

APPENDIX D

Part 22 of 22

Wetland Delineation Data Sheets and Site Photographs

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-21
 Applicant/Owner: Enbridge State: WI Sampling Point: wirb031e_w
 Investigator(s): SAM/MAL Section, Township, Range: 046N-001W-04
 Landform (hillslope, terrace, etc.): Side slope Local relief (concave, convex, none): Concave Slope (%): 8-15%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.488890 Long: -90.488962 Datum: WGS84
 Soil Map Unit Name: Denomie silt loam, 30 to 60 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) <u>Side hill seep that leads to the associated perennial waterbody (sirb011p).</u>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>Strong seepage/discharge.</u>		

VEGETATION – Use scientific names of plants.

 Sampling Point: wirb031e_w

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3.0</u> (A) Total Number of Dominant Species Across All Strata: <u>3.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>50.0</u></td> <td>x 1 = <u>50.0</u></td> </tr> <tr> <td>FACW species <u>20.0</u></td> <td>x 2 = <u>40.0</u></td> </tr> <tr> <td>FAC species <u>5.0</u></td> <td>x 3 = <u>15.0</u></td> </tr> <tr> <td>FACU species <u>0.0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>75.0</u> (A)</td> <td><u>105.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.4</u>	Total % Cover of:	Multiply by:	OBL species <u>50.0</u>	x 1 = <u>50.0</u>	FACW species <u>20.0</u>	x 2 = <u>40.0</u>	FAC species <u>5.0</u>	x 3 = <u>15.0</u>	FACU species <u>0.0</u>	x 4 = <u>0.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>75.0</u> (A)	<u>105.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>50.0</u>	x 1 = <u>50.0</u>																	
FACW species <u>20.0</u>	x 2 = <u>40.0</u>																	
FAC species <u>5.0</u>	x 3 = <u>15.0</u>																	
FACU species <u>0.0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>75.0</u> (A)	<u>105.0</u> (B)																	
<u>20.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Fraxinus pennsylvanica</u>	<u>10.0</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Ulmus americana</u>	<u>10.0</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>20.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Carex scabrata</u>	<u>50.0</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Athyrium angustum</u>	<u>5.0</u>	<u>N</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>55.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) Open seepage primarily dominated by Carex scabrata.																		

SOIL

Sampling Point: wirb031e_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No

Remarks:

Redox features present throughout the profile.

wirb031e_w_E

wirb031e_w_W

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project		Evaluator(s): MAL/SAM	
File #: wirb031		Date of visit(s): 09/21/2019	
Location: PLSS: <u>046N-001W-04</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.488705</u> Long: <u>-90.488953</u>		Watershed: LS11 Potato River	
County: <u>Iron</u> Town/City/Village: <u>Gurney town</u>			
SITE DESCRIPTION			
Soils: Mapped Type(s): 204F, Denomie silt loam, 30 to 60 percent slopes		WWI Class: N/A	
Field Verified: Series not verified. The soils consist of a loam over a silt loam.		Wetland Type(s): PEM - Fresh Wet Meadow	
		Wetland Size: 0.01	Wetland Area Impacted 0.01
Hydrology: Hydrologic regime is saturated. The wetland displays strong seepage and discharge.		Vegetation: Plant Community Description(s): Relatively sparse herbaceous layer dominated by Carex scabrata. The shrub cover includes black ash and American elm.	

SITE MAP

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List: Private property possibly used for hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	Y	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	Y	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N	Y	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present ≥ 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	Y	Y	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	Y	Y	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	N	N	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	Y	Y	Evidence of flashy hydrology
5	N	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland <u>or</u> constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Y	Y	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

SW-6: The is flanked by shrub and tree cover. WQ-2: The vegetation is dense and water flow through is not channelized. WH-7: The mesic margins of the wetland provide bird habitat. FA-2: Wetland is likely consistently saturated and the associated waterbody provides aquatic habitat.

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
	Y	tat for songbird, amphibians, reptiles, aquatic insects, and mammals which occupy streams a

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat

Plant Community Integrity (circle)*

*Note: separate plant communities are described independently

[illegible]

The feature has moderate floristic integrity. The herbaceous layer is dominated by *Carex scabrata*.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
X	X		L	C	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The small wetland is within a valley which is associated with a perennial waterbody. There stream has been manipulated and there is erosion present.

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	✓				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	✓				
Shoreline Protection					✓
Flood and Stormwater Storage		✓			
Water Quality Protection		✓			
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	The wetland has moderate floristic integrity with a sparse herbaceous cover.
Human Use Values	The wetland is not accessible to the public and is not a location where research or recreation takes place.
Wildlife Habitat	The wetland is quite small and provides limited habitat due to a lack of plant species diversity. Species associated with seepage and streams may utilize this feature
Fish and Aquatic Life Habitat	The wetland itself does not support standing water but feeds a connected perennial stream via groundwater.
Shoreline Protection	N/A
Flood and Stormwater Storage	This wetland is not capable of holding a substantial quality of rainwater which drains quickly into sirb011p.
Water Quality Protection	The feature is a small, sparsely vegetated feature associated with a waterbody.
Groundwater Processes	The feature is a seepage with discharge hydrology.

Section 4: Project Impact Assessment

Brief Project Description

Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-21
 Applicant/Owner: Enbridge State: WI Sampling Point: wirb031 u
 Investigator(s): SAM/MAL Section, Township, Range: 046N-001W-04
 Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex Slope (%): 26-60%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.488747 Long: -90.488967 Datum: WGS84
 Soil Map Unit Name: Denomie silt loam, 30 to 60 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) Mesic hardwood system with significant topography. This upland sample point is shared with feature wirb032e.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No primary or secondary indicators of wetland hydrology were observed.		

VEGETATION – Use scientific names of plants.

Sampling Point: wirb031_u

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Acer saccharum</i></u>	<u>75.0</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A) Total Number of Dominant Species Across All Strata: <u>3.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)														
2. <u><i>Tsuga canadensis</i></u>	<u>25.0</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>100.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
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Total % Cover of:	Multiply by:																	
OBL species <u>0.0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0.0</u>	x 2 = <u>0.0</u>																	
FAC species <u>20.0</u>	x 3 = <u>60.0</u>																	
FACU species <u>155.0</u>	x 4 = <u>620.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>175.0</u> (A)	<u>680.0</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u><i>Phegopteris connectilis</i></u>	<u>50.0</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Carex pedunculata</i></u>	<u>10.0</u>	<u>N</u>	<u>FAC</u>															
3. <u><i>Athyrium angustum</i></u>	<u>10.0</u>	<u>N</u>	<u>FAC</u>															
4. <u><i>Prunus serotina</i></u>	<u>5.0</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>75.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) <u>Canopy of sugar maple, basswood, and hemlock.</u>																		

SOIL

Sampling Point: wirb031_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No redox features observed.



wirb031_u_N



wirb031_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-27
 Applicant/Owner: Enbridge State: WI Sampling Point: wird031e_w
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-04
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0-2%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.489296 Long: -90.488827 Datum: WGS84
 Soil Map Unit Name: Denomie silt loam, 30 to 60 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Explain alternative procedures here or in a separate report.)
 The feature is a floodplain where a perennial stream connects with two intermittent tributaries. The feature is located in a low point within the landscape.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: The wetland hydrology regime is temporarily flooded.		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird031e_w

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Betula alleghaniensis</i></u>	<u>5.0</u>	<u>Y</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4.0</u> (A) Total Number of Dominant Species Across All Strata: <u>4.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>5.0</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>75.0</u></td> <td>x 1 = <u>75.0</u></td> </tr> <tr> <td>FACW species <u>3.0</u></td> <td>x 2 = <u>6.0</u></td> </tr> <tr> <td>FAC species <u>16.0</u></td> <td>x 3 = <u>48.0</u></td> </tr> <tr> <td>FACU species <u>0.0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>94.0</u> (A)</td> <td><u>129.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.4</u>	Total % Cover of:	Multiply by:	OBL species <u>75.0</u>	x 1 = <u>75.0</u>	FACW species <u>3.0</u>	x 2 = <u>6.0</u>	FAC species <u>16.0</u>	x 3 = <u>48.0</u>	FACU species <u>0.0</u>	x 4 = <u>0.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>94.0</u> (A)	<u>129.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>75.0</u>	x 1 = <u>75.0</u>																	
FACW species <u>3.0</u>	x 2 = <u>6.0</u>																	
FAC species <u>16.0</u>	x 3 = <u>48.0</u>																	
FACU species <u>0.0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>94.0</u> (A)	<u>129.0</u> (B)																	
<u>0.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u><i>Carex crinita</i></u>	<u>30.0</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Glyceria striata</i></u>	<u>25.0</u>	<u>Y</u>	<u>OBL</u>															
3. <u><i>Carex scabrata</i></u>	<u>20.0</u>	<u>Y</u>	<u>OBL</u>															
4. <u><i>Osmunda claytoniana</i></u>	<u>10.0</u>	<u>N</u>	<u>FAC</u>															
5. <u><i>Equisetum sylvaticum</i></u>	<u>2.0</u>	<u>N</u>	<u>FACW</u>															
6. <u><i>Carex intumescens</i></u>	<u>1.0</u>	<u>N</u>	<u>FACW</u>															
7. <u><i>Symphotrichum lateriflorum</i></u>	<u>1.0</u>	<u>N</u>	<u>FAC</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>89.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a floodplain dominated by sedges.																		

SOIL

Sampling Point: wird031e_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☒ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No

Remarks:

Red parent material with redox was observed.



wird031e_w_SE



wird031e_w_SW

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project		Evaluator(s): AGG/MDL	
File #: wird031		Date of visit(s): 09/27/2019	
Location: PLSS: <u>046N-001W-04</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.489268</u> Long: <u>-90.488873</u>		Watershed: LS11, Potato River	
County: <u>Iron</u> Town/City/Village: <u>Gurney town</u>			
SITE DESCRIPTION			
Soils: Mapped Type(s): 204F Denomie silt loam		WWI Class: N/A	
Field Verified: Series not verified. Soils were very fine sand over very fine sandy loam.		Wetland Type(s): PEM - sedge meadow	
		Wetland Size: 0.14	Wetland Area Impacted 0.14
Hydrology: The hydrologic regime is temporarily flooded. The feature is a floodplain located at the junction where a perennial stream connects with two intermittent tributaries.		Vegetation: Plant Community Description(s): The dominate herbaceous vegetation is Carex crinita, Glyceria striata, and Carex scabrata.	

SITE MAP

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	Y	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	Y	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	Y	Y	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N	Y	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present ≥ 45 days
10	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	Y	Y	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Y	Y	Wetland is connected or contiguous with perennial stream or lake
2	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	Y	Y	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	Y	Y	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	Y	Y	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland <u>or</u> constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Y	Y	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

WQ-4: floodplain wetland associated with a perennial stream and multiple intermittent tributaries
GW-1: side hill seepage feeds into streams

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
	Y	Birds
	Y	Mammals
	Y	Amphibians
	Y	Reptiles

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat

Plant Community Integrity (circle)*

*Note: separate plant communities are described independently

[illegible]

The feature is dominated by *Carex crinita*, *Carex scabrata*, and *Glyceria striata*. No invasives were observed.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	X		M	U	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
X	X		L		Other (list below):
					Debris

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is impacted by debris within the waterbodies resulting from attempts to control the water flow. A utility corridor is present to the east of the feature.

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	✓				
Wildlife Habitat	✓				
Fish and Aquatic Life Habitat		✓			
Shoreline Protection		✓			
Flood and Stormwater Storage	✓				
Water Quality Protection	✓				
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	Good assemblage of native species
Human Use Values	Steep slopes result in limited accessibility, located on private land
Wildlife Habitat	Missing strata, standing water may provide habitat for amphibians
Fish and Aquatic Life Habitat	Inundation and standing water may provide habitat for aquatic invertebrates, stream features are not deep enough to support many species
Shoreline Protection	Vegetation prevents erosion caused by streams
Flood and Stormwater Storage	Appears that water flows over the feature instead of being held by the feature
Water Quality Protection	See above
Groundwater Processes	Wetland hydrology is fed by features that are seep fed

Section 4: Project Impact Assessment

Brief Project Description

Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-27
 Applicant/Owner: Enbridge State: WI Sampling Point: wird031 u
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-04
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 3-7%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.489297 Long: -90.488707 Datum: WGS84
 Soil Map Unit Name: Denomie silt loam, 30 to 60 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) <u>The sample point is located at the bottom of a steep slope dominated by eastern hemlock.</u>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No wetland hydrology indicators were observed.</u>		

VEGETATION – Use scientific names of plants.

Sampling Point: wird031_u

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Tsuga canadensis</i></u>	<u>60.0</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2.0</u> (A) Total Number of Dominant Species Across All Strata: <u>5.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.0</u> (A/B)														
2. <u><i>Tilia americana</i></u>	<u>15.0</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>75.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u><i>Acer saccharum</i></u>	<u>10.0</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0.0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0.0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>7.0</u></td> <td>x 3 = <u>21.0</u></td> </tr> <tr> <td>FACU species <u>86.0</u></td> <td>x 4 = <u>344.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>93.0</u> (A)</td> <td><u>365.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.9</u>	Total % Cover of:	Multiply by:	OBL species <u>0.0</u>	x 1 = <u>0.0</u>	FACW species <u>0.0</u>	x 2 = <u>0.0</u>	FAC species <u>7.0</u>	x 3 = <u>21.0</u>	FACU species <u>86.0</u>	x 4 = <u>344.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>93.0</u> (A)	<u>365.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0.0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0.0</u>	x 2 = <u>0.0</u>																	
FAC species <u>7.0</u>	x 3 = <u>21.0</u>																	
FACU species <u>86.0</u>	x 4 = <u>344.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>93.0</u> (A)	<u>365.0</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u><i>Carex pedunculata</i></u>	<u>5.0</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Clintonia borealis</i></u>	<u>2.0</u>	<u>Y</u>	<u>FAC</u>															
3. <u><i>Maianthemum canadense</i></u>	<u>1.0</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>8.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The area is dominated by eastern hemlock. The ground cover is sparse.																		

SOIL

Sampling Point: wird031_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R. MLRA 149B**)

- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric Soil Present? Yes _____ No ☒

Remarks:

No hydric soil indicators were observed.



wird031_u_E



wird031_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-26
 Applicant/Owner: Enbridge State: WI Sampling Point: wird029f_w
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-03
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.489249 Long: -90.484661 Datum: WGS84
 Soil Map Unit Name: Kellogg-Allendale-Ashwabay complex, 0 to 15 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) The feature is a small shallow depression located within forest.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The wetland hydrology regime is seasonally saturated.		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird029f_w

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Acer saccharinum</i></u>	<u>75.0</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3.0</u> (A) Total Number of Dominant Species Across All Strata: <u>3.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>75.0</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>90.0</u></td> <td>x 1 = <u>90.0</u></td> </tr> <tr> <td>FACW species <u>75.0</u></td> <td>x 2 = <u>150.0</u></td> </tr> <tr> <td>FAC species <u>0.0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>0.0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>165.0</u> (A)</td> <td><u>240.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.5</u>	Total % Cover of:	Multiply by:	OBL species <u>90.0</u>	x 1 = <u>90.0</u>	FACW species <u>75.0</u>	x 2 = <u>150.0</u>	FAC species <u>0.0</u>	x 3 = <u>0.0</u>	FACU species <u>0.0</u>	x 4 = <u>0.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>165.0</u> (A)	<u>240.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>90.0</u>	x 1 = <u>90.0</u>																	
FACW species <u>75.0</u>	x 2 = <u>150.0</u>																	
FAC species <u>0.0</u>	x 3 = <u>0.0</u>																	
FACU species <u>0.0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>165.0</u> (A)	<u>240.0</u> (B)																	
<u>0.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u><i>Carex tuckermanii</i></u>	<u>50.0</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Juncus effusus</i></u>	<u>25.0</u>	<u>Y</u>	<u>OBL</u>															
3. <u><i>Calamagrostis canadensis</i></u>	<u>10.0</u>	<u>N</u>	<u>OBL</u>															
4. <u><i>Scirpus cyperinus</i></u>	<u>5.0</u>	<u>N</u>	<u>OBL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>90.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is dominated by silver maple.																		

SOIL

Sampling Point: wird029f_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No

Remarks:

A depleted matrix was observed beneath a dark surface layer.



wird029f_w_N



wird029f_w_S

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

WETLAND IDENTIFICATION							
Project name: Line 5 Relocation Project		Evaluator(s): AGG/MDL					
File #: wird029		Date of visit(s): 09/26/2019					
Location: PLSS: <u>046N-001W-03</u>		Ecological Landscape: North Central Forest					
Lat: <u>46.489302</u> Long: <u>-90.484649</u>		Watershed: LS11, Potato River					
County: <u>Iron</u> Town/City/Village: <u>Gurney town</u>							
SITE DESCRIPTION							
Soils: Mapped Type(s): 713B Kellogg-Allendale-Ashwabay complex, 713C Kellogg-Allendale-Ashwabay complex Field Verified: Series not verified. Soils were a clay loam over silty clay loam.		WWI Class: N/A Wetland Type(s): PFO - hardwood swamp					
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology.		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Wetland Size: 0.26</td> <td style="padding: 5px;">Wetland Area Impacted 0.26</td> </tr> <tr> <td colspan="2" style="padding: 5px;"> Vegetation: Plant Community Description(s): The feature is a hardwood swamp dominated by a canopy of <i>Acer saccharinum</i>, with <i>Carex</i> <i>tuckermanii</i> and <i>Juncus effusus</i> dominating the herbaceous layer. </td> </tr> </table>		Wetland Size: 0.26	Wetland Area Impacted 0.26	Vegetation: Plant Community Description(s): The feature is a hardwood swamp dominated by a canopy of <i>Acer saccharinum</i> , with <i>Carex</i> <i>tuckermanii</i> and <i>Juncus effusus</i> dominating the herbaceous layer.	
Wetland Size: 0.26	Wetland Area Impacted 0.26						
Vegetation: Plant Community Description(s): The feature is a hardwood swamp dominated by a canopy of <i>Acer saccharinum</i> , with <i>Carex</i> <i>tuckermanii</i> and <i>Juncus effusus</i> dominating the herbaceous layer.							

SITE MAP

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Y	Y	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	Y	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Y	Ephemeral pond with water present ≥ 45 days
10	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland <u>or</u> constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

HU-3: located on private land
WH-4: a road and land use decrease potential natural land cover, but the wetland itself is located in a forest with the only significant disturbance being logging
ST-5: the wetland receives runoff from the adjacent road

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

[illegible]

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

[illegible]

Plant Community Integrity (circle)*

*Note: separate plant communities are described independently

[illegible]

The canopy is dominated by *Acer saccharinum*, and the ground layer is dominated by *Carex tuckermanii* and *Juncus effusus*. No shrub vegetation is present within the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
X	X		H	C	Point source or stormwater discharge
X	X		M	C	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
X	X		H	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
	X	X	M	C	Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Logging has occurred on an adjacent tract, affecting the hydrology of the area.

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values		✓			
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	✓				
Shoreline Protection					✓
Flood and Stormwater Storage		✓			
Water Quality Protection		✓			
Groundwater Processes	✓				

FUNCTION	RATIONALE
Floristic Integrity	Good assemblage of native species
Human Use Values	Potential for hunting
Wildlife Habitat	Shallow pools for amphibians and invertebrates
Fish and Aquatic Life Habitat	Habitat when inundated
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed depressional wetland that obtains stormwater runoff
Water Quality Protection	Allows water to infiltrate and not run off
Groundwater Processes	Recharge feature

Section 4: Project Impact Assessment

Brief Project Description

Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-26
 Applicant/Owner: Enbridge State: WI Sampling Point: wird029 u
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-03
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 0-2%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.489243 Long: -90.484943 Datum: WGS84
 Soil Map Unit Name: Kellogg-Allendale-Ashwabay complex, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) The sample point is located within mesic hardwood forest with a canopy dominated by sugar maple. The sapling stratum is dominated by ironwood. Ground cover is sparse.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators were observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird029 u

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer saccharum</u>	<u>75.0</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A) Total Number of Dominant Species Across All Strata: <u>3.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33333333333333</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>75.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Ostrya virginiana</u>	<u>75.0</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0.0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0.0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>20.0</u></td> <td>x 3 = <u>60.0</u></td> </tr> <tr> <td>FACU species <u>150.0</u></td> <td>x 4 = <u>600.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>170.0</u> (A)</td> <td><u>660.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.9</u>	Total % Cover of:	Multiply by:	OBL species <u>0.0</u>	x 1 = <u>0.0</u>	FACW species <u>0.0</u>	x 2 = <u>0.0</u>	FAC species <u>20.0</u>	x 3 = <u>60.0</u>	FACU species <u>150.0</u>	x 4 = <u>600.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>170.0</u> (A)	<u>660.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0.0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0.0</u>	x 2 = <u>0.0</u>																	
FAC species <u>20.0</u>	x 3 = <u>60.0</u>																	
FACU species <u>150.0</u>	x 4 = <u>600.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>170.0</u> (A)	<u>660.0</u> (B)																	
2. <u>Betula alleghaniensis</u>	<u>10.0</u>	<u>N</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>85.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Carex pedunculata</u>	<u>10.0</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>10.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)
 The sample plot is located within mesic hardwood forest dominated by sugar maple.

SOIL

Sampling Point: wird029_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric Soil Present? Yes _____ No ☒

Remarks:

No hydric soil indicators were observed.



wird029_u_N



wird029_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-26
 Applicant/Owner: Enbridge State: WI Sampling Point: wird030f_w
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-03
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.489842 Long: -90.487068 Datum: WGS84
 Soil Map Unit Name: Kellogg-Allendale-Ashwabay complex, 0 to 15 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) The feature is a PFO hardwood swamp. The feature is the headwater of waterbody sird012i.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The wetland hydrology regime is seasonally saturated.		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird030f_w

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Acer saccharinum</i></u>	<u>50.0</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3.0</u> (A) Total Number of Dominant Species Across All Strata: <u>4.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.0</u> (A/B)														
2. <u><i>Acer saccharum</i></u>	<u>15.0</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>65.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>55.0</u></td> <td>x 1 = <u>55.0</u></td> </tr> <tr> <td>FACW species <u>95.0</u></td> <td>x 2 = <u>190.0</u></td> </tr> <tr> <td>FAC species <u>0.0</u></td> <td>x 3 = <u>0.0</u></td> </tr> <tr> <td>FACU species <u>15.0</u></td> <td>x 4 = <u>60.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>165.0</u> (A)</td> <td><u>305.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.8</u>	Total % Cover of:	Multiply by:	OBL species <u>55.0</u>	x 1 = <u>55.0</u>	FACW species <u>95.0</u>	x 2 = <u>190.0</u>	FAC species <u>0.0</u>	x 3 = <u>0.0</u>	FACU species <u>15.0</u>	x 4 = <u>60.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>165.0</u> (A)	<u>305.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>55.0</u>	x 1 = <u>55.0</u>																	
FACW species <u>95.0</u>	x 2 = <u>190.0</u>																	
FAC species <u>0.0</u>	x 3 = <u>0.0</u>																	
FACU species <u>15.0</u>	x 4 = <u>60.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>165.0</u> (A)	<u>305.0</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u><i>Calamagrostis canadensis</i></u>	<u>50.0</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Solidago gigantea</i></u>	<u>25.0</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Carex intumescens</i></u>	<u>10.0</u>	<u>N</u>	<u>FACW</u>															
4. <u><i>Onoclea sensibilis</i></u>	<u>5.0</u>	<u>N</u>	<u>FACW</u>															
5. <u><i>Carex crinita</i></u>	<u>5.0</u>	<u>N</u>	<u>OBL</u>															
6. <u><i>Osmundastrum cinnamomeum</i></u>	<u>5.0</u>	<u>N</u>	<u>FACW</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>100.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is dominated by silver maple and Canada bluejoint.																		

SOIL

Sampling Point: wird030f_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☒ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No

Remarks:

Red parent material with Manganese concentrations was observed,



wird030f_w_E



wird030f_w_W

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project		Evaluator(s): AGG/MDL	
File #: wird030		Date of visit(s): 09/26/2019	
Location: PLSS: <u>046N-001W-03</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.489848</u> Long: <u>-90.487116</u>		Watershed: LS11 - Potato River	
County: <u>Iron</u> Town/City/Village: <u>Gurney town</u>			
SITE DESCRIPTION			
Soils: Mapped Type(s): 713C Kellogg-Allendale-Ashwabay complex		WWI Class: N/A	
Field Verified: Series not verified. The soils consist of a silty clay loam over a silt loam.		Wetland Type(s): PFO - Hardwood swamp	
		Wetland Size: 0.03	Wetland Area Impacted 0.03
Hydrology: The hydrologic regime is seasonally saturated. The feature is the headwater of an intermittent stream.		Vegetation: Plant Community Description(s): The wetland is a PFO hardwood swamp dominated by <i>Acer saccharinum</i> and <i>Calamagrostis canadensis</i> .	

SITE MAP

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	Y	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Y	Y	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	Y	Y	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Y	Ephemeral pond with water present ≥ 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland <u>or</u> constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	Y	Y	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

HU-3: located on private land

GW-2: headwater of intermittent stream to the west of the feature

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
	Y	Mammals
	Y	Birds
	Y	Amphibians
	Y	Reptiles

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat

Plant Community Integrity (circle)*

*Note: separate plant communities are described independently

[illegible]

The feature is dominated by *Acer saccharinum* with a good assemblage of native species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	X		M	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
	X		L	C	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	X		L	C	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is located within a forested area. A utility corridor is present within the buffer area to the west of the feature, and an unpaved human trail is present to the south.

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	✓				
Wildlife Habitat	✓				
Fish and Aquatic Life Habitat		✓			
Shoreline Protection					✓
Flood and Stormwater Storage	✓				
Water Quality Protection	✓				
Groundwater Processes	✓				

FUNCTION	RATIONALE
Floristic Integrity	Good assemblage of native species, missing shrub strata
Human Use Values	Private land with limited recreational value
Wildlife Habitat	Missing strata, no wildlife observed
Fish and Aquatic Life Habitat	Provides habitat for amphibians in the spring
Shoreline Protection	N/A
Flood and Stormwater Storage	Shallow basin, wetland feeds an intermittent stream
Water Quality Protection	Depression that allows a limited amount of water to infiltrate, the remainder enters a stream as runoff
Groundwater Processes	Discharge feature

Section 4: Project Impact Assessment

Brief Project Description

Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-26
 Applicant/Owner: Enbridge State: WI Sampling Point: wird030 u
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-03
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 0-2%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.490029 Long: -90.487189 Datum: WGS84
 Soil Map Unit Name: Kellogg-Allendale-Ashwabay complex, 0 to 15 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) The sample point is located within mesic hardwood forest dominated by FAC and FACU species.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators were observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird030_u

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer saccharum</u>	<u>65.0</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.00</u> (A/B)														
2. <u>Prunus nigra</u>	<u>10.0</u>	<u>N</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>75.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>60</u></td> <td>x 3 = <u>180</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>560</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.61</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>60</u>	x 3 = <u>180</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>560</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>60</u>	x 3 = <u>180</u>																	
FACU species <u>95</u>	x 4 = <u>380</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>155</u> (A)	<u>560</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Osmunda claytoniana</u>	<u>25.0</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Carex pedunculata</u>	<u>20.0</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Brachyelytrum erectum</u>	<u>20.0</u>	<u>Y</u>	<u>FACU</u>															
4. <u>Dryopteris intermedia</u>	<u>15.0</u>	<u>N</u>	<u>FAC</u>															
5. <u>Carex arctata</u>	<u>10.0</u>	<u>N</u>	<u>NI</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>90</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		

Hydrophytic Vegetation Present?
 Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

The sample plot is located within mesic hardwood forest dominated by maples.

SOIL

Sampling Point: wird030_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators were observed.



wird030_u_E



wird030_u_N

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-27
 Applicant/Owner: Enbridge State: WI Sampling Point: wird034e_w
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-03
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.490768 Long: -90.487761 Datum: WGS84
 Soil Map Unit Name: Kellogg-Allendale-Ashwabay complex, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) The feature is a depressional wetland located in an opening in the forest canopy. A small pocket of the wetland to the north is dominated by <i>Carex crinita</i> .	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The wetland appears to be inundated for periods throughout the growing season.		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird034e_w

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2.0</u> (A) Total Number of Dominant Species Across All Strata: <u>2.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>15.0</u></td> <td>x 1 = <u>15.0</u></td> </tr> <tr> <td>FACW species <u>30.0</u></td> <td>x 2 = <u>60.0</u></td> </tr> <tr> <td>FAC species <u>20.0</u></td> <td>x 3 = <u>60.0</u></td> </tr> <tr> <td>FACU species <u>0.0</u></td> <td>x 4 = <u>0.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>65.0</u> (A)</td> <td><u>135.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.1</u>	Total % Cover of:	Multiply by:	OBL species <u>15.0</u>	x 1 = <u>15.0</u>	FACW species <u>30.0</u>	x 2 = <u>60.0</u>	FAC species <u>20.0</u>	x 3 = <u>60.0</u>	FACU species <u>0.0</u>	x 4 = <u>0.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>65.0</u> (A)	<u>135.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>15.0</u>	x 1 = <u>15.0</u>																	
FACW species <u>30.0</u>	x 2 = <u>60.0</u>																	
FAC species <u>20.0</u>	x 3 = <u>60.0</u>																	
FACU species <u>0.0</u>	x 4 = <u>0.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>65.0</u> (A)	<u>135.0</u> (B)																	
<u>0.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Osmundastrum cinnamomeum</u>	<u>25.0</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Osmunda claytoniana</u>	<u>20.0</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Glyceria grandis</u>	<u>10.0</u>	<u>N</u>	<u>OBL</u>															
4. <u>Onoclea sensibilis</u>	<u>5.0</u>	<u>N</u>	<u>FACW</u>															
5. <u>Carex crinita</u>	<u>5.0</u>	<u>N</u>	<u>OBL</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>65.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by ferns.																		

SOIL

Sampling Point: wird034e_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Redox observed throughout the profile.



wird034e_w_E



wird034e_w_W

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project		Evaluator(s): AGG/MDL	
File #: wird034		Date of visit(s): 09/27/2019	
Location: PLSS: <u>046N-001W-04, 046N-001W-03</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.490968</u> Long: <u>-90.487799</u>		Watershed: LS11, Potato River	
County: <u>Iron</u> Town/City/Village: <u>Gurney town</u>			
SITE DESCRIPTION			
Soils: Mapped Type(s): 713B Kellogg-Allendale-Ashwabay complex		WWI Class: N/A	
Field Verified: Series not verified. Soils were silt loam throughout the profile.		Wetland Type(s): PEM - Fresh (wet) meadow	
		Wetland Size: 0.11	Wetland Area Impacted 0.11
Hydrology: The hydrologic regime is seasonally flooded and appears to be inundated for periods throughout the growing season.		Vegetation: Plant Community Description(s): The herbaceous vegetation is dominated by Osmundastrum cinnamomeum and Osmunda claytoniana.	

SITE MAP

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	Y	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	Y	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present ≥ 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland <u>or</u> constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

HU-1: located within a forest canopy opening
WH-10, FA-2: standing water may be present after precipitation events to support some aquatic species

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
	Y	Amphibians
	Y	Mammals

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
	Y	Aquatic invertebrates

Plant Community Integrity (circle)*

*Note: separate plant communities are described independently

[illegible]

The feature is dominated by various ferns.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	X		M	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is located in an opening in the forest canopy adjacent to a utility corridor. The corridor is present to the east of the feature within the buffer area.

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	✓				
Human Use Values	✓				
Wildlife Habitat	✓				
Fish and Aquatic Life Habitat	✓				
Shoreline Protection					✓
Flood and Stormwater Storage	✓				
Water Quality Protection	✓				
Groundwater Processes	✓				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity of species, not all strata present
Human Use Values	Private land with no recreational value
Wildlife Habitat	Missing strata, no wildlife observed
Fish and Aquatic Life Habitat	Potentially has standing water in the spring
Shoreline Protection	N/A
Flood and Stormwater Storage	Shallow basin
Water Quality Protection	Closed depression that allows a limited amount of water to infiltrate
Groundwater Processes	Recharge feature

Section 4: Project Impact Assessment

Brief Project Description

Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-27
 Applicant/Owner: Enbridge State: WI Sampling Point: wird034 u
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-03
 Landform (hillslope, terrace, etc.): Head slope Local relief (concave, convex, none): None Slope (%): 3-7%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.490668 Long: -90.487580 Datum: WGS84
 Soil Map Unit Name: Kellogg-Allendale-Ashwabay complex, 2 to 6 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) <u>The upland sample point is located in mesic hardwood forest dominated by sugar maple.</u>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No wetland hydrology indicators were observed.</u>		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird034_u

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Acer saccharum</i></u>	<u>80.0</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1.0</u> (A) Total Number of Dominant Species Across All Strata: <u>2.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>80.0</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0.0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0.0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>10.0</u></td> <td>x 3 = <u>30.0</u></td> </tr> <tr> <td>FACU species <u>80.0</u></td> <td>x 4 = <u>320.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>90.0</u> (A)</td> <td><u>350.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.9</u>	Total % Cover of:	Multiply by:	OBL species <u>0.0</u>	x 1 = <u>0.0</u>	FACW species <u>0.0</u>	x 2 = <u>0.0</u>	FAC species <u>10.0</u>	x 3 = <u>30.0</u>	FACU species <u>80.0</u>	x 4 = <u>320.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>90.0</u> (A)	<u>350.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0.0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0.0</u>	x 2 = <u>0.0</u>																	
FAC species <u>10.0</u>	x 3 = <u>30.0</u>																	
FACU species <u>80.0</u>	x 4 = <u>320.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>90.0</u> (A)	<u>350.0</u> (B)																	
<u>0.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u><i>Matteuccia struthiopteris</i></u>	<u>10.0</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>10.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>																		
Remarks: (Include photo numbers here or on a separate sheet.) Vegetation is disturbed. The sample point is located close to a maintained powerline corridor.																		

SOIL

Sampling Point: wird034_u

[illegible]



wird034_u_SE



wird034_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-27
 Applicant/Owner: Enbridge State: WI Sampling Point: wird032s_w
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-04
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-2%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.491962 Long: -90.488887 Datum: WGS84
 Soil Map Unit Name: Denomie silt loam, 30 to 60 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil ☒, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) The feature is a shrub swamp dominated by speckled alder. The feature is located on a floodplain and is fed by nearby Vaughn Creek and one of its tributaries.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The wetland hydrology regime is seasonally flooded.		

VEGETATION – Use scientific names of plants.

Sampling Point: wird032s_w

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus nigra</u>	<u>10.0</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6.0</u> (A) Total Number of Dominant Species Across All Strata: <u>7.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.71428571428571</u> (A/B)
2. <u>Abies balsamea</u>	<u>10.0</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Ulmus americana</u>	<u>5.0</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>25.0</u> = Total Cover				Prevalence Index worksheet: <div style="display: flex; justify-content: space-between;"> Total % Cover of: Multiply by: </div> OBL species <u>35.0</u> x 1 = <u>35.0</u> FACW species <u>105.0</u> x 2 = <u>210.0</u> FAC species <u>15.0</u> x 3 = <u>45.0</u> FACU species <u>0.0</u> x 4 = <u>0.0</u> UPL species <u>20.0</u> x 5 = <u>100.0</u> Column Totals: <u>175.0</u> (A) <u>390.0</u> (B) Prevalence Index = B/A = <u>2.2</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Alnus incana</u>	<u>60.0</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>60.0</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Myosotis cf. sylvatica</u>	<u>20.0</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Carex scabrata</u>	<u>20.0</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Phalaris arundinacea</u>	<u>15.0</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Carex bromoides</u>	<u>10.0</u>	<u>N</u>	<u>FACW</u>	
5. <u>Glyceria striata</u>	<u>10.0</u>	<u>N</u>	<u>OBL</u>	
6. <u>Carex crinita</u>	<u>5.0</u>	<u>N</u>	<u>OBL</u>	
7. <u>Symphyotrichum lateriflorum</u>	<u>5.0</u>	<u>N</u>	<u>FAC</u>	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
8. <u>Onoclea sensibilis</u>	<u>2.0</u>	<u>N</u>	<u>FACW</u>	
9. <u>Osmundastrum cinnamomeum</u>	<u>2.0</u>	<u>N</u>	<u>FACW</u>	
10. <u>Equisetum sylvaticum</u>	<u>1.0</u>	<u>N</u>	<u>FACW</u>	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>90.0</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0.0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) The feature is dominated by speckled alder and black ash.				

SOIL

Sampling Point: wird032s_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☒ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No

Remarks:

No hydric soil indicators were observed due to sedimentation from the associated creek. The soils are very sandy.



wird032s_w_E



wird032s_w_N

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project		Evaluator(s): AGG/MDL	
File #: wird032		Date of visit(s): 09/27/2019	
Location: PLSS: <u>046N-001W-04</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.492047</u> Long: <u>-90.489048</u>		Watershed: LS11, Potato River	
County: <u>Iron</u> Town/City/Village: <u>Gurney town</u>			
SITE DESCRIPTION			
Soils: Mapped Type(s): 204F Denomie silt loam		WWI Class: N/A	
Field Verified: Series not verified. Soils were sand throughout the profile.		Wetland Type(s): PSS - shrub-carr	
		Wetland Size: 0.15	Wetland Area Impacted 0.15
Hydrology: The hydrologic regime is seasonally flooded. The wetland is located on a floodplain receiving inputs from Vaughn Creek and an associated tributary.		Vegetation: Plant Community Description(s): The shrub-carr wetland is dominated by <i>Alnus incana</i> . The herbaceous vegetation is dominated by <i>Myosotis</i> cf. <i>sylvatica</i> , <i>Carex scabrata</i> , and <i>Phalaris arundinacea</i> .	

SITE MAP

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	Y	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	Y	Y	In or adjacent to RED FLAG areas List: Vaughn Creek
6	N	Y	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	Y	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	Y	Y	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present ≥ 45 days
10	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	Y	Wetland is connected or contiguous with perennial stream or lake
2	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	Y	Y	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	Y	Y	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	Y	Y	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland <u>or</u> constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Y	Y	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

FA-1: associated with Vaughn Creek and one of its tributaries and may provide seasonal access to aquatic species
GW-1: tributary is seep fed

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
Y	Y	Amphibians
	Y	Birds
	Y	Mammals
	Y	Reptiles

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
	Y	Aquatic invertebrates

Plant Community Integrity (circle)*

*Note: separate plant communities are described independently

[illegible]

There is an abundance of species present but invasive species are dominant within the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	X		M	U	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
X			M	U	Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X			M	C	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is impacted by sedimentation from the associated creek and some invasive species coverage. A utility corridor is present to the north and the east of the feature within the buffer area.

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	✓				
Human Use Values	✓				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat			✓		
Shoreline Protection			✓		
Flood and Stormwater Storage		✓			
Water Quality Protection		✓			
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	Invasive species present
Human Use Values	Difficult access on private land
Wildlife Habitat	Diversity of habitats support various wildlife types
Fish and Aquatic Life Habitat	Associated with a perennial stream and has shallow pools that provide habitat
Shoreline Protection	Vegetation prevents erosion from Vaughn creek and its tributaries
Flood and Stormwater Storage	Holds floodwaters from Vaughn Creek
Water Quality Protection	Allows rain and floodwater to infiltrate
Groundwater Processes	Tributary is seep fed

Section 4: Project Impact Assessment

Brief Project Description

Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-27
 Applicant/Owner: Enbridge State: WI Sampling Point: wird032 u
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-04
 Landform (hillslope, terrace, etc.): Base Slope Local relief (concave, convex, none): None Slope (%): 8-15%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.491858 Long: -90.488906 Datum: WGS84
 Soil Map Unit Name: Denomie silt loam, 30 to 60 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) The sample point is located in an eastern hemlock dominated forest.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators were observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird032_u

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Tsuga canadensis</i></u>	<u>75.0</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A) Total Number of Dominant Species Across All Strata: <u>1.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0</u> (A/B)														
2. <u><i>Betula alleghaniensis</i></u>	<u>15.0</u>	<u>N</u>	<u>FAC</u>															
3. <u><i>Abies balsamea</i></u>	<u>10.0</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>100.0</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0.0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0.0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>25.0</u></td> <td>x 3 = <u>75.0</u></td> </tr> <tr> <td>FACU species <u>75.0</u></td> <td>x 4 = <u>300.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>100.0</u> (A)</td> <td><u>375.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.8</u>	Total % Cover of:	Multiply by:	OBL species <u>0.0</u>	x 1 = <u>0.0</u>	FACW species <u>0.0</u>	x 2 = <u>0.0</u>	FAC species <u>25.0</u>	x 3 = <u>75.0</u>	FACU species <u>75.0</u>	x 4 = <u>300.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>100.0</u> (A)	<u>375.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0.0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0.0</u>	x 2 = <u>0.0</u>																	
FAC species <u>25.0</u>	x 3 = <u>75.0</u>																	
FACU species <u>75.0</u>	x 4 = <u>300.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>100.0</u> (A)	<u>375.0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The ground layer of the sample plot is unvegetated.																		

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✓

SOIL

Sampling Point: wird032_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators were observed.



wird032_u_S



wird032_u_SW

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-27
 Applicant/Owner: Enbridge State: WI Sampling Point: wird033f_w
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-03
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.492491 Long: -90.487034 Datum: WGS84
 Soil Map Unit Name: Denomie silt loam, 30 to 60 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) The area is disturbed by an existing powerline corridor. The feature is a PFO with standing water present. The feature is located in an old stream oxbow.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) ___ Water Marks (B1) ___ Sediment Deposits (B2) ___ Drift Deposits (B3) ___ Algal Mat or Crust (B4) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) ___ Aquatic Fauna (B13) ___ Marl Deposits (B15) ___ Hydrogen Sulfide Odor (C1) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Presence of Reduced Iron (C4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Thin Muck Surface (C7) ___ Other (Explain in Remarks)	___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>8</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The wetland hydrology regime is semi-permanently flooded.		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird033f_w

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus nigra</u>	<u>25.0</u>	<u>Y</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6.0</u> (A) Total Number of Dominant Species Across All Strata: <u>6.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)														
2. <u>Betula alleghaniensis</u>	<u>15.0</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Thuja occidentalis</u>	<u>5.0</u>	<u>N</u>	<u>FACW</u>															
4. <u>Betula papyrifera</u>	<u>5.0</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>50.0</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>10.0</u></td> <td>x 1 = <u>10.0</u></td> </tr> <tr> <td>FACW species <u>40.0</u></td> <td>x 2 = <u>80.0</u></td> </tr> <tr> <td>FAC species <u>20.0</u></td> <td>x 3 = <u>60.0</u></td> </tr> <tr> <td>FACU species <u>5.0</u></td> <td>x 4 = <u>20.0</u></td> </tr> <tr> <td>UPL species <u>2.0</u></td> <td>x 5 = <u>10.0</u></td> </tr> <tr> <td>Column Totals: <u>77.0</u> (A)</td> <td><u>180.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.3</u>	Total % Cover of:	Multiply by:	OBL species <u>10.0</u>	x 1 = <u>10.0</u>	FACW species <u>40.0</u>	x 2 = <u>80.0</u>	FAC species <u>20.0</u>	x 3 = <u>60.0</u>	FACU species <u>5.0</u>	x 4 = <u>20.0</u>	UPL species <u>2.0</u>	x 5 = <u>10.0</u>	Column Totals: <u>77.0</u> (A)	<u>180.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10.0</u>	x 1 = <u>10.0</u>																	
FACW species <u>40.0</u>	x 2 = <u>80.0</u>																	
FAC species <u>20.0</u>	x 3 = <u>60.0</u>																	
FACU species <u>5.0</u>	x 4 = <u>20.0</u>																	
UPL species <u>2.0</u>	x 5 = <u>10.0</u>																	
Column Totals: <u>77.0</u> (A)	<u>180.0</u> (B)																	
<u>15.0</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Alnus incana</u>	<u>10.0</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Abies balsamea</u>	<u>5.0</u>	<u>Y</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>15.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Carex crinita</u>	<u>5.0</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Glyceria striata</u>	<u>5.0</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Myosotis sylvatica</u>	<u>2.0</u>	<u>N</u>	<u>UPL</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>12.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)
 The majority of the ground layer is covered in standing water with no vegetation present.

SOIL

Sampling Point: wird033f_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☒ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No

Remarks:

A depleted matrix was observed.



wird033f_w_E



wird033f_w_W

**Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0**

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project		Evaluator(s): AGG/MDL	
File #: wird033		Date of visit(s): 09/27/2019	
Location: PLSS: <u>046N-001W-03</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.492541</u> Long: <u>-90.487013</u>		Watershed: LS11, Potato River	
County: <u>Iron</u> Town/City/Village: <u>Gurney town</u>			
SITE DESCRIPTION			
Soils: Mapped Type(s): 204F Denomie silt loam		WWI Class: T5/S3Kw	
Field Verified: Series not verified. Soils were silt above silty clay loam.		Wetland Type(s): PFO - hardwood swamp	
		Wetland Size: 0.11	Wetland Area Impacted 0.11
Hydrology: The hydrologic regime is semi-permanently flooded.		Vegetation: Plant Community Description(s): The canopy is dominated by Fraxinus nigra and Betula alleghaniensis. Shrubs are dominated by Alnus incana and Abies balsamea. Carex crinita and Glyceria striata dominate the herbaceous vegetation, though the majority of the ground layer is unvegetated due to the presence of standing water.	

SITE MAP

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	Y	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	Y	Y	In or adjacent to RED FLAG areas List: Vaughn Creek
6	N	Y	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	Y	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	Y	Y	Ephemeral pond with water present ≥ 45 days
10	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Y	Y	Wetland is connected or contiguous with perennial stream or lake
2	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	Y	Y	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland <u>or</u> constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

HU-3: located on private land

SP-1: located in an old stream oxbow adjacent to Vaughn Creek

Wildlife Habitat and Species Observation (including amphibians and reptiles)**List:** direct observation, tracks, scat, other sign; **type of habitat:** nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
	Y	Amphibians
	Y	Birds
	Y	Reptiles

Fish and Aquatic Life Habitat and Species Observations**List:** direct observation, other sign; **type of habitat:** nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
	Y	Aquatic invertebrates

Plant Community Integrity (circle)*

*Note: separate plant communities are described independently

[illegible]

The feature is dominated by *Fraxinus nigra*, and non-native vegetation is present within the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
X	X		H	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X			L	U	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High

**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is predominately impacted by the utility corridor that runs through the middle of the feature. Non-native vegetation is present within the wetland.

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	✓				
Human Use Values	✓				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat			✓		
Shoreline Protection	✓				
Flood and Stormwater Storage	✓				
Water Quality Protection	✓				
Groundwater Processes	✓				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity of species, partially cleared due to power line corridor
Human Use Values	Private land with no recreational value
Wildlife Habitat	Habitats for amphibians and reptiles
Fish and Aquatic Life Habitat	Provides habitat for amphibians in the spring
Shoreline Protection	Old oxbow of stream
Flood and Stormwater Storage	Shallow basin
Water Quality Protection	Closed depression that allows a limited amount of water to infiltrate
Groundwater Processes	Recharge feature

Section 4: Project Impact Assessment

Brief Project Description

Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Iron Sampling Date: 2019-09-27
 Applicant/Owner: Enbridge State: WI Sampling Point: wird033 u
 Investigator(s): AGG/MDL Section, Township, Range: 046N-001W-03
 Landform (hillslope, terrace, etc.): Side slope Local relief (concave, convex, none): Convex Slope (%): 3-7%
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.492321 Long: -90.486990 Datum: WGS84
 Soil Map Unit Name: Denomie silt loam, 30 to 60 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) The upland area is bordered by wetland to the north and west and a perennial stream to the south. There is wetland present to the east of the survey corridor.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators were observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: wird033 u

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Tsuga canadensis</i></u>	<u>50.0</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2.0</u> (A) Total Number of Dominant Species Across All Strata: <u>3.0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.66666666666666</u> (A/B)														
2. <u><i>Betula alleghaniensis</i></u>	<u>20.0</u>	<u>Y</u>	<u>FAC</u>															
3. <u><i>Acer saccharum</i></u>	<u>10.0</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>80.0</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0.0</u></td> <td>x 1 = <u>0.0</u></td> </tr> <tr> <td>FACW species <u>0.0</u></td> <td>x 2 = <u>0.0</u></td> </tr> <tr> <td>FAC species <u>30.0</u></td> <td>x 3 = <u>90.0</u></td> </tr> <tr> <td>FACU species <u>60.0</u></td> <td>x 4 = <u>240.0</u></td> </tr> <tr> <td>UPL species <u>0.0</u></td> <td>x 5 = <u>0.0</u></td> </tr> <tr> <td>Column Totals: <u>90.0</u> (A)</td> <td><u>330.0</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.7</u>	Total % Cover of:	Multiply by:	OBL species <u>0.0</u>	x 1 = <u>0.0</u>	FACW species <u>0.0</u>	x 2 = <u>0.0</u>	FAC species <u>30.0</u>	x 3 = <u>90.0</u>	FACU species <u>60.0</u>	x 4 = <u>240.0</u>	UPL species <u>0.0</u>	x 5 = <u>0.0</u>	Column Totals: <u>90.0</u> (A)	<u>330.0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0.0</u>	x 1 = <u>0.0</u>																	
FACW species <u>0.0</u>	x 2 = <u>0.0</u>																	
FAC species <u>30.0</u>	x 3 = <u>90.0</u>																	
FACU species <u>60.0</u>	x 4 = <u>240.0</u>																	
UPL species <u>0.0</u>	x 5 = <u>0.0</u>																	
Column Totals: <u>90.0</u> (A)	<u>330.0</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u><i>Athyrium angustum</i></u>	<u>10.0</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>10.0</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0.0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) Sample plot is located in forest dominated by eastern hemlock.																		

SOIL

Sampling Point: wird033_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soil indicators observed.



wird033_u_E



wird033_u_N

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 City/County: Iron Sampling Date: 10/17/2019
 Applicant/Owner: Enbridge State: WI Sampling Point WIRV008f_W
 Investigator(s): Caitlin Cyrus, Clay Robertson Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2-5% Lat.: 46.494085 Long.: -90.488315 Datum: WGS 1984
 Soil Map Unit Name: Kellogg-Allendale-Ashwaby complex, 0 to 15 percent slopes NWI Classification: None
 Are climatic/hydrologic conditions of the site typical for this time of the year? yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Summary of Findings		Wetland Determination	
Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland?	<u>Y</u>
Hydric soil present?	<u>Y</u>		
Indicators of wetland hydrology present?	<u>Y</u>	If yes, optional wetland site ID:	_____
Remarks: (Explain alternative procedures here or in a separate report.)			
Data point located in PFO system adjacent to powerline easement. ATV tracks cross through wetland.			

HYDROLOGY

HYDROLOGY			WETLAND HYDROLOGY	
Primary Indicators (minimum of one is required; check all that apply) <div> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div>			Secondary Indicators (minimum of two required) <div> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input checked="" type="checkbox"/> Microtopographic Relief (D4) </div>	
Field Observations: <div> Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Water table present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe) </div>			Indicators of wetland hydrology present? <input checked="" type="checkbox"/>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <div> </div>				
Remarks: <div> Primary and secondary indicators of wetland hydrology present; parameter is met. Subsurface hydrology indicators were not identified due to potential for underground utilities. </div>				

VEGETATION - Use scientific names of plants
Sampling Point: WIRV008f_W

Tree Stratum					Plot Size (30' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Betula alleghaniensis</i>				15	Y	FAC			
2	<i>Fraxinus nigra</i>				15	Y	FACW			
3	<i>Tsuga canadensis</i>				15	Y	FACU			
4	<i>Abies balsamea</i>				3	N	FAC			
5										
6										
7										
8										
9										
10										
					48	= Total Cover				

Sapling/Shrub Stratum					Plot Size (15' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Betula alleghaniensis</i>				63	Y	FAC			
2	<i>Fraxinus nigra</i>				15	N	FACW			
3	<i>Abies balsamea</i>				3	N	FAC			
4	<i>Acer saccharum</i>				3	N	FACU			
5										
6										
7										
8										
9										
10										
					84	= Total Cover				

Herb Stratum					Plot Size (5' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Glyceria striata</i>				38	Y	OBL			
2	<i>Carex intumescens</i>				15	Y	FACW			
3	<i>Juncus effusus</i>				15	Y	OBL			
4	<i>Equisetum pratense</i>				15	Y	FACW			
5	<i>Solidago gigantea</i>				3	N	FACW			
6	<i>Onoclea sensibilis</i>				3	N	FACW			
7										
8										
9										
10										
11										
12										
13										
14										
15										
					89	= Total Cover				

Woody Vine Stratum					Plot Size (30' radius)			Absolute % Cover	Dominant Species	Indicator Status
1										
2										
3										
4										
5										
					0	= Total Cover				

50/20 Thresholds

	20%	50%
Tree Stratum	10	24
Sapling/Shrub Stratum	17	42
Herb Stratum	18	45
Woody Vine Stratum	0	0

Dominance Test Worksheet
 Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)
 Total Number of Dominant Species Across 8 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 87.50% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 53 x 1 = 53
 FACW species 66 x 2 = 132
 FAC species 84 x 3 = 252
 FACU species 18 x 4 = 72
 UPL species 0 x 5 = 0
 Column totals 221 (A) 509 (B)
 Prevalence Index = B/A = 2.30

Hydrophytic Vegetation Indicators:
☐ Rapid test for hydrophytic vegetation
☒ Dominance test is >50%
☒ Prevalence index is ≤3.0*
 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
☐ Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)
 Dominance Test indicator is present; parameter is met. Prevalence Index calculated for reference purposes only.

SOIL

Sampling Point: WIRV008f_W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral
_____ Depleted Below Dark Surface (A11)	_____ (F1) (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA	
149B)	

Indicators for Problematic Hydric Soils:

2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
Coast Prairie Redox (A16) (**LRR K, L, R**)
5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
Dark Surface (S7) (**LRR K, L**)
Polyvalue Below Surface (S8) (**LRR K, L**)
Thin Dark Surface (S9) (**LRR K, L**)
Iron-Manganese Masses (F12) (**LRR K, L, R**)
Piedmont Floodplain Soils (F19) (**MLRA 149B**)
Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

No ground disturbance allowed due to potential for underground utilities; assume soils to be hydric due to presence of hydrology indicators and hydrophytic vegetation.



Photograph 1: WIRV008f_W, North



Photograph 2: WIRV008f_W, East



Photograph 3: WIRV008f_W, West

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 City/County: Gurney/Iron Sampling Date: 10/17/2019
 Applicant/Owner: Enbridge State: WI Sampling Point WIRV008_U
 Investigator(s): Caitlin Cyrus, Clay Robertson Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Flat
 Slope (%): 2-5% Lat.: 46.494338 Long.: -90.487886 Datum: WGS 1984
 Soil Map Unit Name: Kellogg-Allendale-Ashwaby complex, 2 to 6 percent slopes NWI Classification: None
 Are climatic/hydrologic conditions of the site typical for this time of the year? yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>		Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Data point is located on hillslope within mature mixed forest stand north of wetland WIRV008.		

HYDROLOGY

<p>Primary Indicators (minimum of one is required; check all that apply)</p> <p><input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9)</p> <p><input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15)</p> <p><input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on</p> <p><input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Living Roots (C3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled</p> <p><input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6)</p> <p><input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks)</p> <p><input type="checkbox"/> Surface (B8)</p>			<p>Secondary Indicators (minimum of two required)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Moss Trim Lines (B16)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Microtopographic Relief (D4)</p>		
<p>Field Observations:</p> <p>Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/></p> <p>Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/></p> <p>Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/></p> <p>(includes capillary fringe)</p>			<p>Indicators of wetland hydrology present? <u> N </u></p>		
<p>Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</p>					
<p>Remarks:</p> <p>No indicators of wetland hydrology are present; parameter is not met.</p>					

VEGETATION - Use scientific names of plants
Sampling Point: WIRV008_U

Tree Stratum					Plot Size (30' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Abies balsamea</i>						38	Y	FAC	
2	<i>Acer saccharum</i>						15	N	FACU	
3	<i>Pinus strobus</i>						15	N	FACU	
4	<i>Thuja occidentalis</i>						5	N	FACW	
5	<i>Fraxinus nigra</i>						3	N	FACW	
6										
7										
8										
9										
10										
							76	= Total Cover		
Sapling/Shrub Stratum					Plot Size (15' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Corylus americana</i>						15	Y	FACU	
2	<i>Abies balsamea</i>						15	Y	FAC	
3	<i>Acer saccharum</i>						3	N	FACU	
4										
5										
6										
7										
8										
9										
10										
							33	= Total Cover		
Herb Stratum					Plot Size (5' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Dryopteris intermedia</i>						3	Y	FAC	
2	<i>Carex pedunculata</i>						3	Y	FACU	
3	<i>Osmunda cinnamomea</i>						1	N	FACW	
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
							7	= Total Cover		
Woody Vine Stratum					Plot Size (30' radius)			Absolute % Cover	Dominant Species	Indicator Status
1										
2										
3										
4										
5										
							0	= Total Cover		

50/20 Thresholds		
Tree Stratum	20%	50%
Sapling/Shrub Stratum	15	38
Herb Stratum	7	17
Woody Vine Stratum	1	4
	0	0

Dominance Test Worksheet	
Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)	
Total Number of Dominant Species Across 5 (B)	
Percent of Dominant Species that are OBL, FACW, or FAC: 60.00% (A/B)	

Prevalence Index Worksheet	
Total % Cover of:	
OBL species 0	x 1 = 0
FACW species 9	x 2 = 18
FAC species 56	x 3 = 168
FACU species 51	x 4 = 204
UPL species 0	x 5 = 0
Column totals 116 (A)	390 (B)
Prevalence Index = B/A = 3.36	

Hydrophytic Vegetation Indicators:	
<input type="checkbox"/> Rapid test for hydrophytic vegetation	
<input checked="" type="checkbox"/> Dominance test is >50%	
<input type="checkbox"/> Prevalence index is ≤3.0*	
<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)	
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	

Definitions of Vegetation Strata:	
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vines - All woody vines greater than 3.28 ft in height.	

Hydrophytic vegetation present?	
Y	

Remarks: (Include photo numbers here or on a separate sheet)
 Dominance Test indicator is present; parameter is met. Prevalence Index calculated for reference purposes only.

SOIL

Sampling Point: WIRV008_U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	7.5YR 2.5/3	100					Silty Clay Loam	
8-11	7.5YR 5/2	80	7.5YR 4/6	20	C	M	Sandy Clay Loam	
11-18	5YR 4/6	100					Fine Sandy Loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Polyvalue Below Surface |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> (S8) (LRR R, MLRA |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Thin Dark Surface (S9) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> (LRR R, MLRA 149B |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Mucky Mineral |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> (F1) (LRR K, L) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA | |
| <input type="checkbox"/> 149B) | |

Indicators for Problematic Hydric Soils:

- | |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L |
| <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

No hydric soil indicators present; parameter is not met.



Photograph 1: WIRV008_U, North



Photograph 2: WIRV008_U, East



Photograph 3: WIRV008_U, South

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 City/County: Iron Sampling Date: 10/17/2019
 Applicant/Owner: Enbridge State: WI Sampling Point WIRV009f_W
 Investigator(s): Caitlin Cyrus, Clay Robertson Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2-5% Lat.: 46.495265 Long.: -90.488109 Datum: WGS 1984
 Soil Map Unit Name: Kellogg-Allendale-Ashwaby complex, 2 to 6 percent slopes NWI Classification: None
 Are climatic/hydrologic conditions of the site typical for this time of the year? yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>		Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Data point located in an unmaintained pine plantation. PFO wetland continues outside of survey corridor to the west.		

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)			
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> (C9)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Sparsely Vegetated Concave	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)			
Field Observations: Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> 5" Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <input type="text"/> Surface (includes capillary fringe)			Indicators of wetland hydrology present? <input checked="" type="checkbox"/> Y		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks: Primary and secondary indicators of wetland hydrology present; parameter is met.					

VEGETATION - Use scientific names of plants
Sampling Point: WIRV009f_W

Tree Stratum					Plot Size (30' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Abies balsamea</i>						38	Y	FAC	
2										
3										
4										
5										
6										
7										
8										
9										
10							38	= Total Cover		

Sapling/Shrub Stratum					Plot Size (15' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Abies balsamea</i>						15	Y	FAC	
2	<i>Alnus incana</i>						15	Y	FACW	
3	<i>Salix bebbiana</i>						15	Y	FACW	
4	<i>Tilia americana</i>						3	N	FACU	
5										
6										
7										
8										
9										
10							48	= Total Cover		

Herb Stratum					Plot Size (5' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex crinita</i>						38	Y	OBL	
2	<i>Scirpus hattorianus</i>						15	Y	OBL	
3	<i>Juncus effusus</i>						15	Y	OBL	
4	<i>Glyceria striata</i>						15	Y	OBL	
5	<i>Symphyotrichum lateriflorum</i>						3	N	FAC	
6	<i>Solidago gigantea</i>						3	N	FACW	
7										
8										
9										
10										
11										
12										
13										
14										
15							89	= Total Cover		

Woody Vine Stratum					Plot Size (30' radius)			Absolute % Cover	Dominant Species	Indicator Status
1										
2										
3										
4										
5							0	= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum	8	19
Sapling/Shrub Stratum	10	24
Herb Stratum	18	45
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across 8 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	83	x 1 =	83
FACW species	33	x 2 =	66
FAC species	56	x 3 =	168
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column totals	175	(A)	329 (B)

Prevalence Index = B/A = 1.88

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic
vegetation

present? Y

Remarks: (Include photo numbers here or on a separate sheet)

Dominance Test indicator is present; parameter is met. Prevalence Index calculated for reference purposes only.

SOIL

Sampling Point: WIRV009f_W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-9	7.5YR 4/2	95	5YR 4/6	5	C	M	Loam	
9-18	5YR 4/9	100					Loamy Sand	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |
| <input type="checkbox"/> Sandy Redox (S5) | |
| <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils:

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

Indicator Redox Dark Surface (F6) is present; parameter is met.



Photograph 1: WIRV009f_W, North



Photograph 2: WIRV009f_W, South



Photograph 3: WIRV009f_W, West

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 City/County: Iron Sampling Date: 10/17/2019
 Applicant/Owner: Enbridge State: WI Sampling Point WIRV009_U
 Investigator(s): Caitlin Cyrus, Clay Robertson Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex
 Slope (%): 5-10% Lat.: 46.495812 Long.: -90.487865 Datum: WGS 1984
 Soil Map Unit Name: Kellogg-Allendale-Ashwaby complex, 2 to 6 percent slopes NWI Classification: None
 Are climatic/hydrologic conditions of the site typical for this time of the year? yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Summary of Findings		Wetland Determination	
Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland?	<u>N</u>
Hydric soil present?	<u>N</u>		
Indicators of wetland hydrology present?	<u>N</u>	If yes, optional wetland site ID: _____	
Remarks: (Explain alternative procedures here or in a separate report.)			
Data point located in upland portion of unmaintained pine plantation.			

HYDROLOGY

HYDROLOGY			WETLAND HYDROLOGY	
Primary Indicators (minimum of one is required; check all that apply) <div> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div>			Secondary Indicators (minimum of two required) <div> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4) </div>	
Field Observations: <div> Surface water present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Water table present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> Saturation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <input type="text"/> (includes capillary fringe) </div>			Indicators of wetland hydrology present? <input checked="" type="checkbox"/> N	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks: <div>No wetland hydrology present; parameter is not met.</div>				

VEGETATION - Use scientific names of plants
Sampling Point: WIRV009_U

Tree Stratum					Plot Size (30' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Picea glauca</i>						85	Y	FACU	
2										
3										
4										
5										
6										
7										
8										
9										
10							85	= Total Cover		

Sapling/Shrub Stratum					Plot Size (15' radius)			Absolute % Cover	Dominant Species	Indicator Status
1										
2										
3										
4										
5										
6										
7										
8										
9										
10							0	= Total Cover		

Herb Stratum					Plot Size (5' radius)			Absolute % Cover	Dominant Species	Indicator Status
1	<i>Solidago canadensis</i>						15	Y	FACU	
2	<i>Plantago lanceolata</i>						3	N	FACU	
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15							18	= Total Cover		

Woody Vine Stratum					Plot Size (30' radius)			Absolute % Cover	Dominant Species	Indicator Status
1										
2										
3										
4										
5							0	= Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum	17	43
Sapling/Shrub Stratum	0	0
Herb Stratum	4	9
Woody Vine Stratum	0	0

Dominance Test Worksheet
 Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across 2 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 0 x 1 = 0
 FACW species 0 x 2 = 0
 FAC species 0 x 3 = 0
 FACU species 103 x 4 = 412
 UPL species 0 x 5 = 0
 Column totals 103 (A) 412 (B)
 Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:
☐ Rapid test for hydrophytic vegetation
☐ Dominance test is >50%
☐ Prevalence index is ≤3.0*
☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
☐ Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)
 No indicators of hydrophytic vegetation present; parameter is not met.

SOIL

Sampling Point: WIRV009_U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral
_____ Depleted Below Dark Surface (A11)	_____ (F1) (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA	
149B)	

Indicators for Problematic Hydric Soils:

2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
Coast Prairie Redox (A16) (**LRR K, L, R**)
5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
Dark Surface (S7) (**LRR K, L**)
Polyvalue Below Surface (S8) (**LRR K, L**)
Thin Dark Surface (S9) (**LRR K, L**)
Iron-Manganese Masses (F12) (**LRR K, L, R**)
Piedmont Floodplain Soils (F19) (**MLRA 149B**)
Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
Red Parent Material (F21)
Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

No hydric soil indicators present; parameter is not met.



Photograph 1: WIRV009_U, North



Photograph 2: WIRV009_U, East



Photograph 3: WIRV009_U, South

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 16-Oct-19

Applicant/Owner: Enbridge State: WI Sampling Point: wirw049e

Investigator(s): ES/AS Section, Township, Range: S. 4 T. 46N R. 1W

Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0

Subregion (LRR or MLRA): LRR K Lat.: 46.49563956 Long.: -90.48907245 Datum: WGS 1984

Soil Map Unit Name: Kellogg-Allendale-Ashwabay complex, 2 to 6 percent slopes NWI classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
<p>Remarks: (Explain alternative procedures here or in a separate report.)</p> <p>Wetland is classified as emergent due to dominance of herbaceous vegetation within boundary of wetland depression. Datapoint includes overhanging canopy cover in plot from upland forest (wirw049u) outside of the wetland boundary.</p>	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)	
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 16 Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 16		Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION - Use scientific names of plants

Dominant Species?				Sampling Point: <u>wirw049e</u>	
Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:	
1. <u>Populus tremuloides</u>	40	<input checked="" type="checkbox"/> 61.5%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)	
2. <u>Ulmus americana</u>	15	<input checked="" type="checkbox"/> 23.1%	FACW	Total Number of Dominant Species Across All Strata: <u>5</u> (B)	
3. <u>Abies balsamea</u>	5	<input type="checkbox"/> 7.7%	FAC	Percent of dominant Species That Are OBL, FACW, or FAC: <u>60.0%</u> (A/B)	
4. <u>Fraxinus americana</u>	5	<input type="checkbox"/> 7.7%	FACU		
5. _____	0	<input type="checkbox"/> 0.0%			
6. _____	0	<input type="checkbox"/> 0.0%			
7. _____	0	<input type="checkbox"/> 0.0%			
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet:	
65 = Total Cover				Total % Cover of: _____ Multiply by: _____	
1. <u>Alnus Incana</u>	15	<input checked="" type="checkbox"/> 60.0%	FACW	OBL species <u>20</u>	x 1 = <u>20</u>
2. <u>Populus tremuloides</u>	10	<input checked="" type="checkbox"/> 40.0%	FACU	FACW species <u>130</u>	x 2 = <u>260</u>
3. _____	0	<input type="checkbox"/> 0.0%		FAC species <u>7</u>	x 3 = <u>21</u>
4. _____	0	<input type="checkbox"/> 0.0%		FACU species <u>55</u>	x 4 = <u>220</u>
5. _____	0	<input type="checkbox"/> 0.0%		UPL species <u>0</u>	x 5 = <u>0</u>
6. _____	0	<input type="checkbox"/> 0.0%		Column Totals: <u>212</u> (A)	<u>521</u> (B)
7. _____	0	<input type="checkbox"/> 0.0%		Prevalence Index = B/A = <u>2.458</u>	
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators:	
25 = Total Cover				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
1. <u>Phalaris arundinacea</u>	100	<input checked="" type="checkbox"/> 82.0%	FACW	<input checked="" type="checkbox"/> Dominance Test is > 50%	
2. <u>Scirpus cyperinus</u>	10	<input type="checkbox"/> 8.2%	OBL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. <u>Juncus effusus</u>	10	<input type="checkbox"/> 8.2%	OBL	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>Euthamia graminifolia</u>	2	<input type="checkbox"/> 1.6%	FAC	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	0	<input type="checkbox"/> 0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
6. _____	0	<input type="checkbox"/> 0.0%		Definitions of Vegetation Strata:	
7. _____	0	<input type="checkbox"/> 0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
8. _____	0	<input type="checkbox"/> 0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..	
9. _____	0	<input type="checkbox"/> 0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
10. _____	0	<input type="checkbox"/> 0.0%		Woody vine - All woody vines greater than 3.28 ft in height.	
11. _____	0	<input type="checkbox"/> 0.0%			
12. _____	0	<input type="checkbox"/> 0.0%			
Woody Vine Stratum (Plot size: <u>15'</u>)					
122 = Total Cover					
1. _____	0	<input type="checkbox"/> 0.0%			
2. _____	0	<input type="checkbox"/> 0.0%			
3. _____	0	<input type="checkbox"/> 0.0%			
4. _____	0	<input type="checkbox"/> 0.0%			
0 = Total Cover					
Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>					
Remarks: (Include photo numbers here or on a separate sheet.)					

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Sampling Point: wirw049e

US Army Corps of Engineers Northcentral and Northeast Region - Version 2.0

Plot ID: **wirw049e**

Photo Path: C:\WetForm\ERM Line 5 Pipeline\Photos\



Photo File: **DSCN8345.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: Lat/Northing:

Description:



Photo File: **DSCN8348.JPG** Orientation: -facing

Lat/Long or UTM: Long/Easting: Lat/Northing:

Description:

Plot ID: **wirw049e**

Photo Path: C:\WetForm\ERM Line 5 Pipeline\Pho



No Photo

Photo File: **DSCN8350.JPG** Orientation: -facing

Long/Easting: Lat/Northing:

Description:

Photo File: **None.bmp** Orientation: -facing

Long/Easting: Lat/Northing:

Description:

No Photo

No Photo

Photo File: **None.bmp** Orientation: -facing

Long/Easting: Lat/Northing:

Description:

Photo File: **None.bmp** Orientation: -facing

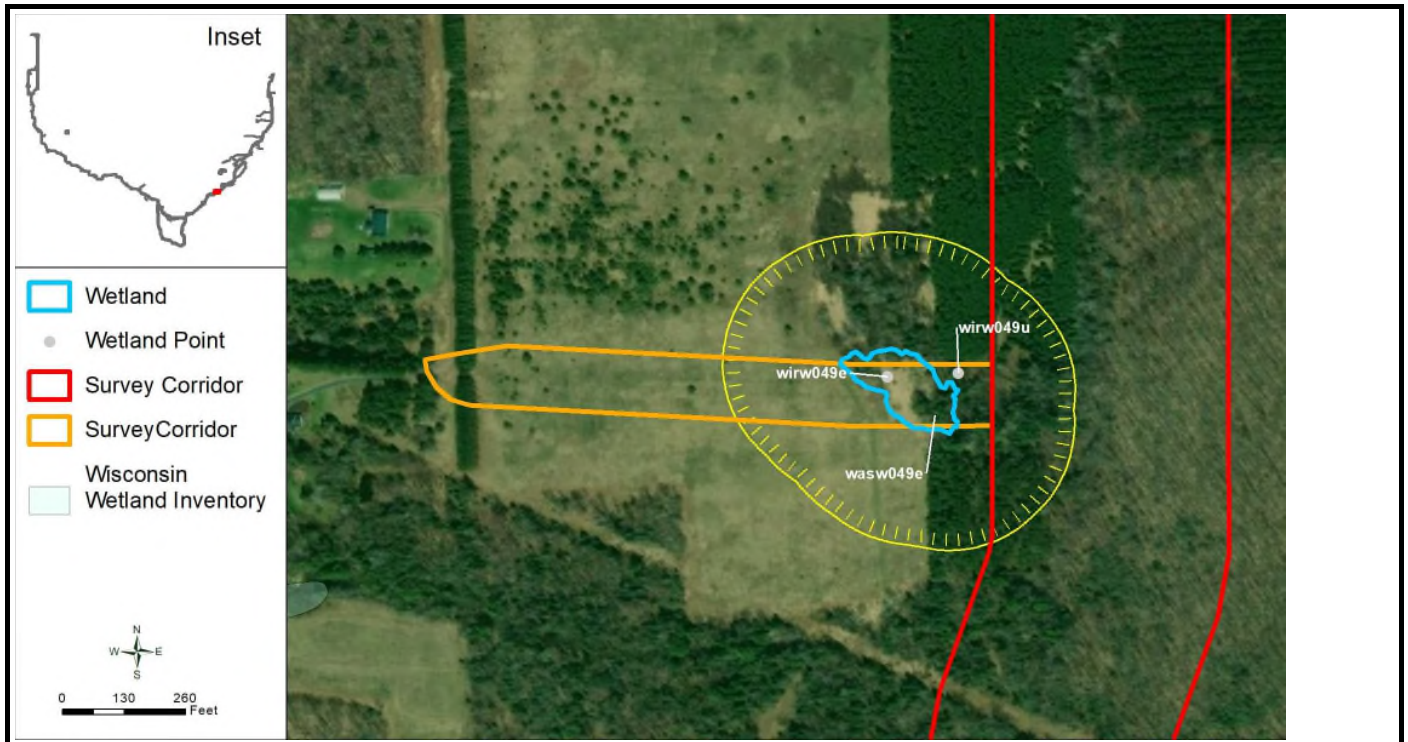
Long/Easting: Lat/Northing:

