

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1052e\_w  
 Investigator(s): ARK/DMP Section, Township, Range: sec 35 T046N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.420334 Long: -90.827314 Datum: WGS84  
 Soil Map Unit Name: Sanborg-Badriver complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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.) <b>Feature is classified as a wet meadow community. Vegetation in this wetland suggests a history of disturbance. It may have been hayed in the past; if so, it has been left fallow long enough to allow extensive shrub development at the margin of the wetland and the surrounding upland.</b>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>16</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>16</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <b>Seasonally saturated depression. Water table observed at 16 inches below surface. Lack of primary indicators and FAC-Neutral reflects the fact that the plot is on the dry end of wetland. FAC-Neutral would be met in the wetter portions where vegetation is more strongly hydrophytic.</b>		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wase1052e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>1</u></td> <td>x 2 = <u>2</u></td> </tr> <tr> <td>FAC species <u>17</u></td> <td>x 3 = <u>51</u></td> </tr> <tr> <td>FACU species <u>21</u></td> <td>x 4 = <u>84</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>49</u> (A)</td> <td><u>147</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.00</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>1</u>	x 2 = <u>2</u>	FAC species <u>17</u>	x 3 = <u>51</u>	FACU species <u>21</u>	x 4 = <u>84</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>49</u> (A)	<u>147</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
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UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>49</u> (A)	<u>147</u> (B)																	
<u>8</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Cornus racemosa</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Viburnum lentago</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Cornus alba</u>	<u>1</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
<u>41</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Carex gracillima</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
3. <u>Carex tenera</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. <u>Elymus repens</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
5. <u>Ranunculus acris</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
6. <u>Poa pratensis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
7. <u>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
8. <u>Solidago altissima</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
9. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) Graceful sedge and quackgrass are sparse in the wetter portions of the wetland, where woolgrass is dominant, and quill sedge is more abundant. Shrubs are mostly limited to the margins, where they become abundant in the upland.																		



## SOIL

Sampling Point: wase1052e\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

## Clay with redox.



wase1052e\_w\_E



wase1052e\_w\_SW



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): DMP/ARK	
File #: wase1052		Date of visit(s): 2020-06-04	
Location: PLSS: <u>sec 35 T046N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.420372</u> Long: <u>-90.827287</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>White River town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: The soil profile was not verified. The profile consisted of a dark clay loam over a depleted clay. Redox dark surface and depleted matrix were both met.		Wetland Type(s): PEM - Fresh wet meadow	
		Wetland Size: 0.1363	Wetland Area Impacted 0.1363
Hydrology: The hydrologic regime is seasonally saturated. The area consisted of small microdepressions that were saturated. The water table was observed at 16 inches below the surface.		Vegetation: Plant Community Description(s): The wet meadow community consisted of a mosaic that included patches of woolgrass, quill sedge, Kentucky bluegrass, quackgrass, and graceful sedge.	

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	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	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or 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			<b>Groundwater Processes</b>
1	N	N	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

HU-1: The feature has potential to be used for hunting. There was a hunting stand observed a few hundred feet to the northwest.

WH-6: The wetland was surrounded by shrubs, uplands and other wetlands.

WH-7: There were a variety of different bird species seen and heard around the wetland.

FA-4: The vegetation is potentially inundated early in the spring, which could provide habitat for amphibians and aquatic insects.

ST-1: The feature is basin wetland that is located within a slight depression in the landscape.

ST-5: The wetland potentially receives some pollutants from the nearby alfalfa field to the north, but it is not likely to have much impact.

**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]

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input checked="" type="checkbox"/>	All strata present and good assemblage of native species <input type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input checked="" type="checkbox"/>	S3 <input type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input checked="" type="checkbox"/>	Common <input type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Carex tenera*			PEM	Rare
Scirpus cyperinus*			PEM	Rare
Carex gracillima			PEM	Rare
Cornus racemosa*			PEM	Rare
Elymus repens*			PEM	Rare
Poa pratensis			PEM	Rare
Solidago gigantea*			PEM	Rare
Carex castanea			PEM	Barren
Juncus effusus			PEM	Barren
Potentilla simplex			PEM	Barren
Ranunculus acris			PEM	Barren
Achillea millefolium			PEM	Barren
Equisetum arvense			PEM	Barren
Geum laciniatum			PEM	Barren
Lysimachia ciliata			PEM	Barren
Oxalis cf dillenii			PEM	Barren
Rumex crispus			PEM	Barren
Solidago altissima			PEM	Barren
Viburnum lentago			PEM	Barren
Viola sp.			PEM	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The floristic integrity is low due to moderate non-native cover, low diversity, and a low quantity of native forbs.

### 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
	X		L	UC	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
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
					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)

There were a number of non-native species intruding the feature. There is also some potential for pollutants to enter the feature from the nearby alfalfa field.

## 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 floristic integrity is low due to moderate non-native cover, low diversity, and low percentage of native forbs.
Human Use Values	There was a hunting stand located a few hundred feet to the northwest of the feature.
Wildlife Habitat	There were uplands, shrubs and other wetland surrounding this feature. The interspersions of habitat types could provide habitat to a number of different mammals, birds, amphibians, and reptiles.
Fish and Aquatic Life Habitat	There was not much standing water throughout the feature during the survey. Possible inundation in earlier spring could provide better habitat for amphibians and aquatic insects.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is relatively small, but could help store stormwater from the adjacent landscape.
Water Quality Protection	The feature is relatively small, but there is not much potential for pollutants to enter the feature so it has moderate water quality protection.
Groundwater Processes	Groundwater 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1053e\_w  
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 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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.) <b>Feature is classified as a wet meadow. The vegetation suggests a history of disturbance. Haying may have occurred in the past, before the shrubs developed, or the area may have been used as a pasture. Form paired with upland form wase1049_u.</b>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>20</u> Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <b>Seasonally saturated depression. Water table observed at 20 inches below surface.</b>		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1053e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</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>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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</u></td> <td>x 1 = <u>15</u></td> </tr> <tr> <td>FACW species <u>13</u></td> <td>x 2 = <u>26</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>7</u></td> <td>x 4 = <u>28</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>60</u> (A)</td> <td><u>144</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.4</u>	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15</u>	FACW species <u>13</u>	x 2 = <u>26</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>7</u>	x 4 = <u>28</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>60</u> (A)	<u>144</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>15</u>	x 1 = <u>15</u>																	
FACW species <u>13</u>	x 2 = <u>26</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>7</u>	x 4 = <u>28</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>60</u> (A)	<u>144</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Cornus racemosa</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Cornus alba</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>20</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Scirpus cyperinus</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Carex tenera</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Ranunculus acris</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Solidago gigantea</u>	<u>3</u>	<u>N</u>	<u>FACW</u>															
6. <u>Elymus repens</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. <u>Potentilla recta</u>	<u>1</u>	<u>N</u>	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>41</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) Shrubs are restricted to wetland margins and overall cover is less than in this plot. Woolgrass is more abundant in the wettest portions.																		

## SOIL

Sampling Point: wase1053e\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Clay with redox throughout much of the profile.



wase1053e\_w\_N



wase1053e\_w\_W

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

<b>WETLAND IDENTIFICATION</b>		
Project name: Line 5 Relocation Project	Evaluator(s): DMP/ARK	
File #: wase1053	Date of visit(s): 2020-06-04	
Location: PLSS: <u>sec 35 T046N R004W</u>	Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.420813</u> Long: <u>-90.826942</u>	Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>White River town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes	WWI Class: N/A	
Field Verified: The soil profile was not verified. The soils consisted of a think dark clay loam over a thick clay. Most of the clay was depleted with evident redox concentrations. The bottom layer was a red clay.	Wetland Type(s): PEM - fresh wet meadow	
Hydrology: The hydrologic regime is seasonally saturated. The water table was observed at about 18 inches below the surface. Micropography in the feature was variable.	Wetland Size: 0.1061	Wetland Area Impacted 0.1061
	Vegetation: Plant Community Description(s): The wet meadow community included quill sedge, woolgrass, and awl fruited sedge in the microdepressions with Kentucky bluegrass and quackgrass on the hummocks.	

**SITE MAP**

### SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	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	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or 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			<b>Groundwater Processes</b>
1	N	N	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

HU-1: The feature has potential to be used for hunting. There was a hunting stand observed a few hundred feet to the northwest.

WH-6: The wetland was surrounded by shrubs, uplands and other wetlands.

WH-7: There were a variety of different bird species seen and heard around the wetland.

FA-4: The vegetation is potentially inundated early in the spring, which could provide habitat for amphibians and aquatic insects.

ST-1: The feature is basin wetland that is located within a slight depression in the landscape.

ST-5: The wetland potentially receives some pollutants from the nearby alfalfa field to the north, but it is not likely to have much impact.

**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 floristic integrity was low due to invading non-native species, moderate diversity and low native forb diversity.

### 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
	X		L	UC	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		L	C	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
X	X		H	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)

There is a alfalfa field located to the north of the feature. There is potential for polluted runoff to enter the wetland, but it is not likely to have much impact.

## 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 floristic integrity was low due to invading non-native species, moderate diversity, and low native forb diversity.
Human Use Values	There was a hunting stand observed a few hundred feet to the northwest.
Wildlife Habitat	The area surrounding the wetland consisted of uplands, shrubs and other wetland which could provide habitat for mammals, birds, amphibians, and reptiles.
Fish and Aquatic Life Habitat	There wasn't much standing water throughout the feature during the survey. The wetland could potentially provide better habitat earlier in the spring.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is a rather small basin wetland that could store a decent amount of storm water from the surrounding landscape.
Water Quality Protection	The feature is a rather small basin wetland that could potentially help filter out much of the pollutants from the surrounding landscape.
Groundwater Processes	Groundwater 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1053\_u  
 Investigator(s): DMP/ARK Section, Township, Range: sec 35 T046N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.420658 Long: -90.826986 Datum: WGS84  
 Soil Map Unit Name: Sanborg-Badriver complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample plot was taken on a rise within the landscape. No wetland indicators were observed.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wase1053\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>4</u></td> <td>x 3 = <u>12</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>79</u> (A)</td> <td><u>292</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.6962025316455698</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>4</u>	x 3 = <u>12</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>79</u> (A)	<u>292</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>4</u>	x 3 = <u>12</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>79</u> (A)	<u>292</u> (B)																	
<u>4</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Amelanchier sp.</u>	<u>2</u>	<u>N</u>	_____															
2. <u>Viburnum lentago</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>4</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Carex gracillima</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Carex castanea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. <u>Lotus corniculatus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Fragaria virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
7. <u>Solidago altissima</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
8. <u>Potentilla simplex</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>77</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) <b>The vegetation is representative of the upland. Graceful sedge dominates the herbaceous layer.</b>																		

**Hydrophytic Vegetation Indicators:**  
☐ 1 - Rapid Test for Hydrophytic Vegetation  
☐ 2 - Dominance Test is >50%  
☐ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>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 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: wase1053\_u

[illegible]





wase1053\_u\_NE



wase1053\_u\_SE



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-03  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1049s\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 35 T046N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.420085 Long: -90.826610 Datum: WGS84  
 Soil Map Unit Name: Sanborg-Badriver complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wetland sample plot was taken within a depression on a slight slope within the landscape. The wetland is part of a mosaic that includes wet depressions and small upland rises.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one is required; check all that apply)</b> ___ 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)		<b>Secondary Indicators (minimum of two required)</b> ___ 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) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> 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): _____		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated. Some of the microdepressions have standing water.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1049s\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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</u></td> <td>x 1 = <u>50</u></td> </tr> <tr> <td>FACW species <u>4</u></td> <td>x 2 = <u>8</u></td> </tr> <tr> <td>FAC species <u>36</u></td> <td>x 3 = <u>108</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>92</u> (A)</td> <td><u>174</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.891304347826087</u>	Total % Cover of:	Multiply by:	OBL species <u>50</u>	x 1 = <u>50</u>	FACW species <u>4</u>	x 2 = <u>8</u>	FAC species <u>36</u>	x 3 = <u>108</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>92</u> (A)	<u>174</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>50</u>	x 1 = <u>50</u>																	
FACW species <u>4</u>	x 2 = <u>8</u>																	
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FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>92</u> (A)	<u>174</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Cornus racemosa</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Viburnum lentago</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>32</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Calamagrostis canadensis</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u>Carex castanea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
3. <u>Solidago gigantea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
4. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
5. <u>Fragaria virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>60</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation is representative of the wetland. Gray dogwood is common throughout the feature and nannyberry was observed as well. Canada bluejoint is the dominant herbaceous plant observed at the sample plot. Awl-fruited sedge, graceful sedge, and chestnut sedge are common throughout. Pale sedge was also observed. The forb cover is relatively sparse.																		

**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: wase1049s\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

The soil profile consists of a thin dark clay loam over depleted clay. Redox is evident throughout the two bottom layers.





wase1049s\_w\_N



wase1049s\_w\_S

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): DMP/ARK	
File #: wase1049		Date of visit(s): 2020-06-03	
Location: PLSS: <u>sec 35 T046N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.419980</u> Long: <u>-90.826575</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>White River town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: The soils were not verified. The soil profile consisted of a dark clay loam over a thick depleted clay. Redox concentrations were observed throughout the lower layers and depleted matrix was met.		Wetland Type(s): PSS - Shrub-carr	
Hydrology: The hydrologic regime is seasonally saturated. The microdepressions present in the feature were saturated from recent rainfall.		Wetland Size: 1.7534	Wetland Area Impacted 1.7534
		Vegetation: Plant Community Description(s): The vegetation is representative of the wetland. Gray dogwood was common throughout the feature, as was nannyberry. Canada bluejoint was the dominant herbaceous plant observed at the sample plot. Awn fruited sedge, graceful sedge and chestnut sedge were common throughout. Pale sedge was also observed. The forb cover was relatively sparse.	

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	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	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	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			<b>Fish and Aquatic Life Habitat</b>
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	Y	Y	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	N	N	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	N	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	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			<b>Groundwater Processes</b>
1	N	N	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

WH-6: The wetland included a mosaic of wetland depressions and small upland rises. Shrubs dominated the wetland, but there were many small open areas within the feature.

WH-7: The wetland provides habitat for numerous different bird species.

ST-2: Water flows down the slight slope towards the intermittent stream to the east.

WQ-5: Canada bluejoint creates dense persistent vegetative hummocks.

**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 floristic integrity is moderate due to moderate graminoid diversity and low non-native species intrusion.



### 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
X	X		L	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.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		L	UC	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 non native cover was low within the wetland. There was a field road running through 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	Moderate diversity and low non-native species intrusions.
Human Use Values	No clear uses.
Wildlife Habitat	The quality of wildlife habitat is moderate due to the interspersed of habitat and being located near an intermittent stream.
Fish and Aquatic Life Habitat	Aquatic insects, reptiles and amphibians could potentially use wetland as habitat in the spring and after heavy rainfall. The feature's proximity to a waterbody improves its potential to be used as habitat.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is located within a depression on a slight slope and is located near an intermittent stream. Water from heavy rainfall is likely to flow from the feature into the stream.
Water Quality Protection	The feature is rather large and has the potential to filter a decent amount of water before it reaches the stream.
Groundwater Processes	The feature likely exhibits groundwater recharge.

## 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1049\_u  
 Investigator(s): DMP/ARK Section, Township, Range: sec 35 T046N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.420381 Long: -90.826982 Datum: WGS84  
 Soil Map Unit Name: Sanborg-Badriver complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample plot was taken on a rise within the landscape. No wetland indicators were observed. Form shared with wetland form wase1052e_w.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1049\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Pinus strobus</i></u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>25</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>4</u></td> <td>x 2 = <u>8</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>109</u> (A)</td> <td><u>398</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.65</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>4</u>	x 2 = <u>8</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>109</u> (A)	<u>398</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>4</u>	x 2 = <u>8</u>																	
FAC species <u>30</u>	x 3 = <u>90</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>109</u> (A)	<u>398</u> (B)																	
<u>27</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u><i>Cornus racemosa</i></u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u><i>Crataegus sp.</i></u>	<u>2</u>	<u>N</u>	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>27</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u><i>Carex gracillima</i></u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. <u><i>Poa pratensis</i></u>	<u>25</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Fragaria virginiana</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Ranunculus acris</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u><i>Lotus corniculatus</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u><i>Carex castanea</i></u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
7. <u><i>Lysimachia ciliata</i></u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>74</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation is representative of the surrounding upland. Graceful sedge, Kentucky bluegrass, and gray dogwood dominate the area.																		

## SOIL

Sampling Point: wase1049\_u

[illegible]





wase1049\_u\_NW



wase1049\_u\_SE



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1051e\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 35 T046N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.420174 Long: -90.819310 Datum: WGS84  
 Soil Map Unit Name: Sanborg-Badriver complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wetland sample plot was taken within a roadside ditch. A culvert is present on the south end where the feature drains into sase1016e.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated. We did not assess the water table due to the feature being located within a roadside ditch.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1051e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>47</u></td> <td>x 1 = <u>47</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>4</u></td> <td>x 3 = <u>12</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>78</u> (A)</td> <td><u>117</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.5</u>	Total % Cover of:	Multiply by:	OBL species <u>47</u>	x 1 = <u>47</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>4</u>	x 3 = <u>12</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>78</u> (A)	<u>117</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>47</u>	x 1 = <u>47</u>																	
FACW species <u>25</u>	x 2 = <u>50</u>																	
FAC species <u>4</u>	x 3 = <u>12</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>78</u> (A)	<u>117</u> (B)																	
		<u>0</u> = Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Carex stipata</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Phalaris arundinacea</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
4. <u>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
5. <u>Poa pratensis</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
7. <u>Cicuta maculata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
8. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>78</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation is representative of the ditch wetland. Awl-fruited sedge and reed canary grass dominate the feature.																		

**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: wase1051e\_w

[illegible]





wase1051e\_w\_N



wase1051e\_w\_S



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): DMP/ARK	
File #: wase1051		Date of visit(s): 2020-06-04	
Location: PLSS: <u>sec 35 T046N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.420176</u> Long: <u>-90.819308</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>White River town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: The soils were not verified. Soils were not sampled due to the location within a roadside ditch. The soils are assumed to be hydric based on the presence of hydrophytic vegetation and hydrologic indicators.		Wetland Type(s): PEM - Fresh wet meadow	
Hydrology: The hydrologic regime is seasonally saturated. We did not assess the water table due to the feature being located within a roadside ditch.		Wetland Size: 0.0177	Wetland Area Impacted 0.0177
		Vegetation: Plant Community Description(s): Awl-fruited sedge and reed canary grass were dominating the feature. Cattails become more common further north outside of the survey area.	

**SITE MAP**

### SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or 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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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

WH-7: Observed and heard Red-winged black birds, bobolinks, yellow warblers, American robins and savanna sparrows in the immediate area.

FA-2: Standing water has potential to provide habitat for amphibians, reptiles and aquatic insects.

FA-4: The vegetation was inundated during the field survey.

ST-1: The water flows through the ditch and into a culvert, and an ephemeral stream begins on the other side of the culvert.

ST-5: The wetland is located between a road and an alfalfa field. There is potential for non-point inputs to enter the stream.

WQ-7: Storm water from the adjacent alfalfa field is a major hydrology source.

**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]

## WDNR WRAM v.2 data form - 4

### 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)
X	X		H	C	Drainage – tiles, ditches
X	X		M	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
X	X		M	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		H	C	Agriculture – hay
					Agriculture – pasture
	X		H	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
X	X		L	UC	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	X		H	C	Cover of non-native and/or invasive species
	X		L	C	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 feature occurs between an alfalfa field and a paved road, and is located within a roadside ditch. The feature is dominated by reed canary grass and it collects non-point pollutants and sediments from the adjacent alfalfa field and road.

## 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 floristic integrity is low due to the presence of non-native species and low diversity.
Human Use Values	No discernible uses.
Wildlife Habitat	There is not much potential for amphibians to use the feature. There were a few birds perching and calling from the trees adjacent to the wetland.
Fish and Aquatic Life Habitat	The vegetation was inundated, however habitat is of low quality. There was maybe better habitat for amphibians and insects further to the north outside of the survey area.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is a flow-through wetland that leads to an ephemeral stream to the south. The feature does not have much potential to store storm water from the adjacent alfalfa field, although the feature does function as a densely vegetated roadside ditch.
Water Quality Protection	The wetland is a flow through wetland that leads to an ephemeral stream to the south. Storm water from the adjacent alfalfa field is a major source of hydrology, and the feature has marginal potential to filter out the pollutants from the surrounding land use.
Groundwater Processes	Groundwater 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1051\_u  
 Investigator(s): ARK/DMP Section, Township, Range: sec 35 T046N R004W  
 Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.420158 Long: -90.819277 Datum: WGS84  
 Soil Map Unit Name: Sanborg-Badriver complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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>Upland slope between a ditch-bottom wetland and a paved road.</u>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No indicators of wetland hydrology were observed.</u>		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1051\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>32</u></td> <td>x 4 = <u>128</u></td> </tr> <tr> <td>UPL species <u>25</u></td> <td>x 5 = <u>125</u></td> </tr> <tr> <td>Column Totals: <u>77</u> (A)</td> <td><u>313</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.064935064935065</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>20</u>	x 3 = <u>60</u>	FACU species <u>32</u>	x 4 = <u>128</u>	UPL species <u>25</u>	x 5 = <u>125</u>	Column Totals: <u>77</u> (A)	<u>313</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>20</u>	x 3 = <u>60</u>																	
FACU species <u>32</u>	x 4 = <u>128</u>																	
UPL species <u>25</u>	x 5 = <u>125</u>																	
Column Totals: <u>77</u> (A)	<u>313</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Poa pratensis</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Eurybia macrophylla</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>															
3. <u>Toxicodendron rydbergii</u>	<u>15</u>	<u>N</u>	<u>FAC</u>															
4. <u>Apocynum androsaemifolium</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
5. <u>Equisetum arvense</u>	<u>3</u>	<u>N</u>	<u>FAC</u>															
6. <u>Trifolium pratense</u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
7. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
8. <u>Vicia americana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
9. <u>Lotus corniculatus</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>77</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) <b>Fewer species are present and Kentucky bluegrass is more abundant across most of the ditch bank.</b>																		

**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: wase1051\_u

[illegible]





wase1051\_u\_N



wase1051\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-03  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1048e\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 35 T046N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.419488 Long: -90.819728 Datum: WGS84  
 Soil Map Unit Name: Odanah silt loam, 6 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wetland is a wet meadow community that occurs within a swale in the landscape. The wetland is bordered by alfalfa fields on north and south sides. An ephemeral stream, sase1013e, feeds into the wetland on the west end. There is a road outside of the survey corridor to the east.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)	_____ 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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4</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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated. Standing water was observed throughout the swale and the water table was observed at the surface.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1048e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>57</u></td> <td>x 1 = <u>57</u></td> </tr> <tr> <td>FACW species <u>4</u></td> <td>x 2 = <u>8</u></td> </tr> <tr> <td>FAC species <u>4</u></td> <td>x 3 = <u>12</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>65</u> (A)</td> <td><u>77</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.1846153846153846</u>	Total % Cover of:	Multiply by:	OBL species <u>57</u>	x 1 = <u>57</u>	FACW species <u>4</u>	x 2 = <u>8</u>	FAC species <u>4</u>	x 3 = <u>12</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>65</u> (A)	<u>77</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>57</u>	x 1 = <u>57</u>																	
FACW species <u>4</u>	x 2 = <u>8</u>																	
FAC species <u>4</u>	x 3 = <u>12</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>65</u> (A)	<u>77</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Acer rubrum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>2</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Typha sp.</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Scirpus microcarpus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
3. <u>Anemone canadensis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
4. <u>Lysimachia ciliata</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
5. <u>Carex stipata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
6. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>63</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation is representative of this area of the wetland, but further to the west Canada bluejoint and woolgrass become dominant in patches.																		

## SOIL

Sampling Point: wase1048e\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

The soil profile consists of depleted clay loam over depleted clay. Redox concentrations are present below 3 inches and increase with depth. Depleted Matrix was met.





wase1048e\_w\_S



wase1048e\_w\_W

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

<b>WETLAND IDENTIFICATION</b>					
Project name: Line 5 Relocation Project		Evaluator(s): ARK/DMP			
File #: wase1048		Date of visit(s): 2020-06-03			
Location: PLSS: <u>sec 35 T046N R004W</u>		Ecological Landscape: Superior Coastal Plain			
Lat: <u>46.419174</u> Long: <u>-90.820684</u>		Watershed: LS12, Marengo River			
County: <u>Ashland</u> Town/City/Village: <u>White River town</u>					
<b>SITE DESCRIPTION</b>					
Soils: Mapped Type(s): Odanah silt loam, 6 to 15 percent slopes  Field Verified: Soil series not verified. Soils were a clay loam over clay.		WWI Class: N/A  Wetland Type(s): PEM - fresh wet meadow  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Wetland Size: 0.3471</td> <td style="padding: 2px;">Wetland Area Impacted 0.3471</td> </tr> </table>		Wetland Size: 0.3471	Wetland Area Impacted 0.3471
Wetland Size: 0.3471	Wetland Area Impacted 0.3471				
Hydrology: Seasonally saturated swale bottom, with a gentle slope. The feature is associated with several small streams.		Vegetation: Plant Community Description(s): Cattail, woolgrass, and bluejoint are dominant.			

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	N	Ephemeral pond with water present ≥ 45 days
10	N	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	Y	Basin wetland or constricted outlet
3	Y	Y	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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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



WH-7: Several species of birds observed.

FA-1: Wetland receives input from an ephemeral stream.

ST-5: Wetland is bound by fields planted to hay.

WQ-2: A culvert is present near the wetland, and is associated with the small ephemeral stream connecting to the wetland's northeastern corner.

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

## Fish and Aquatic Life Habitat and Species Observations

[illegible]

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input checked="" type="checkbox"/>	All strata present and good assemblage of native species <input type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input checked="" type="checkbox"/>	S3 <input type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input checked="" type="checkbox"/>	Common <input type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
<i>Calamagrostis canadensis</i> *			PEM	Rare
<i>Scirpus cyperinus</i> *			PEM	Rare
<i>Lysimachia ciliata</i> *			PEM	Rare
<i>Poa pratensis</i> *			PEM	Rare
<i>Solidago altissima</i>			PEM	Rare
<i>Typha cf. angustifolia</i> *			PEM	Rare
<i>Typha cf. latifolia</i>			PEM	Rare
<i>Ambrosia trifida</i>			PEM	Barren
<i>Carex stipata</i>			PEM	Barren
<i>Scirpus atrovirens</i>			PEM	Barren
<i>Equisetum arvense</i>			PEM	Barren
<i>Salix petiolaris</i>			PEM	Barren
<i>Symphyotrichum lanceolatum</i>			PEM	Barren
<i>Alopecurus pratensis</i>			PEM	Barren
<i>Barbarea vulgaris</i>			PEM	Barren
<i>Cicuta maculata</i>			PEM	Barren
<i>Cornus alba</i>			PEM	Barren
<i>Helianthus giganteus</i>			PEM	Barren
<i>Ranunculus acris</i>			PEM	Barren
<i>Rumex crispus</i>			PEM	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Moderate diversity for a wetland surrounded by cropland. Moderately impacted by non-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)
	X		M	UC	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	X		H	C	Agriculture – hay
					Agriculture – pasture
	X		M	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	X		M	C	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	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 land surrounding the wetland appears to be tilled regularly. Water leaving the wetland enters a roadside ditch.

## 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	Moderate species diversity and presence of non-native species.
Human Use Values	Located on private land.
Wildlife Habitat	Provides habitat for birds.
Fish and Aquatic Life Habitat	
Shoreline Protection	N/A
Flood and Stormwater Storage	Moderate capacity for holding water, associated with several streams and a roadside ditch.
Water Quality Protection	See above. The feature is a densely vegetated swale.
Groundwater Processes	Groundwater 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: Ashland Sampling Date: 2020-06-03  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1048\_u  
 Investigator(s): DMP/ARK Section, Township, Range: sec 35 T046N R004W  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.419525 Long: -90.819759 Datum: WGS84  
 Soil Map Unit Name: Odanah silt loam, 6 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample plot was taken on a backslope adjacent to an alfalfa field. No wetland indicators were observed.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1048\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>2</u></td> <td>x 2 = <u>4</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>11</u></td> <td>x 4 = <u>44</u></td> </tr> <tr> <td>UPL species <u>67</u></td> <td>x 5 = <u>335</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>398</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.682352941176471</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>2</u>	x 2 = <u>4</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>11</u>	x 4 = <u>44</u>	UPL species <u>67</u>	x 5 = <u>335</u>	Column Totals: <u>85</u> (A)	<u>398</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>2</u>	x 2 = <u>4</u>																	
FAC species <u>5</u>	x 3 = <u>15</u>																	
FACU species <u>11</u>	x 4 = <u>44</u>																	
UPL species <u>67</u>	x 5 = <u>335</u>																	
Column Totals: <u>85</u> (A)	<u>398</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Bromus inermis</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Medicago sativa</u>	<u>25</u>	<u>Y</u>	<u>UPL</u>															
3. <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Alopecurus pratensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u>Medicago lupulina</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. <u>Cornus alba</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
7. <u>Asclepias syriaca</u>	<u>2</u>	<u>N</u>	<u>UPL</u>															
8. <u>Lotus corniculatus</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
9. <u>Taraxacum officinale</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
10. <u>Solidago altissima</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>85</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation is representative of the upland. The upland point was taken on the edge of an alfalfa field. The dominant grass outside of the field is smooth brome.																		



