WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: SPP City/County: Wadena Sampling Date: 9/8/2014
Applicant/Owner: Enbridge State: MN Sampling Point: WA006a1W
Investigator(s): RAJ/BEH Section, Township, Range:
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none CC
Slope (%): 0 - 2% Lat.: 46.7942615 Long.: -94.8763108 Datum:
Soil Map Unit Name: 1968 NWI Classification: PSS1C
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	**Is the sampled area within a wetland?**	Y
Hydric soil present?	Y		
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
A floodplain forest community dominated by green ash, black ash, and bur oak. The sample point is in a shallow depression in the floodplain forest. All parameters of wetland conditions are present. As fluvial deposits in a floodplain, the soils are naturally problematic.

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):	
Saturation present? (includes capillary fringe)	Yes ☐	Depth (inches):	

Indicators of wetland hydrology present? Y

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

Remarks:
Indicators of wetland hydrology are present.

VEGETATION - Use scientific names of plants **Sampling Point:** WA006a1W

Tree Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Quercus macrocarpa*	60	Y	FACU
2	*Fraxinus pennsylvanica*	50	Y	FACW
3	*Fraxinus nigra*	20	N	FACW
4				
5				
6				
7				
8				
9				
10				
		130	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Fraxinus nigra*	40	Y	FACW
2	*Ulmus americana*	20	Y	FACW
3				
4				
5				
6				
7				
8				
9				
10				
		60	= Total Cover	

Herb Stratum	Plot Size (5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Carex hitchcockiana*	5	Y	OBL
2	*Fraxinus nigra*	5	Y	FACW
3	*Carex gracillima*	5	Y	FACU
4	*Iris versicolor*	5	Y	OBL
5	*Cornus alba*	3	N	FACW
6	*Ulmus americana*	3	N	FACW
7	*Carex laeviconica*	2	N	OBL
8	*Onoclea sensibilis*	2	N	FACW
9	*Equisetum arvense*	1	N	FAC
10	*Parthenocissus vitacea*	1	N	FACU
11				
12				
13				
14				
15				
		32	= 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	26	65
Sapling/Shrub Stratum	12	30
Herb Stratum	6	16
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across all Strata: 8 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 75.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	12	x 1 =	12
FACW species	143	x 2 =	286
FAC species	1	x 3 =	3
FACU species	66	x 4 =	264
UPL species	0	x 5 =	0
Column totals	222 (A)		565 (B)

Prevalence Index = B/A = 2.55

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ 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)

A floodplain forest dominated by bur oak, green ash, and black ash with a shrub layer of black ash and American elm and a sparse herbaceous layer of mixed species. Hydrophytic vegetation is present.

SOIL **Sampling Point:** WA006a1W

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	
6-13	Hue_10YR	4/2	40						LCOS	
6-13	Hue_10YR	5/1	60						LCOS	
13-21	Hue_10YR	6/2	100						COS	

*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 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**
- ☐ 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 has 6 inches of black mucky mineral over loamy coarse sand and coarse sand. As fluvially-deposited sediments in a floodplain, the soils are naturally problematic. Hydric soils are indicated.