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Prepared for:
Dairyland Power Cooperative
La Crosse, Wisconsin

Prepared by:
AECOM
Sheboygan, Wisconsin
60280210
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Wetland Delineation, Stream Survey, and Natural Heritage Inventory Habitat Survey Report

Dairyland Power Cooperative
Briggs Road Substation to La Crosse Tap (Q-1D South) 161 kV Rebuild Project
La Crosse County, Wisconsin

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1.0 Introduction and Purpose

The Dairyland Power Cooperative (DPC) Briggs Road Substation to La Crosse Tap 161 kilovolt (kV) Rebuild (Q-1D South) Project corridor extends from the Briggs Road Substation along Briggs Road to the La Crosse Tap along Keil Coulee Road in La Crosse County, Wisconsin. The surveyed Project corridor consists of existing transmission line right-of-way (ROW). The Project location is shown in **Figure 1**.

This report summarizes the results of the wetland delineation, stream survey, and Natural Heritage Inventory (NHI) habitat survey completed by AECOM in May 2013 for the Project corridor. The information enclosed in this report presents Project information including location, topography, hydrology, background sources, and the results of AECOM's wetland delineation, stream survey, and NHI habitat survey along the Project corridor. Wetlands were delineated and mapped based on the presence of the three mandatory technical criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) outlined in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0 August 2010).

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2.0 Site Background Information

2.1 Topography, Soil and Hydrology

The Project corridor is located in the Lower Black River watershed within the Black, Buffalo, Trempealeau Basin and the Lower La Crosse River watershed within the Bad Axe La Crosse Basin. Both watersheds are located within Wisconsin's unglaciated, driftless region, characterized deep valleys and flat-topped narrow ridges. Soils consist of silt loam and sandy loam over sandstone and highly eroded dolomite. Soils are moderately to poorly drained with low to moderate permeability. In valleys and along waterways, soils may contain heavy clay from glacial meltwater. Sandy, well drained soils are found in northern portions of the Project corridor.

2.2 Background Sources

Background information from agency documents and private sources, where available, was collected and reviewed as a part of this investigation. This material provided a first screening as to the known or possible existence of wetlands along the Project corridor. The documents reviewed included:

- U. S. Geologic Survey (USGS) 7.5-Minute Topographic Quadrangle Maps (USGS 2010)
- Web Soil Survey of La Crosse County, Wisconsin, http://websoilsurvey.nrcs.usda.gov (U. S. Department of Agriculture/Natural Resource Conservation Service (USDA/NRCS) 2013)
- Hydric Soils List for La Crosse County, Wisconsin (USDA/NRCS, 1995)

The USGS topographic map (**Figure** 1) shows that the Project corridor lies within both developed and undeveloped areas. Developed areas of the Project corridor are comprised of both residential and commercial land uses. Undeveloped areas of the Project corridor include the La Crosse River valley and isolated forested areas. Terrain throughout the Project corridor ranges from steep slopes near the northern and southern extents to relatively flat topography within the Onalaska city limits

According to the Soil Survey of La Crosse County, there are 32 soil units mapped along the Project corridor. These soil units are summarized in **Table 1**. One of the mapped soil units is classified as a hydric component and two of the mapped soil units are classified as having hydric soil inclusions. The hydric component soil is Ettrick silt loam (629A) and the mapped soils with hydric inclusions include Orion silt loam (628A) and Scotah loamy fine sand (656A). The Soil Survey map units are shown in **Figure 2** and the Hydric Soils List for La Crosse County is included in **Appendix A**.

Current Wisconsin Wetland Inventory (WWI) data is not available for La Crosse County; therefore it was not reviewed for this Project.

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3.0 Field Survey

3.1 Wetland Criteria

Jurisdictional wetland criteria are based upon the vegetation, soils, and hydrology criteria outlined in the USACE Wetland Delineation Manual (herein referred to as "the 1987 Manual") and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0, August 2010).

3.1.1 Hydrophytic Vegetation

Hydrophytic vegetation is defined as "The sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present" (1987 Manual). Hydrophytic species, due to structural, physiological, and/or reproductive adaptations have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions (1987 Manual).

The hydrophytic vegetation criterion for a wetland is met when more than 50 percent of the dominant plant species present at a given site are obligate, facultative wetland, or facultative species according to the regional plant list published by the USACE (Lichvar and Kartesc 2009)[1]. A semi-quantitative (routine determination) or quantitative (comprehensive determination) estimate is made of the dominant plant species in each vegetative stratum (herb, woody vine, shrub/sapling, and tree). A wetland boundary is determined based on the percentage of hydrophytic (wetland) species versus upland species identified during the on-site investigation. The indicator status of the vegetation, as listed in USACE National Wetland Plant List (NWPL 2012), is used to determine if the dominant species are hydrophytic or upland species.

3.1.2 Hydrophytic Soils

A hydric soil is defined as a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper portion of the soil (USDA 1987). Soil is considered to be hydric when criteria developed by the National Technical Committee for Hydric Soils are met. These criteria are based on soil type, soil drainage characteristics, water table levels, and frequency of flooding. Accepted field indicators (e.g., soil color, presence and color of mottles, etc.) are typically considered to determine if technical criteria are met.

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[1] *Robert W. Lichvar and John T. Kartesz. 2009. North American Digital Flora: National Wetland Plant List, version 2.4.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BONAP, Chapel Hill, NC. (May 2012)*

3.1.3 Wetland Hydrology

Wetland hydrology is defined as permanent or periodic inundation or prolonged soil saturation sufficient to create anaerobic conditions in the soil (the 1987 Manual). Because this criterion is the least exact and most difficult to assess in the field, weather data, season of the year, and field observation of hydrologic indicators (e.g., water-stained leaves, high-water marks, saturated or ponded soils, etc.) are used to determine whether or not the wetland hydrology criterion is satisfied.

3.2 Field Reconnaissance Methodology

3.2.1 Wetland Delineation

On May 13-16th and 20-21st, 2013, two AECOM scientists conducted field surveys along the Project corridor. Wetland areas were delineated by evaluating whether the three mandatory criteria of hydrophytic vegetation, hydric soils, and wetland hydrology were present. The study area consists of a 100-foot-wide corridor.

The vegetation was assessed to determine the dominant species in the tree, shrub, and herbaceous vegetation strata. The percentage of areal cover was visually estimated for each species at the suspect location. Hydrophytic vegetation boundaries were identified to aid in locating the approximate upland/wetland boundary, which was based on the percentage of hydrophytic plant species versus upland plant species. Vegetation information was recorded on USACE Data Forms that are included in **Appendix B**.

The presence or absence of hydric soils was assessed by observing soil cores taken at each wetland/upland plot. Soil descriptions were completed at each plot location using Munsell soil color charts, and addressing USDA soil texture, moisture content, and special features. Soil plot locations were selected by examining local topographical characteristics, as well as the extent of dominant hydrophytic vegetation. Soil conditions and hydric soil indicators were recorded on USACE Data Forms for each wetland area identified.

Wetland hydrology was determined through observation of saturated soil conditions and evaluation of surficial hydrologic indicators. Typical surface hydrologic indicators may include standing water, water-stained leaves, drift lines, and high-water marks. Hydrology information was recorded on USACE Data Forms.

Wetland functional values were assessed by completing the Wisconsin Department of Natural Resources (WDNR) form entitled “Rapid Assessment Methodologies for Determining Wetland Functional Values.” The forms (summary pages only) are included in **Appendix C**. Photographs of the wetland areas were taken at various locations and are included in **Appendix D**.

The approximate wetland/upland boundaries were surveyed using a Trimble GeoXH® Global Positioning System (GPS) which is listed as having sub-meter accuracy. The information collected with the GPS unit was downloaded into an ArcMap GIS map document, which was used to create the maps in this report.

3.2.2 Stream Survey

Waterway locations along the Project corridor were surveyed by recording approximate stream width, bank height, water depth, substrate type, and surrounding land use. Photographs of the streams were taken at various locations and are included in **Appendix D**.

3.2.3 Habitat Survey

During the site reconnaissance, a meandering survey method was used to investigate existing habitats throughout the Project corridor. Natural habitats were classified according to the WDNR Natural Heritage Inventory (NHI) Natural Community Classification (September 2002 Revision). Photographs of the habitat areas were taken at various locations and are included in **Appendix D**.

3.3 Results

3.3.1 Wetland Delineation

Six wetland areas were identified during the field reconnaissance. The six wetland areas were delineated according to the 1987 Manual. Wetland locations and soil core plot locations are shown in **Figure 2**. The following paragraphs describe the areas delineated as jurisdictional wetlands. **Table 2** presents a summary of additional data collected in the field.

Wetland W-1 is a wet meadow located north of the residential development along Eastbrook Drive and south of the Walsh Golf Center. Wetland W-1 is dominated by reed canary grass (*Phalaris arundinacea* - FACW) and American manna grass (*Glyceria grandis* – OBL). Wetland hydrology was evidenced by high water table, saturation, water-stained leaves, drainage patterns, and geomorphic position. Wetland criteria were met in this area due to the dominance of hydrophytic vegetation, positive wetland hydrology indicators, and the presence of hydric soils. Wetland W-1 was evaluated to have medium wetland functional values and is shown on **Figure 2, Sheet Map 11.**

Wetland W-2 is a large wet meadow and shallow marsh wetland complex associated with the La Crosse River. It is bounded on the south by a pedestrian path, parallel to and south of the Canadian Pacific Railway, and on the north by the Valley View Mall Shopping Center. W-2 is adjacent to the La Crosse River (S-4) and a tributary thereof (S-3). Along the Project corridor, the wetland is dominated by reed canary grass with small populations of sandbar willow (*Salix interior* – FACW), honeysuckle (*Lonicera tartarica* – FACU), river birch (*Betula nigra* – FACW), green ash (*Fraxinus pennsylvanica* – FACW), Eastern cottonwood (*Populus deltoides* – FAC), and box elder (*Acer negundo* – FAC). Wetland hydrology was evidenced by saturation, water-stained leaves, oxidized rhizospheres on living roots, drainage patterns, and geomorphic position. Wetland criteria were met in this area due to the dominance of hydrophytic vegetation, positive wetland hydrology indicators, and the presence of hydric soils. Wetland W-2 was evaluated to have medium wetland functional values and is shown on **Figure 2, Sheet Maps 10 and 11.**

Wetlands W-3, W-4, and W-5 are stormwater basins associated with residential communities and commercial development adjacent to the Project corridor. These areas were called out as wetland for the purpose of the land use survey, but are not jurisdictional. According to NR 103.05(4) (a), “Sedimentation and stormwater detention basins and associated conveyance features operated and maintained only for sediment detention and flood storage purposes” are exempt from regulation.

3.3.1.1 Isolated/Non-Isolated Jurisdictional Wetland Determination

AECOM evaluated the jurisdictional wetlands associated with this Project pursuant to the Supreme Court’s January 9, 2001, decision in Solid Waste Agency of Northern Cook County vs. USACE (herein referred to as the “SWANCC decision”) and the Supreme Court’s June 19, 2006 decision in Rapanos vs. United States and Carabell vs. United States (herein referred to as “Rapanos”). The SWANCC decision states that Section 404 of the Clean Water Act (CWA §404) does not apply to isolated, non-

navigable, wholly intrastate waters, where the only connection between the water body (or wetland) and interstate commerce is the use of the water as habitat for migratory birds. The Rapanos decision states that the agencies will decide jurisdiction over non-navigable tributaries and their adjacent wetlands based on a fact-specific analysis to determine if there is a significant nexus with traditional navigable waters. A significant nexus analysis will assess all hydrological and ecological functions of the tributary and its adjacent wetlands to determine their effects on downstream traditional navigable waters.

The characteristics of the wetlands associated with this Project were evaluated based on the following factors: 1) a "navigable water" as defined by Federal law; 2) an interstate water; 3) a tributary system to 1 or 2; 4) a wetland adjacent to navigable water; and 5) an impoundment to any of the above.

AECOM has evaluated the characteristics of the jurisdictional wetlands associated with this Project and has concluded that both W-1 and W-2 (**Figure 2, Sheet Maps 10 and 11**) are likely to be non-isolated, and as a result jurisdictional, because of their proximity to the La Crosse River. These wetlands would be crossed by the Project within the exiting transmission ROW.

Based on this evaluation, AECOM recommends that a Section 404 Department of Army Permit is required to discharge dredged and/or fill material into the non-isolated wetlands. Water quality certification under Section 401 of the Clean Water Act is also required for these impacts in accordance with USACE regulations. In Wisconsin, discharge of fill into an isolated wetland required Water Quality Certification from the WDNR and Wisconsin Administrative Code (WAC) NR103.

The conclusions presented herein are the opinion of AECOM. The final authority over wetland jurisdiction is the responsibility of the appropriate State and Federal agencies.

3.3.2 Stream Survey

Twelve streams were identified during the field reconnaissance. Stream locations are shown on **Figure 2**. **Table 3** presents the data collected at the 9 stream locations within the Project corridor.

Stream S-1 is an unnamed tributary (UNT) to the La Crosse River. The land use adjacent to Waterway S-1 is primarily agricultural. The channel is approximately 10 feet wide with 5 foot, moderately eroded banks. This channel has a silt substrate and no water was flowing water at the time of the field survey. Waterway S-1 is classified as an intermittent stream on the WDNR Designated Waters map. S-1 is shown on **Figure 2, Sheet Map 12**.

Stream S-2 is also an UNT to the La Crosse River. The area adjacent to S-2 includes residential development to the south and adjacent wetland (W-1). The channel is approximately 6 feet wide with 3 foot banks. The channel has a silt substrate and no flowing water was observed at the time of the field survey. Stream S-2 is not classified on the WDNR Designated Waters map. S-2 is shown on **Figure 2, Sheet Map 11**.

Stream S-3 is also an UNT to the La Crosse River. The land use adjacent to Stream S-3 includes a golf course, pedestrian path, and railroad corridor on the south end and a large wetland complex to the north (W-2). The channel is approximately 6 feet wide with 3 foot banks. Stream S-3 has a silt substrate and 1 foot of flowing water was observed at the time of the field survey. Stream S-3 is classified as a perennial stream on the WDNR Designated Waters map. S-3 is shown on **Figure 2, Sheet Map 11.**

Stream S-4 is identified as the La Crosse River. Land use adjacent to the La Crosse River within the Project corridor consists of a large wetland complex (W-2). Wetlands within the complex include wet meadow and shallow marsh habitats. Stream S-4 is approximately 50 feet wide with 3 foot banks and a silt substrate. Approximately 8 feet of water was flowing at the time of the field survey. Stream S-4 is classified as an Area of Special Natural Resource Interest (ASNRI) for Endangered, Threatened, or Special Concern species on the WDNR Designated Waters map. S-4 is shown on **Figure 2**, **Sheet Map 10**.

Stream S-5 is another UNT to the La Crosse River and appears to have been excavated and/or dredged. The land use adjacent to Stream S-5 includes grassland, forested floodplain, and old field habitat. The channel is approximately 9 feet wide with a 4 foot bank height and a silt substrate. Two feet of flowing water was observed at the time of the field survey. Stream S-5 is not classified on the WDNR Designated Waters map. S-5 is shown on **Figure 2, Sheet Map 10.**

Stream S-6 is an unnamed waterway that is channelized along the north edge of the Interstate 90 ditch. The land use adjacent to Waterway S-6 includes old field, and commercial and residential development. The channel is approximately 15 feet wide with 2-3 foot, moderately eroded banks. This channel has a silt substrate and approximately 0.2 feet of water was flowing water at the time of the field survey. Stream S-6 is not classified on the WDNR Designated Waters map. S-6 is shown on **Figure 2, Sheet Map 9**.

Stream S-7 is identified as Halfway Creek. The land use adjacent to Stream S-7 includes old field habitat, roadway, and agricultural practice. The channel is approximately 12 feet wide with 4 foot banks. Stream S-7 has a silt substrate and 2 feet of flowing water was observed at the time of the field survey. Stream S-7 is classified as a perennial stream on the WDNR Designated Waters map. S-7 is shown on **Figure 2**, **Sheet Map 2**.

Stream S-8 is an open water feature associated with the Interstate 53 off ramp. Land use adjacent to S-8 includes old field in highway right-of-way and roadway. S-8 is not classified on the WDNR Designated Waters map. S-8 is shown on **Figure 2, Sheet Map 7**.

Stream S-9 is an unnamed stream located east of County Highway XX. The land use adjacent to Stream S-9 includes Southern Mesic Forest upland habitat. The channel is approximately 8 feet wide with a 4 foot bank height and a sand substrate. One foot of flowing water was observed at the time of the field survey. Stream S-9 is classified as an intermittent and ASNRI stream for Endangered, Threatened, or Special Concern species on the WDNR Designated Waters map. S-9 is shown on **Figure 2, Sheet Map 3**.

3.3.3 Habitat Survey

During the field reconnaissance, AECOM field biologists identified and classified upland and wetland habitats within the Project corridor. The majority of the Project corridor consists of residential, commercial, and industrial development near and within the Onalaska city limits. Large wetland complexes associated with the La Crosse River as well as smaller wetlands along the Project corridor were identified as potential NHI habitat. Fragments of forested and un-forested (grassland) upland habitat were also recorded as potential NHI habitat. A total of five wetland habitats, and 38 upland habitats were identified within the Project corridor. NHI habitats include the La Crosse River and associated wet prairie and emergent aquatic habitats, mesic prairie, sand prairie, dry prairie, southern dry-mesic forest, southern dry forest, and southern mesic forest. A habitat summary is provided in **Table 4**. Upland and wetland habitats are shown on the sheet maps in **Figure 2**.

AECOM recommends that the habitat data in this report be cross-referenced with an official WDNR NHI Endangered Resources review to assess the potential for protected species to exist within the Project corridor.

4.0 Summary

In summary, the Project corridor spans from the Briggs Road Substation to the La Crosse Tap in La Crosse County, Wisconsin. The Project corridor consists of existing transmission line right-of-way ROW and developed residential, commercial, and industrial areas as well as undeveloped natural habitat along the Project corridor.

Field surveys were completed along the Project corridor on May 13-16th and 20-21st, 2013. Five wetlands were delineated and 9 waterways were identified within the Project corridor. The wetland boundaries were delineated and mapped based on the three mandatory technical criteria outlined in the 1987 Manual and Midwest Regional Supplement. The wetlands are classified as having low to medium wetland functional values based on size, biological diversity, and landscape position. Two wetlands (W-1 and W-2) are likely to be non-isolated jurisdictional wetlands in accordance with the SWANCC decision. These wetlands are located within the Project corridor along the exiting transmission line ROW. Wetlands W-3, W-4, and W-5 are stormwater basins and not considered jurisdictional according to NR 103.05 (4) (a).

AECOM recommends that a Section 404 Department of Army Permit application be submitted for a permit to discharge dredged and/or fill material into wetlands W-1 and W-2 and for temporary impacts relating to the use of construction mats within the wetland areas. Water quality certification under Section 401 of the Clean Water Act is also required for these impacts in accordance with USACE and WDNR regulations.

Nine waterways were examined to evaluate stream width, bank height, water depth, substrate type, and surrounding land use. All nine of these waterways are located within the Project corridor along the existing transmission ROW (**Table 3**).

AECOM recommends coordination with WDNR Bureau of Energy, Transportation, and Environmental Analysis (BETEA) that is responsible for coordinating the review and permitting of energy and utility projects in the state. The installation of new utility facilities, or maintenance of existing utility facilities, in or adjacent to navigable waters or wetlands often require permits from the WDNR. The Utility General Permit (WDNR-GP3-2013) covers the placement of structures on the bed or bridges across navigable waters, and the placement of fill in wetlands for utility projects that meet all of the eligibility criteria and permit conditions.

Additionally, 38 upland habitats and 8 NHI community types were classified within the Project corridor. They include the La Crosse River and associated wet prairie and emergent aquatic habitats, mesic prairie, sand prairie, dry prairie, southern dry-mesic forest, southern dry forest, and southern mesic forest. AECOM recommends that the habitat data in this report be cross-referenced with an official WDNR NHI Endangered Resources review to assess the potential for protected species to exist within the Project corridor.

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Tables

Table 1 - Soil Summary

Mapping Unit Symbol	Soil Mapping Unit	Hydric Soil Rating
2013	Pits, gravel	Non-hydric
2020	Urban land, valley trains	Non-hydric
2030	Udorthents and Udipsamments, cut or fill	Non-hydric
2050	Landfill	Non-hydric
116E2	Churchtown silt loam, 20 to 30 percent slopes, moderately eroded	Non-hydric
254E2	Norden silt loam, 20 to 30 percent slopes, moderately eroded	Non-hydric
743E2	Council fine sandy loam, 20 to 30 percent slopes, moderately eroded	Non-hydric
110D3	Timula silt loam, 12 to 30 percent slopes, severly eroded	Non-hydric
1145F	Gaphill- Rockbluff complex, 30 to 60 percent slopes	Non-hydric
115C2	Seaton silt loam, 6 to 12 percent slopes, moderately eroded	Non-hydric
115D2	Seaton silt loam, 12 to 20 percent slopes, moderately eroded	Non-hydric
126B	Barremills silt loam, 1 to 6 percent slopes	Non-hydric
1743F	Council-Elevasil-Norden complex, 30 to 60 percent slopes	Non-hydric
253D2	Greenridge silt laom, 12 to 20 percent slopes, moderately eroded	Non-hydric
312B2	Festina silt loam, 2 to 6 percent slopes, moderately eroded	Non-hydric
336A	Toddville silt loam, 0 to 3 percent slopes	Non-hydric
403A	Dakota silt loam, 0 to 3 percent slopes	Non-hydric
424F	Merit silt laom, 20 to 45 percent slopes	Non-hydric
434B	Bilson sandy loam, 1 to 6 percent slopes	Non-hydric
446A	Merimod silt loam, 0 to 3 percent slopes	Non-hydric
501A	Finchford loamy sand, 0 to 3 percent slopes	Non-hydric
502B2	Chelsea fine sand, 2 to 6 percent slopes, moderately eroded	Non-hydric
502C2	Chelsea fine sand, 6 to 15 percent slopes, moderately eroded	Non-hydric
511F	Plainfield sand, 15 to 60 percent slopes	Non-hydric
561F	Tarr sand, 15 to 60 percent slopes	Non-hydric
606A	Huntsville silt loam, 0 to 3 percent slopes, occasionally flooded	Non-hydric
628A	Orion silt loam, 0 to 3 percent slopes, occasionally flooded	Hydric Inclusion
629A	Ettrick silt loam, 0 to 2 percent slopes, frequently flooded	Hydric Component
656A	Scotah loamy fine sand, 0 to 3 percent slopes, occasionally flooded	Hydric Inclusion
676A	Kickapoo fine sandy loam, 0 to 3 percent slopes, occasionally flooded	Non-hydric
743C2	Council fine sandy loam, 6 to 12 percent slopes, moderately eroded	Non-hydric
W	Water	NA

Table 2: Wetland Summary

Wetland Area	Location	Soil Map Symbol	Soil Survey Description	Hydric Soil (Y/N)	Wetland Functional Values	Isolated/ Non-Isolated**	Nearest Waterbody(s)
W-1	S14 T16N R7W	628A 629A	Orion silt loam, 0-3 % slopes Ettrick silt loam, 0-2 % slopes	Y	Medium	Non-Isolated	Unknown Tributary to the La Crosse River
W-2	S (10, 11, 14, 15) T16N R7W	629A	Ettrick silt loam, 0-2 % slopes	Y	Medium	Non-Isolated	La Crosse River & Unnamed Tributaries to the La Crosse River
W-3	S32 T17N R7W	501A	Finchford loamy sand, 0-3 % slopes	N	Low	NA	Unknown
W-4	S32 T17N R7W	501A	Finchford loamy sand, 0-3 % slopes	N	Low	NA	Unknown
W-5	S32 T17N R7W	502B2	Chelsea fine sand, 2-6 % slopes, moderately eroded	N	Low	NA	Unknown

** - The conclusions presented herein are the opinion of AECOM. The final authority over wetland jurisdiction will need to be verified by the COE Regulatory Project Manager.

Table 3: Stream Summary

Waterway	Location	Stream Name	Approx. Width (ft)	Approx. Water Depth (ft)	Substrate Composition	Bank Height (ft)	Associated Wetland
S-1	S23 T16N R7W	UNT to the La Crosse River	10	0.0	Silt	5	None
S-2	S14 T16N R7W	UNT to the La Crosse River	6	0.0	Silt	3	W-1
S-3	S14 T16N R7W	UNT to the La Crosse River	6	1.0	Silt	3	W-2
S-4	S14 T16N R7W	La Crosse River	50	8.0	Silt	3	W-2
S-5	S10 T16N R7W	UNT to the La Crosse River	9	2.0	Silt	4	None
S-6	S(10,11) T16N R7W	Unnamed, Channelized along I-90	15	0.2	Silt	2-3	None
S-7	S18 T17N R7W	Halfway Creek	12	2.0	Silt	4	None
S-8	S4 T16N R7W	Unnamed, Retention pond at I-53 ramp	0	0.0	Unknown	0	None
S-9	S12 T17N R7W	Unnamed	8	1.0	Sand	4	None

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Table 4: Habitat Summary

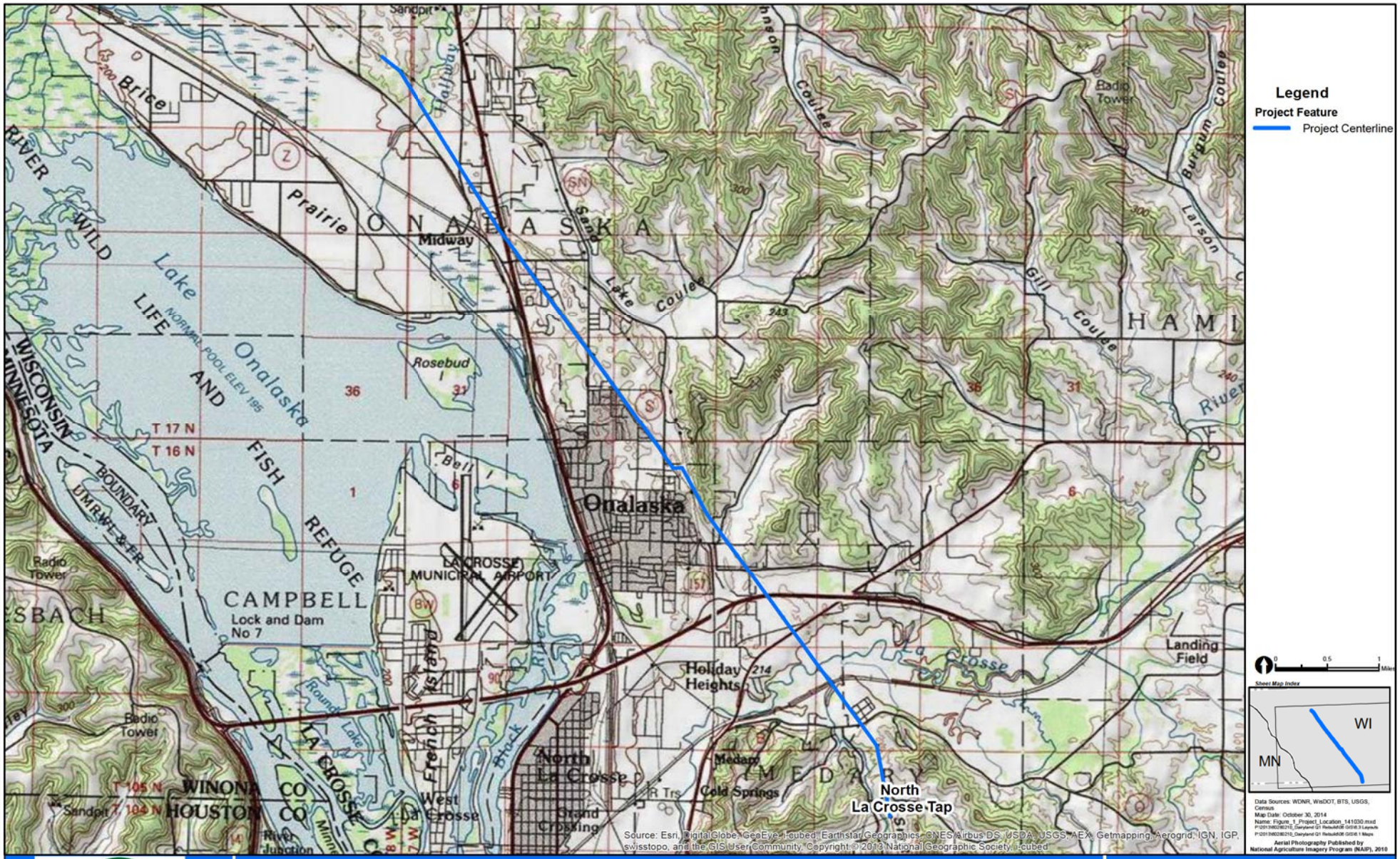
Habitat	WDNR NHI Classification (where applicable)	Alternative Habitat Description
W-1	Wet Prairie	Wet Meadow
W-2	Wet Prairie (RCG Dominated*) Emergent Aquatic	Wet Meadow Shallow Marsh
W-3	--	Stormwater Basin
W-4	--	Stormwater Basin
W-5	--	Stormwater Basin
G-1	Mesic Prairie	--
G-2	Sand Prairie	--
G-3	Dry Prairie	--
G-4	Dry Prairie	--
F-1	S. Dry-Mesic Forest	--
F-2	S. Dry-Mesic Forest	--
F-3	S. Dry-Mesic Forest	--
F-4	S. Dry Forest	--
F-5	S. Mesic Forest	--
O-1	--	Old Field
O-2	--	Old Field
O-3	--	Old Field
O-4	--	Old Field
O-5	--	Old Field
O-6	--	Old Field
O-7	--	Old Field
O-8	--	Old Field
O-9	--	Old Field
O-10	--	Old Field
O-11	--	Old Field
O-12	--	Old Field
0-13	--	Old Field
O-14	--	Old Field
O-15	--	Old Field
O-16	--	Old Field
O-17	--	Old Field
O-18	--	Old Field
O-19	--	Old Field
O-20	--	Old Field
O-21	--	Old Field
O-22	--	Old Field
O-23	--	Old Field
O-24	--	Old Field
O-25	--	Old Field
O-26	--	Old Field
O-27	--	Old Field
O-28	--	Old Field
O-29	--	Old Field

* RCG Dominated - Indicates habitat dominated by reed canary grass (Phalaris arundinacea)

Figures

Figure 1 Site Location Map (USGS Topographic Map)

Figure 2 Field Survey Detail Sheet Maps



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Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project

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Figure 1
Project Location Map (USGS Topo Map)
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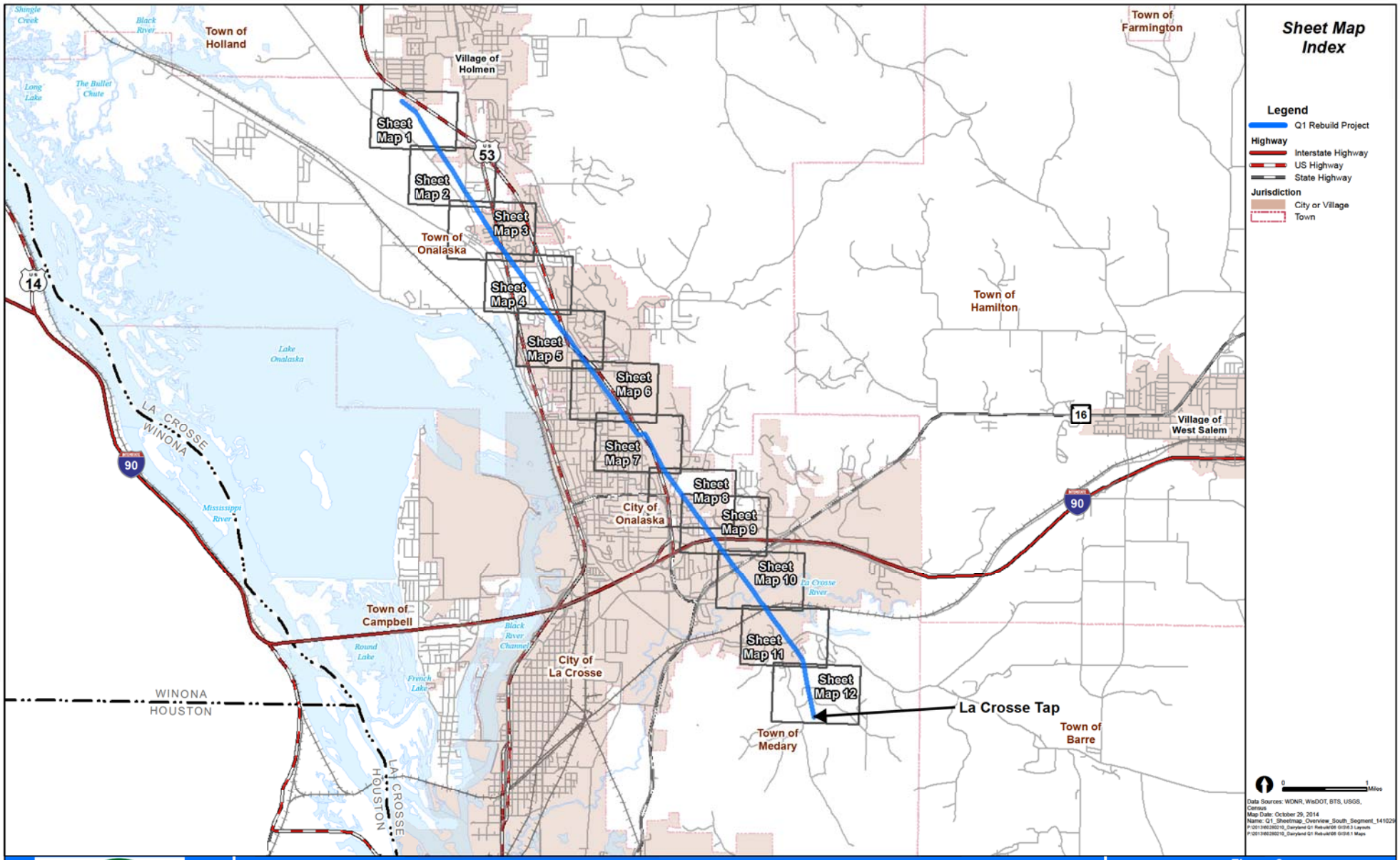

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Figure 2
Sheet Map Index
for Detailed Field Survey Maps
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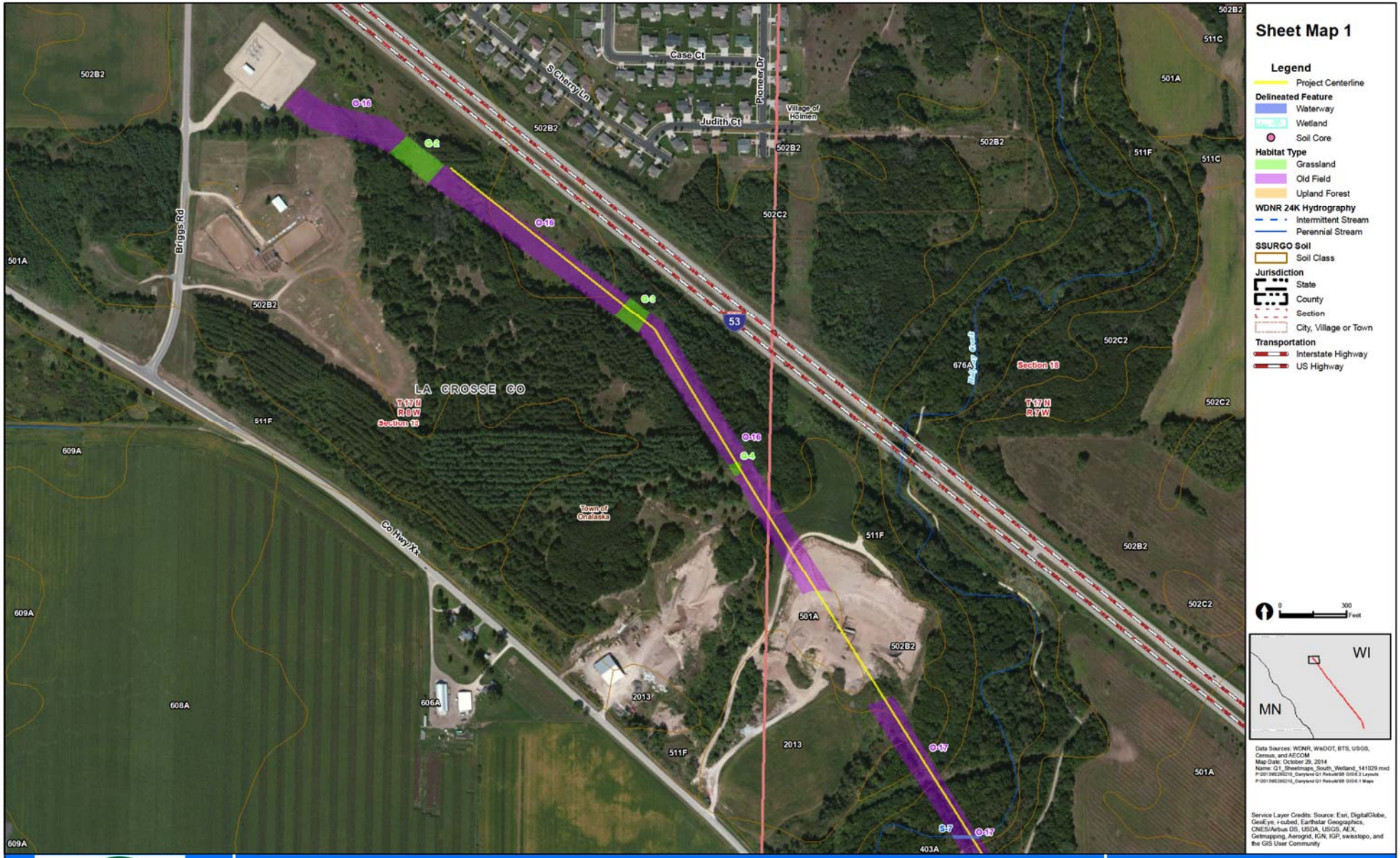

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Figure 2
Field Survey Detail Sheet Map
October 2014

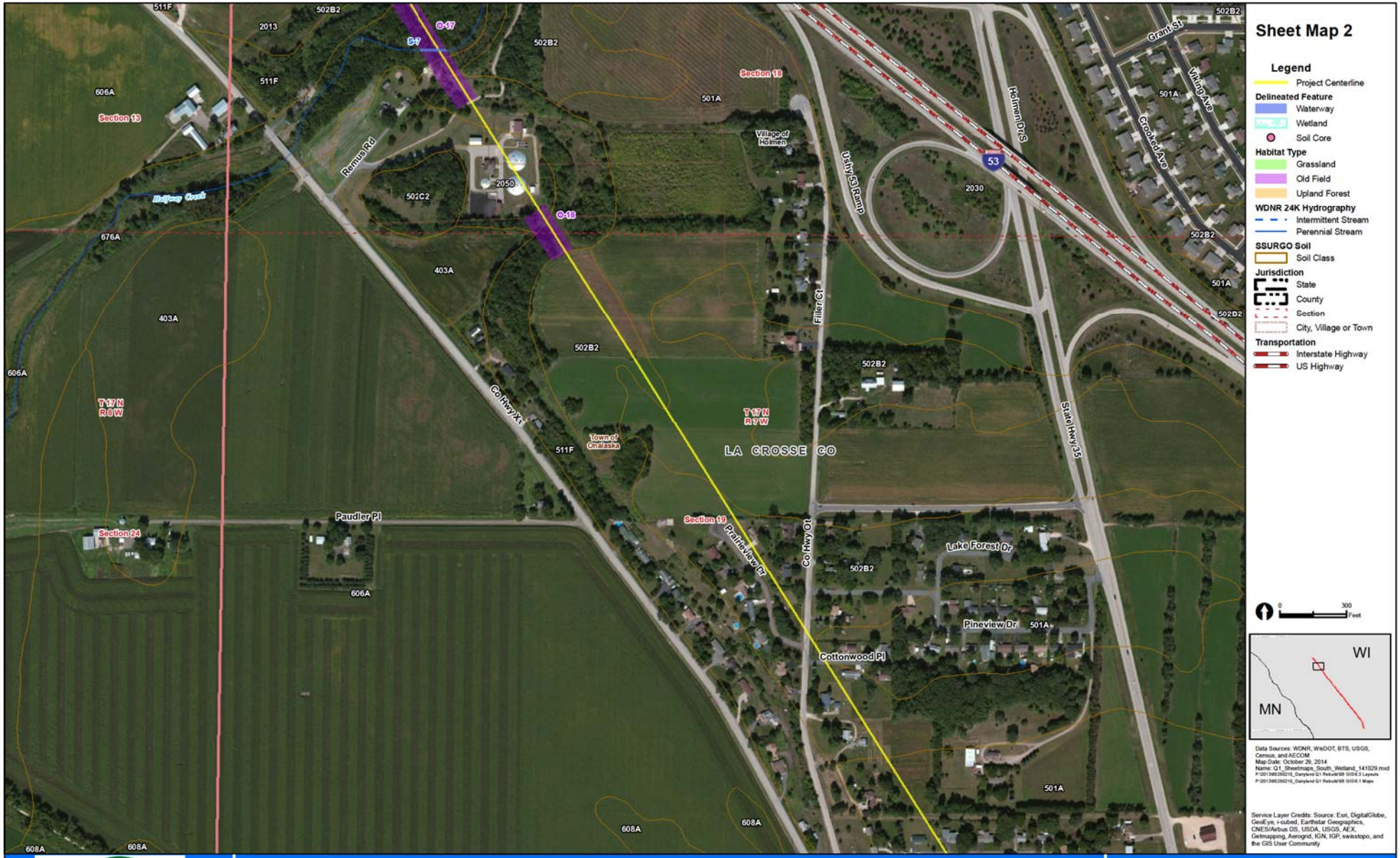

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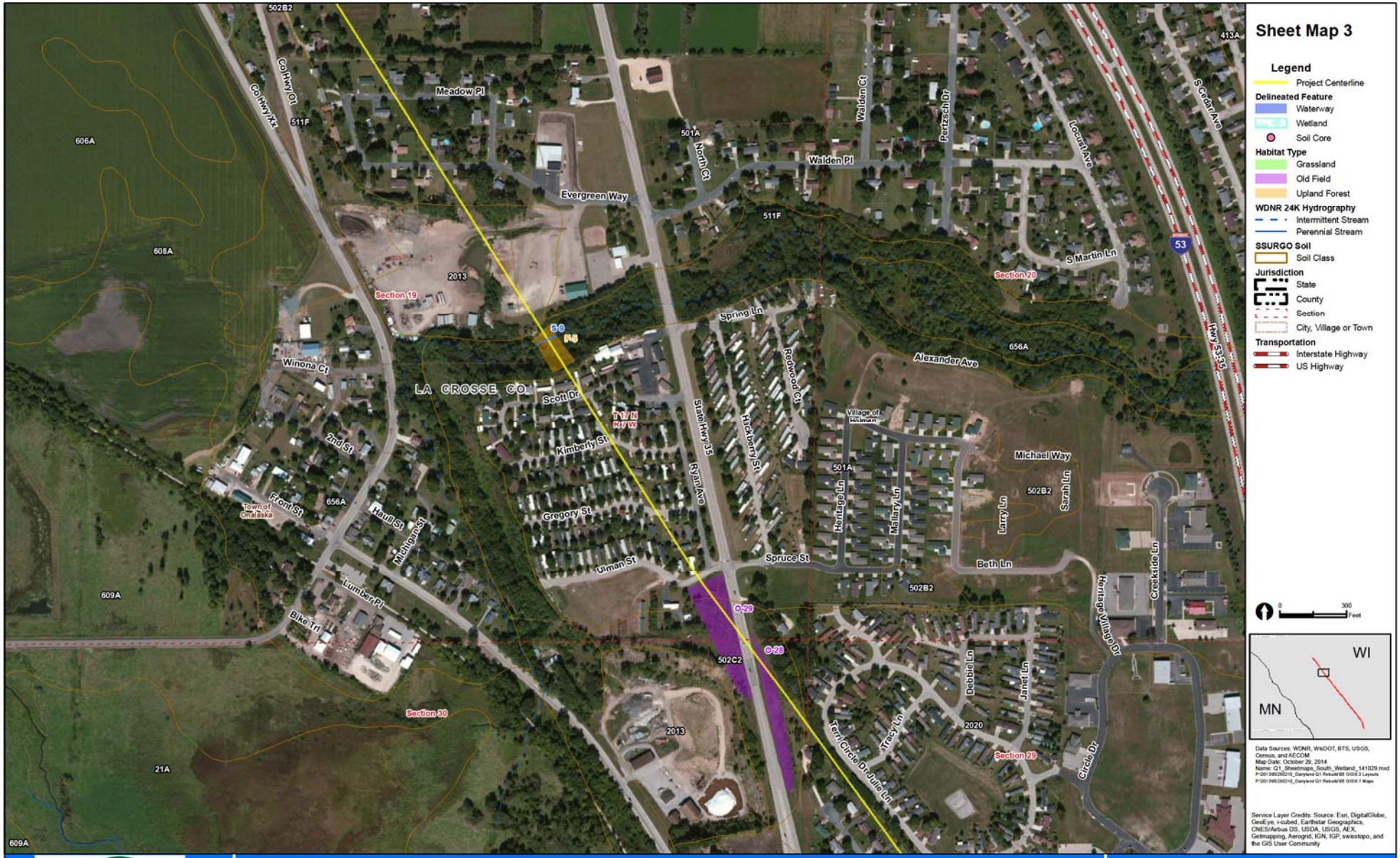
Figure 2
Field Survey Detail Sheet Map
October 2014



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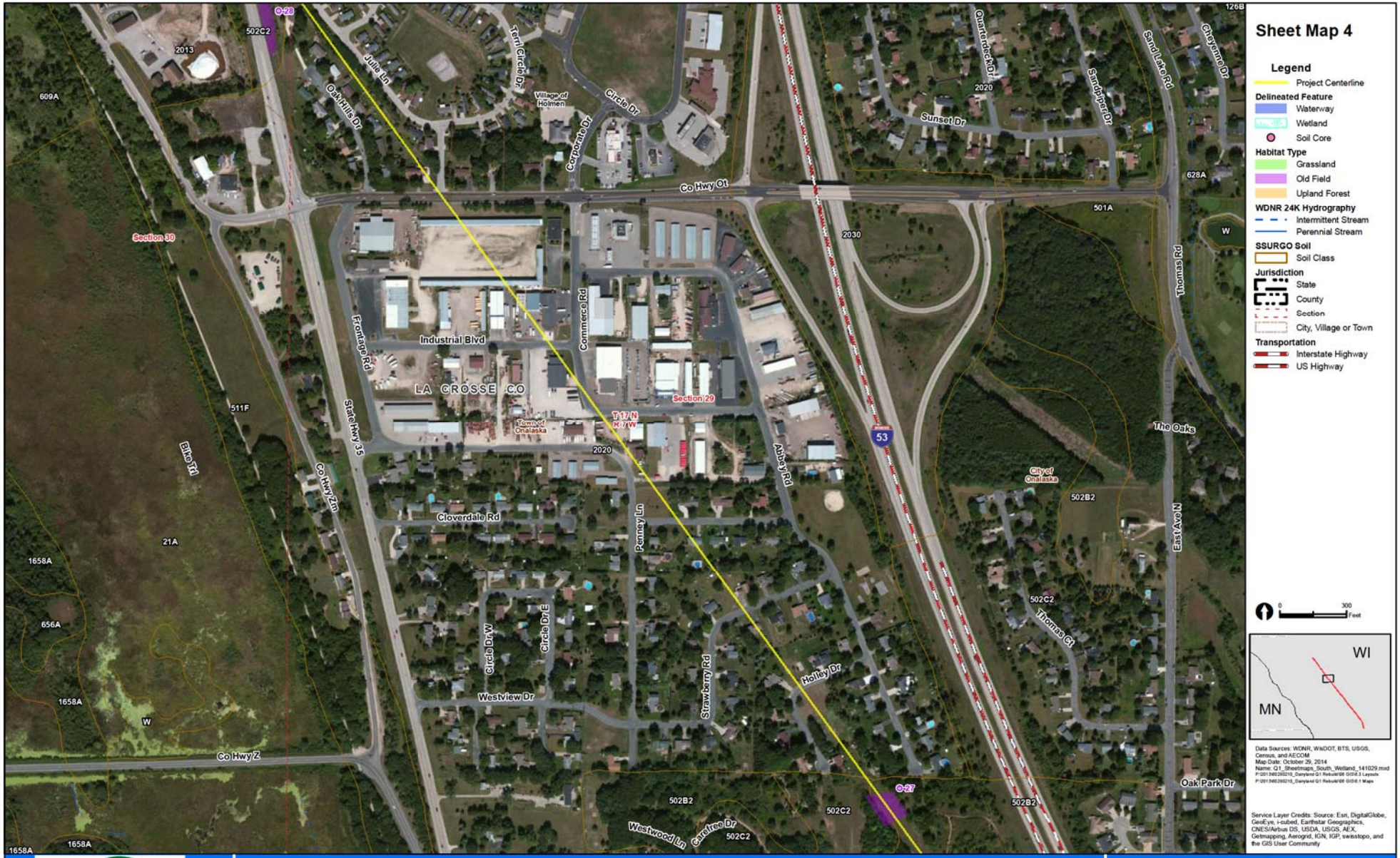

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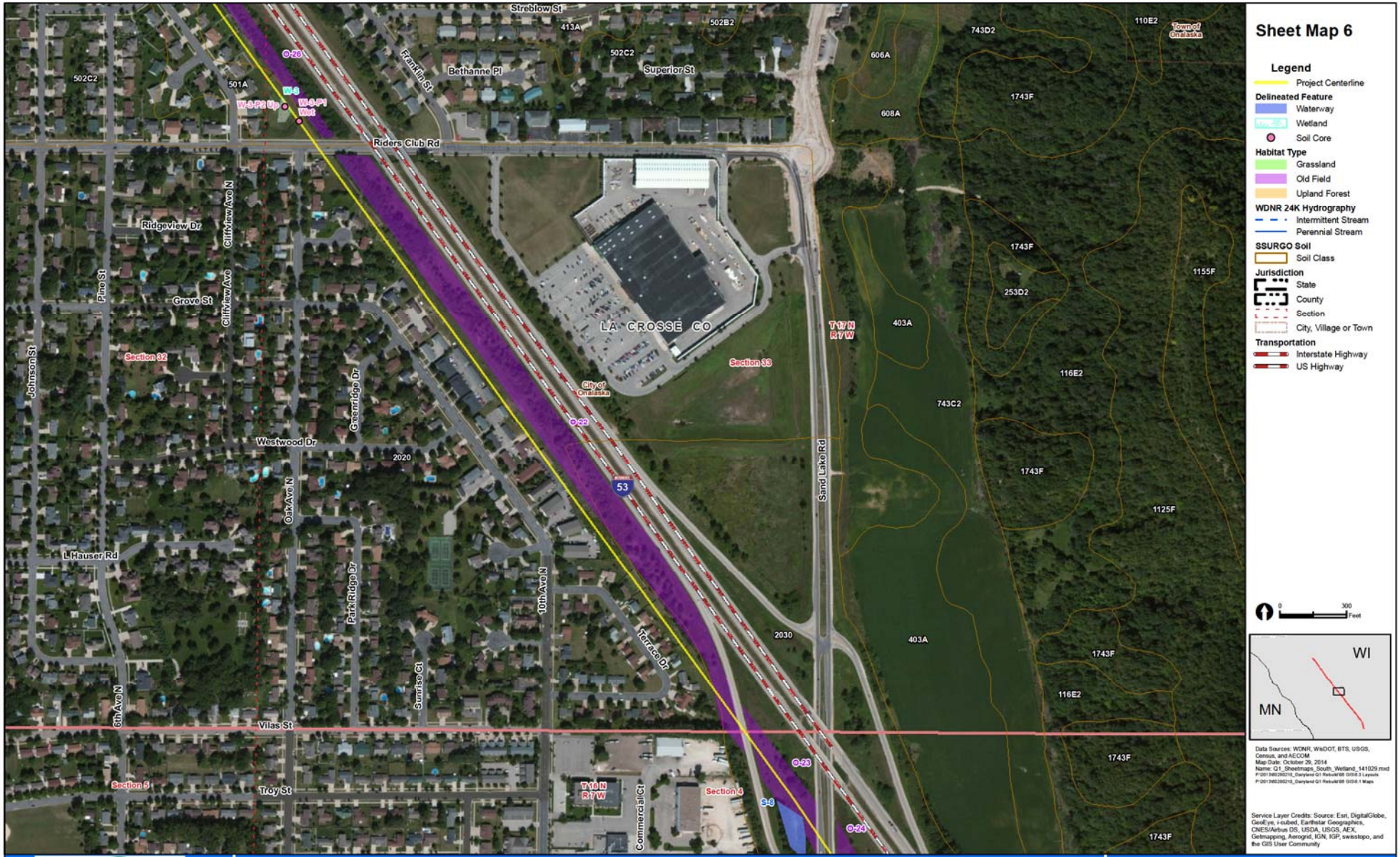

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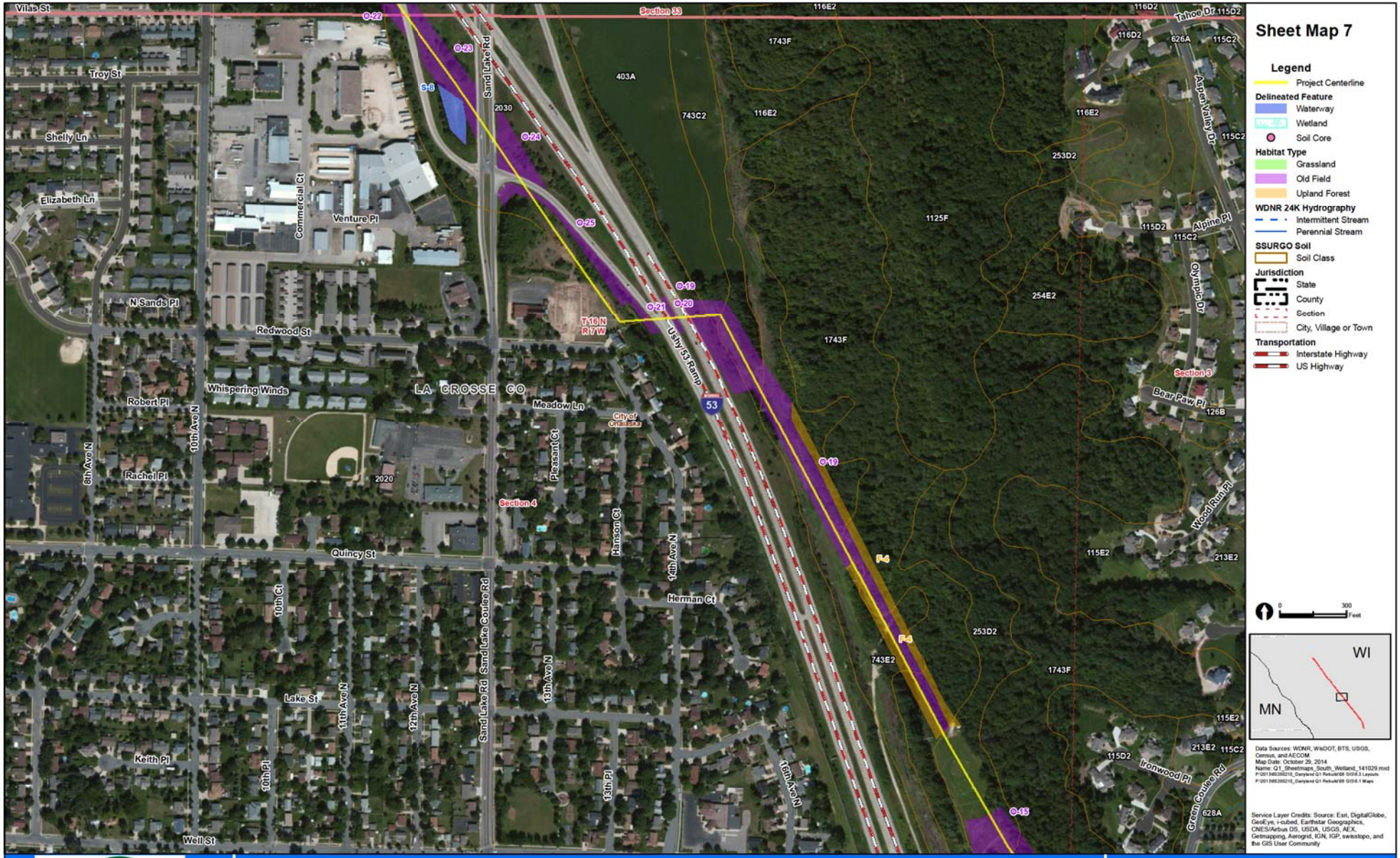

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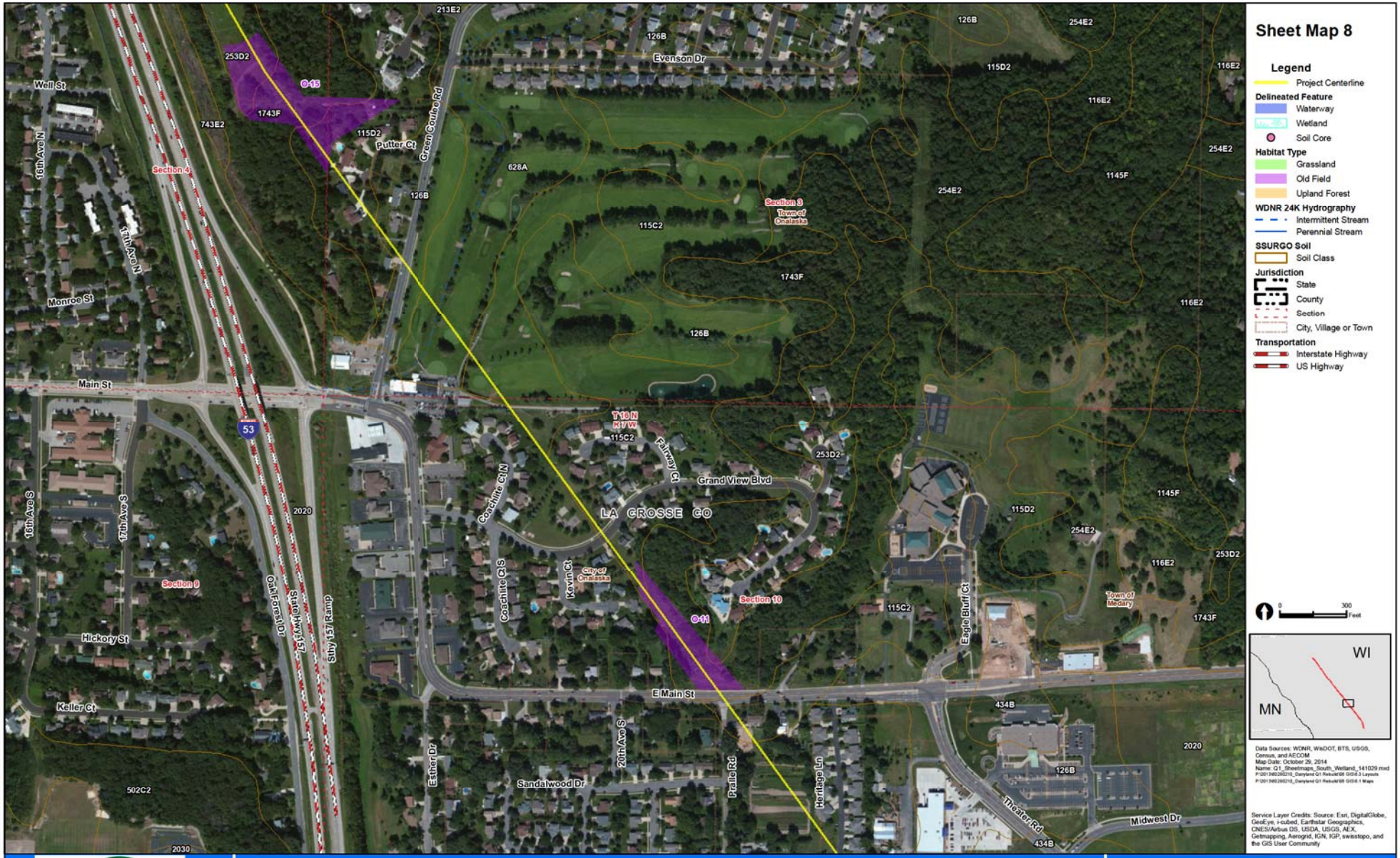

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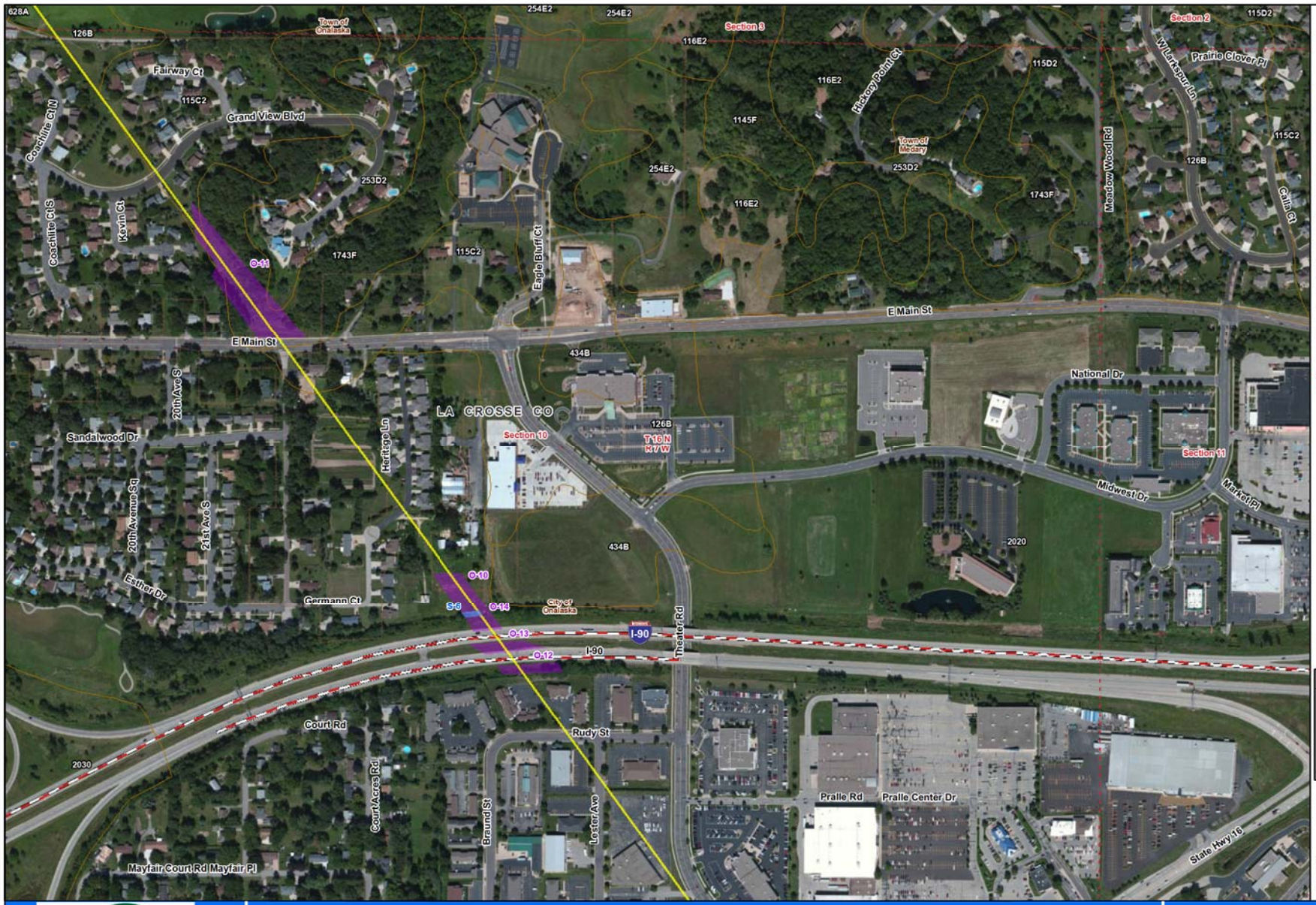

Sheet Map 9

Legend

- Project Centerline
- **Delineated Feature**
  - Waterway
  - Wetland
  - Soil Core
- **Habitat Type**
  - Grassland
  - Old Field
  - Upland Forest
- **WDNR 24K Hydrography**
  - Intermittent Stream
  - Perennial Stream
- **SSURGO Soil**
  - Soil Class
- **Jurisdiction**
  - State
  - County
  - Section
  - City, Village or Town
- **Transportation**
  - Interstate Highway
  - US Highway

0 300 Feet

WI
MN

Data Sources: WDNR, WisDOT, BTS, USGS, Census, and AECOM
Map Date: October 29, 2014
Name: Q1_Sheetmaps_South_Wetland_141029.mxd
P:\2013\60226210_Dairyland Q1 Rebuild\06 GIS\6.3 Layouts
P:\2013\60226210_Dairyland Q1 Rebuild\06 GIS\6.1 Maps

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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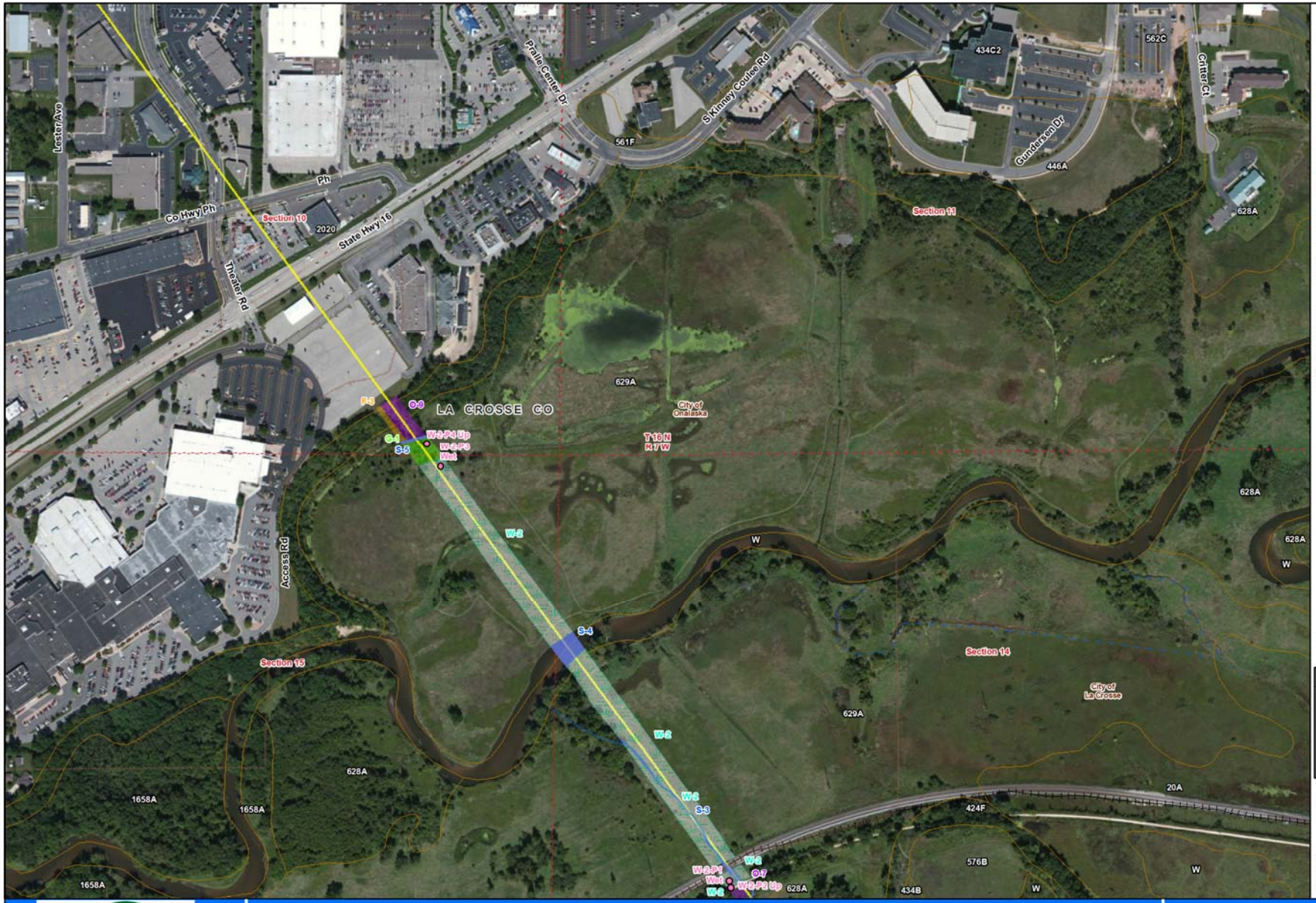

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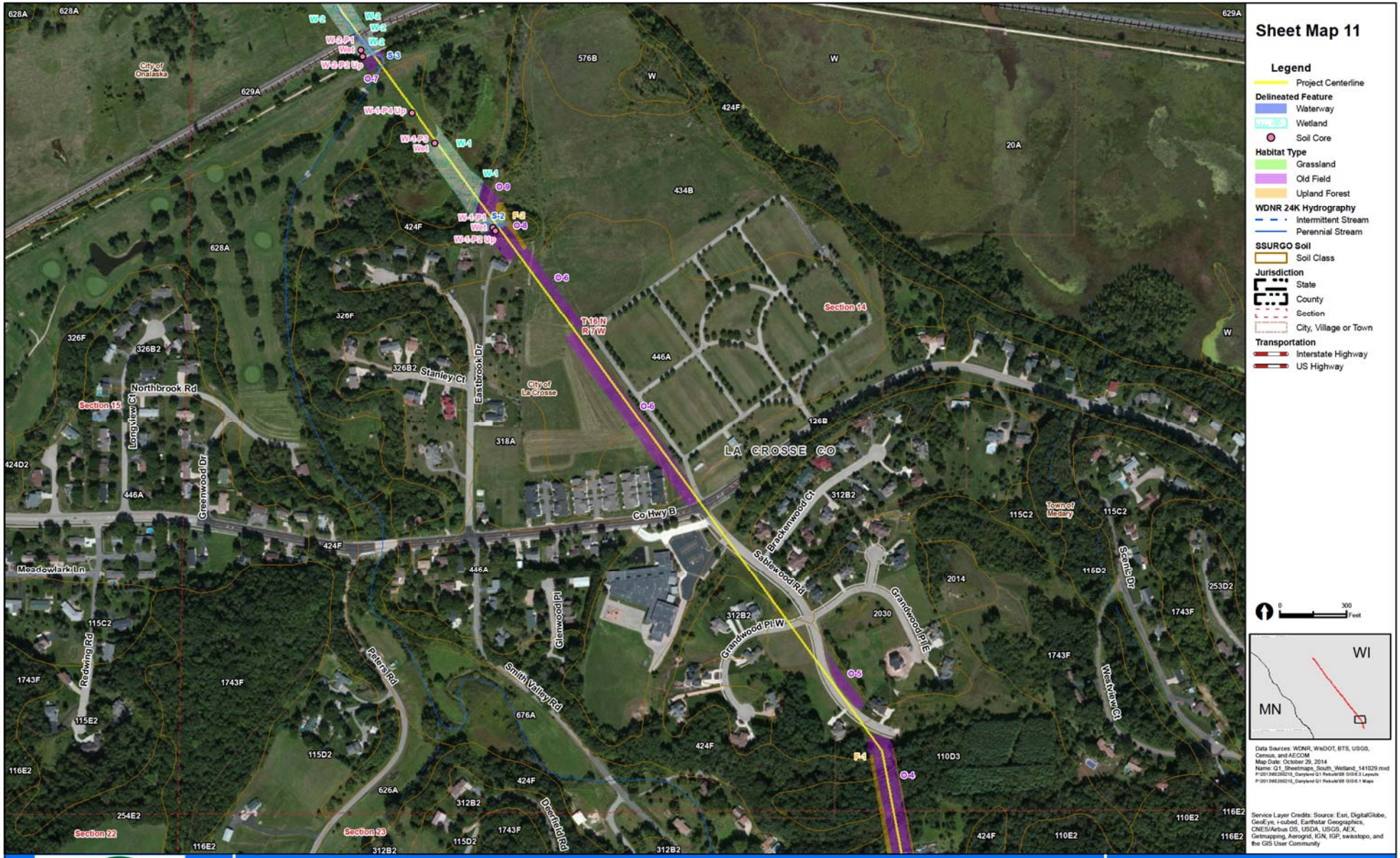

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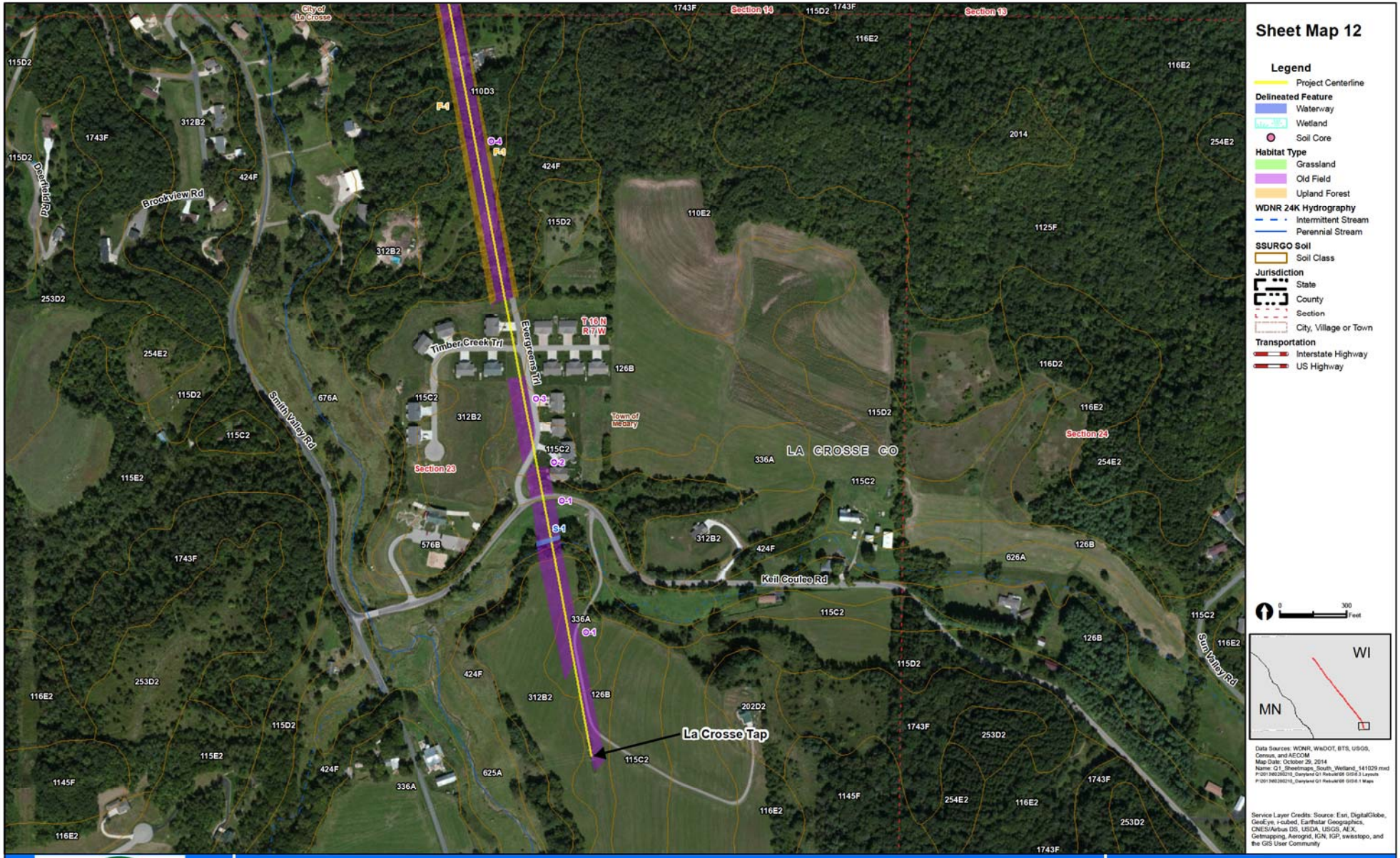

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Figure 2
Field Survey Detail Sheet Map
October 2014

Appendix A

La Crosse County Hydric Soil List

Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
   A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
   B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. September 18, 2002. Hydric soils of the United States.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

Report—Hydric Soils

Hydric Soils–La Crosse County, Wisconsin				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
20A—Palms and Houghton mucks, 0 to 1 percent slopes				
	Palms, ponded	45	Depressions on stream terraces	1, 3
	Houghton, ponded	44	Depressions on stream terraces	1, 3
	Ettrick	6	Flood plains	2
21A—Palms muck, 0 to 1 percent slopes, frequently flooded				
	Palms, frequently flooded	90	Backswamps on flood plains	1, 3, 4
	Ettrick	5	Flood plains	2
	Kalmarville	3	Overflow stream channels on flood plains, depressions on flood plains	2, 3, 4
318A—Bearpen silt loam, 0 to 3 percent slopes, rarely flooded				
	Ettrick	4	Flood plains	2
608A—Lawson silt loam, 0 to 3 percent slopes, occasionally flooded				
	Otter	3	Depressions on flood plains	2, 3
609A—Otter silt loam, 0 to 2 percent slopes, frequently flooded				
	Otter	93	Depressions on flood plains	2, 3
625A—Arenzville silt loam, channeled, 0 to 2 percent slopes, occasionally flooded				
	Ettrick	4	Drainageways on stream terraces	2
626A—Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded				
	Ettrick	2	Flood plains	2
628A—Orion silt loam, 0 to 3 percent slopes, occasionally flooded				
	Ettrick	3	Flood plains	2
629A—Ettrick silt loam, 0 to 2 percent slopes, frequently flooded				
	Ettrick	92	Flood plains	2
	Palms, frequently flooded	4	Backswamps on flood plains	1, 3, 4

Hydric Soils–La Crosse County, Wisconsin				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
656A—Scotah loamy fine sand, 0 to 3 percent slopes, occasionally flooded				
	Algansee	4	Flats on flood plains	4
	Kalmarville	3	Overflow stream channels on flood plains, depressions on flood plains	2, 3, 4
	Riverwash	1	Flood plains	4
1658A—Algansee-Kalmarville complex, 0 to 3 percent slopes, frequently flooded				
	Algansee	55	Flats on flood plains	4
	Kalmarville	30	Overflow stream channels on flood plains, depressions on flood plains	2, 3, 4
	Palms, frequently flooded	4	Backswamps on flood plains	1, 3, 4
	Northbend	2	Flats on flood plains	4
	Markey, frequently flooded	2	Backswamps on flood plains	1, 3, 4
	Riverwash	2	Flood plains	4

Data Source Information

Soil Survey Area: La Crosse County, Wisconsin
Survey Area Data: Version 12, Dec 24, 2013

Appendix B

USACE Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/14/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-1-S1-Wet

Investigator(s): Sarah Majerus & Julie Christiansen (AECOM) | Section, Township, Range: Sec 14 T16N R7W

Landform (hillslope, terrace, etc.): Drainage terrace | Local relief (concave, convex, none): Concave to flat

Slope (%): 0-2 | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 628A (Orion silt loam, 0-3% slopes, occasionally flooded) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil X, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	f yes, optional wetland site ID:	W-1

Remarks: (Explain alternative procedures here or in a separate report.)

Soil core was observed at the base of a steep grade associated with a drainage feature.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1 *Acer negundo*	10	Y	FAC
2 *Lonicera tatarica*	5	Y	FACU
3			
4			
5			
	15	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Phalaris arundinacea*	100	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	10	x 3 =	30	
FACU species	5	x 4 =	20	
UPL species	0	x 5 =	0	
Column totals	115	(A)	250	(B)

Prevalence Index = B/A = 2.17

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? Y

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

Dominated by reed canary grass and ash leaf maple.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-1-S1-Wet

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-7	10YR 3/2	100					Sandy loam	
7-18	7.5YR 4/4	90	5YR 5/8	10	C	M	Sand	Moist

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- X Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Soils do not meet any of the NTCHS hydric soil indicators, however the soil core was observed within an active floodplain which is likely to be inundated for long periods of time. Due to the geomorphic position and presence of redox concentrations in the high-chroma subsoils, it is believed that this soil core should be classified as hydric but problematic (Soils with High-Chroma Subsoils).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/14/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-1-S2-Up

Investigator(s): Sarah Majerus & Julie Christiansen (AECOM) | Section, Township, Range: Sec 14 T16N R7W

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): None

Slope (%): 5-7% | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 628A (Orion silt loam, 0-3% slopes, occasionally flooded) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N		
Hydric soil present?	N	**Is the sampled area within a wetland?**	N
Indicators of wetland hydrology present?	N	f yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

Soil core observed along steep grade abutting W-1 and adjacent to S-2.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1 *Lonicera tatarica*	20	Y	FACU
2			
3			
4			
5			
	20	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Phalaris arundinacea*	100	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column totals	120 (A)		280 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? Y

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

Dominated by reed canary grass and twinsisters honeysuckle.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-1-S2-Up

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR 2/2	100					Sandy loam	
4-20	10YR 4/4	90					Sandy clay loam	Moist

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ___	No X	Depth (inches): ___		
Water table present?	Yes ___	No X	Depth (inches): ___		
Saturation present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___		

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/14/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-1-S3-Wet

Investigator(s): Sarah Majerus & Julie Christiansen (AECOM) | Section, Township, Range: Sec 14 T16N R7W

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave

Slope (%): 0-1 | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 629A (Ettrick silt loam 0-2% slopes, frequently flooded) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	f yes, optional wetland site ID:	W-1

Remarks: (Explain alternative procedures here or in a separate report.)

Soil core observed in a depression adjacent to a golf course.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Glyceria grandis*	100	Y	OBL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	100	x 1 =	100	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column totals	100	(A)	100	(B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? Y

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

Dominated by American manna grass.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-1-S3-Wet

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-2	10YR 3/2	100					Silt loam	Wet
2-20	10YR 3/2	95	5YR 4/6	5	C	M	Silty clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	0
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	0

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/14/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-1-S4-Up

Investigator(s): Sarah Majerus & Julie Christianser (AECOM) | Section, Township, Range: Sec 14 T16N R7W

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None

Slope (%): 0-2 | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 629A (Ettrick silt loam 0-2% slopes, frequently flooded) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	N
Indicators of wetland hydrology present?	N	f yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

Soil core observed on golf course, along the edge of a fairway.

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Staus
Tree Stratum (Plot size: 30 ft. circle)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Poa sp.*	60	Y	unknown
2 *Festuca sp.*	20	Y	unknown
3 *Taraxacum officinale*	10	N	FACU
4 *Trifolium pratense*	10	N	FACU
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	20	x 4 =	80	
UPL species	0	x 5 =	0	
Column totals	20	(A)	80	(B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? N

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

Dominated by bluegrass and fescue.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-1-S4-Up

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR 3/2	100					Silty clay loam	
4-12	10YR 3/2	98	5YR 4/6	2	C	M	Clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ___	No	X	Depth (inches):	___
Water table present?	Yes ___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes ___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/14/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-2-S1-Wet

Investigator(s): Sarah Majerus & Julie Christiansen (AECOM) | Section, Township, Range: Sec 14 T16N R7W

Landform (hillslope, terrace, etc.): Drainage | Local relief (concave, convex, none): Concave

Slope (%): 0-2% | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 629A (Ettrick silt loam, 0-2% slopes, frequently flooded) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil X, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	f yes, optional wetland site ID:	W-2

Remarks: (Explain alternative procedures here or in a separate report.)

Soil core observed along S-2 between active railroad and bike trail ballasts.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Acer negundo*	10	Y	FAC
2			
3			
4			
5			
	10	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1 *Lonicera tatarica*	10	Y	FACU
2			
3			
4			
5			
	10	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Phalaris arundinacea*	90	Y	FACW
2 *Urtica dioica*	10	Y	FACW
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column totals	120 (A)		270 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? Y

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

Dominated by reed canary grass, twinsisters honeysuckle and ash leaf maple.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-2-S1-Wet

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR 2/1	100					Sandy loam	
4-10	10YR 4/4	100					Sand	
10-18	7.5YR 3/3	90	5YR 3/4	10	C	M	Loam	With seams of sand (4-10) &
								black organics (10YR 2/1)

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Soils do not meet any of the NTCHS hydric soil indicators, however the soil core was observed within an active floodplain which is likely to be inundated for long periods of time. Due to the geomorphic position and presence of redox concentrations in the high-chroma subsoils, it is believed that this soil core should be classified as hydric but problematic (Soils with High-Chroma Subsoils). Railroad and bike trail construction may also provide disturbance.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ___	No X	Depth (inches): ___		
Water table present?	Yes ___	No X	Depth (inches): ___		
Saturation present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___		

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/14/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-2-S2-Up

Investigator(s): Sarah Majerus & Julie Christianser (AECOM) | Section, Township, Range: Sec 14 T16N R7W

Landform (hillslope, terrace, etc.): Hillsope | Local relief (concave, convex, none): Convex

Slope (%): 3-5 % | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 629A (Ettrick silt loam, 0-2% slopes, frequently flooded) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N		
Hydric soil present?	N	**Is the sampled area within a wetland?**	N
Indicators of wetland hydrology present?	N	f yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

Soil core observed between old railroad/trail ballast and active railroad near S-3 bridge crossings.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1 *Lonicera tatarica*	20	Y	FACU
2			
3			
4			
5			
	20	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Festuca sp.*	30	Y	unknown
2 *Phalaris arundinacea*	30	Y	FACW
3 *Saponaria officinalis*	15	N	FACU
4 *Glechoma hederacea*	10	N	FACU
5 *Achillea millefolium*	10	N	FACU
6 *Verbascum thapsus*	5	N	UPL
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	30	x 2 =	60	
FAC species	0	x 3 =	0	
FACU species	55	x 4 =	220	
UPL species	5	x 5 =	25	
Column totals	90	(A)	305	(B)

Prevalence Index = B/A = 3.39

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

___ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

Dominated by reed canary grass, fescue, and twinflower honeysuckle.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL **Sampling Point:** W-2-S2-Up

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-2	10YR 2/1	100					Sandy loam	
2 +	Refusal at rock							

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Very Shallow Dark Surface (TF12)
___ Other (explain in remarks)

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

Restrictive Layer (if observed):
Type: Rock
Depth (inches): 2"

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ True Aquatic Plants (B14)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ___	No X	Depth (inches): ___		
Water table present?	Yes ___	No X	Depth (inches): ___		
Saturation present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___		

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/14/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-2-S3-Wet

Investigator(s): Sarah Majerus & Julie Christiansen (AECOM) | Section, Township, Range: Sec 14 T16N R7W

Landform (hillslope, terrace, etc.): Depression/floodplain | Local relief (concave, convex, none): Concave to flat

Slope (%): 0% | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 629A (Ettrick silt loam, 0-2% slopes, frequently flooded) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	W-2

Remarks: (Explain alternative procedures here or in a separate report.)

Soil core was observed in floodplain along the LaCrosse River.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Betula nigra*	15	Y	FACW
2 *Fraxinus pennsylvanica*	5	Y	FACW
3			
4			
5			
	20	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1 *Lonicera tatarica*	5	Y	FACU
2			
3			
4			
5			
	5	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Phalaris arundinacea*	85	Y	FACW
2 *Bromus inermis*	10	N	FACU
3 *Cirsium arvense*	5	N	FACU
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	105	x 2 =	210	
FAC species	0	x 3 =	0	
FACU species	20	x 4 =	80	
UPL species	0	x 5 =	0	
Column totals	125	(A)	290	(B)

Prevalence Index = B/A = 2.32

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? Y

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

Dominated by reed canary grass, twinsisters honeysuckle, river birch and green ash.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-2-S3-Wet

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR 2/1	100					Mucky sandy loam	Moist
12-20	10YR 4/2	100					Sand	Saturated

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- X Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	18"
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	12"

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/14/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-2-S4-Up

Investigator(s): Sarah Majerus & Julie Christianser (AECOM) | Section, Township, Range: Sec 15 T16N R7W

Landform (hillslope, terrace, etc.): Stream terrace | Local relief (concave, convex, none): Convex

Slope (%): 0-1% | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 628A (Orion silt loam, 0-3% slopes, occasionally flooded) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N		
Hydric soil present?	N	**Is the sampled area within a wetland?**	N
Indicators of wetland hydrology present?	N	f yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

Soil core observed in grassland adjacent to S-6/W-2.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1 *Ulmus americana*	15	Y	FACW
2 *Quercus palustris/ellipsoides*	5	N	unknown
3 *Acer saccharinum*	5	N	FACW
4 *Juniperus virginiana*	5	N	FACU
5			
	30	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Bromus inermis*	90	Y	FACU
2 *Phalaris arundinacea*	10	N	FACW
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column totals	125 (A)		440 (B)

Prevalence Index = B/A = 3.52

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

___ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic hydrophytic vegetation* (explain)

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

Hydrophytic vegetation present? N

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

Dominated by brome grass and American elm.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-2-S4-Up

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 2/2	100					Sandy loam	
6-12	10YR 4/4	80	10YR 2/2	20			Sand	Surface layer mixed in
12-18	10YR 2/2	100					Sandy loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/20/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-3-S1-Up

Investigator(s): Sarah Majerus & Julie Christianser (AECOM) | Section, Township, Range: Sec 33 T17N R7W

Landform (hillslope, terrace, etc.): Hillslope/drainage | Local relief (concave, convex, none): Concave

Slope (%): 15% | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 502C2 (Chelsea fine sand, 2-6% slopes, moderately eroded) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N		
Hydric soil present?	N	**Is the sampled area within a wetland?**	N
Indicators of wetland hydrology present?	N	f yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1 *Zanthoxylum americanum*	5	Y	FACU
2 *Ulmus pumila*	5	Y	UPL
3			
4			
5			
	10	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Phalaris arundinacea*	40	Y	FACW
2 *Bromus inermis*	20	Y	FACU
3 *Poa pratensis*	15	N	FAC
4 *Potentilla sp.*	5	N	unknown
5 *Coronilla varia*	5	N	NI
6			
7			
8			
9			
10			
	85	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 25.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	15	x 3 =	45
FACU species	25	x 4 =	100
UPL species	5	x 5 =	25
Column totals	85 (A)		250 (B)

Prevalence Index = B/A = 2.94

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? N

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

Dominated by reed canary grass and brome.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-3-S1-Up

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-14	7.5YR 2.5/2	100					Sandy loam	
14-18	10YR 5/6	100					Sand	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/20/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-3-S2-Wet

Investigator(s): Sarah Majerus & Julie Christianser (AECOM) | Section, Township, Range: Sec 33 T17N R7W

Landform (hillslope, terrace, etc.): Stormwater basin | Local relief (concave, convex, none): Concave

Slope (%): 0% | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 501A (Finchford loamy sand, 0-3% slopes) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	?	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	f yes, optional wetland site ID:	W-3

Remarks: (Explain alternative procedures here or in a separate report.)

No access to wetland off of Riders Club Rd. Fenced in at I-53 overpass.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Phalaris arundinacea*	50	Y	FACW
2 *Carex sp.*	50	Y	unknown
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	50	x 2 =	100	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column totals	50	(A)	100	(B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? Y

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

Species observations from fenceline.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL **Sampling Point:** W-3-S2-Wet

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? _____

Remarks:

No access for soil core observations.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	X	No	___	Depth (inches):	1"
Water table present?	Yes	___	No	___	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	___	Depth (inches):	___

Indicators of wetland hydrology present? Y

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

Remarks:

Hydrology observations from fenceline.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/20/2013
Applicant/Owner: DPC | State: WI | Sampling Point: W-4-S1-Up
Investigator(s): Sarah Majerus & Julie Christianser (AECOM) | Section, Township, Range: Sec 32 T17N R7W
Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): None
Slope (%): 3-5% | Lat: NA | Long: NA | Datum: NA
Soil Map Unit Name: 501A (Finchford loamy sand, 0-3% slopes) | NWI / WWI Classification: NA
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

Is the sampled area within a wetland? N
f yes, optional wetland site ID: W-4

Remarks: (Explain alternative procedures here or in a separate report.)

Soil core observed along fenceline, behind housing on Cliffview Avenue N.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1 *Ulmus pumila*	5	Y	UPL
2			
3			
4			
5			
	5	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Bromus inermis*	30	Y	FACU
2 *Festuca sp.*	30	Y	unknown
3 *Poa pratensis*	20	Y	FAC
4 *Coronilla varia*	10	N	NI
5 *Asclepias syriaca*	5	N	FACU
6 *Daucus carota*	5	N	UPL
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across all Strata: 4 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 25.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	35	x 4 =	140
UPL species	10	x 5 =	50
Column totals	65 (A)		250 (B)

Prevalence Index = B/A = 3.85

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? N

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

Dominated by brome grass, fescue, and Kentucky bluegrass.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-4-S1-Up

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
1-6	10YR 3/3	100					Sandy loam	
6-18	10YR 4/6	100					Sand	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/20/2013

Applicant/Owner: DPC | State: WI | Sampling Point: W-4-S2-Wet

Investigator(s): Sarah Majerus & Julie Christianser (AECOM) | Section, Township, Range: Sec 32 T17N R7W

Landform (hillslope, terrace, etc.): Stormwater basin | Local relief (concave, convex, none): Concave

Slope (%): 0% | Lat: NA | Long: NA | Datum: NA

Soil Map Unit Name: 501A (Finchford loamy sand, 0-3% slopes) | NWI / WWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"

Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? Y

Hydric soil present? ____

Indicators of wetland hydrology present? Y

Is the sampled area within a wetland? Y

If yes, optional wetland site ID: W-4

Remarks: (Explain alternative procedures here or in a separate report.)

No access to wetland due to fenceline.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Phalaris arundinacea*	80	Y	FACW
2 *Urtica dioica*	10	N	FACW
3 *Daucus carota*	10	N	UPL
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column totals	100 (A)		230 (B)

Prevalence Index = B/A = 2.30

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? Y

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

Species observations from fenceline.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL

Sampling Point: W-4-S2-Wet

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? _____

Remarks:

No access for soil core observations.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	X	No	___	Depth (inches):	1"
Water table present?	Yes	___	No	___	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	___	Depth (inches):	___

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: DPC Q-1 Rebuild | City/County: La Crosse | Sampling Date: 5/21/2013
Applicant/Owner: DPC | State: WI | Sampling Point: W-5-S1-Wet
Investigator(s): Sarah Majeus & Julie Christianser (AECOM) | Section, Township, Range: Sec 32 T17N R7W
Landform (hillslope, terrace, etc.): Stormwater basin | Local relief (concave, convex, none): Concave
Slope (%): 0% | Lat: NA | Long: NA | Datum: NA
Soil Map Unit Name: 502B2 (Chelsea fine sand, 2-6% slopes, moderately eroded) | NWI / WWI Classification: NA
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal circumstances"
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

Is the sampled area within a wetland? N
f yes, optional wetland site ID: W-6

Remarks: (Explain alternative procedures here or in a separate report.)

Stormwater basin associated with L.B. White Co. development.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. circle)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. circle)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. circle)			
1 *Ambrosia artemisiifolia*	30	Y	FACU
2 *Fragaria virginiana*	20	Y	FACU
3 *Trifolium sp.*	20	Y	uknown
4 *Alopecurus pratensis*	10	N	FACW
5 *Setaria viridis*	10	N	NI
6 *Solidago gigantea*	5	N	FACW
7 *Poa pratensis*	5	N	FAC
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 15 ft. circle)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across all Strata: 3 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column totals	70 (A)		245 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic vegetation present? N

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

Dominated by common ragweed, wild strawberry, and clover. Newly developed stormwater basin. Hydric species have not had time to colonize.

Plant List Used: Lichvar, R.W. 2012. The National Wetland Plant List, Version 3.0. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory. (https://wetland_plants.usace.army.mil), and BONAP, Chapel Hill, NC. (2013) .

SOIL **Sampling Point:** W-5-S1-Wet

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-2	10YR 2/2	100					Sandy loam	
2-14	10YR 2/2	50	10YR 4/4	50			Sand	Mixed layer
14-18	10YR 4/6	100					Sand	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

Newly constructed stormwater basin. Hydric soils have not had time to develop at the site.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ___	No X	Depth (inches): ___		
Water table present?	Yes ___	No X	Depth (inches): ___		
Saturation present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___		

Indicators of wetland hydrology present? Y

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

Remarks:

Appendix C

Rapid Assessment Methodology for Determining Wetland Functional Value (Summary Page)

January, 2001

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner: W-1 / DPC
Location: County La Crosse ; SW¼,NW¼, Section 14 , Township 16N , Range 7W
Project Name: DPC Q-1 Wetland Delineation
Evaluator(s): Sarah Majerus & Julie Christiansen, AECOM
Date(s) of Site Visit(s): May 14, 2103

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Field work completed at the beginning of the growing season.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: NA					
Wetland Type:	shallow open water	deep marsh	shallow marsh	seasonally flooded basin	bog
	floodplain forest	alder thicket	sedge meadow	coniferous swamp	fen
	wet meadow	shrub-carr	low prairie	hardwood swamp	scrub/shrub
Estimated size of wetland in acres: 1-5 acres					

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity		X			
Wildlife Habitat		X			
Fishery Habitat					X
Flood/Stormwater Attenuation		X			
Water Quality Protection		X			
Shoreline Protection					X
Groundwater	X				
Aesthetics/Recreation/Education	X				

List any Special Features/"Red Flags":

January, 2001

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner: W-2 / DPC
Location: County La Crosse ; ¼, ¼, Section 14 , Township 16N , Range 7W
Project Name: DPC Q-1 Wetland Delineation
Evaluator(s): Sarah Majerus & Julie Christiansen, AECOM
Date(s) of Site Visit(s): May 14, 2103

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Field work completed at the beginning of the growing season.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: NA					
Wetland Type: shallow open water	deep marsh	shallow marsh	seasonally flooded basin		bog
floodplain forest	alder thicket	sedge meadow	coniferous swamp		fen
wet meadow	shrub-carr	low prairie	hardwood swamp		scrub/shrub
Estimated size of wetland in acres: 40+ acres					

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity		X			
Wildlife Habitat			X		
Fishery Habitat		X			
Flood/Stormwater Attenuation			X		
Water Quality Protection		X			
Shoreline Protection		X			
Groundwater	X				
Aesthetics/Recreation/Education		X			

List any Special Features/"Red Flags":

January, 2001

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner: W-3 / DPC
Location: County La Crosse ; SW¼,NW¼, Section 33 , Township 17N , Range 7W
Project Name: DPC Q-1 Wetland Delineation
Evaluator(s): Sarah Majerus & Julie Christiansen, AECOM
Date(s) of Site Visit(s): May 20, 2103

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Field work completed at the beginning of the growing season.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: NA					
Wetland Type:	shallow open water	deep marsh	shallow marsh	seasonally flooded basin	bog
	floodplain forest	alder thicket	sedge meadow	coniferous swamp	fen
	wet meadow	shrub-carr	low prairie	hardwood swamp	scrub/shrub
Estimated size of wetland in acres: <1 acre					

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity	X				
Wildlife Habitat	X				
Fishery Habitat					X
Flood/Stormwater Attenuation		X			
Water Quality Protection	X				
Shoreline Protection					X
Groundwater	X				
Aesthetics/Recreation/Education	X				

List any Special Features/"Red Flags":

January, 2001

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner: W-3 / DPC
Location: County La Crosse ; SW¼,NW¼, Section 33 , Township 17N , Range 7W
Project Name: DPC Q-1 Wetland Delineation
Evaluator(s): Sarah Majerus & Julie Christiansen, AECOM
Date(s) of Site Visit(s): May 20, 2103

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Field work completed at the beginning of the growing season.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: NA					
Wetland Type:	shallow open water	deep marsh	shallow marsh	seasonally flooded basin	bog
	floodplain forest	alder thicket	sedge meadow	coniferous swamp	fen
	wet meadow	shrub-carr	low prairie	hardwood swamp	scrub/shrub
Estimated size of wetland in acres: <1 acre					

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity	X				
Wildlife Habitat	X				
Fishery Habitat					X
Flood/Stormwater Attenuation		X			
Water Quality Protection	X				
Shoreline Protection					X
Groundwater	X				
Aesthetics/Recreation/Education	X				

List any Special Features/"Red Flags":

January, 2001

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner: W-4 / DPC
Location: County La Crosse ;NE ¼,NE ¼, Section 32 , Township 17N , Range 7W
Project Name: DPC Q-1 Wetland Delineation
Evaluator(s): Sarah Majerus & Julie Christiansen, AECOM
Date(s) of Site Visit(s): May 20, 2103

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Field work completed at the beginning of the growing season.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: NA					
Wetland Type:	shallow open water	deep marsh	shallow marsh	seasonally flooded basin	bog
	floodplain forest	alder thicket	sedge meadow	coniferous swamp	fen
	wet meadow	shrub-carr	low prairie	hardwood swamp	scrub/shrub
Estimated size of wetland in acres: <1 acre					

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity	X				
Wildlife Habitat	X				
Fishery Habitat					X
Flood/Stormwater Attenuation		X			
Water Quality Protection	X				
Shoreline Protection					X
Groundwater	X				
Aesthetics/Recreation/Education	X				

List any Special Features/"Red Flags":

Appendix D

Photograph Log

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 1: O-1 - North

Photo 2: O-2 - East

Photo 3: O-3 - North

Photo 4: O-4 - North

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 5: F-1 - South

Photo 6: O-4 - South

Photo 7: F-1 - South

Photo 8: O-5 - South

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 9: O-4 - South

Photo 10: O-4 - South

Photo 11: S-1 - West

Photo 12: O-4 - North

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 13: O-4 - North

Photo 14: O-6 - South

Photo 15: W-1 - South of Structure 353

Photo 16: S-2 - West

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 17: W-1 - North of Structure 353

Photo 18: F-2 - South

Photo 19: W-1 - Southeast from Golf Course

Photo 20: S-3 - Northeast

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 21: O-7 - East

Photo 22: W-2 - Northwest

Photo 23: S-3 - Northwest

Photo 24: S-4 - Northwest (La Crosse River)

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 25: S-4 - Northwest (La Crosse River)

Photo 26: O-8 - Southeast

Photo 27: W-2 - Northwest

Photo 28: S-5 - Southeast

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 29: O-9 - Northwest

Photo 30: F-3 - Northwest

Photo 31: W-2 - Southeast

Photo 32: G-1 - Northwest

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 33: W-2 - Southeast

Photo 34: S-6 - West

Photo 35: O-10 - Northwest

Photo 36: O-11 - North

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 35: O-12 - East

Photo 36: O-13 - East

Photo 37: O-14 - West

Photo 38: O-12 - East

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 39: O-13 - East

Photo 40: O-14 - West

Photo 41: S-6 - West

Photo 42: O-15 West

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 43: O-15 - Northwest

Photo 44: O-15 (wells in ROW) - Northwest

Photo 45: O-15 - Northwest

Photo 46: O-15 - Northwest

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 47: F-4 - Northwest

Photo 48: F-4 - North

Photo 49: O-15 (wells in ROW) - Southeast

Photo 50: O-16 - Southeast

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 51: G-2 - Southeast

Photo 52: O-16 - Southeast

Photo 53: G-3 - Southeast

Photo 54: G-4 - Southeast

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 55: O-16 - North

Photo 56: O-17 - Northwest

Photo 57: O-17 - Northwest

Photo 58: S-7 - Northwest

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 59: O-18 – Southeast (former treatment facility)

Photo 60: S-7 - Northeast

Photo 61: O-19 - Southeast

Photo 62: O-20 - Northwest

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 63: O-21 - Southeast

Photo 64: O-22 - Southeast

Photo 65: O-23 - Southeast

Photo 66: S-8 Open Water - South

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 67: O-24 - Southeast

Photo 68: O-25 - Southeast

Photo 69: O-15 - East

Photo 70: O-15 - Southeast

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 71: W-3 - Northwest

Photo 72: W-4 - Southeast

Photo 73: O-26 - Southeast

Photo 74: W-5 - Northwest

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 75: 0-27 - Southeast

Photo 76: O-28 - Southeast

Photo 77: O-29 - Northwest

Photo 78: F-5 - East

AECOM

Photo Log – DPC Q-1D South Rebuild

Photo 79: F-5 - Northwest

Photo 80: F-5 - North

Photo 81: S-9 - East

Photo 82: O-26 - Southeast