**WETLAND DETERMINATION DATA FORM - North Central and Northeast Region**

Project/Site: SPP City/County: Aitkin Sampling Date: 2016-08-22

Applicant/Owner: Enbridge State: Minnesota Sampling Point: w-50n26w18-w1

Investigator(s): ZCW, MGH Section, Township, Range: S18, T50N, R28W

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

Subregion (LRR or MLRA): Latitude: 46.8173696939... Longitude: -93.68252310... Datum: NAD83

Soil Map Unit Name: 928C NWI Classification: N/A

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-50n26w18-w |

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 Water-Stained Leaves (B9) | ____ Surface Soil Cracks (B6) |
| yes High Water Table (A2) | ____ Aquatic Fauna (B13) | ____ Drainage Patterns (B10) |
| yes Saturation (A3) | ____ Marl Deposits (B15) | ____ Moss Trim Lines (B16) |
| ____ Water Marks (B1) | ____ Hydrogen Sulfide Odor (C1) | ____ Dry-Season Water Table (C2) |
| ____ Sediment Deposits (B2) | ____ Oxidized Rhizospheres on Living Roots (C3) | ____ Crayfish Burrows (C8) |
| ____ Drift Deposits (B3) | ____ Presence of Reduced Iron (C4) | ____ Saturation Visible on Aerial Imagery (C9) |
| ____ Algal Mat or Crust (B4) | ____ Recent Iron Reduction in Tilled Soils (C6) | ____ Stunted/Stressed Plants (D1) |
| ____ Iron Deposits (B5) | ____ Thin Muck Surface (C7) | yes Geomorphic Position (D2) |
| ____ Inundation Visible on Aerial Imagery (B7) | ____ Other (Explain in Remarks) | ____ Shallow Aquitard (D3) |
| ____ Sparsely Vegetated Concave Surface (B8) | | ____ Microtopographic Relief (D4) |
| | | yes FAC-Neutral Test (D5) |

Secondary Indicators (minimum of two required)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | No | Depth (inches) | |
| Water Table Present? | No | Depth (inches) | 1 |
| Saturation Present? (includes capillary fringe) | No | 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. Fraxinus nigra | 30.00 | Yes | FACW |
| 2. Ulmus americana | 15.00 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 45 | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot Size: 15) | | | |
| 1. Fraxinus nigra | 15.00 | Yes | FACW |
| 2. Acer rubrum | 15.00 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 30 | = Total Cover | |
| **Herb Stratum** (Plot Size: 5) | | | |
| 1. Impatiens capensis | 35.00 | Yes | FACW |
| 2. Calamagrostis canadensis | 10.00 | Yes | FACW |
| 3. Scirpus atrovirens | 5.00 | No | OBL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 50 | = 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: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

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

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 5.00 | x 1 | 5 |
| FACW species | 90.00 | x 2 | 180 |
| FACU species | 0.00 | x 3 | 0 |
| UPL species | 0.00 | x 4 | 0 |
| Column Totals | 125 (A) | | 275 (B) |

Prevalence Index = B/A = 2.2

**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 |
| 0-4 | 10YR 3 1 | 100 | | | | | M | |
| 4-13 | 10YR 5 1 | 90 | 10YR 5 8 | 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: Rock

Depth (inches): 13

Hydric Soil Present? Yes

Remarks:

Site Photograph 1

Sampling Point: w-50n26w18-w1

Latitude: 46.8173578754503

Longitude: -93.6824998912343

Direction: Southwest

Cowardin Classification: PFO

Circular 39: 7

Eggers & Reed: Hardwood Swamp/Coniferous Swamp

Remarks:

Site Photograph 2

Sampling Point: w-50n26w18-w1

Latitude: 46.8173524691228

Longitude: -93.6825010647007

Direction: Northeast

Cowardin Classification: PFO

Circular 39: 7

Eggers & Reed: Hardwood Swamp/Coniferous Swamp

Remarks: