## Wetland Delineation Report

Project ID# 1560-31-00/71

Cumberland - Spooner Woodyard Road to CTH B (East) USH 63 Washburn County



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### **Project Summary**

The Wisconsin Department of Transportation (WisDOT) has proposed a resurface project on USH 63 from Woodyard Road to CTH B (East) in Washburn County. This project also includes some reconstruction within the urban area of the City of Shell Lake. The reconstruction work involves converting the existing two lane roadway into a three lane roadway with a twoway left turn lane between the travel lanes, as well as construction of raised median pedestrian refuge islands for safer pedestrian crossing in several locations. Work in the urban area will also improve and lengthen right turn lanes at CTH D, and construct intersections with 200 foot right turn lanes with curb and gutter at Pederson Road and CTH B (east). Construction of a new storm sewer as well as some City of Shell Lake utility work on sanitary sewer and water lines will take place, with reconstruction of storm sewer outfalls. Within the rural area several culvert pipes will be cleaned, have concrete culvert ends replaced and have the addition of apron end walls. Also, two side road culverts will be replaced and two mainline culverts will be lined.

There are unavoidable wetland impacts associated with this project. The area surrounding construction has been delineated according to the <u>US Army Corps of Engineers 1987 Wetland</u> <u>Delineation Manual</u> and the <u>US Army Corps of Engineers 2012 Midwest Supplement</u> and the impacted wetland type and acreage have been determined based on three criteria—vegetation, hydrology, and soils.

### **Wetland Delineators**

The delineation for project 1560-31-00/71 was conducted on multiple site visits by multiple Wisconsin Department of Transportation Environmental Analysis and Review Specialist interns (EARS), over a span of three years (2010-2013). All of the interns involved in completing wetland delineations for this project have graduated from the University of Wisconsin system and have obtained a BS in Biology or a related field. During employment, all EARS interns completed the Basic and Advanced Wetland Delineation training through the University of Wisconsin- La Crosse.

### Equipment

- In order to conduct the delineation, several pieces of field equipment were used, including:
  - Trimble Geo XH Global Positioning System Unit 6000 Series
  - Munsell® Soil Color Chart 2010 edition
  - -20 inch WSA soil boring tool
  - Field identification books:
    - "Wetland Plants and Plant Communities of Minnesota and Wisconsin" 2<sup>nd</sup> ed.
    - "Wildflowers of Wisconsin and the Great Lakes Region; A Comprehensive Field Guide" 2<sup>nd</sup> ed.
    - "A Great Lakes Wetland Flora" 3<sup>rd</sup> ed.
- In the office, software programs were used, including:
  - -GPS Pathfinder Office Software version 5.40
  - -Microstation V8i 2010 Edition
  - Microsoft Office Series 2007

### **Pre-Delineation Resources**

- United States Agriculture Department- Natural Resource Conservation Service
   Web Soil Survey
  - Hydric soil map
- o Department of Natural Resources
  - -Surface Water Data Finder
    - WI Wetland Inventory Map

### **Delineation Methods**

Wetlands are delineated by examining an area for the presence of wetland indicators. There are three categories of indicators used to determine if an area is a wetland: vegetation, hydrology, and soils. Samples and observations of these wetland indicators are necessary for proper delineation. First, a site walk of the project area is completed in order to identify areas that may fit the wetland criteria. Second, transects are set up perpendicular to the proposed wetland boundary and data plots are taken. Data plots are usually taken in reference to obvious changes in topography and/or vegetation. At each of the data plots, criteria for hydrophytic vegetation, hydric soils, and hydrology is checked for.

A list of the most prevalent plant species is made and then compared to the *National List of Plant Species that Occur in Wetlands*, published by the U.S. Fish and Wildlife Service, in order to determine the likelihood of that species occurring in a wetland by defining their wetland indicator status.

Soil samples are collected using a soil probe or shovel to collect the first 20 inches of soil. Examination of the sample is then conducted for evidence of saturation, as well as other soil indicators listed in the <u>US Army Corps of Engineers 1987 Wetland Delineation Manual</u>. This manual is used as a reference guide to compare our methods, observations, and data with proper delineation techniques and information.

Field observation of the soils, vegetation, and the general area are used determine the presence of hydrology indicators.

After soil samples, lists of vegetation, and on-site hydrology observations are made and recorded, in conjunction with using reference materials and on site observations, wetland areas are confirmed. After verifying the wetland area, the wetland boundary is delineated between upland and wetland plots.

The resurfacing, reconstruction and culvert maintenance on USH 63 will permanently impact eleven wetland areas. The area surrounding construction has been delineated and the impacted wetland type and acreage have been determined.

### Vegetation:

- It is stated in the <u>US Army Corps of Engineers 1987 Wetland Delineation Manual</u> that "hydrophytic species, due to morphological, physiological, and/or reproductive adaptation(s), have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions". These species are labeled FAC, FACW, and/or OBL. Accordingly, if an area is dominated by ≥50% of these species, it meets the wetland vegetation requirement.
- Through species identification, the impacted wetlands were all determined to have hydrophytic dominance in proportions ≥50%. Dominant species include Shining

Willow (*Salix lucida*), Sandbar Willow (*Salix interior*), Green Ash (*Fraxinus pensylvanica*), Black Ash (*Fraxinus nigra*), Quaking Aspen (*Populus tremuloides*), Speckled Alder (*Alnus incana*), Red-Osier Dogwood (*Cornus alba*), Reed Canary Grass (*Phalaris arundinacea*), Lake Sedge (*Carex lacustris*), Orange Jewelweed (*Impatiens capensis*), Arrowleaf Tearthumb (*Persicaria sagittata*), Black Bulrush (*Scirpus atrovirens*), Sensitive Fern (*Onoclea sensibilis*), and Giant Goldenrod (*Solidago gigantea*). The hydrophytic vegetation present at these plots is similar to common species found among meadow (M), shrub-scrub (SS), wooded swamp (WS), riparian forest (RPF), and deep marsh (DM) wetland environments. The species found in these plots are listed in the vegetation section of the Routine Wetland Delineation Forms located in Appendix B.

### Hydrology:

- Paragraph 55 of the <u>US Army Corps of Engineers 1987 Wetland Delineation</u> <u>Manual</u> states, "an area has wetland hydrology if it is inundated or saturated to the surface continuously for at least 5% of the growing season in most years (50% probability of recurrence)." The growing season for this definition is determined based on the number of frost-free days for a certain area.
- Hydrology of the impacted wetland areas was determined using several indicators. All sites had primary indicators of saturation within 12 inches of the surface. Seven sites had presence of the water table within 12 inches of the surface, one site had surface water, one site had water stained leaves, and one site had presence of oxidized rhizospheres on living roots, all primary indicators. A secondary indicator observed at all sites was the FAC-Neutral test; four sites also had presence of a dry-season water table, two sites had moss trim lines, and one site had a secondary indicator of geomorphic position.

### Soils:

- According to the U.S.D.A Natural Resources Conservation Service (NRCS) a hydric soil is, "A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part."
- The Soil Survey and the Hydric Soils List for Washburn County were obtained from the United States Department of Agriculture (USDA). The soil type listed for the areas impacted by this project is loam and muck soils.

1. Wetlands 56, 58, 59, & 60 <u>Freeon</u>- soils are listed on the NRCS Web Soil Survey as having a moderately well drained drainage class. Depth to water table is about 12 inches.

Map Unit symbol: 157C Wetland Type: Wooded Swamp (WS) & Meadow (M) 2. Wetlands 59, 73, 74, 78, & 81 <u>Seelyeville and Cathro soils</u>- soils are listed on the NRCS Web Soil Survey as having a very poorly drained drainage class, with frequent ponding. Depth to water table is about 0 inches.

Map Unit symbol: 410A

Wetland Type: Wooded Swamp (WS), Meadow (M) and Shrub-Scrub (SS)

### 3. Wetlands 81 & 102

<u>Magnor</u>- soils are listed on the NRCS Web Soil Survey as having a somewhat poorly drained drainage class. Depth to water table is about 6 inches.

Map Unit symbol: 156B

Wetland Type: Meadow (M) & Wooded Swamp (WS)

### 4. Wetlands 102 & 126

<u>Oesterle sandy loam</u>- soils are listed on the NRCS Web Soil Survey as having a somewhat poorly drained drainage class Depth to water table is about 12 inches.

Map Unit symbol: 160A

Wetland Type: Wooded Swamp (WS) & Deep Marsh (DM)

### 5. Wetland 151

<u>Fordum silt loam</u>- soils are listed on the NRCS Web Soil Survey as having a poorly drained drainage class, with frequent flooding and ponding. Depth to water table is about 0 inches.

Map Unit symbol: 555A

Wetland Type: Riparian Forest (RPF)

 Soil samples were taken at all data plots to 20 inches or to an unavoidable resistance. Hydric soil indicators were present among all wetland sites for this project. Histosol, loamy mucky mineral, loamy gleyed matrix, sandy gleyed matrix, depleted below dark surface, depleted dark surface, redox dark surface, sandy redox, and sandy mucky mineral were the hydric soil indicators present. Full soil profiles are included in the Routine Wetland Delineation Forms in Appendix B.

### Delineation

One hundred and fifty one different wetlands have been determined to be within the limits of the projects, but only eleven will be impacted. The delineation of the wetlands included the establishment of one hundred and fifty one upland monitoring sites as well as one hundred and fifty one wetland sites, but only eleven wetland and upland sites will be impacted. Below is the summary for the wetlands that will be impacted.

- Wetland 56- Wooded Swamp (Monitoring Forms 1-2)
  - <u>Monitoring form 1 (Wetland 56)</u>: This wetland lies on the west side of USH 63 in the southwest corner of the USH 63 and Woodyard Road intersection and is associated with a wooded swamp (WS) wetland type. Dominant hydrophytic species in this area include Orange Jewelweed, Arrowleaf Tearthumb, Quaking Aspen and Black Ash; non-dominant species include Reed Canary Grass and Speckled Alder. At this site, loam and loamy clay soils were found. The soils

were saturated at eight inches and the hydric soil indicator found was depleted below dark surface (A11). No surface water was found at this site.

- <u>Monitoring form 2 (Upland 56)</u>: The upland portion of this site was dominated by Large Leaved Aster, Pennsylvania Sedge and Red Maple. Sandy loam soils were found up to a refusal at ten inches and no hydric soil indicator was obtained.
- Wetland 58- Meadow (Monitoring Forms 3-4)
  - <u>Monitoring form 3 (Wetland 58)</u>: This wetland lies on the east side of USH 63 in the northeast corner of the USH 63 and Woodyard Road intersection. It is located in a triangular area of land between the intersections of USH 63, Woodyard Road and North Woodyard Road and is associated with a meadow (M) wetland type. Dominant hydrophytic species in this area was Reed Canary Grass; there were no non-dominant species. At this site, loam and loamy clay soils were found. The soils were saturated at five inches and the hydric soil indicator found was depleted dark surface (F7). No surface water was found at this site.
  - <u>Monitoring form 4 (Upland 58)</u>: The upland portion of this site was dominated by Birdsfoot Trefoil and Reed Canary Grass. Soils were not obtained due to refusal at the surface.
- Wetland 59- Wooded Swamp (Monitoring Forms 5-6)
  - <u>Monitoring form 5 (Wetland 59)</u>: This wetland lies on the west side of USH 63 in the northwest corner of the USH 63 and North Woodyard Road intersection and is associated with a wooded swamp (WS) wetland type. Dominant hydrophytic species in this area include Reed Canary Grass, Black Bulrush, Sandbar Willow and Green Ash; non-dominant species include Fireweed, Giant Goldenrod, and Spotted Joe-Pye-Weed. At this site, loam and silt loam soils were found. The soils were saturated at five inches and the hydric soil indicator found was redox dark surface (F6). No surface water was found at this site.
  - <u>Monitoring form 6 (Upland 59)</u>: The upland portion of this site was dominated by Birdsfoot Trefoil and Reed Canary Grass. Soils were not obtained due to refusal at the surface.
- Wetland 60- Meadow (Monitoring Forms 7-8)
  - <u>Monitoring form 7 (Wetland 60)</u>: This wetland lies on the west side of USH 63 in the northeast corner of the USH 63 and North Woodyard Road intersection and is associated with a meadow (M) wetland type. Dominant hydrophytic species in this area include Reed Canary Grass and Speckled Alder; there were no nondominant species. At this site, clay loam and loamy clay soils were found. The soils were saturated at six inches and the hydric soil indicator found was redox dark surface (F6). No surface water was found at this site.
  - <u>Monitoring form 8 (Upland 60)</u>: The upland portion of this site was dominated by Quack Grass and Pennsylvania Sedge. Soils were not obtained due to refusal at the surface.
- Wetland 73- Meadow (Monitoring Forms 9-10)
  - <u>Monitoring form 9 (Wetland 73)</u>: This wetland lies on the east side of USH 63 roughly 0.25 miles south of the USH 63 and Heart Lake Road intersection and is associated with a meadow (M) wetland type. Dominant hydrophytic species in this area include Reed Canary Grass and Sandbar Willow; non-dominant species include Water Smartweed and Orange Jewelweed. At this site, loam soils were

found. The soils were saturated at ten inches and the hydric soil indicator found was histosol (A1). No surface water was found at this site.

- <u>Monitoring form 10 (Upland 73)</u>: The upland portion of this site was dominated by Reed Canary Grass and Yarrow. Loamy sand soils were found up to a refusal at eight inches and no hydric soil indicator was obtained.
- Wetland 74- Shrub-Scrub (Monitoring Forms 11-12)
  - Monitoring form 11 (Wetland 74): This wetland lies on the west side of USH 63 roughly 0.25 miles south of the USH 63 and Heart Lake Road intersection and is associated with a shrub-scrub (SS) wetland type. Dominant hydrophytic species in this area include Sandbar Willow and Reed Canary Grass; non-dominant species include Steeplebush. At this site, sandy loam soils were found. The soils were completely saturated and the hydric soil indicator found was sandy redox (S5). No surface water was found at this site.
  - <u>Monitoring form 12 (Upland 74)</u>: The upland portion of this site was dominated by Reed Canary Grass Reed Canary Grass and Yarrow. Loamy sand soils were found up to a refusal at seven inches and no hydric soil indicator was obtained.
- Wetland 78- Meadow (Monitoring Forms 13-14)
  - <u>Monitoring form 13 (Wetland 78)</u>: This wetland lies on the east side of USH 63 in the northeast corner of the USH 63 and Heart Lake Road intersection, between USH 63 and Old HWY 63. It is associated with a meadow (M) wetland type. Dominant hydrophytic species in this area include Sandbar Willow, Shining Willow and Reed Canary Grass; non-dominant species include Spotted Joe-Pye-Weed and Steeplebush. At this site, peat soils were found. The soils were completely saturated and the hydric soil indicator found was histosol (A1). No surface water was found at this site.
  - <u>Monitoring form 14 (Upland 78)</u>: The upland portion of this site was dominated by Pennsylvania Sedge and Bull Thistle. Soils were not obtained due to refusal at the surface.
- Wetland 81- Meadow (Monitoring Forms 15-16)
  - <u>Monitoring form 15 (Wetland 81)</u>: This wetland lies on the east side of USH 63 in the northeast corner of the USH 63 and Old HWY 63 intersection and is associated with a meadow (M) wetland type. Dominant hydrophytic species in this area include Sandbar Willow, Lake Sedge and Sensitive Fern; non-dominant species include Giant Goldenrod, Spotted Joe-Pye-Weed, Reed Canary Grass and Black Bulrush. At this site, peat and silty clay loam soils were found. The soils were saturated at five inches and the hydric soil indicator found was redox dark surface. No surface water was found at this site.
  - <u>Monitoring form 16 (Upland 81):</u> The upland portion of this site was dominated by Pennsylvania Sedge. Soils were not obtained due to refusal at the surface.
- Wetland 102- Wooded Swamp (Monitoring Forms 17-18)
  - <u>Monitoring form 17 (Wetland 102)</u>: This wetland lies on the west side of USH 63 roughly 0.15 miles south of the USH 63 and Hilltop Road intersection and is associated with a Wooded Swamp (WS) wetland type. Dominant hydrophytic species in this area include Reed Canary Grass, Quaking Aspen and Sandbar Willow; non-dominant species include Giant Goldenrod. At this site, peat soils

were found. The soils were saturated at six inches and the hydric soil indicator found was histosol (A1). No surface water was found at this site.

- <u>Monitoring form 18 (Upland 102)</u>: The upland portion of this site was dominated by Big Blue Stem Grass and Common Ragweed. Soils were not obtained due to refusal at the surface.
- Wetland 126- Deep Marsh (Monitoring Forms 19-20)
  - <u>Monitoring form 19 (Wetland 126)</u>: This wetland lies on the west side of USH 63 roughly 0.10 miles south of the USH 63 and Hilltop Road intersection and is associated with a deep marsh (DM) wetland type. Dominant hydrophytic species in this area include Reed Canary Grass and Lake Sedge; non-dominant species include Broad Leaved Cattail, Bebbs Willow and Duckweed. At this site, loam, loamy sand and clay soils was found. The soils were completely saturated and the hydric soil indicators found were loamy gleyed matrix (F2), loamy mucky mineral (F1) and loamy gleyed matrix (F2). Two inches of surface water was found at this site.
  - <u>Monitoring form 20 (Upland 126)</u>: The upland portion of this site was dominated by Pennsylvania Sedge. Soils were not obtained due to refusal at the surface.
- Wetland 151- Riparian Forest (Monitoring Forms 21-22)
  - <u>Monitoring form 21 (Wetland 151)</u>: This wetland lies on the west side of USH 63 in the northwest corner of the USH 63 and CTH B (West) intersection in the City of Shell Lake. It is associated with a riparian forest (RPF) wetland type. Dominant hydrophytic species in this area include Reed Canary Grass, Red Osier Dogwood, Sandbar Willow, and Speckled Alder; non-dominant species include Ostrich Fern, River Clubrush, Climbing Nightshade, Canadian Moon Seed, Orange Jewelweed, American Red Raspberry and Lake Sedge. At this site, sandy soils were found. The soils were saturated at six inches and the hydric soil indicators found were sandy mucky mineral (S1) and sandy redox (S5). No surface water was found at this site.
  - <u>Monitoring form 22 (Upland 151):</u> The upland portion of this site was dominated by Crown Vetch, Quack Grass and Sandbar Willow. Sandy soils were found and no hydric soil indicator was obtained.

### Wetland Impacts

The cumulative **permanent** wetland impacts for the USH 63 project in Washburn County are 0.373 acres. The impacted acreage consists of:

- 0.139 acres of wooded swamp (WS)
- 0.119 acres of meadow (M)
- 0.002 acres of shrub-scrub (SS)
- 0.105 acres of deep marsh (DM)
- 0.008 acres of riparian forest (RPF)

There will also be **temporary** wetland impacts from the USH 63 project. The impacted acreage consists of:

- 0.024 acres of wooded swamp (WS)
- 0.061 acres of meadow (M)
- 0.310 acres of shrub-scrub (SS)

The permanent losses will be mitigated according to and at a ratio consistent with the Wisconsin DOT Wetland Mitigation Banking Technical Guideline (2002 revision). The temporary wetland impacts will not be mitigated for, as they will be restored once the project is complete. For the wooded swamp (WS) and shrub-scrub (SS) areas that will be temporarily impacted, no clearing or removal of woody vegetation will take place, only cleaning of culverts. Delineation monitoring forms demonstrating wetland criteria in each sampling area can be found in Appendix B of this report. Photos of the delineated areas for these projects are located in Appendix C (Photos 1-22).

The area that will be temporarily impacted while construction is taking place will be restored once construction is complete. This is done by laying a geotextile fabric between the existing ground and the temporary fill. This is done to ensure that no artificial soils get incorporated into the present and natural wetland soils as well as to mark where the native wetland soil boundary is located. A silt screen is placed along the creek and silt fencing along the wetland boundaries. This is done to ensure no particulates of fill soil from erosion or other causes will enter the water or wetlands. After the construction is complete, the soils will be undisturbed and seeding will be done to ensure that any vegetation that may have been disturbed or destroyed while completing this project is restored.

### Wetland Mitigation

According to the NRCS, "mitigation is compensation through wetland restoration, enhancement, or creation for functions and values that are lost on a converted wetland". The total permanent wetland impact for the USH 63 project located in Washburn County is 0.373 acres. The permanent losses will be mitigated by debiting them to the WisDOT Lauritsen Wetland Mitigation Bank Site in Burnett County at a ratio consistent with the Wisconsin DOT Wetland Mitigation Banking Technical Guideline (2002 revision). The 0.139 acres of wooded swamp (WS) wetland will be mitigated at a 1:1 compensation ratio to wooded swamp (WS) totaling 0.139 acres; the 0.119 acres of meadow (M) wetland will be mitigated at a 1:1 compensation ratio to meadow (M) totaling 0.119 acres; the 0.002 acres of shrub-scrub (SS) wetland will be mitigated at a 1:1 compensation ratio to wooded swamp (WS) totaling 0.002 acres; the 0.105 acres of deep marsh (DM) wetland will be mitigated with a 1:1 compensation ratio to deep marsh (DM) totaling 0.105 acres; and the 0.008 acres of riparian forest (RPF) wetland will be mitigated with a 1:1.3 compensation ratio to wooded swamp (WS) totaling 0.010 acres. A Wetland Mitigation Bank Accounting Sheet (WMBAS) is included at the end of Appendix A, summarizing the wetland losses and mitigation plans.

# **Appendix A**

Tables and Figures

Figure 1- Project Location Map

### ORDER OF SHEETS

Section No. 1 Ti†le Typical Sections and Details Section No. 2 Estimate of Quantities Section No. 3 Section No. 3 Miscellaneous Quantities Section No. 4 Right of Way Plat Plan and Profile Section No. 5 Standard Detail Drawings Section No. 6 Sian Plates Section No. 7 Structure Plans Section No. 8 Section No. 9 Computer Earthwork Data Section No. 9 Cross Sections

#### TOTAL SHEETS =

## STATE OF WISCONSIN **DEPARTMENT OF TRANSPORTATION**

PLAN OF PROPOSED IMPROVEMENT

## CUMBERLAND - SPOONER ROAD

WOODYARD ROAD - CTH B (EAST)

## **USH 63**

## WASHBURN COUNTY



FILE NAME : n:\PDS\Design\Projects\15603100\_Woodyard\_CTHB\DGNs\010101\_ti.dgn

# PROJECT WITH: Ð

FEDERAL PROJECT STATE PROJECT PROJECT CONTRACT 1560-31-71 11 ά'n ίn wwns T T-38-N T-37-N ACCEPTED FOR <sup>z</sup>echou: LC " SHELL LAKE CITY (Signature & Title of Official) (Date) STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION REPARED BY DOT/NWBE Surveyor GREG PESOLA Designer PHIL KEPPERS Project Manager Regional Examiner Regional Supervisor \_\_\_\_\_ DAVE\_OSTROWSKI 36 C.O. Examiner APPROVED FOR THE DEPARTMENT ATE: (Signature Ε

Figure 2a- Wisconsin Wetland Inventory Map



Figure 2b- Wisconsin Wetland Inventory Map



Figure 2c- Wisconsin Wetland Inventory Map





USDA Natural Resources Conservation Service Web Soil Survey National Cooperative Soil Survey

## Map Unit Legend

	Washburn County,	Wisconsin (WI129)	
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
28C	Haugen-Rosholt complex, 6 to 12 percent slopes, very stony	6.3	4.1%
42D	Amery sandy loam, 12 to 25 percent slopes, very stony	2.0	1.3%
156B	Magnor, very stony-Magnor complex, 0 to 4 percent slopes	9.4	6.1%
157B	Freeon, very stony-Freeon complex, 2 to 6 percent slopes	16.8	11.0%
157C	Freeon, very stony-Freeon complex, 6 to 12 percent slopes	84.6	55.4%
410A	Seelyeville and Cathro soils, 0 to 1 percent slopes	16.0	10.5%
542C	Haugen, very stony-Haugen complex, 6 to 12 percent slopes	8.1	5.3%
623A	Capitola muck, 0 to 2 percent slopes, very stony	9.6	6.3%
Totals for Area of Interest		152.7	100.0%



USDA

Natural Resources Conservation Service Web Soil Survey National Cooperative Soil Survey

## Map Unit Legend

	Washburn County, W	/isconsin (WI129)	
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
28B	Haugen-Rosholt complex, 2 to 6 percent slopes, very stony	10.2	5.6%
42D	Amery sandy loam, 12 to 25 percent slopes, very stony	2.3	1.3%
156B	Magnor, very stony-Magnor complex, 0 to 4 percent slopes	65.2	35.5%
157B	Freeon, very stony-Freeon complex, 2 to 6 percent slopes	12.3	6.7%
157C	Freeon, very stony-Freeon complex, 6 to 12 percent slopes	4.5	2.5%
160A	Oesterle sandy loam, 0 to 2 percent slopes	7.4	4.0%
410A	Seelyeville and Cathro soils, 0 to 1 percent slopes	38.5	21.0%
542B	Haugen, very stony-Haugen complex, 2 to 6 percent slopes	28.2	15.4%
542C	Haugen, very stony-Haugen complex, 6 to 12 percent slopes	11.8	6.4%
623A	Capitola muck, 0 to 2 percent slopes, very stony	0.5	0.3%
3126A	Wurtsmith loamy sand, 0 to 3 percent slopes	2.5	1.4%
Totals for Area of Interest		183.6	100.0%



National Cooperative Soil Survey

**Conservation Service** 

## Map Unit Legend

	Washburn County,	Wisconsin (WI129)	
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
28C	Haugen-Rosholt complex, 6 to 12 percent slopes, very stony	1.4	3.9%
127E	Amery-Rosholt complex, 20 to 45 percent slopes, very stony	10.9	30.7%
439B	Graycalm-Menahga complex, 0 to 6 percent slopes	3.0	8.5%
544F	Menahga and Mahtomedi soils, 30 to 45 percent slopes	13.1	36.8%
555A	Fordum silt loam, 0 to 2 percent slopes, frequently flooded	7.1	20.1%
Totals for Area of Interest	•	35.6	100.0%





ND 74 8+78 - 719+39 LT ASS: SS NENT IMPACT: 87 8F PRARY IMPACT: 1,343 SF NENT: 0.002 ACRES - 0.001 HECTARE DRARY: 0.310 ACRES - 0.125 HECTARE 0009+72 VIS MINON F0 F0 F0 F0 F0 F0 F0 F0 F0 F0	
WETLAND 73 STA. 718+78 - 719+39 RT WWI CLASS; M PERMANENT IMPACT: 99 SF TEMPORARY IMPACT: 371-8F PERMANENT: 0.002 ACRES - 0.001 HECTARE TEMPORARY: 0.009 ACRES - 0.004 HECTARE	5
WETLAND 78 STA: 733+25 - 735+00 RT AWI CLASS: M PERMANENT IMPACT: 4,638 SF TEMPORARY IMPACT: 0 SF PERMANENT: 0.106 ACRES - 0.043 HECTARE	
ROADSIDE CLEARING     000000000000000000000000000000000000	
-735+00 RT Human ( ) yuuu Ptttuutuu P yuuu Ptttuutuu P yuuu Ptttuutuu P yuuu Ptttuutuu P yuuu Ptttuutuu P yuuu Ptttuutuu P	
PLOT SCALE : 1:100_XREF	
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PLOT DATE : 7/14/2014 11:21 AM

PLOT NAME :







**Division of Transportation System Development** Northwest Region

## WETLAND IMPACT TRACKING FORM

### **\*\*This form must be filled out for all projects.\*\***

For projects in: Jackson, Trempealeau, Buffalo, Clark, Eau Claire, Pepin, Pierce, St.Croix, Dunn, Chinnewa, and Taylor Counties	For projects in: Douglas, Bayfield, Ashland, Burnett, Washburn, Sawyer, Polk, Barron, and Rusk Counties;		
Chippewa, and Taylor Counties; Return to:	Return to:		
Nick Schaff	Amy Adrihan	Project Design I.D. #:	1560-31-00
Environmental Coordinator	Environmental Coordinator	Project Construction I.D. #:	1560-31-71
WisDOT - Northwest Region	WisDOT - Northwest Region	Project Title :	JSH 63
718 W. Clairemont Avenue	1701 N. 4th Street	Cumberland - Spooner, Woodyard	d Rd to CTH B (East)
Eau Claire, WI 54701	Superior, WI 54880	County : Wa	shburn
Phone : (715) 836-2068	Phone: (715) 392-7972	Construction Year :	2015
Facsimile (FAX):	Facsimile (FAX):	Date this form is completed :	8/21/2014
NicholasA.Schaff@dot.state.wi.us	amy.adrihan@dot.state.wi.us		

**Prepared by (name & phone #)** :

Erin Dethloff, WisDOT Environmental Analysis Intern, 715-392-7969

### Is a discharge of dredged or fill material into wetlands anticipated?

#### NO Form complete; no further information is required (RETURN FORM).

#### YES **Complete remainder of form and:** х

- 1. Include this sheet with your DNR 401 and COE 404 permit applications.
- 2. When you receive DNR 401 final concurrence and COE 404 permit, return this form with:
  - **a.** D size copy of plan sheet showing impact areas.
  - **b.** A copy of the DNR 401 Water Quality Certification Letter.
  - c. A copy of the U.S. COE 404 permit (Cover letter only).

