WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R			Date:	09/18/14
Applicant:	Enbridge			County:	Marshall
Investigators:	RAJ/BJC		Subregion (MLRA or LRR): MLRA 56	State:	MN
Soil Unit:	I24A		NWI Classification:		
Landform:	Depression		Local Relief: LC	Sample Point:	**w-155n46w3-d2**
Slope (%):	0 - 2%	Latitude: 48.273475	Longitude: -96.549700	Datum:	

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: A seasonally-flooded basin in a cultivated field planted to soybeans. The vegetation is dominated by annuals and disturbed from herbicide use. The soil is disturbed from tillage. The area of the wetland was not planted through this year. The basin appears to be a natural swale that has been improved for field drainage; it connects with a drainage ditch to the north.

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: _____ (in.)

Saturation Present? Yes ☐ Depth: _____ (in.)

Wetland Hydrology Present? Y

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

Remarks: There is a dried algal crust in the lower areas of the wetland and an obvious drift line in some areas. Indicators of wetland hydrology are present.

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						FSL	
5-8	Hue_10YR	5/2	94	Hue_7.5YR	2.5/3	4	C	M	LFS	
				Hue_5YR	2.5/1	2	C	M	LFS	concretions
8-18	Hue_2.5Y	6/2	90	Hue_10YR	7/8	5	C	M	C	
8-18	WP	2.5Y 8.5/1	5						OT	CaCO4 concentrations

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: The soil has a 5-inch dark surface over 3 inches of depleted fine sand over at least 10 inches of depleted clay with calcium carbonate concentrations. The soil fits indicator F3; hydric soils are present. Soils at the wetland point differed greatly from those at the upland point.

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Project/Site: L3R | Sample Point: **w-155n46w3-d2**

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.	*Rorippa palustris*	30	Y	OBL
2.	*Chenopodium album*	25	Y	FACU
3.	*Echinochloa crus-galli*	25	Y	FAC
4.	*Artemisia biennis*	5	N	FACU
5.	*Amaranthus retroflexus*	5	N	FACU
6				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Total Cover = 90

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: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	30	x 1 =	30
FACW spp.	0	x 2 =	0
FAC spp.	25	x 3 =	75
FACU spp.	35	x 4 =	140
UPL spp.	0	x 5 =	0
Total	90 (A)		245 (B)

Prevalence Index = B/A = ***2.722***

Hydrophytic Vegetation Indicators:

	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 vegetation is disturbed from tillage and herbicide use. The vegetation is sparse and consists of recently emerged seedlings (probably what has emerged since the last overspray). Based on the little vegetation that is present, the wetland area meets the hydrophytic vegetation parameter.

Additional Remarks: