

**WETLAND DETERMINATION DATA FORM**  
Great Plains Region

|  |            |   |   |            |            |
|--|------------|---|---|------------|------------|
| Project/Site:  | L3R        |   | Date:   | 06/26/14   |            |
| Applicant:   | Enbridge   |   | County:   | Kittson    |            |
| Investigators:   | EAB/RAJ    | Subregion (MLRA or LRR):  | State:  | MN         |            |
| Soil Unit:   | 1132A      | NWI Classification:   |   |            |            |
| Landform:  | Depression | Local Relief:   | CC  |            |            |
| Slope (%):   | 0 - 2%     | Latitude:   | 48.544954   | Longitude: | -96.894603 |
|  |            | Datum:  |   |            |            |
| Are climatic/hydrologic conditions on the site typical for this time of year? (if no, explain in remarks)                            |            |   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |            |            |
| Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> significantly disturbed? |            | Are normal circumstances present?                                   |   |            |            |
| Are Vegetation <input type="checkbox"/> Soil <input type="checkbox"/> or Hydrology <input type="checkbox"/> naturally problematic?   |            | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |   |            |            |
| Sample Point:  |            |   | w-159n48w31-c1  |            |            |
| Section:   |            |   |   |            |            |
| Township:  |            |   |   |            |            |
| Range:   |            |   | Dir:  |            |            |

**SUMMARY OF FINDINGS**

|                                 |     |  |     |
|---------------------------------|-----|--|-----|
| Hydrophytic Vegetation Present? | Yes | Hydic Soils Present? Yes                 |     |
| Wetland Hydrology Present?      | Yes | Is This Sampling Point Within A Wetland? | Yes |

Remarks: **The wetland is a basin located in a farmed field of wheat. The wetland was not planted this year, and is dominated by oak-leaf goosefoot. The region has received above-average rainfall in recent weeks.**

**HYDROLOGY**

**Wetland Hydrology Indicators** (Check all that apply; Minimum of one primary or two secondary required):

|  |  |  |
|--|--|--|
| <u>Primary:</u>  |  | <u>Secondary:</u>  |
| <input checked="" type="checkbox"/> A1 - Surface Water             | <input type="checkbox"/> B11 - Salt Crust                                      | <input type="checkbox"/> B6 - Surface Soil Cracks                            |
| <input checked="" type="checkbox"/> A2 - High Water Table          | <input type="checkbox"/> B13 - Aquatic Fauna                                   | <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface             |
| <input checked="" type="checkbox"/> A3 - Saturation                | <input type="checkbox"/> C1 - Hydrogen Sulfide Odor                            | <input type="checkbox"/> B10 - Drainage Patterns                             |
| <input type="checkbox"/> B1 - Water Marks                          | <input type="checkbox"/> C2 - Dry Season Water Table                           | <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots (tilled) |
| <input type="checkbox"/> B2 - Sediment Deposits                    | <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots (not till) | <input type="checkbox"/> C8 - Crayfish Burrows                               |
| <input type="checkbox"/> B3 - Drift Deposits                       | <input type="checkbox"/> C4 - Presence of Reduced Iron                         | <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery           |
| <input checked="" type="checkbox"/> B4 - Algal Mat or Crust        | <input type="checkbox"/> C7 - Thin Muck Surface                                | <input checked="" type="checkbox"/> D2 - Geomorphic Position                 |
| <input type="checkbox"/> B5 - Iron Deposits                        | <input type="checkbox"/> Other (Explain)                                       | <input type="checkbox"/> D5 - FAC-Neutral Test                               |
| <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery |  | <input type="checkbox"/> D7 - Frost-Heaved Hummocks (LRR F)                  |
| <input type="checkbox"/> B9 - Water-Stained Leaves                 |  |  |

**Field Observations:**

|  |                       |  |
|--|-----------------------|--|
| Surface Water Present? Yes <input type="checkbox"/>          | Depth: _____ (in.)    | <b>Wetland Hydrology Present?</b> <u>Y</u> |
| Water Table Present? Yes <input checked="" type="checkbox"/> | Depth: <u>5</u> (in.) |  |
| Saturation Present? Yes <input checked="" type="checkbox"/>  | Depth: <u>0</u> (in.) |  |

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

Remarks: **A high water table was observed 5 inches below the soil surface.**

**SOILS**

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.)  
(Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

| Depth (In.) | Matrix        |     |     | Mottles       |     |      |          | Texture | Remarks |
|-------------|---------------|-----|-----|---------------|-----|------|----------|---------|---------|
|             | Color (Moist) | %   |     | Color (Moist) | %   | Type | Location |         |         |
| 0-5         | Hue 10YR      | 2/1 | 100 |               |     |      |          | C       |         |
| 5-18        | Hue 2.5Y      | 5/1 | 70  | Hue 10YR      | 3/4 | 2    | C        | M       | C       |
| 5-18        |               |     |     | Hue 10YR      | 2/1 | 28   | C        | M       | C       |
|             |               |     |     |               |     |      |          |         |         |
|             |               |     |     |               |     |      |          |         |         |

**NRCS Hydic Soil Field Indicators** (check here if indicators are not present):

|  |  |  |
|--|--|--|
| <input type="checkbox"/> A1 - Histosol<br><input type="checkbox"/> A2 - Histic Epipedon<br><input type="checkbox"/> A3 - Black Histic<br><input type="checkbox"/> A4 - Hydrogen Sulfide<br><input type="checkbox"/> A5 - Stratified Layers (LRR F)<br><input type="checkbox"/> A9 - 1 cm Muck (LRR FGH)<br><input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface<br><input type="checkbox"/> A12 - Thick Dark Surface<br><input type="checkbox"/> S1 - Sandy Mucky Mineral<br><input type="checkbox"/> S2 - 2.5 cm Mucky Peat or Peat (LRR G, H)<br><input type="checkbox"/> S3 - 5 cm Mucky Peat or Peat (LRR F)<br><input type="checkbox"/> S4 - Sandy Gleyed Matrix | <input type="checkbox"/> S5 - Sandy Redox<br><input type="checkbox"/> S6 - Stripped Matrix<br><input type="checkbox"/> F1 - Loamy Mucky Mineral<br><input type="checkbox"/> F2 - Loamy Gleyed Matrix<br><input type="checkbox"/> F3 - Depleted Matrix<br><input type="checkbox"/> F6 - Redox Dark Surface<br><input type="checkbox"/> F7 - Depleted Dark Surface<br><input type="checkbox"/> F8 - Redox Depressions<br><input type="checkbox"/> F16 - High Plains Depressions (MLRA 72, 73 of LRR H) | <b>Indicators for Problematic Soils<sup>1</sup></b><br><input type="checkbox"/> A9 - 1 cm Muck (LRR I, J)<br><input type="checkbox"/> A16 - Cost Prairie Redox (LRR F, G, H)<br><input type="checkbox"/> S7 - Dark Surface (LRR G)<br><input type="checkbox"/> F16 - High Plains Depressions (LRR H, outside MLRA 72, 73)<br><input type="checkbox"/> F18 - Reduced Vertic<br><input type="checkbox"/> TF2 - Red Parent Material<br><input type="checkbox"/> TF12 - Very Shallow Dark Surface<br><input type="checkbox"/> Other (Explain in Remarks) |
|--|--|--|

<sup>1</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

|                   |             |              |                                     |
|-------------------|-------------|--------------|-------------------------------------|
| Restrictive Layer | Type: _____ | Depth: _____ | <b>Hydic Soil Present?</b> <u>Y</u> |
|-------------------|-------------|--------------|-------------------------------------|

Remarks: **A depleted layer with redox concentrations underlies a dark clay surface.**

**WETLAND DETERMINATION DATA FORM**  
Great Plains Region

Project/Site: **L3R** Sample Point: **#REF!**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft. radius)

| 1.  | Species Name | % Cover | Dominant | Ind.Status |
|-----|--------------|---------|----------|------------|
| 2.  |              |         |          |            |
| 3.  |              |         |          |            |
| 4.  |              |         |          |            |
| 5.  |              |         |          |            |
| 6.  |              |         |          |            |
| 7.  |              |         |          |            |
| 8.  |              |         |          |            |
| 9.  |              |         |          |            |
| 10. |              |         |          |            |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Total Cover = 0

**Prevalence Index Worksheet**

|                   |           |               |                |
|-------------------|-----------|---------------|----------------|
| Total % Cover of: |           | Multiply by:  |                |
| OBL spp.          | <u>0</u>  | x 1 =         | <u>0</u>       |
| FACW spp.         | <u>10</u> | x 2 =         | <u>20</u>      |
| FAC spp.          | <u>40</u> | x 3 =         | <u>120</u>     |
| FACU spp.         | <u>0</u>  | x 4 =         | <u>0</u>       |
| UPL spp.          | <u>5</u>  | x 5 =         | <u>25</u>      |
| Total             |           | <u>55</u> (A) | <u>165</u> (B) |

Prevalence Index = B/A = 3.000

Sapling/Shrub Stratum (Plot size: 15 ft. radius)

|     |  |  |  |  |
|-----|--|--|--|--|
| 1.  |  |  |  |  |
| 2.  |  |  |  |  |
| 3.  |  |  |  |  |
| 4.  |  |  |  |  |
| 5.  |  |  |  |  |
| 6.  |  |  |  |  |
| 7.  |  |  |  |  |
| 8.  |  |  |  |  |
| 9.  |  |  |  |  |
| 10. |  |  |  |  |

**Hydrophytic Vegetation Indicators:**

         Rapid Test for Hydrophytic Vegetation

  X   Dominance Test is > 50%

  X   Prevalence Index is ≤ 3.0 \*

         Morphological Adaptations (Explain) \*

         Problem Hydrophytic Vegetation (Explain) \*

\* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Total Cover = 0

Herb Stratum (Plot size: 5 ft. radius)

|     |                               |    |   |      |
|-----|-------------------------------|----|---|------|
| 1.  | <i>Chenopodium glaucum</i>    | 20 | Y | FAC  |
| 2.  | <i>Echinochloa crus-galli</i> | 20 | Y | FAC  |
| 3.  | <i>Rumex stenophyllus</i>     | 10 | N | FACW |
| 4.  | <i>Erucastrum gallicum</i>    | 5  | N | NI   |
| 5.  |                               |    |   |      |
| 6.  |                               |    |   |      |
| 7.  |                               |    |   |      |
| 8.  |                               |    |   |      |
| 9.  |                               |    |   |      |
| 10. |                               |    |   |      |
| 11. |                               |    |   |      |
| 12. |                               |    |   |      |
| 13. |                               |    |   |      |
| 14. |                               |    |   |      |
| 15. |                               |    |   |      |

**Definitions of Vegetation Strata:**

**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** - Woody plants less than 3 in. DBH, regardless of height.

**Herb** - All herbaceous (non-woody) plants, regardless of size.

**Woody Vines** - All woody vines, regardless of height.

Total Cover = 55

Woody Vine Stratum (Plot size: 30 ft. radius)

|    |  |  |  |  |
|----|--|--|--|--|
| 1. |  |  |  |  |
| 2. |  |  |  |  |
| 3. |  |  |  |  |
| 5. |  |  |  |  |
| 4. |  |  |  |  |

**Hydrophytic Vegetation Present?**   Y  

Remarks: **The vegetation is somewhat sparse at this point, but is dominated by oak-leaf goosefoot.**

**Additional Remarks:**