### Wetland Delineation/Determination completed by (name & phone #, qualifications):

WisDOT Environmental Analysis Interns, 715-392-7972, UW- La Crosse Basic and Advanced Wetland Delineation Training

### **Directions:**

- 1. One location may be made up of several different wetland types. List each type of wetland impacted from each location on the project corridor separately in the table below.
- 2. Contact the Environmental Coordinator for appropriate ratio and bank information.
- 3. Use Department of Transportation Wetland Classification System.
- 4 Areas should be reported to the nearest 0.001-acre if possible

4. Areas should be reported to the nearest 0.001-acre if possible.				The Environmental Coordinator (EC) will provide this information.			
	Impact Location	Туре	Area	Debit	Туре	Area	
Site #	(project station)	Impacted	Impacted	Ratio	Mitigated	Mitigated	
1	Wetland 56, STA 625+58 - 625+92 LT (permanent)	WS	0.006	1:1	WS	0.006	
2	Wetland 59, STA 630+92 - 631+28 LT (permanent)	WS	0.001	1:1	WS	0.001	
3	Wetland 58, STA 630+92 - 631+57 RT (permanent)	М	0.002	1:1	М	0.002	
4	Wetland 60, STA 637+86 - 638+28 LT (permanent)	М	0.005	1:1	М	0.005	
5	Wetland 74, STA 719+96 - 720+22 LT (permanent)	SS	0.002	1:1	WS	0.002	
6	Wetland 73, STA 718+78 - 719+39 RT (permanent)	М	0.002	1:1	М	0.002	
7	Wetland 78, STA 733+25 - 735+00 RT (permanent)	М	0.106	1:1	М	0.106	
8	Wetland 81, STA 755+90 - 756+22 RT (permanent)	М	0.004	1:1	М	0.004	
9	Wetland 102, STA 779+13 - 783+24 LT (permanent)	WS	0.132	1:1	WS	0.132	
10	Wetland 126, STA 783+13 - 784+99 LT (permanent)	DM	0.105	1:1	DM	0.105	
11	Wetland 151, STA 867+64 - 868+49 LT (permanent)	RPF	0.008	1:1.3	WS	0.010	
12	Wetland 59, STA 630+92 - 631+28 LT (temporary)	WS	0.006	N/A	N/A	N/A	
13	Wetland 58, STA 630+92 - 631+57 RT (temporary)	М	0.018	N/A	N/A	N/A	
14	Wetland 60, STA 637+86 - 638+28 LT (temporary)	М	0.007	N/A	N/A	N/A	
15	Wetland 65, STA 645+50 - 645+65 RT (temporary)	М	0.003	N/A	N/A	N/A	

16	Wetland 74, STA 719+96 - 720+22 LT (temporary)	SS	0.310	N/A	N/A	N/A
17	Wetland 73, STA 718+78 - 719+39 RT (temporary)	М	0.009	N/A	N/A	N/A
18	Wetland 76, STA 732+76 - 733+05 LT (temporary)	М	0.010	N/A	N/A	N/A
19	Wetland 81, STA 755+90 - 756+22 RT (temporary)	М	0.014	N/A	N/A	N/A
20	Wetland 102, STA 779+13 - 783+24 LT (temporary)	WS	0.018	N/A	N/A	N/A
	TOTAL		0.373			0.375

### Is there potential for onsite mitigation? If unknown, check with the EC.

YES	Where is it located?	(T/R, station, map)
-----	----------------------	---------------------

NO

X List bank site to be used. (Determined by EC) Laur

Lauritsen Wetland Mitigation Bank Site, Burnett County

Please attach another sheet if the space provided is not adequate for all impacts or to add any additional comments.

# **Appendix B**

Monitoring Forms

### **Routine Wetland Delineation Data Form**

(1987 COE Wetlands Delineation Manual, 2009 Northeast & Northcentral Supplement)

Wetland Site: 1560-31-00 USH 63		Date: 8/25/10				
Applicant/Owner: WisDOT		County: Wash	ıbur	n		
Investigator(s): Rachelle Peterson and Caleb Jensen		State: WI				
Normal climatic conditions on site typical for this time of year? yes	Do "normal circumstances" exist on the site?		Х	YES		NO
Transect #:	Is the site significantly disturbed (Atypical Situation)?			YES	Х	NO
Plot #: wet 56	Is the area potentially naturally problematic? YES X		NO			
Plot Description: Between the Woodyard Roads	Type of atypical or problem area (soils, w	vegetation, hydro	logy	r)?		

Vegetation Dominant species are the most abundant species in each stratum that sum to 50% of total dominance measure. Any additional species comprising 20% of total dominance measure are also dominant. Non-dominant species used if dominant species are equal in number. Strata = Herbs (H) 5'radius plot; 30' radius plot for: Trees (T) >3" dbh, Shrubs (S) <3" dbh, >3.2' tall, & Woody Vines (V) Indicator Stratum **Dominant Species** % **Non-Dominant Species** % Indicator Stratum Impatiens capensis Phalaris arundinaceae 90 FACW 10 FACW 1. Η Н 1. Orange Jewelweed Reed Canary Grass Polygonum sagittatum Alnus rugosa 2. 2. 30 OBL Н 8 OBL Т Speckled Alder Tearthumb Populus tremuloides 3. 10 FAC Т 3. Quaking Aspen Fraxinus nigra Т 4. 4. 25 FACW Black Ash 5. 5. 6. 6. 7. 7. 8. 8. 9. 9. 10 10. Dominance Test: % of dominant species (all strata) that are OBL, FACW, and/or FAC? 100% **Prevalence Index Worksheet: Hydrophytic Vegetation Indicators** Dominance Test is >50% X YES NO Total % Cover of: **Multiply By:** Prevalence Index is < or =3.01 YES NO **OBL** species: 1 Morphological Adaptations\* (Provide supporting YES NO data in Remarks or on a separate sheet) FACW species: 2 Problematic Hydrophytic Vegetation1 (Explain) YES NO FAC species: 3 \*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. FACU species: 4 **Hydrophytic Vegetation Present?** UPL species: 5 Yes/No TOTAL (A): TOTAL (B): Prevalence Index (B/A):

_	Hydrology	
Recorded Data	(describe in remarks):	
Stream, lake, or tide gauge	Aerial photographs Monitoring well	Other:
No Recorded Data Avai	ilable	
Growing Season Dates/Days:		
	(To evaluate hydrologic data from stream gauges/g.w. wells)	
Field Observations:		
Surface water present?:YesX_	No Depth (inches) Water in well?:YesN	To Depth (inches)
Water table present?:XYes	No13 Depth (inches) Saturation Present?:XYes	No -8 Depth (inches)
Remarks:		

				nd Hydrology I	ndicato	rs: s	econdary Indicator	s: (2 or more requ	uired)
	<b>Indicators</b> : (1 or m Surface Water (A1)	ore requ	uired, check all that app	oly) Aquatic Fauna (B13)			Surface Soil C		mea,
				Aquatter a una (B15)			Drainage Patte		
	High Water Table (A2)	)		Marl Deposits (B15)		-,	Moss Trim Lin		
_X	Saturation (A3)			Hydrogen Sulfide Odor (C1) _X_ Dry-Season Water Table (			ater Table (C2)		
	Water Marks (B1) Sediment Deposits (B2 Drift Deposits (B3)	:)		Oxidized Rhizospheres Presence of Reduced Ir	Oxidized Rhizospheres on Living Roots (C3)			ws (C8) ble on Aerial (C9) ssed Plants (D1)	
Algal Mat or Crust (B4)							Geomorphic Po	osition (D2)	
Iron Deposits (B5)				Recent Iron Reduction			Shallow Aquita Microtopograp	hic Relief (D4)	
	Sparsely Vegetated Co			Thin Muck Surface (C	/)	_4		est (D5) eutral Test (3:0) ACW : FACU & UPL)	1
·	Water-Stained Leaves (	(B9)		Other (Explain in Rema	arks)				
Remark	s:								
			Soils (Describe to d	lepth needed to docume	ent the indi	cator, or confirm the	absence of indicators)		
Map Unit	Name (Series & ha	.se):		Drainage Class	s:			Permeability:	
Taxonon	ny (Subgroup):			Field Observa	tions Cor	nfirm Mapped Type	e?	YES	NO
		atrix					ox Features		
Depth (Inches)	Texture	%	Matrix Color (G= Gleyed)	Color	%	Type <sup>1</sup> (C,D,RM, CS)	Location <sup>2</sup> (PL, M)	Rem	arks
0-13	Loam	100	10 YR 2/1		_				
13-20	Loamy clay	95	10 YR 4/2	10 YR 5/6	5	С	М		
L									
	Τ	Γ		Τ				Γ	
Type <sup>1</sup> C	=concentration D=de	epletion	RM=reduced matrix C	S=coated sand grain	s Locati	on <sup>2</sup> : PL=Pore Lini	ng M=Matrix		
Hydric	Soils Indicators:						Indicators fo	or Problematic H	Iydric Soils
	listosol (A1)		Thick Dark S		Loam	y Mucky Mineral (F1	2  cm muc		
	listic Epipedon (A2) Black Histic (A3)		Sandy Mucky	Mineral (S1)		y Gleyed Matrix (F2)		ie Redox (A16)	
	lack Histic (A3) lydrogen Sulfide (A4)		Sandy Gleyed	Matrix (S4)	Matrix (S4)Depleted Matrix (F3)5cm mucky peak or Peat (S3) Polyvalue Below Surface (S8)				
	tratified Layers (A5)		Sandy Redox	(85) –	S5)Redox Dark Surface (F6)Thin Dark Surface (S9)				
			Stripped Matr					)	
	Pepleted Below dark sur			-	Redox Depressions (F8)Red Parent Material (TF2) ust be present, unless disturbed or problematicVery Shallow Dark Surface (TF12)			(F12)	
Remark		etation a	and wenand nyurology n	lust be present, unless	s uistui dei	d of problematic.		plain in Remarks)	,
NUIIIAI N	5:								
<u> </u>				<b>XX7</b> 411	<b>D</b> ( )	• 1•			
				Wetland	Deteri	nination			
	Vegetation Present?			X YES		NO			
	.987 Corps Wetland Deline Hydrology Present?	ation Mar	nual requires that greater than	50% of all dominant specie X YES	s be OBL, r	ACW, or FAC.			
Note: Accor	rding the 1987 Corp Wetlan		eation Manual, wetland hydrol lefined to be $\leq 12$ inches. We	logy criteria are met if soil i		within the major portion			
U			lepth of water table required to		5 1				
Soil Type The 1989 M			nage Class	Permeability 6-18" below surface depen			+6"=W.T. Depth	Criteria	
SPD=6", P	D & VPD at <6"/hr =18', at				5				
	Soils Present?			X YES	1 1007 0	<b>NO</b>		2	- <b>.</b>
they reflect	pre-restoration conditions	s rather that	wetland) is considered a distu an post-restoration conditions. d hydrology if there is docume	. In accordance with the 19	987 Manual	, in such cases where ne	cessary, a wetland determ		

				Wetland Type:					
Duration Met?	X YES	NO		Μ		RPE			
If all 3 parameters are met, are they or would they normally be pre-	sent during a significant portion of the growin	ng season?		SS		RPF			
			Х	WS		BOG			
Is This Plot a Wetland?	X YES	NO		SM		AB			
Plot ID:				DM					

## **Routine Wetland Delineation Data Form**

	(1987 COE Wetlan	nds De	lineation N	/Ianual, 200	9 N	ortheast & Northcent	ral Supplemen	t)						
Wetland Site:	1560-31-00 USH 63		Date: 8/25/10											
Applicant/Owner: WisDOT County: Was										shburn				
Investigator(s)	: Rachelle Peterson and Caleb	Jense	n				State: WI							
Normal climation this time of year	c conditions on site typical for r? yes		Do	o "normal ci	cun	nstances" exist on the	site?	Х	YES	NO				
Transect #:			Ist	the site sign	fica	antly disturbed (Atypi	cal Situation)?	Х	YES	NO				
Plot #: up 56			Ist	the area pote	entia	ally naturally problem	atic?		YES 2	K NO				
Plot Descripti	on:		Ту	pe of atypic	al o	r problem area (soils,	vegetation, hyd	lrology	v)? Soils					
Vegetation														
Dominant species are the most abundant species in each stratum that sum to 50% of total dominance measure. Any additional species comprising 20% of total dominance measure are also dominant. Non-dominant species used if dominant species are equal in number. <b>Strata</b> = Herbs ( <b>H</b> ) 5'radius plot; 30' radius plot for: Trees ( <b>T</b> ) >3" dbh, Shrubs ( <b>S</b> ) <3" dbh, >3.2' tall, & Woody Vines ( <b>V</b> )														
D	ominant Species	%	Indicator	Stratum		Non-Dominant	<b>.</b>	%	Indicator	Stratum				
1.	<i>Eurybia macrophylla</i> Large Leaved Aster	40	FACU	Н	1	Pteridium aquilin Bracken Fern	ит	10	FACU	Н				
2.	Carex pensylvanica Pennsylvania Sedge	60	OBL	Н	2	<i>Onoclea sensibili</i> Sensitive Fern	\$	10	FACW	Н				
3.	Acer rubrum Red Maple	15	FAC	S	3	Apocynum sibiric Clasping Dogban		25	FAC	Н				
4.					4	. Tilia americana Basswood		8	FACU	Н				
5.					5	Acer rubrum Red Maple		15	FAC	Н				
6.					6	Basswood		8	FACU	S				
7.					7	Salix interior Sandbar Willow		10	OBL	S				
8.					8	3.								
9.					9	).								
10.					10	0.								

	66%									
	Prevalence Index Worksheet:	Hydrophytic Vegetation Indicators								
Total % Cover of:	Multiply By:	Dominance Test is >50%	X YES NO							
		Prevalence Index is < or =3.01	YES NO							
OBL species:	1	Morphological Adaptations* (Provide supporting	YES NO							
EA CW anasias	2	data in Remarks or on a separate sheet)	ILS NO							
FACW species:	2	Problematic Hydrophytic Vegetation1 (Explain)	YES NO							
FAC species:	3									
-		*Indicators of hydric soil and wetland hydrology must be prese	nt, unless disturbed or problematic.							
FACU species:	4									
UPL species:	5	Hydrophytic Vegetation I	Present?							
er E species.		Yes/No								
TOTAL (A):	TOTAL (B):	105/110								
Prevalence										
Index (B/A):										

## Hydrology

Recorded Data	(describe in remarks):
Stream, lake, or tide gauge	e Aerial photographs Monitoring well Other:
No Recorded Data Ava	ailable
Growing Season Dates/Days:	
	(To evaluate hydrologic data from stream gauges/g.w. wells)
Field Observations:	
Surface water present?:Yes	_XNo Depth (inches) Water in well?:YesNo Depth (inches)
Water table present?:Yes?	XNo Depth (inches) Saturation Present?:Yes _XNo Depth (inches)
Remarks:	

	<b>- - - /</b>			d Hydrology l	[ndicator	s:	Secondar	ry Indicator	<b>s</b> : (2 or mo	ore requir	red)				
S	Indicators: (1 or mo Surface Water (A1)		Surface Soil Cracks (B6) Drainage Patterns (B10)												
	High Water Table (A2)	N	Moss Trim Lines (B16) Dry-Season Water Table (C2)												
									<ul> <li>Dry-Season water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial (C9)</li> <li>Stunted or Stressed Plants (D1)</li> </ul>						
A	Algal Mat or Crust (B4 ron Deposits (B5)	)		ecent Iron Reduction		oils (C6)		Geomorphic P Shallow Aquit	osition (D2) ard (D3)						
I:	nundation Visible on A Sparsely Vegetated Cor		Microtopographic Relief (D4) FAC-Neutral Test (D5) FAC-Neutral Test ( : )												
	Water-Stained Leaves (			ther (Explain in Ren	narks)				FACW : FACU						
	<ul> <li>No hydrology in</li> </ul>	· /			iluriko)							_			
<u></u>	• 0.		a	oth needed to docum	ent the indic	ator, or confirm	the absence	of indicators	)						
Map Unit	Name (Series & ha	se):		Drainage Cla					Permeab	ility:					
^	y (Subgroup):	,		-		irm Mapped T	ype?		YI	-	NO	,			
		atrix					dox Feat	ures	1 1						
Depth	Texture	%	Matrix Color	Color	0.4	Type <sup>1</sup>	20)	Location <sup>2</sup>		Remar	ks				
(Inches) 0-9		100	(G= Gleyed) 10 YR 3/2	00101	%	(C,D,RM, C	CS)	(PL, M)		Ttermu					
0-9	Sandy loam	100	10 1K 5/2												
Type <sup>1</sup> C=	concentration D=de	pletion	RM=reduced matrix CS=	coated sand grain	ns Locatio	n <sup>2</sup> : PL=Pore L	ining M=N	Matrix	•						
Hydric S	Soils Indicators:						]	Indicators f	or Probler	natic Hy	dric Soils*	ķ			
	stosol (A1)		Thick Dark Surf		Loamy	Mucky Mineral	(F1) _	2 cm mu				,			
	stic Epipedon (A2) ack Histic (A3)		Sandy Mucky M	lineral (S1)		Gleyed Matrix (	F2) _		rie Redox (A v neak or Pe						
Ну	ydrogen Sulfide (A4)		Sandy Gleyed N		1	d Matrix (F3) Dark Surface (F6	າ ຄ. –	5cm mucky peak or Peat (S3) Polyvalue Below Surface (S8)							
Sti	ratified Layers (A5)		Sandy Redox (S Stripped Matrix			d Dark Surface (	/	Thin Dark Surface (S9) Iron/Manganese Masses (F12)							
	epleted Below dark sur		1)			Depressions (F8)	_	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)							
		etation a	and wetland hydrology mu	st be present, unles	ss disturbed	or problematic.	·		xplain in Rei		12)				
Remarks Refusal at	: t 10 inches, roadfill														
				Wetland	Determ	ination									
				weuanu	Detern	iniation									
Wetland V	vegetation Present?			X YES		NO									
	-	ation Mar	nual requires that greater than 509	% of all dominant speci	ies be OBL, FA	CW, or FAC.									
	Iydrology Present?	nds Deline	eation Manual, wetland hydrolog		l is saturated w		tion of the roo	t zone of the							
prevalent veg	getation. The root zone is	usually d	lefined to be $\leq 12$ inches. We de epth of water table required to re	fine the major portion a	as $\leq$ to 50% or :	≤ 6 inches. Estimat	ting the satura	ted capillary							
Soil Type		Drain	nage Class Pe	rmeability	Capilla	ary Fringe	+6"	=W.T. Depth	Criteria						
	anual requires saturation to 0 & VPD at <6"/hr =18', at		tee defined by a water table at 6- 12".	18" below surface depe	nding on the so	oil type.									
Wetland S	Soils Present?			YES		X NO									
they reflect p	pre-restoration conditions	rather that	wetland) is considered a disturb in post-restoration conditions. In a hydrology if there is document	n accordance with the	1987 Manual, i	in such cases where	e necessary, a					:			
									Wetlan	d Type:					
Duration I				YES	h ·	NO		M		RPE					
If all 3 paran	neters are met, are they or	would th	ey normally be present during a	significant portion of t	ne growing sea	ason?		SS		RPF					
T. (7) + ***	4 . 337.43 30					V NO		WS		BOG					
	ot a Wetland? Plot ID:			YES		X NO		SM DM		AB					

## **Routine Wetland Delineation Data Form**

	(1987 COE Wetlar	ids Del	ineation M	anual, 200	19 N	Nor	neast & Northcenti	11	,				
Wetland Site: 156		Date: 8/25/10											
Applicant/Owner:			County: Washburn										
Investigator(s): Rachelle Peterson and Caleb Jensen State: WI													
Normal climatic cond this time of year? ye	ditions on site typical for es	Do	"normal ci	ircu	mst	ances" exist on the	site?	Х	YES			NO	
Transect #:			Is t	he site sign	nific	cant	ly disturbed (Atypic	cal Situation)?		YES		Х	NO
Plot #: wet 58			Is t	he area pot	enti	ially	v naturally problema	atic?		YES		Х	NO
Plot Description: In	n triangle		Тур	e of atypic	cal c	or p	roblem area (soils,	vegetation, hyd	lrology	)?			
Vegetation													
dominance measure a	Dominant species are the most abundant species in each stratum that sum to 50% of total dominance measure. Any additional species comprising 20% of total dominance measure are also dominant. Non-dominant species used if dominant species are equal in number. <b>Strata</b> = Herbs ( <b>H</b> ) 5'radius plot; 30' radius plot for: Trees ( <b>T</b> ) >3" dbh, Shrubs ( <b>S</b> ) <3" dbh, >3.2' tall, & Woody Vines ( <b>V</b> )												
Domin	nant Species	%	Indicator	Stratum			Non-Dominant S	Species	%	Indic	ato	r	Stratum
	alaris arundinacea ed Canary Grass	100	FACW	Н		1.							
2.					,	2.							
3.						3.							
4.					4	4.							
5.						5.							
6					(	6.							
7					,	7.							
8					:	8.							
9.					9	9.							
10.					1	10.							
	Dominance Test: %	of do	minant spe	cies (all st	trat	ta) t						10	0%
	Prevalence Index Worksheet:				-			hytic Vegetat	ion In				
Total % Cover of:	Multiply By:			Dominance Test is >50%XYESNOPrevalence Index is < or =3.01								NO NO	
OBL species:	1				Mo	orpl	nological Adaptations	* (Provide supp	orting	YI		-	
FACW species:	2						n Remarks or on a sep					-	
FAC species:	3				Pro	oble	ematic Hydrophytic V	egetation1 (Exp	olain)	YI	ĽS	-	NO
				*In	dica	tors	of hydric soil and wetlar	nd hydrology must	be prese	nt, unless	s dist	urbed	or problematic.
FACU species:	4						Hudnon	wie Vogote	tion 1	Dungan	.49		
UPL species:	5						пушторі	hytic Vegeta		reser	Il i		
TOTAL (A): Prevalence	TOTAL (B):							<mark>Yes</mark> /No	)				
Index (B/A):				Hyd	ro	100	F 17						
	Doto (Jacanita)	in	rla).	iiyu	10	ιυĮ	5J						
	ke, or tide gauge		,	otographs			Monitoring well	Oth	er:				
	ded Data Available												
Growing Season D		(To é	evaluate hvdr	ologic data	fron	n sti	eam gauges/g.w. well	s)					
Field Observation	IS:	(100	valuate frydi	ologie data	non	11 50	cum gauges, g.w. wen	3)					
	t?:YesXNo	D	epth (inche	s) Wate	r in	we	11?:Yes	No		Deptl	ı (ir	nches	)
	XYesNo						Present?: X Yes		-5	Deptl			
Remarks:													

Primary	Indicators: (1 or n	nore real		d Hydrology I	ndicate	ors: Seco	ondary Indic	ators:	(2 or mor	e required)				
Primary Indicators: (1 or more required, check all that apply)								Surface Soil Cracks (B6) Drainage Patterns (B10)						
	Liver and Publish (Dis)								Moss Trim Lines (B16) Dry-Season Water Table (C2)					
	Saturation (A3)		-			2)								
	Water Marks (B1) Sediment Deposits (B2 Drift Deposits (B3)	2)		Oxidized Rhizosphere Presence of Reduced I		g Kools (C3)		n Visibl	le on Aerial sed Plants (1					
	Algal Mat or Crust (B	4)					Geomorp	hic Pos	ition (D2)	D1)				
	fron Deposits (B5)			Recent Iron Reduction		Soils (C6)	3 61	Shallow Aquitard (D3) Microtopographic Relief (D4)						
	Inundation Visible on			'hin Muck Surface (C	27)	_X	FAC-Neu FAC-N		st (D5) al Test (	1:0)				
Sparsely Vegetated Concave Surface (B8)       FAC-Neutral Lest (1:0)         Water-Stained Leaves (B9)       Other (Explain in Remarks)														
	Water-Stained Leaves (B9) Other (Explain in Remarks)													
<b>Soils</b> (Describe to depth needed to document the indicator, or confirm the absence of indicators)														
Map Unit	Name (Series & ha	ase):	· · · · · · · · · · · · · · · · · · ·	Drainage Clas	SS:				Permeabil	lity:				
Taxonom	y (Subgroup):			Field Observa	ations Co	nfirm Mapped Type?			YE	S	NO			
	Μ	atrix					Features							
Depth (Inches)	Texture	%	Matrix Color (G= Gleyed)	Color	%	Type <sup>1</sup> (C,D,RM, CS)	Locatio (PL, N	-		Remarks				
0-4	Loam	100	10 YR 3/2		,,		(, -,	-)						
4-10	Loam	65	10 YR 3/2	7.5 YR 5/6	35	С	PL							
10-20	Loamy clay	60	10 YR 2/1	7.5 YR 5/8	40	С	PL							
Type <sup>1</sup> C <sup>2</sup>	concentration D=d	lepletion	RM=reduced matrix CS	S=coated sand grain	ns Locat	ion <sup>2</sup> : PL=Pore Lining	M=Matrix							
	Soils Indicators:									atic Hydric	Soils*			
	istosol (A1) istic Epipedon (A2)		Thick Dark Sur			y Mucky Mineral (F1)	2 cm muck (A10) Coast Prairie Redox (A16)							
В	lack Histic (A3)			•		y Gleyed Matrix (F2) eted Matrix (F3)	5cm n	Coast Prairie Redox (A16) 5cm mucky peak or Peat (S3)						
	ydrogen Sulfide (A4) ratified Layers (A5)		Sandy Gleyed I Sandy Redox (S			x Dark Surface (F6)		Polyvalue Below Surface (S8) Thin Dark Surface (S9)						
			Stripped Matrix			Deted Dark Surface (F7)	Iron/I	Iron/Manganese Masses (F12)						
	epleted Below dark su rs of hydrophytic yes		1) Ind wetland hydrology mi	ust he present, unles		x Depressions (F8)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)							
Remarks			ina wolana nyarology ma		s distai st		Othe	er (Expl	lain in Rem	arks)	-			
				Wetland	Deter	mination								
Wetland V	Vegetation Present?			X YES		ΝΟ								
	0	eation Mar	ual requires that greater than 50		es be OBL,									
	ydrology Present?			X YES		NO								
			eation Manual, wetland hydrologefined to be $\leq 12$ inches. We defined											
1	0	2	epth of water table required to r	5 1	_	- 0	1	uy						
Soil Type		Drain	age Class Po	ermeability	Capi	llary Fringe	+6"=W.T. D	Depth C	riteria					
	anual requires saturation D & VPD at <6"/hr =18',		ce defined by a water table at 6 12".	-18" below surface depen	nding on the	soil type.								
Wetland	Soils Present?			X YES		ΝΟ								
they reflect	pre-restoration condition	s rather that	wetland) is considered a distur in post-restoration conditions. hydrology if there is documen	In accordance with the 1	987 Manua	l, in such cases where necess								
presence of hydrophytic vegetation and wetland hydrology if there is documented evidence that the wetland resulted from human activities.           Wetland Type:										Туре:				
Duration		would th	av normally ha present during	X YES	ha growin-	NO		M		RPE				
11 all 5 para	meters are met, are mey o	n would th	ey normally be present during a	a significant portion of t	ne growing	5045011?		SS		RPF				
Is This Pl	ot a Wetland?			X YES		ΝΟ		WS SM		BOG AB				
	Plot ID:							DM						
Wetland Site:	``				110	ruicast & Northeent	Date: 8/25/1	/						
------------------------------------	--	--------	--------------	-----------------	---------	---	-------------------------------------	----------	----------------	---------	-------------------	--	--	--
Applicant/Own							County: Wa		'n					
11	: Rachelle Peterson and Caleb	Jense	en				State: WI	SHOUL						
	c conditions on site typical for			- "				v	VEC		NO			
this time of year			Do	o normal ci	rcum	stances" exist on the	site?	Х	YES		NO			
Transect #:						tly disturbed (Atypi		Х	YES		NO			
Plot #: up 58				<u>^</u>		ly naturally problem			YES	Х	NO			
Plot Description	on:		Ту			problem area (soils,	vegetation, hyd	rology	v)?					
				Vege										
	es are the most abundant species in							nal spe	cies comp	rising	20% of total			
	sure are also dominant. Non-domi ( <b>H</b> ) 5'radius plot; 30' radius plot fo													
	ominant Species	%	Indicator			Non-Dominant		%	Indicat	or	Stratum			
	Lotus corniculatus				1	Ambrosia artemi	-	1.5						
1.	Birdsfoot Trefoil	35	FAC	Н	1.	Ragweed	<u>.</u>	15	FACU	J	Н			
2.	Phalaris arundinacea	20	FACW	Н	2.	Andropogon gera		10	FAC		Н			
2.	Reed Canary Grass	20	1110.0	11	2.	Big Blue Stem G		10	1/10		11			
3.					3.	Achillea millefoli Yarrow	um	15	FACU	J	Н			
4.					4.	Taraxacum offici Dandelion	inale	15	FACU	J	Н			
5.					5.									
6.					6.									
7.					7.									
8.					8.									
9.     9.     9.     9.     9.														
9.     9.     9.       10.     10.														
	Dominance Test: %	of do	minant sp	oecies (all st	rata)	that are OBL, FA	CW, and/or F	AC?		1	00%			
	Prevalence Index Worksheet:						hytic Vegetati		dicators					
Total % Cover	of: Multiply By:					inance Test is >50%	• 0		X YES		NO			
OBL species:	1					alence Index is < or =3 phological Adaptations	••=	orting	YES		NO			
FACW species:					data	in Remarks or on a se	parate sheet)	U	YES		NO			
FAC species:	3				Prob	lematic Hydrophytic V	Vegetation1 (Exp	lain)	YES		NO			
-				*In	dicator	rs of hydric soil and wetla	nd hydrology must	be prese	ent, unless di	sturbed	l or problematic.			
FACU species:	4					Hydron	hytic Vegeta	tion	Present	,				
UPL species:	5					iiyuiop	nyuc vegeta <mark>Yes</mark> /No		I I Cocine	•				
TOTAL (A): Prevalence	TOTAL (B):													
Index (B/A):														
				Hyd	rolo	gy								
Reco	rded Data (describe	in rem	arks):											
	n, lake, or tide gauge ecorded Data Available		Aerial pl	hotographs		Monitoring well	Othe	er:						
	on Dates/Days:													
Field Observa	tions.	(To	evaluate hyc	drologic data t	from s	tream gauges/g.w. well	ls)							
	resent?: Yes X_No	Г	enth (inch	es) Wate	r in w	vell?:Yes	No		Depth (	inche	5)			
	sent?:YesXNo					Present?:Yes _			Depth (					
Domorius														
Remarks:														

Si Si Si Si A In Si	urface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1) ediment Deposits (B2) rift Deposits (B3) Igal Mat or Crust (B4 on Deposits (B5) undation Visible on A parsely Vegetated Con Vater-Stained Leaves (	) ) Aerial Im ncave Su	nired, check all that apply) Aqu Ma Hyq Oxi Pre Rec agery (B7) Thi rface (B8) Oth	uatic Fauna (B13) rl Deposits (B15) drogen Sulfide Odor idized Rhizospheres sence of Reduced Ir cent Iron Reduction n Muck Surface (C7 der (Explain in Rema	(C1) on Living on (C4) in Tilled S () urks)	Roots (C3)	Surface Soil Cr Drainage Patter Moss Trim Line Dry-Season Wa Crayfish Burro Saturation Visil Stunted or Stree Geomorphic Pc Shallow Aquita Microtopograph X FAC-Neutral T FAC-Neutra (OBL & FA	ns (B10) es (B16) tter Table (C2) ws (C8) ble on Aerial (C9) ssed Plants (D1) ssition (D2) urd (D3) hic Relief (D4)	
M. 11.11			<b>Soils</b> (Describe to dept	1		cator, or confirm th	e absence of indicators)	D	
•	Name (Series & has	se):		Drainage Class		C 1/ 17		Permeability:	110
Taxonomy	(Subgroup):			Field Observat	ions Con	firm Mapped Ty		YES	NO
Depth	Ma	ntrix	Matrix Color		<u> </u>	Red Type <sup>1</sup>	Location <sup>2</sup>		
(Inches)	Texture	%	(G= Gleyed)	Color	%	(C,D,RM, CS		Remarks	
Type <sup>1</sup> C=c	concentration D=de	pletion	RM=reduced matrix CS=	coated sand grains	s Locatio	on <sup>2</sup> : PL=Pore Lin	ning M=Matrix		
Hydric S	oils Indicators:						Indicators fo	r Problematic Hydric	Soils*
His Bla Hyo Stra Dep <b>*Indicators</b>	, , , ,	etation a	nd wetland hydrology must	neral (S1) attrix (S4) ) S6)	Loamy Depleto Redox Depleto Redox	Mucky Mineral (F Gleyed Matrix (F2 ed Matrix (F3) Dark Surface (F6) ed Dark Surface (F Depressions (F8) or problematic.	2)Coast Prairi 5cm mucky Polyvalue E Thin Dark S 7)Tron/Mang Red Paren Very Shallo	e Redox (A16) peak or Peat (S3) Below Surface (S8)	-
				Wetland	Detern	nination			
Note: The 198 Wetland Hy Note: According prevalent vege	ydrology Present? ing the 1987 Corp Wetlar etation . The root zone is PD = 2" and PD, VPD =	nds Deline usually d 12", the d	ual requires that greater than 50% ation Manual, wetland hydrology efined to be ≤12 inches. We defi epth of water table required to ress age ClassPern	YES criteria are met if soil i ne the major portion as all in saturation in the	s saturated w $\leq$ to 50% or najor portion	X         NO           vithin the major portio $\leq 6$ inches. Estimatin           a of the root zone can $\leq 6$	g the saturated capillary be calculated below.	Criteria	_
			ce defined by a water table at 6-18						
SPD=6", PD Wetland So Note: A weth they reflect pr	& VPD at <6"/hr =18', at <b>bils Present?</b> and restoration site (mar re-restoration conditions	$a \ge 6''/hr =$		YES d (atypical) situation in accordance with the 19	the 1987 Co 87 Manual,	X NO orp Wetlands Delinea in such cases where r	necessary, a wetland determi		
	<b>5</b> (0)			<b></b>		<b></b>		Wetland Type:	
<b>Duration M</b>		would the	ey normally be present during a s	YES	orowing co	NO NO	M	RPE	
ii aii 5 paralli	eters are met, are mey of	would th	cy normany of present during a s	ignificant portion of the	. growing se	45011:	SS	RPF BOC	
Is This DI-	t a Wetland?			YES		X NO	WS	BOG	
	l a welland? lot ID:			163			SM DM	AB	
							DIVI		

	(1987 COE Wetla	nds De	lineation	Manual, 200	)9 Nor	theast & Northcentr	al Supplemen	t)				
Wetland Site:	1560-31-00 USH 63						Date: 8/25/1	0				
Applicant/Own							County: Wa		'n			
Investigator(s)	: Rachelle Peterson and Caleb	Jense	en				State: WI					
Normal climatic this time of year	e conditions on site typical for r? yes		D	Do ''normal c	ircums	tances" exist on the	site?	Х	YES		NO	
Transect #:	-		Is	s the site sig	nificant	tly disturbed (Atypic	al Situation)?		YES	Х	NO	
Plot #: wet 59			Is	s the area po	tentiall	y naturally problema	tic?		YES	Х	NO	
Plot Description	on:		Т	ype of atypi	cal or p	problem area (soils, v	vegetation, hyd	lrology	y)?			
				Veg	etatio	on						
dominance meas	es are the most abundant species in sure are also dominant. Non-domi	nant sp	ecies used	d if dominant	specie	s are equal in number	r.	nal spe	ecies compr	ising 20 <sup>o</sup>	% of total	
	(H) 5'radius plot; 30' radius plot fo				<b>S</b> ) <3"			0 /	T 1' /	-	<u> </u>	
De	ominant Species	%	Indicato	or Stratum		Non-Dominant S	-	%	Indicato	r	Stratum	
1.	Phalaris arundinacea Reed Canary Grass	25	FACW	/ Н	1.	Chamerion angust Fireweed		5	FAC		Н	
2.	Scirpus atrovirens Black Bulrush	30	OBL	Н	2.	Solidago gigantea Giant Goldenrod		8	FACW		Н	
3.	<i>Salix interior</i> Sandbar Willow	10	OBL	S	3.	<i>Eupatorium macul</i> Spotted Joe-Pye-W		2	OBL		Н	
4.	<i>Fraxinus pensylvanica</i> Green Ash	50	FACW	/ Т	4.							
5.					5.							
6.					6.							
7.     7.     7.												
8.					8.							
9.					9.							
10.					10.							
	Dominance Test: %	of do	minant s	necies (all s	trata)	that are ORL_FA(	W and/or F	AC?		100%	/	
	Prevalence Index Worksheet:	01 UU	iiiiiaiit s	pecies (all s	uata)				J!4	100 /	<b>'</b> 0	
T. ( 10/ C					Domi	nance Test is >50%	hytic Vegetat	ion in	X YES		NO	
Total % Cover					Preva	lence Index is < or =3.			YES	_	NO	
OBL species:	1					hological Adaptations <sup>*</sup>		orting	YES		NO	
FACW species:	2					n Remarks or on a sep ematic Hydrophytic V		lain)	YES		NO	
FAC species:	3							ŕ			_	
FACU species:	4			*Iı	ndicators	s of hydric soil and wetlan	a hydrology must	be pres	ent, unless dis	urbed or	problematic.	
UPL species:	5					Hydroph	ytic Vegeta	ntion	Present?			
TOTAL (A):	TOTAL (B):						Yes/No	)				
Prevalence Index (B/A):												
				Hyd	rolo	gy						
Reco	rded Data (describe	in rem	arks):									
	Stream, lake, or tide gauge Aerial photographs Monitoring well Other:											
	ecorded Data Available on Dates/Days:	_			_							
Stowing boast		(To	evaluate hy	ydrologic data	from st	ream gauges/g.w. wells	5)					
Field Observa	ations:	*	5				,					
-	resent?:YesXNo		epth (incl			ell?:Yes			Depth (in			
Water table pres	sent?: X_YesNo	-7 D	epth (incl	hes) Satu	ration I	Present?:X_Yes	No	-5	Depth (ii	nches)		

Remarks:

				nd Hydrology l	ndicato	rs: Sec	ondary Indi	cators	· (2. or moi	e required)			
Primar	y Indicators: (1 or 1 Surface Water (A1)	more requ	uired, check all that app	oly) Aquatic Fauna (B13)		500	-		icks (B6)	e requirea)			
	High Water Table (A	2)		1			Drainag	e Patterr	ns (B10)				
		_)		Marl Deposits (B15) Hydrogen Sulfide Odd	or (C1)		Moss Trim Lines (B16) Dry-Season Water Table (C2)						
X_	Saturation (A3)						-			2)			
	Water Marks (B1) Sediment Deposits (E	32)		Oxidized Rhizosphere	s on Living	g Roots (C3)	Crayfish Saturatio		vs (C8) le on Aeria	l (C9)			
	Drift Deposits (B3)	,		Presence of Reduced	ron (C4)				sed Plants ( sition (D2)	D1)			
	Algal Mat or Crust (E Iron Deposits (B5)	34)		Recent Iron Reduction	n in Tilled S	Soils (C6)	Shallow						
	Inundation Visible or	Aerial Im	agery (B7)	Thin Muck Surface (C	7)	X	Microto FAC-Ne		ic Relief (E	94)			
	Sparsely Vegetated C			Thin Muck Surface (C	.,)		FAC	-Neutra	al Test (				
	Water-Stained Leave			Other (Explain in Ren	narks)		(0	BL & FA	CW : FACU	& UPL)			
Remar		5 (27)		0 mm (2.1.p.m 100									
			<b>Soils</b> (Describe to a	depth needed to docum	ent the indi	icator, or confirm the a	bsence of indi	cators)					
Man Un	it Name (Series & h	uase).		Drainage Cla		leator, or commune a	osence of mar		Permeabi	lity.			
~	my (Subgroup):	iuse).				firm Mapped Type?			YE		NO		
Тахоно		Iatrix		Tield Observa			Features		IL	5	NO		
Depth			Matrix Color	Calar		Type <sup>1</sup>	Locat	ion <sup>2</sup>		Demenden			
(Inches	) Texture	%	(G= Gleyed)	Color	%	(C,D,RM, CS)	(PL,	M)		Remarks			
0-2	Loam	100	10YR 3/2										
2-20	Silt loam	60	10 YR 4/4	7.5 YR 5/6	40	С	PL						
Type <sup>1</sup>	C=concentration D=	depletion	RM=reduced matrix C	CS=coated sand grain	ns Locati	on <sup>2</sup> : PL=Pore Lining	g M=Matrix						
Hydri	c Soils Indicators	:					Indica	tors for	r Problem	atic Hydric	: Soils*		
	Histosol (A1)		Thick Dark S			y Mucky Mineral (F1)			x (A10)				
	Histic Epipedon (A2) Black Histic (A3)		Sandy Mucky	Mineral (SI)		y Gleyed Matrix (F2) ted Matrix (F3)			e Redox (A) peak or Pea	,			
	Hydrogen Sulfide (A4)	)	Sandy Gleyed			lox Dark Surface (F6)	Poly	value B	elow Surfac				
	Stratified Layers (A5)		Sandy Redox Stripped Mati			ted Dark Surface (F7)			urface (S9) nese Masse	s (F12)			
	Depleted Below dark s	· · · ·	1) 11	. ,		Depressions (F8)	Re	d Parent	Material (	(F2)			
		egetation a	and wetland hydrology n	nust be present, unles	s disturbe	d or problematic.			w Dark Sur lain in Ren	face (TF12) arks)	-		
Remar	ks:							· · ·		,			
				Wetland	Deteri	nination							
Wetland	Vegetation Present?			X YES		ΝΟ							
	6	neation Mar	nual requires that greater than		es be OBL F								
	Hydrology Present?			X YES	,.	ΝΟ							
			eation Manual, wetland hydro										
			lefined to be $\leq 12$ inches. We lepth of water table required to										
Soil Typ		<i>,</i>	nage Class		5 1				Criteria				
	Manual requires saturation PD & VPD at <6"/hr =18'.		ice defined by a water table at	6-18" below surface depe	nding on the	soil type.							
-	I Soils Present?	, <u>_</u> , ,		X YES		ΝΟ							
Note: A	wetland restoration site (m		wetland) is considered a dist	urbed (atypical) situation		Corp Wetlands Delineation							
			an post-restoration conditions d hydrology if there is docum				ssary, a wetland	determin	ation can be	made based on	the		
								l	Wetland	Type:			
Duratio				X YES		NO		М		RPE			
If all 3 pa	rameters are met, are they	or would th	ey normally be present during	g a significant portion of t	he growing s	eason?		SS		DDE			
					0 0					RPF			
T. (19) • •	Plot a Wetland?			X YES	0 0	NO	X	WS SM		BOG AB			

Wetland Site:	``````````````````````````````````````			iunuun, 200	., 10	Date: 8/25/	<i>'</i>							
Applicant/Ow						County: W		rn						
Investigator(s)	): Rachelle Peterson and Cale	b Jense	en			State: WI								
Normal climatic this time of year	c conditions on site typical for r? yes		Do	"normal ci	rcun	nstances" exist on the site?	Х	YES		NO				
Transect #:			Is t	the site sign	ifica	ntly disturbed (Atypical Situation)?	Х	YES		NO				
Plot #: up 59						lly naturally problematic?		YES	X	NO				
Plot Description	on:		Ty	pe of atypic	cal or	problem area (soils, vegetation, hy	drolog	y)? Soils	5					
-				Vege										
	es are the most abundant species in sure are also dominant. Non-dom					otal dominance measure. Any additi- ies are equal in number.	onal sp	ecies con	nprisin	g 20% of total				
Strata = Herbs	(H) 5'radius plot; 30' radius plot	for: Tre		oh, Shrubs (		" dbh, >3.2' tall, & Woody Vines (V)								
D	ominant Species	%	Indicator	Stratum		Non-Dominant Species	%	Indic	ator	Stratum				
1.	Lotus corniculatus Birdsfoot Trefoil	- 35	FAC	Н	1	Ambrosia artemisiifolia Ragweed	- 15	FAC	CU	Н				
2.	<i>Phalaris arundinacea</i> Reed Canary Grass	- 20	FACW	Н	2	Andropogon gerardii Big Blue Stem Grass	- 10	FA	С	Н				
3.					3	Achillea millefolium	- 15	FAG	CU	Н				
4.				+	4	Y arrow Taraxacum officinale	- 15	FAG		Н				
				+		Dandelion Hieracium aurantiacum								
5.					5	· Orange Hawkweed	. 5	N		Н				
6.					6	•								
7.					7									
8.					8									
8.         8.         8.           9.         9.         9.														
9.     9.       10.     10.														
10.	Dominon of Tests 0	( of do					TA C2			1000/				
	Prevalence Index Worksheet:	6 OI QU	minant spo	ectes (all st	rata	) that are OBL, FACW, and/or ]		<u> </u>		100%				
Total % Cover					Don	Hydrophytic Vegeta ninance Test is >50%	tion In	A YE		NO				
	100					valence Index is < or =3.01		YE	S	NO				
OBL species:	1	_				rphological Adaptations* (Provide sup a in Remarks or on a separate sheet)	porting	YE	S	NO				
FACW species:		_				blematic Hydrophytic Vegetation1 (Ex	plain)	YE	S	NO				
FAC species:	3	-		*In	dicato	ors of hydric soil and wetland hydrology mus	t be pres	sent, unless	disturb	ed or problematic.				
FACU species:		-				ττ	- <b>4</b> -	D	49					
UPL species:	5	-				Hydrophytic Veget <mark>Yes</mark> /N		rresen	ι.					
TOTAL (A): Prevalence	TOTAL (B):	-				<mark>1 65</mark> /11	U							
Index (B/A):				U.,.A	nol	0.037								
Darr	orded Data (describe	in ror-	orta).	Hyd	rol	ugy								
	orded Data (describe m, lake, or tide gauge	in rem	,	notographe		Monitoring well Ot	her:							
	Recorded Data Available			.StoBrupiis										
	on Dates/Days:	( <b>T</b> .	avaluate be 1	rologia d-4	from	straam gaugas/salle)								
Field Observa	ations:	(10	evaluate hyd	iologic data	irom	stream gauges/g.w. wells)								
	resent?:Yes _XNo	Γ	Pepth (inche	es) Wate	r in v	well?:YesNo		Depth	(inch	es)				
	sent?:YesXNo					n Present?:YesXNo		Depth						
Remarks:														

Si Si Si Si A In Si	urface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1) ediment Deposits (B2) rift Deposits (B3) lgal Mat or Crust (B4 on Deposits (B5) nundation Visible on A parsely Vegetated Co	) )) )) Aerial Ima ncave Sur	ired, check all that apply) Aq Ma Ox Ox Pre Re agery (B7) Th face (B8)	uatic Fauna (B13) url Deposits (B15) drogen Sulfide Odo idized Rhizospheres esence of Reduced In cent Iron Reduction in Muck Surface (C	r (C1) ; on Living F ; on (C4) in Tilled So 7)	Roots (C3) ils (C6)	I I I S S S	ry Indicators: Surface Soil Cra Drainage Pattern Moss Trim Line: Dry-Season Wat Crayfish Burrow Saturation Visib Stunted or Stress Geomorphic Pos Shallow Aquitar Microtopographi FAC-Neutral Te FAC-Neutral (OBL & FAC	cks (B6) ns (B10) s (B16) er Table (C2) rs (C8) le on Aerial (C sed Plants (D1) sition (D2) d (D3) ic Relief (D4) st (D5)	9) ) :0)	
Remarks:	ater-Stained Leaves	(199)	Ou	her (Explain in Rem	aiks)						
			Soils (Describe to dept	th needed to docume	ent the indica	ator, or confirm tl	he absence	of indicators)			
Map Unit N	Name (Series & ha	se):		Drainage Clas	s:				Permeability	:	
Taxonomy	(Subgroup):			Field Observa	tions Conf	irm Mapped Ty	vpe?		YES		NO
	Ma	atrix					dox Feat				
Depth (Inches)	Texture	%	Matrix Color (G= Gleyed)	Color	%	Type <sup>1</sup> (C,D,RM, C	S)	Location <sup>2</sup> (PL, M)	R	emarks	
1						2					
		epletion	RM=reduced matrix CS=	coated sand grain	s Location	n <sup>2</sup> : PL=Pore Li	-				
,	oils Indicators: stosol (A1)		Thick Dark Surfa	$\lambda = (A   2)$				Indicators for 2 cm muck		c Hydric	Soils*
His Bla Hyo Stra Dep *Indicators Remarks:	tic Epipedon (A2) ick Histic (A3) drogen Sulfide (A4) atified Layers (A5) pleted Below dark sur s of hydrophytic veg	etation a	Sandy Mucky M Sandy Gleyed M Sandy Redox (SS Stripped Matrix ( ) nd wetland hydrology mus	ineral (S1)	Loamy C Depleted Redox I Depleted Redox I	Mucky Mineral (I Gleyed Matrix (F d Matrix (F3) Dark Surface (F6) d Dark Surface (F Depressions (F8) <b>or problematic.</b>	(2) _ - ) -	Coast Prairie 5cm mucky j Polyvalue Be Thin Dark Su Iron/Mangau Red Parent Very Shallow	Redox (A16) peak or Peat (Selow Surface (S	58) 512) ) e (TF12)	
				Wetland	Determ	ination					
Note: The 198 Wetland Hy Note: According prevalent vege	ydrology Present? ing the 1987 Corp Wetla etation . The root zone is PD = 2" and PD, VPD =	nds Delinea s usually de 12", the de	al requires that greater than 50% ation Manual, wetland hydrology fined to be ≤12 inches. We defi pth of water table required to res age ClassPer	YES v criteria are met if soil ine the major portion as unult in saturation in the	is saturated wi ≤ to 50% or ≤ major portion	X NO thin the major portices 6 inches. Estimation of the root zone can	ng the satura be calculate	ited capillary ed below.	Criteria		
			e defined by a water table at 6-1					-			
SPD=6", PD Wetland So Note: A weth they reflect pr	& VPD at <6"/hr =18', a <b>bils Present?</b> land restoration site (man re-restoration conditions	t $\geq 6$ "/hr =		YES d (atypical) situation in accordance with the 19	n the 1987 Cor 987 Manual, ii	<b>X</b> NO rp Wetlands Delinea n such cases where	necessary, a				
Dunoting N	Act?			VEC				ъл	Wetland Ty	-	
<b>Duration N</b> If all 3 parame		r would the	y normally be present during a s	significant portion of th	e growing sea	Ison?		M SS		PE PF	
				-				WS		OG	
Is This Plot	t a Wetland?			YES		X NO		SM		B	
P	lot ID:							DM			

(1987 COE Wetlands Delineation Manual, 2009 Northeast & Northcentral Supplement)

Wetland Site: 1560-31-00 USH 63	Date: 8/25/	Date: 8/25/10						
Applicant/Owner: WisDOT	County: W	shbu	rn					
Investigator(s): Rachelle Peterson and Caleb Jensen	State: WI							
Normal climatic conditions on site typical for this time of year? yes	Do "normal circumstances" exist on the site?	X	YES		NO			
Transect #:	Is the site significantly disturbed (Atypical Situation)?		YES	Х	NO			
Plot #: wet 60	Is the area potentially naturally problematic? YES X							
Plot Description: N of Woodyard Rd	Type of atypical or problem area (soils, vegetation, hyperbolic structure)	lrolog	y)?					
	<b>V</b> 7 <b>4</b> - <b>4</b>							

Vegetation

Dominant species are the most abundant species in each stratum that sum to 50% of total dominance measure. Any additional species comprising 20% of total dominance measure are also dominant. Non-dominant species used if dominant species are equal in number. **Strata** = Herbs (**H**) 5'radius plot; 30' radius plot for: Trees (**T**) >3" dbh, Shrubs (**S**) <3" dbh, >3.2' tall, & Woody Vines (**V**)

	Dominant Species	%	Indicator	Stratum	<u> </u>	< 3	Non-Dominant Species	%	Indicator	Stratum
1.	Phalaris arundinacea           Reed Canary Grass	100	FACW	Н		1.				Statum
2.	Alnus rugosa Speckled Alder	15	OBL	Т		2.				
3.						3.				
4.						4.				
5.						5.				
6.						6.				
7.						7.				
8.						8.				
9.						9.				
10.		m				10.				
	Dominance Test: %	6 of do	minant spe	cies (all s	tra	ta)	that are OBL, FACW, and/or F	FAC?		100%
	Prevalence Index Worksheet:						Hydrophytic Vegetat	tion In	dicators	
Total % Cover	r of: Multiply By:						nance Test is >50%		X YES YES	NO
OBL species:	1						lence Index is < or =3.01	ontin-		NO
_		-					hological Adaptations* (Provide supp n Remarks or on a separate sheet)	orung	YES	NO
FACW species		-					ematic Hydrophytic Vegetation1 (Exp	olain)	YES	NO
FAC species:	3	-		*T	ndics	atore	of hydric soil and wetland hydrology must	t he nrese	ent-unless disturb	ed or problematic
FACU species:	4	_			unce	1013		•	,	et of problematic.
UPL species:	5	_					Hydrophytic Vegeta		Present?	
TOTAL (A): Prevalence Index (B/A):	TOTAL (B):	-					Yes/No	0		

Recorded Data	(describe in remarks):
Stream, lake, or tide gauge	e Aerial photographs Monitoring well Other:
No Recorded Data Ava	ailable
Growing Season Dates/Days:	
	(To evaluate hydrologic data from stream gauges/g.w. wells)
Field Observations:	
Surface water present?:Yes _X	No Depth (inches) Water in well?:YesNo Depth (inches)
Water table present?:XYes	No13 Depth (inches) Saturation Present?:X_YesNo6 Depth (inches)
Remarks:	

			Walla	nd Herducle on	Indianta										
<b>Primary</b>	Indicators: (1 or m	nore requ	ired, check all that app	nd Hydrology	Indicato	ors:	Seconda	ry Indica	ators:	(2 or mor	re required)				
	urface Water (A1)	1		Aquatic Fauna (B13)				Surface Soil Cracks (B6) Drainage Patterns (B10)							
— H	ligh Water Table (A2	)		Marl Deposits (B15)				Moss Trin							
_X S	aturation (A3)			Hydrogen Sulfide Od	or (C1)		_X I	_ Dry-Season Water Table (C2)							
	Vater Marks (B1) ediment Deposits (B2			Oxidized Rhizospher	es on Living	g Roots (C3)		Crayfish E			L(C0)				
	Drift Deposits (B2)	-)		Presence of Reduced	Iron (C4)			Saturation Visible on Aerial (C9) Stunted or Stressed Plants (D1)							
	Algal Mat or Crust (B4 ron Deposits (B5)	4)		Recent Iron Reductio	n in Tilled	Soils (C6)		Geomorphic Position (D2)Shallow Aquitard (D3)							
	nundation Visible on	Aerial Im	agery (B7)	Thin Muck Surface (	(7)			Microtopc FAC-Neut		c Relief (D st (D5)	94)				
	parsely Vegetated Co				27)			FAC-Neutral Test (2:0)							
	Vater-Stained Leaves			Other (Explain in Re	marks)			(OBL & FACW : FACU & UPL)							
Remarks	:			× •	,										
			Soils (Describe to d	lepth needed to docur	nent the ind	icator, or confirm t	he absence	e of indica	tors)						
Map Unit 1	Name (Series & ha	ise):		Drainage Cla	iss:					Permeabil	lity:				
Taxonom	y (Subgroup):			Field Observ	rations Co	nfirm Mapped Ty	/pe?			YE	S	NO			
	Μ	atrix					dox Feat	tures							
Depth (Inches)	Texture	%	Matrix Color (G= Gleyed)	Color	%	Type <sup>1</sup> (C,D,RM, C	(8)	Locatio (PL, M			Remarks				
0-4	Clay loam	100	10 YR 3/1		70	(0,D,100, 0	.5)	(11, 11	.,						
4-20	Loamy clay	75	10 YR 3/2	7.5 YR 5/6	25	С	1	PL							
Type <sup>1</sup> C=	concentration D=d	epletion	RM=reduced matrix C	S=coated sand grai	ns Locat	ion <sup>2</sup> : PL=Pore Li	ning M=N	Matrix							
Hydric S	Soils Indicators:						]	Indicato	rs for	Problem	atic Hydrio	: Soils*			
	stosol (A1)		Thick Dark Su		Loam	y Mucky Mineral (	F1) _			(A10)					
	stic Epipedon (A2) ack Histic (A3)		Sandy Mucky	Mineral (S1)		y Gleyed Matrix (F				Redox (Al beak or Pea	/				
Ну	drogen Sulfide (A4)		Sandy Gleyed			ted Matrix (F3) lox Dark Surface (	- F6) -	Polyvalue Below Surface (S8) Thin Dark Surface (S9)							
Str	atified Layers (A5)		Sandy Redox Stripped Matr			ted Dark Surface (				irface (S9) iese Masse	s (F12)				
	pleted Below dark su	· ·	1)			Contractions (F8)	· .	Red	Parent	Material (7	(F2)				
		etation a	nd wetland hydrology n	ust be present, unle	ss disturbe	d or problematic.				ain in Rem	face (TF12) arks)	-			
Remarks	:														
				Watland	Datam	mination									
				wetiand	1 Deter	mination									
Wetland V	egetation Present?			X YES		NO									
Note: The 19	87 Corps Wetland Deline	eation Mar	ual requires that greater than 5	50% of all dominant spec	ies be OBL, l	FACW, or FAC.									
Wetland H	ydrology Present?			X YES		NO									
			eation Manual, wetland hydrol efined to be $\leq 12$ inches. We												
fringe to be S	SPD = 2" and PD, $VPD =$	-	epth of water table required to		5 1				2						
Soil Type		Drain	age Classl	Permeability	Capi	llary Fringe	+6"	'=W.T. D	epth C	riteria					
	nual requires saturation t & VPD at <6"/hr =18', a		ce defined by a water table at 12".	6-18" below surface dep	ending on the	soil type.									
-	oils Present?			X YES		NO									
Note: A wet	land restoration site (ma		wetland) is considered a distu in post-restoration conditions.	urbed (atypical) situation											
			I hydrology if there is docume					a wenand de	ciermina	ation can be	made based on	uic			
Duration	Math			V VDG				v	M	Wetland	V 1				
Duration M If all 3 param		r would th	ey normally be present during	X YES	the growing	season?			M SS		RPE RPF				
F	, <b></b> .				2 0				ws		BOG				
Is This Plo	ot a Wetland?			X YES		NO			SM		AB				
P	Plot ID:								DM						

		(	wena	ids De		vianuai, 200	9 Northeast & Northcentra	11 /						
Wetland Site:								Date: 8/25/10						
Applicant/Own								County: Was	shbur	n				
Investigator(s)				Jense	en			State: WI		r -				
Normal climatic this time of year		s on site typical	for		D	o "normal ci	rcumstances" exist on the s	site?	Х	YES	NO			
Transect #:					Is	the site sign	ificantly disturbed (Atypica	al Situation)?	X	YES	NO			
Plot #: up 60							entially naturally problema			YES	X NO			
Plot Description	on:						cal or problem area (soils, v		ology	)? Soils	l			
÷						Veg	etation			·				
dominance meas	sure are also	o dominant. No	on-domi	nant sp	ecies used	sum to 50% if dominant	of total dominance measure species are equal in number	ſ.	al spe	cies compri	sing 20% of total			
	ominant S		is plot to	or: Tre		r Stratum	S) <3" dbh, >3.2' tall, & Wood Non-Dominant S		%	Indicator	r Stratum			
D	Elymus r	-					<i>Cirsium arvense</i>	species	70	marcator	Suatum			
1.	Quack G			30	FACU	Н	1. Canada Thistle		10	FACU	Н			
2.	·····	<i>nsylvanica</i> vania Sedge		80	OBL	Н	2. Solidago canadens Canada Goldenrod		10	FACU	Н			
3.							3. <i>Phalaris arundina</i> Reed Canary Grass		10	FACW	Н			
4.							4. Achillea millefolius Yarrow	m	15	FACU	Н			
5.							5. <i>Eurybia macrophy</i> Large Leaved Aster		2	FACU	Н			
6.	7     Bromus inermis     8     UPL     H													
7.	7.     Bromus inermis     8     UPL     H       8     Poa compressa     8     FACU     H													
8.     Poa compressa     8.     Poa compressa     8.     FACU     H														
9.         9.<														
9.     9.     9.       10.     10.     10.														
		Dominance '	Fest: %	of do	minant sı	pecies (all st	rata) that are OBL, FAC	CW, and/or FA	AC?		50%			
	Preval	lence Index Wor						hytic Vegetati		dicators				
Total % Cover	of:	Multiply By:					Dominance Test is >50%	• 0		YES	X NO			
OBL species:	80	1	80				Prevalence Index is < or =3.0 Morphological Adaptations*		ntina	X YES	NO			
-		-					data in Remarks or on a separation		ung	YES	NO			
FACW species:		2					Problematic Hydrophytic Ve	egetation1 (Expl	ain)	YES	NO			
FAC species:	30	3	120			*In	dicators of hydric soil and wetland	d hydrology must h	oe prese	ent, unless dist	urbed or problematic.			
FACU species:		4								_	-			
UPL species:		5					Hydroph	ytic Vegeta		Present?				
TOTAL (A):	110	TOTAL (B):	200					<mark>Yes</mark> /No						
Prevalence Index (B/A):	1.81													
····· (-····)*						Hvd	rology							
Reco	rded Data	a (d	escribe	in rem	arks):		Ov							
	n, lake, or t				,	hotographs	Monitoring well	Othe	er:					
		Data Availab			-									
Growing Sease	on Dates/I	Days:		(T <sub>c</sub>	avaluata ku	drologia data	from stream gauges/g.w. wells	<u></u>						
Field Observa	ations:			(10	evaluate fly	urorogie data	nom sucam gauges/g.w. wells	<i>י</i> י						
	Surface water present?:       Yes _X_No       Depth (inches)       Water in well?:       Yes _No       Depth (inches)         Water table present?:       Yes _X_No       Depth (inches)       Saturation Present?:       Yes _X_No       Depth (inches)													
Water table pres	sent?:	Yes X	No	D	Depth (inch	es) Satur	ation Present?:Yes _>	XNo		Depth (in				
Remarks:														

				l Hydrology	Indicator	s:	Secondar	ry Indicators	: (2 or mor	e required)				
Si H	Indicators: (1 or mo urface Water (A1) ligh Water Table (A2) aturation (A3)	-	Ma	) uatic Fauna (B13) url Deposits (B15) drogen Sulfide Oc			S I N	Surface Soil Cracks (B6)          Drainage Patterns (B10)          Moss Trim Lines (B16)          Dry-Season Water Table (C2)						
Se	Vater Marks (B1) ediment Deposits (B2) rift Deposits (B3)	)		idized Rhizospher esence of Reduced	-	Roots (C3)		Crayfish Burro Saturation Visi Stunted or Stree	ole on Aerial ssed Plants (1					
Ir	lgal Mat or Crust (B4 on Deposits (B5) nundation Visible on A			cent Iron Reductio		ils (C6)	Geomorphic Position (D2)          Shallow Aquitard (D3)          Microtopographic Relief (D4)          FAC-Neutral Test (D5)							
Sj	parsely Vegetated Cor	ncave Su	rface (B8)	· · · · · · · · · · · · · · · · · · ·	,			FAC-Neu	tral Test ( CW : FACU					
	Vater-Stained Leaves ( No hydrology in	· /		her (Explain in Re	marks)									
Itemai K5	i ito nyurotogy m	ulcutor	G 11	th needed to docur	nent the indic	ator or confirm	the absence	of indicators)						
Map Unit 1	Name (Series & has	se).		Drainage Cla			i the absence	of maleators)	Permeabi	lity <sup>.</sup>				
^	(Subgroup):	50).		-		irm Mapped 7	Evne?		YE		NO			
Тахоношу		atrix			utions com	~ ~	edox Feat	ures	112	5	110			
Depth		%	Matrix Color	Color		Type <sup>1</sup>	cuba r cat	Location <sup>2</sup>		Remarks				
(Inches)	Texture	70	(G= Gleyed)	Color	%	(C,D,RM,	CS)	(PL, M)		Kemarks				
Type <sup>1</sup> C=	concentration D=de	epletion	RM=reduced matrix CS=	coated sand gra	ins Locatio	n <sup>2</sup> : PL=Pore I	Lining M=N	Matrix						
Hydric S	oils Indicators:						]	Indicators fo	r Problem	atic Hydric	Soils*			
	stosol (A1)		Thick Dark Surfa			Mucky Mineral		2  cm muc						
	stic Epipedon (A2) ack Histic (A3)		Sandy Mucky M	ineral (SI)		Gleyed Matrix d Matrix (F3)	(F2) _		e Redox (Al peak or Pea					
	drogen Sulfide (A4)		Sandy Gleyed M			Dark Surface (F	- 56)	Polyvalue F	Below Surfac					
Str	atified Layers (A5)		Sandy Redox (S5 Stripped Matrix (		Deplete	d Dark Surface	(F7) -		Surface (S9) anese Masse	s (F12)				
	pleted Below dark sur		1)			Depressions (F8	_	Red Paren	t Material (7	F2)				
		etation a	nd wetland hydrology mus	t be present, unle	ss disturbed	or problematio	c. –		ow Dark Sur plain in Rem		-			
<b>Remarks:</b> No soil sa	: mple obtained, refu	sal at su	ırface, roadfill											
				Wetlan	l Determ	ination	<b>I</b>							
				<b></b>										
Wetland V	egetation Present?			X YES		NO								
	-	ation Man	ual requires that greater than 50%		eies be OBL, FA									
	ydrology Present?	LDF	<i>с.</i> м. н. н. н. н. н.	YES		X NO	ci ca	( C.1						
prevalent veg	etation . The root zone is	usually de	ation Manual, wetland hydrology efined to be $\leq 12$ inches. We defi epth of water table required to res	ine the major portion	as $\leq$ to 50% or $\leq$	≤ 6 inches. Estima	ating the satura	ted capillary						
Soil Type	. <u></u>	Drain	age Class Per	meability	Capilla	ry Fringe	+6"	=W.T. Depth	Criteria					
	nual requires saturation to & VPD at <6"/hr =18', at		ce defined by a water table at 6-13 12".	8" below surface dep	ending on the so	il type.								
Wetland S	oils Present?			YES		X NO								
they reflect p	re-restoration conditions	rather tha	wetland) is considered a disturbe n post-restoration conditions. In l hydrology if there is documente	accordance with the	1987 Manual, i	n such cases whe	re necessary, a							
				<b></b>		<b></b>			Wetland					
Duration N		mo-11-0		YES		NO		М		RPE				
11 all 3 param														
	leters are met, are mey or	would the	ey normally be present during a s	agnificant portion of	the growing sea	ison?		SS		RPF				
In This D		would the	ey normally be present during a s		the growing sea			ws		BOG				
	t a Wetland? lot ID:	would the	ey normally be present during a s	YES	the growing sea	ISON?								

_	(1987 COE Wetlar	nds De	lineation	Manual, 20	)9 Noi	theast & Northcent	ral Supplemen	t)			_
Wetland Site:	1560-31-00 USH 63						Date: 8/25/1	10			
Applicant/Owr	ner: WisDOT						County: Wa	ashbur	'n		
	: Rachelle Peterson and Caleb	Jense	n				State: WI				
	conditions on site typical for		Г	Do "normal c	ircums	stances" exist on the	site?	X	YES		NO
this time of year	? yes										
Transect #:						tly disturbed (Atypi			YES	Х	NO
Plot #: wet 73						y naturally problem			YES	Х	NO
Plot Description	on:		Т			problem area (soils,	vegetation, hyc	irology	/)?		
				0	etati						
dominance meas	es are the most abundant species in pure are also dominant. Non-domi <b>H</b> ) 5'radius plot; 30' radius plot fo	nant sp	ecies used	d if dominant	specie	es are equal in numbe	er.	onal spe	ecies compi	rising	20% of total
	ominant Species	<u>и. пес</u> %	Indicate			Non-Dominant		%	Indicato	)r	Stratum
	Phalaris arundinacea	70				Polygonum amph	-			<i>n</i>	
1.	Reed Canary Grass	100	FACW	V H	1.	Water Smartweed		10	OBL		Н
	Salix interior			~		Impatiens capens		_		_	
2.	Sandbar Willow	15	OBL	S	2.	Orange Jewelwee		5	FACW	/	Н
3.					3.						
4.					4.						
5.					5.						
6.					6.						
7.					7.						
8.					8.						
9.					9.						
10.					10.						
10.					10.						
	Dominance Test: %	of do	minant s	species (all s	trata)	that are OBL, FA	CW, and/or F	AC?		1	00%
	Prevalence Index Worksheet:						ohytic Vegetat	ion In			
Total % Cover of	of: Multiply By:					nance Test is >50% dence Index is < or =3	01		X YES YES		
OBL species:	1					hological Adaptations		orting			
FACW species:	2				data i	in Remarks or on a se	parate sheet)	U	YES		NO
-					Prob	ematic Hydrophytic V	Vegetation1 (Exp	olain)	YES		NO
FAC species:	3			*I1	dicator	s of hydric soil and wetla	nd hydrology must	be pres	ent, unless dis	turbe	l or problematic.
FACU species:	4					<b>TT</b> 1	L_4. T7 4		D		
UPL species:	5					Hydrop	hytic Vegeta		Present?		
TOTAL (A):	TOTAL (B):						<mark>Yes</mark> /No	)			
Prevalence Index (B/A):											
muex (D/A).				Uvd	rolo	<b>AX</b> 7					
Darre	rded Data (describe	n	rla).	пуц	rolo	5 <b>)</b>				—	1
		in tema	,	nhotogranha		Monitoring wall	Oth	or:			
	n, lake, or tide gauge ecorded Data Available		Actial	photographs		Monitoring well	Oth	юI.			
	on Dates/Days:										
Stowing Bedse		(To	evaluate h	ydrologic data	from s	tream gauges/g.w. well	ls)				
Field Observa		,		-							
	resent?: <u>Yes X</u> No		epth (inc			ell?:Yes			Depth (i	nche	s)
Water table pres	sent?: _X _YesNo1	3 D	epth (inc	hes) Satu	ration	Present?: X_Yes	sNo	-10	Depth (i	nches	s)
Remarks:											

Primary	Indicators: (1 or n	nore requ	Wetlan uired, check all that apply	d Hydrology I	ndicator	'S: See	condary ]	Indicators:	(2 or mor	e required)	
S	Surface Water (A1) High Water Table (A2		A	quatic Fauna (B13)			Dra	face Soil Cra inage Pattern	is (B10)		
		)		Iarl Deposits (B15) lydrogen Sulfide Odd	or (C1)			ss Trim Lines	· /		
	Saturation (A3)			, ,	× /	_X		-Season Wat		2)	
S	Water Marks (B1) Sediment Deposits (B	2)		xidized Rhizosphere	-	Kools (C3)	Satu	yfish Burrow uration Visib	le on Aerial		
	Drift Deposits (B3)		P	resence of Reduced I	ron (C4)			nted or Stress omorphic Pos		D1)	
	Algal Mat or Crust (B ron Deposits (B5)	4)	R	ecent Iron Reduction	in Tilled S		Sha	llow Aquitar	d (D3)		
	nundation Visible on	Aerial Im	agery (B7) T	hin Muck Surface (C	27)	_X	FAC	crotopographi C-Neutral Te		(4)	
s	parsely Vegetated Co	oncave Su	rface (B8)				F	AC-Neutra	al Test ( CW : FACU (		
V	Water-Stained Leaves	(B9)	0	ther (Explain in Rem	narks)			<b>C</b>		,	
Remarks	:										
			Soils (Describe to de	pth needed to docum	ent the indic	cator, or confirm the a	absence of	indicators)			
Map Unit	Name (Series & ha	ase):		Drainage Clas					Permeabi	lity:	1
Taxonom	y (Subgroup):			Field Observa	ations Con:	firm Mapped Type			YE	S	NO
D (	M	atrix					<u>k Featur</u>	2			
Depth (Inches)	Texture	%	Matrix Color (G= Gleyed)	Color	%	Type <sup>1</sup> (C,D,RM, CS)		Location <sup>2</sup> (PL, M)		Remarks	
0-20	Loam	100	10 YR 2/1								
Type <sup>1</sup> C=	concentration D=d	lepletion	RM=reduced matrix CS	=coated sand grain	ns Locatio	on <sup>2</sup> : PL=Pore Linin	g M=Mat	trix			
Hydric S	Soils Indicators:						Ind	licators for	Problem	atic Hydric	Soils*
	stosol (A1) stic Epipedon (A2)		Thick Dark Sur Sandy Mucky M			Mucky Mineral (F1)		2 cm muck Coast Prairie		6)	
Bla	ack Histic (A3)			-		Gleyed Matrix (F2) ed Matrix (F3)		5cm mucky j		· ·	
	vdrogen Sulfide (A4) ratified Layers (A5)		Sandy Gleyed M Sandy Redox (S			Dark Surface (F6)		Polyvalue Be Thin Dark St		e (S8)	
			Stripped Matrix			ed Dark Surface (F7)		_Iron/Mangai	nese Masse		
	epleted Below dark su	· · · ·	1) Ind wetland hydrology mu	- ist he present uples		Depressions (F8)		Red Parent			
Remarks		Setution t	ind wedand nydrology int	ist be present, unles	s uistui beu	or problematic.		_Other (Exp	lain in Rem	arks)	-
				Wetland	Detern	nination					
	egetation Present?			X YES		NO					
	987 Corps Wetland Delin Lydrology Present?	eation Mar	ual requires that greater than 50	X YES	es be OBL, FA	NO					
		ands Deline	eation Manual, wetland hydrolog		is saturated w		of the root zo	one of the			
prevalent veg	getation . The root zone	is usually d	efined to be $\leq 12$ inches. We deepth of water table required to r	efine the major portion a	$s \le to 50\%$ or	≤ 6 inches. Estimating t	he saturated	capillary			
Soil Type	-	-	age Class Pe		5 1				Criteria		
		to the surfa	ce defined by a water table at 6-								
· · · ·	Soils Present?			X YES		NO					
Note: A wet they reflect p	tland restoration site (ma pre-restoration condition	s rather tha	wetland) is considered a distur in post-restoration conditions. I hydrology if there is documen	bed (atypical) situation i In accordance with the 1	987 Manual,	orp Wetlands Delineation in such cases where nec					
									Wetland	Туре:	
Duration I		4 L L L L L L L L L L L L L L L L L L L	ay normally ha program dant	X YES	a arowin-	NO NO		X M		RPE	
11 all 3 paran	neters are met, are they o	n would th	ey normally be present during a	i significant portion of th	ne growing se	ason?		SS		RPF	
Is This Die	ot a Wetland?			X YES		NO	-	WS SM		BOG AB	
	Plot ID:			A ILO				DM			

		``	e wettai	nds De	rineation r	Manual, 200	9 N(	ortheast & Northcent		,				
Wetland Site:									Date: 8/25/1					
Applicant/Own									County: Wa	ashbur	n			
Investigator(s)				Jense	en				State: WI					
Normal climatic this time of year		is on site typical	for		De	o "normal ci	rcum	stances" exist on the	site?	Х	YES		NO	
Transect #:	ycs				Is	the site sign	ifica	ntly disturbed (Atypi	cal Situation)?	X	YES		NO	
Plot #: up 73								lly naturally problem		21	YES	X	NO	
Plot Descriptio	on.							problem area (soils,		Irology		- 11	110	
110020000000000000000000000000000000000					- )	Veg			· •Betation, ny a		). Sons			
Dominant specie	es are the n	nost abundant sr	ecies in	each st	tratum that	0		tal dominance measu	re Any additio	nal sne	cies comp	rising 2	0% of total	
dominance meas	sure are als	o dominant. N	on-domi	nant sp	becies used	if dominant	speci	es are equal in numb	er.	nai spe	cies compi	Ising 2	070 01 10141	
								' dbh, >3.2' tall, & Woo						
De	ominant	Species		%	Indicator	Stratum		Non-Dominant	Species	%	Indicato	or	Stratum	
1.		s arundinacea		80	FACW	Н	1.							
1.		nary Grass		00	1110 W		1.							
2.	•••••	millefolium		40	FACU	Н	2.							
	Yarrow													
3.							3.							
							╟─					-+		
4.							4.							
5														
5.	5.     5.       6.     6.													
6	6 6													
7 7 7 7														
8.							8.							
9.							9.							
10.							10							
				of do	minant sp	ecies (all st	rata	) that are OBL, FA	CW, and/or F	AC?		50	%	
	Preva	alence Index Wor	ksheet:				-		ohytic Vegetat	ion In				
Total % Cover	of:	Multiply By:						inance Test is >50% alence Index is < or =3	1.01		X YES		X NO NO	
OBL species:		_ 1						phological Adaptation		orting	YES		NO	
FACW species:	80	2	160					in Remarks or on a se	• ·	1		_		
FAC species:		3					r roi	lematic Hydrophytic `	vegetation1 (Exp	uaill)	YES	—	NO	
FACU species:	40	4	160			*In	dicato	rs of hydric soil and wetla	nd hydrology must	be prese	ent, unless dis	turbed o	r problematic.	
UPL species:		5						Hvdron	hytic Vegeta	tion 1	Present?	•		
-	120	-	320						Yes/No					
TOTAL (A): Prevalence		TOTAL (B):								-				
Index (B/A):	2.6													
						Hyd	rolo	gy						
Reco	rded Dat	a (d	escribe	in rem	arks):	J		~* _*						
		tide gauge			,	hotographs		Monitoring wel	l Oth	er:				
No R	ecorded	Data Availab			_ `									
Growing Seaso	on Dates/	Days:						<i></i>	• .					
Field Observa	tiona			(To	evaluate hyd	trologic data	from	stream gauges/g.w. wel	ls)					
		Vec V	No	Г	enth (inch	es) Wata	r in v	vell?· Ves	No		Depth (i	inchee		
Surface water provide the Surface water by Surface water table press	ent?:	Yes X	 No	ם <u>-</u> ת	Pepth (inch	es) Satur	ation	vell?: Yes Present?: Yes	X No		Depth (i Depth (i			
prob		^	_	2	r (	,								
Remarks:														