## SOIL

Sampling Point: wase1048\_u

[illegible]



wase1048\_u\_E



wase1048\_u\_N



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-07-01  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1047e\_w  
 Investigator(s): DMP/AGG Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406768 Long: -90.829333 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wet meadow occurs within a roadside ditch. There is a culvert on the west end at the road junction. The wetland is the headwater of an ephemeral stream on the east end.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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): _____		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated. There is standing water near the culvert by the road junction.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasd1047e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>49</u></td> <td>x 1 = <u>49</u></td> </tr> <tr> <td>FACW species <u>27</u></td> <td>x 2 = <u>54</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>76</u> (A)</td> <td><u>103</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.355263157894737</u>	Total % Cover of:	Multiply by:	OBL species <u>49</u>	x 1 = <u>49</u>	FACW species <u>27</u>	x 2 = <u>54</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>76</u> (A)	<u>103</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>49</u>	x 1 = <u>49</u>																	
FACW species <u>27</u>	x 2 = <u>54</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>76</u> (A)	<u>103</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Scirpus microcarpus</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Phalaris arundinacea</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Carex pellita</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
4. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
5. <u>Cicuta maculata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
6. <u>Solidago gigantea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
7. <u>Carex stipata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>76</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The plot vegetation is representative of the roadside ditch. The wetland is dominated by reed canary grass and small-fruited bulrush.																		

**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: wasd1047e\_w

[illegible]



wasd1047e\_w\_E



wasd1047e\_w\_S

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): DMP/AGG	
File #: wasd1047		Date of visit(s): 2020-07-01	
Location: PLSS: <u>sec 02 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.406768</u> Long: <u>-90.829333</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Allendale loamy fine sand, 0 to 3 percent slopes, Portwing-Herbster complex, 0 to 6 percent slopes  Field Verified: The soils were not verified. The soils were not sampled due to the location of the wetland within a roadside ditch. The soils are assumed to be hydric due to the dominance of hydrophytic vegetation and the presence of hydrology indicators.		WWI Class: N/A	
		Wetland Type(s): <b>PEM - Wet meadow</b>	
		Wetland Size: 0.0398	Wetland Area Impacted 0.0398
Hydrology: The hydrologic regime is seasonally saturated. There was standing water near the culvert by the road junction.		Vegetation: Plant Community Description(s): The wetland is in a roadside ditch dominated by reed canary grass, small fruited bulrush and meadow foxtail.	

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
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	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			<b>Water Quality Protection</b>
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	N	N	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	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)

WH-7: There is potential for birds to use the wetland as nesting habitat, however no birds were observed in the immediate area.  
WH-10: The wetland was not inundated during the field survey, however there is potential for the feature to have standing water after heavy rains and snow melt. Amphibians could use the feature during those times. There was some standing water near the culvert at the west end near the road junction.  
ST-2: The feature is a flow through wetland that drains water to an intermittent stream to the east.  
ST-5: The feature is located near a road and a hay field. Both of those land uses could introduce non point inputs into the wetland.

### 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, birds and 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	Amphibians and aquatic insects.

**Plant Community Integrity (circle)\***

\*Note: separate plant communities are described independently

[illegible]

## WDNR WRAM v.2 data form - 4

### 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
X	X		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		M	C	Agriculture – hay
					Agriculture – pasture
	X		M	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
	X		L	UC	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	X		H	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 roadside ditch that is dominated by non native and invasive species. The feature is also located next to a hay field. Both the road and the field have the potential to introduce sediment and non point inputs into 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	The floristic integrity of the wetland is low due to low overall diversity and the intrusion of invasive species.
Human Use Values	The wetland is located within a roadside ditch but does not provide any recreational uses.
Wildlife Habitat	It is unlikely that this wetland has much significance to wildlife due to its location and dominance by non native species.
Fish and Aquatic Life Habitat	The wetland had no standing water and is located within a roadside ditch near a hay field. It is unlikely that it has much significance to fish and aquatic life.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is a flow through wetland that is located within a roadside ditch. It receives runoff from the adjacent road and field.
Water Quality Protection	The feature is a narrow flow through wetland that is located between a road and a hay field. Dense vegetation provides some water filtration.
Groundwater Processes	The wetland likely serves as groundwater recharge.

## 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: Ashland Sampling Date: 2020-07-01  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1047\_u  
 Investigator(s): DMP/AGG Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406629 Long: -90.829125 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample plot was taken within a hay field at the edge of a road. No wetland indicators were observed.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		



**VEGETATION** – Use scientific names of plants.

Sampling Point: wasd1047\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
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		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>26</u></td> <td>x 3 = <u>78</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>76</u> (A)</td> <td><u>278</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.6578947368421053</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>26</u>	x 3 = <u>78</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>76</u> (A)	<u>278</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
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1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Phleum pratense</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Alopecurus pratensis</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Trifolium repens</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Trifolium pratense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Ranunculus acris</u>	<u>1</u>	<u>N</u>	<u>FAC</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>76</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The plot vegetation is representative of the hay field.																		

**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: wasd1047\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

The soils were not sampled due to the location within a roadside area. The soils are assumed to be non-hydric based on the landscape position and dominant vegetation.



wasd1047\_u\_E



wasd1047\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1058e\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406825 Long: -90.825638 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 occurs within a roadside ditch that is adjacent to a hay field. The feature drains into an ephemeral stream at the east end. That stream is a tributary to a larger ephemeral stream.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated. The feature collects surface runoff from the adjacent hay field and road.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1058e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>54</u></td> <td>x 2 = <u>108</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>74</u> (A)</td> <td><u>163</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.2027027027026</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>54</u>	x 2 = <u>108</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>74</u> (A)	<u>163</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>54</u>	x 2 = <u>108</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>74</u> (A)	<u>163</u> (B)																	
		<u>0</u> = Total Cover																
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Phalaris arundinacea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Alopecurus pratensis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
3. <u>Scirpus microcarpus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
4. <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Solidago gigantea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
6. <u>Onoclea sensibilis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>74</u> = Total Cover																
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation is representative of the roadside ditch. Red osier dogwood becomes common along the southern bank of the ditch on the east end of the feature.																		

**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: wase1058e\_w

[illegible]





wase1058e\_w\_E



wase1058e\_w\_W



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

<b>WETLAND IDENTIFICATION</b>		
Project name: Line 5 Relocation Project	Evaluator(s): ARK/DMP	
File #: wase1058	Date of visit(s): 2020-06-09	
Location: PLSS: <u>sec 02 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.406828</u> Long: <u>-90.825639</u>	Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes. Odanah silt loam, 15 to 25 percent slopes.  Field Verified: Soil series not verified. The soils were not sampled due to the location of the wetland within a roadside ditch. The soils are assumed to be hydric based on the landscape position and dominant vegetation.	WWI Class: N/A	
	Wetland Type(s): PEM - fresh wet meadow / ditch	
	Wetland Size: 0.0336	Wetland Area Impacted 0.0336
	Vegetation: Plant Community Description(s): The bottom/center of wetland is dominated by small-fruited bulrush, woolgrass, common rush, and sensitive fern. The margins are dominated by meadow foxtail.	
Hydrology: Seasonally saturated ditch-bottom. Receives runoff from the adjacent paved road, as well as from the adjacent hay field. During times of precipitation input the feature drains into a small ephemeral stream that extends through the ditch further to the east, which becomes associated with a culvert and several other streams.		

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	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	N	N	Ephemeral pond with water present ≥ 45 days
10	N	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	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	Y	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			<b>Groundwater Processes</b>
1	N	N	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)

ST-5: Adjacent paved road is a non-point source of inflow.

WQ-8: The feature likely discharges water into an associated ephemeral stream when experiencing overflow from rain events.

### 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	Avian

### 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]

Low diversity, and non-native species are common.

### 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)
X	X		H	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		M	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		M	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	X		L	UC	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	X		M	C	Cover of non-native and/or invasive species
	X		L	C	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 feature is highly disturbed and most likely artificial, as a result of its roadside ditch location.

## 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, non-natives are common.
Human Use Values	No discernible uses.
Wildlife Habitat	Roadside is very limited as habitat.
Fish and Aquatic Life Habitat	
Shoreline Protection	N/A
Flood and Stormwater Storage	Water is funneled out quickly into the adjacent ephemeral stream.
Water Quality Protection	Water is funneled out quickly, dense vegetation may help to filter or slow this water flow.
Groundwater Processes	Limited groundwater recharge, the feature overflows into an ephemeral stream.

## 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: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1058\_u  
 Investigator(s): DMP/ARK Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406796 Long: -90.825637 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample plot was taken on the edge of a hay field and roadside ditch. No wetland indicators were observed.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1058\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>49</u></td> <td>x 4 = <u>196</u></td> </tr> <tr> <td>UPL species <u>25</u></td> <td>x 5 = <u>125</u></td> </tr> <tr> <td>Column Totals: <u>84</u> (A)</td> <td><u>351</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.178571428571429</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>10</u>	x 3 = <u>30</u>	FACU species <u>49</u>	x 4 = <u>196</u>	UPL species <u>25</u>	x 5 = <u>125</u>	Column Totals: <u>84</u> (A)	<u>351</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>10</u>	x 3 = <u>30</u>																	
FACU species <u>49</u>	x 4 = <u>196</u>																	
UPL species <u>25</u>	x 5 = <u>125</u>																	
Column Totals: <u>84</u> (A)	<u>351</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Bromus inermis</u>	<u>25</u>	<u>Y</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Dactylis glomerata</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Poa pratensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Ranunculus acris</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
5. <u>Trifolium pratense</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
6. <u>Taraxacum officinale</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. <u>Fragaria virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>84</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) <b>The vegetation is representative of the hay field.</b>																		

## SOIL

Sampling Point: wase1058\_u

[illegible]





wase1058\_u\_E



wase1058\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-07-01  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1048e\_w  
 Investigator(s): DMP/AGG Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406854 Long: -90.824503 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wet meadow is located within a roadside ditch. The feature collects surface runoff that flows through the wetland toward an ephemeral stream.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasd1048e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>32</u></td> <td>x 1 = <u>32</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>4</u></td> <td>x 3 = <u>12</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>61</u> (A)</td> <td><u>94</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.540983606557377</u>	Total % Cover of:	Multiply by:	OBL species <u>32</u>	x 1 = <u>32</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>4</u>	x 3 = <u>12</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>61</u> (A)	<u>94</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>32</u>	x 1 = <u>32</u>																	
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Column Totals: <u>61</u> (A)	<u>94</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Phalaris arundinacea</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Carex crinita</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
4. <u>Scirpus microcarpus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
5. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
6. <u>Toxicodendron rydbergii</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
7. <u>Carex stipata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>61</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) <b>The vegetation is representative of the roadside ditch.</b>																		



## SOIL

Sampling Point: wasd1048e\_w

[illegible]



wasd1048e\_w\_E



wasd1048e\_w\_N

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

<b>WETLAND IDENTIFICATION</b>					
Project name: Line 5 Relocation Project	Evaluator(s): DMP/AGG				
File #: wasd1048	Date of visit(s): 2020-07-01				
Location: PLSS: <u>sec 02 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain				
Lat: <u>46.406851</u> Long: <u>-90.824497</u>	Watershed: LS12, Marengo River				
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>					
<b>SITE DESCRIPTION</b>					
Soils: Mapped Type(s): Allendale loamy fine sand, 0 to 3 percent slopes  Field Verified: The soils were not verified. The soils were not sampled due to the location of the wetland within a roadside ditch. The soils are assumed to be hydric due to the dominance of hydrophytic vegetation and the presence of hydrology indicators.	WWI Class: N/A  Wetland Type(s): PEM - Wet meadow				
Hydrology: The hydrologic regime is seasonally saturated.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">           Wetland Size: 0.3458         </td> <td style="width: 50%; padding: 5px;">           Wetland Area Impacted 0.3458         </td> </tr> <tr> <td colspan="2" style="padding: 5px;">           Vegetation: Plant Community Description(s): The wetland is dominated by reed canary grass, cattails, small fruited bulrush and a mixture of other sedges.         </td> </tr> </table>	Wetland Size: 0.3458	Wetland Area Impacted 0.3458	Vegetation: Plant Community Description(s): The wetland is dominated by reed canary grass, cattails, small fruited bulrush and a mixture of other sedges.	
Wetland Size: 0.3458	Wetland Area Impacted 0.3458				
Vegetation: Plant Community Description(s): The wetland is dominated by reed canary grass, cattails, small fruited bulrush and a mixture of other sedges.					

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
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	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			<b>Water Quality Protection</b>
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	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			<b>Groundwater Processes</b>
1	N	N	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

WH-7: There is potential for birds to use the wetland as nesting habitat, however no birds were observed in the immediate area.

WH-10: The wetland was not inundated during the field survey, however there is potential for the feature to have standing water after heavy rains and snow melt. Amphibians could use the feature during those times.

ST-2: The feature is a flow through wetland that drains water to an intermittent stream to the west.

ST-5: The feature is located near a road and a hay field. Both of those land uses could introduce non point inputs into the wetland.

WQ-5: Areas within the feature had dense cover of cattails, red canary grass and small fruited bulrush.

**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 floristic integrity is moderate due to fair diversity of native species, but abundance of invasive 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
X	X		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		M		Agriculture – hay
					Agriculture – pasture
	X		L	C	Roads or railroad
	X		L	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
X	X		L	C	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	X		H	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 dominated by non native and invasive species. The feature is located near a road and a hay field. Both of those land uses could introduce sediment and non point inputs into 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	The floristic integrity is moderate due to fair native diversity but abundance of invasive species.
Human Use Values	The wetland is located within a roadside ditch but does not provide any recreational uses.
Wildlife Habitat	The wildlife significance of this wetland is low due to the wetland being located within a roadside ditch near a hay field and being dominated by non native species
Fish and Aquatic Life Habitat	The wetland has low significance to fish and aquatic life due to its location and the fact that it had no standing water during the field survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is a narrow flow through wetland that is located within a roadside ditch. It receives runoff from the adjacent road and field.
Water Quality Protection	The feature is a narrow flow through wetland that is located within a roadside ditch. Some areas of the wetland are densely vegetated and may filter stormwater runoff from the adjacent road and field.
Groundwater Processes	The wetland likely serves as groundwater recharge.

## 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: Ashland Sampling Date: 2020-07-01  
Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1048\_u  
Investigator(s): DMP/AGG Section, Township, Range: sec 02 T045N R004W  
Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406759 Long: -90.824564 Datum: WGS84  
Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample plot was taken within a hay field near a road. No wetland indicators were observed.	

**HYDROLOGY**

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

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasd1048\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>2</u></td> <td>x 3 = <u>6</u></td> </tr> <tr> <td>FACU species <u>75</u></td> <td>x 4 = <u>300</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>92</u> (A)</td> <td><u>381</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.141304347826087</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>2</u>	x 3 = <u>6</u>	FACU species <u>75</u>	x 4 = <u>300</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>92</u> (A)	<u>381</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>2</u>	x 3 = <u>6</u>																	
FACU species <u>75</u>	x 4 = <u>300</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>92</u> (A)	<u>381</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Phleum pratense</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Leucanthemum vulgare</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
3. <u>Carex gracillima</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Lotus corniculatus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Bromus inermis</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
6. <u>Trifolium pratense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
7. <u>Elymus repens</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
8. <u>Dactylis glomerata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
9. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>92</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) <b>The sample vegetation is representative of the hay field.</b>																		

**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: wasd1048\_u

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

[illegible]<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

The soils were not sampled due to the location within a roadside area. The soils are assumed to be non-hydric based on the landscape position and dominant vegetation.





wasd1048\_u\_S



wasd1048\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-07-08  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1050f\_w  
 Investigator(s): DMP/AGG Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406324 Long: -90.826504 Datum: WGS84  
 Soil Map Unit Name: Odanah silt loam, 15 to 25 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 forested floodplain that occurs along a small perennial stream. The feature occurs within a swale that has steep banks. There is a paved road to the north that is impounding the feature. The stream flows through a culvert underneath the road.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (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 checked="" 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)		<b>Secondary Indicators</b> (minimum of two required) <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)
<b>Field Observations:</b> 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? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  		
Remarks: The hydrologic regime is temporarily flooded. The feature is located along the floodplain of a small perennial stream. There are water marks on the trees to the north.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasd1050f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus nigra</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>55</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> <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>4</u></td> <td>x 1 = <u>4</u></td> </tr> <tr> <td>FACW species <u>125</u></td> <td>x 2 = <u>250</u></td> </tr> <tr> <td>FAC species <u>7</u></td> <td>x 3 = <u>21</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>136</u> (A)</td> <td><u>275</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.0220588235294117</u>	Total % Cover of:	Multiply by:	OBL species <u>4</u>	x 1 = <u>4</u>	FACW species <u>125</u>	x 2 = <u>250</u>	FAC species <u>7</u>	x 3 = <u>21</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>136</u> (A)	<u>275</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>4</u>	x 1 = <u>4</u>																	
FACW species <u>125</u>	x 2 = <u>250</u>																	
FAC species <u>7</u>	x 3 = <u>21</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>136</u> (A)	<u>275</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Impatiens capensis</u>	<u>75</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Glyceria striata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
3. <u>Rumex obtusifolius</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
4. <u>Leersia oryzoides</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
5. <u>Symphyotrichum sp.</u>	<u>2</u>	<u>N</u>	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>83</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample vegetation is representative of most of the wetland. The black ash trees are stressed and dying. A willow (possibly black willow) dominates the canopy on the northern edge of the wetland.																		

## SOIL

Sampling Point: wasd1050f\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

The soil profile consists of a depleted sandy clay loam over a depleted clay loam. Redox concentrations were observed throughout the profile and Depleted Matrix was met.





wasd1050f\_w\_NW



wasd1050f\_w\_S

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

<b>WETLAND IDENTIFICATION</b>							
Project name: Line 5 Relocation Project		Evaluator(s): DMP/AGG					
File #: wasd1050		Date of visit(s): 2020-07-08					
Location: PLSS: <u>sec 02 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain					
Lat: <u>46.406328</u> Long: <u>-90.826513</u>		Watershed: LS12, Marengo River					
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>							
<b>SITE DESCRIPTION</b>							
Soils: Mapped Type(s): Odanah silt loam, 15 to 25 percent slopes. Allendale loamy fine sand, 0 to 3 percent slopes.  Field Verified: The soils were not verified. The soil profile consisted of a depleted sandy clay loam over a depleted clay loam. Redox concentrations were observed throughout the profile and depleted matrix was met.		WWI Class: N/A  Wetland Type(s): <b>PFO - Floodplain forest</b>					
Hydrology: The hydrologic regime is temporarily flooded. The feature is located along the floodplain of a small perennial stream.		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Wetland Size: 0.1064</td> <td style="padding: 5px;">Wetland Area Impacted 0.1064</td> </tr> <tr> <td colspan="2" style="padding: 5px;">           Vegetation:            Plant Community Description(s):            Black ash and a willow (possibly black willow) dominated the canopy. Spotted touch-me-not carpeted the ground layer. Rice cutgrass and fowl manna grass become more common to the north in the feature.         </td> </tr> </table>		Wetland Size: 0.1064	Wetland Area Impacted 0.1064	Vegetation: Plant Community Description(s): Black ash and a willow (possibly black willow) dominated the canopy. Spotted touch-me-not carpeted the ground layer. Rice cutgrass and fowl manna grass become more common to the north in the feature.	
Wetland Size: 0.1064	Wetland Area Impacted 0.1064						
Vegetation: Plant Community Description(s): Black ash and a willow (possibly black willow) dominated the canopy. Spotted touch-me-not carpeted the ground layer. Rice cutgrass and fowl manna grass become more common to the north in the feature.							

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
1	Y	Y	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or 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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	Y	Discharge to surface water
9	N	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)

HU-3: The feature is located next to a paved road and is visible to the public.

WH-7: There were several bird species heard within the immediate area, and it is likely that they utilize the vegetation that is within the wetland.

FA-2: There was standing water within the stream and within the wetland to the north near the road.

SP-1: The feature is located along the floodplain of a small perennial stream.

ST-2: The feature is a flow-through wetland that is located along a floodplain of a small perennial stream.

### 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	Ovenbird, savannah sparrow, eastern bluebird
	Y	Mammals and herpetofauna

### 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 insects

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input type="checkbox"/>	All strata present and good assemblage of native species <input checked="" type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
<i>Impatiens capensis</i> *			PFO	Continuous
<i>Fraxinus nigra</i> *			PFO	Interrupted
<i>Salix cf. nigra</i>			PFO	Rare
<i>Leersia oryzoides</i>			PFO	Barren
<i>Acer rubrum</i>			PFO	Barren
<i>Carex crinita</i>			PFO	Barren
<i>Glyceria striata</i>			PFO	Barren
<i>Rumex obtusifolius</i>			PFO	Barren
<i>Symphyotrichum sp.</i>			PFO	Barren
<i>Carex lupulina</i>			PFO	Barren
<i>Circaea lutetiana</i>			PFO	Barren
<i>Dactylis glomerata</i>			PFO	Barren
<i>Matteuccia struthiopteris</i>			PFO	Barren
<i>Pinus strobus</i>			PFO	Barren
<i>Poa palustris</i>			PFO	Barren
<i>Ranunculus acris</i>			PFO	Barren
<i>Rubus pubescens</i>			PFO	Barren
<i>Scirpus atrovirens</i>			PFO	Barren
<i>Solanum dulcamara</i>			PFO	Barren
<i>Toxicodendron rydbergii</i>			PFO	Barren
<i>Vitis riparia</i>			PFO	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The floristic integrity is moderate due to the lack of invasive species and the moderate diversity.

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

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
	X		M	C	Filling, berms (non-impounding)
	X		M	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		M	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		M	C	Agriculture – hay
					Agriculture – pasture
	X		H	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
	X		L	UC	Sediment input
	X		M	UC	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	X		L	UC	Cover of non-native and/or invasive species
	X		L	UC	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 floodplain forest is located between hay fields and a road. The road is acting as a berm and floodwater from the associated stream backs up in the area after heavy rain events and snow melt. There is potential for non-point inputs and sediment to enter the stream from the near by land uses, and a culvert is present at the edge of the wetland associated with the road and stream. There was sparse cover of non-native species 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	The floristic integrity is moderate due to the lack of invasive species and the moderate diversity.
Human Use Values	The feature is visible to the public from the adjacent road.
Wildlife Habitat	The feature is located near a small perennial stream. It is likely that various wild life utilize the feature.
Fish and Aquatic Life Habitat	The feature is located near a small perennial stream. It is likely that aquatic insects utilize the feature after floodwater recedes.
Shoreline Protection	The feature acts as a small buffer to the stream. The vegetation within the wetland helps control erosion and helps protect water quality.
Flood and Stormwater Storage	The feature helps store floodwater from the associated stream. The banks within the swale are rather steep and the feature has the potential to hold a substantial amount of floodwater.
Water Quality Protection	The feature is rather small, but it has a moderate effect on water quality protection due to its ability to hold floodwater, limit bank erosion, and filter out sediment and pollutants from the nearby land uses.
Groundwater Processes	No apparent groundwater processes.

## 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: Ashland Sampling Date: 2020-07-08  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1050\_u  
 Investigator(s): AGG/DMP Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 16-25%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406251 Long: -90.826414 Datum: WGS84  
 Soil Map Unit Name: Odanah silt loam, 15 to 25 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 on a relatively steep slope with well drained soils.</u>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No indicators of wetland hydrology were observed.</u>		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasd1050\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Acer saccharum</i></u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. <u><i>Betula papyrifera</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. <u><i>Populus grandidentata</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>70</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>9</u></td> <td>x 3 = <u>27</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>94</u> (A)</td> <td><u>367</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.904255319148936</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>9</u>	x 3 = <u>27</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>94</u> (A)	<u>367</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>9</u>	x 3 = <u>27</u>																	
FACU species <u>85</u>	x 4 = <u>340</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>94</u> (A)	<u>367</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u><i>Acer saccharum</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>5</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u><i>Oryzopsis asperifolia</i></u>	<u>5</u>	<u>Y</u>	_____	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u><i>Acer saccharum</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Maianthemum racemosum</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
4. <u><i>Carex pedunculata</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
5. <u><i>Toxicodendron rydbergii</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>19</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is dominated by sugar maple and big-tooth aspen. The ground layer is dominated by rough-leaf ricegrass.				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>														

## SOIL

Sampling Point: wasd1050\_u

[illegible]





wasd1050\_u\_N



wasd1050\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1054s\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.407021 Long: -90.821365 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 located within a roadside ditch that is between an agricultural field and a road. The feature is considered a PSS due to the consistent patchy cover of speckled alder within the northern third of the ditch.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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): _____		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated. The wetland collects surface runoff from the adjacent agricultural field and road.		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1054s\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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</u></td> <td>x 1 = <u>55</u></td> </tr> <tr> <td>FACW species <u>57</u></td> <td>x 2 = <u>114</u></td> </tr> <tr> <td>FAC species <u>6</u></td> <td>x 3 = <u>18</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>118</u> (A)</td> <td><u>187</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.58</u>	Total % Cover of:	Multiply by:	OBL species <u>55</u>	x 1 = <u>55</u>	FACW species <u>57</u>	x 2 = <u>114</u>	FAC species <u>6</u>	x 3 = <u>18</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>118</u> (A)	<u>187</u> (B)
Total % Cover of:	Multiply by:																	
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UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>118</u> (A)	<u>187</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Alnus incana</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Salix petiolaris</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>30</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Carex lacustris</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. <u>Onoclea sensibilis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u>Equisetum sylvaticum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. <u>Carex atherodes</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
6. <u>Barbarea vulgaris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
7. <u>Lysimachia ciliata</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
8. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
9. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>88</u> = Total Cover																
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The shrub layer is dominated by a thin, consistent row of speckled alder, with some meadow willow mixed in. The herbaceous layer is heterogeneous, with areas dominated by woolgrass, Canada bluepoint, small-fruited bulrush, and fringed sedge.																		

## SOIL

Sampling Point: wase1054s\_w

[illegible]





wase1054s\_w\_E



wase1054s\_w\_W

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project	Evaluator(s): ARK/DMP		
File #: wase1054	Date of visit(s): 2020-06-04		
Location: PLSS: <u>sec 02 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain		
Lat: <u>46.406960</u> Long: <u>-90.821482</u>	Watershed: LS12, Marengo River		
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Allendale loamy fine sand, 0 to 3 percent slopes  Field Verified: Soil series not verified. Soils were not sampled due to the location of the wetland within a roadside ditch. The soils are assumed to be hydric based on the landscape position and dominant vegetation.	WWI Class: N/A		
	Wetland Type(s): PSS - shrub-carr		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">Wetland Size:</td> <td style="width: 50%; padding: 5px;">Wetland Area Impacted</td> </tr> </table>	Wetland Size:	Wetland Area Impacted
Wetland Size:	Wetland Area Impacted		
Hydrology: Seasonally saturated roadside ditch bottom. Receives runoff from adjacent paved road and corn field. Water leaves the ditch through a culvert near the west end of the feature, just outside the survey area.	Vegetation: Plant Community Description(s): Speckled alder is dominant, covering most of the northern third of the feature. The herbaceous layer is heterogeneous and variously dominated by reed canary grass, lake sedge, fringed sedge, woolgrass, small-fruited bulrush, sensitive fern, or Canada bluejoint.		

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	N	N	Ephemeral pond with water present ≥ 45 days
10	N	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	N	N	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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)**

ST-3: Dense thatch present in some areas.

WQ-7: The wetland is located in a roadside ditch and is bordered by an agricultural field.

**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	Avian

**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]

Moderated diversity of native graminoids. Paucity of native forbs. Non-native species are common.

### 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)
X	X		H	C	Drainage – tiles, ditches
	X		M	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
X	X		M	C	Polluted runoff
					Pond construction
	X		H	C	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X		H	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	UC	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	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)

Greatest impacts on condition are the adjacent road and crop field.

## 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	Moderated diversity of native graminoids. Paucity of native forbs. Non-native species are common.
Human Use Values	Roadside ditch with no uses.
Wildlife Habitat	Fragmented habitat.
Fish and Aquatic Life Habitat	
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is a densely vegetated roadside ditch, with a culvert present just outside of the survey area.
Water Quality Protection	See above.
Groundwater Processes	Groundwater 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1054\_u  
 Investigator(s): DMP/ARK Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406994 Long: -90.821442 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample plot was taken on the backslope of a road bank. No wetland indicators were observed.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1054\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
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1. _____	_____	_____	_____															
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3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Bromus inermis</u>	<u>50</u>	<u>Y</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Poa pratensis</u>	<u>15</u>	<u>N</u>	<u>FACU</u>															
3. <u>Dactylis glomerata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
5. <u>Solidago altissima</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. <u>Achillea millefolium</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. <u>Equisetum sylvaticum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
8. <u>Fraxinus cf pennsylvanica</u>	<u>1</u>	<u>N</u>	<u>FACW</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>79</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation at the upland sample point is representative of the upland as a whole. Smooth brome dominates the backslope of the ditch.																		

**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: wase1054\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

The soils were not sampled due to the location within the roadside area. The soils are assumed to be non-hydric based on the dominance of upland species and the lack of hydrologic indicators.





wase1054\_u\_E



wase1054\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-10  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1060e\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406892 Long: -90.820979 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 part of a wet meadow and hardwood swamp complex. Wet meadow is only a small component of the wetland complex and it occurs within the roadside ditch.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated. Surface water is present at the sample plot, but not throughout the entire ditch.		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1060e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Populus tremuloides</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>27</u></td> <td>x 1 = <u>27</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>62</u> (A)</td> <td><u>112</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.81</u>	Total % Cover of:	Multiply by:	OBL species <u>27</u>	x 1 = <u>27</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>62</u> (A)	<u>112</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>27</u>	x 1 = <u>27</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>62</u> (A)	<u>112</u> (B)																	
<u>5</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Cornus racemosa</i></u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>5</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Onoclea sensibilis</i></u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.   <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____														
2. <u><i>Scirpus microcarpus</i></u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
3. <u><i>Carex crinita</i></u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
4. <u><i>cf. Sagittaria sp.</i></u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>47</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation at the sample plot is mostly representative of the roadside ditch. Areas with less open water are more densely vegetated with reed canary grass and small-fruited bulrush. Cattails were observed within the ditch to the east and west.																		

## SOIL

Sampling Point: wase1060e\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

The soils were not sampled due to the location of the wetland within a roadside ditch. The soils are assumed to be hydric based on the dominance of hydrophytic vegetation and the presence of hydrologic indicators.



wase1060e\_w\_E



wase1060e\_w\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-10  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1060f\_w1  
 Investigator(s): DMP/ARK Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406308 Long: -90.822313 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wetland sample plot was taken within a hardwood swamp that was logged during the growing season in the 1980s. There is an old logging road that cuts through the wetland. Tire ruts are present throughout. A small PEM is connected to the feature within the roadside ditch to the north.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (minimum of two required)
<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 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 checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>11</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>9</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated. The water table was observed 11 inches below the surface and the soils are saturated at a depth of 9 inches.		



Sampling Point: wase1060f\_w1

Tree Stratum (Plot size: <u>30</u> )				Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Populus tremuloides</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		
2.						
3.						
4.						
5.						
6.						
7.						
		<u>30</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u> )						
1.	<u>Alnus incana</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>		
2.	<u>Viburnum lentago</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>		
3.	<u>Ribes americanum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
4.	<u>Cornus racemosa</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5.						
6.						
7.						
		<u>55</u>	= Total Cover			
Herb Stratum (Plot size: <u>5</u> )						
1.	<u>Carex crinita</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>		
2.	<u>Juncus effusus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>		
3.	<u>Carex stipata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>		
4.	<u>Calamagrostis canadensis</u>	<u>2</u>	<u>N</u>	<u>OBL</u>		
5.	<u>Impatiens capensis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
6.	<u>Carex tenera</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
7.	<u>Onoclea sensibilis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
8.	<u>Rubus pubescens</u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
9.						
10.						
11.						
12.						
		<u>50</u>	= Total Cover			
Woody Vine Stratum (Plot size: <u>30</u> )						
1.						
2.						
3.						
4.						
		<u>0</u>	= Total Cover			

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

The vegetation is mostly representative of the wetland. The canopy is dominated by quaking aspen throughout most of the wetland, however black ash is common in some areas. The shrub layer is dominated by speckled alder with winterberry and nannyberry mixed throughout. The herbaceous layer is dominated by fringed sedge. Greater bladder sedge is common outside of the plot. Poison ivy is common along the margins of the wetland.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>42</u>	x 1 = <u>42</u>
FACW species <u>36</u>	x 2 = <u>72</u>
FAC species <u>57</u>	x 3 = <u>171</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>135</u> (A)	<u>285</u> (B)

Prevalence Index = B/A = 2.11

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>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 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: wase1060f\_w1

[illegible]





wase1060f\_w1\_E



wase1060f\_w1\_N



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-10  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1060f\_w2  
 Investigator(s): ARK/DMP Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406150 Long: -90.819403 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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.) <b>Northern wet-mesic forest. The site was logged in the 1980s during the growing season. The soil disturbance is evident today in the abundant rutting throughout, as well as the disturbance-adapted vegetation.</b>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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): _____		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <b>Seasonally saturated depression.</b>		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wase1060f\_w2

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Fraxinus nigra</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Ulmus americana</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. <u>Populus tremuloides</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>30</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>2</u></td> <td>x 1 = <u>2</u></td> </tr> <tr> <td>FACW species <u>112</u></td> <td>x 2 = <u>224</u></td> </tr> <tr> <td>FAC species <u>22</u></td> <td>x 3 = <u>66</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>138</u> (A)</td> <td><u>300</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.17</u>	Total % Cover of:	Multiply by:	OBL species <u>2</u>	x 1 = <u>2</u>	FACW species <u>112</u>	x 2 = <u>224</u>	FAC species <u>22</u>	x 3 = <u>66</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>138</u> (A)	<u>300</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>2</u>	x 1 = <u>2</u>																	
FACW species <u>112</u>	x 2 = <u>224</u>																	
FAC species <u>22</u>	x 3 = <u>66</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>138</u> (A)	<u>300</u> (B)																	
<u>47</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Alnus incana</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u>Ilex verticillata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
3. <u>Ribes americanum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>47</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Carex projecta</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.   <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. <u>Impatiens capensis</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Athyrium angustum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. <u>Carex intumescens</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
6. <u>Fragaria virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. <u>Carex crinita</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>61</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The canopy is more open here than the majority of the wetland.

## SOIL

Sampling Point: wase1060f\_w2

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

The soils were not sampled due to the proximity to a public road. The soils are assumed to be hydric based on the landscape position and dominant vegetation.





wase1060f\_w2\_N



wase1060f\_w2\_S

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): DMP/ARK	
File #: wase1060		Date of visit(s): 2020-06-10	
Location: PLSS: <u>sec 02 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.406308</u> Long: <u>-90.822313</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Allendale loamy fine sand, 0 to 3 percent slopes, Allendale-Wakeley-Kinross complex, 0 to 6 percent slopes  Field Verified: The soil profile was not verified. The profile consisted of three layers, a dark clay loam, a depleted sandy clay loam and a reddish orange fine sand. Redox was observed within the top to layers. Redox dark surface and depleted matrix were both met.		WWI Class: T3K	
		Wetland Type(s): PFO - Hardwood swamp, PEM - Wet meadow	
		Wetland Size: 3.4394	Wetland Area Impacted 3.4394
Hydrology: The hydrologic regime is seasonally saturated. The wetland collects surface runoff from the surrounding landscape.		Vegetation: Plant Community Description(s): The wetland is a complex that is primarily hardwood swamp with a narrow wet meadow feature along a road. The canopy of the hardwood swamp was dominated by quaking aspen while the subcanopy was mainly made up of black ash. Speckled alder and winter berry dominated the shrub layer. The herbaceous layer was mostly dominated by fringed sedge, greater bladder sedge and graceful sedge. Poison ivy was common in the drier portions of the wetlands. The wet meadow is dominated by sensitive fern and reed canary grass.	

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	Y	Used for recreation (hunting, birding, hiking, etc.). List: hunting, birding
2	N	N	Used for educational or scientific purposes
3	Y	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	Y	Supports or provides habitat for endangered, threatened or special concern species
7	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	N	N	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	Y	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			<b>Groundwater Processes</b>
1	N	N	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)**

WH-10, FA-2: Standing water was present in the PEM ditch at the north end of the wetland.  
WH-1/2/6/7: Part of a larger forested area including upland forest and additional wetlands that could support sensitive species.  
ST-5: Sources of inflow include surrounding upland forest, and roads to the north and east.

**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 and reptiles
Y	Y	Ovenbird, American redstart, veery

**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	Amphibians and aquatic insects

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input type="checkbox"/>	All strata present <input checked="" type="checkbox"/> and good assemblage of native species	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
<i>Alnus incana</i> *			PFO	Interrupted
<i>Populus tremuloides</i> *			PFO, PEM	Rare
<i>Toxicodendron rydbergii</i> *			PFO	Rare
<i>Carex crinita</i> *			PFO	Rare
<i>Fraxinus nigra</i>			PFO	Rare
<i>Acer rubrum</i>			PFO	Rare
<i>Carex gracillima</i>			PFO	Rare
<i>Carex intumescens</i>			PFO	Rare
<i>Ilex verticillata</i>			PFO	Rare
<i>Rubus pubescens</i>			PFO	Rare
<i>Osmunda claytoniana</i>			PFO	Barren
<i>Parthenocissus inserta</i>			PFO	Barren
<i>Viburnum lentago</i>			PFO	Barren
<i>Calamagrostis canadensis</i>			PFO	Barren
<i>Impatiens capensis</i>			PFO	Barren
<i>Juncus effusus</i>			PFO	Barren
<i>Phalaris arundinacea</i>			PEM	Barren
<i>Ranunculus acris</i>			PEM	Barren
<i>Scirpus microcarpus</i>			PEM	Barren
<i>Typha</i> sp.			PEM	Barren
<i>Ulmus americana</i>			PFO	Barren
<i>Agrimonia cf. striata</i>			PFO	Barren
<i>Alopecurus pratensis</i>			PEM	Barren
<i>Arisaema triphyllum</i>			PFO	Barren
<i>Athyrium filix-femina</i>			PFO	Barren
<i>Carex radiata</i>			PFO	Barren
<i>Carex stipata</i>			PFO	Barren
<i>Carex tenera</i>			PFO	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The floristic integrity is moderate due to relative native species diversity and low overall abundance of invasive species. However, the wetland was logged in the past and is generally dominated by disturbance-adapted species.

Additional species: *Cornus racemosa* (Plant Communities: PEM, Abundance: Barren), *Equisetum arvense* (Plant Communities: PFO, Abundance: Barren), *Fragaria virginiana* (Plant Communities: PFO, Abundance: Barren), *Glyceria cf. striata* (Plant Communities: PFO, Abundance: Barren), *Impatiens capensis* (Plant Communities: PFO, Abundance: Barren), *Lonicera morrowii* (Plant Communities: PFO, Abundance: Barren), *Onoclea sensibilis* (Plant Communities: PFO, Abundance: Barren), *Poa palustris* (Plant Communities: PFO, Abundance: Barren), *Poa pratensis* (Plant Communities: PFO, Abundance: Barren), *Ribes americanum* (Plant Communities: PFO, Abundance: Barren), *Ribes cynosbati* (Plant Communities: PFO, Abundance: Barren), *Ribes triste* (Plant Communities: PFO, Abundance: Barren), *Rubus pubescens* (Plant Communities: PFO, Abundance: Barren), *Rumex crispus* (Plant Communities: PEM, Abundance: Barren)

### 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
	X		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		L	C	Agriculture – hay
					Agriculture – pasture
	X	X	L	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	H	C	Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		L	UC	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 during the growing season occurred in the 1980s. There are abundant ruts from heavy equipment throughout 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	The floristic integrity is moderate due to dominance by a fair diversity of native species and overall low abundance of invasive species. However, the wetland was logged in the past and is dominated by disturbance-adapted species.
Human Use Values	Private land
Wildlife Habitat	The wetland is large and is located in a large block of forest. It has potential habitat for numerous wildlife species.
Fish and Aquatic Life Habitat	There is potential for aquatic life in the ditch at the northern end of the wetland where standing water was observed.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland can hold some runoff from the adjacent road and its large size has high capacity for storage.
Water Quality Protection	The wetland can filter large amounts of stormwater.
Groundwater Processes	The wetland serves as groundwater recharge.

## 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: Ashland Sampling Date: 2020-06-10  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1060\_u  
 Investigator(s): DMP/ARK Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406012 Long: -90.819419 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 sample plot was taken within a mesic forest that is located near a roadside ditch. Hydrophytic vegetation was observed, however the vegetation is quite different than that of the adjacent wetland.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1060\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71</u> (A/B)														
2. <u>Tilia americana</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Populus tremuloides</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
4. <u>Betula papyrifera</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>64</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>14</u></td> <td>x 2 = <u>28</u></td> </tr> <tr> <td>FAC species <u>62</u></td> <td>x 3 = <u>186</u></td> </tr> <tr> <td>FACU species <u>34</u></td> <td>x 4 = <u>136</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>350</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.1818181818181817</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>14</u>	x 2 = <u>28</u>	FAC species <u>62</u>	x 3 = <u>186</u>	FACU species <u>34</u>	x 4 = <u>136</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>110</u> (A)	<u>350</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>14</u>	x 2 = <u>28</u>																	
FAC species <u>62</u>	x 3 = <u>186</u>																	
FACU species <u>34</u>	x 4 = <u>136</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>110</u> (A)	<u>350</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Fraxinus nigra</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Spiraea alba</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>7</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Toxicodendron rydbergii</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Fragaria virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Osmunda claytoniana</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
4. <u>Rubus pubescens</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. <u>Pyrola elliptica</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. <u>Solidago gigantea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>39</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation is representative of the surrounding upland. Hydrophytic vegetation was met, however the vegetation is significantly different than that of the wetland.																		

## SOIL

Sampling Point: wase1060\_u

[illegible]





wase1060\_u\_E



wase1060\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1059f\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406418 Long: -90.822863 Datum: WGS84  
 Soil Map Unit Name: Allendale loamy fine sand, 0 to 3 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 hardwood swamp located within a depression in the landscape. Some areas of the feature are sparsely vegetated, while others are dominated by various sedges. It appears as if there was an old logging road that previously cut through the feature.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is seasonally saturated. The feature collects runoff from the surrounding landscape.		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1059f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Populus tremuloides</i></u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u><i>Ulmus americana</i></u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>40</u> = Total Cover				
<b>Prevalence Index worksheet:</b>				
Total % Cover of:		Multiply by:		
OBL species	<u>2</u>	x 1 =	<u>2</u>	
FACW species	<u>39</u>	x 2 =	<u>78</u>	
FAC species	<u>36</u>	x 3 =	<u>108</u>	
FACU species	<u>4</u>	x 4 =	<u>16</u>	
UPL species	<u>0</u>	x 5 =	<u>0</u>	
Column Totals:	<u>81</u> (A)		<u>204</u> (B)	
Prevalence Index = B/A = <u>2.52</u>				
<b>Hydrophytic Vegetation Indicators:</b>				
<u>  </u> 1 - Rapid Test for Hydrophytic Vegetation				
<u>✓</u> 2 - Dominance Test is >50%				
<u>✓</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup>				
<u>  </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)				
<u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Definitions of Vegetation Strata:</b>				
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes <u>✓</u> No <u>  </u>				
Sapling/Shrub Stratum (Plot size: <u>15</u> ) 1. <u><i>Alnus incana</i></u> <u>20</u> <u>Y</u> <u>FACW</u> 2. <u><i>Ilex verticillata</i></u> <u>5</u> <u>Y</u> <u>FACW</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ <u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u> ) 1. <u><i>Carex intumescens</i></u> <u>2</u> <u>Y</u> <u>FACW</u> 2. <u><i>Carex tenera</i></u> <u>2</u> <u>Y</u> <u>FAC</u> 3. <u><i>Equisetum arvense</i></u> <u>2</u> <u>Y</u> <u>FAC</u> 4. <u><i>Acer rubrum</i></u> <u>2</u> <u>Y</u> <u>FAC</u> 5. <u><i>Rubus pubescens</i></u> <u>2</u> <u>N</u> <u>FACW</u> 6. <u><i>Carex gracillima</i></u> <u>2</u> <u>N</u> <u>FACU</u> 7. <u><i>Carex crinita</i></u> <u>2</u> <u>N</u> <u>OBL</u> 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ <u>14</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u> ) 1. <u><i>Parthenocissus inserta</i></u> <u>2</u> <u>N</u> <u>FACU</u> 2. _____ 3. _____ 4. _____ <u>2</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation is representative of the wetland. Fringed sedge and greater bladder sedge become common in other areas of the wetland. Poison ivy becomes dominant along the margins. Speckled alder and winterberry dominate the shrub layer throughout most of the wetland, while quaking aspen dominates the canopy.				



## SOIL

Sampling Point: wase1059f\_w

[illegible]





wase1059f\_w\_S



wase1059f\_w\_W



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

<b>WETLAND IDENTIFICATION</b>					
Project name: Line 5 Relocation Project	Evaluator(s): DMP/ARK				
File #: wase1059	Date of visit(s): 2020-06-09				
Location: PLSS: <u>sec 02 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain				
Lat: <u>46.406418</u> Long: <u>-90.822863</u>	Watershed: LS12, Marengo River				
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>					
<b>SITE DESCRIPTION</b>					
Soils: Mapped Type(s): Allendale loamy fine sand, 0 to 3 percent slopes. Allendale-Wakeley-Kinross complex, 0 to 6 percent slopes.  Field Verified: The soil profile was not verified. The soil profile consisted of a dark sandy loam over top of a depleted loamy sand and a red loamy sand. Redox concentrations were observed within the middle layer.	WWI Class: T3K  Wetland Type(s): <b>PFO - Hardwood swamp</b>				
Hydrology: The hydrologic regime is seasonally saturated. The feature collects runoff water from the surrounding landscape.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">Wetland Size: 0.2586</td> <td style="width: 50%; padding: 5px;">Wetland Area Impacted 0.2586</td> </tr> <tr> <td colspan="2" style="padding: 5px;">           Vegetation: Plant Community Description(s): Fringed sedge and greater bladder sedge were common throughout the wetland. Poison ivy was common along the margin. Speckled alder and winterberry dominated the shrub layer, while quaking aspen dominated the canopy.         </td> </tr> </table>	Wetland Size: 0.2586	Wetland Area Impacted 0.2586	Vegetation: Plant Community Description(s): Fringed sedge and greater bladder sedge were common throughout the wetland. Poison ivy was common along the margin. Speckled alder and winterberry dominated the shrub layer, while quaking aspen dominated the canopy.	
Wetland Size: 0.2586	Wetland Area Impacted 0.2586				
Vegetation: Plant Community Description(s): Fringed sedge and greater bladder sedge were common throughout the wetland. Poison ivy was common along the margin. Speckled alder and winterberry dominated the shrub layer, while quaking aspen dominated the canopy.					

**SITE MAP**

### SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	N	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	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	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	Y	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			<b>Groundwater Processes</b>
1	N	N	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

WH-2: Observed trees, shrubs and an herbaceous layer throughout most of the wetland.

WH-7: Saw and heard a variety of different bird species in the surrounding area. These birds could use the wetland vegetation for perching or nesting habitat.

WH-10: There was no standing water during the field survey, however there potentially is standing water during the early spring and after heavy rain events.

ST-1: The feature is basin wetland that is located within a depression in the landscape.

ST-5: The wetland is located near a hay field and a road. There is potential for non-point inputs to enter the feature from those land uses.

WQ-7: Storm water from the adjacent hay field is potentially a major source of hydrology.

**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]

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input type="checkbox"/>	<10% <input checked="" type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input type="checkbox"/>	All strata present and good assemblage of native species <input checked="" type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
<i>Alnus incana</i> *			PFO	Rare
<i>Populus tremuloides</i> *			PFO	Rare
<i>Fraxinus nigra</i>			PFO	Rare
<i>Ilex verticillata</i> *			PFO	Rare
<i>Carex crinita</i>			PFO	Rare
<i>Carex intumescens</i>			PFO	Rare
<i>Rubus pubescens</i>			PFO	Rare
<i>Acer rubrum</i>			PFO	Barren
<i>Athyrium filix-femina</i>			PFO	Barren
<i>Calamagrostis canadensis</i>			PFO	Barren
<i>Carex gracillima</i>			PFO	Barren
<i>Carex tenera</i>			PFO	Barren
<i>Equisetum arvense</i>			PFO	Barren
<i>Matteuccia struthiopteris</i>			PFO	Barren
<i>Onoclea sensibilis</i>			PFO	Barren
<i>Osmunda claytoniana</i>			PFO	Barren
<i>Parthenocissus vitacea</i>			PFO	Barren
<i>Ulmus americana</i>			PFO	Barren
<i>Betula papyrifera</i>			PFO	Barren
<i>Fragaria virginiana</i>			PFO	Barren
<i>Impatiens capensis</i>			PFO	Barren
<i>Juncus effusus</i>			PFO	Barren
<i>Ranunculus acris</i>			PFO	Barren
<i>Solidago gigantea</i>			PFO	Barren
<i>Viburnum lentago</i>			PFO	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The floristic integrity is low due to disturbance from past logging.



### 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)
	X		L	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		M	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		M	C	Agriculture – hay
					Agriculture – pasture
	X		L	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	X		L	UC	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	C	Cover of non-native and/or invasive species
	X		L	UC	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)

There is a hay field just to the west of the wetland, as well as a road just to the north. Both of these features could introduce non-point inputs into 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	The floristic integrity is low due to disturbance from past logging.
Human Use Values	No discernible uses.
Wildlife Habitat	Mammals, reptiles, and birds could use the wetland and its surrounding upland as habitat.
Fish and Aquatic Life Habitat	There was no standing water within the wetland during the field survey. There is potential for the feature to be inundated after heavy rain and in the early spring.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is rather small and does not provide much dense vegetation for substantial water storage.
Water Quality Protection	The feature is rather small, and does not have dense vegetation that can filter out water from a heavy rain event.
Groundwater Processes	Groundwater 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: Ashland Sampling Date: 2020-06-10  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1059\_u  
 Investigator(s): DMP/ARK Section, Township, Range: sec 02 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406189 Long: -90.822628 Datum: WGS84  
 Soil Map Unit Name: Allendale-Wakeley-Kinross complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 sample plot was taken within a mesic forest that has been disturbed by historic logging. Hydrophytic vegetation parameter was met, however no other wetland indicators are present. The vegetation within the upland is quite different than that of the wetland.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> 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): _____		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Wetland hydrology was not met.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wase1059\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Fraxinus nigra</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. <u>Populus tremuloides</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
4. <u>Abies balsamea</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>75</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>13</u></td> <td>x 2 = <u>26</u></td> </tr> <tr> <td>FAC species <u>90</u></td> <td>x 3 = <u>270</u></td> </tr> <tr> <td>FACU species <u>8</u></td> <td>x 4 = <u>32</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>111</u> (A)</td> <td><u>328</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.954954954954955</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>13</u>	x 2 = <u>26</u>	FAC species <u>90</u>	x 3 = <u>270</u>	FACU species <u>8</u>	x 4 = <u>32</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>111</u> (A)	<u>328</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>13</u>	x 2 = <u>26</u>																	
FAC species <u>90</u>	x 3 = <u>270</u>																	
FACU species <u>8</u>	x 4 = <u>32</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>111</u> (A)	<u>328</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Viburnum lentago</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Fraxinus nigra</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Prunus virginiana</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
4. <u>Ribes americanum</u>	<u>1</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>9</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Athyrium angustum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Toxicodendron rydbergii</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Pyrola elliptica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Carex gracillima</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>27</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The vegetation is representative of the surrounding upland, however the cover varies throughout. The canopy is more dominated by quaking aspen in some areas, and the herbaceous layer is dominated by poison Ivy in most of the upland.																		

## SOIL

Sampling Point: wase1059\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

The soil profile consists of a dark fine sandy loam over a reddish brown fine sand. No hydric soil indicators were observed.





wase1059\_u\_NE



wase1059\_u\_SW



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1054e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405613 Long: -90.818994 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated wet meadow dominated by western poison ivy. The feature is a depression within a roadside ditch.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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): _____		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression within a roadside ditch.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1054e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>19</u></td> <td>x 1 = <u>19</u></td> </tr> <tr> <td>FACW species <u>23</u></td> <td>x 2 = <u>46</u></td> </tr> <tr> <td>FAC species <u>50</u></td> <td>x 3 = <u>150</u></td> </tr> <tr> <td>FACU species <u>19</u></td> <td>x 4 = <u>76</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>111</u> (A)</td> <td><u>291</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.6216216216215</u>	Total % Cover of:	Multiply by:	OBL species <u>19</u>	x 1 = <u>19</u>	FACW species <u>23</u>	x 2 = <u>46</u>	FAC species <u>50</u>	x 3 = <u>150</u>	FACU species <u>19</u>	x 4 = <u>76</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>111</u> (A)	<u>291</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>19</u>	x 1 = <u>19</u>																	
FACW species <u>23</u>	x 2 = <u>46</u>																	
FAC species <u>50</u>	x 3 = <u>150</u>																	
FACU species <u>19</u>	x 4 = <u>76</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>111</u> (A)	<u>291</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Salix bebbiana</u>	<u>9</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Alnus incana</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>16</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Toxicodendron rydbergii</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Carex crinita</u>	<u>15</u>	<u>N</u>	<u>OBL</u>															
3. <u>Carex gracillima</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Poa pratensis</u>	<u>9</u>	<u>N</u>	<u>FACU</u>															
5. <u>Juncus effusus</u>	<u>4</u>	<u>N</u>	<u>OBL</u>															
6. <u>Helianthus giganteus</u>	<u>3</u>	<u>N</u>	<u>FACW</u>															
7. <u>Fraxinus nigra</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
8. <u>Onoclea sensibilis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>95</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated western poison ivy. A crop field is located to the east of the wetland.																		

**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: wasc1054e\_w

[illegible]



wasc1054e\_w\_N



wasc1054e\_w\_S

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project	Evaluator(s): EJO/JSW		
File #: wasc1054	Date of visit(s): 2020-06-09		
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain		
Lat: <u>46.405611</u> Long: <u>-90.818994</u>	Watershed: LS12, Marengo River		
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes  Field Verified: Series were not verified. The soils were not sampled due to the location of the wetland within a roadside ditch. The soils are assumed to be hydric due to the wetland's hydrology and dominance of hydrophytic vegetation.	WWI Class: N/A		
	Wetland Type(s): PEM - Fresh (wet) meadow		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 0.0648</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted 0.0648</td> </tr> </table>	Wetland Size: 0.0648	Wetland Area Impacted 0.0648
Wetland Size: 0.0648	Wetland Area Impacted 0.0648		
Hydrology: The feature is a saturated depression within a roadside ditch.	Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by western poison ivy.		

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	N	N	Ephemeral pond with water present ≥ 45 days
10	N	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or 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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)**

ST-5, WQ-7: The wetland is a depression within a roadside ditch and likely receives stormwater from the adjacent road and soybean field.

**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, mammals, herpetofauna

**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 a lower species richness and is dominated by only a few species.

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

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X		M	C	Filling, berms (non-impounding)
X	X		H	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		M	C	Polluted runoff
					Pond construction
	X		M	C	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X		M	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		L	C	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	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 located in a roadside ditch; fill may have been used to construct the road. Non-native species threaten the floristic integrity of the wetland. The wetland is adjacent to a crop field and gravel road. The wetland may be mowed at times.

## 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 a low species richness and is dominated by only a few species.
Human Use Values	Roadside ditch with no apparent uses.
Wildlife Habitat	The wetland primarily has a single stratum; forbs and shrubs in the wetland may provide food sources for birds and pollinators.
Fish and Aquatic Life Habitat	No standing water was observed in the wetland at the time of survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland likely receives and absorbs stormwater from the adjacent road and crop field.
Water Quality Protection	The wetland has dense, persistent vegetation important for filtering runoff in a cropped landscape.
Groundwater Processes	The wetland primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1054\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405596 Long: -90.818889 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located in an agricultural field planted with soybeans.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1054\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td>Total % Cover of:</td> <td>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>2</u></td> <td>x 3 = <u>6</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>1</u></td> <td>x 5 = <u>5</u></td> </tr> <tr> <td>Column Totals: <u>23</u> (A)</td> <td><u>91</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.9565217391304346</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>2</u>	x 3 = <u>6</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>1</u>	x 5 = <u>5</u>	Column Totals: <u>23</u> (A)	<u>91</u> (B)
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Column Totals: <u>23</u> (A)	<u>91</u> (B)																	
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Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Anthoxanthum odoratum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Glycine max</u>	<u>10</u>	<u>Y</u>	_____															
3. <u>Schedonorus arundinaceus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Poa pratensis</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
5. <u>Solidago canadensis</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
7. <u>Medicago lupulina</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
8. <u>Leucanthemum vulgare</u>	<u>1</u>	<u>N</u>	<u>UPL</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>33</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located in a soybean field.																		

**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: wasc1054\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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 indicators of hydric soil were observed.





wasc1054\_u\_N



wasc1054\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1053e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405901 Long: -90.817908 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated wet meadow dominated by red-tinged bulrush. The main part of the feature is a narrow, uncropped north-south depression in a crop field; parts of the wetland extend into the crop field as swales and are planted into soybeans at the time of survey.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (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 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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression located in a crop field. Parts of the wetland extend into the crop field and are swales that drain into the uncropped portion.		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1053e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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</u></td> <td>x 1 = <u>55</u></td> </tr> <tr> <td>FACW species <u>21</u></td> <td>x 2 = <u>42</u></td> </tr> <tr> <td>FAC species <u>16</u></td> <td>x 3 = <u>48</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>97</u> (A)</td> <td><u>165</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.7010309278350515</u>	Total % Cover of:	Multiply by:	OBL species <u>55</u>	x 1 = <u>55</u>	FACW species <u>21</u>	x 2 = <u>42</u>	FAC species <u>16</u>	x 3 = <u>48</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>97</u> (A)	<u>165</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>55</u>	x 1 = <u>55</u>																	
FACW species <u>21</u>	x 2 = <u>42</u>																	
FAC species <u>16</u>	x 3 = <u>48</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>97</u> (A)	<u>165</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Salix bebbiana</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>5</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Scirpus microcarpus</u>	<u>55</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Salix eriocephala</u>	<u>16</u>	<u>N</u>	<u>FACW</u>															
3. <u>Alopecurus pratensis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
4. <u>Equisetum arvense</u>	<u>6</u>	<u>N</u>	<u>FAC</u>															
5. <u>Poa pratensis</u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
6. <u>Lotus corniculatus</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>92</u> = Total Cover																
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by red-tinged bulrush. Part of the feature appears to have been recently inundated at the time of survey, with sparse vegetation observed. Parts of the wetland extend into the crop field, which is planted in soybeans at the time of survey.																		

**Hydrophytic Vegetation Indicators:**  
☒ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
☒ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>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 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: wasc1053e\_w

[illegible]



wasc1053e\_w\_N



wasc1053e\_w\_S

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): EJO/JSW	
File #: wasc1053		Date of visit(s): 2020-06-09	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.405900</u> Long: <u>-90.817909</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: Series were not verified. Soils were observed to be clay loam over silty clay loam.		Wetland Type(s): PEM - Fresh (wet) meadow	
		Wetland Size: 0.2477	Wetland Area Impacted 0.2477
Hydrology: The feature is a saturated depression located in a crop field. Parts of the wetland extend into the crop field and are swales that drain into the uncropped portion.		Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by small-fruited bulrush. Part of the feature appears to have been recently inundated at the time of survey, with sparse vegetation coverage observed. Parts of the wetland extend into the crop field, which is planted in soybeans at the time of survey.	

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	Y	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	N	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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	Y	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)

WH-1: The feature is cut off from any other significant habitat by crop fields.  
ST-5, WQ-7: The feature is a depression in the landscape and receives stormwater from the surrounding crop field.  
WQ-4, WQ-8: Outside of the survey area the wetland appears to connect with an open waterbody.

### 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, mammals, herpetofauna

### 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

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input checked="" type="checkbox"/>	10-20% <input type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input checked="" type="checkbox"/>	All strata present and good assemblage of native species <input type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input checked="" type="checkbox"/>	S3 <input type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input checked="" type="checkbox"/>	Common <input type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus microcarpus*			PEM	Interrupted
Salix eriocephala*			PEM	Rare
Alopecurus pratensis			PEM	Rare
Glycine max*			PEM	Rare
Schedonorus arundinaceus			PEM	Rare
Equisetum arvense			PEM	Rare
Carex crinita			PEM	Rare
Carex stipata			PEM	Rare
Poa pratensis			PEM	Rare
Salix bebbiana			PEM	Rare
Juncus effusus			PEM	Barren
Solidago canadensis			PEM	Barren
Cornus alba			PEM	Barren
Ranunculus acris			PEM	Barren
Barbarea vulgaris			PEM	Barren
Cerastium fontanum			PEM	Barren
Leucanthemum vulgare			PEM	Barren
Lotus corniculatus			PEM	Barren
Salix petiolaris			PEM	Barren
Symphytotrichum lanceolatum			PEM	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The uncropped portion of the wetland is dominated by native vegetation, with exotic species present mainly along the fringes. The cropped portion is almost entirely dominated by soybeans. The wetland is dominated by only a few 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)
X	X		M	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
X	X		M	C	Polluted runoff
					Pond construction
X	X		H	C	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X		L	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		H	C	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	X		H	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 in and adjacent to a soybean field, part of which is sprayed and/or tilled.

## 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 uncropped portion of the wetland is dominated by only a few native species and has non-native species present along the fringes; the cropped portion of the wetland is almost exclusively soybeans.
Human Use Values	Located on private land in agricultural fields.
Wildlife Habitat	The uncropped area may provide nesting habitat for birds as well as food sources for birds and pollinators, but this habitat is marginal.
Fish and Aquatic Life Habitat	The wetland did not have any standing water at the time of survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland receives and stormwater from the surrounding crop field.
Water Quality Protection	The uncropped wetland area has dense, persistent vegetation important for filtering polluted agricultural runoff.
Groundwater Processes	The wetland primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1053\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405894 Long: -90.817984 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 at the edge of a soybean field and a swale.</u>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No indicators of wetland hydrology were observed.</u>		

**VEGETATION – Use scientific names of plants.**

Sampling Point: wasc1053\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>77</u></td> <td>x 4 = <u>308</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>92</u> (A)</td> <td><u>373</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.054347826086956</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>5</u>	x 3 = <u>15</u>	FACU species <u>77</u>	x 4 = <u>308</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>92</u> (A)	<u>373</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>5</u>	x 3 = <u>15</u>																	
FACU species <u>77</u>	x 4 = <u>308</u>																	
UPL species <u>10</u>	x 5 = <u>50</u>																	
Column Totals: <u>92</u> (A)	<u>373</u> (B)																	
		<u>0</u> = Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Elymus repens</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Dactylis glomerata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Erigeron annuus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
4. <u>Rudbeckia hirta</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
5. <u>Anthoxanthum odoratum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
6. <u>Schedonorus arundinaceus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
7. <u>Daucus carota</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
8. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
9. <u>Glycine max</u>	<u>5</u>	<u>N</u>																
10. <u>Leucanthemum vulgare</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
11. <u>Cerastium fontanum</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
12. _____	_____	_____	_____															
		<u>97</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located at the edge of soybean field and a swale.																		

## SOIL

Sampling Point: wasc1053\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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 indicators of hydric soil were observed.





wasc1053\_u\_N



wasc1053\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1052s\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405500 Long: -90.816408 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated shrub-carr dominated by willows. The feature is a depression adjacent to a crop field (soybeans at the time of survey) and connects to a wet meadow community (wasc1052e).	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (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 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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression adjacent to a crop field. The feature is connected hydrologically to a wet meadow.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1052s\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Populus tremuloides</i></u>	<u>7</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>7</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>29</u></td> <td>x 1 = <u>29</u></td> </tr> <tr> <td>FACW species <u>84</u></td> <td>x 2 = <u>168</u></td> </tr> <tr> <td>FAC species <u>13</u></td> <td>x 3 = <u>39</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>128</u> (A)</td> <td><u>244</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.90625</u>	Total % Cover of:	Multiply by:	OBL species <u>29</u>	x 1 = <u>29</u>	FACW species <u>84</u>	x 2 = <u>168</u>	FAC species <u>13</u>	x 3 = <u>39</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>128</u> (A)	<u>244</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>29</u>	x 1 = <u>29</u>																	
FACW species <u>84</u>	x 2 = <u>168</u>																	
FAC species <u>13</u>	x 3 = <u>39</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>128</u> (A)	<u>244</u> (B)																	
<u>56</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Salix petiolaris</i></u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u><i>Salix eriocephala</i></u>	<u>16</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Salix bebbiana</i></u>	<u>12</u>	<u>N</u>	<u>FACW</u>															
4. <u><i>Cornus alba</i></u>	<u>8</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>65</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Scirpus cyperinus</i></u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.   <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____														
2. <u><i>Phalaris arundinacea</i></u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Juncus effusus</i></u>	<u>9</u>	<u>N</u>	<u>OBL</u>															
4. <u><i>Lysimachia ciliata</i></u>	<u>6</u>	<u>N</u>	<u>FACW</u>															
5. <u><i>Equisetum arvense</i></u>	<u>4</u>	<u>N</u>	<u>FAC</u>															
6. <u><i>Fragaria virginiana</i></u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. <u><i>Salix eriocephala</i></u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
8. <u><i>Ranunculus acris</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)  
 The feature is a shrub-carr dominated by meadow willow and heart-leaved willow. The wetland is adjacent to a crop field.

## SOIL

Sampling Point: wasc1052s\_w

[illegible]





wasc1052s\_w\_NW



wasc1052s\_w\_SE

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1052e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405774 Long: -90.816596 Datum: WGS84  
 Soil Map Unit Name: Cublake-Croswell-Ashwabab complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated wet meadow dominated by reed canary grass and red-tinged bulrush. The feature is a depression within the landscape and is connected to a shrub-carr community (wasc1052s).	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>18</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>18</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression in the landscape. A water table and saturation were observed at 18 inches below the surface. The feature is connected hydrologically to a shrub-carr community. The feature appears to eventually drain into an open waterbody outside of the survey area.		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1052e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>44</u></td> <td>x 1 = <u>44</u></td> </tr> <tr> <td>FACW species <u>48</u></td> <td>x 2 = <u>96</u></td> </tr> <tr> <td>FAC species <u>6</u></td> <td>x 3 = <u>18</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>98</u> (A)</td> <td><u>158</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.6122448979591837</u>	Total % Cover of:	Multiply by:	OBL species <u>44</u>	x 1 = <u>44</u>	FACW species <u>48</u>	x 2 = <u>96</u>	FAC species <u>6</u>	x 3 = <u>18</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>98</u> (A)	<u>158</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>44</u>	x 1 = <u>44</u>																	
FACW species <u>48</u>	x 2 = <u>96</u>																	
FAC species <u>6</u>	x 3 = <u>18</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>98</u> (A)	<u>158</u> (B)																	
<u>2</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Populus tremuloides</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>2</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Scirpus microcarpus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Phalaris arundinacea</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Symphyotrichum lanceolatum</u>	<u>4</u>	<u>N</u>	<u>FACW</u>															
4. <u>Salix petiolaris</u>	<u>4</u>	<u>N</u>	<u>FACW</u>															
5. <u>Lycopus americanus</u>	<u>4</u>	<u>N</u>	<u>OBL</u>															
6. <u>Equisetum arvense</u>	<u>4</u>	<u>N</u>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>96</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by reed canary grass and red-tinged bulrush. A soybean field is located to the west of the meadow and an aspen grove to the east.																		

## SOIL

Sampling Point: wasc1052e\_w

[illegible]



wasc1052e\_w\_NW



wasc1052e\_w\_SE

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): EJO/JSW	
File #: wasc1052		Date of visit(s): 2020-06-09	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.405500</u> Long: <u>-90.816408</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: Series were not verified. In the shrub-carr, Soils were observed to be very fine sandy loam over loamy very fine sand over loamy sand, with a gravel restrictive layer at 18 inches below the surface. In the wet meadow, soils were observed to be silty clay loam over silt loam.		Wetland Type(s): PSS/PEM - Fresh (wet) meadow/Shrub-carr complex	
Hydrology: The feature is a saturated depression adjacent to a crop field.		Wetland Size: 0.2402	Wetland Area Impacted 0.2402
		Vegetation: Plant Community Description(s): The shrub-carr is dominated by meadow willow and Missouri willow. The wet meadow is dominated by reed canary grass and small-fruited bulrush. The wetland is adjacent to a crop field to the west and aspen grove to the east.	

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	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	N	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	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			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or constricted outlet
3	N	Y	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	Y	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	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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

WQ-7: Areas of dense reed canary grass are present in the wetland, which may indicate excess nutrients.

ST-1: The feature is a roughly linear depression in the landscape, which likely experiences through-flow.

ST-5: The wetland is a depression that receives stormwater from the surrounding landscape (including agricultural runoff).

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

## Fish and Aquatic Life Habitat and Species Observations

[illegible]



## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input checked="" type="checkbox"/>	10-20% <input type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input checked="" type="checkbox"/>	All strata present and good assemblage of native species <input type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Phalaris arundinacea*			PSS/PEM	Patchy
Scirpus microcarpus*			PEM	Patchy
Scirpus cyperinus*			PSS	Rare
Salix eriocephala			PSS	Rare
Populus tremuloides			PSS/PEM	Rare
Salix bebbiana			PSS	Rare
Juncus effusus			PSS	Rare
Cornus alba			PSS	Rare
Lysimachia ciliata			PSS	Rare
Equisetum arvense			PSS/PEM	Barren
Lycopus americanus			PEM	Barren
Poa pratensis			PEM	Barren
Salix petiolaris			PSS/PEM	Barren
Symphyotrichum lanceolatum			PEM	Barren
Alopecurus pratensis			PEM	Barren
Anthoxanthum odoratum			PSS	Barren
Fragaria virginiana			PSS	Barren
Helianthus giganteus			PEM	Barren
Ranunculus acris			PSS	Barren
Salix eriocephala			PSS	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland has both native and non-native species present; in some areas, the wetland is dominated by native species, and in others, it is dominated by invasives (I.e. reed canary grass).

### 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)
	X		M	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		M	C	Polluted runoff
					Pond construction
	X		M	C	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X		L	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	X		L	UC	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	X		H	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 dominated by invasive species in areas. The wetland is adjacent to a crop field and near a road.

## 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 a high abundance of non-native species; however, the shrub layer appears to be dominated by native species.
Human Use Values	The wetland is on private land.
Wildlife Habitat	Shrubs and forbs in the wetland provide food and nectar sources for birds and pollinators. The wetland may be used by other wildlife at times.
Fish and Aquatic Life Habitat	
Shoreline Protection	The wetland eventually abuts an open waterbody outside of the survey area, where the wetland serves as an intact buffer.
Flood and Stormwater Storage	The wetland is a narrow stretch but is well-vegetated and likely important for capturing stormwater from the adjacent crop field.
Water Quality Protection	The wetland has dense, persistent vegetation, and is likely important for filtering runoff from the adjacent crop field.
Groundwater Processes	The wetland primarily exhibits recharge 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.	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: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1052\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405761 Long: -90.816388 Datum: WGS84  
 Soil Map Unit Name: Cublake-Croswell-Ashwababay complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located in a clearing near an agricultural field. The area is dominated by bracken and timothy.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1052\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Populus tremuloides</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>445</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.869565217391304</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>20</u>	x 3 = <u>60</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>115</u> (A)	<u>445</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>20</u>	x 3 = <u>60</u>																	
FACU species <u>90</u>	x 4 = <u>360</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>115</u> (A)	<u>445</u> (B)																	
<u>10</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Populus tremuloides</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Salix humilis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Pteridium aquilinum</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Phleum pratense</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Solidago canadensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Parthenocissus inserta</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u>Ranunculus acris</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
6. <u>Asclepias syriaca</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
7. <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>95</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located in a clearing near the edge of an agricultural field.																		



## SOIL

Sampling Point: wasc1052\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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 indicators of hydric soil were observed.



wasc1052\_u\_N



wasc1052\_u\_SE



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1057e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406920 Long: -90.815899 Datum: WGS84  
 Soil Map Unit Name: Cublake-Croswell-Ashwababay complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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.) <b>The feature is a saturated wet meadow dominated by sensitive fern. The feature is a depression within a roadside ditch.</b>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <b>The feature is a seasonally saturated depression within a roadside ditch.</b>		

**VEGETATION – Use scientific names of plants.**

Sampling Point: wasc1057e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>11</u></td> <td>x 1 = <u>11</u></td> </tr> <tr> <td>FACW species <u>89</u></td> <td>x 2 = <u>178</u></td> </tr> <tr> <td>FAC species <u>4</u></td> <td>x 3 = <u>12</u></td> </tr> <tr> <td>FACU species <u>4</u></td> <td>x 4 = <u>16</u></td> </tr> <tr> <td>UPL species <u>4</u></td> <td>x 5 = <u>20</u></td> </tr> <tr> <td>Column Totals: <u>112</u> (A)</td> <td><u>237</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.1160714285714284</u>	Total % Cover of:	Multiply by:	OBL species <u>11</u>	x 1 = <u>11</u>	FACW species <u>89</u>	x 2 = <u>178</u>	FAC species <u>4</u>	x 3 = <u>12</u>	FACU species <u>4</u>	x 4 = <u>16</u>	UPL species <u>4</u>	x 5 = <u>20</u>	Column Totals: <u>112</u> (A)	<u>237</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>11</u>	x 1 = <u>11</u>																	
FACW species <u>89</u>	x 2 = <u>178</u>																	
FAC species <u>4</u>	x 3 = <u>12</u>																	
FACU species <u>4</u>	x 4 = <u>16</u>																	
UPL species <u>4</u>	x 5 = <u>20</u>																	
Column Totals: <u>112</u> (A)	<u>237</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Alnus incana</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>7</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Onoclea sensibilis</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Equisetum sylvaticum</u>	<u>12</u>	<u>N</u>	<u>FACW</u>															
3. <u>Symphotrichum puniceum</u>	<u>6</u>	<u>N</u>	<u>OBL</u>															
4. <u>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
5. <u>Leucanthemum vulgare</u>	<u>4</u>	<u>N</u>	<u>UPL</u>															
6. <u>Pteridium aquilinum</u>	<u>4</u>	<u>N</u>	<u>FACU</u>															
7. <u>Ranunculus acris</u>	<u>4</u>	<u>N</u>	<u>FAC</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>105</u> = Total Cover																
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) <b>The feature is a wet meadow dominated by sensitive fern.</b>																		

**Hydrophytic Vegetation Indicators:**  
☒ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
☒ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
☐ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>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 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: wasc1057e\_w

[illegible]



wasc1057e\_w\_E



wasc1057e\_w\_W



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project	Evaluator(s): EJO/JSW		
File #: wasc1057	Date of visit(s): 2020-06-09		
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain		
Lat: <u>46.406895</u> Long: <u>-90.816026</u>	Watershed: LS12, Marengo River		
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Cublake-Croswell-Ashwabab complex, 0 to 6 percent slopes  Field Verified: Series were not verified. The soils were not sampled due to the location of the wetland within a roadside ditch. The soils are assumed to be hydric due to wetland's hydrology and dominance of hydrophytic vegetation.	WWI Class: N/A		
	Wetland Type(s): PEM - Fresh (wet) meadow		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 0.0562</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted 0.0562</td> </tr> </table>	Wetland Size: 0.0562	Wetland Area Impacted 0.0562
Wetland Size: 0.0562	Wetland Area Impacted 0.0562		
Hydrology: The feature is a saturated depression within a roadside ditch.	Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by sensitive fern.		

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	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	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	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or 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			<b>Groundwater Processes</b>
1	N	N	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)**

ST-5: The wetland is a depression within a roadside ditch and receives stormwater from the adjacent road and surrounding landscape.

**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, mammals, herpetofauna, insects (pollinators)

**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

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input checked="" type="checkbox"/>	All strata present and good assemblage of native species <input type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input checked="" type="checkbox"/>	S3 <input type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input checked="" type="checkbox"/>	Common <input type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
<i>Onoclea sensibilis</i> *			PEM	Interrupted
<i>Equisetum sylvaticum</i> *			PEM	Rare
<i>Alnus incana</i>			PEM	Rare
<i>Apocynum androsaemifolium</i>			PEM	Rare
<i>Carex crinita</i>			PEM	Rare
<i>Alopecurus pratensis</i>			PEM	Rare
<i>Dactylis glomerata</i>			PEM	Rare
<i>Symphyotrichum puniceum</i>			PEM	Rare
<i>Cornus alba</i>			PEM	Rare
<i>Scirpus cyperinus</i>			PEM	Rare
<i>Leucanthemum vulgare</i>			PEM	Barren
<i>Pteridium aquilinum</i>			PEM	Barren
<i>Ranunculus acris</i>			PEM	Barren
<i>Solidago gigantea</i>			PEM	Barren
<i>Anthoxanthum odoratum</i>			PEM	Barren
<i>Populus tremuloides</i>			PEM	Barren
<i>Diervilla lonicera</i>			PEM	Barren
<i>Fragaria virginiana</i>			PEM	Barren
<i>Tilia americana</i>			PEM	Barren
<i>Taraxacum officinale</i>			PEM	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland is dominated by native species, with some abundant non-native and invasive species present on the fringes.

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

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X		M	C	Filling, berms (non-impounding)
X	X		M	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		M	C	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X		H	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	X		L	UC	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
X	X		M	C	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		H	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 in a roadside ditch; fill may have been used to construct the road. A forest trail crosses a portion of the wetland. The wetland is adjacent to a paved road. Non-native invasive species threaten the floristic integrity of 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	The wetland is dominated by native species but also has many exotic and invasive species present that have degraded its floristic integrity.
Human Use Values	The wetland is unlikely to be used for recreational purposes.
Wildlife Habitat	Forbs and flowering shrubs may provide food and nectar resources for various wildlife.
Fish and Aquatic Life Habitat	No standing water was observed at the time of survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland receives and stores stormwater from the adjacent road and surrounding landscape.
Water Quality Protection	The wetland has dense, persistent vegetation.
Groundwater Processes	The wetland primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1057\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406855 Long: -90.815894 Datum: WGS84  
 Soil Map Unit Name: Cublake-Croswell-Ashwabab complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located at the edge of an upland hardwood forest dominated by maples and paper birch.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1057\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Betula papyrifera</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)														
2. <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Acer saccharum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>65</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>72</u></td> <td>x 3 = <u>216</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>182</u> (A)</td> <td><u>606</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.32967032967033</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>72</u>	x 3 = <u>216</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>182</u> (A)	<u>606</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>25</u>	x 2 = <u>50</u>																	
FAC species <u>72</u>	x 3 = <u>216</u>																	
FACU species <u>85</u>	x 4 = <u>340</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>182</u> (A)	<u>606</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Taxus canadensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Tilia americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Salix bebbiana</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. <u>Fraxinus nigra</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
<u>30</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Athyrium angustum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Rubus pubescens</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. <u>Pteridium aquilinum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Onoclea sensibilis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
6. <u>Fragaria virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
7. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
8. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>87</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		

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

The sample plot is located at the edge of the forest near a road.

## SOIL

Sampling Point: wasc1057\_u

[illegible]





wasc1057\_u\_E



wasc1057\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1056f\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406018 Long: -90.815828 Datum: WGS84  
 Soil Map Unit Name: Cublake-Croswell-Ashwabab complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated hardwood swamp dominated by red maple. The feature is located in a depression in the landscape.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 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)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression. Standing water was observed in the wetland at the time of survey, but not at the sample point.		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1056f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Acer rubrum</i></u>	<u>65</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</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>100</u> (A/B)														
2. <u><i>Tsuga canadensis</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. <u><i>Thuja occidentalis</i></u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u><i>Betula alleghaniensis</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>90</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>17</u></td> <td>x 1 = <u>17</u></td> </tr> <tr> <td>FACW species <u>31</u></td> <td>x 2 = <u>62</u></td> </tr> <tr> <td>FAC species <u>72</u></td> <td>x 3 = <u>216</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>335</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.576923076923077</u>	Total % Cover of:	Multiply by:	OBL species <u>17</u>	x 1 = <u>17</u>	FACW species <u>31</u>	x 2 = <u>62</u>	FAC species <u>72</u>	x 3 = <u>216</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>130</u> (A)	<u>335</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>17</u>	x 1 = <u>17</u>																	
FACW species <u>31</u>	x 2 = <u>62</u>																	
FAC species <u>72</u>	x 3 = <u>216</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>130</u> (A)	<u>335</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u><i>Fraxinus nigra</i></u>	<u>7</u>	<u>Y</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>7</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u><i>Glyceria striata</i></u>	<u>17</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Impatiens capensis</i></u>	<u>9</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Fraxinus nigra</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. <u><i>Equisetum arvense</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>33</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a hardwood swamp dominated by red maple in the canopy, black ash in the shrub layer, and fowl mannagrass and jewelweed in the ground layer. The sample plot is not considered representative of the entire feature. Marsh marigold and fringed sedge become dominant to the northwest of the plot.																		

## SOIL

Sampling Point: wasc1056f\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Soils were observed to be silty loam over loamy very fine sand.



wasc1056f\_w\_NW



wasc1056f\_w\_SE

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): EJO/JSW	
File #: wasc1056		Date of visit(s): 2020-06-09	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.406019</u> Long: <u>-90.815829</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Cublake-Croswell-Ashwabab complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: Series were not verified. Soils were observed to be silty loam over loamy very fine sand.		Wetland Type(s): PFO - Hardwood swamp	
		Wetland Size: 0.0029	Wetland Area Impacted 0.0029
Hydrology: The feature is a saturated depression. Standing water was observed in parts of the wetland at the time of survey.		Vegetation: Plant Community Description(s): The feature is a hardwood swamp dominated by red maple in the canopy, black ash in the shrub layer, and fowl manna grass and jewelweed in the ground layer. The sample plot is not considered representative of the feature. Marsh marigold and fringed sedge become dominant to the northwest, outside of the survey area.	

**SITE MAP**



### SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	N	N	In or adjacent to RED FLAG areas List:
6	N	Y	Supports or provides habitat for endangered, threatened or special concern species
7	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	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	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			<b>Fish and Aquatic Life Habitat</b>
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	N	Y	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or 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			<b>Groundwater Processes</b>
1	N	N	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

ST-5: The wetland is in a depression and receives stormwater from the surrounding landscape.

WH-7: The wetland is part of a larger forest that may support SGCN species.

FA-2: The wetland has areas of standing water that support aquatic life; a frog was observed in the wetland.

**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]



## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input type="checkbox"/>	<10% <input checked="" type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input type="checkbox"/>	All strata present and good assemblage of native species <input checked="" type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum*			PFO	Interrupted
Carex crinita*			PFO	Rare
Glyceria striata*			PFO	Rare
Caltha palustris*			PFO	Rare
Impatiens capensis*			PFO	Rare
Thuja occidentalis			PFO	Rare
Tsuga canadensis			PFO	Rare
Osmunda cinnamomea			PFO	Rare
Betula alleghaniensis			PFO	Rare
Dryopteris intermedia			PFO	Rare
Fraxinus nigra			PFO	Rare
Onoclea sensibilis			PFO	Rare
Carex brunnescens			PFO	Barren
Equisetum sylvaticum			PFO	Barren
Arisaema triphyllum			PFO	Barren
Athyrium filix-femina			PFO	Barren
Carex intumescens			PFO	Barren
Equisetum arvense			PFO	Barren
Phegopteris connectilis			PFO	Barren
Rubus pubescens			PFO	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature is dominated by native species and has a moderate to high species richness.

### 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
	X		L	C	Agriculture – row crops
					Agriculture – hay
		X	L	C	Agriculture – pasture
	X		L	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
		X	L	C	Removal of tree or shrub strata – logging, unprescribed fire
	X		L	C	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)

Cut stumps in the wetland indicate previous logging. The surrounding forest has earthworms, which may impact the wetland's herbaceous layer. The wetland is near a forest road, retired pasture, and crop field.

## 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 is intact, fairly diverse, and has minimal presence of non-native species.
Human Use Values	The wetland is on private land.
Wildlife Habitat	The wetland has well-developed strata and is part of a larger forest.
Fish and Aquatic Life Habitat	The wetland has standing water at the time of survey, which has the potential to support aquatic life.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is located in a depression and receives/stores stormwater from the surrounding landscape.
Water Quality Protection	The wetland has multiple strata and intact vegetation.
Groundwater Processes	The wetland primarily exhibits recharge 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.	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: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1056\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405973 Long: -90.815963 Datum: WGS84  
 Soil Map Unit Name: Cublake-Croswell-Ashwababay complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located in a transitional upland forest dominated by hemlock, sugar maple, and bracken.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

Sampling Point: wasc1056\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Tsuga canadensis</i></u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>14</u> (A/B)														
2. <u><i>Acer saccharum</i></u>	<u>25</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Acer rubrum</i></u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
4. <u><i>Thuja occidentalis</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>90</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>26</u></td> <td>x 3 = <u>78</u></td> </tr> <tr> <td>FACU species <u>115</u></td> <td>x 4 = <u>460</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>146</u> (A)</td> <td><u>548</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.7534246575342465</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>26</u>	x 3 = <u>78</u>	FACU species <u>115</u>	x 4 = <u>460</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>146</u> (A)	<u>548</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>26</u>	x 3 = <u>78</u>																	
FACU species <u>115</u>	x 4 = <u>460</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>146</u> (A)	<u>548</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u><i>Amelanchier sp.</i></u>	<u>10</u>	<u>Y</u>	_____															
2. <u><i>Tsuga canadensis</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>15</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u><i>Pteridium aquilinum</i></u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Maianthemum canadense</i></u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Carex pedunculata</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
4. <u><i>Poa cf. alsodes</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u><i>Carex gracillima</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u><i>Trillium cernuum</i></u>	<u>1</u>	<u>N</u>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>51</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located in a transitional upland forest.																		



## SOIL

Sampling Point: wasc1056\_u

[illegible]



wasc1056\_u\_S



wasc1056\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1055f\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405755 Long: -90.815515 Datum: WGS84  
 Soil Map Unit Name: Cublake-Croswell-Ashwabab complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 seasonally flooded hardwood swamp (vernal pool) dominated by black ash and green ash, with a sparse ground layer. The feature is located in a depression within the landscape.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (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 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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally flooded depression.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1055f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus nigra</u>	<u>55</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)														
2. <u>Fraxinus pennsylvanica</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>90</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Fraxinus nigra</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	<b>Prevalence Index worksheet:</b> <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>147</u></td> <td>x 2 = <u>294</u></td> </tr> <tr> <td>FAC species <u>2</u></td> <td>x 3 = <u>6</u></td> </tr> <tr> <td>FACU species <u>4</u></td> <td>x 4 = <u>16</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>153</u> (A)</td> <td><u>316</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.065359477124183</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>147</u>	x 2 = <u>294</u>	FAC species <u>2</u>	x 3 = <u>6</u>	FACU species <u>4</u>	x 4 = <u>16</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>153</u> (A)	<u>316</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>147</u>	x 2 = <u>294</u>																	
FAC species <u>2</u>	x 3 = <u>6</u>																	
FACU species <u>4</u>	x 4 = <u>16</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>153</u> (A)	<u>316</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>50</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Fraxinus nigra</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Uvularia sessilifolia</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Arisaema triphyllum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
4. <u>Carex intumescens</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
5. <u>Carex gracillima</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>13</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a hardwood swamp dominated by green and black ash in the canopy and black ash in the shrub layer. The ground layer is sparse at the time of survey, likely due to the seasonally flooded hydrology of the wetland. Earthworms also appear to be present.																		

## SOIL

Sampling Point: wasc1055f\_w

[illegible]



wasc1055f\_w\_NW



wasc1055f\_w\_SE



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): EJO/JSW	
File #: wasc1055		Date of visit(s): 2020-06-09	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.405770</u> Long: <u>-90.815514</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Cublake-Croswell-Ashwabab complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: Series were not verified. Soils were observed to be loamy very fine sand.		Wetland Type(s): PFO - Hardwood swamp	
		Wetland Size: 0.0193	Wetland Area Impacted 0.0193
Hydrology: The feature is a seasonally flooded depression.		Vegetation: Plant Community Description(s): The feature is a hardwood swamp dominated by green and black ash in the canopy and black ash in the shrub layer. The ground layer is sparse at the time of survey, likely due to the seasonally flooded hydrology of the wetland. Earthworms also appear to be present.	

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	N	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	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	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	N	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	Y	Basin wetland or constricted outlet
3	N	Y	Water flow through wetland is NOT channelized
4	N	N	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	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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

ST-5: The wetland is located in a depression and likely receives stormwater from the surrounding landscape.

FA-2: Though no standing water was present at the time of survey, the wetland appears to be seasonally flooded and may support aquatic life at times.

WH-7: The wetland is part of a larger forest that may support SGCN species.

**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 wetland is dominated by native species, but has a relatively low species richness and is depauperate in the ground layer.

### 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
	X		L	C	Agriculture – pasture
	X		L	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
		X	L	C	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 near a retired pasture. Stumps in the wetland indicate previous logging. Earthworms appear to be present in the wetland and may be impacting the herbaceous layer. An old forest trail is on the northwest edge of 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	The wetland is dominated by native species but has relatively low diversity.
Human Use Values	The wetland is located on private land, with no clear uses.
Wildlife Habitat	The wetland has multiple strata and is part of a larger forested community.
Fish and Aquatic Life Habitat	The wetland may support aquatic life during periods of inundation.
Shoreline Protection	N/A
Flood and Stormwater Storage	That wetland likely receives stormwater from the the surrounding landscape.
Water Quality Protection	The wetland is relatively intact with multiple strata. The depression appears to hold precipitation and stormwater for periods of time during the year.
Groundwater Processes	The wetland primarily exhibits recharge 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.	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: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1055\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405665 Long: -90.815543 Datum: WGS84  
 Soil Map Unit Name: Cublake-Croswell-Ashwababay complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located in a transitional upland forest dominated by red maple.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1055\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Acer rubrum</i></u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>50</u>	= Total Cover															
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Ostrya virginiana</i></u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td>Total % Cover of:</td> <td>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>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>90</u></td> <td>x 3 = <u>270</u></td> </tr> <tr> <td>FACU species <u>72</u></td> <td>x 4 = <u>288</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>167</u> (A)</td> <td><u>568</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.4011976047904193</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>90</u>	x 3 = <u>270</u>	FACU species <u>72</u>	x 4 = <u>288</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>167</u> (A)	<u>568</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>90</u>	x 3 = <u>270</u>																	
FACU species <u>72</u>	x 4 = <u>288</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>167</u> (A)	<u>568</u> (B)																	
2. <u><i>Fraxinus pennsylvanica</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Corylus cornuta</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>25</u>	= Total Cover															
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Pteridium aquilinum</i></u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Trientalis borealis</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
3. <u><i>Carex leptoneura</i></u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
4. <u><i>Carex pedunculata</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
5. <u><i>Maianthemum canadense</i></u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
6. <u><i>Trillium cernuum</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
7. <u><i>Parthenocissus inserta</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
8. <u><i>Uvularia sessilifolia</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
9. <u><i>Acer saccharum</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
10. <u><i>Carex radiata</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
11. <u><i>Cornus alternifolia</i></u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
12. _____	_____	_____	_____															
		<u>92</u>	= Total Cover															
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u>	= Total Cover															
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located in a transitional upland forest.																		

## SOIL

Sampling Point: wasc1055\_u

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

[illegible]

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

<sup>2</sup>Location: 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 Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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 indicators of hydric soil were observed.





wasc1055\_u\_N



wasc1055\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-08  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1050f\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405479 Long: -90.812454 Datum: WGS84  
 Soil Map Unit Name: Udorthents, ravines and escarpments, 25 to 60 percent slopes NWI classification: R5UBH

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 saturated hardwood swamp dominated by box elder and green ash. The feature is a depression that appears to have seepage and exhibit discharge hydrology.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (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)		<b>Secondary Indicators</b> (minimum of two required) <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)
<b>Field Observations:</b> 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? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  		
Remarks: The feature is a saturated, concave depression located between the base of a slope and the bank of stream sasa1005p. The feature was observed to have standing water at the time of survey, but not at the sample point. The feature appears to be fed by a seep and therefore appears to exhibit some discharge hydrology.		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1050f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus pennsylvanica</u>	<u>55</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Acer negundo</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>70</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>24</u></td> <td>x 1 = <u>24</u></td> </tr> <tr> <td>FACW species <u>108</u></td> <td>x 2 = <u>216</u></td> </tr> <tr> <td>FAC species <u>34</u></td> <td>x 3 = <u>102</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>168</u> (A)</td> <td><u>350</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.08</u>	Total % Cover of:	Multiply by:	OBL species <u>24</u>	x 1 = <u>24</u>	FACW species <u>108</u>	x 2 = <u>216</u>	FAC species <u>34</u>	x 3 = <u>102</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>168</u> (A)	<u>350</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>24</u>	x 1 = <u>24</u>																	
FACW species <u>108</u>	x 2 = <u>216</u>																	
FAC species <u>34</u>	x 3 = <u>102</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>168</u> (A)	<u>350</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Alnus incana</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Acer negundo</u>	<u>12</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Fraxinus nigra</u>	<u>7</u>	<u>N</u>	<u>FACW</u>															
4. <u>Ulmus americana</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. <u>Ribes americanum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
<u>41</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Glyceria striata</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Solidago gigantea</u>	<u>8</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Myosotis cr. scorpioides</u>	<u>7</u>	<u>Y</u>	<u>OBL</u>															
4. <u>Phalaris arundinacea</u>	<u>6</u>	<u>Y</u>	<u>FACW</u>															
5. <u>Rumex britannica</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
6. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
7. <u>Ribes americanum</u>	<u>4</u>	<u>N</u>	<u>FACW</u>															
8. <u>Onoclea sensibilis</u>	<u>4</u>	<u>N</u>	<u>FACW</u>															
9. <u>Carex gracillima</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
10. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
11. <u>Carex stipata</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
12. <u>Cornus alba</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
<u>57</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a hardwood swamp dominated by box elder and green ash. Giant goldenrod, forget-me-not, reed canary grass, and fowl mannagrass are dominant in the ground layer.																		

## SOIL

Sampling Point: wasc1050f\_w

[illegible]



wasc1050f\_w\_N



wasc1050f\_w\_S

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): EJO/JSW	
File #: wasc1050		Date of visit(s): 2020-06-08	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.405474</u> Long: <u>-90.812455</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Udorthents, ravines and escarpments, 25 to 60 percent slopes		WWI Class: N/A	
Field Verified: Series were not verified. Soils were observed to be loamy very fine sand with redox.		Wetland Type(s): PFO - hardwood swamp	
		Wetland Size: 0.0142	Wetland Area Impacted 0.0142
Hydrology: The feature is a saturated, concave depression located between the base of a slope and the river bank of stream sasa1005p. the feature was observed to have standing water in some areas at the time of survey.. The feature appears to be fed by a seep and therefore appears to exhibit some discharge hydrology into the associated stream (Brunsweiler River).		Vegetation: Plant Community Description(s): The feature is a hardwood swamp dominated by boxelder and green ash. Giant goldenrod, forget-me-not, reed canary grass, and field horsetail are dominant in the ground layer.	

**SITE MAP**



# SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	N	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: Trout Streams: Brunsweller River
6	Y	Y	Supports or provides habitat for endangered, threatened or special concern species
7	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	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	Y	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			<b>Fish and Aquatic Life Habitat</b>
1	Y	Y	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	Y	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
1	Y	Y	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or constricted outlet
3	Y	Y	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			<b>Groundwater Processes</b>
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)

HU-6, WH-7/8, FA-3: A wood turtle was observed in the river just south of the wetland (earlier in the spring).  
GW-1, WQ-8, ST-5: The feature is depression at the base of a slope and appears to exhibit both discharge (seepage) and recharge hydrology.  
WH-7, HU-6: The wetland is part of a larger forested habitat that may support SGCN species at times.

### 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, herpetofauna, other avian species
Y	Y	White-throated sparrow, veery, cedar waxwings heard near wetland
Y	Y	Wood turtle

### 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



## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input type="checkbox"/>	All strata present and good assemblage of native species <input checked="" type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus pennsylvanica*			PFO	Interrupted
Acer negundo*			PFO	Rare
Glyceria striata*			PFO	Rare
Myosotis cr. scorpioides			PFO	Rare
Solidago gigantea			PFO	Rare
Fraxinus nigra			PFO	Rare
Phalaris arundinacea			PFO	Rare
Matteuccia struthiopteris			PFO	Rare
Ribes americanum			PFO	Rare
Equisetum arvense			PFO	Rare
Rumex orbiculatus			PFO	Rare
Ulmus americana			PFO	Rare
Onoclea sensibilis			PFO	Barren
Ribes americanum			PFO	Barren
Carex stipata			PFO	Barren
Cornus alba			PFO	Barren
Fragaria virginiana			PFO	Barren
Poa cf. palustris			PFO	Barren
Alnus incana			PFO	Barren
Carex gracillima			PFO	Barren
Equisetum hyemale			PFO	Barren
Ranunculus acris			PFO	Barren
Solidago flexicaulis			PFO	Barren
Populus tremuloides			PFO	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature has a diversity of species, with both native and exotic species present.

### 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
X	X		M	C	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	X		H	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 forest in which the wetland is located has earthworms, which may impact the wetland's herbaceous layer. Invasive species are present in the wetland and affect its floristic quality.

## 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	Though invasive species are present, the wetland has a higher species richness, much of which is comprised of native species.
Human Use Values	The wetland is on private land.
Wildlife Habitat	The wetland has well-developed strata and is within a larger forest.
Fish and Aquatic Life Habitat	Standing water present in the wetland may host aquatic life at times, and the feature feeds into Brunsweller River, where a wood turtle was recently observed.
Shoreline Protection	The wetland is intact and adjacent to a stream, with fine sandy soils.
Flood and Stormwater Storage	The wetland receives stormwater from the surrounding landscape and likely floodwater from the adjacent river at times.
Water Quality Protection	The wetland is intact and has dense, persistent vegetation, and discharges seep water.
Groundwater Processes	The wetland appears to exhibit both discharge and recharge 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.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	Construction activity impacts to wood turtle habitat.	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-08  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1050\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): None Slope (%): 8-15%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405408 Long: -90.812547 Datum: WGS84  
 Soil Map Unit Name: Udorthents, ravines and escarpments, 25 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located on a steep east-facing slope near a river. Green ash and sugar maple are among the dominant canopy species.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The slope is well-drained in this location. No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1050\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus pennsylvanica</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>10</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>10</u> (A/B)														
2. <u>Acer saccharum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Fraxinus nigra</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u>Populus tremuloides</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>80</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>60</u></td> <td>x 2 = <u>120</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>122</u></td> <td>x 4 = <u>488</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>207</u> (A)</td> <td><u>683</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.2995169082125604</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>60</u>	x 2 = <u>120</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>122</u>	x 4 = <u>488</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>207</u> (A)	<u>683</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>60</u>	x 2 = <u>120</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>122</u>	x 4 = <u>488</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>207</u> (A)	<u>683</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Acer saccharum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Taxus canadensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Ribes cynosbati</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
4. <u>Prunus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
5. <u>Rhamnus cathartica</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
6. <u>Ostrya virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
7. <u>Ilex verticillata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
<u>55</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Solidago flexicaulis</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Prunus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Parthenocissus inserta</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
4. <u>Arisaema triphyllum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u>Maianthemum canadense</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
6. <u>Maianthemum racemosum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
7. <u>Trillium cernuum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
8. <u>Ribes cynosbati</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
9. <u>Poa cf. alsodes</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
10. <u>Thalictrum dasycarpum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
11. <u>Taraxacum officinale</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
12. _____	_____	_____	_____															
<u>72</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located on a steep, forested slope.																		



## SOIL

Sampling Point: wasc1050\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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 indicators of hydric soil were observed.



wasc1050\_u\_E



wasc1050\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1051f\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404688 Long: -90.812242 Datum: WGS84  
 Soil Map Unit Name: Pelkie, occasionally flooded-Dechamps, frequently flooded complex, 0 to 4 percent slopes NWI classification: PFO1/SS1Bg

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"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology 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"/>
Remarks: (Explain alternative procedures here or in a separate report.)			If yes, optional Wetland Site ID: _____
<p>The feature is a seasonally flooded floodplain forest dominated by green ash and speckled alder. The floodplain is associated with stream sasa1005p; the wetland may also exhibit some discharge hydrology based on the presence of brome-like sedge.</p>			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one is required; check all that apply)</b> <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)		<b>Secondary Indicators (minimum of two required)</b> <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)
<b>Field Observations:</b> 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? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		<b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a temporarily flooded floodplain associated with stream sasa1005p. The feature may also have some seepage or discharge hydrology as indicated by brome-like sedge.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1051f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus pennsylvanica</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</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>100</u> (A/B)														
2. <u>Alnus incana</u>	<u>12</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>37</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>64</u></td> <td>x 2 = <u>128</u></td> </tr> <tr> <td>FAC species <u>68</u></td> <td>x 3 = <u>204</u></td> </tr> <tr> <td>FACU species <u>8</u></td> <td>x 4 = <u>32</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>150</u> (A)</td> <td><u>374</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.493333333333333</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>64</u>	x 2 = <u>128</u>	FAC species <u>68</u>	x 3 = <u>204</u>	FACU species <u>8</u>	x 4 = <u>32</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>150</u> (A)	<u>374</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>64</u>	x 2 = <u>128</u>																	
FAC species <u>68</u>	x 3 = <u>204</u>																	
FACU species <u>8</u>	x 4 = <u>32</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>150</u> (A)	<u>374</u> (B)																	
<u>15</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Alnus incana</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>15</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Matteuccia struthiopteris</u>	<u>55</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Carex scabrata</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
3. <u>Carex bromoides</u>	<u>7</u>	<u>N</u>	<u>FACW</u>															
4. <u>Equisetum arvense</u>	<u>7</u>	<u>N</u>	<u>FAC</u>															
5. <u>Parthenocissus quinquefolia</u>	<u>6</u>	<u>N</u>	<u>FACU</u>															
6. <u>Solidago gigantea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
7. <u>Arisaema triphyllum</u>	<u>3</u>	<u>N</u>	<u>FAC</u>															
8. <u>Vitis riparia</u>	<u>3</u>	<u>N</u>	<u>FAC</u>															
9. <u>Prunus virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>98</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a floodplain forest dominated by green ash and speckled alder.																		

## SOIL

Sampling Point: wasc1051f\_w

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

[illegible]<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Soils were observed to be loamy very fine sand over loamy sand.



wasc1051f\_w\_NW



wasc1051f\_w\_SE



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): EJO/JSW	
File #: wasc1051		Date of visit(s): 2020-06-09	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.404672</u> Long: <u>-90.812237</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Pelkie, occasionally flooded-Dechamps, frequently flooded complex, 0 to 4 percent slopes Field Verified: Series were not verified. Soils were observed to be loamy very fine sand over loamy sand.		WWI Class: T3Kw Wetland Type(s): PFO - Floodplain forest	
		Wetland Size: 0.1357	Wetland Area Impacted 0.1357
Hydrology: The feature is a temporarily flooded floodplain associated with stream sasa1005p. The feature may also have some seepage or discharge hydrology, as indicated by brome-like sedge.		Vegetation: Plant Community Description(s): The feature is a floodplain forest dominated by green ash and speckled alder.	

**SITE MAP**

### SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	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: Trout Streams: Brunsweller River
6	Y	Y	Supports or provides habitat for endangered, threatened or special concern species
7	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	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	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			<b>Fish and Aquatic Life Habitat</b>
1	Y	Y	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	Y	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
1	Y	Y	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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	Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or constricted outlet
3	Y	Y	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	N	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	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

FA-1, FA-4, ST-8, WQ-1, WQ-4: The wetland is a temporarily flooded floodplain forest associated with perennial stream sasa1005p.  
FA-2: The wetland had some standing water at the time of the survey and may support aquatic life.  
HU-6, WH-7, FA-3: A wood turtle was previously observed along the stream edge earlier in the year.  
WH-7: The wetland is a part of a larger forest that has potential to support SGCN species.

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

## Fish and Aquatic Life Habitat and Species Observations

[illegible]

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input type="checkbox"/>	All strata present <input checked="" type="checkbox"/> and good assemblage of native species	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Matteuccia struthiopteris*			PFO	Interrupted
Fraxinus pennsylvanica*			PFO	Patchy
Alnus incana			PFO	Rare
Carex scabrata			PFO	Rare
Carex bromoides			PFO	Rare
Equisetum arvense			PFO	Rare
Parthenocissus quinquefolia			PFO	Rare
Solidago gigantea			PFO	Rare
Acer saccharum			PFO	Barren
Glyceria striata			PFO	Barren
Myosotis cf. scorpioides			PFO	Barren
Arisaema triphyllum			PFO	Barren
Cornus racemosa			PFO	Barren
Poa cf. palustris			PFO	Barren
Vitis riparia			PFO	Barren
Carex crinita			PFO	Barren
Cornus alba			PFO	Barren
Lysimachia thyrsiflora			PFO	Barren
Prunus virginiana			PFO	Barren
Ranunculus cf. recurvatus			PFO	Barren
Thalictrum dioicum			PFO	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature is dominated by native species, with minimal presence of exotic species. Species diversity is good.

### 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
X	X		L	C	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	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 relatively intact; earthworms present in the surrounding forest may impact the wetland's herbaceous layer. Non-native species are present in and around the wetland but at a low abundance.

## 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 is intact and has a fairly high species richness; exotic species are present but currently at a low abundance.
Human Use Values	The wetland is located on private land, but is associated with a trout stream and fairly close to a road.
Wildlife Habitat	The wetland has well-developed strata and is part of a larger forest that supports a diversity of wildlife. A wood turtle was observed along the Brunsweller River.
Fish and Aquatic Life Habitat	The wetland likely supports aquatic life during periods of inundation and standing water.
Shoreline Protection	The wetland is well-vegetated, has fine sandy soils, and adjacent to a perennial stream.
Flood and Stormwater Storage	The wetland has potential to store water during flood events and receives stormwater from the surrounding landscape.
Water Quality Protection	The wetland has dense, persistent vegetation, with potential discharge hydrology.
Groundwater Processes	The wetland exhibits both discharge and recharge hydrology, with seepage possible.



## 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	Construction activity impacts to wood turtle habitat.	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1051\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): None Slope (%): 8-15%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404770 Long: -90.812480 Datum: WGS84  
 Soil Map Unit Name: Udorthents, ravines and escarpments, 25 to 60 percent slopes NWI classification: PFO1/SS1Bg

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 type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) The upland sample point is located on a steep slope near a river. Sugar maple dominates the canopy.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input 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 Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No indicators of wetland hydrology were observed.			

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1051\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Acer saccharum</i></u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>25</u> (A/B)														
2. <u><i>Fraxinus pennsylvanica</i></u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. <u><i>Abies balsamea</i></u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>70</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>160</u> (A)</td> <td><u>560</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.5</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>160</u> (A)	<u>560</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>40</u>	x 3 = <u>120</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>160</u> (A)	<u>560</u> (B)																	
<u>35</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Acer saccharum</i></u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u><i>Fraxinus nigra</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
3. <u><i>Corylus cornuta</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Ostrya virginiana</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>35</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Carex pedunculata</i></u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. <u><i>Ribes cynosbati</i></u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Maianthemum racemosum</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Viburnum lentago</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u><i>Parthenocissus inserta</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u><i>Carex intumescens</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
7. <u><i>Equisetum hyemale</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>55</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located on a forested slope near a river.																		

## SOIL

Sampling Point: wasc1051\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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 indicators of hydric soil were observed.





wasc1051\_u\_N



wasc1051\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-19  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1005s\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405100 Long: -90.812200 Datum: WGS84  
 Soil Map Unit Name: Pelkie, occasionally flooded-Dechamps, frequently flooded complex, 0 to 4 percent slopes NWI classification: PFO1/SS1Bg

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 wetland is a shrub-dominated feature located next to a perennial river. Vegetation is dominated by balsam poplar and speckled alder.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators (minimum of one is required; check all that apply)</b> <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 checked="" 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)		<b>Secondary Indicators (minimum of two required)</b> <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)
<b>Field Observations:</b> 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? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  		
Remarks: The hydrologic regime is saturated.		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasal005s\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Ulmus americana</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u><i>Fraxinus pennsylvanica</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Populus balsamifera</i></u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Prevalence Index worksheet:</b> <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>165</u></td> <td>x 2 = <u>330</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>180</u> (A)</td> <td><u>385</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.13888888888889</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>165</u>	x 2 = <u>330</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>180</u> (A)	<u>385</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>165</u>	x 2 = <u>330</u>																	
FAC species <u>5</u>	x 3 = <u>15</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>180</u> (A)	<u>385</u> (B)																	
2. <u><i>Alnus incana</i></u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Cornus alba</i></u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u><i>Fraxinus pennsylvanica</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>75</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Carex cf bromoides</i></u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Phalaris arundinacea</i></u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Poa pratensis</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Thalictrum dasycarpum</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. <u><i>Solidago gigantea</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
6. <u><i>Equisetum arvense</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>95</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) <b>The sample point is representative of the wetland feature.</b>																		

## SOIL

Sampling Point: wasa1005s\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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 checked="" type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Soil profile is sandy with redox features throughout.





wasal005s\_w\_N



wasal005s\_w\_S



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): SBR/DGL	
File #: wasa1005		Date of visit(s): 2020-05-19	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.405143</u> Long: <u>-90.812122</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Pelkie, occasionally flooded-Dechamps, frequently flooded complex, 0 to 4 percent slopes Field Verified: Soils not verified. Soils were a fine sand over a loamy very fine sand, and were heavily reduced throughout the profile.		WWI Class: N/A	
		Wetland Type(s): PSS - Shrub-carr	
		Wetland Size: 0.2255	Wetland Area Impacted 0.2255
Hydrology: The hydrologic regime is temporarily flooded, with an established drainage pattern. The major source of hydrology is floodwater from the nearby river.		Vegetation: Plant Community Description(s): The wetland is a shrub-carr community dominated mainly by balsam poplar and speckled alder. Brome-like sedge and reed canary grass were prevalent in the herbaceous layer.	

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Fishing
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	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: Trout streams: Brunsweller River
6	Y	Y	Supports or provides habitat for endangered, threatened or special concern species
7	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	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	Y	Y	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present ≥ 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			<b>Fish and Aquatic Life Habitat</b>
1	Y	Y	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	Y	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
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	Y	Y	Densely rooted emergent or woody vegetation
ST			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or constricted outlet
3	N	Y	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			<b>Groundwater Processes</b>
1	N	N	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

HU-4: The associated river is aesthetically pleasing.

WH-2 Three strata are present in the wetland feature.

FA-1/SP-1/SP-3: The feature is located on the shoreline of Brunsweller River and has densely rooted woody vegetation.

FA-3: A wood turtle was observed along the river bank just south of the wetland, and thus the associated wetland most likely provides habitat for this species.

FA-4: There is potential for the wetland to be inundated in spring with any rising floodwater.

**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]

Floristic integrity is moderate due to invasive species cover and the lack of overall species diversity.

### 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
	X		L	C	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
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		L	UC	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)

Not many observed disturbances in the feature beyond non-native species including reed canary grass. Although the nearby road and gravel parking lot are outside the 100m buffer area, there is potential for polluted runoff downstream of 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	Three strata are present in the feature, but reed canary grass is beginning to encroach in the feature.
Human Use Values	Not accessible to the public, located on private property.
Wildlife Habitat	Observed signs of wildlife include multiple avian species and a wood turtle. Signs of beaver activity (chew marks on trees) were also observed.
Fish and Aquatic Life Habitat	Fish and aquatic habitat is low in the wetland itself, but there is potential for habitat in the associated river.
Shoreline Protection	The feature is located on the shore of a perennial river, and densely rooted woody vegetation helps to prevent bank erosion.
Flood and Stormwater Storage	In the feature, overland flow after flooding/precipitation is more likely than ponding and holding water, as the feature discharges water into the associated river.
Water Quality Protection	See above. There is likely some capacity for water filtering as it passes through and discharges from the wetland.
Groundwater Processes	The wetland feature is mostly fed from surface water and does not display strong groundwater processes.

## 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	Construction activity impacts to wood turtle habitat.	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-19  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1005\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.405135 Long: -90.811797 Datum: WGS84  
 Soil Map Unit Name: Pelkie, occasionally flooded-Dechamps, frequently flooded complex, 0 to 4 percent slopes NWI classification: PFO1/SS1Bg

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 type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) The upland is located upslope from the wetland and is dominated by emerging Kentucky bluegrass in the herbaceous layer.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input 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 Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No indicators of wetland hydrology were observed.			

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasal005\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Betula papyrifera</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>25</u> (A/B)														
2. <u>Abies balsamea</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
3. <u>Populus balsamifera</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>30</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>35</u></td> <td>x 2 = <u>70</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>125</u></td> <td>x 4 = <u>500</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>170</u> (A)</td> <td><u>600</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.5294117647058822</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>35</u>	x 2 = <u>70</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>125</u>	x 4 = <u>500</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>170</u> (A)	<u>600</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>35</u>	x 2 = <u>70</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>125</u>	x 4 = <u>500</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>170</u> (A)	<u>600</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Populus balsamifera</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Pinus strobus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Abies balsamea</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>45</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Poa pratensis</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Trifolium hybridum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. <u>Maianthemum canadense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>95</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is fairly representative of the upland area.																		



## SOIL

Sampling Point: wasa1005\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

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

## Restrictive Layer (if observed):

Type: Coarse gravel

Depth (inches): 12.0

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

Soil is sandy with an impenetrable coarse gravel layer at 12 inches.





wasal005\_u\_E



wasal005\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-19  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1004f\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406553 Long: -90.811352 Datum: WGS84  
 Soil Map Unit Name: Pelkie, occasionally flooded-Dechamps, frequently flooded complex, 0 to 4 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wetland is a floodplain forest with evident drainage patterns down to the adjacent river. The canopy is dominated by box elder and green ash, though the leaves have just begun to emerge at the time of survey.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> 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)
<b>Field Observations:</b> 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): _____		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is temporarily flooded. The vegetation is bent down in the direction of the river indicating overland flow at some point in time.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: was1004f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Fraxinus pennsylvanica</i></u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>88</u> (A/B)
2. <u><i>Acer negundo</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>40</u> = Total Cover				
<b>Prevalence Index worksheet:</b>				
Total % Cover of:		Multiply by:		
OBL species	<u>0</u>	x 1 =	<u>0</u>	
FACW species	<u>55</u>	x 2 =	<u>110</u>	
FAC species	<u>35</u>	x 3 =	<u>105</u>	
FACU species	<u>5</u>	x 4 =	<u>20</u>	
UPL species	<u>0</u>	x 5 =	<u>0</u>	
Column Totals:	<u>95</u> (A)		<u>235</u> (B)	
Prevalence Index = B/A = <u>2.473684210526316</u>				
<b>Hydrophytic Vegetation Indicators:</b>				
<u>  </u> 1 - Rapid Test for Hydrophytic Vegetation				
<u>✓</u> 2 - Dominance Test is >50%				
<u>✓</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup>				
<u>  </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)				
<u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Definitions of Vegetation Strata:</b>				
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes <u>✓</u> No <u>  </u>				
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b> 1. <u><i>Prunus pensylvanica</i></u> <u>5</u> <u>Y</u> <u>FACU</u> 2. <u><i>Acer negundo</i></u> <u>5</u> <u>Y</u> <u>FAC</u> 3. <u><i>Populus balsamifera</i></u> <u>5</u> <u>Y</u> <u>FACW</u> 4. _____ 5. _____ 6. _____ 7. _____ <u>15</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5</u> )</b> 1. <u><i>Matteuccia struthiopteris</i></u> <u>15</u> <u>Y</u> <u>FAC</u> 2. <u><i>Thalictrum dasycarpum</i></u> <u>10</u> <u>Y</u> <u>FACW</u> 3. <u><i>Carex cf bromoides</i></u> <u>5</u> <u>N</u> <u>FACW</u> 4. <u><i>Solidago gigantea</i></u> <u>5</u> <u>N</u> <u>FACW</u> 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ <u>35</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b> 1. <u><i>Vitis riparia</i></u> <u>5</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ <u>5</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is fairly representative of the wetland feature. The vegetation is newly emergent with the fiddleheads of ostrich fern still uncurling at the time of survey.				

## SOIL

Sampling Point: wasa1004f\_w

[illegible]





wasal004f\_w\_N



wasal004f\_w\_S



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): SBR/DGL	
File #: wasa1004		Date of visit(s): 2020-05-19	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.406470</u> Long: <u>-90.811428</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): 388B Pelkie, occasionally flooded-Dechamps, frequently flooded, complex, 0 to 4 percent slopes  Field Verified: Series not verified. Soils were a loamy sand over a loamy fine sand, and were reduced throughout the profile.		WWI Class: T3Kw  Wetland Type(s): PFO - Floodplain forest	
Hydrology: The hydrology regime is temporarily flooded. The main source of hydrology is surface water. The floodplain has clear observable drainage patterns leading down to the adjacent river.		Wetland Size: 0.1056	Wetland Area Impacted 0.1056
		Vegetation: Plant Community Description(s): The wetland is a floodplain forest dominated by a canopy of boxelder and green ash. Other strata are sparsely present, but vegetation is only beginning to emerge at the time of survey.	

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	Y	Visually or physically accessible to public
4	N	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: Trout streams: Brunsweller River
6	Y	Y	Supports or provides habitat for endangered, threatened or special concern species
7	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	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	N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	Y	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	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			<b>Fish and Aquatic Life Habitat</b>
1	Y	Y	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	Y	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	N	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	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			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or 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			<b>Groundwater Processes</b>
1	N	N	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

HU-3 the wetland is visible from the road but located on private property.

WH-2 the wetland has developed tree, shrub, and herbaceous layers that provide potential habitat for multiple species.

WH-12: The feature is part of a large habitat block associated with the river, but outside of this area land use is primarily agricultural.

ST-1: The feature is adjacent to, and discharges into, Brunsweller River.

FA-1/WQ-8: The wetland is a floodplain forest that discharges into a nearby river.

FA-3: A wood turtle was observed along Brunsweller River just south of the wetland.

FA-4: There is potential for the wetland to be inundated in the spring, though this was not observed at the time of survey.

**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]

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input checked="" type="checkbox"/>	All strata present and good assemblage of native species <input type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer negundo*			PFO	Rare
Acer rubrum			PFO	Rare
Carex cf bromoides*			PFO	Rare
Cornus alba			PFO	Rare
Equisetum hyemale			PFO	Rare
Fraxinus pennsylvanica*			PFO	Rare
Geum canadense			PFO	Barren
Luzula acuminata			PFO	Barren
Matteuccia struthiopteris			PFO	Rare
Micranthes pensylvanica			PFO	Barren
Myosotis scorpioides			PFO	Barren
Phalaris arundinacea			PFO	Rare
Poa pratensis*			PFO	Rare
Populus balsamifera			PFO	Rare
Populus tremuloides			PFO	Rare
Prunus pensylvanica			PFO	Rare
Ribes missouriense			PFO	Barren
Sanguinaria canadensis			PFO	Barren
Solidago gigantea			PFO	Rare
Taraxacum officinale			PFO	Barren
Thalictrum dasycarpum*			PFO	Rare

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland has contains only small areas of common buckthorn, reed canary grass, and Kentucky blue grass, and four strata are 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)
	X		L	C	Drainage – tiles, ditches
	X		L	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		L	C	Polluted runoff
	X		L	C	Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X		L	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
	X		L	UC	Sediment input
	X		L	UC	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
	X		L	UC	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		L	C	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
	X		L	C	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 a floodplain forest within sight of a paved road and near a small gravel parking lot. At the time of survey, there were small patches of reed canary grass and common buckthorn present in the wetland 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	There is relatively low cover of invasive species, and an otherwise good assemblage of native species.
Human Use Values	There is a nearby ATV trail and a parking lot with access to the river.
Wildlife Habitat	Intact forest with three strata present throughout. The feature also provides potential habitat for wood turtles.
Fish and Aquatic Life Habitat	Aquatic habitat is low within the survey area but potential for habitat outside the survey area.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature does not retain much water from precipitation/flood events, but likely helps in some capacity to intercept water flowing into the adjacent river.
Water Quality Protection	Dense and persistent vegetation is present and there is potential for discharge to nearby flowing water. The dense vegetation reduces erosion into the river.
Groundwater Processes	The major hydrology source is from flooding of the nearby river.



## 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: Ashland Sampling Date: 2020-05-19  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasal004\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.406738 Long: -90.811171 Datum: WGS84  
 Soil Map Unit Name: Pelkie, occasionally flooded-Dechamps, frequently flooded complex, 0 to 4 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) The upland is slightly upslope from the wetland feature next to a gravel parking lot that has access to the nearby river. Soils are hydric, but the dominant vegetation and hydrology are consistent with an upland.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasal004\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Betula papyrifera</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>29</u> (A/B)														
2. <u>Populus tremuloides</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>50</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>435</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.48</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>435</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>25</u>	x 2 = <u>50</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>85</u>	x 4 = <u>340</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>125</u> (A)	<u>435</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Prunus pensylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Rhus typhina</u>	<u>5</u>	<u>Y</u>	_____															
3. <u>Malus sp.</u>	<u>5</u>	<u>Y</u>	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>20</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>Poa pratensis</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Fragaria virginiana</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>65</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is representative of the upland area. Other upland points would be located in a gravel lot.				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>														

## SOIL

Sampling Point: wasa1004\_u

[illegible]





wasal004\_u\_E



wasal004\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-19  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1006f\_w1  
 Investigator(s): SBR/DGL Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404530 Long: -90.808977 Datum: WGS84  
 Soil Map Unit Name: Annalake fine sandy loam, lake terrace, 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wetland feature is a large hardwood swamp dominated by black ash in the overstory. Leaf-out is just starting and vegetation is newly emerging at the time of survey. Varying topography exists in the wetland with some wetter, low-lying areas with standing water.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 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)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is saturated.		



Sampling Point: wasa1006f\_w1

<b>Tree Stratum</b> (Plot size: <u>30</u> )			<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)		
1. <u>Thuja occidentalis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Fraxinus nigra</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
			<u>40</u>	= Total Cover	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15</u> )					
1. <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2. <u>Fraxinus nigra</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
			<u>20</u>	= Total Cover	
<b>Herb Stratum</b> (Plot size: <u>5</u> )					
1. <u>Ribes triste</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>		
2. <u>Equisetum sylvaticum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>		
3. <u>Rubus idaeus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
4. <u>Geum canadense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
			<u>37</u>	= Total Cover	
<b>Woody Vine Stratum</b> (Plot size: <u>30</u> )					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
			<u>0</u>	= Total Cover	
<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>22</u> x 3 = <u>66</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>97</u> (A) <u>201</u> (B)  Prevalence Index = B/A = <u>2.07</u>					
<b>Hydrophytic Vegetation Indicators:</b> ___ 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 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)					
<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is fairly representative of the wetland feature.					

## SOIL

Sampling Point: was1006f\_w1

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Dark soil sample with some fibrous material in the upper 4 inches and water table present in soil pit.





wasal006f\_w1\_N



wasal006f\_w1\_S



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project	Evaluator(s): SBR/DGL		
File #: wasa1006	Date of visit(s): 2020-05-19		
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Lake Superior Clay Plain		
Lat: <u>46.404513</u> Long: <u>-90.808955</u>	Watershed: LS12, Marengo River		
County: <u>Ashland</u> Town/City/Village: <u>Marengo</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Annalake fine sandy loam, lake terrace, 2 to 6 percent slopes, Pelkie, occasionally flooded-Dechamps, frequently flooded, complex, 0 to 4 percent slopes  Field Verified: Series not verified. Soils were a loamy mucky mineral over silt loam over loamy very fine sand.	WWI Class: T3Kw, T3/5Kw  Wetland Type(s): PFO - Hardwood swamp		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 3.3657</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted 3.3657</td> </tr> </table>	Wetland Size: 3.3657	Wetland Area Impacted 3.3657
Wetland Size: 3.3657	Wetland Area Impacted 3.3657		
Hydrology: The hydrologic regime is saturated. Standing water was observed in some parts of the wetland feature, and the feature had a high water table at 4 inches and saturation beginning at 2 inches. The major source of hydrology is likely surface water input, and the features is associated with an intermittent stream and an ephemeral stream.	Vegetation: Plant Community Description(s): The wetland is a hardwood swamp dominated by green ash, with some white cedar present at the peripheries of the wetland. Herbaceous cover is relatively sparse.		

**SITE MAP**

### SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	N	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	Y	In or adjacent to RED FLAG areas List: Trout streams: Brunsweller River
6	Y	Y	Supports or provides habitat for endangered, threatened or special concern species
7	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	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	Y	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	Y	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	N	N	Seasonally exposed mudflats present
12	N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			<b>Fish and Aquatic Life Habitat</b>
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	Y	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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	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	Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or 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	N	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
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	Y	Y	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

HU-4: The feature could be considered aesthetically pleasing due to the lack of pollution and degradation.  
 HU-6/WH-8: A wood turtle was observed within/near the wetland.  
 WH-2: Three strata are present at >10 percent cover that could provide habitat for different wildlife species.  
 WH-6: An upland island was observed in the wetland feature.  
 FA-1: The wetland is associated with several streams, which likely connect with Brunsweiler River outside of the survey area.  
 FA-2 some small shallow pools of water were present that could provide habitat for aquatic invertebrates.  
 WQ-5: Dense persistent vegetation is present in the feature.

**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]



## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input type="checkbox"/>	<10% <input checked="" type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input type="checkbox"/>	All strata present <input checked="" type="checkbox"/> and good assemblage of native species	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Abies balsamea			PFO	Barren
Acer negundo			PFO	Rare
Acer rubrum			PFO	Rare
Alnus incana*			PFO	Rare
Arisaema triphyllum			PFO	Barren
Calamagrostis canadensis			PFO	Barren
Carex bromoides			PFO	Barren
Carex deweyana			PFO	Barren
Cornus sericea			PFO	Barren
Equisetum sylvaticum*			PFO	Rare
Fraxinus pennsylvanica*			PFO	Rare
Geum canadense			PFO	Barren
Matteuccia struthiopteris			PFO	Barren
Mitchella repens			PFO	Barren
Onoclea sensibilis			PFO	Barren
Prunus pensylvanica			PFO	Barren
Ribes triste*			PFO	Rare
Rubus idaeus*			PFO	Rare
Thalictrum dasycarpum			PFO	Barren
Thuja occidentalis			PFO	Rare
Trientalis borealis			PFO	Barren
Trillium grandiflorum			PFO	Barren
Tsuga canadensis			PFO	Barren
Ulmus americana			PFO	Rare

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The hardwood swamp is dominated by green ash in the overstory, and leafout is just beginning, with herbaceous vegetation in the understory also just starting to emerge.

### 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
	X		L	C	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
	X		L	C	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)

There is potential for polluted runoff from an upslope personal residence. However, the feature is otherwise relatively undisturbed.

## 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	Large wetland with no observed invasive species and good species diversity.
Human Use Values	Observed two children exploring the area, but the overall wetland is isolated from the public.
Wildlife Habitat	Three strata are present and could provide adequate habitat for some species. The associated waterbodies likely connect to Brunswelier River, at which a wood turtle was observed.
Fish and Aquatic Life Habitat	Only some small pockets of standing water were observed.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is of large size and has the capacity to hold a fairly large amount of floodwater/rainwater.
Water Quality Protection	Persistent dense vegetation is present, and the feature is associated with several streams.
Groundwater Processes	Parts of the wetland could potentially remain saturated for long periods of time without additional water inputs, and the upper soil layer is organic.

## 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	Construction activity impacts to wood turtle habitat.	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-19  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasal1006\_u2  
 Investigator(s): SBR/DGL Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 8-15%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404403 Long: -90.809075 Datum: WGS84  
 Soil Map Unit Name: Annalake fine sandy loam, lake terrace, 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 island is a rise within a hardwood swamp. The feature is dominated by hairy wood rush in the understory and paper birch in the canopy.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: was1006\_u2

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Betula papyrifera</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>25</u> (A/B)														
2. <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
3. <u>Thuja occidentalis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>60</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>130</u></td> <td>x 4 = <u>520</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>585</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.774193548387097</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>130</u>	x 4 = <u>520</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>585</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>130</u>	x 4 = <u>520</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>155</u> (A)	<u>585</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Abies balsamea</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>5</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Luzula acuminata</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Pteridium aquilinum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. <u>Mitchella repens</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Fragaria virginiana</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u>Maianthemum canadense</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
6. <u>Carex cf peckii</u>	<u>10</u>	<u>Y</u>	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>100</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is fairly representative of the upland.																		



## SOIL

Sampling Point: wasa1006\_u2

[illegible]



wasal006\_u2\_N



wasal006\_u2\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-19  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1006\_u1  
 Investigator(s): SBR/DGL Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): None Slope (%): 26-60%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404339 Long: -90.808747 Datum: WGS84  
 Soil Map Unit Name: Udorthents, ravines and escarpments, 25 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 is located on a relatively steep side slope adjacent to the wetland feature and with tree cover mostly comprised of conifers.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasal006\_u1

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Pinus strobus</i></u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> 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</u> (A/B)														
2. <u><i>Betula papyrifera</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. <u><i>Thuja occidentalis</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>65</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>62</u></td> <td>x 4 = <u>248</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>77</u> (A)</td> <td><u>288</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.74025974025974</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>62</u>	x 4 = <u>248</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>77</u> (A)	<u>288</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>62</u>	x 4 = <u>248</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>77</u> (A)	<u>288</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u><i>Abies balsamea</i></u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>5</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u><i>Carex pensylvanica</i></u>	<u>5</u>	<u>Y</u>	_____	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Matteuccia struthiopteris</i></u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
3. <u><i>Gaultheria procumbens</i></u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>12</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is fairly representative of the upland.				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>														

## SOIL

Sampling Point: wasa1006\_u1

[illegible]





wasal006\_u1\_E



wasal006\_u1\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1029f\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404809 Long: -90.808471 Datum: WGS84  
 Soil Map Unit Name: Annalake fine sandy loam, lake terrace, 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated hardwood swamp dominated by black ash and yellow birch, with a pool present in much of the ground layer at the time of survey. Some trees appear to have been hand-felled in the wetland.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (minimum of two required)
<input checked="" 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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression. A pool is present at the time of survey, but likely draws down later in the season.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1029f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Betula alleghaniensis</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83</u> (A/B)														
2. <u>Fraxinus nigra</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Thuja occidentalis</u>	<u>15</u>	<u>N</u>	<u>FACW</u>															
4. <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
5. <u>Tsuga canadensis</u>	<u>7</u>	<u>N</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>92</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>4</u></td> <td>x 1 = <u>4</u></td> </tr> <tr> <td>FACW species <u>51</u></td> <td>x 2 = <u>102</u></td> </tr> <tr> <td>FAC species <u>54</u></td> <td>x 3 = <u>162</u></td> </tr> <tr> <td>FACU species <u>17</u></td> <td>x 4 = <u>68</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>126</u> (A)</td> <td><u>336</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.6666666666666665</u>	Total % Cover of:	Multiply by:	OBL species <u>4</u>	x 1 = <u>4</u>	FACW species <u>51</u>	x 2 = <u>102</u>	FAC species <u>54</u>	x 3 = <u>162</u>	FACU species <u>17</u>	x 4 = <u>68</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>126</u> (A)	<u>336</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>4</u>	x 1 = <u>4</u>																	
FACW species <u>51</u>	x 2 = <u>102</u>																	
FAC species <u>54</u>	x 3 = <u>162</u>																	
FACU species <u>17</u>	x 4 = <u>68</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>126</u> (A)	<u>336</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Betula papyrifera</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Thuja occidentalis</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Abies balsamea</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
<u>17</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Dryopteris intermedia</u>	<u>6</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Onoclea sensibilis</u>	<u>3</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Scutellaria lateriflora</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
4. <u>Carex crinita</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
5. <u>Thuja occidentalis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
6. <u>Fraxinus nigra</u>	<u>1</u>	<u>N</u>	<u>FACW</u>															
7. <u>Acer rubrum</u>	<u>1</u>	<u>N</u>	<u>FAC</u>															
8. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
<u>17</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is hardwood swamp dominated by black ash and yellow birch. The ground layer is sparse as most of it is a pool at the time of survey.				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____														

## SOIL

Sampling Point: wasc1029f\_w

[illegible]





wasc1029f\_w\_NE



wasc1029f\_w\_SW

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

<b>WETLAND IDENTIFICATION</b>					
Project name: Line 5 Relocation Project	Evaluator(s): EJO/JSW				
File #: wasc1029	Date of visit(s): 2020-06-04				
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain				
Lat: <u>46.404840</u> Long: <u>-90.808467</u>	Watershed: LS12, Marengo River				
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>					
<b>SITE DESCRIPTION</b>					
Soils: Mapped Type(s): Annalake fine sandy loam, lake terrace, 2 to 6 percent slopes  Field Verified: Series were not verified. Soils were not sampled due to the proximity of a residential property and potential underground utilities. However, based on the wetland's hydrology and dominance of hydrophytic vegetation, the soils are assumed to be hydric.	WWI Class: N/A  Wetland Type(s): PFO - Hardwood swamp				
Hydrology: The feature is a saturated depression. A pool is present at the time of survey, but likely is drawn down later in the season.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">           Wetland Size:            0.2293         </td> <td style="width: 50%; padding: 5px;">           Wetland Area Impacted            0.2293         </td> </tr> <tr> <td colspan="2" style="padding: 5px;">           Vegetation:            Plant Community Description(s):            The feature is hardwood swamp dominated by black ash and yellow birch. The ground layer is sparse as most of it is a pool at the time survey.         </td> </tr> </table>	Wetland Size: 0.2293	Wetland Area Impacted 0.2293	Vegetation: Plant Community Description(s): The feature is hardwood swamp dominated by black ash and yellow birch. The ground layer is sparse as most of it is a pool at the time survey.	
Wetland Size: 0.2293	Wetland Area Impacted 0.2293				
Vegetation: Plant Community Description(s): The feature is hardwood swamp dominated by black ash and yellow birch. The ground layer is sparse as most of it is a pool at the time survey.					

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	N	N	In or adjacent to RED FLAG areas List:
6	N	Y	Supports or provides habitat for endangered, threatened or special concern species
7	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	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	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	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	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)

WH-7: The wetland has multiple strata and is located in larger forested habitat that may support SGCN species.  
WQ-2, ST-5: The wetland is located in a depression and likely receives stormwater from the he surrounding upland.  
WH-10: Standing water was observed in the wetland at the time of survey.

### 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, mammals, and herpetofauna

### 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

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input checked="" type="checkbox"/>	All strata present and good assemblage of native species <input type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Betula alleghaniensis*			PFO	Patchy
Fraxinus nigra*			PFO	Patchy
Thuja occidentalis			PFO	Rare
Acer rubrum			PFO	Rare
Betula papyrifera			PFO	Rare
Tsuga canadensis			PFO	Rare
Dryopteris intermedia			PFO	Rare
Clintonia borealis			PFO	Barren
Onoclea sensibilis			PFO	Barren
Abies balsamea			PFO	Barren
Carex cf. interior			PFO	Barren
Carex crinita			PFO	Barren
Coptis trifolia			PFO	Barren
Maianthemum canadense			PFO	Barren
Rubus pubescens			PFO	Barren
Scutellaria lateriflora			PFO	Barren
Trientalis borealis			PFO	Barren
Acer rubrum			PFO	Barren
Cornus canadensis			PFO	Barren
Equisetum arvense			PFO	Barren
Parthenocissus quinquefolia			PFO	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature largely consists of native species, with developed strata and a moderate species richness.

### 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.
X	X		L	C	Removal of tree or shrub strata – logging, unprescribed fire
	X		L	C	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
	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)

A few hand-felled trees were observed in the wetland. The wetland is downslope of a residential property and an ATV trail.

## 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 is relatively intact, with well-developed strata and moderate species richness
Human Use Values	The wetland is on private land, with evidence of use by residents with ATVs.
Wildlife Habitat	The wetland has well-developed strata and is part of larger, relatively intact forest.
Fish and Aquatic Life Habitat	The wetland had standing water at the time of survey, which may support aquatic life.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland likely receives and absorbs stormwater from the surrounding upland.
Water Quality Protection	The wetland has dense, persistent vegetation with multiple strata.
Groundwater Processes	The wetland appears to primarily exhibit recharge 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.	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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1029\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404728 Long: -90.808416 Datum: WGS84  
 Soil Map Unit Name: Annalake fine sandy loam, lake terrace, 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 near the base of a steep slope dominated by hemlock.</u>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No indicators of wetland hydrology were observed.</u>		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1029\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Tsuga canadensis</i></u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)														
2. <u><i>Acer saccharum</i></u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Thuja occidentalis</i></u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u><i>Abies balsamea</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>85</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>32</u></td> <td>x 3 = <u>96</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>112</u> (A)</td> <td><u>396</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.5357142857142856</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>32</u>	x 3 = <u>96</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>112</u> (A)	<u>396</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>32</u>	x 3 = <u>96</u>																	
FACU species <u>70</u>	x 4 = <u>280</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>112</u> (A)	<u>396</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u><i>Athyrium angustum</i></u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u><i>Dryopteris intermedia</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
3. <u><i>Arisaema triphyllum</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>27</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located near the base of a slope dominated by hemlock.																		

## SOIL

Sampling Point: wasc1029\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Could not sample soil due to the proximity to occupied structures. Soils are assumed to be non-hydric based on the landscape position and dominant vegetation.





wasc1029\_u\_NE



wasc1029\_u\_SE



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1030e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404519 Long: -90.807626 Datum: WGS84  
 Soil Map Unit Name: Superior-Sedgwick complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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, saturated wet meadow dominated by fringed sedge. The feature is a depression located in a forested area near a residential property.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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): _____		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a small, seasonally saturated depression. Ruts from ATVs/vehicles intersect part of the wetland; here, the soil appears to be compacted and this likely influences the hydrology.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1030e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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</u></td> <td>x 1 = <u>50</u></td> </tr> <tr> <td>FACW species <u>3</u></td> <td>x 2 = <u>6</u></td> </tr> <tr> <td>FAC species <u>9</u></td> <td>x 3 = <u>27</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>62</u> (A)</td> <td><u>83</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.3387096774193548</u>	Total % Cover of:	Multiply by:	OBL species <u>50</u>	x 1 = <u>50</u>	FACW species <u>3</u>	x 2 = <u>6</u>	FAC species <u>9</u>	x 3 = <u>27</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>62</u> (A)	<u>83</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>50</u>	x 1 = <u>50</u>																	
FACW species <u>3</u>	x 2 = <u>6</u>																	
FAC species <u>9</u>	x 3 = <u>27</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>62</u> (A)	<u>83</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Carex crinita</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Rubus idaeus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
3. <u>Onoclea sensibilis</u>	<u>3</u>	<u>N</u>	<u>FACW</u>															
4. <u>Athyrium angustum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
5. <u>Dryopteris intermedia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>62</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Definitions of Vegetation Strata:  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
Hydrophytic Vegetation Present?      Yes <input checked="" type="checkbox"/> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by fringed sedge and located in a hardwood forest (trees are adjacent to and outside of the wetland).																		

## SOIL

Sampling Point: wasc1030e\_w

[illegible]





wasc1030e\_w\_NW



wasc1030e\_w\_SE

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

<b>WETLAND IDENTIFICATION</b>		
Project name: Line 5 Relocation Project	Evaluator(s): EJO/JSW	
File #: wasc1030	Date of visit(s): 2020-06-04	
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.404525</u> Long: <u>-90.807593</u>	Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Superior-Sedgwick complex, 0 to 6 percent slopes  Field Verified: Series were not verified. Soils were not sampled due to the proximity of a residential property and potential underground utilities. However, based on the wetland's hydrology and dominance of hydrophytic vegetation, the soils are assumed to be hydric.	WWI Class: N/A	
	Wetland Type(s): PEM - Fresh (wet) meadow	
	Wetland Size: 0.0444	Wetland Area Impacted 0.0444
Hydrology: The feature is a small, saturated depression. Ruts from ATVs/vehicles intersect part of the wetland; here the soil appears to be compacted and is likely influencing the hydrology.	Vegetation: Plant Community Description(s): The feature is wet meadow dominated by fringed sedge and located a hardwood forest.	

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	Y	Y	Used for recreation (hunting, birding, hiking, etc.). List: ATVs, potential for 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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	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	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present ≥ 45 days
10	N	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	N	Y	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	N	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	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			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	Y	Basin wetland <u>or</u> constricted outlet
3	N	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			<b>Groundwater Processes</b>
1	N	N	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)**

WQ-2, ST-5: The wetland is a depression that receives stormwater from the surrounding upland area.  
HU-1: ATV: Tracks intersect the wetland and the wetland is visible from a residential property.  
WH-6: Emergent feature surrounded by forest.

**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, 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



**Plant Community Integrity (circle)\***

\*Note: separate plant communities are described independently

[illegible]

The feature is somewhat disturbed by ruts but overall has a high coverage of native species. The presence of reed canary grass may threaten the wetland's floristic integrity.

### 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
X	X		M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
X	X		H	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		M	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)

Ruts from the ATV trail intersecting the wetland have caused bare soil in areas. Reed canary grass threatens the floristic integrity of the wetland. The wetland is near a residential structure.



## 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 feature is somewhat disturbed by ruts but overall has a high coverage of native species. The presence of reed canary grass may threaten the wetland's floristic integrity.
Human Use Values	The wetland is on private land and used for ATV travel.
Wildlife Habitat	The wetland is immediately surrounded by forest that may support various wildlife
Fish and Aquatic Life Habitat	
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland receives and absorbs some stormwater from surrounding landscape.
Water Quality Protection	The feature has dense, persistent vegetation.
Groundwater Processes	The feature primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1030\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404482 Long: -90.807679 Datum: WGS84  
 Soil Map Unit Name: Superior-Sedgwick complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located in a flat upland forest dominated by hemlock. A steep slope is present nearby to the west.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)	
<b>Field Observations:</b> 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): _____		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: No indicators of wetland hydrology were observed.			

**VEGETATION – Use scientific names of plants.**

Sampling Point: wasc1030\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Tsuga canadensis</i></u>	<u>75</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> 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</u> (A/B)														
2. <u><i>Tilia americana</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
3. <u><i>Abies balsamea</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>85</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>122</u></td> <td>x 4 = <u>488</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>167</u> (A)</td> <td><u>618</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.7005988023952097</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>122</u>	x 4 = <u>488</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>167</u> (A)	<u>618</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>40</u>	x 3 = <u>120</u>																	
FACU species <u>122</u>	x 4 = <u>488</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>167</u> (A)	<u>618</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u><i>Fraxinus pennsylvanica</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
<u>5</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u><i>Athyrium angustum</i></u>	<u>25</u>	<u>Y</u>	<u>FAC</u>															
2. <u><i>Pteridium aquilinum</i></u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Mitchella repens</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Maianthemum canadense</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u><i>Acer rubrum</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
6. <u><i>Equisetum arvense</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
7. <u><i>Parthenocissus inserta</i></u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
8. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
<u>77</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located in an upland community dominated by hemlock.				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>														

## SOIL

Sampling Point: wasc1030\_u

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

[illegible]<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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	✓
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Remarks:

Could not sample soil due to the proximity to occupied structures. Soils are assumed to be non-hydric based on the landscape position and dominant vegetation.





wasc1030\_u\_E



wasc1030\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1028e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404768 Long: -90.806568 Datum: WGS84  
 Soil Map Unit Name: Superior-Sedgwick complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated wet meadow dominated by reed canary grass and fringed sedge. Part of the wet meadow runs through a hardwood forest, and part is located on an ATV trail.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (minimum of two required)
<input checked="" 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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression. Ruts are present where an ATV trail intersects part of the wetland; these appear to have compacted the soil and may partially influence the hydrology.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1028e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW species <u>18</u></td> <td>x 2 = <u>36</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>63</u> (A)</td> <td><u>121</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.9206349206349207</u>	Total % Cover of:	Multiply by:	OBL species <u>25</u>	x 1 = <u>25</u>	FACW species <u>18</u>	x 2 = <u>36</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>63</u> (A)	<u>121</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>25</u>	x 1 = <u>25</u>																	
FACW species <u>18</u>	x 2 = <u>36</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>63</u> (A)	<u>121</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Carex crinita</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Phalaris arundinacea</u>	<u>16</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Dryopteris intermedia</u>	<u>9</u>	<u>N</u>	<u>FAC</u>															
4. <u>Rubus idaeus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u>Equisetum arvense</u>	<u>4</u>	<u>N</u>	<u>FAC</u>															
6. <u>Solidago gigantea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
7. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>63</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by reed canary grass and fringed sedge. In parts of the wetland, the feature is bordered by shrubs and trees (quaking aspen, red maple, northern white cedar, and speckled alder). ATV tracks have caused bare soil in parts of the wetland.																		

## SOIL

Sampling Point: wasc1028e\_w

[illegible]





wasc1028e\_w\_NE



wasc1028e\_w\_SE

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project	Evaluator(s): EJO/JSW		
File #: wasc1028	Date of visit(s): 2020-06-04		
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain		
Lat: <u>46.404763</u> Long: <u>-90.806571</u>	Watershed: LS12, Marengo River		
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Superior-Sedgwick complex, 0 to 6 percent slopes  Field Verified: Series were not verified. Soils were not sampled due to the proximity to residential properties and potential for underground utilities. However, based on the wetland's hydrology and dominance of hydrophytic vegetation, the soils are assumed to be hydric.	WWI Class: N/A  Wetland Type(s): PEM - Fresh (wet) meadow  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 0.1350</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted 0.1350</td> </tr> </table> Vegetation: Plant Community Description(s): The feature is a wet meadow dominated reed canary grass and fringed sedge. In parts of the wetland, the feature is bordered by shrubs and trees (quaking aspen, red maple, northern white cedar, and speckled alder).	Wetland Size: 0.1350	Wetland Area Impacted 0.1350
Wetland Size: 0.1350	Wetland Area Impacted 0.1350		
Hydrology: The feature is a saturated depression. Ruts are present where an ATV trail intersects part of the wetland; these appear to have compacted the soil and may partially influence the hydrology.			

**SITE MAP**

### SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	Y	Y	Used for recreation (hunting, birding, hiking, etc.). List: ATV trail observed through wetland
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	Y	Wetland and contiguous habitat >10 acres
2	N	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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	N	N	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	N	N	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	Y	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			<b>Groundwater Processes</b>
1	N	N	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)

WH-2: The feature is partially located in/surrounded by forest.  
ST-5: The feature is a depression which receives stormwater from the surrounding upland.  
FA-2: Standing water with tadpoles were observed in the wetland at the time of survey.

### 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	Tadpoles were observed, other herpetofauna may use wetland
	Y	Birds, 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 wetland has a low floristic integrity, with both native and invasive species present.

### 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
X	X		M	C	Agriculture – hay
					Agriculture – pasture
	X		L	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
X	X		H	C	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		H	C	Cover of non-native and/or invasive species
	X		H	C	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 occurs near a residential property. An ATV trail crosses the wetland and has caused bare soil from rutting in parts. Invasive species also threaten the floristic integrity of 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	Invasive species give the wetland a low floristic integrity.
Human Use Values	The wetland is on private land but is used by residents with ATVs.
Wildlife Habitat	Parts of the wetland are relatively intact and may support birds or be used by mammals.
Fish and Aquatic Life Habitat	Tadpoles were observed in the wetland's standing water; other aquatic organisms may also rely on the standing water.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland likely receives and absorbs stormwater from the surrounding landscape and hay field.
Water Quality Protection	The wetland has dense, persistent vegetation in areas where it is not a part of a trail.
Groundwater Processes	The wetland primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1028\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404676 Long: -90.806501 Datum: WGS84  
 Soil Map Unit Name: Superior-Sedgwick complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located in a forest near a trail. Northern white cedar and white pine dominate the immediate area.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		



**VEGETATION – Use scientific names of plants.**

Sampling Point: wasc1028\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Pinus strobus</i></u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>9</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>44</u> (A/B)														
2. <u><i>Thuja occidentalis</i></u>	<u>25</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Acer rubrum</i></u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>65</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>410</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.28</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>410</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>30</u>	x 2 = <u>60</u>																	
FAC species <u>30</u>	x 3 = <u>90</u>																	
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UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>125</u> (A)	<u>410</u> (B)																	
<u>25</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Populus tremuloides</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
2. <u><i>Prunus serotina</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Acer rubrum</i></u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
4. <u><i>Tilia americana</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>25</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Ribes cynosbati</i></u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
2. <u><i>Maianthemum canadense</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
3. <u><i>Dactylis glomerata</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
4. <u><i>Carex intumescens</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
5. <u><i>Parthenocissus inserta</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u><i>Acer rubrum</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>35</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located in a disturbed forest near a trail.																		

## SOIL

Sampling Point: wasc1028\_u

[illegible]





wasc1028\_u\_E



wasc1028\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1026e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404129 Long: -90.803618 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 seasonally saturated wet meadow dominated by woolgrass and reed canary grass. The feature is a depression within a roadside ditch and is fed in part by stream sasc1004e and drains into a culvert.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a roadside ditch that appears to be seasonally saturated. The stream sasc1004e feeds into the wetland. The wetland drains into a culvert which feeds wetland wasc1027e.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1026e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>37</u></td> <td>x 2 = <u>74</u></td> </tr> <tr> <td>FAC species <u>2</u></td> <td>x 3 = <u>6</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>61</u> (A)</td> <td><u>108</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.77</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>37</u>	x 2 = <u>74</u>	FAC species <u>2</u>	x 3 = <u>6</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>61</u> (A)	<u>108</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>37</u>	x 2 = <u>74</u>																	
FAC species <u>2</u>	x 3 = <u>6</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>61</u> (A)	<u>108</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Scirpus cyperinus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Phalaris arundinacea</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Cornus alba</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u>Salix bebbiana</u>	<u>4</u>	<u>N</u>	<u>FACW</u>															
5. <u>Carex cf. scoparia</u>	<u>4</u>	<u>N</u>	<u>FACW</u>															
6. <u>Salix petiolaris</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
7. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
8. <u>Solidago gigantea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
9. <u>Fragaria virginiana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>61</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by woolgrass and reed canary grass. The sample plot is representative of the feature. Trees and shrubs (dogwoods, red maple, quaking aspen) border the wetland's western boundary but do not occur in the wetland.																		

## SOIL

Sampling Point: wasc1026e\_w

[illegible]





wasc1026e\_w\_N



wasc1026e\_w\_S

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

<b>WETLAND IDENTIFICATION</b>					
Project name: Line 5 Relocation Project	Evaluator(s): EJO/JSW				
File #: wasc1026	Date of visit(s): 2020-06-04				
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain				
Lat: <u>46.404309</u> Long: <u>-90.803609</u>	Watershed: LS12, Marengo River				
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>					
<b>SITE DESCRIPTION</b>					
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes  Field Verified: Series were not verified. Soils were not sample due to the wetland's location in a roadside ditch and potential to encounter underground utilities. However, based on the wetland's hydrology and dominance of hydrophytic vegetation, the soils are assumed to be hydric.	WWI Class: N/A  Wetland Type(s): PEM - Fresh (wet) meadow				
Hydrology: The feature is a roadside ditch that appears to be seasonally saturated, and is associated with a roadside culvert and an ephemeral stream.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">           Wetland Size: 0.0163         </td> <td style="width: 50%; padding: 5px;">           Wetland Area Impacted 0.0163         </td> </tr> <tr> <td colspan="2" style="padding: 5px;">           Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by woolgrass and reed canary grass. Trees and shrubs (dogwoods, red maple, quaking aspen) border the wetland's western boundary but do not occur in the wetland.         </td> </tr> </table>	Wetland Size: 0.0163	Wetland Area Impacted 0.0163	Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by woolgrass and reed canary grass. Trees and shrubs (dogwoods, red maple, quaking aspen) border the wetland's western boundary but do not occur in the wetland.	
Wetland Size: 0.0163	Wetland Area Impacted 0.0163				
Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by woolgrass and reed canary grass. Trees and shrubs (dogwoods, red maple, quaking aspen) border the wetland's western boundary but do not occur in the wetland.					

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	N	N	Ephemeral pond with water present ≥ 45 days
10	N	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or 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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)**

ST-5: The feature is a depression in a roadside ditch and likely receives stormwater from the adjacent paved road and residential property.

**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, 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

### Plant Community Integrity (circle)\*

\*Note: separate plant communities are described independently

[illegible]

The feature is largely dominated by native vegetation, but also has some non-native invasive species present, predominantly reed canary grass.

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

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X		M	C	Filling, berms (non-impounding)
X	X		H	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		L	C	Agriculture – hay
					Agriculture – pasture
	X		M	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	C	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	X		H	C	Cover of non-native and/or invasive species
	X		M	C	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 in a roadside ditch; fill may have been used to construct the road. Invasive species are present in the wetland, which affects its floristic integrity. The wetland is near a residential property, gravel driveway, and hayfields.



## 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 a dominant coverage of native species, but invasive species are present and the plant community is highly disturbed.
Human Use Values	The wetland is unlikely to be used for recreational purposes.
Wildlife Habitat	The wetland may be used by birds or mammals at times, but is a relatively disturbed wetland.
Fish and Aquatic Life Habitat	
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland receives and absorbs stormwater from the surrounding landscape and the associated road.
Water Quality Protection	The wetland has dense, persistent vegetation, and is associated with an ephemeral stream and a culvert.
Groundwater Processes	The wetland primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1026\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404292 Long: -90.803693 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located near the edge of a road, upslope from a roadside ditch. Form is shared with wetland wasc1027e.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

Sampling Point: wasc1026\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Ulmus americana</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. <u><i>Betula papyrifera</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u> )				<b>Prevalence Index worksheet:</b> <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>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>76</u></td> <td>x 4 = <u>304</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>121</u> (A)</td> <td><u>439</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.628099173553719</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>76</u>	x 4 = <u>304</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>121</u> (A)	<u>439</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>30</u>	x 3 = <u>90</u>																	
FACU species <u>76</u>	x 4 = <u>304</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>121</u> (A)	<u>439</u> (B)																	
1. <u><i>Populus tremuloides</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
2. <u><i>Salix petiolaris</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>15</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u><i>Dactylis glomerata</i></u>	<u>30</u>	<u>Y</u>	<u>FACU</u>															
2. <u><i>Solidago canadensis</i></u>	<u>25</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Plantago rugelii</i></u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
4. <u><i>Carex gracillima</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u><i>Equisetum arvense</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
6. <u><i>Rumex acetosa</i></u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
7. <u><i>Ranunculus acris</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
8. <u><i>Fragaria virginiana</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
9. <u><i>Taraxacum officinale</i></u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>96</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located near the side of a road.																		

## SOIL

Sampling Point: wasc1026\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Could not sample soil due to the proximity to potential buried utilities within the roadside area. Soils are assumed to be non-hydric based on the landscape position and dominant vegetation.





wasc1026\_u\_N



wasc1026\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1027e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.404318 Long: -90.803610 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated wet meadow dominated by woolgrass and soft rush. The feature is a depression within a roadside ditch. Form paired with upland form wasc1026_u.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression in a roadside ditch. The feature receives drainage from wetland wasc1026e via a culvert. The wetland is also fed by stream sasc1005e. The wetland is a part of the same ditch that includes wasc1024e.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1027e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>30</u></td> <td>x 1 = <u>30</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>7</u></td> <td>x 3 = <u>21</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>52</u> (A)</td> <td><u>81</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.56</u>	Total % Cover of:	Multiply by:	OBL species <u>30</u>	x 1 = <u>30</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>7</u>	x 3 = <u>21</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>52</u> (A)	<u>81</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>30</u>	x 1 = <u>30</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>7</u>	x 3 = <u>21</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>52</u> (A)	<u>81</u> (B)																	
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Scirpus cyperinus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Juncus effusus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Cornus alba</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. <u>Salix discolor</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. <u>Solidago gigantea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
6. <u>Equisetum arvense</u>	<u>4</u>	<u>N</u>	<u>FAC</u>															
7. <u>Ranunculus acris</u>	<u>3</u>	<u>N</u>	<u>FAC</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>52</u> = Total Cover																
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by woolgrass and soft rush. The sample plot appears to be representative of the feature. The feature may be occasionally mowed based on the presence of short-statured, multistemmed shrubs.																		

## SOIL

Sampling Point: wasc1027e\_w

[illegible]





wasc1027e\_w\_N



wasc1027e\_w\_S

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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project	Evaluator(s): EJO/JSW		
File #: wasc1027	Date of visit(s): 2020-06-04		
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain		
Lat: <u>46.404126</u> Long: <u>-90.803616</u>	Watershed: LS12, Marengo River		
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes  Field Verified: Series were not verified. Soils were not sample due to the wetland's location in a roadside ditch and potential to encounter underground utilities. However, based on the wetland's hydrology and dominance of hydrophytic vegetation, the soils are assumed to be hydric.	WWI Class: N/A		
	Wetland Type(s): PEM - Fresh (wet) meadow		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">Wetland Size: 0.0119</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted 0.0119</td> </tr> </table>	Wetland Size: 0.0119	Wetland Area Impacted 0.0119
Wetland Size: 0.0119	Wetland Area Impacted 0.0119		
Hydrology: The feature is a saturated depression in a roadside ditch. The feature receives drainage from wetland wasc1026 via culvert cvasc1010. The wetland is a part of the same ditch that includes wasc1024.	Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by woolgrass and soft rush, with a disturbed plant community.		

**SITE MAP**



### SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or 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	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)

FA-2: Standing water was present in the wetland at the time of survey and may support aquatic life.

ST-5: the wetland receives drainage from stream sasc1005e and wetland wasc1026 via culvert cvasc1010, as well as stormwater from the adjacent road.

### 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, mammals, herpetofauna

### 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]

## WDNR WRAM v.2 data form - 4

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

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X		M	C	Filling, berms (non-impounding)
X	X		H	C	Drainage – tiles, ditches
X	X		M	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		M	C	Agriculture – hay
					Agriculture – pasture
	X		H	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	UC	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	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 in a roadside ditch; fill may have been used to construct the road. Non-native species are present in the wetland and threaten its floristic integrity. The wetland is near a residential property, gravel driveway, and hayfields.

## 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 a dominant coverage of native species, but invasive species are also present.
Human Use Values	The wetland is unlikely to be used for recreational purposes.
Wildlife Habitat	The wetland may be used by birds or mammals at times but is in a relatively disturbed environment.
Fish and Aquatic Life Habitat	The wetland had some standing water at the time of survey that may support aquatic life.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland receives and absorbs stormwater from the surrounding landscape and road.
Water Quality Protection	The wetland has dense, persistent vegetation, and filters roadside runoff.
Groundwater Processes	The wetland primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1025s\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.403447 Long: -90.804391 Datum: WGS84  
 Soil Map Unit Name: Odanah silt loam, 6 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated shrub-carr located in a depression between two hay fields. Red-osier dogwood is the dominant shrub, with jewelweed and giant goldenrod dominant in the ground layer. Trees border either side of the wetland.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a saturated depression with hay fields on either side of the wetland.		



Sampling Point: wasc1025s\_w

Tree Stratum					
(Plot size: 30 )					
Absolute % Cover	Dominant Species?	Indicator Status			
1.					
2.					
3.					
4.					
5.					
6.					
7.					
		0 = Total Cover			
Sapling/Shrub Stratum					
(Plot size: 15 )					
1.	Cornus alba	60	Y	FACW	
2.					
3.					
4.					
5.					
6.					
7.					
		60 = Total Cover			
Herb Stratum					
(Plot size: 5 )					
1.	Impatiens capensis	10	Y	FACW	
2.	Solidago gigantea	7	Y	FACW	
3.	Equisetum arvense	5	Y	FAC	
4.	Cornus alba	5	N	FACW	
5.	Matteuccia struthiopteris	4	N	FAC	
6.	Rubus idaeus	4	N	FAC	
7.					
8.					
9.					
10.					
11.					
12.					
		35 = Total Cover			
Woody Vine Stratum					
(Plot size: 30 )					
1.					
2.					
3.					
4.					
		0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a shrub-carr dominated by red-osier dogwood in the shrub layer and jewelweed and giant goldenrod in the ground layer. Trees and shrubs (basswood, serviceberries, black ash, northern white cedar, and red maple) border the wetland on either side of the depression.					

Dominance Test worksheet:			
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)			
Total Number of Dominant Species Across All Strata: 4 (B)			
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)			
Prevalence Index worksheet:			
Total % Cover of:	Multiply by:		
OBL species 0	x 1 =	0	
FACW species 82	x 2 =	164	
FAC species 13	x 3 =	39	
FACU species 0	x 4 =	0	
UPL species 0	x 5 =	0	
Column Totals: 95	(A)	203	(B)
Prevalence Index = B/A = 2.14			
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:			
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.			
<b>Hydrophytic Vegetation Present?</b> Yes ✓ No _____			

## SOIL

Sampling Point: wasc1025s\_w

[illegible]



wasc1025s\_w\_SE



wasc1025s\_w\_SW

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

<b>WETLAND IDENTIFICATION</b>		
Project name: Line 5 Relocation Project	Evaluator(s): EJO/JSW	
File #: wasc1025	Date of visit(s): 2020-06-04	
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.403391</u> Long: <u>-90.804481</u>	Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Odanah silt loam, 6 to 15 percent slopes  Field Verified: Series were not verified. Soils were not sampled due to the wetland's proximity to a residential property and potential underground utilities. However, based on the the wetland's hydrology and dominance of hydrophytic vegetation vegetation, the soils are assumed to be hydric.	WWI Class: N/A	
	Wetland Type(s): PSS - Shrub-carr	
	Wetland Size: 0.1383	Wetland Area Impacted 0.1383
Hydrology: The feature is a saturated depression, with hayfields on either side of the wetland. A road contributes to the hydrology of the feature.	Vegetation: Plant Community Description(s): The feature is a shrub-carr dominated by red-osier dogwood in the shrub layer and jewelweed and giant goldenrod in the herbaceous layer. Trees and shrubs (basswood, serviceberries, Black ash, and red maple) border the wetland on either side of the depression.	

**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	Y	Y	Used for recreation (hunting, birding, hiking, etc.). List: ATV
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	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			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	N	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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)**

ST-5: The wetland is in a depression that likely receives stormwater from the surrounding hayfields.  
FA-2: The wetland had standing water at the time of survey, which may support aquatic life.  
WQ-2: The feature has a constricted outlet.

**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, herpetofauna
Y	Y	Common yellowthroat observed in wetland, potential for other birds

**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 wetland has a good coverage of native species, with some exotic species present.

### 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)
	X		M	C	Drainage – tiles, ditches
	X		M	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		M	C	Agriculture – hay
					Agriculture – pasture
	X		M	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
X			M	C	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	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
X	X		M	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)

The wetland is a depression with hay fields on either side of it. The wetland has what appears to be an ATV trail crossing, where some vegetation has been cleared. The wetland is near a residential property and paved road.

## 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 a good coverage of native species, with some exotic species present.
Human Use Values	The wetland is located on private land, with an ATV trail present.
Wildlife Habitat	The wetland likely supports a number of birds at times.
Fish and Aquatic Life Habitat	The wetland had standing water at the time of survey, which may support aquatic life.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland receives and stores stormwater from the surrounding upland fields and road runoff.
Water Quality Protection	The wetland has dense, persistent vegetation.
Groundwater Processes	The wetland primarily exhibits recharge 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.	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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1025\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.403385 Long: -90.804288 Datum: WGS84  
 Soil Map Unit Name: Odanah silt loam, 6 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 at the edge of a hay field near a small ravine.</u>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No indicators of wetland hydrology were observed.</u>		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1025\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>25</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>385</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.052631578947368</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>10</u>	x 3 = <u>30</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>95</u> (A)	<u>385</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>10</u>	x 3 = <u>30</u>																	
FACU species <u>70</u>	x 4 = <u>280</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>95</u> (A)	<u>385</u> (B)																	
<u>5</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Amelanchier sp.</u>	<u>5</u>	<u>Y</u>	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>5</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Fragaria virginiana</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Dactylis glomerata</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Pteridium aquilinum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Leucanthemum vulgare</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
6. <u>Asclepias syriaca</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
7. <u>Lotus corniculatus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
8. <u>Potentilla recta</u>	<u>5</u>	<u>N</u>	_____															
9. <u>Rumex acetosa</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
10. <u>Carex gracillima</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
11. <u>Carex arctata</u>	<u>2</u>	<u>N</u>	_____															
12. _____	_____	_____	_____															
<u>92</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																		
<b>Hydrophytic Vegetation Present?</b> <div style="float: right;">                         Yes _____ No <input checked="" type="checkbox"/> </div>																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located at the edge of a hay field near a small ravine.																		



## SOIL

Sampling Point: wasc1025\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Could not sample soil due to the proximity to occupied structures. Soils are assumed to be non-hydric based on the landscape position and dominant vegetation.





wasc1025\_u\_NE



wasc1025\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1024e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.402355 Long: -90.803605 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wet meadow in a roadside ditch dominated by woolgrass, short-statured red osier dogwood, and giant goldenrod. The feature is adjacent to a paved road and a hay field. A tree line borders the wetland along its western edge.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0.5</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated roadside ditch and likely receives surface water from the adjacent paved road and hay field. The feature appears to be connected hydrologically to wetland wasc1027e, as they both occur in the same ditch; the wetland is downslope of wasc1027e.		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1024e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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</u></td> <td>x 1 = <u>15</u></td> </tr> <tr> <td>FACW species <u>17</u></td> <td>x 2 = <u>34</u></td> </tr> <tr> <td>FAC species <u>22</u></td> <td>x 3 = <u>66</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>59</u> (A)</td> <td><u>135</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.29</u>	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15</u>	FACW species <u>17</u>	x 2 = <u>34</u>	FAC species <u>22</u>	x 3 = <u>66</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>59</u> (A)	<u>135</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>15</u>	x 1 = <u>15</u>																	
FACW species <u>17</u>	x 2 = <u>34</u>																	
FAC species <u>22</u>	x 3 = <u>66</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>59</u> (A)	<u>135</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Salix bebbiana</u>	<u>3</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Alnus incana</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>5</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Scirpus cyperinus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Cornus alba</u>	<u>7</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Vitis riparia</u>	<u>6</u>	<u>Y</u>	<u>FAC</u>															
4. <u>Equisetum arvense</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
5. <u>Solidago gigantea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
6. <u>Rubus idaeus</u>	<u>4</u>	<u>N</u>	<u>FAC</u>															
7. <u>Ranunculus acris</u>	<u>4</u>	<u>N</u>	<u>FAC</u>															
8. <u>Carex vulpinoidea</u>	<u>3</u>	<u>N</u>	<u>OBL</u>															
9. <u>Acer rubrum</u>	<u>3</u>	<u>N</u>	<u>FAC</u>															
10. <u>Parthenocissus quinquefolia</u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
11. <u>Phleum pratense</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
12. <u>Carex crinita</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
		<u>54</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by woolgrass, short-statured red osier dogwood, and giant goldenrod. The feature may be occasionally mowed based on the short stature of dogwood.																		

## SOIL

Sampling Point: wasc1024e\_w

[illegible]





wasc1024e\_w\_NE



wasc1024e\_w\_SW



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): EJO/JSW	
File #: wasc1024		Date of visit(s): 2020-06-04	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.402355</u> Long: <u>-90.803605</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes		WWI Class:	
Field Verified: Series were not verified. Soils were not sample to due the wetland's location in a roadside ditch and potential to encounter underground utilities. However, based on the wetland's hydrology and dominance of hydrophytic vegetation, the soils are assumed to be hydric.		Wetland Type(s): PEM - Fresh (wet) meadow	
Hydrology: The feature is a saturated roadside ditch and receives surface water from the adjacent paved road and hayfield.		Wetland Size: 0.0690	Wetland Area Impacted 0.0690
		Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by woolgrass, short-statured red osier dogwood, and giant goldenrod.	

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	N	N	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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)**

ST-5: The wetland is a roadside ditch that likely receives stormwater from the adjacent road and hayfield.  
FA-2: The wetland had some standing water at the time of survey, which may support aquatic life.

**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, herpetofauna
Y	Y	Birds (common yellowthroat observed in wetland)

**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]

## WDNR WRAM v.2 data form - 4

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

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X		M	C	Filling, berms (non-impounding)
X	X		H	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		M	C	Agriculture – hay
					Agriculture – pasture
	X		H	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	C	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	X		H	C	Cover of non-native and/or invasive species
	X		L	C	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 a roadside ditch; fill may have been used in the road construction. The wetland has a number of invasive species 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 is fairly disturbed and has a mix of native and exotic species.
Human Use Values	The wetland is unlikely to be used for any recreational purposes.
Wildlife Habitat	The wetland may support birds and/or mammals at times.
Fish and Aquatic Life Habitat	The wetland had some standing water at the time of survey, which may support aquatic life.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland likely receives and holds stormwater from the surrounding road and hayfield, and functions as a roadside ditch.
Water Quality Protection	The wetland has dense, persistent vegetation.
Groundwater Processes	The wetland primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-04  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1024\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.402386 Long: -90.803689 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located at the edge of a hay field near a roadside ditch.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1024\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Betula papyrifera</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)														
2. <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
			<u>25</u> = Total Cover	<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td>Total % Cover of:</td> <td>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>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>7</u></td> <td>x 3 = <u>21</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>40</u></td> <td>x 5 = <u>200</u></td> </tr> <tr> <td>Column Totals: <u>127</u> (A)</td> <td><u>511</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0236220472440944</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>7</u>	x 3 = <u>21</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>40</u>	x 5 = <u>200</u>	Column Totals: <u>127</u> (A)	<u>511</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>7</u>	x 3 = <u>21</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>40</u>	x 5 = <u>200</u>																	
Column Totals: <u>127</u> (A)	<u>511</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Prunus virginiana</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Salix bebbiana</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
3. <u>Alnus incana</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
			<u>30</u> = Total Cover															
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Bromus inermis</u>	<u>25</u>	<u>Y</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Solidago canadensis</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Leucanthemum vulgare</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
4. <u>Dactylis glomerata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u>Rumex acetosa</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
6. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
7. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
			<u>72</u> = Total Cover															
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
			<u>0</u> = Total Cover															
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located at the edge of a hay field near a ditch.																		

## SOIL

Sampling Point: wasc1024\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Could not sample soil due to the proximity to potential buried utilities within the roadside area. Soils are assumed to be non-hydric based on the landscape position and dominant vegetation.





wasc1024\_u\_S



wasc1024\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-05  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1031e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.402125 Long: -90.803426 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated depression in a roadside ditch, dominated by sedges, sensitive fern, and Kentucky bluegrass.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression within a roadside ditch.		



**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1031e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>75</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>39</u></td> <td>x 2 = <u>78</u></td> </tr> <tr> <td>FAC species <u>39</u></td> <td>x 3 = <u>117</u></td> </tr> <tr> <td>FACU species <u>13</u></td> <td>x 4 = <u>52</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>91</u> (A)</td> <td><u>247</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.71</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>39</u>	x 2 = <u>78</u>	FAC species <u>39</u>	x 3 = <u>117</u>	FACU species <u>13</u>	x 4 = <u>52</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>91</u> (A)	<u>247</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>39</u>	x 2 = <u>78</u>																	
FAC species <u>39</u>	x 3 = <u>117</u>																	
FACU species <u>13</u>	x 4 = <u>52</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>91</u> (A)	<u>247</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Onoclea sensibilis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Carex cf. radiata</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Poa pratensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
4. <u>Carex cf. scoparia</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
5. <u>Solidago gigantea</u>	<u>7</u>	<u>N</u>	<u>FACW</u>															
6. <u>Equisetum arvense</u>	<u>6</u>	<u>N</u>	<u>FAC</u>															
7. <u>Ranunculus acris</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
8. <u>Rubus idaeus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
9. <u>Vitis riparia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
10. <u>Carex gracillima</u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
11. <u>Viburnum lentago</u>	<u>3</u>	<u>N</u>	<u>FAC</u>															
12. <u>Cornus alba</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
		<u>91</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by sedges, sensitive fern, and Kentucky bluegrass. The feature appears to be occasionally mowed based on the presence of short-statured shrubs. A tree line borders the wetland's eastern boundary.																		

## SOIL

Sampling Point: wasc1031e\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Soils were not sampled due to the location in a roadside ditch and likely proximity to underground utilities. However, based on the landscape position and dominance of hydrophytic vegetation, the soils are assumed to be hydric.



wasc1031e\_w\_N



wasc1031e\_w\_S

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

<b>WETLAND IDENTIFICATION</b>		
Project name: Line 5 Relocation Project	Evaluator(s): EJO/JSW	
File #: wasc1031	Date of visit(s): 2020-06-05	
Location: PLSS: <u>sec 01 T045N R004W</u>	Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.402124</u> Long: <u>-90.803425</u>	Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes  Field Verified: Series were not verified. Soils were not sampled due to the location in a roadside ditch and likely proximity to underground utilities. However, based on the wetland's hydrology and dominance of hydrophytic vegetation, the soils are assumed to be hydric.	WWI Class: N/A	
	Wetland Type(s): PEM - Fresh (wet) meadow	
	Wetland Size: 0.0549	Wetland Area Impacted 0.0549
Hydrology: The feature is a saturated depression within a roadside ditch.	Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by sedges, sensitive fern, and Kentucky bluegrass. The feature appears to be occasionally mowed based on the presence of short-statured shrubs.	

**SITE MAP**



### SECTION 1: Functional Value Assessment

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	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	N	N	Ephemeral pond with water present ≥ 45 days
10	N	N	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			<b>Fish and Aquatic Life Habitat</b>
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	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			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	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			<b>Water Quality Protection</b>
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	N	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	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)**

WH-1: The roadside ditch extends out of the survey area, at which point it may technically become contiguous with a forested habitat patch and a stream.  
ST-5: The feature is a roadside ditch and receives stormwater from the adjacent road.

**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, herpetofauna
	Y	Golden-winged warbler, cedar waxwings heard adjacent to wetland; other birds possible

**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]

## WDNR WRAM v.2 data form - 4

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

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X		M	C	Filling, berms (non-impounding)
X	X		H	C	Drainage – tiles, ditches
	X		M	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
	X		M	C	Agriculture – hay
					Agriculture – pasture
	X		H	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	C	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	X		H	C	Cover of non-native and/or invasive species
	X		L	C	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 in a roadside ditch; fill may have been used to construct the road. The wetland is adjacent to a hayfield and near a residential property. The wetland has invasive species present, which threaten the wetland's floristic integrity.

## 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 is in a relatively disturbed roadside ditch.
Human Use Values	The wetland is unlikely to be used for recreational purposes.
Wildlife Habitat	Birds or mammals may inhabit the wetland at times.
Fish and Aquatic Life Habitat	No standing water was observed at the time of survey, and is likely not present for sufficient durations.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland receives and holds stormwater from the adjacent road.
Water Quality Protection	The wetland has dense, persistent vegetation.
Groundwater Processes	The wetland primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-05  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1031\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.402118 Long: -90.803356 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 sample point is located at the edge of an agricultural field near a fencerow.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION – Use scientific names of plants.**

Sampling Point: wasc1031\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Populus tremuloides</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)														
2. <u>Thuja occidentalis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>35</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Cornus alba</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<b>Prevalence Index worksheet:</b> <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>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>300</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.33</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>90</u> (A)	<u>300</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>55</u>	x 3 = <u>165</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>90</u> (A)	<u>300</u> (B)																	
2. <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>cf. Agropyron cristatum</u>	<u>25</u>	<u>Y</u>	_____	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Equisetum arvense</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
3. <u>Leucanthemum vulgare</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>															
4. <u>Dactylis glomerata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u>Ranunculus acris</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
6. <u>Bromus inermis</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>65</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. <u>Vitis riparia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>5</u> = Total Cover																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located at the edge of an agricultural field near a fencerow.																		



## SOIL

Sampling Point: wasc1031\_u

[illegible]



wasc1031\_u\_N



wasc1031\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-05  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1032e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.401426 Long: -90.802949 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 saturated wet meadow dominated by mosquito bulrush and soft rush. The feature is a depression within an agricultural field. A portion of the wetland had bare soil at the time of survey.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a seasonally saturated depression located within an agricultural field. Small areas of standing water were observed at the time of survey. These may partially be a result of compaction from agricultural equipment.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1032e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <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>53</u></td> <td>x 1 = <u>53</u></td> </tr> <tr> <td>FACW species <u>3</u></td> <td>x 2 = <u>6</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>4</u></td> <td>x 4 = <u>16</u></td> </tr> <tr> <td>UPL species <u>3</u></td> <td>x 5 = <u>15</u></td> </tr> <tr> <td>Column Totals: <u>63</u> (A)</td> <td><u>90</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.4285714285714286</u>	Total % Cover of:	Multiply by:	OBL species <u>53</u>	x 1 = <u>53</u>	FACW species <u>3</u>	x 2 = <u>6</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>4</u>	x 4 = <u>16</u>	UPL species <u>3</u>	x 5 = <u>15</u>	Column Totals: <u>63</u> (A)	<u>90</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>53</u>	x 1 = <u>53</u>																	
FACW species <u>3</u>	x 2 = <u>6</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>4</u>	x 4 = <u>16</u>																	
UPL species <u>3</u>	x 5 = <u>15</u>																	
Column Totals: <u>63</u> (A)	<u>90</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Scirpus cf. hattorianus</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Juncus effusus</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Carex cf. scoparia</u>	<u>3</u>	<u>N</u>	<u>FACW</u>															
4. <u>Leucanthemum vulgare</u>	<u>3</u>	<u>N</u>	<u>UPL</u>															
5. <u>Carex vulpinoidea</u>	<u>3</u>	<u>N</u>	<u>OBL</u>															
6. <u>Taraxacum officinale</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. <u>Poa pratensis</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
8. <u>Zea mays</u>	<u>1</u>	<u>N</u>																
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>64</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by mosquito bulrush and soft rush and located in a recently planted corn field. The wetland extends into an area of exposed soil. Some of the vegetation appears to have been recently sprayed with herbicide.																		

## SOIL

Sampling Point: wasc1032e\_w

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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:

Soils were not sampled due to the proximity to a residential property, road, and potential underground utilities. However, based on the hydrology and dominance of hydrophytic vegetation, the soils are assumed to be hydric.



wasc1032e\_w\_NE



wasc1032e\_w\_SW



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): EJO/JSW	
File #: wasc1032		Date of visit(s): 2020-06-05	
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.401440</u> Long: <u>-90.802956</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes. Udorthents, ravines and escarpments, 25 to 60 percent slopes.  Field Verified: Series were not verified. Soils were not sampled due to the proximity to a residential property, road, and potential underground utilities. However, based on the wetland's hydrology and dominance of hydrophytic vegetation, the soils are assumed to be hydric.		WWI Class: N/A	
		Wetland Type(s): <b>PEM - Fresh (wet) meadow</b>	
		Wetland Size: 0.2338	Wetland Area Impacted 0.2338
Hydrology: The feature is a saturated depression located within an agricultural field. Small areas of standing water were observed at the time of survey. These may partially be a result of compaction from agricultural equipment.		Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by cf. mosquito bulrush and soft rush and located in a recently planted corn field. The wetland extends into an area of exposed soil. Some of the vegetation appears to have been recently sprayed with herbicide.	

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Y	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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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	N	N	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	Y	Water flow through wetland is NOT channelized
3	N	N	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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	N	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	Y	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Y	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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)**

WQ-6: Algae was observed on surface water present in the wetland at the time of survey.  
FA-2: Tadpoles were observed in the standing water at the time of survey.  
WQ-7: The feature is located in the edge of a planted corn field.

**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	Herpetofauna

**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
Y	Y	Tadpoles

**Plant Community Integrity (circle)\***

\*Note: separate plant communities are described independently

[illegible]

The wetland is in a recently planted corn field, with evidence of herbicide application, and is considered to have low floristic integrity.

### 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)
	X		L	C	Drainage – tiles, ditches
	X		L	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		L	C	Polluted runoff
					Pond construction
X	X		H	C	Agriculture – row crops
	X		L	C	Agriculture – hay
					Agriculture – pasture
	X		L	C	Roads or railroad
	X		L	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		H	C	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	X		H	C	Cover of non-native and/or invasive species
	X		L	C	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):
X	X		H	C	Herbicide

\* 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 a sprayed and planted corn field, and had areas of bare ground at the time of survey. The wetland is near a hayfield, road, and residential property, and is highly affected by a variety of stressors.

## 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 is in a planted corn field, which receives herbicide applications. Invasive species are prevalent at the time of survey.
Human Use Values	The wetland is on private land, but near a public road.
Wildlife Habitat	The wetland is in a planted corn field.
Fish and Aquatic Life Habitat	Standing water in the wetland had tadpoles present at the time of survey; the pools were relatively small, however, and are likely drawn down later in the season. Water is also polluted by herbicide/potential pesticide.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland receives some stormwater from the landscape, predominantly the surrounding agricultural field.
Water Quality Protection	An annual crop was planted in the wetland at the time of survey; the remaining sedges/rushes may retain some marginal water quality protection.
Groundwater Processes	The wetland primarily exhibits recharge 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: Ashland Sampling Date: 2020-06-05  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1032\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.401464 Long: -90.802841 Datum: WGS84  
 Soil Map Unit Name: Portwing-Herbster complex, 0 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 at the edge of an agricultural field near a wooded ravine.</u>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No indicators of wetland hydrology were observed.</u>		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1032\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Pinus strobus</i></u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)														
2. <u><i>Acer rubrum</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>30</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Malus sp.</i></u>	<u>5</u>	<u>Y</u>	_____	<b>Prevalence Index worksheet:</b> <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>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>40</u></td> <td>x 4 = <u>160</u></td> </tr> <tr> <td>UPL species <u>60</u></td> <td>x 5 = <u>300</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>500</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.3478260869565215</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>40</u>	x 4 = <u>160</u>	UPL species <u>60</u>	x 5 = <u>300</u>	Column Totals: <u>115</u> (A)	<u>500</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>40</u>	x 4 = <u>160</u>																	
UPL species <u>60</u>	x 5 = <u>300</u>																	
Column Totals: <u>115</u> (A)	<u>500</u> (B)																	
2. <u><i>Alnus incana</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Rhus typhina</i></u>	<u>2</u>	<u>N</u>	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>12</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Bromus inermis</i></u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u><i>Leucanthemum vulgare</i></u>	<u>20</u>	<u>Y</u>	<u>UPL</u>															
3. <u><i>Cirsium arvense</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Equisetum arvense</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u><i>Taraxacum officinale</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u><i>Potentilla recta</i></u>	<u>5</u>	<u>N</u>	_____															
7. _____	_____	_____	_____															
<u>85</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		

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

The sample plot is located at the edge of an agricultural field near a wooded ravine.

## SOIL

Sampling Point: wasc1032\_u

[illegible]





wasc1032\_u\_NE



wasc1032\_u\_SE

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-05  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1033s\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.401363 Long: -90.801835 Datum: WGS84  
 Soil Map Unit Name: Udorthents, ravines and escarpments, 25 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 temporarily flooded shrub-carr dominated by sandbar willow and associated with stream sasc1006p.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a temporarily flooded floodplain associated with stream sasc1006p and located in a depression within the landscape.		



**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1033s\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</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>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td>Total % Cover of:</td> <td>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>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>31</u></td> <td>x 3 = <u>93</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>133</u> (A)</td> <td><u>301</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.26</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>31</u>	x 3 = <u>93</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>133</u> (A)	<u>301</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>100</u>	x 2 = <u>200</u>																	
FAC species <u>31</u>	x 3 = <u>93</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>133</u> (A)	<u>301</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Salix interior</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Populus balsamifera</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. <u>Cornus alba</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>90</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Equisetum hyemale</u>	<u>12</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Solidago gigantea</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Vitis riparia</u>	<u>4</u>	<u>N</u>	<u>FAC</u>															
4. <u>Parthenocissus quinquefolia</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>28</u> = Total Cover																
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. <u>Vitis riparia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>15</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a shrub-carr dominated by sandbar willow.																		

## SOIL

Sampling Point: wasc1033s\_w

[illegible]





wasc1033s\_w\_N



wasc1033s\_w\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-05  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1033e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.401665 Long: -90.801545 Datum: WGS84  
 Soil Map Unit Name: Udorthents, ravines and escarpments, 25 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 temporarily flooded wet meadow dominated by ostrich fern. The feature is a floodplain associated with perennial stream sasc1006p.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The feature is a temporarily flooded floodplain associated with stream sasc1006p.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: wasc1033e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover		<b>Prevalence Index worksheet:</b> <table style="width: 100%;"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>3</u></td> <td>x 1 = <u>3</u></td> </tr> <tr> <td>FACW species <u>14</u></td> <td>x 2 = <u>28</u></td> </tr> <tr> <td>FAC species <u>52</u></td> <td>x 3 = <u>156</u></td> </tr> <tr> <td>FACU species <u>11</u></td> <td>x 4 = <u>44</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>80</u> (A)</td> <td><u>231</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.89</u>	Total % Cover of:	Multiply by:	OBL species <u>3</u>	x 1 = <u>3</u>	FACW species <u>14</u>	x 2 = <u>28</u>	FAC species <u>52</u>	x 3 = <u>156</u>	FACU species <u>11</u>	x 4 = <u>44</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>80</u> (A)	<u>231</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>3</u>	x 1 = <u>3</u>																	
FACW species <u>14</u>	x 2 = <u>28</u>																	
FAC species <u>52</u>	x 3 = <u>156</u>																	
FACU species <u>11</u>	x 4 = <u>44</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>80</u> (A)	<u>231</u> (B)																	
		<u>3</u> = Total Cover																
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Cornus alba</u>	<u>3</u>	<u>N</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>3</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Matteuccia struthiopteris</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Solidago gigantea</u>	<u>7</u>	<u>N</u>	<u>FACW</u>															
3. <u>Equisetum hyemale</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. <u>Sonchus arvensis</u>	<u>4</u>	<u>N</u>	<u>FACU</u>															
5. <u>Populus balsamifera</u>	<u>4</u>	<u>N</u>	<u>FACW</u>															
6. <u>Carex stipata</u>	<u>3</u>	<u>N</u>	<u>OBL</u>															
7. <u>Equisetum arvense</u>	<u>3</u>	<u>N</u>	<u>FAC</u>															
8. <u>Cirsium arvense</u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
9. <u>Barbarea vulgaris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
10. <u>Elymus cf. repens</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
11. <u>Solidago canadensis</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
12. <u>Alopecurus pratensis</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
		<u>77</u> = Total Cover																
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) <b>The feature is a floodplain wet meadow dominated by ostrich fern at the sample plot.</b>																		

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
☒ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>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 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: wasc1033e\_w

[illegible]





wasc1033e\_w\_NE



wasc1033e\_w\_SW

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

<b>WETLAND IDENTIFICATION</b>							
Project name: Line 5 Relocation Project		Evaluator(s): EJO/JSW					
File #: wasc1033		Date of visit(s): 2020-06-05					
Location: PLSS: <u>sec 01 T045N R004W</u>		Ecological Landscape: Superior Coastal Plain					
Lat: <u>46.401713</u> Long: <u>-90.801586</u>		Watershed: LS12, Marengo River					
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>							
<b>SITE DESCRIPTION</b>							
Soils: Mapped Type(s): Udorthents, ravines and escarpments, 25 to 60 percent slopes  Field Verified: Series were not verified. Soils were observed to be sandy clay loam with redox in the wet meadow, and loamy very fine sand in the shrub-carr.		WWI Class: N/A  Wetland Type(s): PSS/PEM - Shrub-carr/Fresh (wet) meadow complex					
Hydrology: The wetland is a temporarily flooded floodplain associated with stream sasc1006.		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Wetland Size: 0.6397</td> <td style="padding: 5px;">Wetland Area Impacted 0.6397</td> </tr> <tr> <td colspan="2" style="padding: 5px;">           Vegetation:            Plant Community Description(s):            The wetland is a complex, with the wet meadow component dominated by ostrich fern, forbs, and graminoids and the shrub-carr component dominated by sandbar willow.         </td> </tr> </table>		Wetland Size: 0.6397	Wetland Area Impacted 0.6397	Vegetation: Plant Community Description(s): The wetland is a complex, with the wet meadow component dominated by ostrich fern, forbs, and graminoids and the shrub-carr component dominated by sandbar willow.	
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**SITE MAP**



**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	N	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	Y	Supports or provides habitat for endangered, threatened or special concern species
7	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
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	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	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			<b>Fish and Aquatic Life Habitat</b>
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	N	N	Vegetation is inundated in spring
SP			<b>Shoreline Protection</b>
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			<b>Storm and Floodwater Storage</b>
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	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	Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			<b>Water Quality Protection</b>
1	N	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	N	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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

FA-2: minnows and aquatic invertebrates were observed in the associated stream. The wetland is surrounded by upland forest; together, the wetland and forest provide variable structure for wildlife.

SP-2: The wetland is a floodplain associated with a perennial stream that has sandy soils and fluctuating water levels.

SP-3: The feature has dense, persistent vegetation throughout.

ST-2: Water is largely supplied by the associated perennial stream through floodplain hydrology.

WQ-8: The feature may also obtain some stormwater runoff from the nearby crop fields.

**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]

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input checked="" type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input checked="" type="checkbox"/>	All strata present and good assemblage of native species <input type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input checked="" type="checkbox"/>	S3 <input type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Salix interior*			PSS	Interrupted
Matteuccia struthiopteris*			PEM	Patchy
Vitis riparia			PSS	Rare
Cornus sericea			PEM/PSS	Rare
Populus balsamifera			PEM/PSS	Rare
Solidago gigantea			PEM/PSS	Rare
Equisetum hyemale			PEM/PSS	Rare
Equisetum arvense			PEM	Barren
Sonchus arvensis			PEM	Barren
Alopecurus pratensis			PEM	Barren
Carex stipata			PEM	Barren
Cirsium arvense			PEM	Barren
Scirpus microcarpus			PEM	Barren
Arctium minus			PEM	Barren
Asclepias syriaca			PEM	Barren
Barbarea vulgaris			PEM	Barren
Elymus cf. repens			PEM	Barren
Eutrochium purpureum			PEM	Barren
Parthenocissus quinquefolia			PSS	Barren
Rumex orbiculatus			PEM	Barren
Solidago canadensis			PEM	Barren
Verbena hastata			PEM	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The feature has a diversity of native species, with some non-native weedy species present in low quantities.

### 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)
	X		L	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
	X		M	C	Polluted runoff
					Pond construction
	X		M	C	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X		M	C	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
	X		L	C	Sediment input
	X		L	C	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	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 feature is near an agricultural field and a road. The presence of non-native weedy and invasive species may threaten the floristic integrity of 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	The feature has a diversity of native species, with non-native weedy species also present.
Human Use Values	The wetland is located on private land.
Wildlife Habitat	The wetland is surrounded by upland forest and is associated with a perennial stream; together, the wetland and forest provide variable structure for wildlife.
Fish and Aquatic Life Habitat	Minnows and aquatic invertebrates were observed in the stream associated with the wetland.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is a floodplain and likely receives significant flood and stormwater at times.
Water Quality Protection	The wetland has dense, persistent vegetation and is intact.
Groundwater Processes	The wetland primarily exhibits recharge 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.	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: Ashland Sampling Date: 2020-06-05  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1033\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 01 T045N R004W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): None Slope (%): 8-15%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.401680 Long: -90.801760 Datum: WGS84  
 Soil Map Unit Name: Udorthents, ravines and escarpments, 25 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 on a steep, east-facing slope dominated by northern white cedar.</u>	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No primary indicators of wetland hydrology were observed.</u>		

**VEGETATION** – Use scientific names of plants.

Sampling Point: wasc1033\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Thuja occidentalis</i></u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>90</u> = Total Cover																
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> <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>90</u></td> <td>x 2 = <u>180</u></td> </tr> <tr> <td>FAC species <u>2</u></td> <td>x 3 = <u>6</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>92</u> (A)</td> <td><u>186</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.02</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>90</u>	x 2 = <u>180</u>	FAC species <u>2</u>	x 3 = <u>6</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>92</u> (A)	<u>186</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>90</u>	x 2 = <u>180</u>																	
FAC species <u>2</u>	x 3 = <u>6</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>92</u> (A)	<u>186</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Equisetum arvense</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> 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>2</u> = Total Cover																
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) The sample plot is located on a steep slope dominated by northern white cedar.																		

## SOIL

Sampling Point: wasc1033\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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 indicators of hydric soil were observed.





wasc1033\_u\_E



wasc1033\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1072f\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 06 T045N R003W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.400074 Long: -90.797626 Datum: WGS84  
 Soil Map Unit Name: Udorthents, ravines and escarpments, 25 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 _____	<b>Is the Sampled Area within a Wetland?</b> 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 wetland is hardwood swamp downslope from a corn field. The wetland feature is dominated by fringed sedge.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <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)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>20</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>18</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: The hydrologic regime is saturated. A water table was observed at 20 inches and saturation at 18.		

**VEGETATION – Use scientific names of plants.**

 Sampling Point: was1072f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus nigra</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>10</u> (A)  Total Number of Dominant Species Across All Strata: <u>10</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Ulmus americana</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
4. <u>Populus tremuloides</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u>Betula alleghaniensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>80</u> = Total Cover				<b>Prevalence Index worksheet:</b> <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>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>95</u></td> <td>x 2 = <u>190</u></td> </tr> <tr> <td>FAC species <u>50</u></td> <td>x 3 = <u>150</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>195</u> (A)</td> <td><u>405</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.076923076923077</u>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>95</u>	x 2 = <u>190</u>	FAC species <u>50</u>	x 3 = <u>150</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>195</u> (A)	<u>405</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>45</u>	x 1 = <u>45</u>																	
FACW species <u>95</u>	x 2 = <u>190</u>																	
FAC species <u>50</u>	x 3 = <u>150</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>195</u> (A)	<u>405</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Ilex verticillata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>20</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Carex crinita</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Cornus alba</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Equisetum pratense</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
4. <u>Solidago gigantea</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
5. <u>Athyrium angustum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
6. <u>Scirpus microcarpus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
7. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
8. <u>Fragaria virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
9. <u>Waldsteinia fragarioides</u>	<u>5</u>	<u>N</u>	_____															
10. <u>Ranunculus acris</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>100</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u> )																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is fairly representative of the wetland feature. The drier areas have less cover of fringed sedge.																		

## SOIL

Sampling Point: wasa1072f\_w

[illegible]





wasal072f\_w\_NW



wasal072f\_w\_SE



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

<b>WETLAND IDENTIFICATION</b>			
Project name: Line 5 Relocation Project		Evaluator(s): SBR/DGL	
File #: wasa1072		Date of visit(s): 2020-06-09	
Location: PLSS: <u>sec 06 T045N R003W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.400077</u> Long: <u>-90.797629</u>		Watershed: LS12, Marengo River	
County: <u>Ashland</u> Town/City/Village: <u>Ashland town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Udorthents, ravines and escarpments, 25 to 60 percent slopes		WWI Class: N/A	
Field Verified: Soils were not field verified. Soils were a reduced silty loam throughout the profile.		Wetland Type(s): PFO - hardwood swamp	
		Wetland Size: 0.0709	Wetland Area Impacted 0.0709
Hydrology: They hydrologic regime is saturated. The main source of hydrology is surface water.		Vegetation: Plant Community Description(s): The wetland is a hardwood swamp dominated by black ash and red maple in the canopy. The understory is dominated by fringed sedge in some places and sensitive fern in others.	

**SITE MAP**

**SECTION 1: Functional Value Assessment**

HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
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	N	N	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y	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	N	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	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			<b>Fish and Aquatic Life Habitat</b>
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			<b>Shoreline Protection</b>
1	Y	Y	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	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			<b>Storm and Floodwater Storage</b>
1	Y	Y	Basin wetland, constricted outlet, has through-flow or 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			<b>Water Quality Protection</b>
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or 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	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	Y	Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	N	N	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



WH-2: The wetland has 3 strata present.

WH-10/FA-2/4: There is standing water present in parts of the wetland that could provide aquatic habitat.

SP-1/ST-1/WQ-4: The wetland flows into a stream.

SP-3/ST-3/WQ-5: There is dense woody and herbaceous vegetation.

ST-5/WQ-7: Runoff from an agriculture field is a major source of hydrology.

**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]

## SECTION 2: Floristic Integrity

### Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50% <input type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input type="checkbox"/>	<10% <input checked="" type="checkbox"/>
Strata	Missing stratum(a) <input type="checkbox"/> or bare due to invasive species	All strata present but reduced native species <input type="checkbox"/>	All strata present and good assemblage of native species <input checked="" type="checkbox"/>	All strata present, conservative species represented <input type="checkbox"/>
NHI plant community ranking	S4 <input type="checkbox"/>	S3 <input checked="" type="checkbox"/>	S2 <input type="checkbox"/>	S1-S2 (S2 high quality) <input type="checkbox"/>
Relative frequency of plant community in watershed	Abundant <input type="checkbox"/>	Common <input checked="" type="checkbox"/>	Uncommon <input type="checkbox"/>	Rare <input type="checkbox"/>
FQI (optional)	<13 <input type="checkbox"/>	13-23 <input type="checkbox"/>	23-32 <input type="checkbox"/>	>32 <input type="checkbox"/>
Mean C (optional)	<2.4 <input type="checkbox"/>	2.4-4.2 <input type="checkbox"/>	4.3-4.7 <input type="checkbox"/>	>4.7 <input type="checkbox"/>

\*Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Carex crinita*			PFO	Patchy
Onoclea sensibilis*			PFO	Patchy
Fraxinus nigra*			PFO	Patchy
Ulmus americana*			PFO	Patchy
Acer rubrum			PFO	Rare
Betula alleghaniensis			PFO	Rare
Ilex verticillata*			PFO	Rare
Equisetum pratense			PFO	Rare
Acer saccharum			PFO	Rare
Cornus alba			PFO	Rare
Impatiens capensis			PFO	Rare
Juncus effusus			PFO	Rare
Poa pratensis			PFO	Rare
Populus tremuloides			PFO	Rare
Rhamnus cathartica			PFO	Rare
Athyrium filix-femina			PFO	Barren
Ribes cf. americanum			PFO	Barren
Scirpus microcarpus			PFO	Barren
Solidago gigantea			PFO	Barren
Agrimonia gryposepala			PFO	Barren
Fragaria virginiana			PFO	Barren
Ranunculus acris			PFO	Barren
Ranunculus acris			PFO	Barren

### SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Floristic integrity is average based on the lack of invasive species dominance and the presence of three strata.

### 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
X	X		H	C	Polluted runoff
					Pond construction
	X		H	C	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
	X		L	UC	Sediment input
	X		L	UC	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	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 downslope from an agriculture field planted with corn. A small amount of invasive species are 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	Dense vegetation in multiple strata and a decent assemblage of native species.
Human Use Values	The wetland is located near a corn field on private land.
Wildlife Habitat	The wetland is a hardwood swamp with multiple strata and loosely connected to other forested habitat.
Fish and Aquatic Life Habitat	The wetland has small areas of water present but the pools are isolated.
Shoreline Protection	Dense woody vegetation helps prevent erosion on the banks of the waterbody.
Flood and Stormwater Storage	The wetland does not likely hold a lot of water before overflow.
Water Quality Protection	The wetland is relatively deep and likely discharges into the associated stream.
Groundwater Processes	The wetland does not appear to influence groundwater processes.

## 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: Ashland Sampling Date: 2020-06-09  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1072\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 06 T045N R003W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): None Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.399909 Long: -90.797697 Datum: WGS84  
 Soil Map Unit Name: Udorthents, ravines and escarpments, 25 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"/>	<b>Is the Sampled Area within a Wetland?</b> 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 is located up slope from the wetland on high ground between two wetland features. Shared upland point with was1073f.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators</b> (minimum of one is required; check all that apply)		<b>Secondary Indicators</b> (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)
<b>Field Observations:</b> 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)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		



**VEGETATION** – Use scientific names of plants.

Sampling Point: was1072\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. <u>Populus tremuloides</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Amelanchier sp</u>	<u>5</u>	<u>Y</u>	_____	<b>Prevalence Index worksheet:</b> <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>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>24</u></td> <td>x 3 = <u>72</u></td> </tr> <tr> <td>FACU species <u>55</u></td> <td>x 4 = <u>220</u></td> </tr> <tr> <td>UPL species <u>25</u></td> <td>x 5 = <u>125</u></td> </tr> <tr> <td>Column Totals: <u>119</u> (A)</td> <td><u>447</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.76</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>24</u>	x 3 = <u>72</u>	FACU species <u>55</u>	x 4 = <u>220</u>	UPL species <u>25</u>	x 5 = <u>125</u>	Column Totals: <u>119</u> (A)	<u>447</u> (B)
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Column Totals: <u>119</u> (A)	<u>447</u> (B)																	
2. <u>Corylus cornuta</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Populus tremuloides</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>15</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Poa pratensis</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Phalaris arundinacea</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Fragaria virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
4. <u>Pteridium aquilinum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u>Apocynum androsaemifolium</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
6. <u>Leucanthemum vulgare</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
7. <u>Asclepias syriaca</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
8. <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
9. <u>Populus tremuloides</u>	<u>4</u>	<u>N</u>	<u>FAC</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>99</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) <b>The sample point is fairly representative of the upland area.</b>																		

## SOIL

Sampling Point: wasa1072\_u

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

[illegible]

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR R,</b>
<input type="checkbox"/> Histic Epipedon (A2)	<b>MLRA 149B)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
<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) ( <b>LRR R, MLRA 149B)</b>	

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 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)

<sup>3</sup>Indicators 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 red soil with no observed redox.





wasal072\_u\_N



wasal072\_u\_W