WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R	Date:	08/22/14
Applicant:	Enbridge	County:	Marshall
Investigators:	BEH/RAJ	State:	MN
Subregion (MLRA or LRR):	MLRA 56		
Soil Unit:	I11A	NWI Classification:	PFO1/EMBgd
Landform:	Depression	Local Relief:	CL
Slope (%):	0 - 2%	Latitude: 48.23308001 Longitude: -96.46239816 Datum:	Sample Point: **w-155n45w20-f2**

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are normal circumstances present? ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Section:
Township:
Range: Dir:

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes
Wetland Hydrology Present? Yes
Hydric Soils Present? Yes
Is This Sampling Point Within A Wetland? **Yes**

Remarks: The wetland sample point is located in a hardwood swamp dominated by balsam poplar, peach-leaf willow, reed canary grass, and wheat sedge.

HYDROLOGY

Wetland Hydrology Indicators (Check all that apply; Minimum of one primary or two secondary required)**:**

Primary:

- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☑ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☑ B9 - Water-Stained Leaves
- ☐ B11 - Salt Crust
- ☐ B13 - Aquatic Fauna
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C2 - Dry Season Water Table
- ☐ C3 - Oxidized Rhizospheres on Living Roots (not tille
- ☐ C4 - Presence of Reduced Iron
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B10 - Drainage Patterns
- ☐ C3 - Oxidized Rhizospheres on Living Roots (tilled)
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test
- ☐ D7 - Frost-Heaved Hummocks (LRR F)

Field Observations:

Surface Water Present?	Yes	☐	Depth:	(in.)
Water Table Present?	Yes	☑	Depth: 2	(in.)
Saturation Present?	Yes	☑	Depth: 0	(in.)

Wetland Hydrology Present? Y

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: The water table was observed 2 inches below the surface, and water marks were observed on tree trunks. Standing water is present in nearby areas.

SOILS

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

(Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Depth (In.)	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture	Remarks
0-5	Hue_10YR	2/1	100						M	
5-21	Hue_10YR	6/1	100						S	

NRCS Hydric Soil Field Indicators (check here if indicators are not present)**:** ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers (LRR F)
- ☑ A9 - 1 cm Muck (LRR FGH)
- ☑ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Mucky Mineral
- ☐ S2 - 2.5 cm Mucky Peat or Peat (LRR G, H)
- ☐ S3 - 5 cm Mucky Peat or Peat (LRR F)
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Mucky Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions
- ☐ F16 - High Plains Depressions (MLRA 72, 73 of LRR H)

Indicators for Problematic Soils[1]

- ☐ A9 - 1 cm Muck (LRR I, J)
- ☐ A16 - Coast Prairie Redox (LRR F, G, H)
- ☐ S7 - Dark Surface (LRR G)
- ☐ F16 - High Plains Depressions (LRR H, outside MLRA 72, 73)
- ☐ F18 - Reduced Vertic
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer Type: Depth:

Hydric Soil Present? Y

Remarks: Soil is dark muck underlain by depleted sand. The profile meets hydric soil indicators A11-Depleted Below Dark Surface and A9-1cm Muck.

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Project/Site: L3R | Sample Point: **w-155n45w20-f2**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft. radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus balsamifera*	40	Y	FACW
2.	*Salix amygdaloides*	15	Y	FACW
3.	*Populus deltoides*	10	N	FAC
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 65

Sapling/Shrub Stratum (Plot size: 15 ft. radius)

1.	*Salix eriocephala*	15	Y	FACW
2.	*Cornus alba*	5	N	FACW
3.	*Salix interior*	3	N	FACW
4.	*Populus balsamifera*	3	N	FACW
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 26

Herb Stratum (Plot size: 5 ft. radius)

1.	*Phalaris arundinacea*	35	Y	FACW
2.	*Carex atherodes*	30	Y	OBL
3.	*Eleocharis palustris*	10	N	OBL
4.				
5.				
6				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Total Cover = 75

Woody Vine Stratum (Plot size: 30 ft. radius)

1.				
2.				
3.				
5.				
4.				

Total Cover = 0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	40	x 1 =	40
FACW spp.	116	x 2 =	232
FAC spp.	10	x 3 =	30
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	166 (A)		302 (B)

Prevalence Index = B/A = ***1.819***

Hydrophytic Vegetation Indicators:

- X — Rapid Test for Hydrophytic Vegetation
- X — Dominance Test is > 50%
- X — Prevalence Index is ≤ 3.0 *
- ____ — Morphological Adaptations (Explain) *
- ____ — Problem Hydrophytic Vegetation (Explain) *

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

Definitions of Vegetation Strata:

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

Sapling/Shrub - Woody plants less than 3 in. DBH, regardless of height.

Herb - All herbaceous (non-woody) plants, regardless of size.

Woody Vines - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Y

Remarks: The canopy is dominated by balsam poplar and peach-leaf willow, the shrub layer by heart-leaved willow, and the ground layer by reed canary grass and wheat sedge.

Additional Remarks: