WETLAND DETERMINATION DATA FORM - North Central and Northeast Region

Project/Site: SPP City/County: Aitkin Sampling Date: 2016-08-09

Applicant/Owner: Enbridge State: Minnesota Sampling Point: w-50n26w6-a2

Investigator(s): ZCW, MGH Section, Township, Range: S6, T50N, R26W

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

Subregion (LRR or MLRA): Latitude: 46.8530319678... Longitude: -93.67873205... Datum: NAD83

Soil Map Unit Name: 544 NWI Classification: PEM5B

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

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:	w-50n26w6-a

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

Climatic conditions are "wet" based on the results of a WETS analysis.

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)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted/Stressed Plants (D1)
- yes Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- yes FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	No	Depth (inches) ____
Water Table Present?	Yes	Depth (inches) 3
Saturation Present? (includes capillary fringe)	Yes	Depth (inches) 0

Wetland Hydrology Present? Yes

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: w-50n26w...

Tree Stratum (Plot Size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot Size: 15)			
1. Salix petiolaris	30.00	Yes	OBL
2. Alnus incana	15.00	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	45 = Total Cover		
Herb Stratum (Plot Size: 5)			
1. Carex lacustris	35.00	Yes	OBL
2. Scirpus cyperinus	15.00	Yes	OBL
3. Calamagrostis canadensis	10.00	No	FACW
4. Iris versicolor	5.00	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65 = Total Cover		
Woody Vine Stratum (Plot Size: 30)			
1.			
2.			
3.			
4.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85.00	x 1	85
FACW species	25.00	x 2	50
FACU species	0.00	x 3	0
UPL species	0.00	x 4	0
Column Totals	110 (A)		135 (B)

Prevalence Index = B/A = 1.2272727...

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.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (.76 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaeceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes**

Remarks: (include photo numbers here or on a separate sheet.)

SOIL Sampling Point: w-50n26w...

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
0-8	10YR 2 1	100					MP	
8-24	10YR 6 1	95	10YR 5 6	5	C	M	LS	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ☐ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ☐ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ☐ 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)

Indicators for Problematic Hydric Soil[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16)(**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, M**)
- ☐ Polyvalue Below Surface (S8) **(LRR K, L)**
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Maganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ☐ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (explain in remarks)

Restrictive Layer (if observed): ☐

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

Site Photograph 1

Sampling Point: w-50n26w6-a2

Latitude: 46.8530596280907

Longitude: -93.6787395180144

Direction: West

Cowardin Classification: PSS

Circular 39: 6

Eggers & Reed: Shrub-Carr/Alder Thicket

Remarks:

Site Photograph 2

Sampling Point: w-50n26w6-a2

Latitude: 46.8530346081097

Longitude: -93.6787116900959

Direction: South

Cowardin Classification: PSS

Circular 39: 6

Eggers & Reed: Shrub-Carr/Alder Thicket

Remarks: