

WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R	Subregion (MLRA or LRR):	MLRA 56	Date:	09/12/14
Applicant:	Enbridge			County:	Pennington
Investigators:	RAJ/BEH/MRK			State:	MN
Soil Unit:	I66A	NWI Classification:		Sample Point:	w-154n45w25-i1
Landform:	Dip	Local Relief:	CC	Section:	
Slope (%):	0 - 2%	Latitude:	48.12472	Longitude:	-96.371647
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> significantly disturbed?			Are normal circumstances present?		
Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> naturally problematic?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Township:				Dir:	

SUMMARY OF FINDINGS

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

Remarks: A wet meadow dominated by reed canary grass, milkweed, and Canada thistle. All parameters of wetland conditions are met.

HYDROLOGY

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

<p><u>Primary:</u></p> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B9 - Water-Stained Leaves	<input type="checkbox"/> B11 - Salt Crust <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots (not till) <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain)	<p><u>Secondary:</u></p> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots (tilled) <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input checked="" type="checkbox"/> D2 - Geomorphic Position <input checked="" type="checkbox"/> D5 - FAC-Neutral Test <input type="checkbox"/> D7 - Frost-Heaved Hummocks (LRR F)
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Field Observations:

Surface Water Present? Yes <input type="checkbox"/>	Depth: _____ (in.)	Wetland Hydrology Present? <u>Y</u>
Water Table Present? Yes <input type="checkbox"/>	Depth: _____ (in.)	
Saturation Present? Yes <input type="checkbox"/>	Depth: _____ (in.)	

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

Remarks: There is a 2-inch layer of moss (wetland moss, cf. Drepanocladus) at the soil surface indicating prolonged inundation/saturation. 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			Mottles				Texture	Remarks	
	Color (Moist)		%	Color (Moist)		%	Type			Location
0-12	Hue_10YR	2/1	100					SIC	high organic content	
12-16	Hue_10YR	3/1	60	Hue_10YR	2/1	40	C	M	SC	fine sandy
16-20	Hue_5Y	6/2	81	Hue_10YR	5/6	10	C	M	C	
				Hue_10YR	5/8	4	C	M	C	
				Hue_10YR	3/1	5	C	M	C	vertical streaks

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

<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers (LRR F) <input type="checkbox"/> A9 - 1 cm Muck (LRR FGH) <input type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Mucky Mineral <input type="checkbox"/> S2 - 2.5 cm Mucky Peat or Peat (LRR G, H) <input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat (LRR F) <input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> F1 - Loamy Mucky Mineral <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions <input type="checkbox"/> F16 - High Plains Depressions (MLRA 72, 73 of LRR H)	<p>Indicators for Problematic Soils¹</p> <input type="checkbox"/> A9 - 1 cm Muck (LRR I, J) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR F, G, H) <input type="checkbox"/> S7 - Dark Surface (LRR G) <input type="checkbox"/> F16 - High Plains Depressions (LRR H, outside MLRA 72, 73) <input type="checkbox"/> F18 - Reduced Vertic <input type="checkbox"/> TF2 - Red Parent Material <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
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¹Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer Type: _____	Depth: _____	Hydric Soil Present? <u>Y</u>
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Remarks: The soil has a thick dark surface to 16 inches with reduced clay below. The lower reduced layer has dark vertical streaks typical of vertisols in this area. The soil fits indicator A12, Thick Dark Surface.

WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site: **L3R** Sample Point: **w-154n45w25-i1**

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.				

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)

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

1.	<i>Salix petiolaris</i>	10	Y	OBL
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 10

Prevalence Index Worksheet

Total % Cover of:	Multiply by:	
OBL spp. <u>10</u>	x 1 =	<u>10</u>
FACW spp. <u>60</u>	x 2 =	<u>120</u>
FAC spp. <u>5</u>	x 3 =	<u>15</u>
FACU spp. <u>20</u>	x 4 =	<u>80</u>
UPL spp. <u>20</u>	x 5 =	<u>100</u>
Total <u>115</u> (A)		<u>325</u> (B)

Prevalence Index = B/A = 2.826

Herb Stratum (Plot size: 5 ft. radius)

1.	<i>Phalaris arundinacea</i>	45	Y	FACW
2.	<i>Asclepias syriaca</i>	20	Y	UPL
3.	<i>Symphotrichum lanceolatum</i>	10	N	FACW
4.	<i>Elymus repens</i>	10	N	FACU
5.	<i>Cirsium arvense</i>	10	N	FACU
6.	<i>Rumex crispus</i>	5	N	FAC
7.	<i>Poa palustris</i>	5	N	FACW
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Total Cover = 105

Hydrophytic Vegetation Indicators:

Rapid Test for Hydrophytic Vegetation

Dominance Test is > 50%

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.

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

1.				
2.				
3.				
5.				
4.				

Total Cover = 0

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: **A wet meadow community dominated by reed canary grass, common milkweed, and Canada thistle. The sample point is near a small isolated clump of meadow willow. The soil surface has a 2-inch layer of moss. Hydrophytic vegetation is present.**

Additional Remarks: