPP.

Enbridge will provide weed control at its aboveground facility sites (e.g., mainline block valve sites) to avoid the spread of weeds onto adjacent Agricultural Land during operation

of the Project. Weed control spraying, will be conducted in accordance with applicable regulatory authorities.

19. Pumping of Water from Open Trenches

A. Enbridge will identify locations for discharging water pumped out of trenches in consultation with the Agricultural Inspector and Landowner, to the extent practicable.

B. When dewatering trenches, Enbridge will discharge the water in a manner that will minimize damaging adjacent Agricultural Land, crops, and/or pasture. Such damages may include, but are not limited to, inundation of crops for more than twenty-four (24) hours and deposition of sediment in cropland and drainage ditches. If water-related damage during discharge from trenches results in a loss of yield, compensation of Landowners will be determined as described in Section 21 of this Plan.

C. Discharge of water will be conducted in accordance with the EPP, federal and state regulations, and permit conditions.

20. Construction in Wet Conditions

A. Should the Agricultural Inspector(s) determine that continued construction in wet conditions could result in damage to soil structure and compromise future cropland productivity, the Agricultural Inspector(s) may request to temporarily halt the activity on a Landowner's property until the Agricultural Inspector consults with Enbridge's Construction Manager.

21. Procedures for Determining Construction-Related Damages

A. Enbridge will negotiate in good faith with Landowners who assert claims for construction-related damages. The procedure for resolution of these claims will be in accordance with the terms of the Easements.

B. Negotiations between Enbridge and any affected Landowner will be voluntary in nature and no party is obligated to follow a specific procedure or method for computing the amount of loss for which compensation is sought or paid, except as otherwise specifically provided in the Easements. In the event a Landowner should decide not to accept compensation offered by Enbridge, the compensation offered is only an offer to settle, and the offer shall not be introduced in any proceeding brought by the Landowner to establish the amount of damages Enbridge must pay. In the event that Enbridge and a Landowner are unable to reach an agreement on the amount of compensation, any such Landowner may seek further recourse as provided in the Easement.

22. Advance Notice of Access to Private Property

A. Enbridge or its agents will provide the Landowner with a minimum of twenty-four (24) hours' notice before accessing his/her property for construction, in addition to any regulatory notifications.

B. Prior notice will consist of a personal or telephone contact, whereby the Landowner is informed of Enbridge's intent to access the land. If the Landowner cannot be reached

in person or by telephone, Enbridge will mail or hand-deliver to the Landowner's home a dated, written notice of Enbridge's intent. The Landowner need not acknowledge receipt of the written notice before Enbridge enters the property.

23. Indemnification

Indemnification obligations relating to the pipeline installation covered by this Plan shall be determined in accordance with the terms of the Easements and applicable law.

24. Tile Repair Following Pipeline Installation

A. If, after pipeline installation, the Landowner must make repairs to the Tile system within the right-of-way, or plans to install a new Tile system, the Landowner must obtain Enbridge approval of the work plan prior to commencing any activities within the right-of-way. Enbridge may impose such requirements and limitations on the work as necessary to protect the safety and integrity of Enbridge's facilities. The Landowner will be responsible for contacting 811 or the local one call center prior to any excavation near the pipeline and complying with all necessary requirements imposed by Enbridge to protect the safety and integrity of Enbridge's facilities.

Enbridge will, at its own expense, follow the procedures below.

B. An Enbridge representative will be present while the excavation work is being performed, but will not perform the excavation work.

Line 5 Wisconsin Segment Relocation Project

Ashland, Bayfield, Douglas, and Iron Counties Wisconsin

Water Resources Application for Project Permits

Environmental Impact Report

Revised August 2020

EIR Attachment B

Unanticipated Discoveries Plan

Attachment 5D

Unanticipated Discoveries Plan

Liquids Pipeline Projects

Enbridge Energy, Limited Partnership

July 2017

Unanticipated Discoveries Plan
Liquids Pipeline Projects

INTRODUCTION

This Unanticipated Discoveries Plan outlines procedures to be followed by the Enbridge Liquids Pipeline Projects in the event of an unanticipated discovery of archaeological or paleontological resources, or human remains, during the construction activities. Enbridge contractors where applicable shall also follow the procedures outlined in this plan.

I. Unanticipated Discovery of Archaeological Resources

1. When previously unidentified archaeological resources are discovered during ground disturbing activities during the course of project construction, the construction contractor will immediately notify Enbridge's on-site Chief Inspector or Project Manager of the discovery.

2. The on-site Inspector/PM will immediately notify the Enbridge Environment Project Advisor.
    a. Cathryn Hanson; 218-522-4701 (O); 715-817-8732 (C)

3. Concurrent with providing notification of the discovery and upon direction of the Enbridge Environment Project Manager (or consultant designee):

    a. Inspect the work site to determine the extent of the discovery;
    b. Halt all construction work within 100 feet of the discovery and in the surrounding area where further subsurface remains can reasonably be expected to occur;
    c. Clearly mark the area of the discovery using flagging and fencing, and protect it from the elements if necessary; and
    d. Notify Enbridge Project Management, and if the discovery is on public land, notify the relevant land managing agency.

4. After consulting with Enbridge Project Management, the Environment Project Advisor will consult, if applicable, with the lead federal agency responsible for Section 106 consultation, State Historical Preservation Office (SHPO) and/or equivalent agency regarding the discovery.

5. In consultation with the SHPO and/or lead agency responsible for Section 106 consultation, Enbridge will work with a qualified archaeologist to determine the significance of the discovery, using National Register of Historic Places criteria, and the relevant state historic site criteria. The initial evaluation and reporting will be completed within forty-eight (48) hours.

6. For properties determined to be significant and a potential historic property pursuant to No. 4 above, Enbridge will notify the land managing agency, and other consulting parties of those actions that it proposes to resolve adverse effects to the resource. The consulting parties shall provide their views on the proposed actions within forty-eight (48) hours. Following consideration of all relevant views, and in consultation with the appropriate agency stakeholders, Enbridge will implement a plan to resolve adverse effects to the resource. After the treatment measures have been implemented and completed, Enbridge Environment will

approve clearance to the construction contractor to resume work at the location of the discovery.

II. Unanticipated Discovery of Human Remains

1. When an unmarked human burial, skeletal remains, or burial goods are encountered during construction activities, Enbridge and contractors shall comply with the respective state laws regarding the treatment of human remains. Ground disturbing activity should cease and the authorities should be notified

2. The construction contractor will immediately notify Enbridge's on-site Inspector/Project Manager in the event that human burial or skeletal remains are encountered during ground disturbing construction activities.

3. Concurrent with providing notification of the discovery:

    a. Halt all construction activities within a 100 feet radius from the point of discovery;

    b. Treat the discovery with respect and care, and do not take photographs. It is illegal to take photographs of human remains in some states other than for scientific reasons.

    c. Implement measures to protect the discovery from looting, vandalism, and the elements; and

    d. Notify the local law enforcement agency, Section 106 consultation lead and SHPO or equivalent agency.

5. Upon receiving notification of the discovery of human remains, a human burial, or burial goods, the local law enforcement agency will, as soon as practicable, report the receipt of such notification to the county coroner. Within a period of twenty-four (24) hours of notification these two state agencies will commence the initial examination of the discovery. If the discovery appears to be older than 50 years and not part of a crime scene, the county authorities will inform the state SHPO or Office of the State Archaeologist (OSA).

6. Enbridge will consult with the local authorities, the state SHPO or OSA (and other parties as directed by them) regarding the appropriate measures to handle such a discovery. If the discovery is made on public land, Enbridge will notify the appropriate land managing agency, and consult with them as indicated. If the SHPO determines that the unanticipated discovery consists of Native American human remains, the SHPO will contact the appropriate Native American groups.

7. Following the investigation and resolution of the unanticipated discovery of human remains, and SHPO's concurrence that construction may resume, Enbridge's on-site Lead Environmental Inspector will approve clearance to the construction contractor to resume work at the location of the discovery.

III. Unanticipated Discovery of Paleontological Resources

1. Paleontological resources would be expected to be in the form of fossils. In-situ fossils are usually found within layers of geologically old sediments and rocks where the flora and fauna lived, died, and became fossilized. However, through geologic, hydrologic, and marine activity, many fossils and parts of fossils have been carried into younger geologic areas. The following procedures will be followed if fossils are encountered during construction.

2. Upon the discovery of potential paleontological resources, the construction contractor or inspector will immediately notify Enbridge's on-site Inspector/Project Manager of the find. The Project Manager will immediately notify the appropriate Enbridge Environment Advisor of the find.

3. Concurrent with notifying the Enbridge Environment Advisor:

    a. Halt ground disturbing activity in the general vicinity of the find, providing a minimum 100-foot buffer around the find;

    b. Photograph a representation of the potential fossils present. Also develop a brief written description including the exact location of the potential fossil material along the route, the depth and apparent thickness of the stratum, local topography, and other pertinent conditions;

    c. Implement measures to protect the discovery from looting, vandalism, and the elements.

4. Enbridge will notify the State Geological Surveyor or equivalent agency and, upon request, provide copies of the written and photographic documentation of the potential paleontological materials.

5. If the find is on public land, Enbridge will notify the appropriate land managing agency as well as the state geologist.

6. Once proper documentation has been obtained, and consultation with all parties has taken place and all issues regarding the paleontological discovery have been resolved, Enbridge's Environment Advisor or Environmental Inspector will approve clearance to the construction contractor to resume work at the location of the discovery.

Line 5 Wisconsin Segment Relocation Project

Ashland, Bayfield, Douglas, and Iron Counties Wisconsin

Water Resources Application for Project Permits

Environmental Impact Report

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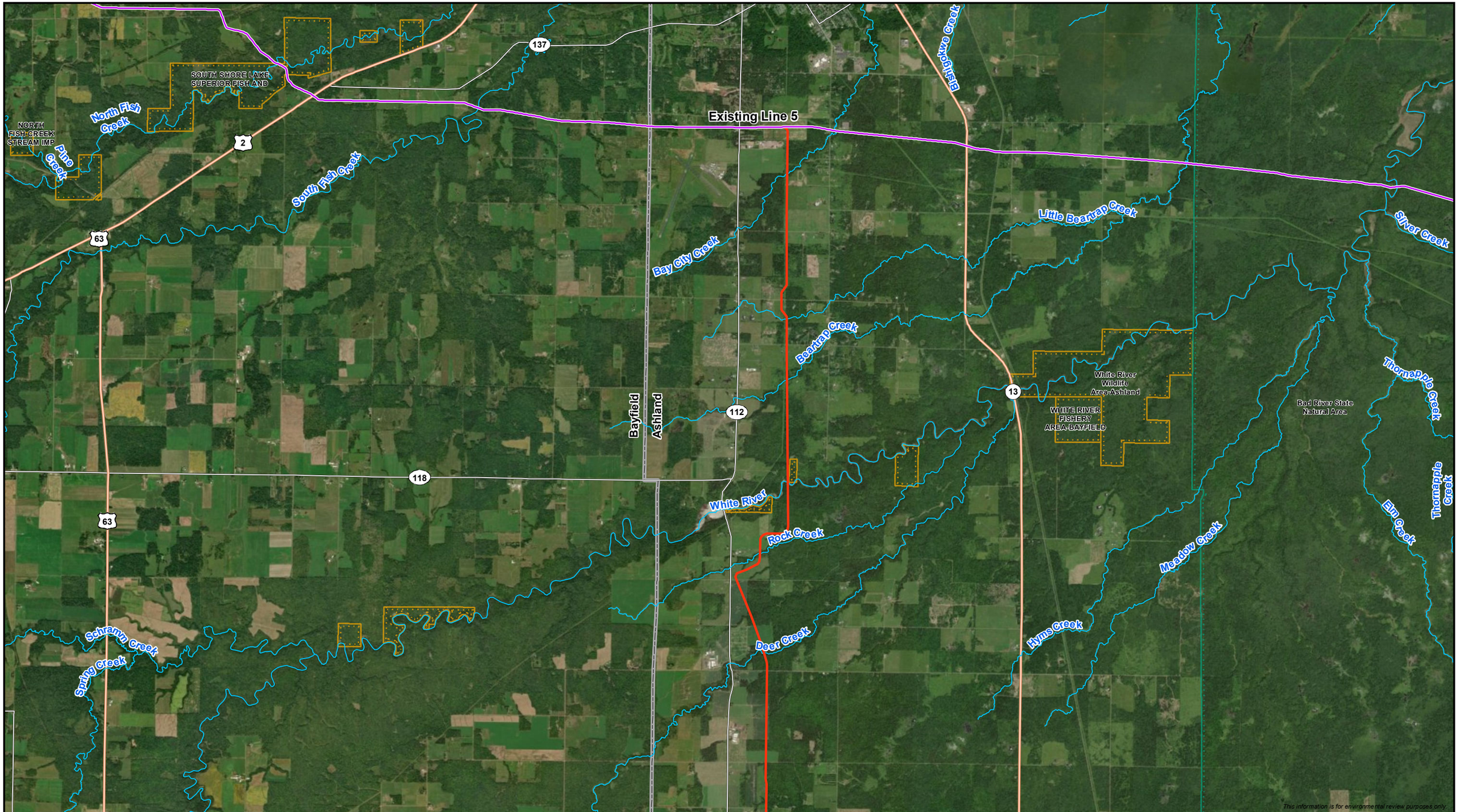
EIR Attachment C

Route Alternative Maps



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Miles

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1 inch equals 1 mile

N

- Proposed Route
- Existing Enbridge Pipeline
- Named Stream/River
- Major Highways
- Highways
- Major Roads
- Federal Land
- Reservation
- State Land
- County/Local Land

Proposed Project Alternative
Line 5 Wisconsin Segment Relocation Project
Enbridge Energy, L.P.

ENBRIDGE

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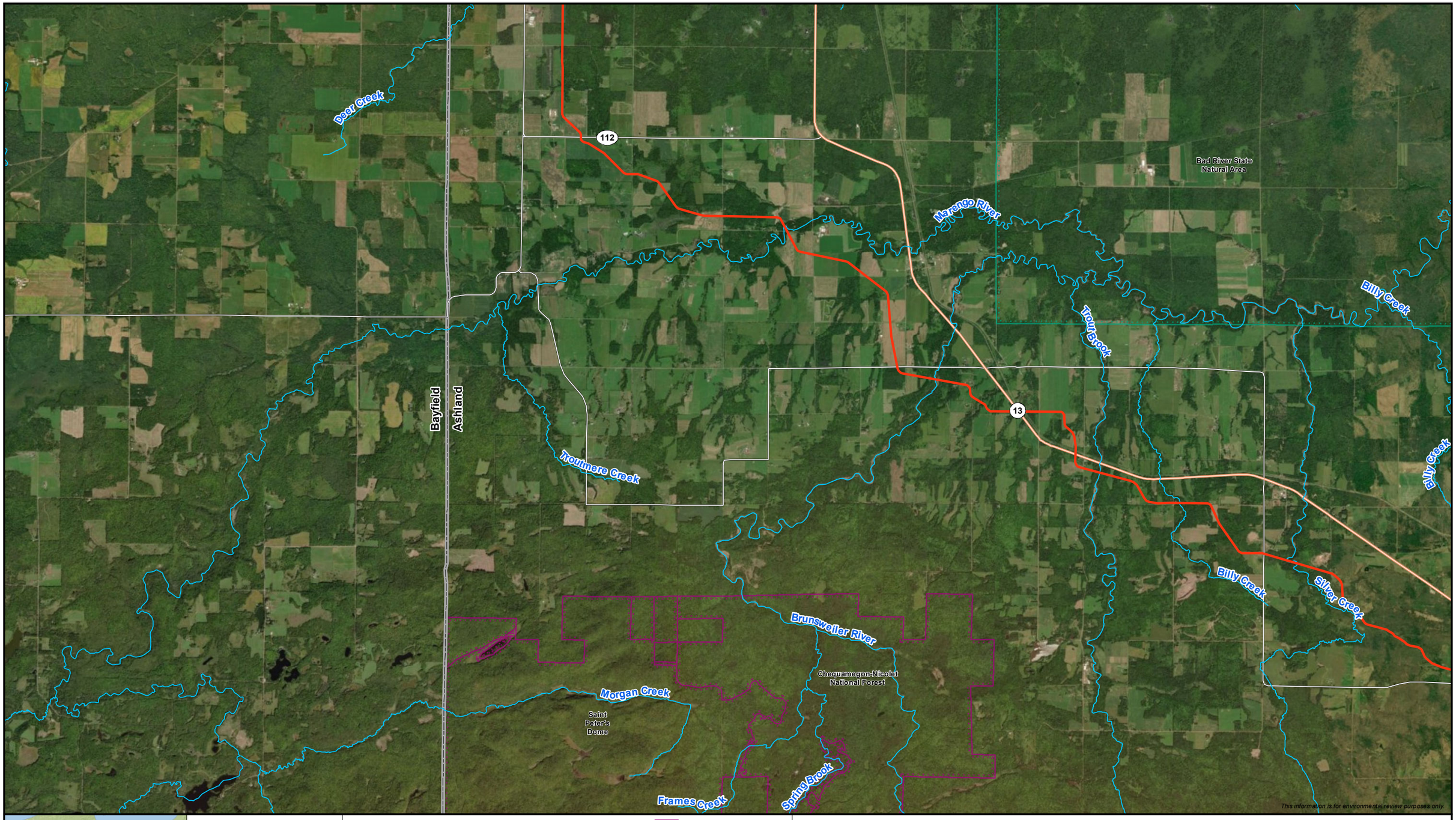

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Proposed Project Alternative
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