<b>.</b>	T 10 / /-			d Hydrology I	ndicator	'S:	Secondar	ry Indicato	<b>rs</b> : (2 or mo	re requ	uired)	
	Indicators: (1 or m Surface Water (A1)	ore requ	uired, check all that apply	y) quatic Fauna (B13)			5	Surface Soil C	Cracks (B6)		)	
	High Water Table (A2)	1		arl Deposits (B15) ydrogen Sulfide Odo	or (C1)		N	Drainage Patt Moss Trim Li	nes (B16)			
S	Saturation (A3)			-				Dry-Season V		C2)		
s	Vater Marks (B1) Sediment Deposits (B2 Drift Deposits (B3)	)		xidized Rhizospheres	-	Roots (C3)		Crayfish Burr Saturation Vis Stunted or Str	sible on Aeria			
	Algal Mat or Crust (B4 ron Deposits (B5)	)	Re	ecent Iron Reduction	in Tilled So	oils (C6)		Geomorphic I Shallow Aqui	tard (D3)			
	nundation Visible on A	Aerial Im	agery (B7) Th	nin Muck Surface (C	7)			Microtopogra FAC-Neutral		<b>J</b> 4)		
S	parsely Vegetated Co	ncave Su	urface (B8)						utral Test FACW : FACU		)	
	Water-Stained Leaves (	· /		ther (Explain in Rem	arks)							
Remarks	: No hydrology in	dicator										
			Soils (Describe to dep	oth needed to docume		ator, or confirm	the absence	of indicators	,			
-	Name (Series & ha	se):		Drainage Clas					Permeab		_	1
Taxonom	y (Subgroup):			Field Observa	tions Conf				YI	ES		NO
Depth	Ma	atrix	Matrix Color	Color		Type <sup>1</sup>	edox Feat	Location <sup>2</sup>				
(Inches)	Texture	%	(G= Gleyed)	(C,D,RM,	CS)	(PL, M)		Rem	arks			
0-8	Loamy sand	100	10 YR 3/2									
						_						
Type <sup>1</sup> C=	concentration D=de	epletion	RM=reduced matrix CS=	coated sand grain	is Locatio	on <sup>2</sup> : PL=Pore I	ining M=N	Aatrix				
	Soils Indicators:						]	Indicators f	or Problen	natic H	Iydric	Soils*
	stosol (A1) stic Epipedon (A2)		Thick Dark Surf			Mucky Mineral			ck (A10) irie Redox (A	16)		
Bl	ack Histic (A3)					Gleyed Matrix ( ed Matrix (F3)	F2) -	5cm muck	y peak or Pe	at (S3)		
	vdrogen Sulfide (A4) ratified Layers (A5)		Sandy Gleyed M Sandy Redox (S			Dark Surface (F	6) -		Below Surfa Surface (S9)			
			Stripped Matrix			d Dark Surface Depressions (F8		Iron/Man	ganese Mass	es (F12)	)	
	epleted Below dark sur		1) Ind wetland hydrology mus	- st be present, unless			-	Very Sha	ent Material ( low Dark Su	rface (T	F12)	
Remarks			ina webana nyarotogy ma	e se present, unes		or prosteniate	-	Other (E	xplain in Rei	narks)		•
Refusal at	t 8 inches, roadfill											
				Wetland	Determ	nination						
Wotland V	Agatation Procent?			V VES								
	Vegetation Present?	ation Mar	ual requires that greater than 50%	X YES	es he OBLEA	NO NO						
	Iydrology Present?	ation wia	tual requires that greater than 50	YES	.3 00 ODL, 17	X NO						
			eation Manual, wetland hydrolog									
			effined to be $\leq 12$ inches. We determine the epith of water table required to re									
Soil Type		Drain	age Class Per	rmeability	Capilla	ary Fringe	+6"	=W.T. Deptl	n Criteria			
	anual requires saturation to 0 & VPD at <6"/hr =18', a		ce defined by a water table at 6-1 12".	18" below surface depen	nding on the so	oil type.						
-	oils Present?			YES		X NO						
they reflect p	pre-restoration conditions	rather that	wetland) is considered a disturb in post-restoration conditions. In hydrology if there is document	n accordance with the 1	987 Manual,	in such cases when	e necessary, a					
									Wetlan	d Type:		
Duration I			n 1	YES		NO		M		RPE		
If all 3 paran	neters are met, are they or	would th	ey normally be present during a	significant portion of th	ne growing sea	ason?		SS		RPF		
In This Pl	ot a Wetland?			YES		X NO		WS		BOG	ŕ	
	Plot ID:			165				SM DM		AB		

	(1987 COE Wetlas	nds De	lineation M	anual, 20	09 Noi	theast & Northcent	ral Supplemen	t)			
Wetland Site:	1560-31-00 USH 63						Date: 8/26/1	0			
Applicant/Own	ner: WisDOT						County: Wa	shbur	n		
Investigator(s)	: Rachelle Peterson and Caleb	Jense	n				State: WI				
	e conditions on site typical for		Do	"normal c	ircums	tances" exist on the	site?	X	YES		NO
this time of year	r? yes							Λ			
Transect #:						tly disturbed (Atypic			YES	Х	NO
Plot #: wet 74						y naturally problem			YES	Χ	NO
Plot Description	on:		Тур	e of atypi	cal or j	problem area (soils,	vegetation, hyd	lrology	·)?		
				Veg	etati	on					_
dominance meas	es are the most abundant species in sure are also dominant. Non-domi	nant sp	ecies used if	dominant	specie	s are equal in numbe	er.	nal spe	cies comp	rising	20% of total
	(H) 5'radius plot; 30' radius plot fo				(S) <3"			0/	T 1' (		<u>Q</u> , , ,
D	ominant Species	%	Indicator	Stratum	<b>  </b>  ──	Non-Dominant	1	%	Indicate	or	Stratum
1.	Phalaris arundinacea Reed Canary Grass	100	FACW	Н	1.	Spirea tomentosa Steeplebush		5	FACW	I	Н
2.	Salix interior Sandbar Willow	75	OBL	S	2.						
3.					3.						
4.					4.						
5.					5.						
6.					6.						
7.					7.						
8.					8.						
9.					9.						
10.					10.						
	Dominance Test: %	o of do	minant spe	cies (all s	trata)		-			1	00%
	Prevalence Index Worksheet:				D		hytic Vegetat	ion In			NO
Total % Cover	of: Multiply By:					nance Test is >50% llence Index is < or =3	.01		X YES YES		NO NO
OBL species:	1				Morp	hological Adaptations	s* (Provide supp	orting	YES		NO
FACW species:	2					n Remarks or on a se	· · · · · · · · · · · · · · · · · · ·	1. • .			
FAC species:	3				Prob	ematic Hydrophytic V	egetation1 (Exp	lain)	YES		NO
FACU species:				* <b>I</b> 1	ndicator	s of hydric soil and wetla	nd hydrology must	be prese	ent, unless dis	sturbed	l or problematic.
•	4					Hydron	hytic Vegeta	tion 1	Procont	)	
UPL species:	5					iiyuiop	<b>Yes</b> /No			•	
TOTAL (A):	TOTAL (B):						<b>1 C5</b> /110	,			
Prevalence Index (B/A):											
				Hve	Irolo	gv					
Reco	rded Data (describe	in rem	arks):		010						]
	n, lake, or tide gauge	- 2114	,	otographs		Monitoring well	Oth	er:			
	ecorded Data Available		- · · · I	0 1							
	on Dates/Days:										
-	- <u> </u>	(To	evaluate hydro	ologic data	from s	ream gauges/g.w. well	s)				
Field Observa		_		·		110					、 、
	resent?: Yes X_No		epth (inches			ell?:Yes	-	^	Depth (i		
Water table pres	sent?:XYesNo	<u>-8</u> D	epth (inches	s) Satu	ration	Present?: _XYes	NoNo	0	Depth (i	inches	;)
Remarks:											

Primary	<b>Indicators</b> : (1 or m	ore real	Wetlan uired, check all that apply	d Hydrology I	ndicato	rs:	Secondar	ry Indicat	ors:	(2 or mor	re required)	
 X  	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 Sparsely Vegetated Co Water-Stained Leaves	) 2) 4) Aerial Im ncave Su	A M H O Pr R R magery (B7) TI urface (B8) O	quatic Fauna (B13) (arl Deposits (B15) ydrogen Sulfide Odd xidized Rhizosphere resence of Reduced I ecent Iron Reduction hin Muck Surface (C ther (Explain in Rem	s on Living ron (C4) in Tilled 3 7) aarks)	Soils (C6)	I I I S S S S S S S S S		ttern Lines Wat Trow Visibl tress Pos uitaro raphi 1 Tes <b>utra</b> <b>E</b> FAC	s (B10) s (B16) er Table (C s (C8) le on Aerial ed Plants ( ition (D2) d (D3) c Relief (D st (D5)	1 (C9) D1) 04) 2 : 0 )	
Map Unit	Name (Series & ha	ise):		Drainage Clas			the absence	or maleato	- T	Permeabi	lity:	
•	ny (Subgroup):	,		-		nfirm Mapped T	ype?			YE	-	NO
		atrix				Re	edox Feat	ures				
Depth (Inches)	Texture	%	Matrix Color $(C = Claved)$	0/	Type <sup>1</sup>	(R)	Location <sup>2</sup>			Remarks		
(Inches) 0-20	Sandy loam	85	(G= Gleyed) 10 YR 2/1	7.5 YR 5/6	% 15	(C,D,RM, C		(PL, M) M				
0.20	Sundy Iouni	05	10 11(2/1	7.5 110 5/0	15	0	1	*1				
Type <sup>1</sup> C	=concentration D=d	enletion	RM=reduced matrix CS	 =coated sand grain	is Locat	on <sup>2</sup> · PL =Pore I	ining M=N	Aatrix				
21	Soils Indicators:	oprotion		ecurea cana gran			e		for	Problem	atic Hydric	Soils*
	fistosol (A1)		Thick Dark Sur	face (A12)	Loam	y Mucky Mineral		2 cm m			aute fry urie	50115
B H S	listic Epipedon (A2) lack Histic (A3) lydrogen Sulfide (A4) tratified Layers (A5) Depleted Below dark su	rface(A1	Sandy Mucky M Sandy Gleyed M X Sandy Redox (S Stripped Matrix	Aatrix (S4) 5)	Loam Deple Redo Deple	y Gleyed Matrix ( ted Matrix (F3) & Dark Surface (F ted Dark Surface & Depressions (F8	(F2) 6) (F7)	Coast Pr 5cm muc Polyvalu Thin Dat Iron/Ma	airie cky p le Be rk Su ingar	Redox (Al beak or Pea clow Surfac urface (S9) nese Masse Material (1	t (S3) ce (S8) s (F12)	
			and wetland hydrology mu	st be present, unles	s disturbe	d or problematic				v Dark Sur lain in Rem	face (TF12)	_
Remark	s:						-		Exp			
				Wetland	Deter	mination						
Note: The 1 Wetland 1 Note: Accor prevalent ve	Hydrology Present? rding the 1987 Corp Wetla sgetation . The root zone i SPD = 2" and PD, VPD =	nds Delind s usually d 12", the d	nual requires that greater than 50° eation Manual, wetland hydrolog lefined to be $\leq 12$ inches. We de lepth of water table required to re- nage ClassPe	X YES y criteria are met if soil fine the major portion as	is saturated s ≤ to 50% c major porti	<b>NO</b> within the major por $r \le 6$ inches. Estimation of the root zone can	ting the satura an be calculate	ted capillary ed below.	th C	riteria		
The 1080 M								1				
SPD=6", P Wetland Note: A w they reflect	he 1989 Manual requires saturation to the surface defined by a water table at 6-18" below surface depending on the soil type. PD=6", PD & VPD at <6"/hr =18', at $\geq$ 6"/hr = 12". <b>Vetland Soils Present? X YES NO</b> Note: A wetland restoration site (man-induced wetland) is considered a disturbed (atypical) situation in the 1987 Corp Wetlands Delineation Manual. Soil indicators are often not reliable indicators since hey reflect pre-restoration conditions rather than post-restoration conditions. In accordance with the 1987 Manual, in such cases where necessary, a wetland determination can be made based on the resence of hydrophytic vegetation and wetland hydrology if there is documented evidence that the wetland resulted from human activities.											
Duration	Mot?			X YES		NO		М		Wetland	Type: RPE	
		r would th	ey normally be present during a		ne growing s			X SS			RPE	
			- 0	-				- X 55			BOG	
Is This P	ot a Wetland?			X YES		NO		SN			AB	
	Plot ID:							D				

		(1987 COI	E Wetlaı	nds De	lineatic	on Man	ual, 200	)9 N	lort	theast & Northcent	ral Supplemen	t)				
Wetland Site:	1560-31-0	00 USH 63									Date: 8/26/	10				
Applicant/Ow	ner: WisD	TOOT									County: Wa	ashbur	'n			
Investigator(s)				Jense	en						State: WI					
Normal climatic		s on site typical	for			Do "no	ormal c	ircu	mst	ances" exist on the	site?	Х	YES		NO	
this time of year	r? yes											37			NO	
Transect #:							-			ly disturbed (Atypi		Х	YES	N	NO	
Plot #: up 74										y naturally problem		1 1	YES	Χ	NO	
Plot Description	on:					I ype c	• •		-	roblem area (soils,	vegetation, hyd	drology	()? Soils			
							Veg									i
Dominant specie	es are the m	ost abundant sp	becies in	each st	ratum t	hat sum	to 50%	of	tota	l dominance measu	re. Any additio	onal spe	ecies comp	rising	g 20% of total	1
										s are equal in number lbh, >3.2' tall, & Woo						
	ominant S		10 piot it	%	Indica		tratum	Ĭ	.5 (	Non-Dominant		%	Indicat	or	Stratum	n
		millefolium								Phalaris arundin						
1.	Yarrow			50	FAC	CU	Н		1.	Reed Canary Gra		20	FACV	V	Н	
2.		ensylvanica		60	OB	L	Н	,	2.	Trifolium pratens	e	10	FACU	T	Н	
2.	Pennsylv	vania Sedge		00	OD.	L	11		<u>~</u> .	Red Clover		10	ince	,	11	
3.									3.							
4.								4	4.							
5.								:	5							
6.									6.							
7.								,	7.							
8.									8.							
9.								9	9.							
10.								1	0.							
		Dominance	Test: %	of do	minant	t specie	es (all s	trat	a) 1	that are OBL, FA	CW, and/or F	FAC?		!	50%	
	Preval	lence Index Wor	ksheet:								ohytic Vegetat	tion In	dicators			
Total % Cover	of:	Multiply By:								nance Test is >50%			YES		X NO	
OBL species:	60	1	60							lence Index is < or =3 hological Adaptations		orting	X YES		NO	
FACW species:		2						dat	ta iı	n Remarks or on a se	parate sheet)	0	YES		NO	
FAC species:		3						Pro	oble	ematic Hydrophytic V	Vegetation1 (Exp	olain)	YES		NO	
-	50	-	200				*Ir	ndica	tors	of hydric soil and wetla	nd hydrology must	t be pres	ent, unless di	sturbe	d or problemati	ic.
FACU species:		4								Hydron	hytic Vegeta	ation	Present	,		
UPL species:	110	5	260							nyurop	nytic vegeta <mark>Yes</mark> /No		r resent.	•		
TOTAL (A): Provelence		TOTAL (B):									1 C5/111	0				
Prevalence Index (B/A):	2.36															
· · ·							Hyd	ro	0	v						
Reco	rded Data	a (d	escribe	in rema	arks):		-		- 2	20						
	n, lake, or t					al photo	graphs			Monitoring well	l Oth	ner:				
		Data Availab	le		-	-	~									
Growing Seas	on Dates/I	Days:														
Field Obser	ationa			(To	evaluate	hydrolo	gic data	fron	1 str	ream gauges/g.w. well	ls)					
Field Observa		Vec V	No	п	epth (ir	nchec)	Wata	or in	we	ell?:Yes	No		Depth (	inche	e)	
Water table pres					epth (ir					Present?:Yes			_ Depth (			
Remarks:		^		D	-Pui (ii		Satu		1	103_	_11_110		_ <i>Doptin</i> (		-,	

				l Hydrology I	ndicator	rs:	Secondar	ry Indicator	s: (2 or mo	re required)	1
Si	urface Water (A1)	-	uired, check all that apply Aq	) Juatic Fauna (B13)			\$	• Surface Soil C Drainage Patte	racks (B6)	1 /	
	ligh Water Table (A2) aturation (A3)			arl Deposits (B15) drogen Sulfide Odo	r (C1)			Moss Trim Lir Dry-Season W	· /	(2)	
W Se	Vater Marks (B1) ediment Deposits (B2) prift Deposits (B3)	)		idized Rhizospheres	-	Roots (C3)		Crayfish Burro Saturation Vis Stunted or Stree	ows (C8) ible on Aeria	al (C9)	
A	In Deposits (B2) Igal Mat or Crust (B4 on Deposits (B5)	)		cent Iron Reduction		oils (C6)	(	Geomorphic P Shallow Aquit	osition (D2)		
	undation Visible on A	Aerial Im	nagery (B7) Th	in Muck Surface (C	7)			Microtopograp FAC-Neutral	Test (D5)		
	parsely Vegetated Co								I <b>tral Test</b> ACW : FACU		
	Vater-Stained Leaves ( No hydrology in	· /		her (Explain in Rem	arks)						
Keinai KS.	. No nyurology m	uicatoi		44			41 1	- <b>f</b> : <b>j</b> : (			
Mar II.			SUIIS (Describe to dep	th needed to docume		cator, or confirm	the absence	of indicators)	1		
	Name (Series & ha	se):		Drainage Clas		<i>a</i> 1 <i>c</i> 1 <i>c</i>			Permeab	-	110
Taxonomy	y (Subgroup):			Field Observa	tions Cont		••		YI	ES	NO
D (1	Ma	atrix					edox Feat				
Depth (Inches)	Texture	%	Matrix Color (G= Gleyed)	Color	%	Type <sup>1</sup> (C,D,RM,	CS)	Location <sup>2</sup> (PL, M)		Remarks	
0-7	Loamy sand	100	10 YR 3/2				,				
Type <sup>1</sup> C=	concentration D=de	epletion	RM=reduced matrix CS=	-coated sand grain	s Locatio	on <sup>2</sup> : PL=Pore I	Lining M=N	Matrix			
	oils Indicators:			8				Indicators f	or Problem	natic Hydri	c Soils*
ę	stosol (A1)		Thick Dark Surfa	ace (A12)	Loamy	Mucky Mineral		2 cm mu			0.00115
His	stic Epipedon (A2)		Sandy Mucky M			Gleyed Matrix		Coast Prain	rie Redox (A	,	
	ack Histic (A3) drogen Sulfide (A4)		Sandy Gleyed M	atrix (S4)		ed Matrix (F3)	-		y peak or Pe Below Surfa		
	atified Layers (A5)		Sandy Redox (S	5) -		Dark Surface (H			Surface (S9)	)	
p		C (A 1	Stripped Matrix	(S6)		ed Dark Surface Depressions (F8			anese Mass nt Material (		
	pleted Below dark sur s of hydrophytic yeg		nd wetland hydrology mus	- t be present, unless			-		ow Dark Su	rface (TF12)	
Remarks:				· · · · F · · · · · · · · · · · · · · ·		F	-	Other (Ex	xplain in Rer	narks)	•
Dafaaal at	7 in chas modfill										
Refusal at	7 inches, roadfill										
				Wetland	Detern	nination					
	egetation Present?			X YES		NO					
	•	ation Mar	ual requires that greater than 50%	6 of all dominant specie YES	es be OBL, FA	ACW, or FAC.					
	ydrology Present?	- de Dellas						<u>.</u>			
prevalent veg	etation . The root zone is	s usually d	eation Manual, wetland hydrology defined to be $\leq 12$ inches. We def	ine the major portion as	$s \le to 50\%$ or	$\leq 6$ inches. Estimate	ating the satura	ted capillary			
Soil Type	$PD = 2^{\circ}$ and $PD$ , $VPD =$		epth of water table required to res nage Class Per		5 1	ary Fringe			Criteria		
51	nual requires saturation to		ce defined by a water table at 6-1					÷	—		
	& VPD at $<6"/hr =18'$ , a				une on the S	<u> </u>					
Wetland Se	oils Present?			YES		X NO					
they reflect p	pre-restoration conditions	rather that	wetland) is considered a disturbe in post-restoration conditions. In a hydrology if there is documented	accordance with the 1	987 Manual,	in such cases whe	re necessary, a				
									Wetlan	d Type:	
Duration N				YES		NO		М		RPE	
If all 3 param	neters are met, are they or	would th	ey normally be present during a s	significant portion of th	e growing se	ason?		SS		RPF	
				<b></b>				WS		BOG	
	t a Wetland?			YES		X NO		SM DM		AB	
P	'lot ID:							DM		1	

	(1987 COE Wetlan	nds De	lineatio	on Mar	nual, 200	)9 I	Nor	theast & Northcent	ral Supplemen	t)			
Wetland Site:	1560-31-00 USH 63								Date: 8/26/1	0			
Applicant/Own	ner: WisDOT								County: Wa	ashbur	'n		
	: Rachelle Peterson and Caleb	Jense	n						State: WI				
Normal climatic this time of year	c conditions on site typical for ? yes			Do "n	normal ci	ircu	imst	tances" exist on the	site?	Х	YES		NO
Transect #:	2			Is the	site sign	nific	cant	ly disturbed (Atypic	cal Situation)?		YES	Х	NO
Plot #: wet 78				Is the	area pot	ent	iall	y naturally problem	atic?		YES	Χ	NO
Plot Description	on:			Туре	of atypic	cal	or p	oroblem area (soils,	vegetation, hyd	irology	/)?		
					Veg	eta	ntic	n					
Dominant specie dominance meas	es are the most abundant species in sure are also dominant. Non-domi	each st nant sp	ratum t ecies us	that sun sed if d	n to 50%	of	tota	al dominance measur	re. Any additio	nal spe	cies comp	rising	20% of total
Strata = Herbs (	<b>H</b> ) 5'radius plot; 30' radius plot fo	or: Tree	es (T) >	>3" dbh,	Shrubs (			dbh, >3.2' tall, & Woo	dy Vines (V)				
D	ominant Species	%	Indica	ator S	Stratum			Non-Dominant	-	%	Indicate	or	Stratum
1.	Salix interior Sandbar Willow	50	OB	L	S		1.	Eupatorium macu Spotted Joe-Pye-V		3	OBL		Н
2.	Salix lucida Shining Willow	20	FAC	CW	S		2.	Spirea tomentosa Steeplebush		8	FACW	7	Н
3.	Phalaris arundinacea Reed Canary Grass	100	FAC	CW	Н		3.	-					
4.							4.						
5.							5.						
6.							6.						
7.							7.						
8.							8.						
9.							9.						
10.							10.						
	Dominance Test: %	of do	minan	t speci	es (all st	tra	ta) 1					1	00%
	Prevalence Index Worksheet:					D.			hytic Vegetat				NO
Total % Cover	of: Multiply By:							nance Test is >50% lence Index is < or =3			X YES YES		NO NO
<b>OBL</b> species:	1					Μ	orp	hological Adaptations	s* (Provide supp	orting	YES		NO
FACW species:	2							n Remarks or on a sej ematic Hydrophytic V	. /	dain)	- YES		
FAC species:	3												
- FACU species:	4				*In	dica	ators	of hydric soil and wetla	nd hydrology must	be pres	ent, unless dis	turbed	l or problematic.
UPL species:	5							Hydrop	hytic Vegeta	ation	Present?	•	
TOTAL (A): Prevalence	TOTAL (B):							U I	Yes/No				
Index (B/A):													
					Hyd	ro	log	gy					
Stream No R	rded Data (describe n, lake, or tide gauge ecorded Data Available	in rema		al photo	ographs			Monitoring well	Oth	er:			
Growing Seaso	on Dates/Days:	(To )	evalueto	hydrol	ogic data	fro	n et	ream gauges/g.w. well	s)				
Field Observa	ations:	(10)	evaluate	, injutolo	ogie uata	101	n sti	icani gauges/g.w. well	(o)				
	resent?: Yes X_No	D	epth (ii	nches)	Wate	r ir	n we	ell?: Yes	No		Depth (i	nches	5)
	sent?: X Yes No							Present?: X Yes	-	0	Depth (i		
Remarks:													

Primary	Indicators: (1 or m	ore real	Wetland	d Hydrology I	ndicator	rs:	Seconda	ry Indicators	: (2 or mor	re required)	
	Surface Water (A1)	lore requ	11 5	quatic Fauna (B13)				Surface Soil Cr			
_X H	High Water Table (A2)	)	М	arl Deposits (B15)				Drainage Patter Moss Trim Line			
_X S	aturation (A3)		Hy	ydrogen Sulfide Odo	or (C1)		I	Dry-Season Wa	ter Table (C	22)	
V	Vater Marks (B1)		O2	kidized Rhizosphere	s on Living	Roots (C3)		Crayfish Burrov			
	ediment Deposits (B2 Drift Deposits (B3)	2)	Pr	esence of Reduced I	ron (C4)			Saturation Visil Stunted or Stres			
	Algal Mat or Crust (B <sup>2</sup>	4)					(	Geomorphic Po	sition (D2)	51)	
	ron Deposits (B5)	.)	Re	ecent Iron Reduction	in Tilled S	oils (C6)		Shallow Aquita Microtopograpl		94)	
I:	nundation Visible on	Aerial Im	agery (B7) Th	nin Muck Surface (C	7)			FAC-Neutral T	est (D5)	,	
S	parsely Vegetated Co	ncave Su	rface (B8)					FAC-Neutr (OBL & FA	cw : FACU		
V	Vater-Stained Leaves	(B9)	Ot	ther (Explain in Rem	arks)						
Remarks	:		~								
F			Soils (Describe to dep	th needed to docum		cator, or confirm	the absence	e of indicators)			
Map Unit	Name (Series & ha	ise):		Drainage Clas					Permeabi		
Taxonom	y (Subgroup):			Field Observa	tions Con	firm Mapped T	ype?		YE	S	NO
	M	atrix					edox Feat				
Depth (Inches)	Texture	%	Matrix Color (G= Gleyed)	Color	%	Type <sup>1</sup> (C,D,RM, 9	CS)	Location <sup>2</sup> (PL, M)		Remarks	
0-20	Peat	100	10 YR 2/1			(-,-,-,-,	)	(,)			
Type <sup>1</sup> C=	concentration D=d	epletion	RM=reduced matrix CS=	coated sand grain	is Locatio	on <sup>2</sup> : PL=Pore L		Matrix			
	Soils Indicators:			6				Indicators fo	r Problem	atic Hydric	Soils*
•	stosol (A1)		Thick Dark Surf	face (A12)	Loamy	Mucky Mineral		2 cm muc			
	stic Epipedon (A2)		Sandy Mucky M	lineral (S1)	Loamy	Gleyed Matrix (	· /	Coast Prairi		· ·	
——————————————————————————————————————	ack Histic (A3) /drogen Sulfide (A4)		Sandy Gleyed M	fatrix (S4)		ed Matrix (F3)	-	5cm mucky Polyvalue E			
	ratified Layers (A5)		Sandy Redox (S Stripped Matrix			Dark Surface (F ed Dark Surface	/	Thin Dark S	Surface (S9) anese Masse	a (E12)	
De	pleted Below dark su	rface(A1		(30) _		Depressions (F8		Red Paren	t Material (1	FF2)	
*Indicator	s of hydrophytic veg	etation a	and wetland hydrology mus	st be present, unles	s disturbed	or problematic			ow Dark Sur plain in Rem	face (TF12)	
Remarks	:						-			larks)	
				Wetland	Detern	nination					
Wetland V	egetation Present?			X YES		NO					
	0	eation Mar	ual requires that greater than 509		es be OBL F						
	lydrology Present?			X YES	,	NO					
			eation Manual, wetland hydrolog								
			effined to be $\leq 12$ inches. We determine the epith of water table required to re								
Soil Type		Drain	age Class Pe	rmeability	Capill	ary Fringe	+6"	'=W.T. Depth	Criteria		
The 1989 M	anual requires saturation t	o the surfa	ce defined by a water table at 6-1	8" below surface deper	nding on the s	oil type					
	0 & VPD at  <6''/hr = 18', a				iang on the s	on type.					
	oils Present?			X YES		NO			_		
they reflect p	pre-restoration conditions	s rather that	wetland) is considered a disturb in post-restoration conditions. In	n accordance with the 1	987 Manual,	in such cases wher	e necessary, a				
presence of	hydrophytic vegetation a	nd wetland	hydrology if there is document	ed evidence that the we	tland resulted	I from human activ	ities.		Wotland	Type	
Duration 1	Met?			X YES		NO		X M	Wetland	RPE	
		r would th	ey normally be present during a		ne growing se			SS		RPF	
								ws		BOG	
Is This Plo	ot a Wetland?			X YES		NO		SM		AB	
I	Plot ID:							DM			

		(1987	COE Wetla	nds De	elineatio	on Ma	nual, 200	9 Noi	theast & Northcent	ral Supplemen	t)			-
Wetland Site:			H 63							Date: 8/26/1				
Applicant/Own	ner: WisI	TOC								County: Wa	ashbur	'n		
Investigator(s)				) Jense	en					State: WI				
Normal climatic		ns on site t	ypical for			Do "	'normal ci	reums	stances" exist on the	site?	Х	YES		NO
this time of year	r? yes													
Transect #:							-		tly disturbed (Atypi		Х	YES		NO
Plot #: up 78							<u>^</u>		y naturally problem			YES	Х	NO
Plot Description	on:					Туре	<i>*</i> *		problem area (soils,	vegetation, hyc	lrology	y)? Soils		
							Vege							
Dominant specie	es are the n	nost abund	ant species in	each st	tratum t	hat su	im to 50%	oftot	al dominance measu	re. Any additio	nal spe	cies comp	rising	20% of total
									es are equal in number					
	ominant		Tadius piot i	%	Indic		Stratum	5) < 3°	dbh, >3.2' tall, & Woo Non-Dominant		%	Indicate	or	Stratum
D		ensylvanic	20	/0	maic	ator	Suatum		Phalaris arundin	-	/0	mulcau	Л	Suatum
1.		vania Sedg		70	OB	L	Н	1.	Reed Canary Gra		15	FACW	/	Н
	Cirsium		50						Elymus repens	33				
2.	Bull Th	······		35	FAC	CU	Н	2.	Quack Grass		15	FACU	J	Н
2														
3.								3.						
4.								4.						
5.								5.						
6.								6.						
7.								7.						
8.								8.						
9.								9.						
10.								10.						
		Domina	ance Test: %	of do	minan	t spec	cies (all st	rata)	that are OBL, FA	CW, and/or F	AC?		5	50%
	Preva	alence Index	x Worksheet:							ohytic Vegetat	ion In			
Total % Cover		Multiply							nance Test is >50% dence Index is < or =3	1.01		X YES		X NO NO
<b>OBL</b> species:	70	1	70						hological Adaptation		orting			
FACW species:		2							in Remarks or on a se	• ·		YES		NO
FAC species:		3		-				Prob	ematic Hydrophytic V	Vegetation1 (Exp	lain)	YES		NO
-	35	_	140	-			*Inc	dicator	s of hydric soil and wetla	nd hydrology must	be prese	ent, unless dis	sturbed	l or problematic.
FACU species:		4							<b>TT</b> 1	I 4. X7 4	<b>.</b> • 1	D 46		
UPL species:	102	5	210						Hydrop	hytic Vegeta		Present		
TOTAL (A):	102	TOTAL	(B): 210	<u>.</u>						<mark>Yes</mark> /No	)			
Prevalence Index (B/A):	2													
шиса ( <b>D</b> /А).							Hyd	rolo	σv					
Daca	rded Dat	to	(describe	in rom	arka).		iiyu	1 010	БЈ					
		tide gauge		III ICIII		al nho	tographs		Monitoring well	l Oth	er.			
		Data Ava				ar prio	105rupiis			Oui	<b>U</b> 1.			
Growing Seaso														
-		5		(To	evaluate	hydro	ologic data f	rom s	tream gauges/g.w. wel	ls)				
Field Observa														
Surface water pi	resent?:	Yes	_XNo	D	epth (in		) Water	r in w	ell?:Yes	No		Depth (		
Water table pres	sent?:	_Yes	_XNo	D	epth (in	nches)	) Satura	ation	ell?:Yes Present?:Yes _	XNo		Depth (i	inches	s)
Remarks:														

	• •• • • • •			l Hydrology I	ndicators	:	Secondar	ry Indica	tors:	(2 or more	e required)	
Su Hi Sa	ndicators: (1 or mo irface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1)		Ma Hy	) uatic Fauna (B13) url Deposits (B15) drogen Sulfide Odo idized Rhizospheres		.oots (C3)	I N I	Surface So Drainage P Moss Trim Dry-Seasor Crayfish B	attern: Lines n Wate	s (B10) (B16) er Table (C2	2)	
Se Di	ediment Deposits (B2) rift Deposits (B3) lgal Mat or Crust (B4)		Pre	esence of Reduced In	ron (C4)			Saturation	Visibl Stress	e on Aerial ed Plants (I		
Iro	on Deposits (B5) undation Visible on A			cent Iron Reduction in Muck Surface (C		ls (C6)	N	Shallow Ac Microtopog FAC-Neutr	graphi	c Relief (D	4)	
	parsely Vegetated Cor Vater-Stained Leaves (			han (Earstain in Dam						cal Test ( w : FACU &		
	No hydrology in			her (Explain in Rem	aiks)							
Kemarks.	ito nyurology m	uicator		th needed to docume	ant the indice	tor or confirm	the absence	of indicat	ors)			
Mon Unit N	Name (Series & has		<b>Bons</b> (Describe to dep	Drainage Clas			the absence	of mulcat	-	Permeabil	i <i>t</i>	
		se):					F				· · · ·	NO
Taxonomy	v (Subgroup):			Field Observa	tions Confi					YES		NO
Depth		ntrix	Matrix Color	edox Feat	Location	2						
(Inches)	Texture	%	(G= Gleyed)	%	Type <sup>1</sup> (C,D,RM,	CS)	(PL, M)			Remarks		
$Type^1 C = c$	 concentration D=de	nletion	RM=reduced matrix CS=	coated sand grain	s Location	<sup>2</sup> · PI =Pore I	ining M=N	Aatrix				
		piction	Rivi-reduced matrix C5-	-coated sand grann	S Location				C.	D 1.1	4. TL 1.	
	oils Indicators: tosol (A1)		Thick Dark Surfa	aa ( <b>A</b> 1 <b>2</b> )							atic Hydri	c Sons*
	tic Epipedon (A2)		Sandy Mucky M			Aucky Mineral Heyed Matrix (		2 cm r Coast P		(A10) Redox (A1	6)	
Bla	ck Histic (A3)					Matrix (F3)	(12) =	5cm mi	ucky p	eak or Peat	(S3)	
	drogen Sulfide (A4)		Sandy Gleyed M Sandy Redox (S		1	ark Surface (F	- (6)			low Surfac Irface (S9)	e (S8)	
502	atified Layers (A5)		Stripped Matrix			Dark Surface	,			inace (39) iese Masses	(F12)	
Dep	pleted Below dark sur	face(A1		-	Redox D	epressions (F8	) _	Red P	Parent	Material (T	F2)	
		etation a	nd wetland hydrology mus	t be present, unless	s disturbed o	r problematio				ain in Rem	ace (TF12) arks)	
Remarks:							_		<b>`</b> 1		,	
No soil sar	mple obtained, refu	sal at sı	urface, roadfill									
					<u> </u>							
				Wetland	Determ	ination						
Wetland Ve	egetation Present?			X YES		NO						
	37 Corps Wetland Delines vdrology Present?	ation Mar	ual requires that greater than 50%	6 of all dominant specie	s be OBL, FAG	CW, or FAC.						
Note: Accordi prevalent vege	ing the 1987 Corp Wetlar etation. The root zone is	usually d	eation Manual, wetland hydrology efined to be $\leq 12$ inches. We def	criteria are met if soil in the major portion as	$\leq$ to 50% or $\leq$	hin the major por 6 inches. Estima	ating the satura	ted capillary				
fringe to be SI Soil Type	PD = 2" and $PD$ , $VPD =$	-	epth of water table required to result age Class Per		5.	of the root zone c			epth Ci	riteria		
			ce defined by a water table at 6-1									
-	& VPD at <6"/hr =18', at	$\geq 6''/hr =$	· 12".	<b></b> ]								
Note: A weth they reflect pr	re-restoration conditions	rather that	wetland) is considered a disturbe in post-restoration conditions. In hydrology if there is documente	accordance with the 1	987 Manual, in	such cases when	re necessary, a			ation can be 1	nade based or	
D	<b>T</b> (0)			<b></b>		<b></b>				Wetland		
Duration M		would th	ey normally be present during a	YES	e growing see	NO NO		N			RPE	
n an 5 parame	curs are mer, are mey or	would th	cy normany of present during a s	nginneant portion of th	e growing seas	011:		S			RPF	
	4 - 337-41 - 30			<b>N</b> TEG		V VO			NS M		BOG	
	t a Wetland? lot ID:			YES		X NO			SM DM		AB	
	1								-			

						rtheast & Northcentral Supp					
Wetland Site:	1560-31-00 USH 63					Date:	8/26/10				
	vner: WisDOT						y: Washbu	ırn			
Investigator(s	s): Rachelle Peterson and Caleb	Jense	en		State: WI						
	ic conditions on site typical for	Х	YES		NO						
	iis time of year? yes										
Transect #:	-	tion)?	YES	X	NO						
Plot #: wet 8						ly naturally problematic?	1 1 1	YES	Χ	NO	
Plot Descript	1011:		Ту			problem area (soils, vegetatio	on, hydrolog	gy)?			
				Vege							
dominance mea	ies are the most abundant species in asure are also dominant. Non-domi: ( <b>H</b> ) 5'radius plot; 30' radius plot fo	nant sp	ecies used i	f dominant	speci	es are equal in number.		becies comj	orising	20% of total	
	Dominant Species	%	Indicator		Ń	Non-Dominant Species	%	Indica	tor	Stratum	
1.	Salix interior Sandbar Willow	65	OBL	S	1.	Solidago gigantea Giant Goldenrod		FAC	W	Н	
2.	Carex lacustris Lake Sedge	60	OBL	Н	OBI	-	Н				
3.	Onoclea sensibilis Sensitive Fern	45	45     FACW     H     2.     Spotted Joe-Pye-Weed       3.     Phalaris arundinacea Reed Canary Grass						W	Н	
4.					4.	Scirpus atrovirens Black Bulrush	15	OBI	- -	Н	
5.					5.						
6.					6.						
7.					7.						
8.					8.						
9.		9.									
10.					10						
		of do	minant spe	ecies (all st	rata	that are OBL, FACW, and			10	0%	
Total % Cover	Prevalence Index Worksheet: r of: Multiply By:					Hydrophytic Vo inance Test is >50% alence Index is < or =3.01	egetation I	ndicators <u>X</u> YES	<u> </u>	NO	

		Prevalence Index is $<$ or $=3.01$	YES	NO
OBL species:	1	 Morphological Adaptations* (Provide supporting	YES	NO
FACW species:	2	data in Remarks or on a separate sheet)		
TAC w species.	2	 Problematic Hydrophytic Vegetation1 (Explain)	YES	NO
FAC species:	3	 *Indicators of hydric soil and wetland hydrology must be present.	unloss disturbed	or problematic
FACU species:	4	 indicators of nyuric son and wettand nyurology must be present,	uniess uistui bet	of problematic.
UPL species:	5	Hydrophytic Vegetation Pr	esent?	
TOTAL (A):	TOTAL (B):	Yes/No		
Prevalence	10111L (b).			
Index (B/A):				

Recorded Data	(describe in remarks):
Stream, lake, or tide gauge	Aerial photographs Monitoring well Other:
No Recorded Data Avai	lable
Growing Season Dates/Days:	
	(To evaluate hydrologic data from stream gauges/g.w. wells)
Field Observations:	
Surface water present?:YesX	No Depth (inches) Water in well?:YesNo Depth (inches)
Water table present?:XYes	_No11 Depth (inches) Saturation Present?:X_YesNo5 Depth (inches)
Remarks:	

		ore requ	Wetlan uired, check all that apply	d Hydrology l <sub>y)</sub>	ndicato	ors:	Secondar	ry Indicators	: (2 or moi	re required)		
	burface Water (A1) High Water Table (A2)	1		quatic Fauna (B13)			I	Surface Soil Cracks (B6) Drainage Patterns (B10)				
	aturation (A3)			farl Deposits (B15) lydrogen Sulfide Ode	or (C1)			Moss Trim Lines (B16) Dry-Season Water Table (C2)				
V	Water Marks (B1) Rediment Deposits (B2	)	0	xidized Rhizosphere	s on Livin	g Roots (C3)		Crayfish Burrov Saturation Visik		1(C9)		
C	Drift Deposits (B3)	,	P.	resence of Reduced	fron (C4)			Saturation Visible on Aerial (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)				
	Algal Mat or Crust (B4 ron Deposits (B5)	)	R	ecent Iron Reduction	n in Tilled	Soils (C6)		Shallow Aquitard (D3)				
	nundation Visible on A			hin Muck Surface (C	27)			FAC-Neutral Te FAC-Neutr	est (D5)			
	parsely Vegetated Con Vater-Stained Leaves (			ther (Explain in Ren	narks)				CW : FACU			
Remarks					,							
			Soils (Describe to de	pth needed to docum	ent the ind	icator, or confirm	the absence	e of indicators)				
•	Name (Series & has	se):		Drainage Cla					Permeabi		1	
Taxonom	y (Subgroup):			Field Observa	ations Co	nfirm Mapped 7			YE	S	NO	
Donth	Ma	atrix	Matrix Color			Real Type <sup>1</sup>	edox Feat	tures Location <sup>2</sup>				
Depth (Inches)	Texture	%	(G= Gleyed)	Color	%	(C,D,RM,	CS)	(PL, M)		Remarks		
0-2	Peat	100	10 YR 2/1	7.5 VD 5/9	25	0						
2-20	Silty clay loam	75	10 YR 4/2	7.5 YR 5/8	25	C	r	М				
Type <sup>1</sup> C=	concentration D=de	epletion	RM=reduced matrix CS	=coated sand grain	ns Locat	ion <sup>2</sup> : PL=Pore I	Lining M=N	Matrix				
Hydric S	Soils Indicators:						]	Indicators fo	r Problem	atic Hydric	Soils*	
	stosol (A1) stic Epipedon (A2)		Thick Dark Sur Sandy Mucky M	. ,		y Mucky Mineral y Gleyed Matrix (		2 cm mucl Coast Prairi		16)		
Bla	ack Histic (A3) drogen Sulfide (A4)		Sandy Gleyed N		Deple	ted Matrix (F3)	-	5cm mucky Polyvalue B	peak or Pea	t (S3)		
	ratified Layers (A5)		Sandy Redox (S	55)		lox Dark Surface ted Dark Surface	. ,	Thin Dark S	Surface (S9)	, í		
De	pleted Below dark sur	face(A1	1) Stripped Matrix	(56)		Contractions (F8			t Material (1	FF2)		
*Indicator Remarks		etation a	and wetland hydrology mu	ist be present, unles	s disturbe	d or problematic	·	Very Shallo Other (Exp	w Dark Sur plain in Rem		-	
Kemarks	:											
				Wetland	Deter	mination						
Wetland V	egetation Present?			X YES		NO						
	8	ation Mar	nual requires that greater than 50		es be OBL,							
	lydrology Present?			X YES		NO						
prevalent veg	getation . The root zone is	s usually d	eation Manual, wetland hydrolog efined to be $\leq 12$ inches. We de	efine the major portion a	$s \le to 50\% d$	$r \le 6$ inches. Estimation	ting the satura	ated capillary				
Soil Type	$SPD = 2^{\circ}$ and $PD$ , $VPD =$	,	epth of water table required to re nage Class Pe		5 1				Criteria			
51	anual requires saturation to		ce defined by a water table at 6-					······································				
SPD=6", PD	0 & VPD at <6"/hr =18', at											
Note: A wet they reflect p	pre-restoration conditions	rather that	wetland) is considered a disturt in post-restoration conditions. I I hydrology if there is documen	In accordance with the	1987 Manua	l, in such cases when	e necessary, a					
						<b></b>			Wetland			
Duration M		would the	ay normally he present during	X YES	ha growing	NO NO		X M		RPE		
n an 5 paran	neters are met, are they of	would th	ey normally be present during a	a significant portion of t	ne growing	oca5011?		SS		RPF		
Is This Die	ot a Wetland?			X YES		NO		WS SM		BOG AB		
	Plot ID:			A ILO				DM				

R	outi	ne Wet	tland I	Delineation Data Form					
(1987 COE Wetlan	ds Deli	ineation M	fanual, 20	009 Northeast & Northcentral Supplement)					
Wetland Site: 1560-31-00 USH 63				Date: 8/26/10					
Applicant/Owner: WisDOT			County: Washburn						
Investigator(s): Rachelle Peterson and Caleb	Jenser	1		State: WI					
Normal climatic conditions on site typical for this time of year? yes		Do	Do "normal circumstances" exist on the site? X YES						
Transect #:		Is t	he site sig	gnificantly disturbed (Atypical Situation)? X YES NO					
Plot #: up 81				otentially naturally problematic? YES X NO					
Plot Description:		Ту	pe of atypi	ical or problem area (soils, vegetation, hydrology)?					
			Veg	getation					
dominance measure are also dominant. Non-domin Strata = Herbs ( $\mathbf{H}$ ) 5'radius plot; 30' radius plot fo	nant spe r: Trees	ecies used i s $(\mathbf{T}) > 3$ " dt	sum to 50% f dominan h, Shrubs	% of total dominance measure. Any additional species comprising 20% of total nt species are equal in number. (S) <3" dbh, >3.2' tall, & Woody Vines (V)					
Dominant Species	%	Indicator	Stratum						
1. Carex pensylvanica Pennsylvania Sedge	90	OBL	Н	Phalaris arundinacea15FACWHReed Canary Grass15FACWH					
2.				2.Achillea millefolium Yarrow15FACUH					
3.				3.					
4.				4.					
5.				5.					
6.				6.					
7				7					
8.				8					
9.				9					
10.				10.					
Dominance Test: %	of don	ninant spe	ecies (all s	strata) that are OBL, FACW, and/or FAC? 100%					
Prevalence Index Worksheet:				Hydrophytic Vegetation Indicators					
Total % Cover of: Multiply By:				Dominance Test is >50%XYESNOPrevalence Index is < or =3.01					
OBL species: 1				Mornhological Adaptations* (Provide supporting					
FACW species: 2				Worphotogical Adaptations* (Frovide supporting data in Remarks or on a separate sheet)     YES     NO       Problematic Hydrophytic Vegetation1 (Explain)     YES     NO					
FAC species: 3									
FAC species:									

# Hydrophytic Vegetation Present? <mark>Yes</mark>/No

TOTAL (A):       TOTAL (B):         Prevalence          Index (B/A):	Yes/No
	Hydrology
<b>Recorded Data</b> (describe in remarks):	
Stream, lake, or tide gauge Aerial photo	graphs Monitoring well Other:
No Recorded Data Available	
Growing Season Dates/Days:	
	gic data from stream gauges/g.w. wells)
Field Observations:	
Surface water present?:YesX_No Depth (inches)	Water in well?: Yes No Depth (inches)
Water table present?:YesXNo Depth (inches)	Saturation Present?: Yes X_No Depth (inches)
Remarks:	

UPL species:

\_\_\_\_\_ \_\_\_\_ 5

Primary	Indicators: (1 or m	ore real	Wetland	l Hydrology I	ndicato	rs:	Seconda	ry Indicators	: (2 or mor	re required)			
	Surface Water (A1) High Water Table (A2)		Aq	uatic Fauna (B13) rl Deposits (B15)			1	Surface Soil Cra Drainage Pattern	ns (B10)				
	Saturation (A3)			drogen Sulfide Odo	r (C1)			Moss Trim Lines (B16) Dry-Season Water Table (C2)					
	Water Marks (B1)		Ox	idized Rhizospheres	s on Living	Roots (C3)		Crayfish Burrows (C8)					
	Sediment Deposits (B2 Drift Deposits (B3)	2)	Pre	sence of Reduced In	ron (C4)			Saturation Visib Stunted or Stres					
	Algal Mat or Crust (B4	ł)		cent Iron Reduction		oils (C6)		Geomorphic Po Shallow Aquita	sition (D2)	,			
	ron Deposits (B5)						1	Microtopograph	ic Relief (D	4)			
	nundation Visible on A Sparsely Vegetated Co			in Muck Surface (C	7)		X1	FAC-Neutral Te FAC-Neutr		1:0)			
	Water-Stained Leaves			ner (Explain in Rem	arks)				CW : FACU				
Remarks		(B))			urks)								
			Soils (Describe to dep	h needed to docume	ent the indi	cator, or confirm	the absence	e of indicators)					
Map Unit	Name (Series & ha	se):		Drainage Clas					Permeabi	lity:			
Taxonom	y (Subgroup):			Field Observa	tions Con	firm Mapped T	Type?		YE	S	NO		
	Ma	atrix		·			edox Feat						
Depth (Inches)	Texture	%	Matrix Color (G= Gleyed)	Color	%	Type <sup>1</sup> (C,D,RM,	CS)	Location <sup>2</sup> (PL, M)		Remarks			
( 1 12)						(-) )							
Type <sup>1</sup> C=	concentration D=de	epletion	RM=reduced matrix CS=	coated sand grain	is Locati	on <sup>2</sup> : PL=Pore I	Lining M=1	Matrix					
	Soils Indicators:							Indicators for		atic Hydric	c Soils*		
	istosol (A1) istic Epipedon (A2)		Thick Dark Surfa			Mucky Mineral		2 cm muck Coast Prairie		6			
Bl	ack Histic (A3)					Gleyed Matrix ( ed Matrix (F3)	(F2) -	5cm mucky	peak or Pea	t (S3)			
	ydrogen Sulfide (A4) ratified Layers (A5)		Sandy Gleyed M Sandy Redox (S5			Dark Surface (F	/	Polyvalue B Thin Dark S		e (S8)			
		6 (11	Stripped Matrix (			ed Dark Surface Depressions (F8	. ,	Iron/Manga	nese Masse t Material (7				
	epleted Below dark sur rs of hydrophytic veg		nd wetland hydrology mus	- t be present, unless				Very Shallo	w Dark Sur	face (TF12)			
Remarks				• •				Other (Exp	olain in Rem	arks)	-		
No soil sa	ample obtained, refu	ısal at sı	urface, roadfill										
	1		,										
				Wetland	Deterr	nination							
Wetland V	vegetation Present?			X YES		NO							
Note: The 19	987 Corps Wetland Deline	ation Mar	ual requires that greater than 50%	of all dominant specie	es be OBL, F	ACW, or FAC.							
	Iydrology Present?			YES		X NO							
prevalent ve	getation . The root zone is	s usually d	ation Manual, wetland hydrology efined to be $\leq 12$ inches. We defi epth of water table required to res	ne the major portion as	$s \le to 50\%$ or	$\leq 6$ inches. Estimation	ting the satura	ated capillary					
Soil Type		Drain	age Class Per	meability	Capil	lary Fringe	+6'	'=W.T. Depth (	Criteria				
		o the surfa	ce defined by a water table at 6-1										
	Soils Present?			YES		X NO							
they reflect	pre-restoration conditions	s rather that	wetland) is considered a disturbe n post-restoration conditions. In hydrology if there is documente	accordance with the 1	987 Manual,	in such cases when	e necessary, a						
				<b>—</b>		<b>—</b>			Wetland				
<b>Duration</b> If all 3 parar		r would th	ey normally be present during a s	ignificant portion of th	e growing se	eason?		M SS		RPE RPF			
	the are men, are mey of		.,	o portion of th				WS SS		BOG			
Is This Ple	ot a Wetland?			YES		X NO		SM		AB			
	Plot ID:							DM					

	(1987 COE wella	nus De		allual, 200	<i>J9</i> IN	NOIL	ineast & Northeent.	11	/				
Wetland Site: 1560-31-00USH 63Date: 8/31/10Applicant/Owner: WisDOTCounty: Washburn													
11								2	ashbur	n			
U ()	: Rachelle Peterson and Caleb	o Jense	en					State: WI		-			
Normal climatic this time of year	e conditions on site typical for r? yes		Do	"normal ci	ircur	mst	tances" exist on the	site?	Х	YES		NO	
Transect #:			Is th	Is the site significantly disturbed (Atypical Situation)?						YES	Х	NO	
Plot #: wet 10	02		Is th	s the area potentially naturally problematic? YES X NO						NO			
Plot Description	on:		Тур	ype of atypical or problem area (soils, vegetation, hydrology)?									
				Vegetation									
Dominant specie dominance meas	es are the most abundant species in sure are also dominant. Non-domi	each st inant sp	ratum that su	um to 50%	oft	tota	Il dominance measur	re. Any additio	nal spe	cies comp	rising	20% of total	
	(H) 5'radius plot; 30' radius plot f	or: Tre			<b>S</b> ) <	:3" d	dbh, >3.2' tall, & Woo	dy Vines (V)					
D	ominant Species	%	Indicator	Stratum			Non-Dominant	1	%	Indicate	or	Stratum	
1.	Phalaris arundinacea	90	FACW	Н	1	1	Solidago giganted		15	FACW	7	Н	
1.	Reed Canary Grass		inte ti			1.	Giant Goldenrod		10	mer			
2.	Populus tremuloides	15	FAC	S	2	2.							
-	Quaking Aspen	_											
3.	Salix interior Sandbar Willow	45	OBL	S	3	3							
4.	Populus tremuloides Quaking Aspen	35	FAC	Т	4	4.							
5.					5	5. ·							
6.					$\epsilon$	6. ·							
7.					7	7							
8.					8	8							
9.					9	9							
10.					1	0.							
			•										
	Dominance Test: %	o 01 do	minant spe	cies (all si	trata	a) 1	,	,			10	00%	
	Prevalence Index Worksheet:				Dor	min	Hydrop 1ance Test is >50%	hytic Vegetat	ion In	dicators X YES		NO	
Total % Cover	of: Multiply By:						lence Index is $< \text{ or } = 3$	.01		$-\frac{\Lambda}{YES}$			
OBL species:	1	-			Мо	orpł	hological Adaptations	s* (Provide supp	orting	X YES		NO	
FACW species:	2	_					n Remarks or on a sej ematic Hydrophytic V		loin)	- YES			
FAC species:	3				rru	obie	eniauc nyurophyuc v	egetationi (Exp	nam)	1E5		NO	
FACU species:		-		*In	ndicat	tors	of hydric soil and wetla	nd hydrology must	be prese	ent, unless di	sturbed	or problematic.	
-	4	-					Hydron	hytic Vegeta	ation 1	Procont	>		
UPL species:	5	-					iiyui op	iyuc vegeta Yes/No			•		
TOTAL (A): Prevalence	TOTAL (B):	-						<b>1 C5</b> /110	J				
Index (B/A):		-		Hyd	rol		TV						
Daca	rded Data (describe	in rem	arks).	iiyu	U	ιυε	5 <b>J</b>						
	n, lake, or tide gauge		,	tographe			Monitoring well	Oth	er.				
	ecorded Data Available												
	on Dates/Days:												
Field Obsorry	(To evaluate hydrologic data from stream gauges/g.w. wells) Field Observations:												
Surface water present?: Yes X No Depth (inches) Water in well?: Yes No Depth (inches)													
_	sent?:XYesNo		_				Present?: _XYes		-6	Depth (			
Remarks: Trees exhibite	emarks: ees exhibited buttressed roots (morphological adaptation)												

Primary	Indicators: (1 or m	ore real	Wetlan uired, check all that apply	d Hydrology I	ndicators	: Secon	dary Indicator	<b>s</b> : (2 or mo	re required)	
	Surface Water (A1)	ore requ		quatic Fauna (B13)			Surface Soil C			
_X H	High Water Table (A2)	)		arl Deposits (B15)	(21)	X_	Drainage Patte Moss Trim Li			
	Saturation (A3)			ydrogen Sulfide Odo			Dry-Season W		22)	
s	Water Marks (B1) Sediment Deposits (B2	!)		xidized Rhizosphere	-	oots (C3)	Crayfish Burro Saturation Vis	ble on Aeria		
	Drift Deposits (B3)		Pr	resence of Reduced I	ron (C4)		Stunted or Stre Geomorphic P		D1)	
	Algal Mat or Crust (B4 fron Deposits (B5)	,)	Ro	ecent Iron Reduction	in Tilled Soi		Shallow Aquit Microtopograp	ard (D3)	<b>M</b> )	
I	nundation Visible on A	Aerial Im	agery (B7) Th	hin Muck Surface (C	7)	_X	FAC-Neutral	Test (D5)		
S	Sparsely Vegetated Co	ncave Su					FAC-Neut (OBL & F	ral Test ( ACW : FACU		
	Water-Stained Leaves	(B9)	0	ther (Explain in Rem	narks)					
Remarks	3:		<b>Soils</b> (Describe to der			<b>C</b> (1 1	C' 1' ( )			
Man Unit	Name (Series & ha	(ea):	<b>SOUS</b> (Describe to dep	Drainage Clas		tor, or confirm the abse	ence of indicators	Permeabi	lity	
^	iv (Subgroup):	se).				m Mapped Type?		YE	-	NO
Тахонош		atrix			tions comm	Redox F	eatures		.5	NO
Depth	Texture	%	Matrix Color	Color		Type <sup>1</sup>	Location <sup>2</sup>		Remarks	
(Inches) 0-20	Peat	100	(G= Gleyed) 10 YR 2/1		%	(C,D,RM, CS)	(PL, M)		Remarks	
0-20	reat	100	10 1 K 2/1							
Type <sup>1</sup> C=	 =concentration D=de	epletion	RM=reduced matrix CS	 =coated sand grain	ns Location	<sup>2</sup> : PL=Pore Lining N	/=Matrix			
	Soils Indicators:			0		5	Indicators f	or Problem	natic Hydric	Soils*
X Hi	istosol (A1)		Thick Dark Surf		Loamy N	fucky Mineral (F1)	2 cm mu	ck (A10)	•	
	istic Epipedon (A2) lack Histic (A3)		Sandy Mucky N	fineral (S1)	*	leyed Matrix (F2)		ie Redox (A y peak or Pea	· · · · · · · · · · · · · · · · · · ·	
Hy	ydrogen Sulfide (A4)		Sandy Gleyed M	Matrix (S4)		Matrix (F3) ark Surface (F6)	Polyvalue	Below Surface	ce (S8)	
St	ratified Layers (A5)		Sandy Redox (S Stripped Matrix	(S6) -		Dark Surface (F7)		Surface (S9) anese Masse		
	epleted Below dark sur					epressions (F8)		nt Material ( ow Dark Sur		
*Indicator Remarks		etation a	nd wetland hydrology mu	st be present, unles	s disturbed o	r problematic.		plain in Ren		-
Remarks	•									
				Wetland	Determi	ination				
					Determi					
	Vegetation Present?		- 1	X YES		NO				
Note: The 19	987 Corps Wetland Deline	ration Man	ual requires that greater than 50°	X YES		NO				
Note: The 19 Wetland H Note: Accord	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla	nds Deline	eation Manual, wetland hydrolog	X YES % of all dominant specie X YES y criteria are met if soil	es be OBL, FAC	NO W, or FAC. NO nin the major portion of the				
Note: The 19 Wetland H Note: Accord prevalent veg	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla getation . The root zone is	nds Deline s usually d		X YES % of all dominant specie X YES y criteria are met if soil fine the major portion a	es be OBL, FAC is saturated with s $\leq$ to 50% or $\leq$	NO W, or FAC. NO in the major portion of the 6 inches. Estimating the si	aturated capillary			
Note: The 19 Wetland H Note: Accord prevalent veg	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla getation . The root zone is SPD = 2" and PD, VPD =	nds Deline s usually d 12", the de	eation Manual, wetland hydrolog efined to be ≤12 inches. We de	X YES % of all dominant specie X YES y criteria are met if soil fine the major portion a esult in saturation in the	es be OBL, FAC is saturated wit s ≤ to 50% or ≤ major portion c	NO W, or FAC. NO nin the major portion of the 6 inches. Estimating the sa f the root zone can be calc	aturated capillary ulated below.	Criteria		
Note: The 19 Wetland H Note: Accord prevalent veg fringe to be S Soil Type The 1989 Ma	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla getation . The root zone is SPD = 2" and PD, VPD =	nds Deline s usually d 12", the d Drain o the surfa	eation Manual, wetland hydrolog efined to be $\leq 12$ inches. We de epth of water table required to re hage Class Pe ce defined by a water table at 6-	X     YES       % of all dominant specie     X       X     YES       sy criteria are met if soil fine the major portion a sult in saturation in the sture ability	is saturated with $s \le to 50\%$ or $\le$ major portion c Capillar	NO W, or FAC. NO nin the major portion of the 6 inches. Estimating the sa f the root zone can be calc y Fringe	aturated capillary ulated below.	Criteria		
Note: The 19 Wetland H Note: Accord prevalent veg fringe to be \$ Soil Type The 1989 Ma SPD=6", PE	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla getation . The root zone is SPD = 2" and PD, VPD = anual requires saturation to	nds Deline s usually d 12", the d Drain o the surfa	eation Manual, wetland hydrolog efined to be $\leq 12$ inches. We de epth of water table required to re hage Class Pe ce defined by a water table at 6-	X     YES       % of all dominant specie     X       X     YES       sy criteria are met if soil fine the major portion a sult in saturation in the sture ability	is saturated with $s \le to 50\%$ or $\le$ major portion c Capillar	NO W, or FAC. NO nin the major portion of the 6 inches. Estimating the sa f the root zone can be calc y Fringe	aturated capillary ulated below.	Criteria		
Note: The 19 Wetland H Note: Accorr prevalent veg fringe to be S Soil Type The 1989 M SPD=6", PE Wetland S Note: A we they reflect	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla getation . The root zone is SPD = 2" and PD, VPD = anual requires saturation to 0 & VPD at <6"/hr =18', a <b>Soils Present?</b> etland restoration site (man pre-restoration conditions	nds Deline s usually d 12", the d Drain o the surfa t $\geq$ 6"/hr = n-induced s rather tha	eation Manual, wetland hydrolog efined to be $\leq 12$ inches. We de epth of water table required to re hage Class Pe ce defined by a water table at 6-	X       YES         % of all dominant specie       X         X       YES         cy criteria are met if soil       fine the major portion a         ssult in saturation in the       rrmeability         18" below surface dependent       X         X       YES         ed (atypical) situation in the	es be OBL, FAC is saturated with $s \le to 50\%$ or $\le$ major portion c Capillar nding on the soil n the 1987 Corp 987 Manual, in	NO W, or FAC. NO in the major portion of the 6 inches. Estimating the sa f the root zone can be calc y Fringe type. NO Wetlands Delineation Masuch cases where necessa	aturated capillary ulated below. +6"=W.T. Depth anual. Soil indicato	s are often not		
Note: The 19 Wetland H Note: Accorr prevalent veg fringe to be S Soil Type The 1989 M SPD=6", PE Wetland S Note: A we they reflect	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla getation . The root zone is SPD = 2" and PD, VPD = anual requires saturation to 0 & VPD at <6"/hr =18', a <b>Soils Present?</b> etland restoration site (man pre-restoration conditions	nds Deline s usually d 12", the d Drain o the surfa t $\geq$ 6"/hr = n-induced s rather tha	eation Manual, wetland hydrolog efined to be ≤12 inches. We de epth of water table required to re lage Class Pe ce defined by a water table at 6- 12". wetland) is considered a disturb in post-restoration conditions. I	X       YES         % of all dominant specie       X         YES       YES         cy criteria are met if soil       fine the major portion a         ssult in saturation in the       sult in saturation in the         rrmeability	es be OBL, FAC is saturated with $s \le to 50\%$ or $\le$ major portion c Capillar nding on the soil n the 1987 Corp 987 Manual, in	NO W, or FAC. NO in the major portion of the 6 inches. Estimating the sa f the root zone can be calc y Fringe type. NO Wetlands Delineation Masuch cases where necessa	aturated capillary ulated below. +6"=W.T. Depth anual. Soil indicato	s are often not	made based on	
Note: The 19 Wetland H Note: Accord prevalent veg fringe to be S Soil Type The 1989 M: SPD=6", PE Wetland S Note: A we they reflect p presence of Duration I	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla getation . The root zone is SPD = 2" and PD, VPD = anual requires saturation to D & VPD at <6"/hr =18", a <b>Soils Present?</b> thand restoration site (man pre-restoration conditions hydrophytic vegetation an <b>Met?</b>	nds Deline s usually d 12", the do Drain o the surfa t $\geq$ 6"/hr = n-induced s rather than nd wetland	eation Manual, wetland hydrolog efined to be $\leq 12$ inches. We de epth of water table required to re hage Class Pe ce defined by a water table at 6- 12". wetland) is considered a disturb in post-restoration conditions. I I hydrology if there is document	X       YES         % of all dominant specie       X         YES       YES         sy criteria are met if soil       fine the major portion a         ssult in saturation in the       rrmeability         18" below surface dependent       X         YES       YES         wed (atypical) situation in the ed evidence with the lead evidence that the week         X       YES	es be OBL, FAC is saturated with s ≤ to 50% or ≤ major portion c Capillar ding on the soil n the 1987 Corp 987 Manual, in thand resulted fi	NO         W, or FAC.         NO         nin the major portion of the 6 inches. Estimating the said of the root zone can be calc         of the root zone can be calc         y Fringe         type.         NO         wetlands Delineation Masuch cases where necessarom human activities.         NO	aturated capillary ulated below. +6"=W.T. Depth anual. Soil indicato ry, a wetland detern	s are often not ination can be	made based on T	
Note: The 19 Wetland H Note: Accord prevalent veg fringe to be S Soil Type The 1989 M: SPD=6", PE Wetland S Note: A we they reflect p presence of Duration I	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla getation . The root zone is SPD = 2" and PD, VPD = anual requires saturation to D & VPD at <6"/hr =18", a <b>Soils Present?</b> thand restoration site (man pre-restoration conditions hydrophytic vegetation an <b>Met?</b>	nds Deline s usually d 12", the do Drain o the surfa t $\geq$ 6"/hr = n-induced s rather than nd wetland	eation Manual, wetland hydrolog efined to be ≤12 inches. We de epth of water table required to re lage Class Pe ce defined by a water table at 6- 12". wetland) is considered a disturb in post-restoration conditions. I	X       YES         % of all dominant specie       X         YES       YES         sy criteria are met if soil       fine the major portion a         ssult in saturation in the       rrmeability         18" below surface dependent       X         YES       YES         wed (atypical) situation in the ed evidence with the lead evidence that the week         X       YES	es be OBL, FAC is saturated with s ≤ to 50% or ≤ major portion c Capillar ding on the soil n the 1987 Corp 987 Manual, in thand resulted fi	NO         W, or FAC.         NO         nin the major portion of the 6 inches. Estimating the said of the root zone can be calc         of the root zone can be calc         y Fringe         type.         NO         wetlands Delineation Masuch cases where necessarom human activities.         NO	aturated capillary ulated below. +6"=W.T. Depth anual. Soil indicato ry, a wetland detern M SS	s are often not ination can be	made based on Time Strength St	
Note: The 19 Wetland H Note: Accorr prevalent veg fringe to be S Soil Type The 1989 M SPD=6", PE Wetland S Note: A we they reflect p presence of Duration I If all 3 param	987 Corps Wetland Deline <b>Iydrology Present?</b> ding the 1987 Corp Wetla getation . The root zone is SPD = 2" and PD, VPD = anual requires saturation to D & VPD at <6"/hr =18", a <b>Soils Present?</b> thand restoration site (man pre-restoration conditions hydrophytic vegetation an <b>Met?</b>	nds Deline s usually d 12", the do Drain o the surfa t $\geq$ 6"/hr = n-induced s rather than nd wetland	eation Manual, wetland hydrolog efined to be $\leq 12$ inches. We de epth of water table required to re hage Class Pe ce defined by a water table at 6- 12". wetland) is considered a disturb in post-restoration conditions. I I hydrology if there is document	X       YES         % of all dominant specie       X         YES       YES         sy criteria are met if soil       fine the major portion a         ssult in saturation in the       rrmeability         18" below surface dependent       X         YES       YES         wed (atypical) situation in the ed evidence with the lead evidence that the week         X       YES	es be OBL, FAC is saturated with s ≤ to 50% or ≤ major portion c Capillar ding on the soil n the 1987 Corp 987 Manual, in thand resulted fi	NO         W, or FAC.         NO         nin the major portion of the 6 inches. Estimating the said of the root zone can be calc         of the root zone can be calc         y Fringe         type.         NO         wetlands Delineation Masuch cases where necessarom human activities.         NO	aturated capillary ulated below. +6"=W.T. Depth anual. Soil indicato ry, a wetland detern	s are often not ination can be	made based on T	

					-	eation Data Form theast & Northcentral Supplem	ent)		
Wetland Site	·			anuar, 200	7 101	**	,		
Wetland Site: Applicant/Ow	1560-31-00 USH 63					Date: 8/3 County:		rn	
11	): Rachelle Peterson and Caleb	Ionce	m			State: WI	washbu	111	
•	c conditions on site typical for	Jense							
this time of year						tances" exist on the site?	X	YES	NO
Transect #:						ly disturbed (Atypical Situation	)? X	YES	NO
Plot #: up 102				1		y naturally problematic?		YES	X NO
Plot Description	on:		Тур			problem area (soils, vegetation, l	nydrolog	y)? Soils	
				Vege	etatio	n			
dominance meas	es are the most abundant species in sure are also dominant. Non-domi ( <b>H</b> ) 5'radius plot; 30' radius plot fo	nant sp	ecies used if	f dominant	specie	s are equal in number.	-	ecies compri	ising 20% of total
D	ominant Species	%	Indicator	Stratum		Non-Dominant Species	%	Indicator	r Stratum
1.	Andropogon gerardii Big Blue Stem Grass	60	FAC	Н	1.	<i>Phalaris arundinacea</i> Reed Canary Grass	20	FACW	Н
2.	Ambrosia artemisiifolia Ragweed	20	FACU	Н	2.				
3.					3.				
4.					4.				
5.					5.				
6.					6.				
7.					7.				
8.					8.				
9.					9.				
10.					10.				
	Dominance Test: %	of do	minant spe	cies (all st	rata)	that are OBL, FACW, and/or	r FAC?		50%
Total % Cover OBL species: FACW species: FAC species: FACU species: UPL species: TOTAL (A): Prevalence Index (B/A):	1				Preva Morp data i Probl dicators	Hydrophytic Veget nance Test is >50% lence Index is < or =3.01 hological Adaptations* (Provide su n Remarks or on a separate sheet) ematic Hydrophytic Vegetation1 (I of hydric soil and wetland hydrology m Hydrophytic Vegy Yes/	upporting Explain) nust be pres e <b>tation</b>	YES YES YES YES YES sent, unless dist	X       NO         X       NO         NO       NO         Image: NO       NO         aurbed or problematic.
				Hyd	rolog	gy			
	rded Data (describe n, lake, or tide gauge	in rema	arks): Aerial pho	otographs		Monitoring well 0	Other:		

No Recorded Data Availa	ble		
Growing Season Dates/Days:			
	(To evaluate hydrolog	gic data from stream gauges/g.w. wells)	
Field Observations:			
Surface water present?:Yes _X	No Depth (inches)	Water in well?:YesNo	Depth (inches)
Water table present?:YesX_	No Depth (inches)	Saturation Present?:YesXNo	Depth (inches)

**Remarks:** 

	• •• · · //				gy Indicato	rs:	Secondar	y Indicators	: (2 or mor	e required)			
St	urface Water (A1)	-	ired, check all that apply	') quatic Fauna (B	813)		S	Surface Soil Cr Drainage Patter	acks (B6)				
	igh Water Table (A2) aturation (A3)			arl Deposits (B ydrogen Sulfide			N	Moss Trim Lin	es (B16)	2)			
W Se	Vater Marks (B1) ediment Deposits (B2)	)		-	oheres on Living	Roots (C3)		Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial (C9)					
	rift Deposits (B3) lgal Mat or Crust (B4	)		esence of Redu	ced Iron (C4)	oila (C6)	(	Stunted or Stres Geomorphic Po Shallow Aquita	sition (D2)	D1)			
	on Deposits (B5) nundation Visible on A	erial Im		in Muck Surfa		ons (Co)	N	Microtopograph FAC-Neutral T	nic Relief (D	4)			
	parsely Vegetated Cor						1	FAC-Neu					
	Vater-Stained Leaves (	. /		her (Explain in	Remarks)								
Remarks:	No hydrology in	dicator	a				с I. I.						
Mon Unit N	Name (Series & he		<b>SOUS</b> (Describe to dep			cator, or con	firm the absence	of indicators)	Dormoohil	:4			
Ŷ	Name (Series & has	se):		Drainage		C Manna	- J T 9		Permeabil	-	NO		
Taxonomy	y (Subgroup):	4		Field Obs	servations Con	пгт марре	• •		YE	8	NO		
Depth		trix	Matrix Color	<u> </u>		Tv	Redox Feat	Location <sup>2</sup>					
(Inches)	Texture	%	(G= Gleyed)	Color	%		RM, CS)	(PL, M)		Remarks			
Type <sup>1</sup> C=	concentration D=de	pletion	RM=reduced matrix CS=	coated sand	grains Location	on <sup>2</sup> : PL=Po	ore Lining M=N	Aatrix					
Hydric S	oils Indicators:						]	Indicators fo	r Problem	atic Hydrio	c Soils*		
	stosol (A1)		Thick Dark Surf			Mucky Min		2 cm muc	k (A10) e Redox (A1	0			
	stic Epipedon (A2) ack Histic (A3)		Sandy Mucky M	lineral (SI)		Gleyed Mat ed Matrix (F			peak or Pea				
	drogen Sulfide (A4)		Sandy Gleyed M			Dark Surfac	·	Polyvalue E	elow Surfac				
Sua	atified Layers (A5)		Sandy Redox (S Stripped Matrix		Deplet	ed Dark Surf	face (F7)		Surface (S9) anese Masses	s (F12)			
	pleted Below dark sur					Depressions	_		t Material (T w Dark Suri				
*Indicators Remarks:		etation a	nd wetland hydrology mus	st be present, u	inless disturbed	or problem	natic. –		plain in Rem				
	mple obtained, refu	sal at su	urface, roadfill										
				Wetla	and Detern	nination	I						
	egetation Present?			YE		X N							
	87 Corps Wetland Delinea ydrology Present?	ation Man	ual requires that greater than 50%	% of all dominant	-	ACW, or FAC.							
		nds Deline	ation Manual, wetland hydrolog				-	t zone of the					
prevalent vege	etation . The root zone is	usually d	efined to be $\leq 12$ inches. We determine the set of th	fine the major por	tion as $\leq$ to 50% or	$\leq$ 6 inches. Es	stimating the satura	ted capillary					
Soil Type	-		age Class Pe		5 1				Criteria				
	nual requires saturation to & VPD at <6"/hr =18', at		ce defined by a water table at 6-1	8" below surface	depending on the s	oil type.							
	oils Present?			YE	S	X NO	0						
Note: A weth they reflect p	land restoration site (man re-restoration conditions	rather tha	wetland) is considered a disturb n post-restoration conditions. In hydrology if there is document	ed (atypical) situa n accordance with	ation in the 1987 C n the 1987 Manual,	orp Wetlands I in such cases	Delineation Manual where necessary, a						
									Wetland	Туре:			
Duration M				YE		N	0	М		RPE			
If all 3 param	eters are met, are they or	would the	ey normally be present during a	significant portion	n of the growing se	ason?		SS		RPF			
T. (1911 + 1911	4 - <b>N</b> V. (1 - 10				29		0	WS		BOG			
	t a Wetland? lot ID:			YE	.0	X NO	U	SM DM		AB			
P													

(1987 COE Wetlands Delineation Manual, 2009 Northeast & Northcentral Supplement)

Wetland Site: 1560-31-00 USH 63	I	Date: 7/20/201	12				
Applicant/Owner: WisDOT	County: Washburn						
Investigator(s): Lindsay Tekler	S	State: WI					
Normal climatic conditions on site typical for this time of year? yes	Do "normal circumstances" exist on the si	ite?	Х	YES		NO	
Transect #:	Is the site significantly disturbed (Atypical	l Situation)?		YES	Х	NO	
Plot #: wet 126	Is the area potentially naturally problemati	ic?		YES	Х	NO	
Plot Description: Type of atypical or problem area (soils, vegetation, hydrology)?							

#### Vegetation

Dominant species are the most abundant species in each stratum that sum to 50% of total dominance measure. Any additional species comprising 20% of total dominance measure are also dominant. Non-dominant species used if dominant species are equal in number. **Strata** = Herbs (**H**) 5'radius plot; 30' radius plot for: Trees (**T**) >3" dbh, Shrubs (**S**) <3" dbh, >3.2' tall, & Woody Vines (**V**)

D	Oominant Species	%	Indicator	Stratum		Non-Dominant Species	%	Indicator	Stratum
1.	Phalaris arundinacea Reed Canary Grass	40	FACW	Н	1.	<i>Typha latifolia</i> Broad Leaved Cattail	20	OBL	Н
2.	Carex lacustris Lake Sedge	40	OBL	Н	2.	Salix bebbiana Bebbs Willow	15	FACW	Н
3.					3.	Lemna minor Duckweed	5	OBL	Н
4.					4.				
5.					5.				
6.					6.				
7.					7.				
8.					8.				
9.					9.				
10.					10				
	Dominance Test: %	o of do	minant spe	cies (all st	trata)	) that are OBL, FACW, and/or F	AC?		100%
	Prevalence Index Worksheet:					Hydrophytic Vegetat	ion In	dicators	
Total % Cover	of: Multiply By:					inance Test is >50%		X YES	NO
						alence Index is < or =3.01		YES	NO
OBL species:	1					phological Adaptations* (Provide supp in Remarks or on a separate sheet)	orung	YES	NO
FACW species	: 2					lematic Hydrophytic Vegetation1 (Exp	olain)	YES	NO
FAC species:	3			*1	dicato	rs of hydric soil and wetland hydrology must	he press	nt unloce dictumb	ed or problematic
FACU species:	4			*11	ulcato	is or nyuric son and wedand nyurology must	be prese	in, uness usturb	eu or problematic.
UPL species:	5					Hydrophytic Vegeta		Present?	
TOTAL (A): Prevalence Index (B/A):	TOTAL (B):					Yes/No	)		

Recorded Data	(describe in remarks):
Stream, lake, or tide gauge	Aerial photographs Monitoring well Other:
No Recorded Data Avai	able
Growing Season Dates/Days:	
	(To evaluate hydrologic data from stream gauges/g.w. wells)
Field Observations:	
Surface water present?:XYes	No 2 Depth (inches) Water in well?:YesNo Depth (inches)
Water table present?:XYes	No 0 Depth (inches) Saturation Present?: X Yes No 0 Depth (inches)
Remarks:	

			<b>11</b> 7 /1		1.				
Primary I	ndicators: (1 or w	nore reg	Wetlar uired, check all that appl	d Hydrology I	ndicato	ors: Seco	ondary Indicator	rs: (2 or more required)	
_X Si	urface Water (A1) igh Water Table (A2	-	_X A	y) Aquatic Fauna (B13) Aarl Deposits (B15)			Surface Soil C Drainage Patte Moss Trim Lii	erns (B10)	
	aturation (A3)			lydrogen Sulfide Odd	or (C1)		-	/ater Table (C2)	
	aturation (AS) /ater Marks (B1)			xidized Rhizosphere			Crayfish Burro		
Se	ediment Deposits (B2	2)		-	-		Saturation Vis	sible on Aerial (C9)	
	rift Deposits (B3)		P	resence of Reduced I	ron (C4)		Stunted or Stre Geomorphic P	essed Plants (D1) Position (D2)	
	lgal Mat or Crust (B4 on Deposits (B5)	4)	F	ecent Iron Reduction	in Tilled S	Soils (C6)	Shallow Aquit	tard (D3)	
	undation Visible on	Aerial In	nagery (B7) 1	hin Muck Surface (C	(7)	_X_	Microtopograp FAC-Neutral	phic Relief (D4) Test (D5)	
	parsely Vegetated Co				.,		FAC-Neut	tral Test (2:0)	
	/ater-Stained Leaves			Other (Explain in Rem	narks)		(OBL & F	FACW : FACU & UPL)	
Remarks:					,				
			Soils (Describe to de	pth needed to docum	ent the ind	icator, or confirm the at	osence of indicators	)	
Map Unit N	Name (Series & ha	ase):		Drainage Clas	3S:			Permeability:	
Taxonomy	(Subgroup):			Field Observa	ations Cor	nfirm Mapped Type?		YES	NO
	M	atrix				~~ ~~	Features		
Depth (Inches)	Texture	%	Matrix Color $(C = Claved)$	Color	%	Type <sup>1</sup>	Location <sup>2</sup>	Remarks	
0-5	Loam	100	(G= Gleyed) 10 YR 2/1		70	(C,D,RM, CS)	(PL, M)	mucky	
5-12	Loamy sand	75	7.5 YR 2/2	7.5 YR 5/8	10	С	М		
				2.5 YR 5/1	15	D	М		
12-20	Clay	75	10 YR 2/1	7.5 YR 5/8	15	С	М		
12 20	Chuy	10	10 11(2/1	2.5 YR 6/1	10	D	M		
Type <sup>1</sup> C=	concentration D=d	epletion	RM=reduced matrix CS	S=coated sand grain	ns Locati	ion <sup>2</sup> : PL=Pore Lining	M=Matrix		
Hydric S	oils Indicators:	_					Indicators f	or Problematic Hydric	Soils*
	stosol (A1)		Thick Dark Sur	face (A12)	X Loa	my Mucky Mineral (F1)	)2 cm mu	ck (A10)	
	stic Epipedon (A2) ack Histic (A3)		Sandy Mucky I	Mineral (S1)		my Gleyed Matrix (F2)		rie Redox (A16) y peak or Peat (S3)	
Hy	drogen Sulfide (A4)		X Sandy Gleyed			ted Matrix (F3)	Polyvalue	Below Surface (S8)	
Stra	atified Layers (A5)		Sandy Redox ( Stripped Matrix			x Dark Surface (F6) ted Dark Surface (F7)		Surface (S9)	
De	pleted Below dark su	rface(A1				Depressions (F8)		ganese Masses (F12) ent Material (TF2)	
		· · ·	and wetland hydrology m	ıst be present, unles	s disturbe	d or problematic.		low Dark Surface (TF12)	
Remarks:								xplain in Remarks)	
				Wetland	Deter	mination			
Wetland V	egetation Present?			X YES		ΝΟ			
	-	eation Ma	nual requires that greater than 50		es be OBL, H				
	ydrology Present?		1 0	X YES	,	ΝΟ			
			eation Manual, wetland hydrolo defined to be $\leq 12$ inches. We d						
Ũ	PD = 2" and $PD$ , $VPD =$		lepth of water table required to r		5.				
Soil Type		Drain	nage Class P	ermeability	Capil	llary Fringe	$+6^{\circ}=W.T.$ Depth		
	nual requires saturation t & VPD at <6"/hr =18', a		ace defined by a water table at 6 = 12".	-18" below surface depen	nding on the	soil type.			
	oils Present?			X YES		NO			
they reflect p	re-restoration conditions	s rather th	l wetland) is considered a distur an post-restoration conditions. d hydrology if there is documer	In accordance with the 1	987 Manual	, in such cases where neces			
r state of h	, ., ,		,					Wetland Type:	

					***	enanu i ype.	
Duration Met?	X YES	NO		М		RPE	
If all 3 parameters are met, are they or would they normally be pre-	sent during a significant portion of the grow	ving season?		SS		RPF	
				WS		BOG	
Is This Plot a Wetland?	X YES	NO		SM		AB	
Plot ID:			Х	DM			

(1987 COE Wetlands Delineation Manual, 2009 Northeast & Northcentral Supplement)

Wetland Site: 1560-31-00 USH 63		Date: 7/20/20	12				
Applicant/Owner: WisDOT	County: Washburn						
Investigator(s): Lindsay Tekler		State: WI					
Normal climatic conditions on site typical for this time of year? yes	Do "normal circumstances" exist on the	site?	Х	YES		NO	
Transect #:	Is the site significantly disturbed (Atypic	cal Situation)?	Х	YES		NO	
Plot #: up 126	Is the area potentially naturally problem	atic?		YES	Х	NO	
Plot Description: Type of atypical or problem area (soils, vegetation, hydrology)? Soils							

#### Vegetation

Dominant species are the most abundant species in each stratum that sum to 50% of total dominance measure. Any additional species comprising 20% of total dominance measure are also dominant. Non-dominant species used if dominant species are equal in number.

Strata = Herbs	(H) 5'radius plot; 30' radius plot fo		es $(\mathbf{T})$ >3" dbł		<b>S</b> ) <3'	dbh, >3.2' tall, & Woody Vines (V)		-	
D	Dominant Species	%	Indicator	Stratum		Non-Dominant Species	%	Indicator	Stratum
1.	Carex pennsylvanica Pennsylvania Sedge	60	NI	Н	1.	<i>Taraxacum officinale</i> Common Dandelion	10	FACU	Н
2.					2.	Onoclea sensibilis Sensitive Fern	5	FACW	Н
3.					3.	<i>Trifolium pratense</i> Red Clover	5	FACU	Н
4.					4.	Mentha arvensis Wild Mint	5	FACW	Н
5.					5.	Carex lacustris Lake Sedge	2	OBL	Н
6.					6.				
7.					7.				
8.					8.				
9.					9.				
10.					10				
	Dominance Test: %	of do	minant spe	cies (all s	trata)	that are OBL, FACW, and/or F	FAC?		0%
	Prevalence Index Worksheet:		-			Hydrophytic Vegetat		dicators	
Total % Cover	of: Multiply By:				Dom	inance Test is >50%		YES	X NO
						alence Index is < or =3.01		YES	NO
OBL species:	1					phological Adaptations* (Provide supp in Remarks or on a separate sheet)	orting	YES	NO
FACW species	: 2					lematic Hydrophytic Vegetation1 (Exp	olain)	YES	NO
FAC species:	3			*Ir	ndicato	rs of hydric soil and wetland hydrology must	t be prese	ent, unless disturb	ed or problematic.
FACU species:	4						-	*	e or problematic.
UPL species:	5					Hydrophytic Vegeta		Present?	
TOTAL (A): Prevalence	TOTAL (B):					Yes/ <mark>N</mark> e	<mark>0</mark>		
Index (B/A):									

Recorded Data	(describe in i	remarks):			
Stream, lake, or tide ga	auge	Aerial photo	graphs Monitoring well	Other:	
No Recorded Data	Available			_	
Growing Season Dates/Days:	, •				
		(To evaluate hydrolog	gic data from stream gauges/g.w. wells)		
Field Observations:					
Surface water present?:Y	es X_No	Depth (inches)	Water in well?:YesNo	Depth (inches)	
Water table present?:Yes	XNo	Depth (inches)	Saturation Present?:YesXNo	Depth (inches)	
		_			
Remarks:					

D	<b>F</b> (1			Hydrology I	ndicator	s:	Secondar	ry Indicator	s: (2 or mo	ore required)	
S S V S L II II II S V <b>Remarks</b>	urface Water (A1) ligh Water Table (A2) aturation (A3) Vater Marks (B1) ediment Deposits (B2) orift Deposits (B3) ulgal Mat or Crust (B4) on Deposits (B5) nundation Visible on A parsely Vegetated Cor Vater-Stained Leaves ( : No hydrology in	) Aerial Im ncave Su B9) <b>dicator</b>	nired, check all that apply) Aqu Aqu — Mai — Hyc — Oxi — Pres — Rec nagery (B7) _ This urface (B8) — Oth <b>rs present</b>	atic Fauna (B13) cl Deposits (B15) lrogen Sulfide Odd dized Rhizosphere sence of Reduced I ent Iron Reductior n Muck Surface (C er (Explain in Ren n needed to docum	or (C1) s on Living I ron (C4) i in Tilled So 7) narks) ent the indic	Roots (C3) ils (C6)		Surface Soil Ci Drainage Patte Moss Trim Lin Dry-Season W Crayfish Burro Saturation Visi Stunted or Stre Geomorphic P Shallow Aquit Microtopograp FAC-Neural T FAC-Neu (OBL & F.	racks (B6) rms (B10) es (B16) ater Table ( ws (C8) ble on Aeri- ssed Plants osition (D2) ard (D3) hic Relief ( rest (D5) <b>tral Test</b> ACW : FACU	C2) (D1) (D4) ( : ) (& UPL)	
	Name (Series & has	se):		Drainage Clas		. 17	F 0		Permeab		NO
Taxonom	y (Subgroup):			Field Observa	ations Conf	••	• •		YI	ES	NO
Denth	Ma	atrix	Matrix Calar		1		edox Feat		1		
Depth (Inches)	Texture	%	Matrix Color (G= Gleyed)	Color	%	Type <sup>1</sup> (C,D,RM,	CS)	Location <sup>2</sup> (PL, M)		Remarks	
m 1 a						2					
		pletion	RM=reduced matrix CS=	coated sand grain	is Locatio	n <sup>2</sup> : PL=Pore I					
	Soils Indicators:									natic Hydric	Soils*
Hi. Bla Hy Str De <b>*Indicator</b>		etation a	and wetland hydrology must	neral (S1) trix (S4) ) S6)	Loamy Deplete Redox I Deplete Redox I	Mucky Mineral Gleyed Matrix d Matrix (F3) Dark Surface (F d Dark Surface Depressions (F8 <b>or problematio</b>	(F2) - 	Very Shall	ie Redox (A y peak or Pe Below Surfa Surface (S9 unese Masso nt Material (	eat (S3) (38) (38) (38) (38) (38) (38) (38) (3	
				Wetland	Determ	ination					
Note: The 19 Wetland H Note: Accord prevalent veg	ydrology Present? ling the 1987 Corp Wetlar getation . The root zone is	nds Deline usually d 12", the d	nual requires that greater than 50% eation Manual, wetland hydrology lefined to be ≤12 inches. We defin epth of water table required to resu hage Class Perr	YES criteria are met if soil the the major portion a	is saturated with $s \le to 50\%$ or $s \le to 50\%$ or $s \le to 50\%$ or $s \ge to 50\%$	X NO thin the major por 6 inches. Estima of the root zone c	ating the satura an be calculate	ated capillary ed below.	Criteria		
The 1989 Ma	nual requires saturation to	the surfa	ce defined by a water table at 6-18						_		
SPD=6", PD Wetland S Note: A wet they reflect p	• & VPD at <6"/hr =18', at oils Present? dand restoration site (man pre-restoration conditions	$\geq 6''/hr =$		YES (atypical) situation is accordance with the 1	n the 1987 Co 987 Manual, i	X NO rp Wetlands Delin n such cases whe	re necessary, a		ination can be	e made based on t	
Duration N	Viet?			YES		NO		М	weuan	d Type: RPE	
								171			
If all 3 param	neters are met, are they or	would th	ey normally be present during a si	gnificant portion of t	he growing sea	ison?		SS		RPF	
If all 3 param	neters are met, are they or	would th	ey normally be present during a si	gnificant portion of t	he growing sea	ison?		SS WS		RPF BOG	
	neters are met, are they or t a Wetland?	would th	ey normally be present during a si	gnificant portion of t	he growing sea	ISON?					

Wat	7			,		Northeast & Northcer	<b>* *</b> /	2			
	land Site: 1560-31-00/71, USH 63 Cu licant/Owner: WisDOT	umpertand	– spooner,	, woodyai	ra I	KU IO CIHB (East)	Date: 7/23/201 County: Wash		'n		
	estigator(s): Erin Dethloff and Derek	Huebseh					State: WI	oul	11		
	nal climatic conditions on		_						1 mg		NG
site	typical for this time of year?	K No	Do	"normal ci	ircu	umstances" exist on the	site?	Х	YES		NO
Trai	nsect #:					cantly disturbed (Atypi			YES	Х	NO
	#: Wet 151					tially naturally problem			YES	Х	NO
Plot	Description: STA 868+00 - 869+00	) LT	Тур	• •		or problem area (soils,	vegetation, hydrol	ogy	/)?		
						ation					
	inant species are the most abundant speci							spe	ecies comp	orising 20%	6 of total
	inance measure are also dominant. Non-										
Stra	ta = Herbs (H) 5'radius plot; 30' radius p Dominant Species	slot for: Tre	Indicator		(8)	-3 <sup>27</sup> dbh, >3.2 <sup>2</sup> tall, & WOC Non-Domina			%	Indicato	r Stratum
	Phalaris arundinacea	/0		Suatum	╢┝	Solanum duloam			/0	mulcato	Suatum
1.	Reed Canary Grass	45	FACW	Н		5. Climbing Nights			3	FAC	Н
-	Securgia varia				╢	Menispermum c					
2.	Crown Vetch	20	NI	Н		6. Canadian Moon			3	FAC	Н
~	Rhus glabra		<b>.</b>		1	A ratium minus				E A CIT	
3.	Smooth Sumac	20	NI	S		7. Lesser Burdock			2	FACU	Н
4.	Cornus alba	8	FACW	S		8. Impatiens capen			1	FACW	Н
4.	Red Osier Dogwood	- 0	TAUW	S		Orange Jewelwe	ed		1	TAUW	п
5.	Salix interior	35	FACW	Т		9. Rubus ideaus			1	FAC	Н
	Sandbar Willow				╢┝	American Red R	aspberry				
6.	Alnus incana	15	FACW	Т		10. Carex lacustris	adaa		1	OBL	Н
	Speckled Alder Non-Dominant Species	%	Indicator	Stratum	╢┝	Common Lake S	edge				
	Matteuccia struthiopteris	70	Indicator			11 Elymus repens					
1.	Ostrich Fern	10	FAC	Н		11. Quack Grass		·····•	1	FACU	Н
	Glechoma hederacea				╢┝	Taxacum officin	ale				
2.	Ground Ivy	5	FACU	Н		12. Common Dande			1	FACU	Н
	Carex pensylvanica				╢┝	Acer accharum					
3.	Pennsylvania Sedge	5	NI	Н		13. Sugar Maple			8	FACU	Т
	Schoenoplectus fluviatilis		0.71								
4.	River Clubrush	— 4	OBL	Н		14.		•••••			
	Domin	ance Test	% of dom	inant spec	cjec	s (all strata) that are (	BL. FACW and	d/o	r FAC?		66%
	Prevalence Index Worksh			munt spec			ohytic Vegetation				
Tet					D	ominance Test is >50%	myue vegetation		X YES	1	NO
					Pı	revalence Index is < or =3			YES		NO
	L species: 1					Iorphological Adaptation ata in Remarks or on a se		ng	YES	5	NO
FA	CW species: 2					roblematic Hydrophytic	•	1)	YES		NO
FA	C species: 3			*1	ndie	ators of hydric soil and wetla	nd hydrology must be r	rec	ent unless di	isturbed or v	roblematic
FA	CU species: 4				autta	and s of nyme is son and wella	na nyarology must be p	P1 C3	unit, unitess u	istan ocu on p	a obrematic.
UP	L species: 5					Hydrop	hytic <b>Veg</b> etatio	on	Present	?	
то	TAL (A): TOTAL (B):						(Yes)No				
Pre	valence						-				
Ind	ex (B/A):				1	1					
				, i i i i i i i i i i i i i i i i i i i	lro	ology					
	Recorded Data	(descr	ibe in remar								
	Stream, lake, or tide gauge			Aerial	10	Moni	oring well		Other:		
	No Recorded Data Av	vailahla	I	photograph	15						
	Growing Season Dates/Days:	vallable									
	Stowing Season Dates Days.		(To evaluat	te hydrologi	ic da	ata from stream gauges/g.	w. wells)				
	Field Observations:			,		00, 8.	,				
	Surface water present? Yes	No X	Dept		,	Water in well? Ye	s No			epth	
			(inche		_					ches)	
	Water table present? Yes X	No	Deptl (inche	1.5		Saturation Present? Ye	s X No			epth ches)	6
		·	(inche		- '	1 100011t:	<u> </u>		(111		

			Wet	tland Hydro	ology Iı	ndicators:						
Primary In	ndicators: (1 or me	ore required, check all th	at apply)				Secon	dary In	dicato	<b>rs</b> : (2 or mo	ore requ	uired)
	Surface Water (A	,	A	Aquatic Fauna (B	13)					acks (B6) ms (B10)		
	High Water Table	e (A2)	N	Marl Deposits (B	15)			U		es (B16)		
Х	Saturation (A3)		H	Hydrogen Sulfide	Odor (C1	)	Х	Dry-Sea	ison Wa	ater Table (C	2)	
Remarks	Sparsely Vegetate	s (B2) 3) st (B4)	— Р Б П Т У	Dxidized Rhizosp Presence of Redu Recent Iron Redu Fhin Muck Surfa Water-Stained Le Dther (Explain in	ced Iron (( ction in Ti ce (C7) aves (B9)	lled Soils (C6)		Stunted Geomor Shallow Microto FAC-Ne <b>FAC-N</b>	on Visil or Stres phic Pc Aquita pograpl cutral T <b>Jeutra</b>	ble on Aerial ssed Plants (1 osition (D2) ard (D3) hic Relief (D	D1) 4)	
			-			ator, or confirm the abse	ence of ind	icators)				
1ap Unit Nar	me (Series & hase)	):		Drainage Class	3:				Perm	eability:		
Taxonomy (S	Subgroup):			Field Observat	tions Con	firm Mapped Type?				YES		NO
	Mat						Feature					
Depth (Inches)	Texture	% Matrix Color (G= Gleyed)		Color	%	Type <sup>1</sup> (C,D,RM, CS)	-	cation <sup>2</sup> L, M)		Rema	ırks	

10YR 5/6

Х

Х

Permeability

Note: According the 1987 Corp Wetlands Delineation Manual, wetland hydrology criteria are met if soil is saturated within the major portion of the root zone of the prevalent vegetation. The root zone is usually defined to be <12 inches. We define the major portion as < to 50% or < 6 inches. Estimating the saturated capillary fringe to be SPD = 2" and PD, VPD = 12", the depth of water table required to result in saturation in the major portion of the root zone can be calculated below.

YES

YES

YES

Type<sup>1</sup> C=concentration D=depletion RM=reduced matrix CS=coated sand grains Location<sup>2</sup>: PL=Pore Lining M=Matrix

Thick Dark Surface (A12)

Coast Prairie Redox (A16)\*

Sandy Mucky Mineral (S1)

Sandy Gleyed Matrix (S4)

Sandy Redox (S5) Mesic Spodic (TA6)\*

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

Note: The 1987 Corps Wetland Delineation Manual requires that greater than 50% of all dominant species be OBL, FACW, or FAC.

The 1989 Manual requires saturation to the surface defined by a water table at 6-18" below surface depending on the soil type.

Drainage Class

5 cm Mucky Peat or Peat (S3)\*

2

С

Stripped Matrix (S6)

Polyvalue Below Surface (S8)\*

Thin Dark Surface (S9)\*

Loamy Mucky Mineral (F1)

Loamy Gleyed Matrix (F2)

Red Parent Material (TF2)\*

NO

NO

NO

Capillary Fringe +6"=W.T. Depth Criteria

Dark Surface (S7)\*

PL

High organic, mucky

Mucky

Indicators for Problematic Hydric Soils\*

Depleted Matrix (F3)

Redox Dark Surface (F6)

Redox Depressions (F8)

Depleted Dark Surface (F7)

Other (Explain in Remarks)

Iron-Manganese Masses (F12)\*

Piedmont Floodplain Soils (F19)\*

Very Shallow Dark Surface (TF12)\*

10YR 3/3

10YR 2/2

10YR 2/1

0-5

5-16

16-20

**Remarks:** 

Soil Type

Sand

Sand

Sand

**Hydric Soils Indicators:** 

Histosol (A1)

Histic Epipedon (A2)

Hydrogen Sulfide (A4)

Stratified Layers (A5)

Depleted Below Dark Surface (A11)

SPD=6", PD & VPD at <6"/hr =18', at ≥6"/hr = 12".

2 cm Muck (A10)\*

Wetland Vegetation Present?

Wetland Hydrology Present?

Wetland Soils Present?

Black Histic (A3)

100

98

100

Note: A wetland restoration site (man-induced wetland) is considered a disturbed (atypical) situation in the 1987 Corp Wetlands Delineation Manual. Soil indicators are often not reliable indicators since they reflect pre-restoration conditions rather than post-restoration conditions. In accordance with the 1987 Manual, in such cases where necessary, a wetland determination can be made based on the presence of hydrophytic vegetation and wetland hydrology if there is documented evidence that the wetland resulted from human activities.										
				Wetla	nd Type:					
Duration Met?	X YES	NO	М		RPE					
If all 3 parameters are met, are they or would they normally be present during a	significant portion of the grow	ving season?	SS	X	RPF					
			WS		BOG					
Is This Plot a Wetland?	X YES	NO	SM		AB					
Plot ID:			DM							

Wetland Determination
## Routine Wetland Delineation Data Form

117						009 Northeast & Northcentral Supplement)							
	Wetland Site:1560-31-00/71, USH 63 Cumberland – Spooner, Woodyard Rd to CTH B (East) Date: 7/23/2013												
	licant/Owner: WisDOT	Jamala II	hast			County: Washburn							
Investigator(s): Erin Dethloff and Derek Huebsch     State: WI       Normal climatic conditions on     V													
site typical for this time of year? Yes X				Do	"normal c	ircumstances" exist on the site? X YES NO							
Transect #:			I	Is th	ne site sign	nificantly disturbed (Atypical Situation)? X YES NO							
Plot #: Up Plot 151						tentially naturally problematic? YES X NO							
Plot Description: STA 868+00 – 869+00 LT Type of atypical or problem area (soils (vegetatio), hydrology)? mowed													
				51		etation							
Dom	inant species are the most abundant	species in	each st	tratum that su		of total dominance measure. Any additional species comprising 20% of total							
domi	inance measure are also dominant.	Non-domii	nant sp	ecies used if	dominant	species are equal in number.							
Stra		dius plot fo				<b>S</b> ) <3" dbh, >3.2' tall, & Woody Vines ( <b>V</b> )							
Dominant Species			%	Indicator	Stratum	Non-Dominant Species%IndicatorStratum							
1.	Securgia varia Crown Vetch		20	NI	Н	1.     Rubus ideaus       American Red Raspberry     5   FAC H							
2.	<i>Elymus repens</i> Quack Grass		15	FACU	Н	2.     Ranunculus hispidus Bristly Buttercup     3     FAC     H							
3.	Salix interior		5	FACW	Т	3 Phleum pratense 1 FACU H							
4.	Sandbar Willow					J.     Common Timothy Grass     1     FACU     H       4.     Agrostis gigantea     1     FACW     H							
<del>ч</del> . 5.						Red Top Grass       5       Bromus inermis       1							
						Smooth Brome Grass							
6.						6.							
7.						7.							
8.						8.							
9.						9							
10.						10							
	D	ominance	Test:	% of domi	nant spec	ties (all strata) that are OBL, FACW, and/or FAC? 33%							
	Prevalence Index W	orksheet:				Hydrophytic Vegetation Indicators							
Total % Cover of: Multiply By:				Dominance Test is >50%YESNO									
OB	L species: 1			Prevalence Index is < or =3.01 YES NO Morphological Adaptations* (Provide supporting YES NO									
FACW species: 2				data in Remarks or on a separate sheet)									
·				Problematic Hydrophytic Vegetation1 (Explain) YES NO									
					*Iı	dicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.							
	CU species: 4					Hadronback- W							
UPL species: 5				Hydrophytic Vegetation Present?									
Pre	TAL (A): TOTAL (B) valence	:		Yes(No)									
Ind	ex (B/A):				Hvd	rology							
	<b>Recorded Data</b>		(descri	ibe in remark	ě	<u></u>							
	Stream, lake, or tide ga	lige			erial	Monitoring well Other:							
				p	hotograph								
	No Recorded Da Growing Season Dates/Days:	ta Availa	ble										
	Field Observations:					c data from stream gauges/g.w. wells)							
Surface water present? Yes No			Х	(inches)		Water in well?     Yes     No     X     Depth (inches)							
Water table present? Yes No		No	Х	Depth (inches		Saturation     Yes     No     X     Depth (inches)							
Der	Remarks:												
кеп	narks:												

				Wetland Hydr	ology In	dicators:						
Primary	Indicators: (1 or	r more re	quired, check all that ap	ply)	01		Secondary Inc	dicators: (2	or more required)			
-	Surface Water (A1) High Water Table (A2)				Aquatic Fauna (B13) Marl Deposits (B15)				Surface Soil Cracks (B6) Drainage Patterns (B10)			
					·		Moss Trim Lines (B16)					
-	Saturation (A3	,	-	Hydrogen Sulfid		<b>D</b> (C2)	Dry-Season Water Table (C2)					
-	Water Marks ( Sediment Dep	· /	-	Oxidized Rhizos	lving Roots (C3)	Crayfish Burrows (C8) Saturation Visible on Aerial (C9)						
	Drift Deposits	(B3)	-	Presence of Redu		Stunted or Stressed Plants (D1)						
	Algal Mat or O Iron Deposits		-	Recent Iron Redu Thin Muck Surfa	led Soils (C6)		Geomorphic Position (D2) Shallow Aquitard (D3)					
-	1	· /	erial Imagery (B7)	Water-Stained Le			Microtopographic Relief (D4)					
_			cave Surface (B8)	Other (Explain in	. ,		FAC-Neutral Test (D5)					
								eutral Test				
Remark	<b>KS:</b>											
			Soils (Describe to dep	th needed to decumen	t the indicet	or or confirm the sha	maa af indiaatara)					
Mon Unit N	lame (Series & h		or, or confirm the abse									
-		ase).		Drainage Clas		imm Monned Tume?	Permeability: YES NO					
Taxonomy	(Subgroup):	1 a 4		Field Observa	tions Conf	irm Mapped Type?	<b>F</b> aa4aa	YES	S NO			
Depth		<b>Iatrix</b>	Matrix Color			Type <sup>1</sup>	Features Location <sup>2</sup>		<b>D</b>			
(Inches)	Texture	%	(G= Gleyed)	Color	%	(C,D,RM, CS)	(PL, M)		Remarks			
0-20	Sand 60 5YR 4/4		5YR 4/4					30% clay, 10% gravel				
Type <sup>1</sup> C=	concentration D=	depletion	RM=reduced matrix CS	S=coated sand grain	s Locatio	n <sup>2</sup> : PL=Pore Lining	M=Matrix	-				
Hydric S	oils Indicators	:					Indicators fo	r Problema	atic Hydric Soils*			
	stosol (A1)		Thick Dark Su			ped Matrix (S6)		eted Matrix				
	stic Epipedon (A2)		Coast Prairie F	· · · · ·		Surface (S7)*		x Dark Surfa				
	ick Histic (A3) drogen Sulfide (A4)	)	Sandy Mucky 5 cm Mucky P	eat or Peat (S3)*		value Below Surface (S Dark Surface (S9)*	8)* Depleted Dark Surface (F7) Redox Depressions (F8)					
Stra	atified Layers (A5)		Sandy Gleyed	Matrix (S4)		ny Mucky Mineral (F1	Iron-Manganese Masses (F12)*					
	m Muck (A10)* pleted Below Dark Si	urface (A1	I) Sandy Redox ( Mesic Spodic	· · · · · · · · · · · · · · · · · · ·		ny Gleyed Matrix (F2) Parent Material (TF2)*	Piedmont Floodplain Soils (F19)* Very Shallow Dark Surface (TF12)*					
			and wetland hydrology m			· · · · ·	Other (Explain in Remarks)					
Remarks:												
				Wetland D	otormin	ation						
				Wettallu D								
Wetland V	Vegetation Present	?		YES		X NO						
Note: The 1	987 Corps Wetland De	elineation M	anual requires that greater than	50% of all dominant spec	eies be OBL, F	ACW, or FAC.						
Wetland I	Hydrology Present?	?		YES		X NO						
prevalent ve	egetation . The root zon	ne is usually	neation Manual, wetland hydro defined to be $\leq 12$ inches. We depth of water table required to	define the major portion	as $\leq$ to 50% of	$r \le 6$ inches. Estimating the	ne saturated capillary					
fringe to be SPD = 2" and PD, VPD = 12", the depth of water table required to result in saturation in the major portion of the root zone can be calculated below. Soil Type Drainage Class Permeability Capillary Fringe +6"=W.T. Depth Criteria												
	Ianual requires saturation D & VPD at <6"/hr =1		face defined by a water table at $= 12$ ".	t 6-18" below surface dep	ending on the	soil type.						
	Soils Present?			YES		X NO						
they reflect	pre-restoration condition	ions rather t	ed wetland) is considered a dist han post-restoration conditions nd hydrology if there is docum	. In accordance with the	1987 Manual	, in such cases where nece						
	_						Wetland Type:					
Duration			4	YES	4h		M		RPE			
If all 3 para	meters are met, are the	ey or would	they normally be present durin	g a significant portion of	the growing s	eason?	SS		RPF			
				<b>—</b>			WS		BOG			
	ot a Wetland? Plot ID:			YES		X NO	SM DM		AB			

## **Appendix C**

Photos































