WETLAND DETERMINATION DATA FORM - North Central and Northeast Region

Project/Site: SPP City/County: Carlton Sampling Date: 2015-06-12

Applicant/Owner: Enbridge State: Minnesota Sampling Point: CRC5110b1W

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

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

Subregion (LRR or MLRA): Latitude: 46.5845186217... Longitude: -92.62883255... Datum: Minnesota State ...

Soil Map Unit Name: 1073 NWI Classification: PFO/SSB

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 hardwood swamp surrounded by fire-dependent forest. Vegetation is dominated by balsam poplar and Canada bluejoint.

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- 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?	No	Depth (inches)	
Saturation Present? (includes capillary fringe)	Yes	Depth (inches)	10

Wetland Hydrology Present? Yes

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

Remarks:

The wetland is within a depressional area and soil is saturated at 10 inches.

VEGETATION - Use scientific names of plants.

Sampling Point: CRC5110b...

Tree Stratum (Plot Size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	25.00	Yes	FACW
2. Ulmus americana	10.00	Yes	FACW
3. Betula papyrifera	5.00	No	FACU
4.			
5.			
6.			
7.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot Size: 15)			
1. Populus balsamifera	20.00	Yes	FACW
2. Spiraea alba	5.00	No	FACW
3. Fraxinus nigra	5.00	No	FACW
4. Corylus cornuta	5.00	No	FACU
5. Viburnum lentago	2.00	No	FAC
6.			
7.			
	37	= Total Cover	
Herb Stratum (Plot Size: 5)			
1. Calamagrostis canadensis	60.00	Yes	OBL
2. Rubus pubescens	25.00	No	FACW
3. Carex stricta	10.00	No	OBL
4. Impatiens capensis	10.00	No	FACW
5. Solidago gigantea	10.00	No	FACW
6. Thalictrum dioicum	5.00	No	FACU
7. Populus balsamifera	5.00	No	FACW
8. Equisetum pratense	5.00	No	FACW
9. Ribes hirtellum	2.00	No	FACW
10. Cicuta maculata	2.00	No	OBL
11. Ranunculus abortivus	2.00	No	FAC
12. Asarum canadense	2.00	No	UPL
	138	= 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: 3 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	72.00	x 1	72
FACW species	122.00	x 2	244
FACU species	4.00	x 3	60
UPL species	2.00	x 4	10
Column Totals	215 (A)		398 (B)

Prevalence Index = B/A = 1.8511627...

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 herbaceous (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? ____

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

Vegetation is dominated by balsam poplar in the tree and sapling strata with Canada bluejoint below.

SOIL

Sampling Point: CRC5110b...

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
0-4	10YR 2 1	100					sic	
4-13	10YR 2 2	95	7.5YR 5 8	5	C	M	c	rocky
13-24	10YR 2 1	65	5YR 5 8	5	C	M	c	
13-24	2.5Y 4 3	30					c	

[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:

Soil consists of silty clay over clay with redox features common. The second layer contains many large rocks. Soil meets hydric indicator F6.