## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: SPP City/County: Clearwater Sampling Date: 6/4/2014
Applicant/Owner: Enbridge State: MN Sampling Point: CLC5080c4W
Investigator(s): EAB/RAJ Section, Township, Range:
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none) CL
Slope (%): 0 - 2% Lat.: 47.394979 Long.: -95.251539 Datum:
Soil Map Unit Name: 40B NWI Classification:
Are climatic/hydrologic conditions of the site typical for this time of the year? ☑ (If no, explain in remarks)
Are vegetation ☐, soil ☐, or hydrology ☐ significantly disturbed? Are "normal circumstances" present? ☑
Are vegetation ☑, soil ☐, or hydrology ☐ naturally problematic?
(If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

Hydrophytic vegetation present? Y
Hydric soil present? Y
Indicators of wetland hydrology present? Y

**Is the sampled area within a wetland?** Y

If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
This forest community is located between a shallow marsh and an alder thicket within a larger wetland complex. Vegetation at the sample point is not strongly hydrophytic, but soils are hydric and the landscape is depressional, sloping from the marsh down to the thicket. Best professional judgment determines this strip of forest to be a

### HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)
- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ 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 or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:
Surface water present? Yes ☐ Depth (inches):
Water table present? Yes ☑ Depth (inches): 7
Saturation present? Yes ☑ Depth (inches): 1
(includes capillary fringe)

**Indicators of wetland hydrology present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturated soils, a high water table, moss lines and depressional geomorphology all indicate wetland hydrology.

**VEGETATION** - Use scientific names of plants

**Sampling Point:** CLC5080c4W

| Tree Stratum (Plot Size: 30 ft) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1 *Quercus macrocarpa* | 60 | Y | FACU |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 60 = | Total Cover | |

| Sapling/Shrub Stratum (Plot Size: 15 ft) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1 *Ostrya virginiana* | 20 | Y | FACU |
| 2 *Populus tremuloides* | 10 | Y | FAC |
| 3 *Corylus cornuta* | 10 | Y | FACU |
| 4 *Cornus racemosa* | 5 | N | FAC |
| 5 *Salix discolor* | 5 | N | FACW |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| | 50 = | Total Cover | |

| Herb Stratum (Plot Size: 5 ft) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1 *Corylus cornuta* | 40 | Y | FACU |
| 2 *Carex pensylvanica* | 30 | Y | NI |
| 3 *Pteridium aquilinum* | 20 | N | FACU |
| 4 *Luzula acuminata* | 15 | N | FACU |
| 5 *Prunus virginiana* | 10 | N | FACU |
| 6 *Thalictrum dioicum* | 5 | N | FACU |
| 7 *Eurybia macrophylla* | 5 | N | UPL |
| 8 *Aralia nudicaulis* | 5 | N | FACU |
| 9 *Rubus pubescens* | 1 | N | FACW |
| 10 *Galium boreale* | 1 | N | FAC |
| 11 *Trillium cernuum* | 1 | N | FAC |
| 12 | | | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| | 133 = | Total Cover | |

| Woody Vine Stratum (Plot Size: 30 ft) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | 0 = | Total Cover | |

**50/20 Thresholds**

| | 20% | 50% |
|---|---|---|
| Tree Stratum | 12 | 30 |
| Sapling/Shrub Stratum | 10 | 25 |
| Herb Stratum | 27 | 67 |
| Woody Vine Stratum | 0 | 0 |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 16.67% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 6 | x 2 = | 12 |
| FAC species | 17 | x 3 = | 51 |
| FACU species | 185 | x 4 = | 740 |
| UPL species | 5 | x 5 = | 25 |
| Column totals | 213 (A) | | 828 (B) |
| Prevalence Index = B/A = | | | 3.89 |

**Hydrophytic Vegetation Indicators:**

___ Rapid test for hydrophytic vegetation
___ Dominance test is >50%
___ Prevalence index is ≤3.0*
___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
_X_ Problematic 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. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** - Woody plants less than 3 in. DBH and greater than 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?** Y

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

The vegetation is mostly facultative upland species but some facultative wetland species are present as well. Hydric soil and wetland hydrology indicate that the area is a wetland despite not being dominated by hydrophytic vegetation.

**SOIL** **Sampling Point:** CLC5080c4W

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

| Depth (In.) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type* | Loc** | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | Hue_10YR | 2/1 | 100 | | | | | | MMI | |
| 6-18 | Hue_10YR | 5/2 | 100 | | | | | | C | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**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 Suface (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**
- ☐ 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 Soils:**

- ☐ 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, L**
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese 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)

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

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

**Hydric soil present?** Y

Remarks:
The soil is mucky mineral at the surface.