WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R			Date:	08/05/14
Applicant:	Enbridge			County:	Marshall
Investigators:	MRK/BEH	Subregion (MLRA or LRR):	MLRA 56	State:	MN
Soil Unit:	I66A	NWI Classification:			
Landform:	Dip	Local Relief:	CL	Sample Point:	**w-156n47w1-b1**
Slope (%):	0 - 2%	Latitude: 48.36240567	Longitude: -96.6501526667	Datum:	
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)			☑ Yes ☐ No	Section:	
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?		Are normal circumstances present?		Township:	
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?		☑ Yes ☐ No		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 is shallow marsh dominated by narrow-leaf cattail, quack grass and reed canary grass.

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: 2	(in.)
Water Table Present?	Yes	☑	Depth: 0	(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 wetland sample point is saturated and has standing water two inches above the surface.

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
0-16	Hue_10YR	2/1	100						SCL	
16-20	Hue_2.5Y	3/1	100						SCL	
20-28	Hue_2.5Y	6/2	85	Gley1	5/5G1	11	D	M	SCL	
				Hue_2.5Y	6/6	4	C	M	SCL	

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 sandy clay loam with a slightly lighter sandy clay loam underneath. Bottom layer is depleted sandy clay loam with gley depletions and redox concentrations. The profile meets hydric soil indicator A12 - Thick Dark Surface.

WETLAND DETERMINATION DATA FORM
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Project/Site: L3R | Sample Point: **w-156n47w1-b1**

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

Tree Stratum (Plot size: 30 ft. radius)

	Species Name	% Cover	Dominant	Ind.Status
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 0

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

1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 0

Herb Stratum (Plot size: 5 ft. radius)

1.	*Typha angustifolia*	65	Y	OBL
2.	*Elymus repens*	60	Y	FACU
3.	*Phalaris arundinacea*	20	N	FACW
4.	*Agrostis gigantea*	5	N	FACW
5.				
6				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Total Cover = 150

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: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	65	x 1 =	65
FACW spp.	25	x 2 =	50
FAC spp.	0	x 3 =	0
FACU spp.	60	x 4 =	240
UPL spp.	0	x 5 =	0
Total	150 (A)		355 (B)

Prevalence Index = B/A = ***2.367***

Hydrophytic Vegetation Indicators:

	Rapid Test for Hydrophytic Vegetation
	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 wetland sample point is dominated by narrow-leaf cattail, quack grass, and reed canary grass.

Additional Remarks: