

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1065e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.586072 Long: -90.861226 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 cattails, red-tinged bulrush, and stalk-grain sedge. The feature is a linear depression within a ditch, which is part of a lumber yard. Stacked logs were observed adjacent to 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 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 located within a ditch. A narrow channel is visible in parts of the wetland.		

Sampling Point: wasc1065e\_w

Tree Stratum (Plot size: <u>30</u> )		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		<u>0</u>	= Total Cover	
Sapling/Shrub Stratum (Plot size: <u>15</u> )		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Salix bebbiana</u>	<u>6</u>	<u>Y</u>	<u>FACW</u>
2.	<u>Lonicera X bella</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3.				
4.				
5.				
6.				
7.				
		<u>11</u>	= Total Cover	
Herb Stratum (Plot size: <u>5</u> )		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Scirpus microcarpus</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>
2.	<u>Typha sp.</u>	<u>13</u>	<u>Y</u>	<u>OBL</u>
3.	<u>Carex stipata</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>
4.	<u>Helianthus giganteus</u>	<u>7</u>	<u>N</u>	<u>FACW</u>
5.	<u>Symphyotrichum lanceolatum</u>	<u>6</u>	<u>N</u>	<u>FACW</u>
6.	<u>Symphyotrichum puniceum</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
7.	<u>Rosa cf. acicularis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
8.	<u>Lysimachia ciliata</u>	<u>4</u>	<u>N</u>	<u>FACW</u>
9.	<u>Equisetum arvense</u>	<u>3</u>	<u>N</u>	<u>FAC</u>
10.				
11.				
12.				
		<u>68</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30</u> )		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
		<u>0</u>	= Total Cover	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>43</u>	x 1 = <u>43</u>
FACW species <u>23</u>	x 2 = <u>46</u>
FAC species <u>3</u>	x 3 = <u>9</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>79</u> (A)	<u>138</u> (B)

Prevalence Index = B/A = 1.75

**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

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

The feature is a wet meadow dominated by cattails, red-tinged bulrush, and stalk-grain sedge. Reed canary grass is dominant in other parts of the wetland outside of the sample plot. The wetland is adjacent to stacked logs along the southwest edge of the wetland. Sparsely scattered shrubs (willows, dogwoods) occur throughout the wetland.



## SOIL

Sampling Point: wasc1065e\_w

[illegible]



wasc1065e\_w\_NW



wasc1065e\_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 #: wasc1065		Date of visit(s): 2020-06-11	
Location: PLSS: <u>sec 03 T047N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.586068</u> Long: <u>-90.861221</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Ashland city</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Udorthents and Udipsamments, cut or fill		WWI Class: N/A	
Field Verified: Series were not verified. Soils were not sampled due to the proximity of the wetland to an occupied structure. Soils are assumed to be hydric based on the wetland's hydrology and dominance of hydrophytic vegetation.		Wetland Type(s): PEM-Fresh (wet) meadow	
Hydrology: The feature is a seasonally saturated depression located within a ditch. A narrow channel is visible in parts of the wetland.		Wetland Size: 0.2239	Wetland Area Impacted 0.2239
		Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by cattails, red-tinge bulrush, and stalk-grain sedge. Reed canary grass is dominant in parts of the wetland. The wetland is adjacent to stacked logs along the southwest edge of the wetland. Sparsely scattered shrubs (shrub-willows, dogwoods) occur throughout 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	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	N	N	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	N	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	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 which receives stormwater from surrounding gravel lots.  
WQ-5: The wetland is densely vegetated to provide some stormwater filtration.

**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 checked="" type="checkbox"/>	20-50% <input type="checkbox"/>	10-20% <input type="checkbox"/>	<10% <input type="checkbox"/>
Strata	Missing stratum(a) <input checked="" 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 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)
Phalaris arundinacea*			PEM	Rare
Typha sp.*			PEM	Rare
Scirpus microcarpus*			PEM	Rare
Carex stipata*			PEM	Rare
Carex stricta*			PEM	Rare
Cornus sericea			PEM	Rare
Helianthus giganteus			PEM	Rare
Salix bebbiana			PEM	Rare
Salix petiolaris*			PEM	Rare
Symphyotrichum lanceolatum			PEM	Rare
Lonicera x bella			PEM	Rare
Rosa cf. acicularis			PEM	Rare
Symphyotrichum puniceum			PEM	Rare
Lysimachia ciliata			PEM	Barren
Acer negundo			PEM	Barren
Equisetum arvense			PEM	Barren
Tanacetum vulgare			PEM	Barren
Cirsium arvense			PEM	Barren
Fraxinus nigra			PEM	Barren
Leucanthemum vulgare			PEM	Barren
Rhamnus cathartica			PEM	Barren

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

The wetland is dominated by native species in areas, and non-native species in others, giving the wetland as a whole a 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
X	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
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
X	X		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 ditch between two gravel driveways; fill may have been used to construct the the driveways. The wetland has a high abundance of invasive species that have degraded its 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 has a high abundance of invasive species and generally low native species diversity.
Human Use Values	The wetland is on private land.
Wildlife Habitat	The wetland mainly has a single stratum; shrub-willows in the wetland may provide an early season floral resource for pollinators.
Fish and Aquatic Life Habitat	No standing water was observed in the wetland at the time of the survey, but the wetland may support aquatic life during periods of inundation.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is a depression in a relatively flat landscape and receives stormwater from the surrounding landscape.
Water Quality Protection	The wetland has dense, persistent vegetation to provide some filtration of stormwater 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: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1065\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.586121 Long: -90.861195 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 a gravel road. Non-native species are abundant in the area.	

## 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: wasc1065\_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>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</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>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>365</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>15</u>	x 2 = <u>30</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>100</u> (A)	<u>365</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>20</u>	x 3 = <u>60</u>																	
FACU species <u>50</u>	x 4 = <u>200</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>100</u> (A)	<u>365</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>Tanacetum vulgare</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>Equisetum arvense</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Solidago canadensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
4. <u>Asclepias syriaca</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
5. <u>Poa pratensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
6. <u>Lysimachia ciliata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
7. <u>Hypericum perforatum</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
8. <u>Solidago gigantea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
9. <u>Cirsium arvense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
10. <u>Symphotrichum lanceolatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>100</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 plot is located near a gravel road.</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: wasc1065\_u

[illegible]





wasc1065\_u\_N



wasc1065\_u\_SE

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1066e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.585686 Long: -90.859500 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 cattails and reed canary grass. The feature is a depression located in a ditch within a retired lumber yard. A mulch pile is located to the southeast of the wetland and a structure to the northwest. The wetland eventually abuts a retired lumber processing facility to the west.	

## 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? (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 located within a ditch. At the time of survey, standing water was observed in parts of the wetland outside of the sample plot.		



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

 Sampling Point: wasc1066e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer negundo</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>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>5</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>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</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>75</u> (A)</td> <td><u>115</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.5333333333333334</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>75</u> (A)	<u>115</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>30</u>	x 2 = <u>60</u>																	
FAC species <u>5</u>	x 3 = <u>15</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>75</u> (A)	<u>115</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>Typha sp.</u>	<u>40</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>Phalaris arundinacea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>70</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 <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The feature is a wet meadow dominated by cattails and reed canary grass. Sparsely scattered shrubs and trees (shrub-willows, dogwoods, and Boxelder) are present in the wetland outside of the sample plot.																		

## SOIL

Sampling Point: wasc1066e\_w

[illegible]





wasc1066e\_w\_NE



wasc1066e\_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 #: wasc1066	Date of visit(s): 2020-06-11		
Location: PLSS: <u>sec 03 T047N R004W</u>	Ecological Landscape: Superior Coastal Plain		
Lat: <u>46.585695</u> Long: <u>-90.859504</u>	Watershed: LS08, Fish Creek		
County: <u>Ashland</u> Town/City/Village: <u>Ashland city</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Udorthents and Udipsamments, cut or fill  Field Verified: Series were not verified. Soils were not sampled due to the proximity of the wetland to occupied structures. The soils are assumed to be hydric based on 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: 0.2166</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted 0.2166</td> </tr> </table>	Wetland Size: 0.2166	Wetland Area Impacted 0.2166
Wetland Size: 0.2166	Wetland Area Impacted 0.2166		
Hydrology: The feature is a saturated depression located within a ditch. At the time of survey, Standing water was observed in parts of the wetland outside of the sample plot.	Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by cattails and reed canary grass with sparsely scattered shrubs and trees.		

**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	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	N	N	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	N	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	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	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-5, WQ-6: the wetland has dense areas of reed canary grass which may suggest excess nutrients  
ST-5: The wetland is a depression which receives stormwater from surrounding gravel lots.  
WH-10/FA-2: Standing water may provide habitat for aquatic species.

### Wildlife Habitat and Species Observation (including amphibians and reptiles)

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

Observed	Potential	Species/Habitat/Comments
	Y	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			M	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
X	X		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
					Residential land use
X	X		M	C	Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

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

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

#### SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is located in an old lumber yard and near a retired lumber processing facility. A small wooden bridges crosses over part of the wetland. The wetland drains into a culvert. Invasive species dominate 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 non-native and invasive species with low overall diversity.
Human Use Values	The wetland is on private land.
Wildlife Habitat	The wetland mainly has a single stratum; shrub-willows in the wetland may provide an early season floral resource for pollinators; shrubs and trees may provide nesting habitat for birds.
Fish and Aquatic Life Habitat	The wetland may support aquatic life in areas of standing water.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is a depression in a relatively flat landscape and receives stormwater from the surrounding landscape.
Water Quality Protection	The wetland has dense, persistent vegetation to provide some filtration of stormwater runoff from adjacent roads.
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: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1066\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.585592 Long: -90.859352 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 disturbed location near a gravel road. The area is dominated by Canada goldenrod.	

## 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: wasc1066\_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. _____	_____	_____	_____															
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>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>350</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.6842105263157894</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>350</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>5</u>	x 3 = <u>15</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>95</u> (A)	<u>350</u> (B)																	
		<u>5</u> = Total Cover																
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>5</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Solidago canadensis</u>	<u>75</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Helianthus giganteus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
3. <u>Muhlenbergia cf. glomerata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
4. <u>Fragaria virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>90</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 upland is located near a gravel road.</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: wasc1066\_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 the road and occupied structures. Soils are assumed to be non-hydric based on the landscape position and dominant vegetation.





wasc1066\_u\_S



wasc1066\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1067s\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.583527 Long: -90.858319 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 and red osier dogwood, with sparse coverage of quaking aspen in the canopy. The feature is a depression within a ditch between two gravel driveways. The feature is a part of a former lumber yard.	

## 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 saturated depression located in a ditch between two gravel driveways. 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: wasc1067s\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Populus tremuloides</i></u>	<u>15</u>	<u>Y</u>	<u>FAC</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. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>15</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>118</u></td> <td>x 2 = <u>236</u></td> </tr> <tr> <td>FAC species <u>22</u></td> <td>x 3 = <u>66</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>159</u> (A)</td> <td><u>321</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.018867924528302</u>	Total % Cover of:	Multiply by:	OBL species <u>19</u>	x 1 = <u>19</u>	FACW species <u>118</u>	x 2 = <u>236</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>159</u> (A)	<u>321</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>19</u>	x 1 = <u>19</u>																	
FACW species <u>118</u>	x 2 = <u>236</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>159</u> (A)	<u>321</u> (B)																	
<u>95</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Salix discolor</i></u>	<u>50</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 cf. eriocephala</i></u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Cornus alba</i></u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
4. <u><i>Salix lucida</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>95</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Cornus alba</i></u>	<u>17</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.														
2. <u><i>Calamagrostis canadensis</i></u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
3. <u><i>Equisetum arvense</i></u>	<u>7</u>	<u>N</u>	<u>FAC</u>															
4. <u><i>Salix petiolaris</i></u>	<u>6</u>	<u>N</u>	<u>FACW</u>															
5. <u><i>Symphotrichum puniceum</i></u>	<u>4</u>	<u>N</u>	<u>OBL</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>49</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 _____														
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 pussy willow, red osier dogwood, and heart-leaved willow. Canada bluejoint and red osier dogwood are dominant in the ground layer. Quaking aspen is sparse in the canopy.

## SOIL

Sampling Point: wasc1067s\_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 ditch between two gravel driveways. The soils are assumed to be hydric based on the hydrology and dominance of hydrophytic vegetation.



wasc1067s\_w\_NW



wasc1067s\_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 #: wasc1067	Date of visit(s): 2020-06-11	
Location: PLSS: <u>sec 03 T047N R004W</u>	Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.583525</u> Long: <u>-90.858325</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Ashland city</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Udorthents and Udipsamments, cut or fill  Field Verified: Series were not verified. The soils were not sampled due to the location of the wetland within a ditch between two gravel driveways. 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): PSS-Shrub-carr	
	Wetland Size: 0.1739	Wetland Area Impacted 0.1739
	Vegetation: Plant Community Description(s): The feature is a shrub-carr dominated by pussy willow, red osier dogwood, and cf. Missouri willow. Canada bluejoint and red osier dogwood are dominant in the groundlayer. Quaking aspen is sparse in the wetland canopy.	
Hydrology: The feature is a saturated depression located in a ditch between two gravel driveways.		

**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	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	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	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	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 located in a ditch and likely receives stormwater from the adjacent gravel roads.  
WH-7: Wetland shrubs may provide habitat for migrating SGCN species.  
WQ-5/ST-3: The wetland is densely vegetated.  
ST-1/WQ-2: The wetland appears to be a closed depression with no culverts.  
FA-2: Standing water observed in the wetland may support aquatic life.

**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 dominance by native species, but overall species richness is low with some 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
X	X		M	C	Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
	X		M	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
					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 in a ditch between two gravel driveways; fill may have been used in their construction. The wetland has some invasive species present, which may impact 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 dominated by native shrubs, but it has a relatively low species richness and has some invasive species present
Human Use Values	The wetland is on private land.
Wildlife Habitat	Shrubs may provide nesting structure and food sources for birds. Willows provide early season flowering sources for pollinators.
Fish and Aquatic Life Habitat	Standing water in the wetland may provide habitat for aquatic life.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland appears to receive and hold stormwater from the surrounding gravel driveways.
Water Quality Protection	The wetland has dense, persistent vegetation to provide stormwater filtration.
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: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1067\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.583400 Long: -90.858305 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 gravel road. The area is dominated by non-native species.	

## 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: wasc1067\_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>1</u></td> <td>x 3 = <u>3</u></td> </tr> <tr> <td>FACU species <u>47</u></td> <td>x 4 = <u>188</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>50</u> (A)</td> <td><u>195</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.90</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>1</u>	x 3 = <u>3</u>	FACU species <u>47</u>	x 4 = <u>188</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>50</u> (A)	<u>195</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>1</u>	x 3 = <u>3</u>																	
FACU species <u>47</u>	x 4 = <u>188</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>50</u> (A)	<u>195</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>Lotus corniculatus</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>Fragaria virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
3. <u>Comptonia peregrina</u>	<u>5</u>	<u>N</u>	_____															
4. <u>Medicago lupulina</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Veronica officinalis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
6. <u>Centaurea stoebe</u>	<u>5</u>	<u>N</u>	_____															
7. <u>Carex arctata</u>	<u>3</u>	<u>N</u>	_____															
8. <u>Ambrosia artemisiifolia</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
9. <u>Salix discolor</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
10. <u>Frangula alnus</u>	<u>1</u>	<u>N</u>	<u>FAC</u>															
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 sample plot is located near a gravel road.																		

## SOIL

Sampling Point: wasc1067\_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 roadside location. Soils are assumed to be non-hydric based on the landscape position and dominant vegetation.





wasc1067\_u\_SE



wasc1067\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1068e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.584163 Long: -90.854372 Datum: WGS84  
 Soil Map Unit Name: Pickford-Badriver complex, 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 saturated wet meadow dominated by reed canary grass. The feature is a depression located in a ditch adjacent to a railroad.	

## 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>2</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 feature is a seasonally saturated depression located in a ditch between an old field and railroad. Standing water was observed at the sample point at the time of survey.		

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

 Sampling Point: wasc1068e\_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>7</u></td> <td>x 1 = <u>7</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</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>82</u> (A)</td> <td><u>157</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.9146341463414633</u>	Total % Cover of:	Multiply by:	OBL species <u>7</u>	x 1 = <u>7</u>	FACW species <u>75</u>	x 2 = <u>150</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>82</u> (A)	<u>157</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>7</u>	x 1 = <u>7</u>																	
FACW species <u>75</u>	x 2 = <u>150</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>82</u> (A)	<u>157</u> (B)																	
<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>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>Carex utriculata</u>	<u>7</u>	<u>N</u>	<u>OBL</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>82</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 reed canary grass. Sparsely scattered willow shrubs occur throughout the meadow outside of the sample plot.																		

## SOIL

Sampling Point: wasc1068e\_w

[illegible]





wasc1068e\_w\_N



wasc1068e\_w\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1068f\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.582218 Long: -90.854694 Datum: WGS84  
 Soil Map Unit Name: Pickford-Badriver complex, 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 saturated hardwood swamp dominated by quaking aspen and common buckthorn. The feature is located in a depression and connects hydrologically with a wet meadow community.	

## 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>2</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: wasc1068f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Populus tremuloides</i></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>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>35</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Rhamnus cathartica</i></u>	<u>17</u>	<u>Y</u>	<u>FAC</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>34</u></td> <td>x 1 = <u>34</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>68</u></td> <td>x 3 = <u>204</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>119</u> (A)</td> <td><u>276</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.32</u>	Total % Cover of:	Multiply by:	OBL species <u>34</u>	x 1 = <u>34</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>68</u>	x 3 = <u>204</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>119</u> (A)	<u>276</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>34</u>	x 1 = <u>34</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>68</u>	x 3 = <u>204</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>119</u> (A)	<u>276</u> (B)																	
2. <u><i>Alnus incana</i></u>	<u>7</u>	<u>Y</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>24</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Rhamnus cathartica</i></u>	<u>16</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><i>Calamagrostis canadensis</i></u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
3. <u><i>Carex lacustris</i></u>	<u>7</u>	<u>N</u>	<u>OBL</u>															
4. <u><i>Glyceria striata</i></u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
5. <u><i>Carex stipata</i></u>	<u>4</u>	<u>N</u>	<u>OBL</u>															
6. <u><i>Rubus pubescens</i></u>	<u>4</u>	<u>N</u>	<u>FACW</u>															
7. <u><i>Equisetum sylvaticum</i></u>	<u>4</u>	<u>N</u>	<u>FACW</u>															
8. <u><i>Chelone glabra</i></u>	<u>3</u>	<u>N</u>	<u>OBL</u>															
9. <u><i>Lonicera X bella</i></u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>60</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 quaking aspen in the canopy, common buckthorn and speckled alder in the shrub layer, and Canada bluejoint and common buckthorn in the ground layer. Uptight sedge ( <i>Carex stricta</i> ) is dominant in the ground layer in other parts of the wetland outside the sample plot.																		

## SOIL

Sampling Point: wasc1068f\_w

[illegible]





wasc1068f\_w\_N



wasc1068f\_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 #: wasc1068		Date of visit(s): 2020-06-11	
Location: PLSS: <u>sec 03 T047N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.582233</u> Long: <u>-90.854733</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Ashland city</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Pickford-Badriver complex, 0 to 3 percent slopes, Udorthents and Udipsamments, cut or fill Field Verified: Series were not verified. The soils were observed to be clay loam, with a depleted matrix below 6 inches.		WWI Class: S3/E1Kr, T3/S3Kr	
		Wetland Type(s): PFO - Hardwood swamp / PEM - Fresh (wet) meadow	
		Wetland Size: 4.9366	Wetland Area Impacted 4.9366
Hydrology: The feature is a saturated depression. Standing water was observed in the wetland at the time of survey, but not at the sample point.		Vegetation: Plant Community Description(s): The hardwood swamp is dominated by quaking aspen in the canopy, common buckthorn and speckled alder in the shrub layer, and Canada bluejoint and common buckthorn in the groundlayer. The wet meadow is dominated by reed canary grass with sparse coverage of shrub-willows.	

**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	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	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	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	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	N	Basin wetland <u>or</u> 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	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 located in a depression and likely receives stormwater from the surrounding landscape.  
WH-6: The wetland has variable microtopography.  
WH-7: The wetland may provide habitat for migrating SGCN species at times.  
ST-3/WQ-5: Dense vegetation can provide filtration of stormwater runoff.

### 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	Common yellowthroat observed in wetland; potential for other birds
	Y	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 checked="" type="checkbox"/>	20-50% <input 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 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*			PFO/PEM	Patchy
Populus tremuloides*			PFO	Patchy
Rhamnus cathartica			PFO	Rare
Rhamnus cathartica			PFO	Rare
Carex lacustris			PFO/PEM	Rare
Alnus incana			PFO	Rare
Calamagrostis canadensis			PFO/PEM	Rare
Carex stricta			PEM	Rare
Glyceria striata			PFO	Rare
Caltha palustris			PFO/PEM	Barren
Carex stipata			PFO/PEM	Barren
Equisetum sylvaticum			PFO	Barren
Rubus pubescens			PFO	Barren
Sium suave			PEM	Barren
Chelone glabra			PFO	Barren
Spiraea alba			PFO/PEM	Barren
Impatiens capensis			PFO	Barren
Lonicera x bella			PFO	Barren
Cicuta maculata			PEM	Barren
Comarum palustre			PEM	Barren
Iris versicolor			PEM	Barren

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

The feature has some areas of a higher floristic integrity, where native species are dominant, but as a whole, the wetland has a high 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
X	X		M	C	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		M	C	Roads or railroad
X	X		M	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
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)

Parts of the wetland are near a railroad; fill may have been used to construct the railroad. A utility line crosses above 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 is dominated by invasive species in parts of the wetland, but overall has fair native species diversity.
Human Use Values	
Wildlife Habitat	The wetland is a complex with multiple strata.
Fish and Aquatic Life Habitat	Standing water in the wetland may support aquatic life at times.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is a depression that likely receives stormwater from the surrounding landscape; the wetland is moderately sized (>2 acres).
Water Quality Protection	The wetland has dense, persistent vegetation to filter stormwater from adjacent roads/upland areas.
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: 2020-06-12  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1068e\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.584453 Long: -90.854422 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 dominated by herbaceous perennials, including Canada anemone 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: wasc1068e\_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. _____	_____	_____	_____															
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>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>45</u></td> <td>x 4 = <u>180</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>295</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.1052631578947367</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>45</u>	x 4 = <u>180</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>95</u> (A)	<u>295</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>25</u>	x 2 = <u>50</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>45</u>	x 4 = <u>180</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>95</u> (A)	<u>295</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>Pteridium aquilinum</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>Anemone canadensis</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Rubus idaeus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
4. <u>Carex pellita</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
5. <u>Tanacetum vulgare</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u>Prunus americana</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
7. <u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
8. <u>Phleum pratense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
9. <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
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.) <b>The sample plot is located in a clearing with very little woody vegetation.</b>																		

## SOIL

Sampling Point: wasc1068e\_u

[illegible]





wasc1068e\_u\_N



wasc1068e\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1068f\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.582146 Long: -90.855061 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 disturbed field dominated by non-native grasses. Piles of concrete rubble are scattered throughout the area.	

## 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? (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: wasc1068f\_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>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</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>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>95</u> (A)</td> <td><u>360</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.789473684210526</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>75</u>	x 4 = <u>300</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>360</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>75</u>	x 4 = <u>300</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>95</u> (A)	<u>360</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Populus tremuloides</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>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>Solidago canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Cirsium arvense</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Lotus corniculatus</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u>Rubus idaeus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
6. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
7. <u>Vicia americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>90</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 plot is located in a field dominated by non-native grasses.</b>																		



## SOIL

Sampling Point: wasc1068f\_u

[illegible]



wasc1068f\_u\_N



wasc1068f\_u\_SW



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1043e\_w  
 Investigator(s): DMP/AGG/KDF Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.585627 Long: -90.859107 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 that is located within a roadside ditch. There is a large mulch pile located on the eastern boundary of the feature. The surrounding landscape has been very disturbed by a historic logging operation.	

## 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 hydrologic regime is seasonally saturated. There are two inches of standing water within the center of the ditch.		

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

 Sampling Point: wasd1043e\_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>26</u></td> <td>x 1 = <u>26</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</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>45</u> (A)</td> <td><u>68</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.5111111111111111</u>	Total % Cover of:	Multiply by:	OBL species <u>26</u>	x 1 = <u>26</u>	FACW species <u>15</u>	x 2 = <u>30</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>45</u> (A)	<u>68</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>26</u>	x 1 = <u>26</u>																	
FACW species <u>15</u>	x 2 = <u>30</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>45</u> (A)	<u>68</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Rhus typhina</u>	<u>5</u>	<u>Y</u>	_____															
2. <u>Salix discolor</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Acer negundo</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>12</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Typha sp.</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Solidago gigantea</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Barbarea vulgaris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
4. <u>Iris versicolor</u>	<u>1</u>	<u>N</u>	<u>OBL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>38</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 plot vegetation is representative of the ditch.</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: wasd1043e\_w

[illegible]





wasd1043e\_w\_E



wasd1043e\_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/KDF	
File #: wasd1043		Date of visit(s): 2020-06-11	
Location: PLSS: <u>sec 03 T047N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.585677</u> Long: <u>-90.859115</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Ashland city</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Udorthents and Udipsamments, cut or fill  Field Verified: The soils were not verified. The soil profile was not sampled due to the feature being located within a roadside ditch. The soils are assumed to be hydric based on the presence of hydrophytic vegetation and hydrologic indicators.		WWI Class: N/A  Wetland Type(s): PEM - Wet meadow	
Hydrology: The hydrologic regime is seasonally saturated. There was two inches of standing water within the center of the ditch.		Wetland Size: 0.0291	Wetland Area Impacted 0.0291
		Vegetation: Plant Community Description(s): The wetland is within a ditch and is dominated by giant goldenrod, cattails and staghorn sumac.	

**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	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	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	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, -10: There is potential for amphibians, and birds observed in the wetland.  
FA-2, -4: Standing water present at the time of survey.  
ST-3/WQ-5: The wetland has dense vegetation that can filter stormwater

**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
X	X		M	C	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
					Agriculture – hay
					Agriculture – pasture
X	X		M	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		M	C	Cover of non-native and/or invasive species
					Residential land use
X	X		H	C	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 an artificial ditch adjacent to a gravel road. It is located within a lumber mill property. There are buildings, heavy equipment parking areas, large mounds of fill, and a trash dump nearby.

## 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	Disturbance-adapted species are dominant, and non-native species cover is moderate. Total diversity is low.
Human Use Values	Private property.
Wildlife Habitat	Potential for species adapted to human disturbance.
Fish and Aquatic Life Habitat	There is standing water that could provide habitat for aquatic species such as amphibians and invertebrates.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is small wetland with low storage capacity.
Water Quality Protection	The wetland is small but can provide filtration of runoff from adjacent road and disturbed upland areas.
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: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1043\_u  
 Investigator(s): KDF/AGG Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): Convex Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.585665 Long: -90.858880 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 is highly disturbed with wood piles and wood chips present throughout.</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: wasd1043\_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>1</u></td> <td>x 3 = <u>3</u></td> </tr> <tr> <td>FACU species <u>86</u></td> <td>x 4 = <u>344</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>87</u> (A)</td> <td><u>347</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.9885057471264367</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>1</u>	x 3 = <u>3</u>	FACU species <u>86</u>	x 4 = <u>344</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>87</u> (A)	<u>347</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>1</u>	x 3 = <u>3</u>																	
FACU species <u>86</u>	x 4 = <u>344</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>87</u> (A)	<u>347</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>Lotus corniculatus</u>	<u>75</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>Solidago altissima</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
3. <u>Trifolium hybridum</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
4. <u>Tanacetum vulgare</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
5. <u>Cirsium arvense</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. <u>Elymus repens</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
7. <u>Acer negundo</u>	<u>1</u>	<u>N</u>	<u>FAC</u>															
8. <u>Centaurea stoebe</u>	<u>1</u>	<u>N</u>	_____															
9. <u>Taraxacum officinale</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
10. <u>Sonchus asper</u>	<u>1</u>	<u>N</u>	<u>FACU</u>															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>88</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 upland dominated by bird's-foot trefoil. The area is comprised of disturbance-oriented species, with many non-native and invasive species. There are bare patches within the area, covered by rocks and wood chips.																		

## SOIL

Sampling Point: wasd1043\_u

[illegible]





wasd1043\_u\_NE



wasd1043\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1044e\_w  
 Investigator(s): KDF/AGG Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.582461 Long: -90.857282 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 wetland complex which includes a forested component. The complex is located within a logging mill adjacent to a railroad track.	

## 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>24</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 semi-permanently flooded with recharge hydrology. Standing water is present throughout the feature, with vegetation growing on floating mats. A high water table and saturation are assumed, but a soil pit was not dug due to close proximity to a railroad and potential buried utilities.		



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

 Sampling Point: wasd1044e\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Salix cf. nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</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>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Populus tremuloides</u>	<u>5</u>	<u>Y</u>	<u>FAC</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>120</u></td> <td>x 1 = <u>120</u></td> </tr> <tr> <td>FACW species <u>13</u></td> <td>x 2 = <u>26</u></td> </tr> <tr> <td>FAC species <u>7</u></td> <td>x 3 = <u>21</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>145</u> (A)</td> <td><u>187</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.29</u>	Total % Cover of:	Multiply by:	OBL species <u>120</u>	x 1 = <u>120</u>	FACW species <u>13</u>	x 2 = <u>26</u>	FAC species <u>7</u>	x 3 = <u>21</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>145</u> (A)	<u>187</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>120</u>	x 1 = <u>120</u>																	
FACW species <u>13</u>	x 2 = <u>26</u>																	
FAC species <u>7</u>	x 3 = <u>21</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>145</u> (A)	<u>187</u> (B)																	
2. <u>Salix discolor</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Crataegus sp.</u>	<u>2</u>	<u>N</u>	_____															
4. <u>Lonicera cf. morrowii</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>14</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Carex pseudocyperus</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)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Typha sp.</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Comarum palustre</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
4. <u>Lemna minor</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
5. <u>Persicaria amphibia</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
6. <u>Cornus alba</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
7. <u>Carex lacustris</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
8. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
9. <u>Carex atherodes</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
10. <u>Calamagrostis canadensis</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
11. <u>Spiraea alba</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
12. <u>Solidago gigantea</u>	<u>1</u>	<u>N</u>	<u>FACW</u>															
		<u>123</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 vegetation is representative of a shallow marsh dominated by cattails and cypress-like sedge. Vegetation within the feature is on a floating mat. The sample plot was taken on the edge of the feature. Shrub-sized pussy willows are present within the center of the feature and along the margins but coverage does not constitute a a shrub community.																		

## SOIL

Sampling Point: wasd1044e\_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 proximity of a railroad track with potential for buried utilities. The soils are assumed to be hydric based on hydrophytic vegetation and wetland hydrology.





wasd1044e\_w\_E



wasd1044e\_w\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1044f\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.582690 Long: -90.857262 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 is part of a larger shallow marsh complex. The hardwood swamp is located along the margin of the marsh. The wetland as a whole is located in a retired lumber yard. Roads surround the feature and there are railroad tracks just west of 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 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 semi-permanently flooded. There is standing water throughout the feature, and there is a floating mat just to the south in the shallow marsh.		

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

 Sampling Point: wasd1044f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Populus tremuloides</u>	<u>20</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>Salix nigra</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Acer negundo</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>40</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>23</u></td> <td>x 2 = <u>46</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</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>93</u> (A)</td> <td><u>166</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.7849462365591398</u>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>23</u>	x 2 = <u>46</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>93</u> (A)	<u>166</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>45</u>	x 1 = <u>45</u>																	
FACW species <u>23</u>	x 2 = <u>46</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>93</u> (A)	<u>166</u> (B)																	
<u>17</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Cornus alba</u>	<u>10</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>Salix petiolaris</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Spiraea alba</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>17</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Carex lacustris</u>	<u>25</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 <input type="checkbox"/>														
2. <u>Calamagrostis canadensis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
3. <u>Equisetum sylvaticum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
4. <u>Equisetum pratense</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
5. <u>Impatiens capensis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>36</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 plot vegetation is representative of the hardwood swamp community. The canopy is dominated by black willow and quaking aspen, while the understory is dominated by red osier dogwood and meadow willow. The herbaceous layer is dominated by lake sedge and Canada bluejoint.

## SOIL

Sampling Point: wasd1044f\_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 presence of hydrophytic vegetation and hydrologic indicators.





wasd1044f\_w\_S



wasd1044f\_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/AGG/KDF		
File #: wasd1044	Date of visit(s): 2020-06-11		
Location: PLSS: <u>sec 03 T047N R004W</u>	Ecological Landscape: Superior Coastal Plain		
Lat: <u>46.582564</u> Long: <u>-90.857269</u>	Watershed: LS08, Fish Creek		
County: <u>Ashland</u> Town/City/Village: <u>Ashland city</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Udorthents and Udipsamments, cut or fill  Field Verified: The soils were not verified. The profile was not sampled due to the wetland being located near a roadside ditch. The soils are assumed to be hydric based on the presence of hydrophytic vegetation and hydrologic indicators.	WWI Class: N/A  Wetland Type(s): PFO- Hardwood swamp / PEM - Shallow marsh		
Hydrology: The hydrologic regime is semi-permanently flooded. There was standing water throughout the feature, and there was a floating mat just to the south in the shallow marsh.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">           Wetland Size: 0.3892         </td> <td style="width: 50%; padding: 5px;">           Wetland Area Impacted 0.3892         </td> </tr> </table> Vegetation: Plant Community Description(s): The hardwood swamp community is dominated by what appears to be black willow and quaking aspen. The shallow marsh was dominated cattails and cypress-like sedge. Most of the PEM was located on a floating mat.	Wetland Size: 0.3892	Wetland Area Impacted 0.3892
Wetland Size: 0.3892	Wetland Area Impacted 0.3892		

**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	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	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	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	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	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-2: The wetland has a canopy, shrub layer and herbaceous layer.

WH-7: A few different species of birds were observed throughout the area.

WH-10: There were areas within the wetland that were inundated and they could provide habitat for various amphibians and aquatic insects.

FA-4: There were areas within the had a floating mat. It is likely that the feature inundated for most of the year.

ST-1/WQ-2: The feature occurs within depression in the landscape. We did not observe an outlet.

ST-3: The wetland has dense, persistent vegetation throughout the wet meadow.

ST-5: The feature was located within a large historic logging operation. There were many roads and buildings within the surrounding area. It is likely that non point source inputs enter the feature from the surrounding landscape.

**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 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 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>Typha</i> sp.*			PEM	Interrupted
<i>Carex pseudocyperus</i> *			PEM	Patchy
<i>Populus tremuloides</i>			PFO/PEM	Patchy
<i>Salix</i> cf. <i>nigra</i>			PFO/PEM	Rare
<i>Calamagrostis canadensis</i>			PFO/PEM	Rare
<i>Carex lacustris</i>			PFO	Rare
<i>Comarum palustre</i>			PEM	Rare
<i>Acer negundo</i>			PFO/PEM	Barren
<i>Carex atherodes</i>			PEM	Barren
<i>Cornus alba</i>			PFO/PEM	Barren
<i>Equisetum arvense</i>			PEM	Barren
<i>Lemna minor</i>			PEM	Barren
<i>Persicaria amphibia</i>			PEM	Barren
<i>Rhamnus cathartica</i>			PEM/PFO	Barren
<i>Salix discolor</i>			PEM	Barren
<i>Salix petiolaris</i>			PFO	Barren
<i>Apocynum androsaemifolium</i>			PEM	Barren
<i>Asclepias syriaca</i>			PEM	Barren
<i>Crataegus</i> sp.			PEM	Barren
<i>Equisetum pratense</i>			PFO	Barren
<i>Equisetum sylvaticum</i>			PFO	Barren
<i>Fragaria virginiana</i>			PFO	Barren
<i>Impatiens capensis</i>			PFO	Barren
<i>Lonicera</i> cf. <i>morrowii</i>			PEM	Barren
<i>Poa pratensis</i>			PEM	Barren
<i>Ribes</i> cf. <i>triste</i>			PEM	Barren
<i>Solidago altissima</i>			PEM	Barren
<i>Solidago gigantea</i>			PEM	Barren

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

The floristic integrity is moderate due to relative native diversity, but significant disturbance from the surrounding logging mill and the intrusion of non native species.

Additional species: *Spiraea alba* (Plant Communities: PFO/PEM, Abundance: Barren), *Tanacetum vulgare* (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
	X		H	C	Filling, berms (non-impounding)
					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
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
X	X		M	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		M	C	Cover of non-native and/or invasive species
					Residential land use
X	X		H	C	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 located within a historic lumber mill that appears to be somewhat active still. The feature has been significantly disturbed from the land use and there is likely non point inputs that enter the feature from the land use and the nearby roads and railroads. Non native species were common throughout the wetland and along the margins. There feature has been filled with rubble along the northeastern side.

## 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 relative native species diversity, but it has significant disturbance from the surrounding logging mill and the intrusion of non native species.
Human Use Values	
Wildlife Habitat	There is potential for mammals, birds, amphibians, and reptiles to utilize the feature. We observed white tailed deer and amphibians in a nearby wetland.
Fish and Aquatic Life Habitat	The feature was inundated and there is likely standing water throughout the feature for most of the year. It is likely that amphibians and aquatic insects utilize the feature, although we did not observe any during the survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is of moderate size and it is likely to hold a decent amount of storm water from nearby road and upland areas.
Water Quality Protection	The feature is of moderate size and it has the potential to filter stormwater runoff.
Groundwater Processes	The feature 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.	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: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasd1044\_u  
 Investigator(s): KDF/AGG Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.582211 Long: -90.856886 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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.) <b>Concrete rubble covers the upland area with vegetation growing on top. Hydrophytic vegetation is present, but the feature lacks wetland hydrology.</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 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: <b>No primary indicators of wetland hydrology were observed.</b>		

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

 Sampling Point: wasd1044\_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>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>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</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>85</u> (A)</td> <td><u>185</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.176470588235294</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>85</u> (A)	<u>185</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>75</u>	x 2 = <u>150</u>																	
FAC species <u>5</u>	x 3 = <u>15</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>85</u> (A)	<u>185</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>Phalaris arundinacea</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>Tanacetum vulgare</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
3. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
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 dominated by disturbance-oriented species. Vegetative cover is limited by remnant biomass and concrete rubble.																		

**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: wasd1044\_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 concrete rubble piles and the close proximity to a railroad. The soils are assumed to be non-hydric based on the landscape position and vegetative composition.



wasd1044\_u\_E



wasd1044\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1062f\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.584638 Long: -90.857539 Datum: WGS84  
 Soil Map Unit Name: Pickford-Badriver complex, 0 to 3 percent slopes NWI classification: PEM1C

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 hardwood swamp located within a depression in the landscape. The surrounding landscape is disturbed from a historic logging operation.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
Primary Indicators (minimum of one is required; check all that apply)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on 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 checked="" 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 checked="" 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 <input type="checkbox"/> Depth (inches): <u>3</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The hydrologic regime is seasonally saturated. The feature was inundated during the field survey.

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

 Sampling Point: wase1062f\_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>Fraxinus nigra</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> <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>16</u></td> <td>x 1 = <u>16</u></td> </tr> <tr> <td>FACW species <u>46</u></td> <td>x 2 = <u>92</u></td> </tr> <tr> <td>FAC species <u>46</u></td> <td>x 3 = <u>138</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>110</u> (A)</td> <td><u>254</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.309090909090909</u>	Total % Cover of:	Multiply by:	OBL species <u>16</u>	x 1 = <u>16</u>	FACW species <u>46</u>	x 2 = <u>92</u>	FAC species <u>46</u>	x 3 = <u>138</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>110</u> (A)	<u>254</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>16</u>	x 1 = <u>16</u>																	
FACW species <u>46</u>	x 2 = <u>92</u>																	
FAC species <u>46</u>	x 3 = <u>138</u>																	
FACU species <u>2</u>	x 4 = <u>8</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>110</u> (A)	<u>254</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u><i>Alnus incana</i></u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
2. <u><i>Rhamnus cathartica</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
3. <u><i>Acer rubrum</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
4. <u><i>Ilex verticillata</i></u>	<u>2</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 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)														
<u>44</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u><i>Carex stipata</i></u>	<u>5</u>	<u>Y</u>	<u>OBL</u>															
2. <u><i>Carex crinita</i></u>	<u>5</u>	<u>Y</u>	<u>OBL</u>															
3. <u><i>Carex gracillima</i></u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Athyrium angustum</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>Cicuta maculata</i></u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
7. <u><i>Equisetum arvense</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
8. <u><i>Glyceria striata</i></u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
9. <u><i>Onoclea sensibilis</i></u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>24</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.														
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 wetland. The canopy is dominated by quaking aspen, while the sub-canopy is dominated by speckled alder and common buckthorn. The herbaceous layer is sparse due to inundation, but fringed sedge and awl-fruited sedge are the most abundant graminoids throughout the wetland.																		