Description:

Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION wirw049e					
Project name: Line 5 Pipeline	Evaluator(s): Emily Stulik and Aaron Suehring				
File #:	Date of visit(s): 10/16/2019				
Location: SE1/4, NE1/4, S4, T46N, R1W PLSS: 0446N01W	Ecological Landscape: North Central Forest				
Lat: 46.49563956 Long: -90.48907245	Watershed: Potato river 0401030205				
County: Iron Town/City/Village:					
SITE DESCRIPTION					
Soils: Mapped Type(s): Mapped Type(s): Kellogg-Allendale-Ashwabay complex, 2 to 6 percent slopes Field Verified: Yes	WWI Class: Fresh wet meadow Wetland Type(s): Forested				
Hydrology: drainage patterns, geomorphic position, water stained leaves. Primary driven by precipitation, topography. 16 inch water table	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> Wetland Size: 0.11 </td> <td style="width: 50%; padding: 5px;"> Wetland Area Impacted </td> </tr> <tr> <td colspan="2" style="padding: 5px;"> Vegetation: Plant Community Description(s): Phalaris arundinacea and Populus tremuloides, also Ulmus americana, Alnus incana </td> </tr> </table>	Wetland Size: 0.11	Wetland Area Impacted	Vegetation: Plant Community Description(s): Phalaris arundinacea and Populus tremuloides, also Ulmus americana, Alnus incana	
Wetland Size: 0.11	Wetland Area Impacted				
Vegetation: Plant Community Description(s): Phalaris arundinacea and Populus tremuloides, also Ulmus americana, Alnus incana					

SITE MAP



SECTION 1: Functional Value Assessment

HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1		P	Used for recreation (hunting, birding, hiking, etc.). List: hunting, located on private property, ATV trails
2	N		Used for educational or scientific purposes
3	N		Visually or physically accessible to public
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N		In or adjacent to RED FLAG areas List:
6	N		Supports or provides habitat for endangered, threatened or special concern species
7		P	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Y		Wetland and contiguous habitat >10 acres
2	Y		3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4	Y		100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N		Occurs in a Joint Venture priority township
6	Y		Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	Y		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	Y		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present > 45 days
10	N		Standing water provides habitat for amphibians and aquatic invertebrates
11	N		Seasonally exposed mudflats present
12	N		Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N		Wetland is connected or contiguous with perennial stream or lake
2	N		Standing water provides habitat for amphibians and aquatic invertebrates
3	N		Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4		P	Vegetation is inundated in spring
SP			Shoreline Protection
1	N		Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	N		Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Y		Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	Y		Water flow through wetland is NOT channelized
3	Y		Dense, persistent vegetation
4	Y		Evidence of flashy hydrology
5	N		Point or non-point source inflow
6	N		Impervious surfaces cover >10% of land surface within the watershed
7	Y		Within a watershed with ≤10% wetland
8			Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N		Provides substantial storage of storm and floodwater based on previous section
2	Y		Basin wetland <u>or</u> constricted outlet
3	Y		Water flow through wetland is NOT channelized
4	N		Vegetated wetland associated with a lake or stream
5	Y		Dense, persistent vegetation
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N		Stormwater or surface water from agricultural land is major hydrology source
8	N		Discharge to surface water
9	N		Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N		Springs, seeps or indicators of groundwater present
2	Y		Location near a groundwater divide or a headwater wetland
3	N		Wetland remains saturated for an extended time period with no additional water inputs
4	N		Wetland soils are organic
5	N		Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

HU 7 ongoing cultural resource surveys onsite
emergent wetland mapped adjacent to first order stream, but stream not observed in field
wetland adjacent to upland open field dominated by goldenrod, and forested upland and conifer plantation
water stained leaves, drainage patterns observed. 16 in water table and saturation
wetland is basin/lowland

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat

Plant Community Integrity (circle)*

*Note: separate plant communities are described independently

[illegible]

Summary of Findings in Part 1 (includes general comments on plant communities)	

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
X	X		L	C	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		M	C	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
X	X		L	C	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High

****Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)**

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

[illegible]

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	x				
Human Use Values	x				
Wildlife Habitat		x			
Fish and Aquatic Life Habitat	x				
Shoreline Protection					x
Flood and Stormwater Storage		x			
Water Quality Protection		x			
Groundwater Processes	x				

FUNCTION	RATIONALE
Floristic Integrity	Phalaris 100% dominant, fresh wet meadow
Human Use Values	private property, ATV trails
Wildlife Habitat	wetland dominated by invasive species but located within larger, intact upland field and forest habitat
Fish and Aquatic Life Habitat	no standing water, habitat present
Shoreline Protection	N/A
Flood and Stormwater Storage	basin wetland, within watershed with <10% wetland.
Water Quality Protection	basin wetland, within watershed with <10% wetland.
Groundwater Processes	deep water table, groundwater plants not observed

Section 4: Project Impact Assessment

Brief Project Description

Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation and tree removal for construction.	low
Cumulative Impacts	Operational vegetation maintenance	low
Spatial/Habitat Integrity	Temporary construction impacts	low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project **City/County:** Ashland **Sampling Date:** 16-Oct-19
Applicant/Owner: Enbridge **State:** WI **Sampling Point:** wirw049u
Investigator(s): ES/AS **Section, Township, Range:** S. 4 T. 46N R. 1W
Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** flat **Slope:** 3.0 % / 1.7
Subregion (LRR or MLRA): LRR K **Lat.:** 46.49564705 **Long.:** -90.48847827 **Datum:** WGS 1984
Soil Map Unit Name: Kellogg-Allendale-Ashwabay complex, 2 to 6 percent slopes **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: (Explain alternative procedures here or in a separate report.)	

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)		Secondary Indicators (minimum of 2 required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-neutral Test (D5)	
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No hydrology indicators observed			

VEGETATION - Use scientific names of plants

Dominant Species?

Sampling Point: wirw049u

Tree Stratum (Plot size: 30')	Absolute % Cover	Rel. Strat. Cover	Indicator Status
1. <i>Populus tremuloides</i>	15	<input checked="" type="checkbox"/> 19.5%	FACU
2. <i>Prunus serotina</i>	10	<input checked="" type="checkbox"/> 13.0%	FACU
3. <i>Pinus strobus</i>	15	<input checked="" type="checkbox"/> 19.5%	FACU
4. <i>Abies balsamea</i>	10	<input checked="" type="checkbox"/> 13.0%	FAC
5. <i>Acer rubrum</i>	10	<input checked="" type="checkbox"/> 13.0%	FAC
6. <i>Betula papyrifera</i>	7	<input type="checkbox"/> 9.1%	FACU
7. <i>Pinus resinosa</i>	10	<input checked="" type="checkbox"/> 13.0%	FACU
77 = Total Cover			
Sapling/Shrub Stratum (Plot size: 15')			
1. <i>Prunus serotina</i>	25	<input checked="" type="checkbox"/> 43.1%	FACU
2. <i>Populus tremuloides</i>	20	<input checked="" type="checkbox"/> 34.5%	FACU
3. <i>Acer saccharum</i>	10	<input type="checkbox"/> 17.2%	FACU
4. <i>Ostrya virginiana</i>	3	<input type="checkbox"/> 5.2%	FACU
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
58 = Total Cover			
Herb Stratum (Plot size: 5')			
1. <i>Pteridium aquilinum</i>	10	<input type="checkbox"/> 15.4%	FACU
2. <i>Mitchella repens</i>	30	<input checked="" type="checkbox"/> 46.2%	FACU
3. <i>Matteuccia struthiopteris</i>	15	<input checked="" type="checkbox"/> 23.1%	FAC
4. <i>Prunus serotina</i>	5	<input type="checkbox"/> 7.7%	FACU
5. <i>Carex pedunculata</i>	5	<input type="checkbox"/> 7.7%	FAC
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	
65 = Total Cover			
Woody Vine Stratum (Plot size: 15')			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
0 = Total Cover			

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 30.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: 0 x 1 = 0

FACW speci es 0 x 2 = 0

FAC speci es 40 x 3 = 120

FACU speci es 160 x 4 = 640

UPL speci es 0 x 5 = 0

Column Totals: 200 (A) 760 (B)

Prevalence Index = B/A = 3.800

Hydrophytic Vegetation Indicators:

☐ Rapid Test for Hydrophytic Vegetation

☐ Dominance Test is > 50%

☐ Prevalence Index is ≤3.0¹

☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: (Include photo numbers here or on a separate sheet.)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FW

Sampling Point: wirw049u

Northcentral and Northeast Region - Version 2.0

Plot ID: **wirw049u**

Photo Path: C:\WetForm\ERM Line 5 Pipeline\Photos\



Photo File: **DSCN8354.JPG**

Orientation: -facing

Lat/Long or UTM : Long/Easting:

Lat/Northing:

Description:



Photo File: **DSCN8357.JPG**

Orientation: -facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:

Plot ID: **wirw049u**

Photo Path: C:\WetForm\ERM Line 5 Pipeline\Pho



No Photo

Photo File: **DSCN8358.JP** Orientation: -facing

Long/Easting: Lat/Northing:

Description:

Photo File: **None.bmp** Orientation: -facing

Long/Easting: Lat/Northing:

Description:

No Photo

No Photo

Photo File: **None.bmp** Orientation: -facing

Long/Easting: Lat/Northing:

Description:

Photo File: **None.bmp** Orientation: -facing

Long/Easting: Lat/Northing:

Description: