WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: L3R City/County: Marshall Sampling Date: 2015-06-08

Applicant/Owner: Enbridge State: Minnesota Sampling Point: w-156n46w27-c2

Investigator(s): ACM/KRG Section, Township, Range:

Landform (hillslope, terrace, etc.): depression Local Relief (concave, convex, none): Conca... Slope (%): 0-2

Subregion (LRR or MLRA): Latitude: 48.3009006735... Longitude: -96.56154667...

Datum: Minnesota State Plane North, NAD 83 (2011) U.S. feet

Soil Map Unit Name: I15A NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in Remarks): Yes

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes

Are Vegetation No, Soil No, or Hydrology No 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	**Is the Sampled Area**	
Hydric Soil Present?	Yes	**within a Wetland?**	Yes
Wetland Hydrology Present?	Yes	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

The wetland is a wet aspen forest that surrounds a stream and is adjacent to a crop field.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot Size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus tremuloides	50.00	Yes	FAC
2. Acer negundo	20.00	Yes	FAC
3. Salix amygdaloides	10.00	No	FACW
4. Populus balsamifera	5.00	No	FACW
	85	= Total Cover	
Sapling/Shrub Stratum (Plot Size: 15)			
1. Populus balsamifera	20.00	Yes	FACW
2. Salix interior	10.00	Yes	FACW
3. Salix eriocephala	10.00	Yes	FACW
4. Acer negundo	5.00	No	FAC
5. Populus tremuloides	5.00	No	FAC
	50	= Total Cover	
Herb Stratum (Plot Size: 5)			
1. Bromus inermis	40.00	Yes	UPL
2. Phalaris arundinacea	25.00	Yes	FACW
3. Rubus pubescens	10.00	No	FACW
4. Equisetum pratense	10.00	No	FACW
5. Toxicodendron rydbergii	5.00	No	FACU
6. Solidago gigantea	5.00	No	FAC
7. Thalictrum dioicum	2.00	No	FACW
8. Typha angustifolia	2.00	No	OBL
9. Anemone canadensis	2.00	No	FACW
10. Cicuta maculata	2.00	No	OBL
	103	= Total Cover	
Woody Vine Stratum (Plot Size: 30)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7142857142... (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	4.00	x 1	4
FACW species	104.00	x 2	208
FACU species	85.00	x 3	20
UPL species	40.00	x 4	200
Column Totals	238 (A)		687 (B)

Prevalence Index = B/A = 2.8865546...

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- yes 2 - Dominance Test is > 50%
- yes 3 - Prevalence Index is ≤ 3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present?

Remarks:

The canopy is dominated by quaking aspen and box elder. The shrub layer is dominated by balsam poplar and willow species. Smooth brome and reed canary grass dominate the her...

SOIL

Sampling Point: w-156n46...

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2 1	100					MMI	loamy mucky mineral
5-20	10YR 2 1	100					LFS	loamy fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soil[3]:

- ☐ 1cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16)(**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (explain in remarks)

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

Restrictive Layer (if present): ☐

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

The soil is mucky mineral over loamy fine sand. Hydric soil indicator F1 was observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- yes High Water Table (A2)
- yes Saturation (A3)
- no Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Water-Stained Leaves (B9)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Salt Crust (B11)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Dry-Season Water Table (C2)
- ____ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ____ Presence of Reduced Iron (C4)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? No Depth (inches) _____

Water Table Present? Yes Depth (inches) 7

Saturation Present? Yes Depth (inches) 5

(includes capillary fringe)

Wetland Hydrology Present? Yes

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

Remarks:

The wetland is in a low area and surrounds a stream. Soil saturation and a high water table were observed.

Site Photograph 1

Sampling Point: w-156n46w27-c2