## SOIL

Sampling Point: wase1062f\_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 dark clay loam over a depleted clay. Redox concentrations occur throughout the lower two layers. Two hydric indicators were met.





wase1062f\_w\_E



wase1062f\_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): KDF/AGG/DMP	
File #: wase1062		Date of visit(s): 2020-06-11	
Location: PLSS: <u>sec 03 T047N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.584638</u> Long: <u>-90.857539</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Ashland city</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Pickford-Badriver complex, 0 to 3 percent slopes		WWI Class: T3/S3Kr	
Field Verified: Series not verified.		Wetland Type(s): PFO - Hardwood swamp	
		Wetland Size: 0.2102	Wetland Area Impacted 0.2102
Hydrology: The hydrologic regime is seasonally saturated. The feature was inundated during the field survey.		Vegetation: Plant Community Description(s): The vegetation is representative of the wetland. The canopy was dominated by quaking aspen, while the shrub layer was dominated by speckled alder and common buckthorn. The herbaceous layer cover was sparse due to inundation, but fringed sedge and awl fruited sedge were the most abundant graminoid throughout 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	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	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	Y	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	Y	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	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	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-3: The feature is located on private land and is not accessible or visible to the public.

ST-3, WQ-5: There is mostly dense woody vegetation within the feature, but herbaceous vegetation is limited in inundated areas.

WH-10, FA-2: Shallow standing water is present within the feature.

ST-5: The feature may receive runoff from nearby unpaved roads within the area.

**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 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 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>Alnus incana</i> *			PFO	Interrupted
<i>Populus tremuloides</i> *			PFO	Patchy
<i>Rhamnus cathartica</i>			PFO	Rare
<i>Carex crinita</i>			PFO	Rare
<i>Carex stipata</i>			PFO	Rare
<i>Acer rubrum</i>			PFO	Barren
<i>Athyrium filix-femina</i>			PFO	Barren
<i>Carex gracillima</i>			PFO	Barren
<i>Cicuta maculata</i>			PFO	Barren
<i>Fraxinus nigra</i>			PFO	Barren
<i>Ilex verticillata</i>			PFO	Barren
<i>Impatiens capensis</i>			PFO	Barren
<i>Lonicera cf. morrowii</i>			PFO	Barren
<i>Onoclea sensibilis</i>			PFO	Barren
<i>Rubus pubescens</i>			PFO	Barren
<i>Carex brunnescens</i>			PFO	Barren
<i>Carex intumescens</i>			PFO	Barren
<i>Carex projecta</i>			PFO	Barren
<i>Equisetum arvense</i>			PFO	Barren
<i>Galium cf. labradoricum</i>			PFO	Barren
<i>Glyceria striata</i>			PFO	Barren
<i>Iris versicolor</i>			PFO	Barren
<i>Rumex crispus</i>			PFO	Barren

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

The floristic integrity is moderate due to overall native diversity within the feature, but prevalence 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)
	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
	X		M	UC	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
X	X		H	C	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 disturbed and highly impacted by invasive species cover. The surrounding land use was previously a logging mill with many unpaved roads running through the area. The surrounding area is impacted by roadways, inactive railroad tracks, and an above-ground utility corridor to the north.



## 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 disturbed, have has fair native diversity, and invasive species are prevalent throughout the wetland.
Human Use Values	The feature is located on private land within an area previously used as a logging mill. There is no potential human uses.
Wildlife Habitat	Multiple strata are represented throughout the feature, though invasive species are abundant. Standing water provides potential habitat for frogs and toads.
Fish and Aquatic Life Habitat	Standing water is present within the lowest areas of the landscape that may provide aquatic habitat for aquatic invertebrates. There is no potential for fish habitat.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is located within a small depression with limited potential for stormwater storage due to its size. Dense vegetation is present in areas absent of standing water. The feature is not associated with a waterbody.
Water Quality Protection	Dense vegetation is present in areas absent of standing water and may provide filtration of stormwater runoff.
Groundwater Processes	The feature 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: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1062\_u  
 Investigator(s): AGG/ARK Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): Convex Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.584719 Long: -90.857626 Datum: WGS84  
 Soil Map Unit Name: Pickford-Badriver complex, 0 to 3 percent slopes NWI classification: PEM1C

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 type="checkbox"/> No <input checked="" 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 type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks: (Explain alternative procedures here or in a separate report.)  
 The upland sample point is located along the transition between wetland and upland. The wetland boundary was delineated based on the presence of hydrophytic sedges and speckled alder in the wetland feature along with obvious saturation. The upland area has no signs of wetland hydrology and is dominated by buckthorn, red raspberry, and tall goldenrod.

## 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 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 <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. The sample area is located outside of the depression that contains the wetland.		

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

 Sampling Point: wase1062\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Populus tremuloides</i></u>	<u>25</u>	<u>Y</u>	<u>FAC</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>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>25</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>62</u></td> <td>x 3 = <u>186</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>102</u> (A)</td> <td><u>326</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.196078431372549</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>62</u>	x 3 = <u>186</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>102</u> (A)	<u>326</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>62</u>	x 3 = <u>186</u>																	
FACU species <u>30</u>	x 4 = <u>120</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>102</u> (A)	<u>326</u> (B)																	
<u>40</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u><i>Rhamnus cathartica</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 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)														
2. <u><i>Lonicera morrowii</i></u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Alnus incana</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>40</u> = Total Cover																		
Herb Stratum (Plot size: <u>5</u> )																		
1. <u><i>Rubus idaeus</i></u>	<u>10</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>Solidago altissima</i></u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Fragaria virginiana</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Potentilla simplex</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u><i>Rubus pubescens</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
6. <u><i>Athyrium angustum</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>37</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 point is located within a very shrubby area dominated by buckthorn and other facultative species.																		

## SOIL

Sampling Point: wase1062\_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 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:

A depleted matrix with redox was observed in the soil profile.





wase1062\_u\_NW



wase1062\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-12  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1070e\_w  
 Investigator(s): EJO/JSW Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.581283 Long: -90.856315 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 cattails and pointed broom sedge. The feature is located in a ditch adjacent to a gravel trail. To the north of the ditch, outside of the wetland, is an area filled with waste concrete. The entire area appears to be associated with a former lumber yard.	

## 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 located in a ditch adjacent to a gravel trail to the south.		

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

 Sampling Point: wasc1070e\_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>23</u></td> <td>x 1 = <u>23</u></td> </tr> <tr> <td>FACW species <u>67</u></td> <td>x 2 = <u>134</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>12</u></td> <td>x 4 = <u>48</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>102</u> (A)</td> <td><u>205</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.0098039215686274</u>	Total % Cover of:	Multiply by:	OBL species <u>23</u>	x 1 = <u>23</u>	FACW species <u>67</u>	x 2 = <u>134</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>12</u>	x 4 = <u>48</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>102</u> (A)	<u>205</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>23</u>	x 1 = <u>23</u>																	
FACW species <u>67</u>	x 2 = <u>134</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>12</u>	x 4 = <u>48</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>102</u> (A)	<u>205</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Salix bebbiana</u>	<u>12</u>	<u>Y</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>12</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Carex cf. scoparia</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>Typha sp.</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Cf. Poa compressa</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Phalaris arundinacea</u>	<u>3</u>	<u>N</u>	<u>FACW</u>															
5. <u>Salix discolor</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
6. <u>Scirpus cf. hattorianus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
7. <u>Carex gracillima</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
8. <u>Lythrum salicaria</u>	<u>1</u>	<u>N</u>	<u>OBL</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>90</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 cattails and pointed broom sedge.																		

**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: wasc1070e\_w

[illegible]





wasc1070e\_w\_E



wasc1070e\_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 #: wasc1070		Date of visit(s): 2020-06-12	
Location: PLSS: <u>sec 03 T047N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.581288</u> Long: <u>-90.856269</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Ashland city</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Udorthents and Udipsamments, cut or fill		WWI Class: N/A	
Field Verified: Series were not verified. Soils were observed to be clay loam over clay. The soils may be disturbed given the presence of waste concrete adjacent to the sample point.		Wetland Type(s): PEM-Fresh (wet) meadow	
		Wetland Size: 0.0143	Wetland Area Impacted 0.0143
Hydrology: The feature is a saturated depression located in a ditch adjacent to a gravel trail to the south.		Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by cattails and cf. pointed-broom 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	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	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 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	N	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	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 located in a ditch that likely receives runoff from an adjacent gravel trail.

FA-4/FA-2: The wetland may be inundated in the spring, in which case standing water may provide habitat for 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	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]

The floristic integrity overall is low. The wetland appears to be fairly disturbed and has a low diversity and moderate coverage 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
X	X		H	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
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
	X		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
	X		M	C	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 located in a ditch with presence of waste concrete. The wetland is a part of a former lumber yard and is near a retired lumber processing facility. The ditch is connected to a culvert. Non-native and invasive species in the wetland degrade 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 appears to be fairly disturbed and has a low diversity and moderate coverage of invasive species.
Human Use Values	The wetland is on private land.
Wildlife Habitat	The wetland mainly has a single stratum and is relatively small.
Fish and Aquatic Life Habitat	No standing water was observed in the wetland at the time of survey; however, the wetland may occasionally support aquatic life during periods of inundation.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is relatively small, although it likely does receive runoff from the adjacent gravel trail.
Water Quality Protection	The wetland is relatively small and disturbed.
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: 2020-06-12  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasc1070\_u  
 Investigator(s): JSW/EJO Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.581241 Long: -90.856318 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 a gravel road. The upland is dominated by non-native species.	

## 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: wasc1070\_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>3</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>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>370</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.111111111111111</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>0</u>	x 3 = <u>0</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>90</u> (A)	<u>370</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>0</u>	x 3 = <u>0</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>10</u>	x 5 = <u>50</u>																	
Column Totals: <u>90</u> (A)	<u>370</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>Lotus corniculatus</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>Poa pratensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
5. <u>Tanacetum vulgare</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
6. <u>Hypericum perforatum</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
7. <u>Phleum pratense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
8. <u>Leucanthemum vulgare</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
9. <u>Symphotrichum cf. ciliolatum</u>	<u>2</u>	<u>N</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.) The sample plot is located near the edge of a gravel road.																		

## SOIL

Sampling Point: wasc1070\_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: Cobble

Depth (inches): 3.0

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

Remarks:

Could not sample soil beyond 3 inches due to the presence of cobble, concrete, and gravel. No indicators of hydric soil were observed.





wasc1070\_u\_E



wasc1070\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1061e\_w  
 Investigator(s): KDF/AGG Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.587604 Long: -90.859227 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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 wetland complex which includes shrub and forested components and is located within a logging mill.	

## 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 located within a roadside ditch. The hydrologic regime is seasonally saturated with recharge hydrology. Pockets of standing water are present within the feature, and vegetation is likely inundated in spring. Outside of the sample plot, along the roadside, standing water depth increases to 4 inches. Soil saturation is assumed, but a soil pit was not dug due to the potential for buried utilities.		



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

 Sampling Point: wase1061e\_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>77</u></td> <td>x 1 = <u>77</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</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>82</u> (A)</td> <td><u>87</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.06</u>	Total % Cover of:	Multiply by:	OBL species <u>77</u>	x 1 = <u>77</u>	FACW species <u>5</u>	x 2 = <u>10</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>82</u> (A)	<u>87</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>77</u>	x 1 = <u>77</u>																	
FACW species <u>5</u>	x 2 = <u>10</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>82</u> (A)	<u>87</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>Carex lacustris</u>	<u>75</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>Salix petiolaris</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
3. <u>Typha sp.</u>	<u>2</u>	<u>N</u>	<u>OBL</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>82</u> = Total Cover																
<b>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b> The vegetation is representative of fresh (wet) meadow dominated by lake sedge and reed canary grass. Remnant biomass limits ground cover throughout the feature, though dense herbaceous cover is present throughout. Typha sp. is present along the two roadways, as well as a line of sandbar willow. Outside of the sample plot, reed canary grass becomes more prevalent.																		

## SOIL

Sampling Point: wase1061e\_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 hydrology and dominant vegetation.



wase1061e\_w\_N



wase1061e\_w\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1061f\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.585291 Long: -90.855841 Datum: WGS84  
 Soil Map Unit Name: Pickford-Badriver complex, 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 is part of a larger complex. The forest has dense canopy cover of quaking aspen and red maple. The areas within the complex that are not forested have been significantly disturbed by a historic logging operation.	

## 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 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? 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 water from the surrounding landscape. Areas outside of the plot are inundated.		



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

 Sampling Point: wase1061f\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Populus tremuloides</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>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><i>Acer rubrum</i></u>	<u>25</u>	<u>Y</u>	<u>FAC</u>															
3. <u><i>Fraxinus nigra</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
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>1</u></td> <td>x 1 = <u>1</u></td> </tr> <tr> <td>FACW species <u>22</u></td> <td>x 2 = <u>44</u></td> </tr> <tr> <td>FAC species <u>135</u></td> <td>x 3 = <u>405</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>163</u> (A)</td> <td><u>470</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.8834355828220857</u>	Total % Cover of:	Multiply by:	OBL species <u>1</u>	x 1 = <u>1</u>	FACW species <u>22</u>	x 2 = <u>44</u>	FAC species <u>135</u>	x 3 = <u>405</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>163</u> (A)	<u>470</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>1</u>	x 1 = <u>1</u>																	
FACW species <u>22</u>	x 2 = <u>44</u>																	
FAC species <u>135</u>	x 3 = <u>405</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>163</u> (A)	<u>470</u> (B)																	
<u>60</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Rhamnus cathartica</i></u>	<u>50</u>	<u>Y</u>	<u>FAC</u>															
2. <u><i>Alnus incana</i></u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>60</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Carex cf tenera</i></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><i>Carex gracillima</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. <u><i>Rubus pubescens</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
4. <u><i>Carex intumescens</i></u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
5. <u><i>Galium cf labradoricum</i></u>	<u>1</u>	<u>N</u>	<u>OBL</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>23</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 vegetation is representative of the wetland. The canopy is dominated by quaking aspen, while the shrubs are dominated by speckled alder and common buckthorn. The ground layer is mixed with various sedges. Other areas of the wetland are more inundated and fringed sedge and greater bladder sedge become common.																		



## SOIL

Sampling Point: wase1061f\_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 dark clay over a depleted clay and a thin red clay. There are redox concentrations throughout the middle layer and two hydric indicators were met.





wase1061f\_w\_E



wase1061f\_w\_NW



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1061s\_w  
 Investigator(s): DMP/ARK Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.587696 Long: -90.859093 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.) This wetland plot was taken within a shrub-carr. The shrub-carr is part of a larger complex that includes a wet meadow and a hardwood swamp. The feature has been significantly disturbed by past logging activity. There is a small portion of shrubs that were not included as wetland near the road just north of the point. That area did not have sufficient hydrology to meet wetland criteria.	

## 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 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 _____ No <input checked="" type="checkbox"/> Depth (inches): _____ 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. The soils are saturated at the surface, however we did not sample for a water table due to the proximity to a road. It is assumed that there is a high water table due to the standing water within the wet meadow community to the west.		

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

 Sampling Point: wase1061s\_w

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Populus tremuloides</i></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>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)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>5</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Salix petiolaris</i></u>	<u>35</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>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>72</u></td> <td>x 2 = <u>144</u></td> </tr> <tr> <td>FAC species <u>12</u></td> <td>x 3 = <u>36</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>128</u> (A)</td> <td><u>236</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.84375</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>72</u>	x 2 = <u>144</u>	FAC species <u>12</u>	x 3 = <u>36</u>	FACU species <u>4</u>	x 4 = <u>16</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>128</u> (A)	<u>236</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>72</u>	x 2 = <u>144</u>																	
FAC species <u>12</u>	x 3 = <u>36</u>																	
FACU species <u>4</u>	x 4 = <u>16</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>128</u> (A)	<u>236</u> (B)																	
2. <u><i>Spiraea alba</i></u>	<u>20</u>	<u>Y</u>	<u>FACW</u>															
3. <u><i>Salix bebbiana</i></u>	<u>15</u>	<u>Y</u>	<u>FACW</u>															
4. <u><i>Cornus alba</i></u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>72</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Carex lacustris</i></u>	<u>20</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>Calamagrostis canadensis</i></u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
3. <u><i>Juncus effusus</i></u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
4. <u><i>Carex tenera</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u><i>Equisetum arvense</i></u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
6. <u><i>Poa pratensis</i></u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. <u><i>Carex gracillima</i></u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>51</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 plot vegetation is representative of the shrub-carr. Meadow willow gets much more dense to the south of the plot.																		

## SOIL

Sampling Point: wase1061s\_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 presence of hydrophytic vegetation and hydrologic indicators.





wase1061s\_w\_S



wase1061s\_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 #: wase1061		Date of visit(s): 2020-06-11	
Location: PLSS: <u>sec 03 T047N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.587696</u> Long: <u>-90.859093</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Ashland city</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes, Pickford Badriver complex 0 to 3 percent slopes		WWI Class: T3/S3Kr, E1Kr	
Field Verified: The soils were not verified. The profile was not sample due to the plot being located close to a road. The soils are assumed to be hydric due to the presence of hydrophytic vegetation and and hydrologic indicators.		Wetland Type(s): PEM - Wet Meadow/ PSS - Shrub carr/ PFO - Hardwood swamp	
Hydrology: The hydrologic regime is seasonally saturated. The soils were saturated at the surface, however we did not sample for a water table due to the wetland being located close to a road. It is assumed that there is a water table due to the standing water within the wet meadow community to the west.		Wetland Size: 16.9527	Wetland Area Impacted 16.9527
		Vegetation: Plant Community Description(s): The wetland is complex of wet meadow, shrub-carr, and hardwood swamp communities. The wetland meadow was dominated Canada bluejoint, reed canary grass, and lake sedge while the shrub carr was dominated by meadow willow and meadow sweet. The hardwood swamp canopy was dominated by quaking aspen while the understory was dominated by speckled alder and common buckthorn. The herbaceous layer was dominated by fringed sedge, greater bladder sedge and Canada bluejoint. The drier areas were dominated by dwarf raspberry.	

**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	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	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	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	Y	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	Y	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	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-2: The wetland has a dense canopy, shrub layer and herbaceous layer throughout.

WH-7: Several species of birds were observed throughout the area, and more species are most likely present.

WH-10/FA-4: There were areas within the wetland that were inundated and they could provide habitat for various amphibians and aquatic insects.

ST-1/WQ-2: The feature occurs within a depression in the landscape. We did not observe an outlet.

ST-3: We observed dense persistent vegetation throughout the wet meadow.

ST-5: The feature was located within a large historic logging operation. There were many roads and buildings within the surrounding area. It is likely that non point source inputs enter the feature from the surrounding landscape.

ST-8: The feature is a large wetland complex and it is likely that it is able to hold more than 10 percent of the runoff from a 2 year flood.

**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 checked="" type="checkbox"/>	20-50% <input 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 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,PFO	Patchy
Salix petiolaris*			PSS,PEM,PFO	Patchy
Populus tremuloides*			PSS,PFO	Rare
Carex lacustris*			PSS,PEM,PFO	Rare
Fraxinus nigra			PFO	Rare
Rhamnus cathartica			PFO	Rare
Salix bebbiana*			PSS	Rare
Spiraea alba			PSS,PEM	Rare
Alnus incana			PSS,PFO	Barren
Calamagrostis canadensis			PSS,PFO	Barren
Carex gracillima			PSS	Barren
Carex stipata			PEM,PSS	Barren
Cornus alba			PSS	Barren
Equisetum arvense			PSS,PEM,PFO	Barren
Juncus effusus			PSS	Barren
Poa pratensis			PSS,PEM	Barren
Scirpus microcarpus			PEM	Barren
Solidago cf. altissima			PEM	Barren
Solidago gigantea			PEM,PFO,PSS	Barren
Athyrium filix-femina			PFO	Barren
Caltha palustris			PFO	Barren
Carex brunnescens			PFO	Barren
Carex intumescens			PFO	Barren
Carex projecta			PFO	Barren
Carex stipata			PFO	Barren
Carex tenera			PSS	Barren
cf. Sagittaria			PEM	Barren
Cicuta maculata			PFO	Barren

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

The floristic integrity is moderate due to the substantial disturbance from the surrounding land use, but relatively high native diversity. Non native species were common throughout the feature.

Additional species: *Cirsium arvense* (Plant Communities: PEM, Abundance: Barren), *Clinopodium vulgare* (Plant Communities: PFO, Abundance: Barren), *Equisetum pratense* (Plant Communities: PFO, Abundance: Barren), *Equisetum sylvaticum* (Plant Communities: PFO, Abundance: Barren), *Galium cf. labradoricum* (Plant Communities: PFO, Abundance: Barren), *Glyceria striata* (Plant Communities: PFO, Abundance: Barren), *Lemna minor* (Plant Communities: PEM, Abundance: Barren), *Lotus corniculatus* (Plant Communities: PEM,PFO,PSS, Abundance: Barren), *Onoclea sensibilis* (Plant Communities: PFO, Abundance: Barren), *Osmunda cinnamomea* (Plant Communities: PFO, Abundance: Barren), *Osmunda claytoniana* (Plant Communities: PFO, Abundance: Barren), *Ranunculus acris* (Plant Communities: PSS,PFO, Abundance: Barren), *Ribes triste* (Plant Communities: PFO, Abundance: Barren), *Rubus pubescens* (Plant Communities: PFO, Abundance: Barren), *Salix interior* (Plant Communities: PEM, Abundance: Barren), *Symphytotrichum purpureum* (Plant Communities: PFO, Abundance: Barren), *Symphytotrichum* sp (Plant Communities: PEM, Abundance: Barren), *Tanacetum vulgare* (Plant Communities: PEM,PFO,PSS, Abundance: Barren), *Typha* sp. (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
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
X	X		M	C	Roads or railroad
X	X		M	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		H	C	Cover of non-native and/or invasive species
					Residential land use
X	X		H	C	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 located within an area that has been historically used as a logging mill. There were numerous roads surrounding the feature. There were also railroads and utility corridors throughout the mill. Non native species were common 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 the substantial disturbance from the surrounding landuse and relative diversity of native species. Non native species were common throughout the feature.
Human Use Values	N/A
Wildlife Habitat	The feature was significantly disturbed, however we did observe white tailed deer, amphibians, birds and aquatic insects throughout the feature.
Fish and Aquatic Life Habitat	There was standing water observed throughout the feature. We observed amphibians and aquatic insects throughout the wetland.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is large and has the potential to hold a substantial amount of storm water.
Water Quality Protection	The feature is large and has the potential to filter a substantial amount of storm water.
Groundwater Processes	The feature likely serves a 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: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1061\_u1  
 Investigator(s): AGG/ARK Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Convex Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.587138 Long: -90.859076 Datum: WGS84  
 Soil Map Unit Name: Udorthents and Udipsamments, cut or fill 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.) <b>The sample point is located on the edge of a gravel road leading to a lumber yard. No wetland indicators were observed.</b>	

## 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: <b>No indicators of wetland hydrology were observed.</b>		

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

Sampling Point: wase1061\_u1

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>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</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>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>67</u></td> <td>x 4 = <u>268</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>328</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.381443298969072</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>0</u>	x 3 = <u>0</u>	FACU species <u>67</u>	x 4 = <u>268</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>97</u> (A)	<u>328</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>0</u>	x 3 = <u>0</u>																	
FACU species <u>67</u>	x 4 = <u>268</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>97</u> (A)	<u>328</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>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>30</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Lotus corniculatus</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>															
4. <u>Tanacetum vulgare</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Cirsium arvense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u>Taraxacum officinale</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>97</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 sample plot is located on the edge of a gravel road dominated by Kentucky bluegrass and reed canary grass.																		



## SOIL

Sampling Point: wase1061\_u1

[illegible]



wase1061\_u1\_N



wase1061\_u1\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-06-11  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase1061\_u2  
 Investigator(s): KDF/AGG Section, Township, Range: sec 03 T047N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.584903 Long: -90.856092 Datum: WGS84  
 Soil Map Unit Name: Pickford-Badriver complex, 0 to 3 percent slopes NWI classification: PSS1/EM1Bg

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.) <b>The feature is located within an open field. The surrounding area is disturbed due to past land use practices related to a logging mill.</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 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 <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: <b>No indicators of wetland hydrology were observed.</b>		

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

 Sampling Point: wase1061\_u2

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>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>4</u></td> <td>x 3 = <u>12</u></td> </tr> <tr> <td>FACU species <u>87</u></td> <td>x 4 = <u>348</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>96</u> (A)</td> <td><u>370</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.8541666666666665</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>4</u>	x 3 = <u>12</u>	FACU species <u>87</u>	x 4 = <u>348</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>96</u> (A)	<u>370</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
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FAC species <u>4</u>	x 3 = <u>12</u>																	
FACU species <u>87</u>	x 4 = <u>348</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>96</u> (A)	<u>370</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>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>Solidago altissima</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Rosa blanda</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Carex gracillima</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Phalaris arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
6. <u>Crataegus sp.</u>	<u>2</u>	<u>N</u>	_____															
7. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
8. <u>Cirsium arvense</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
9. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
10. <u>Carex sp.</u>	<u>2</u>	<u>N</u>	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>100</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 upland dominated by graminoids. The unknown Carex species is a member of the Ovales group.																		

**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: wase1061\_u2

**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)	___ Polyvalue Below Surface (S8) ( <b>LRR R,</b>
___ Histic Epipedon (A2)	<b>MLRA 149B)</b>
___ Black Histic (A3)	___ Thin Dark Surface (S9) ( <b>LRR R, MLRA 149B)</b>
___ Hydrogen Sulfide (A4)	___ Loamy Mucky Mineral (F1) ( <b>LRR K, L)</b>
___ Stratified Layers (A5)	___ Loamy Gleyed Matrix (F2)
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)
___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)
___ Sandy Redox (S5)	
___ Stripped Matrix (S6)	
___ 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 are brown clay loam throughout. No indicators of hydric soils were observed.





wase1061\_u2\_E



wase1061\_u2\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-18  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasal1002s\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.556142 Long: -90.896570 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.) Wetland feature is a shrub-dominated wetland located beside a steep slope and a fallow field. Feature has some trees (quaking aspen) present at its edges and some cover of cattails present at its wettest spot. At the time of survey, the cattails are only just emerging and not taller than a foot.	

## 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) <input checked="" type="checkbox"/> Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> 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 _____ 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: Hydrologic regime is saturated.		

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

Sampling Point: wasal002s\_w

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>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>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>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>50</u></td> <td>x 3 = <u>150</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>120</u> (A)</td> <td><u>245</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.0416666666666665</u>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>50</u>	x 3 = <u>150</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>120</u> (A)	<u>245</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>45</u>	x 1 = <u>45</u>																	
FACW species <u>25</u>	x 2 = <u>50</u>																	
FAC species <u>50</u>	x 3 = <u>150</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>120</u> (A)	<u>245</u> (B)																	
<u>30</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Populus tremuloides</u>	<u>20</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>30</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Typha sp.</u>	<u>25</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>Equisetum arvense</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Carex stricta</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>															
4. <u>Phalaris arundinacea</u>	<u>15</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>80</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 _____														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)  
**Sample point is fairly representative of the wetland feature.**

## SOIL

Sampling Point: wasa1002s\_w

[illegible]





wasal002s\_w\_E



wasal002s\_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): SBR/DGL	
File #: wasa1002		Date of visit(s): 2020-05-18	
Location: PLSS: <u>sec 17 T047N R004W</u>		Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.556142</u> Long: <u>-90.896570</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: _____			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: Series not verified. Soils could not be sampled due to the presence of underground utilities.		Wetland Type(s): PSS - shrub-carr	
		Wetland Size: 0.0607	Wetland Area Impacted 0.0607
Hydrology: The hydrologic regime is saturated, and the feature is fed by surface water gathering from precipitation events. Algae crust is present and shrubs within the feature are water-marked.		Vegetation: Plant Community Description(s): The wetland is a shrub-carr with red osier dominating the shrub layer and cattail, uptight sedge, and reed canary grass dominating 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	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	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	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	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	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

WQ-3: Water flow through the wetland is not channelized, but holds water in shallow depressions and likely expands as more water flows in.

WQ-5: Dense persistent vegetation is present in the wetland feature, including cattails.

WQ-7: The feature is adjacent to an agriculture field, and receives stormwater runoff from the feature, but the field looks to be fallow 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]

**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
					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		M	C	Cover of non-native and/or invasive species
					Residential land use
	X		M	UC	Urban, commercial or industrial use
					Parking lot
					Golf course
	X		M	UC	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 feature is located downslope from multiple commercially operated gravel pits. There is an adjacent agriculture field that appears to have been left fallow at the time of survey.



## 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	Floristic integrity is low due to dominance of cattail and of reed canary grass.
Human Use Values	The human use value is low because of the feature's location between an agriculture field and a steep slope, as well as the lack of nearby public access.
Wildlife Habitat	Wildlife habitat is low due to the small size of the wetland, but birds were observed at the time of survey.
Fish and Aquatic Life Habitat	The feature is not inundated for a significant duration to support aquatic organisms.
Shoreline Protection	N/A
Flood and Stormwater Storage	Potential for stormwater storage, but the small size of the wetland limits its capacity.
Water Quality Protection	The wetland has dense and persistent vegetation throughout, but the feature's small size limits its water storage potential.
Groundwater Processes	The wetland is of small physical size, and only 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: 2020-05-18  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1002\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): None Slope (%): 26-60%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.556003 Long: -90.896600 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 is located upslope from the wetland feature, beside a gravel road leading to gravel pits.	

## 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: wasal002\_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>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>70</u> (A)</td> <td><u>285</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.071428571428571</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>0</u>	x 3 = <u>0</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>70</u> (A)	<u>285</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>0</u>	x 3 = <u>0</u>																	
FACU species <u>65</u>	x 4 = <u>260</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>70</u> (A)	<u>285</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>Tanacetum vulgare</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)														
2. <u>Melilotus officinalis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Trifolium hybridum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Medicago sativa</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
5. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>70</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.														
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>Sample point is representative of the upland feature.</b>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>														

## SOIL

Sampling Point: wasa1002\_u

[illegible]





wasal002\_u\_E



wasal002\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-18  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1003e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.555512 Long: -90.896104 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 wetland is a wet meadow community which is part of a complex also includes a shrub component. This feature is dominated by reed canary grass with some cattails and tussock sedge present in the wetter areas.	

## 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: Hydrologic regime is saturated. Some parts of the wetland feature have standing water.		

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

 Sampling Point: was1003e\_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>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>105</u></td> <td>x 2 = <u>210</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</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>115</u> (A)</td> <td><u>230</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.00</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>105</u>	x 2 = <u>210</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>115</u> (A)	<u>230</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>105</u>	x 2 = <u>210</u>																	
FAC species <u>5</u>	x 3 = <u>15</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>115</u> (A)	<u>230</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Salix petiolaris</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Cornus alba</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>20</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Phalaris arundinacea</u>	<u>90</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 stricta</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
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.) Sample point is mostly representative of the wetland feature. Other parts of the wetland feature have standing water and emerging cattails.																		

## SOIL

Sampling Point: wasa1003e\_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
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Remarks:

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





wasal003e\_w\_N



wasal003e\_w\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-18  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1003s\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.555479 Long: -90.896216 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 wetland is a shrub community dominated by meadow willow with a sparse herbaceous layer. The feature is likely fed by runoff from an upslope commercial dumping site for concrete and asphalt.	

## 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 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 _____ 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: Hydrologic regime is saturated.		

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

 Sampling Point: was1003s\_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>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>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>170</u></td> <td>x 2 = <u>340</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</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>190</u> (A)</td> <td><u>410</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.1578947368421053</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>170</u>	x 2 = <u>340</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>190</u> (A)	<u>410</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>170</u>	x 2 = <u>340</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>190</u> (A)	<u>410</u> (B)																	
<u>80</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Salix petiolaris</i></u>	<u>80</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. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>80</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Phalaris arundinacea</i></u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	<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.														
2. <u><i>Poa pratensis</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>100</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 _____														
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 wetland feature.**

## SOIL

Sampling Point: wasa1003s\_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 roadside location. The soils are assumed to be hydric based on the landscape position and dominant vegetation.





wasal003s\_w\_S



wasal003s\_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): SBR/DGL	
File #: wasa1003	Date of visit(s): 2020-05-18	
Location: PLSS: <u>sec 17 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.555482</u> Long: <u>-90.896210</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes, Lerch-Herbster complex, 0 to 3 percent slopes Field Verified: Series not verified. Soils were not sampled due to the roadside location of the wetland.	WWI Class: T3Kr	
	Wetland Type(s): <b>PSS/PEM - shrub-carr/fresh wet meadow</b>	
	Wetland Size: 0.2978	Wetland Area Impacted 0.2978
Hydrology: The hydrologic regime is saturated. A likely hydrologic source includes runoff from an upslope commercial dump site for asphalt and concrete.	Vegetation: Plant Community Description(s): The wetland is a shrub-carr/fresh wet meadow complex. The shrub-carr component is almost entirely dominated by a shrub layer of meadow willow, with a very sparsely vegetated herbaceous layer. The fresh wet meadow complex is dominated by near-continuous cover of 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	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	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	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	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	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 <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	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)

FA-2: There is a small amount of standing water at the time of survey. Standing water is not deep, but could potentially be used by aquatic invertebrates.  
ST-2/3: The wetland is not channelized and has persistent vegetation.  
ST-8: The feature extends outside of the survey area, and appears to be fairly large based on Wisconsin Wetland Inventory data.  
WQ-7: Surface water appears to be the major water input source of this wetland feature.

### Wildlife Habitat and Species Observation (including amphibians and reptiles)

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

Observed	Potential	Species/Habitat/Comments
Y	Y	Avian
	Y	White-tailed deer, 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		L	UC	Filling, berms (non-impounding)
					Drainage – tiles, ditches
X	X		L	C	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		L	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
X	X		M	C	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	UC	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
	X		M	C	Parking lot
					Golf course
	X		L	UC	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)

A small berm separates part of the shrub-carr and wet meadow complex. This berm is located within part of above ground utility corridor that is mowed. The feature likely receives polluted runoff from an upslope commercial gravel parking lot and gravel pits. A nearby ATV trail is also 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	Species diversity is low and non-native species are dominant.
Human Use Values	The feature intersects an above-ground power line right-of-way, and an ATV trail is nearby.
Wildlife Habitat	The feature may be used by avian species and white-tailed deer.
Fish and Aquatic Life Habitat	Small amounts of water make use by aquatic invertebrates possible, but water depth limits anything more.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature has some potential for stormwater storage given its size and the nearby agricultural field and gravel parking lot/pits.
Water Quality Protection	The feature has the potential to store and filter stormwater runoff from surrounding areas.
Groundwater Processes	The feature appears to only exhibit 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: 2020-05-18  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1003\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.555600 Long: -90.896011 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 is a small rise dominated by common tansy and reed canary grass.	

## 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: wasal1003\_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>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</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>100</u> (A)</td> <td><u>370</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.7</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>0</u>	x 3 = <u>0</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>370</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>0</u>	x 3 = <u>0</u>																	
FACU species <u>85</u>	x 4 = <u>340</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>370</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>Tanacetum vulgare</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>Phalaris arundinacea</u>	<u>15</u>	<u>N</u>	<u>FACW</u>															
3. <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>100</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.) <b>Sample point is fairly representative of the upland.</b>																		

## SOIL

Sampling Point: wasa1003\_u

[illegible]





wasal003\_u\_E



wasal003\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase016e\_xw  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.553355 Long: -90.896005 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 wetland is a wet meadow located in a utility right-of-way corridor. The feature is dominated by emerging reed canary grass. A small, wetter spot with standing water and cattails is also present within the feature.	

## 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? (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 saturated. A small area of the wetland has standing water present at the time of survey.		

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

 Sampling Point: wase016e\_xw

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>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</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>50</u> (A)</td> <td><u>100</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>50</u>	x 2 = <u>100</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>50</u> (A)	<u>100</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>50</u>	x 2 = <u>100</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>50</u> (A)	<u>100</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. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>50</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 sample point is fairly representative of the wetland feature. The vegetation is newly emerging at the time of the survey. There is a small area with standing water and cattails present within the feature but not at the sample point. The vegetation is disturbed by occasional mowing.																		

## SOIL

Sampling Point: wase016e\_xw

**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 utility right-of-way. The soils are assumed to be hydric based on the landscape position and dominant vegetation.





wase016e\_xw\_E



wase016e\_xw\_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): SBR/DGL	
File #: wase016_x	Date of visit(s): 2020-05-20	
Location: PLSS: <u>sec 17 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.553355</u> Long: <u>-90.896005</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes	WWI Class: N/A	
Field Verified: Series not verified. Soils were not sampled due to the location of the wetland in a utility right-of-way corridor.	Wetland Type(s): PEM - fresh wet meadow	
Hydrology: The hydrologic regime is saturated, with the wetland obtaining a majority of its water from precipitation runoff.	Wetland Size: 0.0301	Wetland Area Impacted 0.0301
	Vegetation: Plant Community Description(s): The wetland is a wet meadow almost completely dominated by reed canary grass, with some cattail also 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	Y	Used for recreation (hunting, birding, hiking, etc.). List: hunting, tree stands observed
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	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	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	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)

HU-1: Deer stands were observed further down the right-of-way corridor from the wetland.

FA-2: The wetland feature has a small area of standing water that endures for enough time to support, at the least, aquatic invertebrates. Tadpoles and aquatic insects were observed in the standing water.

ST-3: There is a dense herbaceous layer of reed canary grass.

ST-5: There is an adjacent agriculture field with the potential for runoff, though it appears fallow at the time of survey.

WQ-7: The major hydrology source is likely from surface water and agriculture runoff.

### 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	Avian
	Y	White tailed deer, other mammals
Y	Y	Frogs

### 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	Y	Tadpoles
Y	Y	Aquatic invertebrates

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

\*Note: separate plant communities are described independently

[illegible]

The wet meadow is almost entirely dominated by reed canary grass, with cattail present in a small section of the wetland.

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

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
X	X		M	C	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
					Roads or railroad
X	X		H	C	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	M	UC	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
X	X		L	C	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

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

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

#### SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland feature is located in a utility right-of-way corridor, and potentially sees ATV use. The feature is adjacent to an agricultural field, left fallow at the time of survey, and has the potential to obtain polluted runoff from the field. The feature is almost entirely dominated by nonnative species.

## 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 almost entirely dominated by reed canary grass, severely limiting the floristic integrity of the wetland.
Human Use Values	There are at least two deer stands within the buffer zone.
Wildlife Habitat	At the time of survey, the current vegetation would offer limited cover for terrestrial species.
Fish and Aquatic Life Habitat	Water pools in a small part of the wetland, providing habitat for aquatic organisms.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is a small but densely vegetated basin that obtains some stormwater runoff from the surrounding utility corridor and adjacent field.
Water Quality Protection	There is dense, persistent vegetation present, and the feature could hold a small amount of water runoff from the nearby agriculture field.
Groundwater Processes	The major source of hydrology is from surface water.



## 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: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase016e\_xu  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.553284 Long: -90.896201 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 point is located slightly upslope from the wetland on the edge of a fallow field with a tree/shrub line acting as a barrier between the field and a right-of-way corridor.	

## 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: wase016e\_xu

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Populus tremuloides</i></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>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. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>5</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>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>93</u></td> <td>x 4 = <u>372</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>447</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.788135593220339</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>25</u>	x 3 = <u>75</u>	FACU species <u>93</u>	x 4 = <u>372</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>118</u> (A)	<u>447</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>25</u>	x 3 = <u>75</u>																	
FACU species <u>93</u>	x 4 = <u>372</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>118</u> (A)	<u>447</u> (B)																	
<u>25</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Rhamnus cathartica</i></u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
2. <u><i>Pinus strobus</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>25</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Poa pratensis</i></u>	<u>70</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>Fragaria virginiana</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
3. <u><i>Taraxacum officinale</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Lotus corniculatus</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u><i>Achillea millefolium</i></u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
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																		
<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 point is representative of the upland area. Tree and shrub cover is limited to the field edge. The vegetation is disturbed by occasional mowing.																		

## SOIL

Sampling Point: wase016e\_xu

[illegible]



wase016e\_xu\_N



wase016e\_xu\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1007e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.552849 Long: -90.895926 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 wetland is a wet meadow dominated by reed canary grass and located in a right-of-way corridor that is occasionally mowed.	

## 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 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 saturated.		

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

 Sampling Point: was1007e\_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>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>95</u></td> <td>x 2 = <u>190</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</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>100</u> (A)</td> <td><u>210</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.1</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>95</u>	x 2 = <u>190</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>210</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>95</u>	x 2 = <u>190</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>210</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>95</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>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>100</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 sample point is representative of the wetland feature. Vegetation is disturbed by occasional mowing.																		

## SOIL

Sampling Point: wasa1007e\_w

[illegible]





wasal007e\_w\_N



wasal007e\_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 #: wasa1007		Date of visit(s): 2020-05-20	
Location: PLSS: <u>sec 17 T047N R004W</u>		Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.552849</u> Long: <u>-90.895926</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Portwing-Herbster complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: Series not field verified. Soils were not sampled due to the location of the wetland in a utility corridor right-of-way.		Wetland Type(s): PEM - fresh wet meadow	
		Wetland Size: 0.1152	Wetland Area Impacted 0.1152
Hydrology: The hydrologic regime is saturated. The major source of hydrology is surface water.		Vegetation: Plant Community Description(s): The wetland is a wet meadow almost entirely dominated by 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	Y	Y	Used for recreation (hunting, birding, hiking, etc.). List: hunting deer stands were observed in th
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	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	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	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	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

HU-1: Deer stands were observed in the buffer area.

WH-1: The wetland itself is located in a utility corridor by the edge of an agricultural field, but directly adjacent is a large forested habitat block.

ST-2/WQ-3: Water flow through the wetland is not channelized.

ST-3/SQ-5: There is dense, persistent vegetation that helps hold the soil in place and prevent erosion.

WQ-7: The major source of hydrology is surface water and runoff from an adjacent agriculture field.

**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 low due to the almost complete dominance of 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)
					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
					Roads or railroad
X	X		H	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
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
X	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)

The wetland's major source of hydrology is surface water and potentially polluted runoff from an adjacent hay field. The feature is located within an occasionally mowed utility corridor right-of-way with a potential ATV trail used to access the corridor. The feature is almost completely dominated by reed canary grass.

## 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 dominance of reed canary grass.
Human Use Values	Two deer stands were observed in the buffer area.
Wildlife Habitat	Limited species diversity results in overall low habitat quality.
Fish and Aquatic Life Habitat	
Shoreline Protection	N/A
Flood and Stormwater Storage	The shallowness and small size of the wetland limits the amount of stormwater the wetland can hold.
Water Quality Protection	Dense vegetation is present to prevent erosion and filter potential pollutants from the nearby agriculture field.
Groundwater Processes	The wetland exhibits groundwater 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: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1007\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.552913 Long: -90.896204 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 is located slightly upslope from the wetland and on the edge of a fallow agricultural field. The feature is dominated by Kentucky bluegrass and smooth brome 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"/> 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: wasal007\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Pinus strobus</i></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. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>20</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Rhamnus cathartica</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</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>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>77</u></td> <td>x 4 = <u>308</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>538</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2362204724409445</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>77</u>	x 4 = <u>308</u>	UPL species <u>40</u>	x 5 = <u>200</u>	Column Totals: <u>127</u> (A)	<u>538</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>77</u>	x 4 = <u>308</u>																	
UPL species <u>40</u>	x 5 = <u>200</u>																	
Column Totals: <u>127</u> (A)	<u>538</u> (B)																	
2. <u><i>Lonicera tatarica</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>15</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Poa pratensis</i></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)														
2. <u><i>Bromus inermis</i></u>	<u>40</u>	<u>Y</u>	<u>UPL</u>															
3. <u><i>Taraxacum officinale</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u><i>Lotus corniculatus</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u><i>Fragaria virginiana</i></u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<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. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) <b>The sample point is representative of the upland area.</b>																		

## SOIL

Sampling Point: wasa1007\_u

[illegible]



wasal007\_u\_N



wasal007\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-18  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1001e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.554720 Long: -90.906391 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.) <b>Wetland is a wet meadow found in a roadside ditch between 2 culverts. Feature continues south outside of the survey boundary.</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>Hydrologic regime is saturated.</b>		

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

 Sampling Point: wasal001e\_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>5</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Rhamnus cathartica</u>	<u>15</u>	<u>Y</u>	<u>FAC</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>70</u></td> <td>x 2 = <u>140</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</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>275</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.5</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>70</u>	x 2 = <u>140</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>110</u> (A)	<u>275</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>70</u>	x 2 = <u>140</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>15</u>	x 4 = <u>60</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>110</u> (A)	<u>275</u> (B)																	
2. <u>Acer negundo</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>20</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Phalaris arundinacea</u>	<u>70</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>Poa pratensis</u>	<u>15</u>	<u>N</u>	<u>FACU</u>															
3. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>90</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>Sample point is fairly representative of the wetland feature.</b>																		

## SOIL

Sampling Point: wasa1001e\_w

[illegible]



wasal001e\_w\_N



wasal001e\_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 #: wasa1001		Date of visit(s): 2020-05-18	
Location: PLSS: <u>sec 17 T047N R004W</u>		Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.554699</u> Long: <u>-90.906384</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Superior-Sedgwick complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: Series not verified. The soil profile could not be sampled due to the wetland's location in a roadside ditch.		Wetland Type(s): PEM - fresh wet meadow	
Hydrology: The hydrologic regime is saturated, and the feature is fed by surface water. The feature is associated with two culverts, and is a wetland because of its artificial roadside ditch hydrology.		Wetland Size: 0.0154	Wetland Area Impacted 0.0154
		Vegetation: Plant Community Description(s): The wetland is a fresh wet meadow dominated by reed canary grass. Some European buckthorn and boxelder shrubs are present in the wetland, but are not a component significant enough to create their own 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	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	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	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	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

HU-3: The wetland is located in a roadside ditch and is viewable by cars on the road.

ST-5: The feature receives point source inputs from both the adjacent road and the associated culvert.

WQ-3: Water flow through the wetland is not channelized, but likely flows from one culvert throughout the wetland and funnels back to another culvert.

WQ-4: The wetland is connected to an ephemeral stream via a culvert.

**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 wet meadow is dominated by reed canary grass, with some encroaching European buckthorn 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	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		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
X	X		M	C	Agriculture – hay
					Agriculture – pasture
X	X		H	C	Roads or railroad
X	X		L	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
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	X		M	C	Residential land use
	X		M	C	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 with the potential for polluted roadside runoff. Upslope from the wetland is an agricultural field planted with hay that adds additional potential for polluted runoff. There are utility lines present next to the wetland feature. Within the buffer area is a gravel pit and an industrial dump site.

## 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	Floristic integrity is low due to high invasive species cover.
Human Use Values	Human use values of the wetland are low due to being located within a roadside ditch.
Wildlife Habitat	Wildlife habitat is low because the wetland is located within a roadside ditch.
Fish and Aquatic Life Habitat	
Shoreline Protection	N/A
Flood and Stormwater Storage	Stormwater storage is low due to both the feature's size and flow through surface water not being retained within the wetland. However, the wetland ditch hydrology and vegetative cover still allows it to hold some runoff.
Water Quality Protection	Water quality protection is low because of the low water storage potential in this wetland.
Groundwater Processes	Groundwater processes are insignificant because the wetland is small and exhibits ditch 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: 2020-05-18  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1001\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): None Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.554694 Long: -90.906290 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.) <u>The upland is located upslope from the wetland on a berm between the wetland and a hay field.</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: wasal001\_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. _____	_____	_____	_____															
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>50</u></td> <td>x 3 = <u>150</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>145</u> (A)</td> <td><u>530</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.6551724137931036</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>50</u>	x 3 = <u>150</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>145</u> (A)	<u>530</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>																	
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UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>145</u> (A)	<u>530</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Rhamnus cathartica</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>50</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>Taraxacum officinale</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. <u>Tanacetum vulgare</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. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.) <b>Sample point is fairly representative of the upland area, with buckthorn prevalent.</b>																		

## SOIL

Sampling Point: wasa1001\_u

[illegible]





wasal001\_u\_N



wasal001\_u\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1008s\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.551141 Long: -90.896441 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 <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 small shrub community that is fed by runoff from a nearby agricultural field left fallow at the time of survey but likely to be planted with hay later in the year. Wetland borders a hardwood forest.	

## 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 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 _____ 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 saturated.		

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

 Sampling Point: was1008s\_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>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>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>35</u></td> <td>x 2 = <u>70</u></td> </tr> <tr> <td>FAC species <u>90</u></td> <td>x 3 = <u>270</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td><u>400</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.857142857142857</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>90</u>	x 3 = <u>270</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>140</u> (A)	<u>400</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>90</u>	x 3 = <u>270</u>																	
FACU species <u>15</u>	x 4 = <u>60</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>140</u> (A)	<u>400</u> (B)																	
<u>75</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u><i>Rhamnus cathartica</i></u>	<u>75</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>75</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u><i>Carex cf bromoides</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.														
2. <u><i>Phalaris arundinacea</i></u>	<u>15</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>Fragaria virginiana</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u><i>Equisetum arvense</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
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 <input checked="" type="checkbox"/> No _____														
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 wetland feature.**

## SOIL

Sampling Point: wasa1008s\_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 are clayey with some redox concentrations present throughout.





wasal008s\_w\_E



wasal008s\_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 #: wasa1008		Date of visit(s): 2020-05-20	
Location: PLSS: <u>sec 17 T047N R004W</u>		Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.551124</u> Long: <u>-90.896449</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles</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: Soils field not verified.		WWI Class: N/A	
		Wetland Type(s): PSS - shrub-carr	
		Wetland Size: 0.0201	Wetland Area Impacted 0.0201
Hydrology: The hydrologic regime is saturated and the major source of hydrology is surface water. Notable hydrologic indicators include water stained leaves.		Vegetation: Plant Community Description(s): The wetland is a shrub-carr dominated by a shrub layer of common buckthorn. The herbaceous layer is also fairly disturbed and contains multiple non-native and disturbance-favoring species. A small amount of quaking aspen is present in the wetland, but this tree strata is unlikely to develop further due to the prevalence of buckthorn throughout 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	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	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	N	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	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-2/WQ-3: The wetland is not channelized, so the potential for sedimentation issues is reduced.  
ST-3/WQ-5: The shrub and herbaceous layers are dense and persistent, and likely help to prevent erosion.  
ST-5/WQ-7: Surface water runoff from the adjacent agriculture field is likely the main water input.

### 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	Avian
	Y	White-tailed deer, other 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]

Floristic integrity is low due to the dominance of common buckthorn in the shrub layer. There is low species richness in the herbaceous 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
X	X		M	C	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
					Roads or railroad
	X		M	C	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		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 feature is a small shrub-carr wetland dominated by common buckthorn. The feature likely serves to filter potential polluted water from the adjacent agriculture field. The utility corridor on far side of the wetland is mowed.

## 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	Floristic integrity is low due to the dominance of buckthorn in the feature.
Human Use Values	The feature was once used as a dumping site for household garbage.
Wildlife Habitat	The small size of the wetland feature limits capability as potential wildlife habitat.
Fish and Aquatic Life Habitat	
Shoreline Protection	N/A
Flood and Stormwater Storage	The small size of the wetland feature limits storm water storage capacity.
Water Quality Protection	The feature likely filters incoming polluted water from agriculture runoff, but the small size is limiting.
Groundwater Processes	The major source of hydrology is from surface water, and the feature exhibits groundwater recharge 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: 2020-05-20  
Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1008\_u  
Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
Landform (hillslope, terrace, etc.): Side Slope Local relief (concave, convex, none): None Slope (%): 0-2%  
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.551230 Long: -90.896473 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"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.) The upland is located upslope from the wetland within a fallow agricultural field that will likely be planted with hay later on.	

## HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		_____ 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>		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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)		
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: was1008\_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. _____	_____	_____	_____															
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>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>80</u></td> <td>x 5 = <u>400</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>510</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.636363636363637</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>20</u>	x 4 = <u>80</u>	UPL species <u>80</u>	x 5 = <u>400</u>	Column Totals: <u>110</u> (A)	<u>510</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>20</u>	x 4 = <u>80</u>																	
UPL species <u>80</u>	x 5 = <u>400</u>																	
Column Totals: <u>110</u> (A)	<u>510</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. <u>Rhamnus cathartica</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>10</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Bromus inermis</u>	<u>80</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>Poa pratensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
3. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Lotus corniculatus</u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
5. <u>Trifolium hybridum</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>100</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 sample point is representative of the upland area. Vegetation is mowed.</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: wasa1008\_u

[illegible]



wasal008\_u\_N



wasal008\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase015e\_xw  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.548822 Long: -90.895675 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 is a wet meadow dominated by sedges at the sample point. The feature is located in a utility corridor right-of-way.	

## 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 saturated.		

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

 Sampling Point: wase015e\_xw

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>100</u></td> <td>x 1 = <u>100</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</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>115</u> (A)</td> <td><u>130</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.1304347826086956</u>	Total % Cover of:	Multiply by:	OBL species <u>100</u>	x 1 = <u>100</u>	FACW species <u>15</u>	x 2 = <u>30</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>115</u> (A)	<u>130</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>100</u>	x 1 = <u>100</u>																	
FACW species <u>15</u>	x 2 = <u>30</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>115</u> (A)	<u>130</u> (B)																	
<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>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>Calamagrostis canadensis</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Juncus effusus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>100</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 sample point is representative of the wetland feature.</b>																		

## SOIL

Sampling Point: wase015e\_xw

**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 utility corridor. The soils are assumed to be hydric based on the landscape position and dominant vegetation.



wase015e\_xw\_S



wase015e\_xw\_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): SBR/DGL	
File #: wase015_x	Date of visit(s): 2020-05-20	
Location: PLSS: <u>sec 17 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.548822</u> Long: <u>-90.895675</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes	WWI Class: N/A	
Field Verified: Series not verified. Soils were not sampled due to the location of the wetland in a utility corridor.	Wetland Type(s): PEM - fresh wet meadow	
Hydrology: The hydrologic regime is saturated, and the feature obtains water primarily as runoff from precipitation events.	Wetland Size: 1.5168	Wetland Area Impacted 1.5168
	Vegetation: Plant Community Description(s): The wetland is a fresh wet meadow with sedge species present throughout the wetter areas of the feature. Speckled alder is also patchily present across 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	Y	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	Y	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	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 <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	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland <u>or</u> constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	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-2/WQ-3: The wetland water flow is not channelized, which reduces possible sedimentation.  
ST-3/WQ-5: Dense and persistent vegetation is present, limiting potential erosion during large water events.  
WQ-7: Stormwater is the major hydrologic input, including runoff from the open utility corridor.

### 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	Avian
	Y	White tailed deer, 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]

## 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
X	X		M	C	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	X		H	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
X	X		L	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	X		H	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
		X	M	UC	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 located within both a utility corridor right-of-way that is occasionally mowed and a hayfield. The feature is shallow but relatively large and potentially capable of storing water before it flows over.

## 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	Some reed canary grass was observed encroaching from the edges of the wetland feature.
Human Use Values	Two treestands used for hunting were observed in the buffer area.
Wildlife Habitat	The feature has relatively low plant or strata diversity.
Fish and Aquatic Life Habitat	The wetland may provide marginal habitat, but no standing water was observed in the feature at the time of survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is large and densely vegetated, and holds stormwater runoff after precipitation events.
Water Quality Protection	The feature is large and has dense persistent vegetation, which helps to filter out pollutants from the nearby agriculture field.
Groundwater Processes	The feature appears to predominantly exhibit groundwater 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: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wase015e\_xu  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.548864 Long: -90.895378 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>The upland is a small rise surrounded by emergent wetland.</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: wase015e\_xu

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status																																																												
1. <u><i>Pinus resinosa</i></u>	<u>15</u>	<u>Y</u>	<u>FACU</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>Populus tremuloides</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>																																																												
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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>25</u>	x 3 =	<u>75</u>																																																												
FACU species	<u>35</u>	x 4 =	<u>140</u>																																																												
UPL species	<u>5</u>	x 5 =	<u>25</u>																																																												
Column Totals:	<u>85</u> (A)		<u>280</u> (B)																																																												
Prevalence Index = B/A = <u>3.2941176470588234</u>																																																															
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Remarks: (Include photo numbers here or on a separate sheet.) The sample point is representative of the upland area, though other available upland sample locations are lacking the tree layer.																																																															

## SOIL

Sampling Point: wase015e\_xu

[illegible]



wase015e\_xu\_E



wase015e\_xu\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1009e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.547370 Long: -90.894705 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>The wetland is a wet meadow dominated by lake sedge at the sample point.</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 checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) _____ Water Marks (B1) _____ Sediment Deposits (B2) _____ Drift Deposits (B3) _____ Algal Mat or Crust (B4) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) _____ Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13) _____ Marl Deposits (B15) _____ Hydrogen Sulfide Odor (C1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Presence of Reduced Iron (C4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Thin Muck Surface (C7) _____ Other (Explain in Remarks)	_____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</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: <b>The hydrologic regime is saturated with small pockets of standing water present.</b>		



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

 Sampling Point: wasal009e\_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>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>11</u></td> <td>x 2 = <u>22</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>51</u> (A)</td> <td><u>62</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.22</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>11</u>	x 2 = <u>22</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>51</u> (A)	<u>62</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>11</u>	x 2 = <u>22</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>51</u> (A)	<u>62</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Salix petiolaris</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>10</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Carex lacustris</u>	<u>40</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>Solidago gigantea</u>	<u>1</u>	<u>N</u>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
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.) The sample point is only somewhat representative of the wetland feature. Other sections of the wetland feature have greater proportions of grasses, like reed canary grass. Vegetation is just starting to emerge above the remnant biomass.																		

## SOIL

Sampling Point: was1009e\_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:

A dark clayey soil with redox concentrations, meeting the Redox Dark Surface indicator.



wasal009e\_w\_E



wasal009e\_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): SBR/DGL	
File #: wasa1009	Date of visit(s): 2020-05-20	
Location: PLSS: <u>sec 17 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.547370</u> Long: <u>-90.894705</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not verified. Soils were observed to be a clay loam over clay, with prominent redox features in the lower clay soil layer.	WWI Class: E1Kra	
	Wetland Type(s): PEM - fresh wet meadow	
	Wetland Size: 1.0829	Wetland Area Impacted 1.0829
	Vegetation: Plant Community Description(s): The wetland is a wet meadow dominated by reed canary grass and lake sedge. The feature may have historically been a sedge meadow, but is disturbed by its location in a utility corridor and hay field and reed canary grass is the predominant species.	
Hydrology: The hydrologic regime is saturated and the major source of hydrology is surface water.		

**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	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	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 <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	Y	Provides substantial storage of storm and floodwater based on previous section
2	N	Y	Basin wetland <u>or</u> constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	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

HU-3: The feature is within sight of two personal residences.

WH-1: The wetland is adjacent to a large forested habitat block.

FA-4: Saturation depth was 0 inches at the time of survey, so there is potential for the vegetation to be inundated in spring following large precipitation events.

ST-2/WQ-3: The wetland feature is not channelized, and thus limits sedimentation.

ST-3/WQ-5: The dense herbaceous layer helps to hold water, limit erosion, and filter pollutants.

**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 low due to the dominance of reed canary grass, low species diversity, and missing 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		L	C	Polluted runoff
					Pond construction
					Agriculture – row crops
X	X		H	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
X	X		H	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
X	X		L	C	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				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 predominantly receives water input as stormwater precipitation from the surrounding hayfield and utility corridor. The feature is partially within a utility corridor. The feature is highly disturbed.

## 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 dominance of reed canary grass and low species diversity.
Human Use Values	The wetland could potentially be used for hunting.
Wildlife Habitat	The lack of multiple strata and low species diversity limit the attractiveness of the feature to different wildlife species.
Fish and Aquatic Life Habitat	Standing water is present at the time of survey, but habitat is likely only marginal for aquatic invertebrates.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is a fairly large and densely vegetated feature that extends outside of the survey area, and water likely collects to stand in the feature following precipitation events.
Water Quality Protection	The size of the wetland and density of the vegetation likely function to filter pollutants from stormwater runoff inputs.
Groundwater Processes	The wetland exhibits no processes aside from 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: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: wasal009\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.547491 Long: -90.894952 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 is on a large, slight rise between two emergent wetlands.	

## 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: wasal1009\_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>2</u></td> <td>x 3 = <u>6</u></td> </tr> <tr> <td>FACU species <u>49</u></td> <td>x 4 = <u>196</u></td> </tr> <tr> <td>UPL species <u>50</u></td> <td>x 5 = <u>250</u></td> </tr> <tr> <td>Column Totals: <u>101</u> (A)</td> <td><u>452</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.475247524752476</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>49</u>	x 4 = <u>196</u>	UPL species <u>50</u>	x 5 = <u>250</u>	Column Totals: <u>101</u> (A)	<u>452</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
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FACU species <u>49</u>	x 4 = <u>196</u>																	
UPL species <u>50</u>	x 5 = <u>250</u>																	
Column Totals: <u>101</u> (A)	<u>452</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>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>30</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Tanacetum vulgare</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>Barbarea vulgaris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
6. <u>Lotus corniculatus</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>101</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 point is representative of the upland area.</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: wasa1009\_u

[illegible]



wasal009\_u\_E



wasal009\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1010e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 17 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.545786 Long: -90.895161 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 is part of a wet meadow/shrub-carr wetland complex. This feature is a wet meadow dominated by lake sedge and reed canary grass.	

## 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 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>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 saturated with some standing water present in the lower points of the wetland feature.		

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

 Sampling Point: was1010e\_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>90</u></td> <td>x 1 = <u>90</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</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>100</u> (A)</td> <td><u>120</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.2</u>	Total % Cover of:	Multiply by:	OBL species <u>90</u>	x 1 = <u>90</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>120</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>90</u>	x 1 = <u>90</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>120</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Salix petiolaris</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>5</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Carex lacustris</u>	<u>80</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>5</u>	<u>N</u>	<u>OBL</u>															
3. <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Carex stricta</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
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 point is fairly representative of the wetland feature, but reed canary grass being more dominant in other areas within the wetland.																		



## SOIL

Sampling Point: wasa1010e\_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:

A dark clayey soil with redox concentrations.



wasal010e\_w\_N



wasal010e\_w\_S



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1010s\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.545180 Long: -90.895240 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 is a shrub carr and part of a complex also comprised of a wet meadow. This feature is dominated by meadow willow and other willows in the shrub 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"/> 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 saturated.		

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

 Sampling Point: was1010s\_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>50</u></td> <td>x 1 = <u>50</u></td> </tr> <tr> <td>FACW species <u>125</u></td> <td>x 2 = <u>250</u></td> </tr> <tr> <td>FAC species <u>2</u></td> <td>x 3 = <u>6</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>182</u> (A)</td> <td><u>326</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.7912087912087913</u>	Total % Cover of:	Multiply by:	OBL species <u>50</u>	x 1 = <u>50</u>	FACW species <u>125</u>	x 2 = <u>250</u>	FAC species <u>2</u>	x 3 = <u>6</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>182</u> (A)	<u>326</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>50</u>	x 1 = <u>50</u>																	
FACW species <u>125</u>	x 2 = <u>250</u>																	
FAC species <u>2</u>	x 3 = <u>6</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>182</u> (A)	<u>326</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u> )																		
1. <u>Salix petiolaris</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Salix cf bebbiana</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
3. <u>Populus tremuloides</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>97</u> = Total Cover																
Herb Stratum (Plot size: <u>5</u> )																		
1. <u>Phalaris arundinacea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Carex lacustris</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Calamagrostis canadensis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>															
4. <u>Poa pratensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
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.) <b>The sample point is representative of the wetland feature.</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: wasa1010s\_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:

A red clayey soil with redox concentrations and meeting the F6 and F21 indicators.





wasal010s\_w\_N



wasal010s\_w\_NW

**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 #: wasa1010	Date of visit(s): 2020-05-20	
Location: PLSS: <u>sec 17 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.545786</u> Long: <u>-90.895161</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not verified. In the shrub component soils were a silty clay loam over clay loam, and in the emergent component soils were clay loam over clay.	WWI Class: E1Kra, S3/E1Kr	
	Wetland Type(s): PEM/PSS - fresh wet meadow/shrub-carr complex	
	Wetland Size: 2.3367	Wetland Area Impacted 2.3367
Hydrology: The hydrologic regime is saturated. The wetland is primarily fed by aboveground precipitation inputs from the surrounding utility corridor and hayfield.	Vegetation: Plant Community Description(s): The wetland is a wet meadow/shrub-carr complex. The wet meadow feature is dominated by lake sedge in the herbaceous layer, with reed canary grass also prevalent. The shrub-carr component is dominated by meadow willow.	

**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: Potentially used 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	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	Y	Y	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present ≥ 45 days
10	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			<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	N	Y	Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			<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	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



<p>HU-1: Observable tree stands used for hunting are present in the buffer area.</p> <p>WH-1: The feature is directly adjacent to a large forested habitat block.</p> <p>WH-6: The wetland is a complex that can potentially provide habitat for a number of species.</p> <p>WH-10: Small pockets of standing water were present, and frogs were heard calling at the time of survey.</p> <p>FA-2: Frogs were heard calling in the standing water.</p>
--

**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)
					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	X		H	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
X	X		H	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	X		L	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
X	X		H	UC	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 complex receives potentially polluted runoff from the surrounding agricultural field. The feature is also partially located within a utility corridor that is likely occasionally mowed, which would have removed any tree strata that may have previously existed.

## 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 abundance of reed canary grass and low species diversity indicate low floristic integrity.
Human Use Values	The wetland feature is potentially used for hunting purposes.
Wildlife Habitat	The wetland is limited in species diversity, and thus is limited in its variety of food sources. Frogs were heard calling at the time of survey.
Fish and Aquatic Life Habitat	Shallow areas of standing water are present, which provide habitat for aquatic invertebrates.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland complex is physically large and densely vegetated, and holds runoff from precipitation events.
Water Quality Protection	The wetland complex has dense, persistent vegetation, which helps filter potential pollutants and prevents erosion following large precipitation events.
Groundwater Processes	The wetland's major source of hydrology is from surface water and not ground water.

## 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: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1010\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.545048 Long: -90.895024 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>The upland is on a slight rise between two sections of a wetland feature.</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: was1010\_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>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>420</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2</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>0</u>	x 3 = <u>0</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>100</u> (A)	<u>420</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>0</u>	x 3 = <u>0</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>20</u>	x 5 = <u>100</u>																	
Column Totals: <u>100</u> (A)	<u>420</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>70</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>Bromus inermis</u>	<u>15</u>	<u>N</u>	<u>UPL</u>															
3. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Trifolium cf hybridum</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. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>100</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 _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is representative of the upland area.																		

## SOIL

Sampling Point: wasa1010\_u

[illegible]



wasal010\_u\_E



wasal010\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1011e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.544176 Long: -90.894758 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 is a wet meadow in a narrow figure-eight shape with the two ends being lower and wetter than the middle.	

## 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 _____ 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 saturated.		

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

Sampling Point: was1011e\_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>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</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>70</u> (A)</td> <td><u>110</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.5714285714285714</u>	Total % Cover of:	Multiply by:	OBL species <u>50</u>	x 1 = <u>50</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>70</u> (A)	<u>110</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>50</u>	x 1 = <u>50</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>70</u> (A)	<u>110</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>Juncus effusus</u>	<u>40</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>Carex lacustris</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
3. <u>Poa pratensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>70</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 <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is representative of the wetland feature.																		

## SOIL

Sampling Point: wasa1011e\_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:

The soils are clayey with redox concentrations present, meeting the Redox Dark Surface indicator.





wasal011e\_w\_N



wasal011e\_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 #: wasa1011		Date of visit(s): 2020-05-20	
Location: PLSS: <u>sec 20 T047N R004W</u>		Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.544178</u> Long: <u>-90.894754</u>		Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: Series not verified. Soils were a clay loam over clay, and were reduced throughout the profile.		Wetland Type(s): PEM - fresh wet meadow	
		Wetland Size: 0.1125	Wetland Area Impacted 0.1125
Hydrology: The hydrologic regime is saturated. The wetland receives surface water runoff from the surrounding hayfield.		Vegetation: Plant Community Description(s): The wetland is a fresh wet meadow dominated by reed canary grass, soft rush, and lake sedge, and is fairly disturbed.	

**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	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	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	N	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	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	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

HU-3: The wetland is visible from several personal residences.

ST-3/WQ-5: Remnant plant matter indicates that herbaceous vegetation will be dense later in the growing season.

ST-5/WQ-7: The wetland is small, but obtains stormwater runoff from the surrounding hayfield.

**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 low due to the presence of reed canary grass and low 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
X	X		M	C	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	X		H	C	Agriculture – hay
					Agriculture – pasture
					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		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		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 hayfield, with a utility corridor located just to the west. The wetland receives stormwater runoff and potential polluted runoff from the surrounding 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	Floristic integrity is low due to the presence of reed canary grass and the overall low species diversity at the time of survey.
Human Use Values	
Wildlife Habitat	Habitat for wildlife is low due to low plant species diversity.
Fish and Aquatic Life Habitat	There is no water present at the time of survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is of small physical size, but runoff from the surrounding hayfield gathers in this feature.
Water Quality Protection	Vegetation is somewhat sparse at the time of survey, but appears to become more prevalent based on dead plant material from the previous year.
Groundwater Processes	The wetland only 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.	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: 2020-05-20  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1011\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543993 Long: -90.894717 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 is upslope of the wetland and dominated by Kentucky bluegrass and smooth brome.	

## 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: was1011\_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>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>55</u></td> <td>x 4 = <u>220</u></td> </tr> <tr> <td>UPL species <u>40</u></td> <td>x 5 = <u>200</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>420</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.421052631578948</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>0</u>	x 3 = <u>0</u>	FACU species <u>55</u>	x 4 = <u>220</u>	UPL species <u>40</u>	x 5 = <u>200</u>	Column Totals: <u>95</u> (A)	<u>420</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>																	
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Column Totals: <u>95</u> (A)	<u>420</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>Poa pratensis</u>	<u>45</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>Bromus inermis</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>															
3. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Trifolium cf hybridum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
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.) <b>The sample point is representative of the upland area.</b>																		

## SOIL

Sampling Point: was1011\_u

[illegible]



wasal011\_u\_E



wasal011\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1012e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543712 Long: -90.895000 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 is a small wet meadow in a low lying area of a hay field dominated by disturbance-orientated graminoids.	

## 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 temporarily flooded.		

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

 Sampling Point: was1012e\_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>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>54</u> (A)</td> <td><u>58</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.07</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>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>54</u> (A)	<u>58</u> (B)
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Column Totals: <u>54</u> (A)	<u>58</u> (B)																	
				<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)														
				<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 _____														
				<b>Remarks:</b> (Include photo numbers here or on a separate sheet.) The vegetation is just starting to emerge at the time of survey but the wetland feature is dominated by disturbance-oriented graminoids. Eleocharis sp. is either E obtusa or E ovata.														

## SOIL

Sampling Point: wasa1012e\_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 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:

The soils are poorly drained.



wasal012e\_w\_N



wasal012e\_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): SBR/DGL	
File #: wasa1012	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.543712</u> Long: <u>-90.895000</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes	WWI Class: N/A	
Field Verified: Series not verified. Soils were a clay loam over clay, and were heavily reduced throughout the profile.	Wetland Type(s): PEM - fresh wet meadow	
Hydrology: The hydrologic regime is temporarily flooded. The wetland's primary water inputs are surface water/runoff from the surrounding hay field. Water-stained leaves were observed in the feature.	Wetland Size: 0.0536	Wetland Area Impacted 0.0536
	Vegetation: Plant Community Description(s): The wetland is a wet meadow surveyed early in the growing season, and dominated at the time of survey by disturbance-favoring graminoids.	

**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	N	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	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	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



HU-3: The wetland is viewable from the road at the time of survey, but later in the growing season the hay field might obstruct its view.  
ST-3/WQ-5: Vegetation is not dense at the time of survey, but it is likely to be more dense later in the growing season.  
ST-5/SQ-7: The feature is located within a hayfield, and receives polluted runoff from the field.

**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 average; the number/prevalence of invasive species observed was low but there is also a lack of 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	X		M	C	Polluted runoff
					Pond construction
					Agriculture – row crops
X	X		H	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	X		L	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					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	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 hay field and adjacent to a mowed survey corridor, from which the wetland likely receives polluted runoff. There is a small amount of reed canary grass present in the wetland at the time of survey.

## 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 small amount of reed canary grass will likely spread through the feature in the future, and species diversity is low. The wetland is filled with disturbance-favoring species.
Human Use Values	The wetland is located within a hay field and could be used for hunting.
Wildlife Habitat	Small size and low species diversity of the wetland limit habitat availability.
Fish and Aquatic Life Habitat	No water is present at the time of the survey, and water is likely present for insufficient durations.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature's area is small, but it is vegetated throughout and obtains stormwater inputs/polluted runoff.
Water Quality Protection	See above.
Groundwater Processes	The feature is mostly fed by surface water and recharges groundwater.

## 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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1012\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543607 Long: -90.894900 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 is on a small rise between two wetland features in a hay field. The upland is dominated by pasture grasses. This feature serves as a shared upland point for was1012e_w, was1013e_w, and was1014e_w.	

## 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)
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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: was1012\_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>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
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FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>69</u>	x 4 = <u>276</u>																	
UPL species <u>17</u>	x 5 = <u>85</u>																	
Column Totals: <u>91</u> (A)	<u>371</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>Phleum pratense</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>Dactylis glomerata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Poa pratensis</u>	<u>15</u>	<u>N</u>	<u>FACU</u>															
4. <u>Bromus inermis</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>															
5. <u>Elymus repens</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
6. <u>Agrostis gigantea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
7. <u>Trifolium hybridum</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
8. <u>Lotus corniculatus</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
9. <u>Leucanthemum vulgare</u>	<u>2</u>	<u>N</u>	<u>UPL</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<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.) <b>The sample point is representative of the upland area.</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: was1012\_u

[illegible]



wasal012\_u\_N



wasal012\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1013e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543553 Long: -90.895095 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 is a small depression in a planted hay field. Feature likely pools water periodically.	

## 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 temporarily flooded.		

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

Sampling Point: was1013e\_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>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</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>15</u> (A)</td> <td><u>20</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.33</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>5</u>	x 2 = <u>10</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>15</u> (A)	<u>20</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>5</u>	x 2 = <u>10</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>15</u> (A)	<u>20</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 hattorianus</u>	<u>5</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>Eleocharis sp.</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Phalaris arundinacea</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>15</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 wetland is mostly bare at time of survey with a few graminoids emerging. Eleocharis sp. is either E obtusa or E ovata.																		

## SOIL

Sampling Point: wasa1013e\_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:

Clayey soils with redox concentrations throughout.





wasal013e\_w\_N



wasal013e\_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): SBR/DGL	
File #: wasa1013	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.543547</u> Long: <u>-90.895175</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Soils not field verified. Soils were a silty clay loam transitioning to clay.	WWI Class: N/A	
	Wetland Type(s): PEM - fresh wet meadow	
	Wetland Size: 0.0276	Wetland Area Impacted 0.0276
Hydrology: The hydrologic regime is temporarily flooded. Surface water is the major source of water input.	Vegetation: Plant Community Description(s): The wetland is a very small wet meadow with mostly remnant biomass cover at the time of survey. Some emerging graminoids are 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	Y	Used for recreation (hunting, birding, hiking, etc.). List: hunting
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	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	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	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	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

HU-1: The area is potentially used for hunting.

HU-3: The wetland is visible from the road at the time of survey, but will likely be hidden from view as the growing season progresses and the surrounding vegetation grows.

FA-4: The wetland is a shallow depression potentially inundated in spring by collecting and holding runoff water to provide habitat.

ST-3: Based on remnant biomass, the wetland will have dense vegetation later in the growing season.

ST-5/WQ-7: The wetland is a small depression located in a hay field, and receives water from the field's runoff.

**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]

Low floristic integrity at the time of survey due to vegetation just emerging and low 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
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	X		H	C	Agriculture – hay
					Agriculture – pasture
					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	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 a small depressional feature in a hay field and adjacent to a (likely mowed) utility corridor. There is a small presence of invasive species within the wetland feature. The wetland receives its water from runoff of the hay field and from normal precipitation input.



## 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	Floristic integrity is low at the time of survey because only a few species had emerged.
Human Use Values	The wetland is located in a hayfield that could also be used for hunting.
Wildlife Habitat	The small size of the wetland limits habitat availability.
Fish and Aquatic Life Habitat	No water is present at the time of the survey, but standing water could be sufficient during periods of inundation.
Shoreline Protection	N/A
Flood and Stormwater Storage	The small size of the wetland limits its holding capacity, but it is otherwise vegetated throughout.
Water Quality Protection	The small size limits its filtering capabilities, but the feature is located in a hayfield and receives runoff inputs as a result.
Groundwater Processes	The major hydrology source is from surface water and not ground water.

## 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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1014e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543670 Long: -90.894642 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 is a low lying swale dominated by emerging graminoids. The feature is located within a planted hay field and there is an observable difference in color patterns and vegetation between the field and 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 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 temporarily flooded.		

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

 Sampling Point: was1014e\_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>8</u></td> <td>x 2 = <u>16</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>28</u> (A)</td> <td><u>36</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.2857142857142858</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>8</u>	x 2 = <u>16</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>28</u> (A)	<u>36</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>8</u>	x 2 = <u>16</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>28</u> (A)	<u>36</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>Juncus effusus</u>	<u>10</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>Carex stipata</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Phalaris arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. <u>Ranunculus cf recurvatus</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
5. <u>Salix petiolaris</u>	<u>1</u>	<u>N</u>	<u>FACW</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>28</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 still emerging at the time of survey, but likely dominated by disturbance-tolerant graminoids like soft rush and awl-fruited sedge.																		

**Hydrophytic Vegetation Present?**
 Yes ☒ No ☐

## SOIL

Sampling Point: wasa1014e\_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 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 poorly drained.



wasal014e\_w\_E



wasal014e\_w\_NW



**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 #: wasa1014	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.543668</u> Long: <u>-90.894565</u>	Watershed: LS08, Fish Creek, LS09, Lower Bad River	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not field verified. Soils were a silty clay loam over clay.	WWI Class: N/A	
	Wetland Type(s): PEM - fresh wet meadow	
	Wetland Size: 0.0780	Wetland Area Impacted 0.0780
Hydrology: The hydrologic regime is temporarily flooded. The major source of hydrology is surface water runoff from the surrounding hay field.	Vegetation: Plant Community Description(s): The wetland is a low-lying swale in a hay field, and is dominated by disturbance-tolerant graminoids.	

**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	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	Y	Y	Water flow through wetland is NOT channelized
3	N	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	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	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

HU-1: The area is potentially used for hunting.

ST-3/WQ-5: There is likely to be dense persistent vegetation later in the growing season, based on remnant biomass.

**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 low at the time of survey, but the number of species will likely increase as more plants begin to emerge later in the growing season progresses.

### 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
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	X		H	C	Agriculture – hay
					Agriculture – pasture
					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		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	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 a low-lying swale in a hayfield and is adjacent to a mowed utility corridor. The feature likely receives polluted runoff from both. Non-native cover is low at the time of survey.

## 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 floristic integrity due to low diversity at the time of survey, as well as the presence of reed canary grass.
Human Use Values	There is potential for hunting in the area.
Wildlife Habitat	The small size and missing strata limit opportunities to provide wildlife habitat.
Fish and Aquatic Life Habitat	No water at the time of survey, but there is potential for shallow inundation.
Shoreline Protection	N/A
Flood and Stormwater Storage	The small size limits the holding capacity of the wetland, however the feature is densely vegetated (based on remnant biomass).
Water Quality Protection	The wetland's small size limits the amount of water the feature can filter, but its location in a hayfield means it obtains stormwater runoff.
Groundwater Processes	The major source of hydrology is from surface water and not ground water.



## 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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1018e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543275 Long: -90.895898 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 is a shallow depression that is likely a remnant of past utility work. Feature is dominated by reed canary grass and surrounds a functioning electric pole.	

## 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 is temporarily flooded.		

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

 Sampling Point: was1018e\_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>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</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>65</u> (A)</td> <td><u>120</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.8461538461538463</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>55</u>	x 2 = <u>110</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>65</u> (A)	<u>120</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>55</u>	x 2 = <u>110</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>65</u> (A)	<u>120</u> (B)																	
<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>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
3. <u>Salix petiolaris</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>65</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 sample point is fairly representative of the wetland. Vegetation is still emerging at the time of the survey.																		

## SOIL

Sampling Point: wasa1018e\_w

[illegible]



wasal018e\_w\_E



wasal018e\_w\_NE

**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 #: wasa1018	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.543293</u> Long: <u>-90.895875</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not field verified. Soils were a silty clay loam over clay loam.	WWI Class: N/A	
	Wetland Type(s): PEM - fresh wet meadow	
	Wetland Size: 0.0132	Wetland Area Impacted 0.0132
Hydrology: The hydrologic regime is temporarily flooded with inundation likely at some point in time. The major hydrology source is from surface water and polluted runoff from the surrounding hay field.	Vegetation: Plant Community Description(s): The vegetation is still emerging at the time of survey, but the feature seems to be dominated by reed canary grass and soft rush.	

**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	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	N	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	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	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

HU-3: The wetland is visible from the road at the time of survey but will likely be hidden from view as the vegetation grows taller.

ST-3/WQ-5: The wetland has the potential for dense vegetation later in the growing season based on the cover of remnant biomass.

WQ-5/WQ-7: The major source of hydrology is surface water.

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

## Fish and Aquatic Life Habitat and Species Observations

[illegible]

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

\*Note: separate plant communities are described independently

[illegible]

The floristic integrity is low due to the dominance of reed canary grass and the presence of common buckthorn.

### 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
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	X		H	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
X	X		M	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
X	X		L	C	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		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 within an occasionally-mowed utility corridor and a planted hayfield. The feature likely receives polluted runoff from both sources.

## 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 floristic integrity due to the dominance of invasive species and low species diversity.
Human Use Values	There is potential for hunting in the area.
Wildlife Habitat	Wildlife habitat is limited by the monotypic nature of reed canary grass and lack of strata present beyond the herbaceous layer.
Fish and Aquatic Life Habitat	No water is present at the time of the survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	The small size of the wetland limits its holding capacity.
Water Quality Protection	The small size of the wetland limits its filtering capacity, but the feature obtains agricultural runoff.
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.	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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1015e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543372 Long: -90.895015 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 is a low lying swale located in a hay field. There are deep ruts on the edge of the wetland from a vehicle. The feature is dominated by newly emerging graminoids that are disturbance-tolerant.	

## 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 _____ 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 with inundation likely in the spring or with heavy precipitation events.		

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

 Sampling Point: was1015e\_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>65</u></td> <td>x 1 = <u>65</u></td> </tr> <tr> <td>FACW species <u>2</u></td> <td>x 2 = <u>4</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>67</u> (A)</td> <td><u>69</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.0298507462686568</u>	Total % Cover of:	Multiply by:	OBL species <u>65</u>	x 1 = <u>65</u>	FACW species <u>2</u>	x 2 = <u>4</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>67</u> (A)	<u>69</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>65</u>	x 1 = <u>65</u>																	
FACW species <u>2</u>	x 2 = <u>4</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>67</u> (A)	<u>69</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>Eleocharis acicularis</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>Juncus effusus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Glyceria cf grandis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>															
4. <u>Salix petiolaris</u>	<u>2</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>67</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 still emerging at the time of survey but likely dominated by disturbance-tolerant graminoids like soft rush and American mannagrass.																		

## SOIL

Sampling Point: was1015e\_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:

Soil is dark and silty with redox concentrations .



wasal015e\_w\_N



wasal015e\_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 #: wasa1015	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.543322</u> Long: <u>-90.895072</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not field verified. Soils were a silty clay loam over clay.	WWI Class: N/A	
	Wetland Type(s): PEM - fresh wet meadow	
	Wetland Size: 0.0340	Wetland Area Impacted 0.0340
	Vegetation: Plant Community Description(s): The wetland is a small low-lying swale dominated by disturbance-tolerant graminoid species.	
Hydrology: The hydrologic regime is temporarily flooded. The driving water input is surface water runoff from the hay field that the feature is located within.		

**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	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	Y	Y	Water flow through wetland is NOT channelized
3	N	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	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	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



HU-1: There is potential for hunting in the area.

ST-3/WQ-5: The vegetation is newly emergent at the time of the survey, but will likely become more dense as the growing season progresses.

ST-5/WQ-7: A major hydrology source for this feature is from the hayfield in which the wetland is found.

**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 average due to the absence of invasive species, but species diversity is low.

### 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
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	X		H	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	X		L	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
	X		L	C	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		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 a small wet meadow located in a hay field and adjacent to an occasionally-mowed utility corridor. The wetland likely receives polluted runoff from both sources. There were no observed invasive species in the feature, but some might emerge later in the growing season.

## 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 medium due to low diversity and lack of observed invasive species at the time of survey.
Human Use Values	There is potential for hunting in the area.
Wildlife Habitat	The small size and missing strata limit potential wildlife habitat.
Fish and Aquatic Life Habitat	No water was observed at the time of the survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	Due to the wetland's small size, the storage capacity is small.
Water Quality Protection	The small size of the wetland limits the volume of water the feature can filter, but the feature likely functions in some capacity to filter polluted agricultural runoff.
Groundwater Processes	The major source of hydrology is from surface water and not ground water.

## 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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1015\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543212 Long: -90.895192 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 is in a rise between two wetland features and is dominated by pasture grasses. The point serves as a shared upland point for was1015e and was1016e.	

## 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: was1015\_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>0</u></td> <td>x 3 = <u>0</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>72</u> (A)</td> <td><u>288</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0</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>0</u>	x 3 = <u>0</u>	FACU species <u>72</u>	x 4 = <u>288</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>72</u> (A)	<u>288</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>0</u>	x 3 = <u>0</u>																	
FACU species <u>72</u>	x 4 = <u>288</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>72</u> (A)	<u>288</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>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)														
2. <u>Dactylis glomerata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Trifolium pratense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Trifolium hybridum</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>72</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>Woody Vine Stratum (Plot size: <u>30</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>✓</u>														

Remarks: (Include photo numbers here or on a separate sheet.)  
 The sample point is representative of the upland area.

## SOIL

Sampling Point: wasa1015\_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:

Silty clay soils with no indicators of hydric soil observed.



wasal015\_u\_NW



wasal015\_u\_SW

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1016e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543212 Long: -90.895195 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 is a small shallow depression within a hay field. The feature is dominated by disturbance-tolerant graminoids like soft rush and American mannagrass.	

## 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 temporarily flooded and is likely inundated in spring or with heavy rain events.		

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

 Sampling Point: was1016e\_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>80</u></td> <td>x 1 = <u>80</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</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>90</u> (A)</td> <td><u>100</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.111111111111112</u>	Total % Cover of:	Multiply by:	OBL species <u>80</u>	x 1 = <u>80</u>	FACW species <u>10</u>	x 2 = <u>20</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>90</u> (A)	<u>100</u> (B)
Total % Cover of:	Multiply by:																	
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Column Totals: <u>90</u> (A)	<u>100</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>Juncus effusus</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>Glyceria cf grandis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Eleocharis acicularis</u>	<u>15</u>	<u>N</u>	<u>OBL</u>															
4. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
5. <u>Persicaria hydropiper</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
6. <u>Carex stipata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>90</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 point is representative of the wetland feature. The vegetation is still emerging at the time of the survey but is likely dominated by disturbance-tolerant graminoids.																		

## SOIL

Sampling Point: wasa1016e\_w

[illegible]





wasal016e\_w\_N



wasal016e\_w\_NW

**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 #: wasa1016	Date of visit(s): 2020-05-21		
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain		
Lat: <u>46.543175</u> Long: <u>-90.895513</u>	Watershed: LS08, Fish Creek		
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not field verified. Soils were a silty clay loam above silty clay.	WWI Class:  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: 0.0272</td> <td style="width: 50%; padding: 2px;">Wetland Area Impacted 0.0272</td> </tr> </table>	Wetland Size: 0.0272	Wetland Area Impacted 0.0272
Wetland Size: 0.0272	Wetland Area Impacted 0.0272		
Hydrology: The hydrologic regime is temporarily flooded and is likely inundated at some point in the year.	Vegetation: Plant Community Description(s): The wetland is wet meadow dominated by disturbance-tolerant graminoids.		

**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	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	Y	Y	Water flow through wetland is NOT channelized
3	N	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	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	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

<p>HU-1: Potential for hunting in the area based on observed deer stands</p> <p>ST-3/WQ-5: Vegetation is not dense at the time of survey, but will likely become more dense as the growing season progresses.</p> <p>ST-5/WQ-7: The wetland receives polluted runoff from the surrounding hayfield.</p>
---

**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)
					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	X		H	C	Agriculture – hay
					Agriculture – pasture
					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	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 located within a hayfield and receives polluted runoff. The feature is adjacent to an occasionally-mowed utility corridor. There is a small presence of invasive species within 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 average due to the presence of reed canary grass and the relatively low species diversity at the time of survey.
Human Use Values	The area could potentially be used for hunting.
Wildlife Habitat	The small size of the wetland and missing strata limit wildlife habitat opportunities.
Fish and Aquatic Life Habitat	There is no standing water at the time of survey, but the feature may be inundated following rain events.
Shoreline Protection	N/A
Flood and Stormwater Storage	The small size of the wetland limits its holding capacity.
Water Quality Protection	The small size of the wetland limits its ability to filter large amounts of water, but it functions in some capacity to filter agricultural runoff.
Groundwater Processes	The wetland does not appear to significantly interact with 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.	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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1017e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543203 Long: -90.895778 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 is a small, shallow depression located within a hay field. The feature is dominated by soft rush and other disturbance-tolerant graminoids.	

## 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 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 temporarily flooded.		

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

 Sampling Point: was1017e\_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>75</u></td> <td>x 1 = <u>75</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</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>85</u> (A)</td> <td><u>95</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.1176470588235294</u>	Total % Cover of:	Multiply by:	OBL species <u>75</u>	x 1 = <u>75</u>	FACW species <u>10</u>	x 2 = <u>20</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>85</u> (A)	<u>95</u> (B)
Total % Cover of:	Multiply by:																	
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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>Juncus effusus</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>Carex stipata</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
3. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u>Persicaria hydropiper</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
5. <u>Eleocharis acicularis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
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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 sample point is representative of the wetland feature. The vegetation is newly emerging at the time of survey.																		

## SOIL

Sampling Point: wasa1017e\_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:

Dark loamy soils with prominent redox concentrations.





wasal017e\_w\_N



wasal017e\_w\_NE



**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 #: wasa1017	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.542642</u> Long: <u>-90.895752</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not field verified. Soils were a silty clay loam over silty clay.	WWI Class: N/A	
	Wetland Type(s): PEM - fresh wet meadow	
	Wetland Size: 0.0105	Wetland Area Impacted 0.0105
Hydrology: The hydrologic regime is temporarily flooded, with potential inundation at some points in the year and a more dry hydrology at other times of the year. The major source of hydrology is surface water runoff.	Vegetation: Plant Community Description(s): The feature is a wet meadow dominated by disturbance-tolerant graminoids, including soft rush.	

**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	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	Y	Y	Water flow through wetland is NOT channelized
3	N	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	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	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

HU-3: At the time of survey, the wetland is visible from the road but as the growing season progresses, the taller vegetation will likely hide the wetland from view.

FA-4: The wetland is likely inundated in the spring or following large precipitation events and possibly would provide habitat for aquatic organisms.

ST-3/WQ-5: The feature is likely to have denser vegetation later in the year.

ST-5/WQ-7: The wetland likely receives polluted runoff from stormwater and the surrounding hayfield.

**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 low due to the presence of invasive species and low species diversity at the time of survey.

### 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
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	X		H	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
X	X		M	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
X	X		M	C	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 hayfield and within an occasionally-mowed utility corridor. The feature likely receives polluted runoff from both.

## 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	Floristic integrity is low due to lack of species diversity at the time of survey.
Human Use Values	The wetland is within a utility corridor and used as part of a hay field.
Wildlife Habitat	The small size of the wetland and missing strata limit wildlife habitat in the feature.
Fish and Aquatic Life Habitat	No water is present at the time of the survey, but marginal habitat may be provided after rain events.
Shoreline Protection	N/A
Flood and Stormwater Storage	The size of the wetland limits its stormwater holding capacity.
Water Quality Protection	The size of the wetland limits its filtering capacity, but it filters polluted agricultural runoff.
Groundwater Processes	The wetland does not appear to influence ground water 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.	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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1017\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.543195 Long: -90.895882 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 is on a rise between two wetland features within a planted hay field. The feature is dominated by pasture grasses and is shared between was1017e and was1018e.	

## 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: was1017\_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>3</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>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>49</u></td> <td>x 4 = <u>196</u></td> </tr> <tr> <td>UPL species <u>22</u></td> <td>x 5 = <u>110</u></td> </tr> <tr> <td>Column Totals: <u>71</u> (A)</td> <td><u>306</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.309859154929577</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>0</u>	x 3 = <u>0</u>	FACU species <u>49</u>	x 4 = <u>196</u>	UPL species <u>22</u>	x 5 = <u>110</u>	Column Totals: <u>71</u> (A)	<u>306</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>0</u>	x 3 = <u>0</u>																	
FACU species <u>49</u>	x 4 = <u>196</u>																	
UPL species <u>22</u>	x 5 = <u>110</u>																	
Column Totals: <u>71</u> (A)	<u>306</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>Bromus inermis</u>	<u>20</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>Y</u>	<u>FACU</u>															
3. <u>Phleum pratense</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>															
4. <u>Dactylis glomerata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. <u>Trifolium hybridum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. <u>Taraxacum officinale</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
7. <u>Leucanthemum vulgare</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. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>71</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 sample point is representative of the upland area and is dominated by planted pasture grasses.</b>																		

## SOIL

Sampling Point: wasa1017\_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:

Soil is loamy at the top of the profile and becomes more clayey deeper down.





wasal017\_u\_E



wasal017\_u\_N

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1021e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.542965 Long: -90.894702 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 is a shallow depression within a hay field that is likely temporarily flooded in spring or with large rain events. There is a clear observable difference between the surrounding field and the wetland feature. The wetland is dominated by rushes.	

## 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 hydrology regime is temporarily flooded.		



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

Sampling Point: was1021e\_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>85</u></td> <td>x 1 = <u>85</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</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>90</u> (A)</td> <td><u>95</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.06</u>	Total % Cover of:	Multiply by:	OBL species <u>85</u>	x 1 = <u>85</u>	FACW species <u>5</u>	x 2 = <u>10</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>90</u> (A)	<u>95</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>85</u>	x 1 = <u>85</u>																	
FACW species <u>5</u>	x 2 = <u>10</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>90</u> (A)	<u>95</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>Juncus effusus</u>	<u>40</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>Eleocharis sp.</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Alisma cf. triviale</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
4. <u>Phalaris arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>90</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 <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) Eleocharis sp. is either E obtusa or E ovata. The vegetation is just starting to emerge. The sample point is representative of the wetland feature.																		

## SOIL

Sampling Point: wasa1021e\_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:

A silty clay soil with redox concentrations throughout.



wasal021e\_w\_S



wasal021e\_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): SBR/DGL	
File #: wasa1021		Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>		Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.542772</u> Long: <u>-90.894635</u>		Watershed: LS09, Lower Bad River, LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>			
<b>SITE DESCRIPTION</b>			
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes		WWI Class: N/A	
Field Verified: Series not field verified. Soils were a reduced silty clay throughout the profile.		Wetland Type(s): PEM - fresh wet meadow	
		Wetland Size: 0.0666	Wetland Area Impacted 0.0666
Hydrology: The hydrologic regime is temporarily flooded. The major source of hydrology is from surface water. Water stained leaves is a major hydrologic indicator.		Vegetation: Plant Community Description(s): The wetland is a wet meadow with still-emerging vegetation. Based on remnant biomass, soft rush appears to be a dominant species within 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	N	Y	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	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	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	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	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	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	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

HU-3: The wetland is visible from the road at the time of survey but will likely be hidden by taller vegetation later in the growing season.

FA-4: Ponding and inundation is likely at some point, and could support aquatic organisms.

ST-3/WQ-5: There will likely be a dense herbaceous layer later in the growing season.

ST-5/WQ-7: The wetland is fed mainly by surface water.

**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)
					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	X		H	C	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
X	X		M	C	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		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 a clear shallow depression within a hay field and an occasionally mowed utility corridor. Non-native species are present within 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	Low floristic integrity due to the presence of reed canary grass and low species diversity at the time of the survey.
Human Use Values	The area is used as a hay field.
Wildlife Habitat	The feature is relatively small and isolated within the hayfield, limiting wildlife use.
Fish and Aquatic Life Habitat	The feature likely ponds in the spring, potentially creating habitat for aquatic organisms.
Shoreline Protection	N/A
Flood and Stormwater Storage	Wetland size limits its holding capacity.
Water Quality Protection	The small size of the wetland limits ability of feature to filter large amounts of water, but it does obtain some agricultural runoff.
Groundwater Processes	The wetland does not appear to influence ground water 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.	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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1021\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.542872 Long: -90.894820 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 is on a small rise between two wetland features. The feature is dominated by planted pasture grasses. The point is shared between wasa1021e and wasa1022e.	

## 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: was1021\_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>3</u></td> <td>x 3 = <u>9</u></td> </tr> <tr> <td>FACU species <u>84</u></td> <td>x 4 = <u>336</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>365</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.7628865979381443</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>3</u>	x 3 = <u>9</u>	FACU species <u>84</u>	x 4 = <u>336</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>97</u> (A)	<u>365</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
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FACU species <u>84</u>	x 4 = <u>336</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>97</u> (A)	<u>365</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>Dactylis glomerata</u>	<u>75</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>Agrostis gigantea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. <u>Trifolium pratense</u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
4. <u>Equisetum arvense</u>	<u>3</u>	<u>N</u>	<u>FAC</u>															
5. <u>Trifolium hybridum</u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
6. <u>Taraxacum officinale</u>	<u>3</u>	<u>N</u>	<u>FACU</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>97</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 sample point is representative of the upland area.</b>																		



## SOIL

Sampling Point: wasa1021\_u

[illegible]



wasal021\_u\_N



wasal021\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1019e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.542937 Long: -90.895805 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 is a shallow depression located within a hay field and a utility corridor. The majority of the feature is covered in remnant biomass and this year's vegetation is just starting to emerge. There is a clear change in coloration between the surrounding field and the wetland feature. There are also ruts from a vehicle driving through the wetland 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 temporarily flooded.		

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

 Sampling Point: was1019e\_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>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</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>20</u> (A)</td> <td><u>30</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.5</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>10</u>	x 2 = <u>20</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>20</u> (A)	<u>30</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>10</u>	x 2 = <u>20</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>20</u> (A)	<u>30</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15</u> )																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>0</u> = Total Cover																
<b>Herb Stratum</b> (Plot size: <u>5</u> )																		
1. <u>Phalaris arundinacea</u>	<u>10</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>Juncus effusus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>20</u> = Total Cover																
<b>Woody Vine Stratum</b> (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 point is fairly representative of the wetland feature. At the time of survey, the vegetation is just starting to emerge and a majority of the wetland is covered with remnant biomass.																		

## SOIL

Sampling Point: wasa1019e\_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 proximity of the utility corridor. The soils are assumed to be hydric based on the landscape position and dominant vegetation.





wasal019e\_w\_NE



wasal019e\_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): SBR/DGL	
File #: wasa1019	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.542745</u> Long: <u>-90.895835</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes	WWI Class: N/A	
Field Verified: Series not field verified. Soils could not be sampled due to the wetland's location in a utility corridor.	Wetland Type(s): PEM - fresh wet meadow	
Hydrology: The hydrologic regime is temporarily flooded. The wetland primarily receives inputs from stormwater.	Wetland Size: 0.0491	Wetland Area Impacted 0.0491
	Vegetation: Plant Community Description(s): The wetland is a wet meadow with newly emerging vegetation, but is dominated by disturbance-tolerant graminoids including soft rush.	

**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	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	N	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	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	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

HU-3: The wetland is visible from the road at the time of survey but will likely be hidden by taller vegetation later in the growing season.

ST-3/WQ-5: Based on remnant biomass, there will likely be dense vegetation later in the growing season.

ST-5/WQ-7: The wetland is fed by surface water.

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

## Fish and Aquatic Life Habitat and Species Observations

[illegible]

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

\*Note: separate plant communities are described independently

[illegible]

Only some vegetation has emerged at the time of survey, but the presence of invasive species, missing strata, and low species diversity indicate 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	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	X		H	C	Agriculture – hay
					Agriculture – pasture
	X		L	C	Roads or railroad
X	X		M	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
X	X		M	C	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 found within a hayfield and a utility corridor. The feature is fed by surface water, including stormwater discharge and polluted runoff from the surrounding hayfield. Occasional mowing of the utility corridor likely occurs.

## 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 floristic integrity due to low species diversity, missing strata, and invasive species cover.
Human Use Values	The area could be used for hunting.
Wildlife Habitat	The small size of the wetland limits wildlife habitat.
Fish and Aquatic Life Habitat	No water is present at the time of survey.
Shoreline Protection	N/A
Flood and Stormwater Storage	The small size of the wetland limits its holding capacity.
Water Quality Protection	The wetlands is of small size, but receives agricultural runoff.
Groundwater Processes	The wetland does not appear to influence ground water 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.	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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1019\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.542672 Long: -90.895840 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 is located in a planted hay field dominated by pasture grasses. The sample point is shared between wetlands was1019e and was1020e.	

## 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: was1019\_u

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	<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>Bromus inermis</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Poa pratensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Dactylis glomerata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Trifolium hybridum</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>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	<u>75</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 sample point is representative of the upland area.

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)  
  
 Total Number of Dominant Species Across All Strata: 2 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**  

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>0</u>	x 3 = <u>0</u>
FACU species <u>40</u>	x 4 = <u>160</u>
UPL species <u>35</u>	x 5 = <u>175</u>
Column Totals: <u>75</u> (A)	<u>335</u> (B)

Prevalence Index = B/A = 4.466666666666667

**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: wasa1019\_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.



wasal019\_u\_NW



wasal019\_u\_W



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1022e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.542893 Long: -90.894718 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 is a wet meadow found in a shallow linear depression within a hay field. Vegetation is just starting to emerge at the time of survey but the feature is likely dominated by disturbance-tolerant graminoids. There are tire ruts going 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 temporarily flooded.		



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

Sampling Point: was1022e\_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>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</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>50</u> (A)</td> <td><u>75</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.5</u>	Total % Cover of:	Multiply by:	OBL species <u>25</u>	x 1 = <u>25</u>	FACW species <u>25</u>	x 2 = <u>50</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>50</u> (A)	<u>75</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>25</u>	x 1 = <u>25</u>																	
FACW species <u>25</u>	x 2 = <u>50</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>50</u> (A)	<u>75</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>Agrostis gigantea</u>	<u>20</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 stipata</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>															
3. <u>Juncus effusus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>															
4. <u>Phalaris arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
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																
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 <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is representative of the wetland feature. The vegetation is just starting to emerge at the time of survey.																		

## SOIL

Sampling Point: was1022e\_w

[illegible]



wasal022e\_w\_S



wasal022e\_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): SBR/DGL	
File #: wasa1022	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.542962</u> Long: <u>-90.894608</u>	Watershed: LS09, Lower Bad River	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes	WWI Class: N/A	
Field Verified: Series not verified. Soils were a silty clay over clay, and were heavily reduced throughout the sampled profile.	Wetland Type(s): PEM - fresh wet meadow	
Hydrology: The hydrology regime is temporarily flooded, and the primary water input is surface water runoff. Water-stained leaves are present in the feature.	Wetland Size: 0.0448	Wetland Area Impacted 0.0448
	Vegetation: Plant Community Description(s): The wetland vegetation is still emerging at the time of the survey, but appears to be dominated by disturbance-tolerant graminoids.	

**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	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	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	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	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	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	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

HU-3: The wetland is visible from the road at the time of survey but will likely be hidden by taller vegetation later in the growing season.

FA-2/FA-4: Ponding and inundation is likely at some point, and potentially sufficiently deep and long-lasting to sustain aquatic organisms for a short period of time.

ST-3/WQ-5: There will likely be dense vegetation later on in the growing season.

ST-5/WQ-7: The wetland is fed primarily by surface water.

**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]

Vegetation is still emerging at the time of survey. Low species diversity and the dominance of invasive species indicates a relatively 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	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	X		H	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		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		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 a shallow linear depression within a hay field. The feature likely receives polluted runoff from the field and from a nearby occasionally-mowed utility corridor.

## 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 low species diversity and presence of invasive species.
Human Use Values	The area is used for growing hay.
Wildlife Habitat	Low species diversity and missing strata limit options as habitat for wildlife.
Fish and Aquatic Life Habitat	No water is present at the time of the survey, but there is potential for some standing water and pooling following large rain events.
Shoreline Protection	N/A
Flood and Stormwater Storage	The overall small size of the wetland and its more linear shape likely funnels the water with a potential for a small holding capacity.
Water Quality Protection	The wetland likely only filters a small amount of water given its smaller size, but this input is from disturbed agricultural land use.
Groundwater Processes	The wetland doesn't appear to influence ground water 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.	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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1020e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.542627 Long: -90.895702 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 a shallow depression within a hay field and a utility corridor. The feature has ruts from a large vehicle driving through at some point. The vegetation is only starting to emerge at the time of survey but is likely dominated by disturbance-tolerant graminoids.	

## 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 temporarily flooded.		

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

 Sampling Point: was1020e\_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>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</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>55</u> (A)</td> <td><u>70</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.27</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>15</u>	x 2 = <u>30</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>55</u> (A)	<u>70</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>15</u>	x 2 = <u>30</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>55</u> (A)	<u>70</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>Eleocharis acicularis</u>	<u>15</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>Eleocharis sp.</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>Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>55</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 point is representative of the wetland feature. The vegetation is just starting to emerge and at least half of the wetland is covered with remnant biomass. Eleocharis sp. is either E obtusa or E ovata.																		

**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: wasa1020e\_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:

Indicators for Redox Dark Surface were observed.



wasal020e\_w\_S



wasal020e\_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): SBR/DGL	
File #: wasa1020	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.542720</u> Long: <u>-90.895797</u>	Watershed: LS08, Fish Creek	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not field verified. Soils were a silty loam over clay loam.	WWI Class: N/A	
	Wetland Type(s): PEM - fresh wet meadow	
	Wetland Size: 0.1186	Wetland Area Impacted 0.1186
Hydrology: The hydrologic regime is temporarily flooded with ponding occurring at some point. The major source of hydrology is from surface water.	Vegetation: Plant Community Description(s): The wetland is dominated by disturbance-tolerant graminoids like soft rush and some spikerush species, as well as 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
2	N	N	Used for educational or scientific purposes
3	N	Y	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N	N	In or adjacent to RED FLAG areas List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	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	N	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	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	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

HU-3: The wetland is visible from the road at the time of survey but will likely be hidden by taller vegetation later in the growing season.

FA-4: Ponding and inundation is likely at some point in time. Snail shells were found at the time of survey.

ST-3/WQ-5: Based on remnant biomass, there will likely be dense vegetation later in the growing season.

ST-5/WQ-7: The wetland is fed mainly by surface water.

**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		L	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	X		H	C	Agriculture – hay
					Agriculture – pasture
	X		L	C	Roads or railroad
X	X		M	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		H	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 a shallow depression located in a hay field and within a utility corridor. It likely receives polluted runoff from both of these. 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	The presence of reed canary grass and low species diversity limit floristic integrity.
Human Use Values	The area is used for growing hay.
Wildlife Habitat	The small size of the wetland, lack of strata, and lack of species diversity limits wildlife habitat.
Fish and Aquatic Life Habitat	There is evidence of ponding and thus potential for habitat for aquatic organisms.
Shoreline Protection	N/A
Flood and Stormwater Storage	The small size of the wetland limits the amount of water the feature can hold.
Water Quality Protection	The small size of the wetland limits the amount of water the wetland can filter, but the feature obtains some amount of agricultural runoff to filter.
Groundwater Processes	The wetland feature doesn't appear to influence the ground water 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.	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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1023e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.542488 Long: -90.894883 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 is a shallow depression located in a hay field. The vegetation is just starting to emerge at the time of survey and is dominated by soft rush. There are tire ruts going through the wetland 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? (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.		

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

 Sampling Point: was1023e\_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>45</u></td> <td>x 1 = <u>45</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</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>55</u> (A)</td> <td><u>65</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.1818181818181819</u>	Total % Cover of:	Multiply by:	OBL species <u>45</u>	x 1 = <u>45</u>	FACW species <u>10</u>	x 2 = <u>20</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>55</u> (A)	<u>65</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>45</u>	x 1 = <u>45</u>																	
FACW species <u>10</u>	x 2 = <u>20</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>55</u> (A)	<u>65</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>Juncus effusus</u>	<u>30</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>Agrostis gigantea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
3. <u>Eleocharis acicularis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
4. <u>Glyceria grandis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
5. <u>Carex stipata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
		<u>55</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 point is representative of the wetland feature. Vegetation has yet to fully emerge at the time of survey.																		

## SOIL

Sampling Point: wasa1023e\_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:

A dark clayey soil with redox concentrations present.





wasal023e\_w\_S



wasal023e\_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 #: wasa1023	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.542508</u> Long: <u>-90.894927</u>	Watershed: LS09, Lower Bad River	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not field verified. Soils were a silty clay over clay.	WWI Class: N/A	
	Wetland Type(s): PEM - fresh wet meadow	
	Wetland Size: 0.0696	Wetland Area Impacted 0.0696
Hydrology: The hydrologic regime is temporarily flooded. The wetland primarily receives water through surface runoff. Water-stained leaves were observed in the feature.	Vegetation: Plant Community Description(s): The wet meadow is dominated by soft rush and other disturbance-tolerant graminoids.	

**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	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	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	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	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	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)

HU-3: The wetland is visible from the road at the time of survey but will likely be hidden by taller vegetation later in the growing season.  
FA-2/FA-4: Ponding and inundation is likely at some point and potentially deep enough and long lasting to briefly sustain aquatic organisms.  
ST-3/WQ-5: There will likely be dense vegetation later on in the growing season.  
ST-5/WQ-7: The wetland is fed primarily by surface water.

### 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	Avian
	Y	Deer

### 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
					Filling, berms (non-impounding)
	X		L	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	X		H	C	Agriculture – hay
					Agriculture – pasture
	X		L	UC	Roads or railroad
	X		L	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
	X		L	C	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 within sight of a gravel road and located within a hay field. The feature is also near an occasionally-mowed utility corridor. There is some non-native species cover within the feature. The main source of hydrology is likely from stormwater.



## 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 floristic integrity due to low species diversity, missing strata, and the presence of invasive species.
Human Use Values	The area is used for growing hay.
Wildlife Habitat	The small wetland size limits habitat for wildlife.
Fish and Aquatic Life Habitat	There is potential for aquatic habitat during periods of pooling.
Shoreline Protection	N/A
Flood and Stormwater Storage	The small wetland can likely only hold small amounts of water.
Water Quality Protection	The small wetland can likely filter only small amounts of water, but functions to some capacity to filter agricultural runoff.
Groundwater Processes	The wetland does not appear to influence ground water 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.	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: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1023\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 3-7%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.542328 Long: -90.894807 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 sample point is located on a rise between two wetland features and serves as a shared upland point for was1023e and was1024e. The point is located in a hay field and is dominated by orchardgrass.	

## 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: was1023\_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>92</u></td> <td>x 4 = <u>368</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>96</u> (A)</td> <td><u>384</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0</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>92</u>	x 4 = <u>368</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>96</u> (A)	<u>384</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
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Column Totals: <u>96</u> (A)	<u>384</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>Dactylis glomerata</u>	<u>75</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>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Trifolium pratense</u>	<u>2</u>	<u>N</u>	<u>FACU</u>															
5. <u>Leucanthemum vulgare</u>	<u>2</u>	<u>N</u>	<u>UPL</u>															
6. <u>Potentilla recta</u>	<u>2</u>	<u>N</u>	_____															
7. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>98</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 point is representative of the upland area.																		

## SOIL

Sampling Point: wasa1023\_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.



was1023\_u\_E



was1023\_u\_SW



# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date: 2020-05-21  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1024e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.542132 Long: -90.894765 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 feature is a U-shaped swale with one side running parallel to the road before draining in toward a hay field around a small rise. The feature is dominated by disturbance-tolerant graminoids. There are deep ruts from a vehicle driving 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 temporarily flooded.		

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

 Sampling Point: was1024e\_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>85</u></td> <td>x 1 = <u>85</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</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>95</u> (A)</td> <td><u>105</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.105263157894737</u>	Total % Cover of:	Multiply by:	OBL species <u>85</u>	x 1 = <u>85</u>	FACW species <u>10</u>	x 2 = <u>20</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>95</u> (A)	<u>105</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>85</u>	x 1 = <u>85</u>																	
FACW species <u>10</u>	x 2 = <u>20</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>95</u> (A)	<u>105</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>Juncus effusus</u>	<u>70</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 cyperinus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
3. <u>Eleocharis acicularis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
4. <u>Agrostis gigantea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
5. <u>Salix petiolaris</u>	<u>5</u>	<u>N</u>	<u>FACW</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
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																
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 <input type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is representative of the wetland feature. The vegetation is still emerging at the time of survey but the feature is likely dominated by disturbance-tolerant graminoids.																		

## SOIL

Sampling Point: was1024e\_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:

Dark clayey soils with redox concentrations in the matrix.



wasal024e\_w\_E



wasal024e\_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): SBR/DGL	
File #: wasa1024	Date of visit(s): 2020-05-21	
Location: PLSS: <u>sec 20 T047N R004W</u>	Ecological Landscape: Lake Superior Clay Plain	
Lat: <u>46.541887</u> Long: <u>-90.894748</u>	Watershed: LS09, Lower Bad River	
County: <u>Ashland</u> Town/City/Village: <u>Gingles town</u>		
<b>SITE DESCRIPTION</b>		
Soils: Mapped Type(s): Sanborg-Badriver complex, 0 to 6 percent slopes  Field Verified: Series not field verified. Soils were a silty clay over clay, and were reduced throughout the sampled profile.	WWI Class: N/A	
	Wetland Type(s): PEM - fresh wet meadow	
	Wetland Size: 0.2823	Wetland Area Impacted 0.2823
	Vegetation: Plant Community Description(s): The wetland is a wet meadow dominated by disturbance-tolerant graminoids including soft rush.	
Hydrology: The hydrologic regime is temporarily flooded. The major hydrology input is surface water. Water-stained leaves and soil cracks are present 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	Y	Used for recreation (hunting, birding, hiking, etc.). List: hunting
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	Y	Y	Water flow through wetland is NOT channelized
3	N	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	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	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



HU-3: The wetland is adjacent to a gravel road.

FA-2/FA-4: Ponding and inundation are likely at some point, and potentially deep and long-lasting enough to briefly sustain aquatic organisms.

ST-3/WQ-5: There will likely be dense vegetation later on in the growing season.

ST-5/WQ-7 The wetland is fed primarily by surface water, which is either runoff from the gravel road or the surrounding hayfield.

**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 plant community is dominated by disturbance-tolerant graminoids, with reed canary grass and redtop present in the feature.

### 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		H	C	Polluted runoff
					Pond construction
					Agriculture – row crops
X	X		H	C	Agriculture – hay
					Agriculture – pasture
X	X		H	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	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 adjacent to a gravel road and located within a hay field. The feature is also adjacent to an occasionally-mowed utility corridor. There is some non-native species cover within the feature. The main source of hydrology is likely from stormwater and polluted runoff from the road and agriculture 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	Low species diversity, missing strata, and the typical disturbance-favoring species in the wetland indicate low floristic integrity.
Human Use Values	The area is used to grow hay.
Wildlife Habitat	Only a single strata present in the feature limits habitat and cover options for wildlife.
Fish and Aquatic Life Habitat	Potential ponding following large water events could provide habitat for aquatic organisms.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is average in size and appears to divert water from the roadside ditch and the shallow nature of the feature likely limits its holding capacity.
Water Quality Protection	The feature is linear in shape and could filter average amounts of water as it flows through from the roadside or agricultural field.
Groundwater Processes	The feature does not seem 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.	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: 2020-05-22  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1025e\_w  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.541672 Long: -90.895647 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 is located along a roadside within the ditch. The feature is potentially mowed at drier times of the year, which would alter the vegetation composition. The feature is dominated by meadow willow growing in the herbaceous layer.	

## 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 hydrologic regime is saturated.		



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

 Sampling Point: was1025e\_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>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW species <u>65</u></td> <td>x 2 = <u>130</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>161</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.75</u>	Total % Cover of:	Multiply by:	OBL species <u>25</u>	x 1 = <u>25</u>	FACW species <u>65</u>	x 2 = <u>130</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>161</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>25</u>	x 1 = <u>25</u>																	
FACW species <u>65</u>	x 2 = <u>130</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>161</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15</u> )</b>																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
		<u>5</u> = Total Cover																
<b>Herb Stratum (Plot size: <u>5</u> )</b>																		
1. <u>Salix petiolaris</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>Juncus effusus</u>	<u>15</u>	<u>N</u>	<u>OBL</u>															
3. <u>Agrostis gigantea</u>	<u>15</u>	<u>N</u>	<u>FACW</u>															
4. <u>Scirpus cyperinus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>															
5. <u>Equisetum arvense</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
6. _____	_____	_____	_____															
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																
<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, though a small section of the wetland ditch does not have such a high presence of meadow willow. The meadow willow is still young and still considered within the herbaceous layer.																		

## SOIL

Sampling Point: was1025e\_w

[illegible]



wasal025e\_w\_E



wasal025e\_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): SBR/DGL	
File #: wasa1025		Date of visit(s): 2020-05-22	
Location: PLSS: <u>sec 20 T047N R004W</u>		Ecological Landscape: Superior Coastal Plain	
Lat: <u>46.541757</u> Long: <u>-90.895760</u>		Watershed: LS09, Lower Bad River	
County: <u>Ashland</u> Town/City/Village: <u>Gingles 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 field verified.		Wetland Type(s): PEM wet meadow.	
		Wetland Size: 0.1191	Wetland Area Impacted 0.1191
Hydrology: The hydrologic regime is saturated. The major source of hydrology is stormwater and roadside runoff.		Vegetation: Plant Community Description(s): The wetland is a wet meadow that is dominated by young meadow willow 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	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	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present ≥ 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			<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	Y	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)**

HU-3 the wetland is located in a roadside ditch and is visible from the road. WH-10/FA-2/4 ponding and inundation is likely and the feature could provide habitat for aquatic organisms. ST-3/WQ-there is dense vegetation present at the time of survey primarily due to the cover of meadow willow. ST-5/WQ-7 the wetland is fed primarily by surface water.

**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	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
	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
					Filling, berms (non-impounding)
X	X		H	UC	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
					Agriculture – row crops
X	X		M	C	Agriculture – hay
					Agriculture – pasture
X	X		H	UC	Roads or railroad
X	X		L	C	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		L	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 between a gravel road and a hay field. The feature is also within a likely occasionally mowed utility corridor and with personal residences in the buffer area. The feature likely receives polluted runoff from the road and surrounding hay 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 presence of invasive species, low species diversity, and presence of only a single strata.
Human Use Values	The wetland is within a roadside ditch.
Wildlife Habitat	Only a single strata present and potential mowing limits habitat for wildlife species.
Fish and Aquatic Life Habitat	There is no water present at the time of the survey but could hold enough water during large rain events to support aquatic organisms.
Shoreline Protection	N/A
Flood and Stormwater Storage	The wetland is a long, linear ditch alongside a gravel road. Due to the length and depth, the feature has the potential to hold water before overflow occurs.
Water Quality Protection	The feature likely filters polluted roadside runoff.
Groundwater Processes	The wetland does not seem to influence ground water 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.	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: 2020-05-22  
 Applicant/Owner: Enbridge State: Wisconsin Sampling Point: was1025\_u  
 Investigator(s): SBR/DGL Section, Township, Range: sec 20 T047N R004W  
 Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope (%): 0-2%  
 Subregion (LRR or MLRA): Northcentral Forests Lat: 46.541466 Long: -90.895167 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 is on a rise between two wetland features and this sample serves as a shared upland point for wetlands was1025e and was1026e. The area is within a hay field dominated by pasture grasses.	

## 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: was1025\_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>0</u></td> <td>x 3 = <u>0</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>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>0</u>	x 3 = <u>0</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>5</u>	x 5 = <u>25</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>0</u>	x 3 = <u>0</u>																	
FACU species <u>90</u>	x 4 = <u>360</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>95</u> (A)	<u>385</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>Dactylis glomerata</u>	<u>70</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>10</u>	<u>N</u>	<u>FACU</u>															
3. <u>Trifolium hybridum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Leucanthemum vulgare</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
5. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>95</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 <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.) The sample point is representative of the upland area and is dominated by pasture grasses.																		



## SOIL

Sampling Point: wasa1025\_u

[illegible]



wasal025\_u\_SE



wasal025\_u\_W