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January 21, 2016

Ms. Jackie Kohn, P.E. Senior Design Engineer Kunkel Engineering Group, LLC 107 Parallel Street Beaver Dam, WI 53916

Re: SEWRPC No. CA-618-140

Dear Ms. Kohn:

This will respond to your email message of September 3, 2015, requesting that the Commission staff conduct a field inspection of a proposed sanitary sewer extension easement across the Quaas Creek wetland complex north of Rusco Road and east of CTH P. The project area is located in parts of the Southwest oneguarter of U.S. Public Land Survey Section 25, Township 11 North, Range 19 East, City of West Bend, Washington County, Wisconsin. The purpose of the field inspection was to identify and stake the boundaries of any wetlands contained within the project area.

Pursuant to your request, Commission staff identified and staked the wetland boundaries within the project area on September 29, 2015. A copy of the wetland delineation report is attached for your reference.

Should you have any questions regarding this information, please do not hesitate to contact Mr. Christopher J. Jors, Senior Specialist-Biologist (ciors@sewrpc.org or 262-953-3246).

Sincerely,

Kenneth R. Yunker, P.E. **Executive Director**

KRY/TMS/CJJ/kmd #230002 - CA618-140 Sewer Extension at Quaas Creek N of Rusco Rd Letter

Enclosure (#230010)

Mr. Max Marechal, P.E., City of West Bend (w/enclosure) cc: Ms. Kathleen Kramasz, Wisconsin Department of Natural Resources (w/enclosure) Mr. Neil Molstad, Wisconsin Department of Natural Resources (w/enclosure) Ms. Marie Kopka, U.S. Army Corps of Engineers (w/enclosure)

WETLAND DELINEATION REPORT

CITY OF WEST BEND PROPOSED SANITARY SEWER EXTENSION UNDER QUAAS CREEK

SW Quarter, Section 25, T11N, R19E CITY OF WEST BEND WASHINGTON COUNTY WISCONSIN

> Prepared by: Jennifer Dietl Christopher Jors Daniel Carter

Southeastern Wisconsin Regional Planning Commission W239 N1812 Rockwood Drive P.O. Box 1607 Waukesha, WI 53187-1607

WETLAND DELINEATION REPORT OVERVIEW

(Based upon WDNR WETLAND Delineation Confirmation Request Check List)

INTRODUCTION

- Who requested the delineation Jackie Kohn, Kunkel Engineering Group on behalf of the City
- Why the delineation was undertaken **Proposed sanitary sewer extension under Quaas Creek**
- Date the field work was completed September 29, 2015
- Who conducted field work Jennifer Dietl, Christopher Jors, Daniel Carter
- Statement of Qualifications

METHODS

- Description of Methods
- Sources Reviewed
 - Topographic Map Exhibit 1
 - WDNR Surface Water Data Viewer Wisconsin Wetland Inventory (WWI) Map Exhibit 2
 - Soil Survey and Floodplain Map **Exhibit 3**
 - Historical Aerial Photos Exhibits 4A to 4K (2015, 2010, 2005, 2000, 1995, 1990, 1980, 1970, 1963, 1950, and 1941)
 - Sanitary Sewer Service Map Exhibit 5
 - Draft NRCS Wetland Inventory Map Exhibit 6
 - Advanced Identification (ADID) Wetland Map Exhibit 7
- Description of any site specific agency guidance (site meetings, etc.) None

RESULTS AND DISCUSSION

- Antecedent hydrologic condition analysis Normal
- Previous wetland delineation mapping **None**
- Existing environmental mapping (WWI mapping, Soil survey, etc.)
- Amount and types of wetland and upland forest in the project area
- Wetland/upland boundary explanation
- Disturbed and problematic areas encountered
- Other water resources located in the project area
- Other considerations

LITERATURE CITED

Wetland Delineation Map - Exhibit 8

Vegetation Survey and Wetland Delineation Data Forms

- Preliminary Vegetation Survey Exhibit 9
- Wetland Determination Data Forms NE/NC Region Exhibit 10

Site Photos – Exhibit 11

Farm Service Agency Slide Review - Not Applicable

INTRODUCTION

This wetland delineation report responds to an e-mail request from Jackie Kohn, PE, Kunkel Engineering Group on behalf of the City of West Bend to identify the boundaries of any wetland in a specified project area for a proposed sanitary sewer extension under Quaas Creek. The subject project area is located in the Southwest onequarter of U.S. Public Land Survey Section 25, Township 11 North, Range 19 East, City of West Bend, Washington County, Wisconsin.

Statement of Qualifications

Jennifer Dietl, Specialist-Biologist, earned a Bachelor's degree in Biology and Environmental Science from Carroll University in 1992. She has worked at the Commission from 1992 to 1997 and from 2006 to the present conducting wetland delineations, primary environmental corridor delineations, and vegetation surveys. In between years of service at the Commission she worked for the Wisconsin Department of Transportation – Green Bay as an LTE Environmental Analysis and Review Specialist – and the Wisconsin Department of Natural Resources – Green Bay as an LTE Hydrologist. Jennifer attended a Wisconsin Dept. of Natural Resources Wetland Delineation & Wetland Rapid Assessment Methodology Workshop on April 23, 2014 and the UW-La Crosse Basic and Advanced Wetland Delineation Workshops on August 10-15, 2015.

Christopher Jors, Senior Specialist-Biologist, has worked at SEWRPC since 1993, and has been part of the wetland delineation team since 1994. He received a Bachelor's degree in Conservation Aspects of Biology from the University of Wisconsin – Milwaukee in 1992. Prior to working at SEWRPC, Chris worked at the UWM Field Station at the Cedarburg Bog in Saukville, WI, where he learned methods of sampling wetland plant communities within the Bog. Chris has attended various wetland training workshops including the UW-La Crosse Basic and Advanced Wetland Delineation Workshops on August 10-15, 2015; a Wisconsin Dept. of Natural Resources Wetland Delineation & Wetland Rapid Assessment Methodology Workshop on April 23, 2014; and a U.S. Army Corps of Engineers Workshop on the Midwest Supplement to the 1987 Wetland Delineation Manual on February 3, 2009.

Daniel Carter, PhD, Principal Biologist, has worked at SEWRPC since 2013. He graduated with honors from Grinnell College with a Bachelor's degree in Biology. He later received a PhD in Biology from Kansas State University. Daniel has published several plant ecology articles in peer-reviewed journals, served on the botany team for the Wisconsin Wildlife Action Plan, and co-teaches the UW-La Crosse Basic Wetland Plant Identification course. He has completed both basic and advanced wetland delineation training as well as Wisconsin Natural Heritage Inventory training. Prior to working for the Commission, Daniel served as project coordinator for a grassland restoration project overseen jointly by the United States Department of Agriculture and The Nature Conservancy and taught high school Biology.

METHODS

Description of Methods

The wetland boundary determinations were based upon the criteria and methodologies set forth in the 1987 *Corps* of Engineers Wetlands Delineation Manual; the January 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0); the March 4, 2015, Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources; and the State of Wisconsin 2014 Wetland Plant List.

Specific methods used to field identify wetland boundaries included the U.S. Department of the Army Corps of Engineers Routine Onsite Determination Method – Plant Community Assessment Procedure. This procedure requires an initial identification of representative plant community types in the project area followed by a characterization of vegetation, soils, and hydrology for each type.

Sources Reviewed

Prior to conducting field work, Commission staff reviewed the following data sources: Washington County's topographic mapping (Exhibit 1), WDNR Surface Water Data Viewer - Wisconsin Wetland Inventory Map (Exhibit 2), Natural Resource Conservation Service's (NRCS) soil survey and FEMA Floodplains (Exhibit 3), Commission aerial photography (Exhibits 4A – 4K), Sanitary Sewer Service Map (Exhibit 5), draft NRCS Wetland Inventory Map (Exhibit 6), ADID Wetland Map (Exhibit 7), and precipitation data from the NRCS "WETS" tables.

RESULTS AND DISCUSSION

Jennifer Dietl, lead investigator, Christopher Jors and Dr. Daniel Carter, identified and staked the boundaries of the wetlands contained within the project area on September 29, 2015. Wetland boundaries were marked with orange wire flags and ribbon. Kunkel Engineering or City staff were responsible for surveying the wetland boundary markers.

The results of the wetland delineation field inspection for this project area are shown on Exhibit 8, which includes sample site numbers and locations, and staked wetland boundaries.

Antecedent Hydrologic Conditions

WETS Station: GERMANTOWN, WI3058

Observed Precip: WEST BEND PUBLIC WORKS WI9052

Climatological data were taken from the nearest WETS stations with relevant data.

	Month	3 yrs. In 10 less than	Normal	3 yrs. In 10 more than	Observed precip.	Condition dry, wet, normal	Condition value	Month weight value	Product of previous two columns
1st prior									
month	September	2.03	3.53	4.35	3.94	Normal	2	3	6
2nd prior month	August	2.98	4.28	5.08	5.53	Wet	3	2	6
3rd prior month	July	2.70	4.05	4.85	3.31	Normal	2	1	2
	· · · · ·							sum	14
		If sum is							
		6 - 9	drier thar	normal					
		10 - 14	normal						
	15 - 18 wetter than normal								
		Conclusion	Normal						

Previous wetland delineation mapping – None

Existing Environmental Mapping

The Washington County topographic map (Exhibit 1) shows the project area encompassing a high point of 934 feet above sea level at Rusco Drive in the southern most portion of the project area and dropping down to 918 feet above sea level at Quaas Creek near the northern portion of the project area. A small intermittent drainage way running from south to north is also visible in the project area.

The WDNR Surface Water Data Viewer - Wisconsin Wetland Inventory map (WWI) (Exhibit 2) indicates one mapped wetland complex in the project area that is classified as containing two wetland types. The first area encompasses lands along either side of Quaas Creek and is classified as shrub-carr (S3K). The second, on the south part of the project area, is classified as shrub-carr/wet meadow (S3/E1K). Quaas Creek flows from west to east across the project area and is classified by WDNR as a Cool-Cold Headwater, Cool-Warm Headwater, 2nd order stream. It is considered to be in good condition.

The NRCS Soil Survey map (Exhibit 3) shows the Quaas Creek floodway and the 100-year floodplain coincide within the project area. The following soils are in the project area:

Soil Name	Slope %	Hydric Rating	% Soil Component in Project Area	Sample site(s)
Colwood silt loam (Cw)	0-2%	Hydric	46.7%	3 and 4
Granby fine sandy loam (GfA)	0-3%	Hydric	53.1%	1 and 2
Ozaukee silt loam (OuC2)	6-12%, eroded	Non-hydric	0.2%	

Historical aerial photos of the project area were reviewed going back to 1941. Orthophotographs (2015, 2010, 2005, 2000, and 1995) and aerial photos (1990, 1980, 1970, 1963, and 1941) are attached (see Exhibits 4A-4K). This review is summarized in the table below.

CHANGES IN LAND USE OBSERVED ON AERIAL PHOTOGRAPHY FROM 1941 TO 2015

Year	General Land Use Description
1941	Lands in the project area are in agricultural production. A farmstead is present, outside of the project area, to the southwest. A farm access road from the farmstead crosses Quaas Creek in the project area.
1950	Lands in the project area appear to be fallow or have been taken out of row crop production.
1963	Lands in the project area are fallow. While the bridge over Quaas Creek is still visible, the farm access road on the north side of Quaas Creek is less visible. Farm buildings in and outside of the project area have been torn down.
1970	No changes.
1980	Lands on the southeast side of the project area appear to be farmed once again. The farm access road shows usage again with visible trails on the north side of Quaas Creek. Vegetation on the west side of the project area is increasing in shrub and tree coverage.
1990	Lands to east are fallow once again. Vegetation in project area is increasing in shrub and tree coverage.
1995	No changes.
2000	No changes in the project area. Lands to the northwest of the project area are being developed into a residential subdivision.
2005	Continued development to the north of the project area. A constructed stormwater pond is directly north of the project area.
2010	No changes.
2015	Silt fences have been installed in part of the project area and continue outside of the project area towards the east. The photo also shows that outside of the project area filling, dumping, and grading work is going on inside portions of the silt fence.

SEWRPC's sanitary sewer map (Exhibit 5) shows that the project area is located in the City of West Bend and Environs planned sanitary sewer service area. Lands in the project area fall in a Primary Environmental Corridor (PEC).

The draft NRCS Wetland Inventory Map (Exhibits 6) shows that lands in the project area are identified as wetland (W).

The ADID wetland map (Exhibit 7) indicates that all lands in the project area are located in a designated Primary Environmental Corridor (PEC) and, as such, have been designated as ADID wetlands under the Section 404(b)(1) Guidelines of the Clean Water Act.

Amount and Types of Wetlands in the Project Area

One wetland was identified and inventoried within the project area (Exhibit 8). This approximately 1.6-acre wetland is part of the Quaas Creek floodplain-wetland complex and consists of second growth, Southern wet to wet-mesic lowland hardwoods with scattered stands of fresh (wet) meadow. Disturbances to the wetland include dumping, past filling for a farm access road, ditching and side casting of dredge spoil material south of Quaas Creek, siltation and sedimentation due to stormwater runoff from adjacent lands, and water level changes due to ditching. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

Exhibit 9 contains a list of vascular plant species observed in the wetlands during the field inspection.

Wetland/Upland Boundary Explanation

Four representative sample sites were identified within the project area. The Wetland Determination Data Forms describing the findings at each sample site are attached as Exhibit 10. The locations of the sample sites are shown on Exhibit 8. The wetland boundary was determined using breaks in topography, changes in vegetation composition, visual identification of wetland hydrology, and presence of hydric soils.

Disturbed and Problematic Areas Encountered

Soils at wetland sample sites 2 and 4 were naturally problematic hydric soils. The Problematic hydric soil indicator A16. Coast Prairie Redox, was observed at wetland sample site 2. Low chroma colors were present in the upper layers over a depleted matrix at sample site 4. Professional judgment was used to include sample site 4 as wetland due to the presence of low chroma soils with dominant hydric vegetation and observation of three secondary wetland hydrology indicators.

Other Water Resources Located in the Project Area

No other water resources are located in the project area. However, Quaas Creek and the wetlands delineated continue outside of the project area.

Other Considerations

Please be advised that no Federal or State regulatory jurisdiction determinations relative to any wetland permits or certifications are made under this report. The wetlands located within the recorded Primary Environmental Corridor (PEC) shown on Exhibit 8 have been designated as Advance Delineation and Identification (ADID) wetlands under Section 404(b)(1) Guidelines of the Clean Water Act and are deemed generally unsuitable for the discharge of dredge and fill material. In addition, recent revisions of the nonagricultural performance standards set forth in Section NR 151.125 of the Wisconsin Statues, requires establishment of a 75-foot impervious surface protective area to protect these higher quality wetland. This designated protective area boundary is measured horizontally from the delineated wetland boundary to the closest impervious surface. The protective area requirements should be taken into consideration for any planned improvements on the subject property and it is suggested that you contact WDNR regarding approaches to meet the requirements.

LITERATURE CITED

U.S. Army Corps of Engineers, 2015, Special Public Notice: *Guidance for Submittal of Delineation Reports to the St. Paul District Corps of Engineers and the Wisconsin Department of Natural Resources*, U.S. Army Corps of Engineers, March 2015.

U.S. Army Corps of Engineers, 2014, State of Wisconsin Wetland Plant List

U.S. Army Corps of Engineers, 2012, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0). U.S. Army Engineer Research and Development Center, January 2012.

USDA Natural Resources Conservation Service, 2010, National Food Security Act Manual, Fifth Edition, Part 514.60, November 2010.

U.S. Army Corps of Engineers, 1987, U.S. Army Corps of Engineers wetlands delineation manual. Wetlands Research Program Technical Report Y-87-1.

WDNR, Surface Water Data Viewer, website at http://dnrmaps.wi.gov/sl/?Viewer=SWDV

JLD/CJJ/kmd #229912 – CA618-140 City of West Bend Proposed Sewer under Quaas Creek WD 300-2000



























Exhibit 4G. 1980 Aerialphotograph



Legend Project Area		N	
	0	75	150
		Feet	
	Sou	urce: SEW CA#618-14	RPC 10

Exhibit 4H. 1970 Aerialphotograph



Legend Project Area		NAS	
	0	75	150
		Feet	
	Sou	rce: SEW CA#618-14	RPC 10

Exhibit 4I. 1963 Aerialphotograph



Le	Legend Project Area		NAO	
		d.	Δ	
		0	75 Feet	150
		Sou	Irce: SEWI CA#618-14	RPC 0

Exhibit 4J. 1950 Aerialphotograph



Legend Project Area	Ň		
	0	75	150
		Feet	
	Sou	urce: SEW CA#618-14	RPC 40

Exhibit 4K. 1941 Aerialphotograph

City of West Bend Proposed Sanitary Sewer Extension under Quaas Creek SW Quarter, Section 25, T11N-R19E City of West Bend, Washington County

Rusco Drive

Legend Project Area		N	
	0	75	150
		Feet	
	Sou	Irce: SEW	RPC 10

EXHIBIT 5. Sanitary Sewer Service Map

City of West Bend Proposed Sanitary Sewer Extension under Quaas Creek SW Quarter, Section 25, T11N-R19E City of West Bend, Washington County

Map 7-18

ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREA FOR THE CITY OF WEST BEND AND ENVIRONS

> U. S. Public Land Survey Sections 25, 26, 35, and 36 Township 11 North, Range 19 East



EXHIBIT 6. Draft NRCS Wetland Inventory Map City of West Bend Proposed Sanitary Sewer Extension under Quaas Creek SW Quarter, Section 25, T11N-R19E City of West Bend, Washington County



EXHIBIT 7. ADID Wetland Map City of West Bend Proposed Sanitary Sewer Extension under Quaas Creek SW Quarter, Section 25, T11N-R19E City of West Bend, Washington County

ADID Wetlands In Southeast Wisconsin



Legend





SVY4221 CA618-140

EXHIBIT 9

PRELIMINARY VEGETATION SURVEY CITY OF WEST BEND PROPOSED SANITARY SEWER EXTENSION UNDER QUAAS CREEK

- Date: September 29, 2015
- Observers: Daniel L. Carter, Ph.D., Principal Biologist Christopher J. Jors, Senior Biologist Jennifer Dietl, Biologist Southeastern Wisconsin Regional Planning Commission
- Location: City of West Bend in parts of the Southwest one-quarter of U.S. Public Land Survey Section 25, Township 11 North, Range 19 East, Washington County, Wisconsin.

Species List: Native Plant Species

Co-dominant species

Acer negundo--Boxelder Amphicarpaea bracteata--Hog peanut Angelica atropurpurea -- Angelica Bidens frondosa--Common beggars-ticks Boehmeria cylindrica--False nettle Carex cristatella--Crested sedge Carex grisea--Wood gray sedge Carex sp.--Sedge Cicuta maculata -- Spotted water-hemlock Cornus alba--Red-osier dogwood Cryptotaenia canadensis -- Honewort Echinocystis lobata--Wild cucumber Elymus virginicus--Virginia wild rye Equisetum arvense--Common horsetail Fraxinus pennsylvanica--Green ash Geum aleppicum -- Yellow avens Glyceria striata--Fowl manna grass Hackelia virginiana--Stickseed Heracleum maximum--Cow parsnip Hydrophyllum virginianum--Virginia waterleaf Impatiens capensis--Jewelweed Iris virginica--Virginia blueflag Juniperus virginiana -- Red-cedar Laportea canadensis--Wood nettle Osmorhiza longistylis--Anise-root Parthenocissus inserta--Virginia creeper Pilea fontana--Clearweed Plantago rugelii--Red-stalked plantain Prunus virginiana--Chokecherry Ranunculus hispidus var. nitidus--Bristly buttercup Ranunculus recurvatus--Hooked buttercup Ribes americanum--Wild black currant Rubus occidentalis--Black raspberry Salix amygdaloides--Peach-leaved willow Scirpus atrovirens--Green bulrush

Native Species cont.

<u>Scutellaria</u> <u>lateriflora</u>--Sideflower skullcap <u>Solidago gigantea</u>--Giant goldenrod <u>Symphyotrichum lateriflorum</u>--Calico aster <u>Thalictrum dasycarpum</u>--Tall meadow rue <u>Ulmus americana</u>--American elm <u>Urtica dioica</u>--Stinging nettle <u>Viburnum lentago</u>--Nannyberry <u>Vitis riparia</u>--Riverbank grape

NON-Native Species

<u>Agrostis gigantea</u>--Redtop grass <u>Arctium minus</u>--Common burdock <u>Glechoma hederacea</u>--Creeping Charlie <u>Hesperis matronalis</u>—Dame's rocket <u>Lonicera</u> X <u>bella</u>--Hybrid honeysuckle <u>Lythrum salicaria</u>--Purple loosestrife <u>Phalaris arundinacea</u>--Reed canary grass <u>Rhamnus cathartica</u>--Common buckthorn <u>Rosa multiflora</u>--Multiflora rose <u>Salix fragilis</u>--Crack willow <u>Taraxacum officinale</u>--Common dandelion <u>Viburnum opulus</u>--European highbush-cranberry

Total number of plant species: 55 Number of alien, or non-native, plant species: 12 (22 percent)

This approximately 1.6-acre plant community area is part of the Quaas Creek floodplain-wetland complex and consists of second growth, Southern wet to wet-mesic lowland hardwoods with scattered stands of fresh (wet) meadow. Disturbances to the plant community area include dumping, the establishment of footpaths, past filling for a farm access driveway, ditching and side casting of dredge spoil material south of Quaas Creek, siltation and sedimentation due to stormwater runoff from adjacent lands, and water level changes due to ditching. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

EXHIBIT 10.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: City of West Bend Proposed Sewer under Quaas Creek C	ity/County: City of We	est Bend/Washington Cou	Inty Sampling Date: 09/29/20	<u>015</u>
Applicant/Owner:		State: WI	Sampling Point: <u>1</u>	
Investigator(s): Jen Dietl, Dan Carter, Chris Jors; SEWRPC	Section, Township, F	Range: Section 25, T11N,	<u>, R19E</u>	
Landform (hillslope, terrace, etc.): terrace	Local relief (concave	, convex, none): <u>none</u>	Slope (%): <u>0-3%</u>	
Subregion (LRR or MLRA): LRR K	Lat: Lo	ng: Datum:		
Soil Map Unit Name: Granby fine sandy loam (GfA)			NWI classification: none	
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes 🛛 No	(If no, explain in R	temarks)	
Are Vegetation, Soil, or Hydrology significantly disturbe	ed? Are "Normal	Circumstances" present?	Yes 🛛 🛛 No 🗌	
Are Vegetation, Soil, or Hydrology naturally problemati	c? (If, needed, e	explain any answers in Re	marks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soils Present? Wetland Hydrology Present?	⊠ Yes □Yes □Yes	□No ⊠No ⊠No	Is the Sampled Area within a Wetland?	🗌 Yes	⊠No
			If yes, optional Wetland Site II	D:	
Remarks: (Explain alternative proc community; however, elevation	edures here or is increasing	in a separate report.) and visual observati	Sample taken at this location do ons of wetland hydrology were	ue to field observation not observed.	ons of a hydric plant

HYDROLOGY

Wetland Hydrology Indicate	ors:					Secondary Indicators (minimum of two required)
Primary Indicators (minimum	of one is re	quirec	d; che	<u>ck all that apply)</u>		Surface Soil Cracks (B6)
Surface Water (A1)			Water-Stained Leaves (B9)		Drainage Patterns (B10)
High Water Table	(A2)			Aquatic Fauna (B13)		Moss Trim Lines (B16)
Saturation (A3)				Marl Deposits (B15)		Dry-Season Water Table (C2)
Water marks (B1)				Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposit	s (B2)			Oxidized Rhizospheres on Living F	Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3))			Presence of Reduced Iron (C4)		Stunted or Stressed Plants (D1)
Algal Mat or Crust	(B4)			Recent Iron Reduction in Tilled So	ils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	1			Thin Muck Surface (C7)		Shallow Aquitard (D3)
Inundation Visible	on Aerial Im	nager	y (B7	Other (Explain in Remarks)		Microtopographic Relief (D4)
Sparsely Vegetate	d Concave	Surfa	ice (B	8)		☐ FAC-Neutral Test (D5)
Field Observations:						
Surface Water Present?	Yes 🗌	No	\boxtimes	Depth (inches):		
Water Table Present?	Yes 🗌	No	\boxtimes	Depth (inches):		
Saturation Present?	Yes 🗌	No	\boxtimes	Depth (inches):	Wetland	Hydrology Present? Yes 🗌 No 🛛
(includes capillary fringe)						
(Exhibit 3) and Aerial Photos	eam gauge, s (Exhibit 4)	, moni	itoring	well, aerial photos, previous inspections), if a	avallable: I	opo Map (Exhibit 1), WWI Map (Exhibit 2), Solis Map
	(Exhibit I).	•				
Remarks:						

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant	Indicator Status	Dominance Test worksheet:
1. Fraxinus pennsylvanica	<u>20</u>		FACW	Number of Dominant Species
2.				That are OBL, FACW, or FAC: $\underline{3}$ (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>5</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
7				Prevalence Index worksheet:
	<u>20</u>	= Total Cov	/er	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1. <u>Rhamnus cathartica</u>	<u>15</u>	\boxtimes	FAC	FACW species x 2 =
2. Zanthoxylum americanum	<u>10</u>	\boxtimes	FACU	FAC species x 3 =
3. <u>Viburnum opulus</u>	<u>5</u>		FACW	FACU species x 4 =
4. <u>Cornus obliqua</u>	<u>3</u>		FACW	UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>33</u>	= Total Cov	/er	Dominance Test is >50%
<u>Herb Stratum</u> (Plot size: <u>5' radius</u>)				$\square Prevalence Index is \le 3.0^{1}$
1. <u>Solidago altissima</u>	<u>45</u>	\boxtimes	FACU	data in Remarks or on a separate sheet)
2. <u>Hydrophyllum virginianum</u>	<u>25</u>	\boxtimes	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Geum canadense</u>	<u>12</u>		FAC	¹ Indicators of hydric soil and wetland hydrology must
4. Pastinaca sativa	<u>10</u>		<u>UPL</u>	Be present, unless disturbed or problematic.
5. <u>Poa pratensis</u>	<u>10</u>		FACU	
6. Symphyotrichum lateriflorum	<u>8</u>		FAC	Definitions of Vegetation Strata:
7. Osmorhiza longistylis	<u>5</u>		FACU	Tree – Woody plants 3in. (7.6 cm) or more in diameter
8. Phalaris arundinacea	<u>5</u>		FACW	at breast height (DBH), regardless of height
9. <u>Equisetum arvense</u>	<u>3</u>		FAC	Sapling/shrub – Woody plants less than 3in. DBH
10. <u>Hackelia virginiana</u>	<u>3</u>		FACU	and greater than 3.28 ft (1 m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>126</u>	= Total Cov	/er	Woody vines – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height
1				
2				
3				Hydrophytic
4				Vegetation
	<u>0</u>	= Total Cov	/er	Present? Yes No

Sampling Point: 1

(B)

SOIL

Profile Des	scription: (Describe to	o the depth	needed to docum	ent the ind	icator or cor	firm the at	osence	e of indicators.)	
Depth	Matrix			Redox Feat	tures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	_	Texture	Remarks
0-13	10YR 2/2	100					Silt lo	am	
13-22	10YR 2/1	100					Loam	1	
22-26	10YR 5/3	100					Loam	ly fine sand	
								<u> </u>	
	·							<u> </u>	
								<u> </u>	
					·				
								· .	
		<u> </u>		·	·				
		<u> </u>		·	·				
¹ Type: C=	Concentration, D=Deple	etion, RM=F	Reduced Matrix, MS	S= Masked S	Sand Grains			² Location: PL=Pore L	ining, M=Matrix
Hydric Soi	I Indicators:		- ,				I	Indicators for Probler	matic Hydric Soils ³ :
	Histosol (A1)		Pol	yvalue Belo	w Surface (S	8) (LRR R,		2 cm Muck (A1	0) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)			MLRA 149	B)			Coast Prairie R	Redox (A16) (LLR K, L, R)
	Black Histic (A3) Hydrogen Sulfide (A4)			n Dark Surfa	ace (S9) (LRI Mineral (E1) (KR, MLKA	149B)	Dark Surface (eat or Peat (S3) (LLR K, L, R) S7) (I RR K I)
	Stratified Layers (A5)			amy Gleved	Matrix (F2)	LIXIX IX, L)		Polyvalue Belo	w Surface (S8) (LRR K, L)
	Depleted Below Dark S	Surface (A11) 🗍 De	pleted Matrix	x (F3)			Thin Dark Surfa	ace (S9) (LRR K, L)
	Thick Dark Surface (A1	2)	Re	dox Dark Su	Irface (F6)			Iron-Manganes	e Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral (S1)		pleted Dark	Surface (F7)			Piedmont Floor Masia Spedia ()	dplain Soils (F19) (MLRA 149B)
	Sandy Redox (S5)	54)		uux Depress	SIONS (FO)			Red Parent Ma	Iterial (F21)
	Stripped Matrix (S6)							Very Shallow D	Dark Surface (TF12)
	Dark Surface (S7) (LR	R R, MLRA	149B)					Other (Explain	in Remarks)
³ Indiactors	of Lludronhutio vogotot	ion and wat	and hydrology mys	the process	t unloca diate	wheel or pro	hlomo	tio	
Restrictive	Laver (if observed):	ion and wet	and hydrology mus	st be presen	t, unless dist		blema	uc.	
Туре	:							Hvdric Soil Present?	Yes 🗖 No 🕅
Dept	h (inches):								
Remarks:									

WETLAND DETERMINATION DA	TA FC	DRM – I	Northce	entral and	Northe	east F	Region
Project/Site: City of West Bend Proposed Sewer under Quaas Creek (City/Cou	nty: <u>City c</u>	f West Be	nd/Washingtor	n County		Sampling Date: 09/29/2015
Applicant/Owner:				State: <u>V</u>	VI		Sampling Point: <u>2</u>
Investigator(s): Jen Dietl, Dan Carter, Chris Jors; SEWRPC	Sectio	n, Townsh	ip, Range	: Section 25, 1	[11N, R19	9 <u>E</u>	
Landform (hillslope, terrace, etc.): low terrace	Local	relief (cond	cave, conv	/ex, none): <u>nor</u>	ne		Slope (%): <u>0-3%</u>
Subregion (LRR or MLRA): <u>LRR K</u>	Lat:		Long:	Da	tum:		
Soil Map Unit Name: Granby fine sandy loam (GfA)					N	WI class	sification: <u>S3K</u>
Are climatic/hydrologic conditions on the site typical for this time of year?	?	Yes 🖂	No 🗌	(If no, explair	n in Rema	arks)	
Are Vegetation, Soil, or Hydrology significantly disturb	ed?	Are "Nor	mal Circur	mstances" pres	ent? Y	′es 🖂	No 🗌
Are Vegetation, Soil X, or Hydrology naturally problematic?	•	(If, neede	ed, explair	n any answers i	in Remarl	ks.)	
SUMMARY OF FINDINGS – Attach site map showing s	ampli	ng poin	t locatio	ons, transed	cts, imp	oortan	t features, etc.

Hydrophytic Vegetation Present? Hydric Soils Present? Wetland Hydrology Present?	⊠Yes ⊠Yes ⊠Yes	□No □No □No	Is the Sampled Area within a Wetland?	⊠ Yes	□No
			If yes, optional Wetland Site ID:		
Remarks: (Explain alternative proce	edures here or i	n a separate report.)			

HYDROLOGY

Wetland Hydrology Indicate	ors:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum	of one is required; che	eck all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table ((A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)		Marl Deposits (B15)	Dry-Season Water Table (C2)
Water marks (B1)		Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits	s (B2)	Oxidized Rhizospheres on Living Roc	ots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust	(B4)	Recent Iron Reduction in Tilled Soi	ls (C6) Geomorphic Position (D2)
Iron Deposits (B5)		Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible	on Aerial Imagery (B7)) Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetate	d Concave Surface (B	8)	FAC-Neutral Test (D5)
Field Observations:			
Surface Water Present?	Yes 🗌 🛛 No 🖾	Depth (inches):	
Water Table Present?	Yes 🛛 🛛 No 🗌	Depth (inches): 24.5	
Saturation Present?	Yes 🛛 No 🗌	Depth (inches): <u>19</u>	Wetland Hydrology Present? Yes 🛛 No 🗌
Saturation Present? (includes capillary fringe)	Yes 🛛 No 🗌	Depth (inches): <u>19</u>	Wetland Hydrology Present? Yes 🛛 No 🗌
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre	Yes No	Depth (inches): <u>19</u> well, aerial photos, previous inspections), if a	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos	Yes No	Depth (inches): <u>19</u> well, aerial photos, previous inspections), if a	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizoso	Yes ⊠ No □ eam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> y well, aerial photos, previous inspections), if a	Wetland Hydrology Present? Yes No C vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Deam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> well, aerial photos, previous inspections), if a D inches. Sample site is located in the Qu	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Deam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> g well, aerial photos, previous inspections), if a 9 inches. Sample site is located in the Qu	Wetland Hydrology Present? Yes No D vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Deam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> g well, aerial photos, previous inspections), if a 9 inches. Sample site is located in the Qu	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Deam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> y well, aerial photos, previous inspections), if a 9 inches. Sample site is located in the Qu	Wetland Hydrology Present? Yes No D vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Deam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> well, aerial photos, previous inspections), if a Dinches. Sample site is located in the Qu	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Deam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> g well, aerial photos, previous inspections), if a 9 inches. Sample site is located in the Qu	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Deam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> y well, aerial photos, previous inspections), if a 9 inches. Sample site is located in the Qu	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Deam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> g well, aerial photos, previous inspections), if a 9 inches. Sample site is located in the Qu	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Deam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> g well, aerial photos, previous inspections), if a 9 inches. Sample site is located in the Qu	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.
Saturation Present? (includes capillary fringe) Describe Recorded Data (stre (Exhibit 3), and Aerial Photos Remarks: Oxidized rhizosp	Yes No Cam gauge, monitoring (Exhibit 4).	Depth (inches): <u>19</u> g well, aerial photos, previous inspections), if a 9 inches. Sample site is located in the Qu	Wetland Hydrology Present? Yes ⊠ No □ vailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map uaas Creek floodway.

VEGETATION - Use scientific names of plants.

				<u>-</u>
Tree Stratum (Plot size: 30' radius)	Absolute	Dominant	Indicator	Dominance Test worksheet:
1. Fraxinus pennsylvanica	<u>50</u>		FACW	Number of Dominant Species
2. Acer negundo	25		FAC	That are OBL, FACW, or FAC: $\underline{8}$ (A)
3. Salix fragilis	<u>20</u>	\boxtimes	FAC	Total Number of Dominant
4.				Species Across All Strata: <u>9</u> (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 89% (A/B)
7.				Prevalence Index worksheet:
	<u>95</u>	= Total Cov	/er	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1. Rhamnus cathartica	<u>25</u>	\boxtimes	FAC	FACW species x 2 =
2. Acer negundo	<u>20</u>	\boxtimes	FAC	FAC species x 3 =
3. Frangula alnus	<u>15</u>	\boxtimes	FAC	FACU species x 4 =
4.				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>60</u>	= Total Cov	/er	Rapid Test for Hydrophytic Vegetation Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				$\square Prevalence Index is \le 3.0^{1}$
1. <u>Geum aleppicum</u>	<u>25</u>	\boxtimes	FAC	Morphological Adaptations ¹ (Provide supporting data in Pomarka or on a separate sheet)
2. <u>Hackelia virginiana</u>	<u>20</u>	\boxtimes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Carex grisea</u>	<u>15</u>	\boxtimes	FAC	
4. Arctium minus	<u>12</u>		FACU	Be present, unless disturbed or problematic.
5. <u>Glechoma hederacea</u>	<u>10</u>		FACU	
6. Parthenocissus inserta	<u>5</u>		FACU	Definitions of Vegetation Strata:
7. Rhamnus cathartica	<u>5</u>		FAC	Tree – Woody plants 3in. (7.6 cm) or more in diameter
8. Thalictrum dasycarpum	<u>5</u>		FACW	at breast height (DBH), regardless of height
9. <u>Frangula alnus</u>	<u>3</u>		FAC	Sapling/shrub – Woody plants less than 3in. DBH
10. <u>Fraxinus pennsylvanica</u>	<u>3</u>		FACW	and greater than 3.28 ft (1 m) tall.
11. Symphyotrichum lateriflorum	<u>3</u>		FAC	Herb – All berbaceous (non-woody) plants, regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>106</u>	= Total Cov	/er	Woody vince All woody vince greater than 2.39 ft in
Woody Vine Stratum (Plot size: 30' radius)				height
1				
2				
3				Hydrophytic
4				Vegetation
	<u>0</u>	= Total Cov	/er	Present? Yes 🛛 No 🗌
Remarks: (include photo number here or on a separate she	eet.) Lowland h	nardwoods.		

Sampling Point: 2

-	-	-	-
С	n		
	L J		
~	~		

					,				
Depth	Matrix			Redox Fea	tures		_		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Туре	Loc ²		Texture	Remarks
)-4	10YR 2/2	100		·			Sandy	loam	with gravel
1-9	10YR 6/3	60	10YR 5/6 - 5/8	25	<u> </u>	PL M	Loamy	fine sand	with gravel and stones (fill
	10YR 2/1	15					.		material for farm access road?
9-20	10YR 2/1	90	7.5YR 3/4	10	<u> </u>	PL M	Loam		
20-25	10YR 2.5/1	85	7.5YR 3/4	10	C	PL M	Clay lo	am	
	10YR 6/3	5		<u> </u>	·				
					·				
					·				
					·				
	Concentration D-Dar	lation DA	A-Doducod Motrix M	2- Maakad	Cond Croine		21	agation: DI-Dar	Lining M-Motrix
Hydric Soil	Lindicators:	Dietion, Riv	A=Reduced Matrix, Ma	S= Masked ;	Sand Grains		- In	dicators for Prob	lematic Hydric Soils ³
	Histosol (A1)		🗌 Po	lyvalue Belo	w Surface (S	8) (LRR R ,		2 cm Muck (A10) (LRR K, L, MLRA 149B)
– ۲	Histic Epipedon (A2)			MLRA 149) B)	,,		Coast Prair	e Redox (A16) (LLR K, L, R)
🗆 E	Black Histic (A3)		🗌 Th	in Dark Surf	ace (S9) (LR	R R, MLRA	149B)	5 cm Mucky	Peat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)		amy Mucky	Mineral (F1) (LRR K, L)		Dark Surface	e (S7) (LRR K, L)
	Stratified Layers (A5)	Cumferer (amy Gleyed	Matrix (F2)				elow Surface (S8) (LRR K, L)
	Depleted Below Dark	Surrace (A	A11) 🗌 De	pleted Matri	X (F3) urfaco (E6)				JITACE (S9) (LRR K, L)
	Sandy Mucky Mineral	(S1)		oleted Dark	Surface (F7)			Piedmont Fle	podplain Soils (F19) (MLRA 1498)
	Sandy Gleyed Matrix	(S4)	□ □ □ □ □	dox Depres	sions (F8)				c (TA6) (ML DA 144A 145 140B)
		\							C(1A0)(IVILICA 144A, 145, 145D)
	Sandy Redox (S5)							Red Parent	Material (F21)
	Sandy Redox (S5) Stripped Matrix (S6)							Red Parent	v Dark Surface (TF12)
	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Li	RR R, MLI	RA 149B)					 Red Parent Very Shallov Other (Expla 	Material (F21) v Dark Surface (TF12) in in Remarks)
S andiastern of	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LI	RR R, MLI	RA 149B)			urbed or pr	oblomatia	Red Parent Very Shallov Other (Expla	Material (F21) v Dark Surface (TF12) in in Remarks)
3Indicators c	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Li of Hydrophytic vegeta	RR R, MLI	RA 149B) wetland hydrology mus	st be presen	it, unless dist	urbed or pro	oblematio	Red Parent Very Shallov Other (Expla	Material (F21) v Dark Surface (TF12) in in Remarks)
³ Indicators c Restrictive Type:	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LI of Hydrophytic vegeta Layer (if observed	RR R, MLI ation and v):	RA 149B) wetland hydrology mus	st be presen	it, unless dist	urbed or pro	oblematio	Red Parent I Red Parent I Very Shallov Other (Expla	t? Yes ⊠ No □
³ Indicators c Restrictive Type: Depth	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LI of Hydrophytic vegeta Layer (if observed (inches):	RR R, MLI ation and v	RA 149B)	st be presen	it, unless dist	urbed or pro	oblematic H	Red Parent I Red Parent I Very Shallov Other (Expla	t? Yes No
³ Indicators c Restrictive Type: <u>Depth</u> Remarks: H	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Li of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegeta	RR R, MLI ation and v):	RA 149B) wetland hydrology mus	st be presen	it, unless distinction of the second se	urbed or pro	oblematic H	A Red Parent I Red Parent I Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
³ Indicators of Restrictive Type: Depth Remarks: H Problemati	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LI of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology w ed the sample to be	st be presen	nt. Therefor	urbed or pro	oblematio H d the A1	Red Parent Red Parent Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
Indicators of Sector Control C	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen vere presen e in wetland	nt. Therefor	urbed or pro	bblematio	Red Parent Red Parent Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
³ Indicators of Restrictive Type: Depth Remarks: H Problemati	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology w ed the sample to be	st be presen vere presen e in wetland	nt. Therefor	urbed or pro	bblematic H	Red Parent Red Parent Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
³ Indicators of Restrictive Type: Depth Remarks: H Problemati	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Li of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology w ed the sample to be	st be presen vere presen e in wetland	nt. Therefor	urbed or pro	oblematic H	Red Parent Red Parent Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
³ Indicators of Restrictive Type: Depth Remarks: H Problemati	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Li of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen vere presen	nt, unless distr nt. Therefor d.	urbed or pro	oblematic H	A Red Parent I Red Parent I Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
³ Indicators of Restrictive Type: Depth Remarks: H Problemati	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Li of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen vere presen	nt. Therefor	urbed or pro	oblemation H d the A1	A resid Spool Red Parent Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
³ Indicators of Restrictive Type: Depth Remarks: H	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LI of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v i: tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen vere presen	nt. Therefor	urbed or pro	oblemation H	A Red Parent I Red Parent I Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
Indicators of Restrictive Type: Depth Remarks: H	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v : tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen vere presen e in wetland	nt. Therefor	urbed or pro	bblemation H d the A1	A Red Parent I Red Parent I Very Shallov Other (Expla	t? Yes ⊠ No □
³ Indicators of Restrictive Type: Depth Remarks: H Problemati	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	bblemation H d the A1	Red Parent I Red Parent I Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
alindicators of Restrictive Type: Depth Remarks: H	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetal tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	bblematic H	Red Parent I Red Parent I Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	t? Yes ⊠ No □
Indicators of Restrictive Type: Depth Remarks: H	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Li of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetal tic hydric soils and	RR R, MLI ation and v i: tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	oblemation H d the A1	Area Parent I Red Parent I Very Shallov Other (Expla . ydric Soil Presen 6. Coast Prairie	Waterial (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
³ Indicators of Restrictive Type: Depth Remarks: H	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LI of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v i: tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	oblemation H d the A1	Area Capual Red Parent I Very Shallov Other (Expla dric Soil Presen 6. Coast Prairie	Waterial (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
☐ € ☐ E 3Indicators of Restrictive Type: Depth Remarks: H Problemat	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v i: tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen vere presen	nt. Therefor	urbed or pro	d the A1	A Red Parent I Red Parent I Very Shallov Other (Expla c. ydric Soil Presen 6. Coast Prairie	A factor (MERKA 1447, 143, 143B) Material (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
a ³ Indicators of Restrictive Type: Depth Remarks: H Problemat	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	bblemation H d the A1	A Red Parent I Very Shallov Other (Expla c. ydric Soil Presen 6. Coast Prairie	A read (F21) Waterial (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
³ Indicators of Restrictive Type: Depth Remarks: H Problemat	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	blematic H d the A1	Red Parent I Red Parent I Very Shallov Other (Expla . ydric Soil Presen 6. Coast Prairie	(IAO) (MERK 144A, 145B) Material (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
³ Indicators of Restrictive Type: Depth Remarks: H Problemat	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed) (inches): Hydrophytic vegetal tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	bblematic H	Area Parent I Red Parent I Very Shallov Other (Expla	Waterial (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
³ Indicators of Restrictive Type: Depth Remarks: H Problemat	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed) in (inches): Hydrophytic vegetal tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	bblematic H	Red Parent I Red Parent I Very Shallov Other (Expla . ydric Soil Presen 6. Coast Prairie	Waterial (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
³ Indicators of Restrictive Type: Depth Remarks: H Problemat	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Li of Hydrophytic vegeta Layer (if observed <u>h (inches):</u> Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v i: tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	oblemation H	A Red Parent I Red Parent I Very Shallov Other (Expla c. ydric Soil Presen 6. Coast Prairie	Waterial (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
Indicators of Restrictive Type: Depth Remarks: H	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v i: tion and v determin	RA 149B) wetland hydrology mus wetland hydrology v ed the sample to be	st be presen	nt. Therefor	urbed or pro	d the A1	A Red Parent I Q Very Shallov Other (Expla c. 4 Coast Presen 6. Coast Prairie	A derial (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
☐ € ☐ [3Indicators (Restrictive Type: Depth Remarks: H Problemat	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LI of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetal tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology w ed the sample to be	st be presen	nt. Therefor	urbed or pro	d the A1	A Red Parent I Red Parent I Very Shallov Other (Expla c. ydric Soil Presen 6. Coast Prairie	A derial (F21) v Dark Surface (TF12) in in Remarks) t? Yes ⊠ No □ Redox indicator for
3Indicators of Restrictive Depth Remarks: H	Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lf of Hydrophytic vegeta Layer (if observed (inches): Hydrophytic vegetat tic hydric soils and	RR R, MLI ation and v): tion and v determin	RA 149B) wetland hydrology mus wetland hydrology w ed the sample to be	st be presen	nt. Therefor	urbed or pro	bblemation H d the A1	Red Parent I Very Shallov Other (Expla . ydric Soil Presen 6. Coast Prairie	A response of the response of
WETLAND DETERMINATION DA	TA FO	RM – Northce	ntral and Nort	heast R	egion				
--	-----------	-----------------------	------------------------	------------	---------------------------				
Project/Site: City of West Bend Proposed Sewer under Quaas Creek	City/Cour	nty: City of West Ber	d/Washington Coun	ty s	Sampling Date: 09/29/2015				
Applicant/Owner:			State: WI	:	Sampling Point: <u>3</u>				
Investigator(s): Jen Dietl and Dan Carter; SEWRPC	Section	n, Township, Range:	Section 25, T11N, F	R19E					
Landform (hillslope, terrace, etc.): terrace	Local r	elief (concave, conve	ex, none): <u>none</u>		Slope (%): <u>0-2%</u>				
Subregion (LRR or MLRA): <u>LRR K</u>	Lat:	Long:	Datum:						
Soil Map Unit Name: Colwood silt loam (Cw)				NWI classi	fication: <u>S3/E2K</u>				
Are climatic/hydrologic conditions on the site typical for this time of year	?	Yes 🛛 🛛 No 🗌	(If no, explain in Re	marks)					
Are Vegetation, Soil, or Hydrology significantly disturb	bed?	Are "Normal Circum	stances" present?	Yes 🖂	No 🗌				
Are Vegetation, Soil, or Hydrology naturally problema	atic?	(If, needed, explain	any answers in Rem	arks.)					
SUMMARY OF FINDINGS – Attach site map showing	samplir	ng point location	ns, transects, ir	nportant	features, etc.				

Hydrophytic Vegetation Present? Hydric Soils Present? Wetland Hydrology Present?	⊠ Yes □Yes □Yes	□No ⊠ No ⊠ No	Is the Sampled Area within a Wetland?	🗌 Yes	⊠No
			If yes, optional Wetland Site ID:		
Remarks: (Explain alternative proce	edures here or	in a separate report.)			

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres on Living R	oots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes 🗌 No 🖾 Depth (inches):	
Water Table Present? Yes 🗌 No 🖾 Depth (inches):	
Saturation Present? Yes No 🛛 Depth (inches):	Wetland Hydrology Present? Yes 🗌 No 🛛
Saturation Present? Yes No 🛛 Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes D No 🖂
Saturation Present? Yes I No I Depth (inches):	Wetland Hydrology Present? Yes D No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes I No I Depth (inches):	Wetland Hydrology Present? Yes D No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av (Exhibit 3), and Aerial Photos (Exhibit 4).	Wetland Hydrology Present? Yes D No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes I No I Depth (inches):	Wetland Hydrology Present? Yes D No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes I No I Depth (inches):	Wetland Hydrology Present? Yes D No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes I No I Depth (inches):	Wetland Hydrology Present? Yes D No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes I No I Depth (inches):	Wetland Hydrology Present? Yes D No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes 🗌 No 🖾 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes 🗌 No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes I No I Depth (inches):	Wetland Hydrology Present? Yes D No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes 🗌 No 🛛
Saturation Present? Yes I No I Depth (inches):	Wetland Hydrology Present? Yes 🗌 No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes 🗌 No 🛛 ailable: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map

VEGETATION - Use scientific names of plants.

Trop Stratum (Diot size: 30' radius)	Absolute	Dominant	Indicator	Dominance Test worksheet:
1 Fravinus pennsylvanica	<u>% Cover</u> 40	$\underline{\text{Species}}$	FACW	Number of Dominant Species
2 Acer pegundo	30		FAC	That are OBL, FACW, or FAC: $\underline{4}$ (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>6</u> (B)
				Porcent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
7				Prevalence Index worksheet:
	70	– Total Cov		Total % Cover of Multiply by:
Sanling/Shruh Stratum (Plot size: 30' radius)		- 10(a) 000		OBL species x 1 =
1 Rhamnus cathartica	<u>15</u>		FAC	FACW species x 2 =
2 Acer negundo	10		FAC	FAC species $x_3 =$
3	_			FACUs proces x 4 =
4				LIPI species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	25	= Total Cov	/er	Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				\square Prevalence Index is $\leq 3.0^1$
1 Helianthus tuberosus	<u>60</u>	\boxtimes	FACU	Morphological Adaptations ¹ (Provide supporting
2. Glechoma hederacea	30	\boxtimes	FACU	data in Remarks or on a separate sheet)
3 Solidado altissima	10		FACU	
	5		FACU	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Hackella virginiana</u>	<u> </u>		17100	Be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
ö				
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height
8				
9				Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tail.
11				Herb – All herbaceous (non-woody) plants, regardless
12	105			of size, and woody plants less than 3.28 ft tall.
March Mine Obstation (District 2001 and iter)	105	= Total Cov	/er	Woody vines – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: <u>30' radius</u>)				height
1				
2				
3				Hydrophytic
4				vegetation Present? Yes ⊠ No □
	<u>0</u>	= Total Cov	/er	
Remarks: (Include photo number here or on a separate sh	ieet.) Lowland h	iarawoods.		

Sampling Point: 3

(B)

SOIL

Profile De	scription: (Describe to	the depth	needed to docu	ment the ind	licator or cor	nfirm the a	bsence	e of indicators.)	
Depth	Matrix			Redox Feat	tures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	_	Texture	Remarks
0-20	10YR 2/2	100	· · · · ·				Loan	 າ	with stones
20-24	10VP 4/3	100					Loan	av sand	with gravel and stones
20-24	1011(4/5	100					LUan		
	·								
	· . <u></u>								
	·								
	·								
	·								
	·								
1 T	Concentration D-Deal	ation DM-F		10- Maakad (Canal Crains			21 agettions DI - Dana	Lining NA-Natrix
Hydric Sci	Uncentration, D=Deple		keuuceu Matrix, M	vio= iviasked S	Sanu Grains			Indicators for Proble	Lining, IVI=IVIAt[IX
	Histosol (A1)		ПР	olvvalue Relo	w Surface (S	8) (LRR R		2 cm Muck (A	10) (LRR K. L. MLRA 149B)
	Histic Epipedon (A2)			MLRA 149	9B)	•) (,		Coast Prairie	Redox (A16) (LLR K, L, R)
	Black Histic (A3)		П Т	hin Dark Surfa	, ace (S9) (LRI	R R, MLRA	149B)	5 cm Mucky F	Peat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)		🗆 L	oamy Mucky	Mineral (F1) (LRR K, L)	,	Dark Surface	(S7) (LRR K, L)
	Stratified Layers (A5)		🗆 L	oamy Gleyed	Matrix (F2)			Polyvalue Bel	ow Surface (S8) (LRR K, L)
	Depleted Below Dark S	Surface (A1		epleted Matri	x (F3)			Thin Dark Sur	face (S9) (LRR K, L)
	Thick Dark Surface (A1	2) S1)		ledox Dark Su	urface (F6)			☐ Iron-Mangane	ese Masses (F12) (LRR K, L, R)
	Sandy Gleved Matrix (51) 34)		epieleu Dark	Surface (F7)				(TA6) (MI BA 144A 145 149B)
	Sandy Redox (S5)	(+C		ledox Depress				Red Parent M	aterial (F21)
	Stripped Matrix (S6)							Very Shallow	Dark Surface (TF12)
	Dark Surface (S7) (LR	R R, MLRA	149B)					Other (Explain	n in Remarks)
³ Indicators	of Hydrophytic vegetat	ion and wet	land hydrology m	ust be presen	it, unless disti	urbed or pro	oblema	tic.	
Restrictive	e Layer (if observed):								
Type	: h (inches):							Hydric Soil Present?	? Yes 🗋 No 🖂
Dept	n (inches).								
Remarks:									

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: City of West Bend Proposed Sewer under Quaas Creek (City/County: City of Wes	t Bend/Washington Cour	nty Sampling Date:	09/29/2015
Applicant/Owner:		State: WI	Sampling Point:	<u>4</u>
Investigator(s): Jen Dietl and Dan Carter; SEWRPC	Section, Township, Ra	inge: Section 25, T11N,	<u>R19E</u>	
Landform (hillslope, terrace, etc.): low terrace/slight drainage way	Local relief (concave,	convex, none): <u>none/slig</u>	htly concave Slope	(%): <u>0-2%</u>
Subregion (LRR or MLRA): <u>LRR K</u>	Lat: Long	g: Datum:		
Soil Map Unit Name: Colwood silt loam (Cw)			NWI classification: S2/E2	<u><</u>
Are climatic/hydrologic conditions on the site typical for this time of year'	? Yes 🛛 No	(If no, explain in Re	emarks)	
Are Vegetation, Soil, or Hydrology significantly disturb	ed? Are "Normal C	ircumstances" present?	Yes 🛛 🛛 No 🗌]
Are Vegetation, Soil X, or Hydrology naturally problematic?	? (If, needed, ex	plain any answers in Ren	narks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soils Present? Wetland Hydrology Present?	⊠Yes ⊠Yes ⊠Yes	□No □No □No	Is the Sampled Area within a Wetland?	⊠ Yes	□No
			If yes, optional Wetland Site ID:		
Remarks: (Explain alternative proce	dures here or in	a separate report.)			

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is rec	quired; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)
Water marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Root	s (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Im	agery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave S	Surface (B8)	FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes	No 🛛 Depth (inches):	
Water Table Breent? Vec	No 🕅 Denth (inches):	
	Beptil (inches).	
Saturation Present? Yes (includes capillary fringe)	No \square Depth (inches): <u>18</u>	/etland Hydrology Present? Yes 🛛 No 🗌
Valer Fable Present? Fes I Saturation Present? Yes I (includes capillary fringe) Image: Comparison of the second decimal	No Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	Vetland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Vale Faster Fesent? Yes ⊡ Saturation Present? Yes ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks:	No Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	/etland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Vale Faster Fesent? Yes □ Saturation Present? Yes ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, I Describe Recorded Data (stream gauge, I (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks: Remarks:	No ☐ Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	/etland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Vale Fable Present? Yes □ Saturation Present? Yes ☑ (includes capillary fringe) Describe Recorded Data (stream gauge, 1 (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks:	No Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	Vetland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Vale Fase Saturation Present? Yes ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks:	No Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	/etland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Water Fable Present? Fest □ Saturation Present? Yes ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks:	No ☐ Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	/etland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Saturation Present? Yes □ Saturation Present? Yes ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, r (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks:	No Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	/etland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Vale Fable Present? Yes □ Saturation Present? Yes ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, 1 (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks: Remarks:	No Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	/etland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Vale Fable Present? Yes □ Saturation Present? Yes ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks:	No Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	/etland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Vale Fable Present? Yes □ Saturation Present? Yes ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks:	No Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	/etland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
Vale Fable Present? Fes □ Saturation Present? Yes ⊠ (includes capillary fringe) Describe Recorded Data (stream gauge, r (Exhibit 3), and Aerial Photos (Exhibit 4). Remarks:	No Depth (inches): <u>18</u> monitoring well, aerial photos, previous inspections), if avail	/etland Hydrology Present? Yes ⊠ No □ able: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute	Dominant	Indicator	Dominance Test worksheet:
1. Fraxinus pennsylvanica	<u>50</u>		FACW	Number of Dominant Species
2. Acer negundo	40	\boxtimes	FAC	That are OBL, FACW, or FAC: 5 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>5</u> (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7.				Prevalence Index worksheet:
	<u>90</u>	= Total Cov	/er	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x1 =
1. Rhamnus cathartica	<u>20</u>	\boxtimes	FAC	EACW species x 2 =
	3		FACU	FAC species $x_3 =$
3	-			$\frac{1}{1} = \frac{1}{1} = \frac{1}$
4				I Plot species X 5 =
5				Column Totals: (A) (B)
6.				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
	23	= Total Cov	/er	Rapid Test for Hydrophytic Vegetation Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				Prevalence Index is $\leq 3.0^{1}$
1. Impatiens capensis	<u>40</u>	\boxtimes	FACW	Morphological Adaptations ¹ (Provide supporting
2. Phalaris arundinacea	<u>30</u>	\boxtimes	FACW	data in Remarks or on a separate sheet)
3. Ribes americanum	<u>15</u>		FACW	
4. Hydrophyllum virginianum	<u>10</u>		FAC	¹ Indicators of hydric soil and wetland hydrology must Be present, unless disturbed or problematic.
5. <u>Urtica dioica</u>	<u>8</u>		FAC	
6. <u>Arctium minus</u>	<u>5</u>		FACU	Definitions of Vegetation Strata:
7. Echinocystis lobata	<u>5</u>		FACW	Tree – Woody plants 3in. (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height
9				Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tall.
11				Harb - All herbaceous (non-woody) plants, regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>113</u>	= Total Cov	/er	Weadwines All weadwines greater than 2.29 ft in
Woody Vine Stratum (Plot size: 30' radius)				height
1				
2				
3				Hydrophytic
4				Vegetation
	<u>0</u>	= Total Cov	/er	Present? Yes 🛛 No 🗌
Remarks: (include photo number here or on a separate sheet	.) Fresh (we	t) meadow a	nd lowland h	ardwoods.

Sampling Point: 4

(B)

SOIL

(inchoo)	Matrix			Redox Feat	tures		_		
(incries)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		Texture	Remarks
0-8	10YR 2/2	100					Silt Ic	bam	
8-15	10YR 2/1	100					Silt Ic	bam	
15-25	10YR 4/2	60	10YR 4/6 - 6/6	40	С	PL M	Loam	ny fine sand	with gravel
25+								,	Refusal: Gravel and rocks
201									
						. <u> </u>			
								-	
Type: C=C	Concentration, D=Dep	letion, RN	I=Reduced Matrix, M	S= Masked S	Sand Grains			² Location: PL=Pore	Lining, M=Matrix
Hydric Soil	I Indicators:				W Surface (C)			Indicators for Proble	ematic Hydric Soils":
	πιsiosoi (A1) Histic Eninedon (Δ2)			MIRA 149	w Sunace (S	o) (LKK K,		Coast Prairie	Redox (A16) (IIRKIR)
	Black Histic (A3)		□ Th	in Dark Surfa	ace (S9) (LR	R. MLRA	149B)	\square 5 cm Mucky F	Peat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4))		amy Mucky I	Mineral (F1) (LRR K, L)		Dark Surface	(S7) (LRR K, L)
	Stratified Layers (A5)		🗆 Lo	amy Gleyed	Matrix (F2)			Polyvalue Be	low Surface (S8) (LRR K, L)
	Depleted Below Dark	Surface (/	A11) 🗌 De	pleted Matri	x (F3)			Thin Dark Su	rface (S9) (LRR K, L)
	Thick Dark Surface (A	.12)		dox Dark Su	Irface (F6)				ese Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral Sandy Cloved Matrix /	(S1) (S4)		pleted Dark	Surface (F7)			Piedmont Flo Mosic Spedie	odplain Solis (F19) (MLRA 149B)
	Sandy Redox (S5)	(34)		uux Depiess				Red Parent M	(170) (MERA 144A, 145, 145B) Iaterial (F21)
	Stripped Matrix (S6)							Very Shallow	Dark Surface (TF12)
	Dark Surface (S7) (LF	RR R, MLF	RA 149B)					Other (Expla	in in Remarks)
0									
Jundianter	of Hydrophytic vegeta	tion and v	vetland hydrology mu	st be presen	t, unless disti	urbed or pro	oblema	itic.	
nucators Bestrictive		-						Hudric Soil Prosont	
Restrictive	: Cravel and rocks	•						HVUILL SUIL FLESEIL	
Restrictive Type:	Gravel and rocks								? Yes 🖾 No 🗋
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Photo 1. Upland sample site 1, old field with scattered shrubs and trees.



Photo 2. Wetland sample site 2, lowland hardwoods.



Photo 3. Upland sample site 3, lowland hardwoods.



Photo 4. Wetland sample site 4, fresh (wet) meadow and lowland hardwoods.



Photo 5. South view from upland sample site 1 of wetland.



Photo 6. South view from wetland sample site 4 of wetland.



Photo 7. Northview from sample site 4 of wetland.



00229928

SOUTHEASTERN WISCONSIN REGIONAL PLANNING

W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607•

TELEPHONE (262) 547-6721 FAX (262) 547-1103

COMMISSION

Serving the Counties of: KENOSHA MILWAUKEE OZAUKEE RACINE WALWORTH



January 22, 2016

Mr. Nasser Shabi, P.E. Project Manager City of Waukesha Department of Public Works Engineering Division 130 Delafield Street Waukesha, WI 53188

Re: SEWRPC No. CA-737-264

WASHINGTON

Dear Mr. Shabi:

This will respond to your email message of November 18, 2014, requesting that the Commission staff conduct an additional field inspection of a revised project area related to the proposed sanitary forcemain extension located along East Sunset Drive in parts of U.S. Public Land Survey Sections 11 and 14, Township 6 North, Range 19 East, City and Town of Waukesha, Waukesha County, Wisconsin. As you know, the Commission staff completed a wetland delineation for the original project area at your request in 2013, including submittal of a wetland delineation report for that work on November 21, 2013.

Pursuant to your November 18, 2014, request, Commission staff identified and staked the wetland boundaries within the revised project area on April 15, 2015. Subsequent to this field inspection, on June 12, 2015, the Commission received a request from Ms. Sara Arnold, P.E., Municipal Engineer with Ayres Associates, for a wetland delineation related to proposed East Sunset Drive improvements. Ms. Arnold asked that we expand the East Sunset Drive project area further eastward up to STH 164/59.

Following conversations between City of Waukesha engineering staff, Ayres Associates, and Commission staff, it was determined that the newly expanded project area would satisfy the wetland delineation requirements for both projects, the forcemain extension and roadway improvement projects. Further, it was agreed that a final wetland delineation report could wait until all fieldwork was completed for the expanded project area. Accordingly, Commission staff conducted the final field inspection of the project area on September 9, 2015. A copy of the wetland delineation report is attached for your reference. This report includes information gathered during all three field inspections on May 28, 2013, and April 15 and September 9, 2015.

Mr. Nasser Shabi, P.E. January 22, 2016 Page 2

Should you have any questions regarding this information, please do not hesitate to contact Mr. Christopher J. Jors, Senior Specialist-Biologist (*cjors@sewrpc.org* or 262-953-3246).

Sincerely,

Kenneth R. Yunker, P.E. Executive Director

KRY/TMS/CJJ/kmd #229995 – CA737-264 Proposed Forcemain & Sunset Drive Improvements Letter

Enclosure (#230033)

cc: Mr. James Coyle, Greenberg Farrow (w/enclosure by email) Ms. Sara Arnold, P.E., Ayres Associates (w/enclosure by email) Ms. Margaret Liedtke, P.E., City of Waukesha DPW – Engineering Division (w/enclosure) Mr. Craig Webster, Wisconsin Department of Natural Resources (w/enclosure by email) Ms. Geri Radermacher, Wisconsin Department of Natural Resources (w/enclosure) Mr. Neil Molstad, Wisconsin Department of Natural Resources (w/enclosure) Ms. Marie Kopka, U.S. Army Corps of Engineers (w/enclosure)

WETLAND DELINEATION REPORT

EAST SUNSET DRIVE FROM TENNY AVENUE TO STH 164/59

SW & SE One-quarters, Section 11, NW & NE One-quarters, Section 14, T6N, R19E CITY AND TOWN OF WAUKESHA WAUKESHA COUNTY WISCONSIN

Prepared by:

Christopher Jors Jennifer Dietl Daniel Carter Zofia Noe

Southeastern Wisconsin Regional Planning Commission W239 N1812 Rockwood Drive P.O. Box 1607 Waukesha, WI 53187-1607

WETLAND DELINEATION REPORT OVERVIEW

(Based upon WDNR WETLAND Delineation Confirmation Request Check List)

INTRODUCTION

- Who requested the delineation Nasser Shabi, P.E., City of Waukesha (Nov. 18, 2014, request); and Sara Arnold, P.E., Ayres Associates (June 12, 2015, request)
- Why the delineation was undertaken -East Sunset Drive proposed forcemain
- Date the field work was completed April 15 and September 9, 2015
- Who conducted field work Christopher Jors, Jennifer Dietl, Daniel Carter, Zofia Noe
- Statement of Qualifications

METHODS

- Description of Methods
- Sources Reviewed
 - Topographic Map Exhibit 1
 - WDNR Surface Water Data Viewer Wisconsin Wetland Inventory (WWI) Map Exhibit 2
 - Soil Survey and Floodplain Map Exhibit 3
 - Historical Aerial Photos Exhibits 4A to 4L (2015, 2010, 2007, 2005, 2000, 1995, 1990, 1980, 1970, 1963, 1950, 1941)
 - Sanitary Sewer Service Map Exhibits 5A & 5B
 - Draft NRCS Wetland Inventory Map Exhibit 6A & 6B
 - Advanced Identification (ADID) Wetland Map Exhibit 7
- Description of any site specific agency guidance (site meetings, etc.) None

RESULTS AND DISCUSSION

- Antecedent hydrologic condition analysis April 15, 2015 Normal; September 9, 2015 Drier than Normal; and May 28, 2013 Wetter than Normal
- Previous wetland delineation mapping May 28, 2013 SEWRPC wetland delineation documentation incorporated into this report
- Existing environmental mapping (WWI mapping, Soil survey, etc.)
- Amount and types of wetland located within the project area
- Wetland/upland boundary explanation
- Disturbed and problematic areas encountered
- Other water resources located in the project area
- Other considerations

LITERATURE CITED

Wetland Delineation Map – Exhibit 8

Vegetation Survey and Wetland Delineation Data Forms

- Preliminary Vegetation Survey Exhibit 9
- Wetland Determination Data Forms NE/NC Region Exhibit 10

Site Photos – Exhibit 11

Farm Service Agency Slide Review - Not Applicable

INTRODUCTION

This wetland delineation report responds to requests from Nassar Shabi, P.E., City of Waukesha, on November 18, 2014, and Sara Arnold, P.E., Ayres Associates, on June 15, 2015, to identify the boundaries of any wetland in a specified project area along East Sunset Drive from Tenny Avenue to STH 59. The project area is located in U.S. Public Land Survey Sections 11 and 14, Township 6 North, Range 19 East, City and Town of Waukesha; Waukesha County, Wisconsin.

Statement of Qualifications

Christopher Jors, Senior Specialist-Biologist, has worked at SEWRPC since 1993, and has been part of the wetland delineation team since 1994. He received a Bachelor's degree in Conservation Aspects of Biology from the University of Wisconsin – Milwaukee in 1992. Prior to working at SEWRPC, Chris worked at the UWM Field Station at the Cedarburg Bog in Saukville, WI, where he learned methods of sampling wetland plant communities within the Bog. Chris has attended various wetland training workshops including the UW-La Crosse Basic and Advanced Wetland Delineation Workshops on August 10-15, 2015; a Wisconsin Dept. of Natural Resources Wetland Delineation & Wetland Rapid Assessment Methodology Workshop on April 23, 2014; and a U.S. Army Corps of Engineers Workshop on the Midwest Supplement to the 1987 Wetland Delineation Manual on February 3, 2009.

Jennifer Dietl, Specialist-Biologist, earned a Bachelor's degree in Biology and Environmental Science from Carroll University in 1992. She has worked at the Commission from 1992 to 1997 and from 2006 to the present conducting wetland delineations, primary environmental corridor delineations, and vegetation surveys. In between years of service at the Commission she worked for the Wisconsin Department of Transportation – Green Bay as an LTE Environmental Analysis and Review Specialist – and the Wisconsin Department of Natural Resources – Green Bay as an LTE Hydrologist. Jennifer attended a Wisconsin Dept. of Natural Resources Wetland Delineation & Wetland Rapid Assessment Methodology Workshop on April 23, 2014 and the UW-La Crosse Basic and Advanced Wetland Delineation Workshops on August 10-15, 2015.

Daniel Carter, PhD, Principal Biologist, has worked at SEWRPC since 2013. He graduated with honors from Grinnell College with a Bachelor's degree in Biology. He later received a PhD in Biology from Kansas State University. Daniel has published several plant ecology articles in peer-reviewed journals, served on the botany team for the Wisconsin Wildlife Action Plan, and co-teaches the UW-La Crosse Basic Wetland Plant Identification course. He has completed both basic and advanced wetland delineation training as well as Wisconsin Natural Heritage Inventory training. Prior to working for the Commission, Daniel served as project coordinator for a grassland restoration project overseen jointly by the United States Department of Agriculture and The Nature Conservancy and taught high school Biology.

Zofia Noe, Specialist-Biologist, earned a Bachelor's degree in Biology and Chemistry from St. Mary's College of Maryland in 2003. She earned a Master's Degree in Coastal Marine and Wetland Studies from Coastal Carolina University in 2009 and completed an Aquatic Plant Identification course in 2015. Zofia has experience in a variety of environmental assessments including water quality, aquatic plant, and upland vegetation surveys. Zofia began assisting with wetland delineations in the summer of 2013.

METHODS

Description of Methods

The wetland boundary determinations were based upon the criteria and methodologies set forth in the 1987 *Corps* of Engineers Wetlands Delineation Manual; the January 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0); the March 4, 2015, Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources; and the State of Wisconsin 2014 Wetland Plant List.

Specific methods used to field identify wetland boundaries included the U.S. Department of the Army Corps of Engineers Routine Onsite Determination Method – Plant Community Assessment Procedure. This procedure requires an initial identification of representative plant community types in the project area followed by a characterization of vegetation, soils, and hydrology for each type.

Sources Reviewed

Prior to conducting field work, Commission staff reviewed the following data sources: Waukesha County's topographic mapping (Exhibit 1), WDNR Surface Water Data Viewer - WWI mapping (Exhibit 2), Natural Resource Conservation Service's (NRCS) soil survey and FEMA floodplain mapping (Exhibit 3), Commission aerial photography (Exhibits 4A - 4L), Sanitary Sewer Service Map (Exhibit 5), the Draft NRCS Wetland Inventory Map (Exhibit 6), ADID Wetland Map (Exhibit 7), and precipitation data from the NRCS "WETS" tables and the Global Historical Climatology Network (GHCN).

RESULTS AND DISCUSSION

Christopher Jors, lead investigator, Jennifer Dietl, Dr. Daniel Carter, and Zofia Noe, assisted in identifying and staking the boundary of the wetland contained within the project area on April 15 and September 9, 2015. Wetland boundaries were marked with orange wire flags and ribbon. Commission staff used a sub-meter GPS to locate the wetland boundary markers, the centerline of any wet roadside ditches, and sample site locations. The results of the wetland delineation field inspection for this project area are shown on Exhibit 8, which includes staked and GPS-located wetland boundaries, wet roadside ditches, sample site numbers and locations, and plant community area numbers and locations.

Antecedent Hydrologic Conditions

Climatological data were taken from the nearest WETS station(s) and GHCN Stations with relevant data. The first table below reflects conditions leading up to the visit by Commission staff on April 15, 2015. The second table reflects conditions leading up to the visit on September 9, 2015. The third table reflects conditions leading up to the May 28, 2013 site visit.

2015	Month	3 yrs. In 10 less than	Normal	3 yrs. In 10 more than	Observed precip.	Condition dry, wet, normal	Condition value	Month weight value	Product of previous two columns
1st prior month	April	2.46	3.53	4.20	4.08	normal	2	3	6
2nd prior month	March	1.34	2.28	2.77	0.70	dry	1	2	2
3rd prior month	February	0.74	1.31	1.62	0.19	dry	1	1	1
								sum	9
		If sum is							
		6 - 9	drier than	normal					
		10 - 14	normal						
		15 - 18	wetter that	an normal					
		Conclusion	Drier						

METS Station: MALIKESHA M/1 0027	Observed Breein :	Maukaaba	
WETS SIGNOT. WAUKESTIA, WT0957	Observed Frecip	vvaukesna	, WI US GIICIND.USC00470957

Observed Precip.: Waukesha 2.1SSW, WI US GHCND: US1WIWK0004

				3 vrs. In		Condition		Month	Product of previous
2015	Month	3 yrs. In 10 less than	Normal	10 more than	Observed precip.	dry, wet, normal	Condition value	weight value	two columns
1st prior month	August	3.28	4.77	5.69	3.14	dry	1	3	3
2nd prior month	July	2.82	3.83	4.49	1.79	dry	1	2	2
3rd prior month	June	2.46	3.78	4.54	4.54	normal	2	1	2
								sum	7
		If sum is							
6 - 9 drier than normal				n normal					
10 - 14 normal									
15 - 18 wetter th			an normal						
		Conclusion	Drier		-				

WETS Station: WAUKESHA, WI 8937

2013	Month	3 yrs. In 10	Normal	3 yrs. In 10 more than	Observed	Condition dry, wet,	Condition	Month weight	Product of previous two
2013	Wonth	1635 (11411	Norman	titati	precip.	normai	Value	value	columns
1st prior month	May	2.03	3.02	3.61	7.24	wet	3	3	9
2nd prior month	April	2.46	3.53	4.20	7.57	wet	3	2	6
3rd prior	Moroh	1.24	2.29	0.77	1.64	normal	2	1	2
monun	March	1.34	2.20	2.11	1.04	поппа	Ζ	1	۷
								sum	17
		If sum is	1						
		6 - 9	drier thar	n normal					
		10 - 14	normal						
		15 - 18	wetter that	an normal					
		Conclusion	Wetter		-				

Previous Wetland Delineation Mapping

At the request of the City of Waukesha - Department of Public Works, the Commission staff completed a wetland delineation on a portion of the current project area along Sunset Drive on May 28, 2013. The Commission's findings were provided to the City with a wetland delineation report on November 21, 2013. Those 2013 findings have been incorporated into this report.

Existing Environmental Mapping

The topographic map (Exhibit 1) depicts a project area with elevations ranging from a high of 942 feet above sea level on the west side of the project area, just southeast of the Tenny Avenue and East Sunset Drive intersection, to a low of 850 feet at two drainage ways on the eastern portion of the project area. East Sunset Drive skirts the base of a kame, a conical glacial feature, on the west side of the project area, and drops quickly until the middle of

the project area where it levels off for the remainder of the project area. Two unnamed tributaries to Pebble Brook flow in a southerly direction through the project area, one just east of Gramling Lane and another at the southwest corner of East Sunset Drive and STH 164/59.

The WDNR Surface Water Data Viewer (WWI) map (Exhibit 2) indicates one large wetland complex south of East Sunset Drive that is classified as S3/E2K (Scrub/shrub – Emergent/wet meadow) and T3/S3K (Forested – Schrub/shrub), and one small wetland (less than 0.25-acre) in the northwest corner of Gramling Lane and East Sunset Drive. An unnamed tributary to Pebble Brook is also identified on Exhibit 2. Identified by WDNR as a 1st order stream, other information was not available for this waterway. It's shown to terminate just south of the project area on the suface water data viewer. However, based upon field observations, it was determined that this tributary should be extended further north into the project area. In addition, a second unnamed tributary to Pebble Brook was identified at the southwest corner of East Sunset Drive and STH 164/59.

			% Soil Coverage in	
Soil Name	Slope %	Hydric Rating	Project Area	Comments
Fox silt loam (FsB)	2-6%	Non-hydric	2.8%	
Hochheim Ioam (HmB)	2-6%	Hon-hydric	10.0%	
Hochheim Ioam (HmB2)	2-6%, eroded	Non-hydric	16.0%	
Hochheim Ioam (HmC2)	6-12%, eroded	Non-hydric	5.0%	
Hochheim loam (HmD2)	12-20%, eroded	Non-hydric	0.1%	
Houghton muck (HtA)	0-2%	Hydric	28.1%	Sample site: 2, 3, 4, 5, 7, A, B, E, and H
Lamartine silt loam (LmB)	1-4%	Predominantly Non-hydric	3.7%	Sample site: 8 and 9
Loamy land (Lu)		Predominantly Non-hydric	8.3%	Sample site: 1
Matherton silt loam (MmA)	1-3%	Predominantly Non-hydric	15.0%	Sample site: 6, C, D, F, G
Mayville silt loam (MoA)	0-2%	Non-hydric	8.3%	
Ogden muck (Oc)	0-2%	Hydric	0.01%	
Palms muck (Pa)	0-2%	Hydric	2.4%	

The NRCS Soil Survey map (Exhibit 3) shows the following soils in the project area:

Exhibit 3 also indicates that FEMA-mapped floodplain encroaches onto the southern edge of the project area where the unnamed tributary to Pebble Brook flows in a southerly direction.

Historical aerial photos of the project area were reviewed going back to 1941. Orthophotographs (2015, 2010, 2007, 2005, 2000, and 1995) and aerial photos (1990, 1980, 1970, 1963, and 1941) are attached (see Exhibits 4A-4L). This review is summarized in the table below.

CHANGES IN LAND USE OBSERVED ON AERIAL PHOTOGRAPHY FROM 1941 TO 2015
--

Year	
1941	East Sunset Drive is a small two lane road. There is one farmstead on the south side of East Sunset Drive where present day Sunset View is located. All other land use in the project area is in farm production as row crops or pasture. The unnamed tributary to Pebble Brook running through the middle of the project area is ditched.
1950	Another farmstead has been built on north side of East Sunset Drive, east of the unnamed tributary. Also, a barn (which still stands today) has been constructed on the south side of East Sunset Drive, just east of the unnamed tributary. Otherwise, land use remains the same.
1963	Additional buildings on the south side of East Sunset Drive, near the first farmstead, are present. Some of the agricultural fields (the wettest ones) are fallow.
1970	Land use changes are occurring from agricultural to residential uses. East Sunset Drive road improvements and re- alignment have occurred. Tenny Avenue is now built and Larchmont Drive is under construction north of Sunset Drive. Heyer Elementary school has been built north of project area. Extensive filling and grading is occurring along the northern edge of the project area near present day Gramling Lane. The original homestead south of Sunset Drive has been razed and replaced with a small subdivision along newly built Sunset View.

1980	East Sunset Drive has been returned to its original alignment, abandoning the roadbed apparent on the 1970 photo. Larchmont Drive has been extended eastward and new roads (Gramling Lane, Camden Way, and STH 164/59) have been built. Single family homes are being constructed along Larchmont Drive and Camden Way. Undeveloped lands are becoming increasingly shrubby.
1990	The southwest corner of East Sunset Drive and STH 164/59 has started to be developed, including a pond excavation and what appears to be ditching near the pond. Residential development in the project area resembles present day conditions.
1995	Additional development in the southwest corner of East Sunset Drive and STH 164/59 is occurring. Increased shrub and tree coverage is noticeable in undeveloped lands.
2000	No changes.
2005	No changes.
2007	No changes.
2010	No changes.
2015	No changes.

SEWRPC's sanitary sewer service area mapping (Exhibits 5A & 5B) shows that the project area is located within the planned sanitary sewer service area for the City of Waukesha and Environs.

The NRCS wetland inventory maps (Exhibits 6A & 6B) indicate lands on the north side of East Sunset Drive are Not Inventoried (NI). Lands to the south of East Sunset Drive are identified as upland in the western project area and wetland (W) in the eastern project area.

The ADID wetland map (Exhibit 7) indicates that wetlands located to the south of East Sunset Drive are located in a designated Primary Environmental Corridor (PEC) and, as such, have been designated as ADID wetlands under the Section 404(b)(1) Guidelines of the Clean Water Act..

Amount and Types of Wetlands in the Project Area

Five wetland plant community areas (PCA) were identified and inventoried during the field inspections, including a wet roadside ditch along the south side of East Sunset Drive, just east of Sunset View. A list of vascular plant species observed during the field inspection was prepared for each plant community area as well as plant community type(s), dominant plant species, disturbances, and any critical plant and animal species (Exhibit 9). The table below summarizes characteristics for each PCA.

PCA Number	Acreage*	PCA Type(s)	Dominant Species	Critical Species
1	0.8	Constructed stormwater detention basin and drainage ways with Shallow marsh, fresh (wet) meadow, and small stands of shrub-carr (willow thicket).	<u>Cirsium arvense</u> -Canada thistle <u>Dipsacus laciniatus</u> -Cut-leaved teasel <u>Phalaris arundinacea</u> -Reed canary grass <u>Typha angustifolia</u> -Narrow-leaved cat-tail	None
2	0.7	Fresh (wet) meadow and Southern wet to wet-mesic lowland hardwoods.	<u>Acer negundo</u> -Boxelder <u>Cares pellita</u> -Woolly sedge <u>Phalaris arundinacea</u> - Reed canary grass <u>Rhamnus cathartica</u> -Common buckthorn	None
3		Constructed roadside ditch with fresh (wet) meadow	Phalaris arundinacea-Reed canary grass	None
4	1.2	Fresh (wet) meadow, shrub- carr, open water, and Southern wet to wet-mesic lowland hardwoods. Constructed roadside ditch with shrub-carr.	<u>Fraxinus pennsylvanica</u> -Green ash <u>Phalaris</u> <u>arundinacea</u> -Reed canary grass <u>Rhamnus</u> <u>cathartica</u> -Common buckthorn <u>Symphyotrichum puniceum</u> -Red-stemmed aster	None
5	0.1	Open water, fresh (wet) meadow, and shrub-carr	<u>Phalaris</u> <u>arundinacea</u> -Reed canary grass <u>Sambucus nigra</u> -Elderberry <u>Typha angustifolia</u> -Narrow-leaved cat-tail	None

*Acreages not calculated for wet roadside ditches since the wetlands contained in them were not staked.

Wetland/Upland Boundary Explanation

A total of seventeen representative sample sites were identified within or just outside the project area during the one field inspection in 2013 and two field inspections in 2015. The Wetland Determination Data Forms describing the findings at each sample site are attached as Exhibit 10. The locations of the sample sites are shown on Exhibit 8. The sample sites labeled with letters in orange boxes were recorded during the 2013 visit while the sample sites labeled with numbers in green boxes were recorded during the 2015 field inspections. The wetland boundaries were determined using breaks in topography, changes in vegetation composition, visual identification of wetland hydrology, and presence of hydric soils.

Disturbed and Problematic Areas Encountered

Sample site 5 contained "significantly disturbed" vegetation due to land management activities (regular mowing) leading to obscured hydrophytic vegetation. Commission staff determined that, based upon the presence of wetland hydrology and hydric soils, this sample site would have a predominance of hydrophytic vegetation, similar to wetland sample site 6, if left unmanaged. Accordingly, sample site 5 was determined to be wetland.

Other Water Resources Located in the Project Area

No other water resources are located in the project area; however, all wetlands staked south of East Sunset Drive continue out of the project area.

Other Considerations

The wetlands located within the recorded Primary Environmental Corridor (PEC) as shown on Exhibit 8, have been designated as Advanced Delineation and Identification (ADID) wetlands under the Section 404(b)(1) Guidelines of the Clean Water Act and are deemed generally unsuitable for the discharge of dredge and fill material. In addition, recent revisions of the nonagricultural performance standards set forth in Section NR 151.125 of the *Wisconsin Statutes*, require establishment of a 75-foot impervious surface protective area to protect these higher quality wetlands. The 75-foot protective area would apply to Plant Community Area (PCA) Number 4. PCA number 5 and the eastern portions of PCA's 1 and 2, associated with the unnamed tributaries to Pebble Brook, should receive a 50-foot protective area due to the presence of these waterways. PCA number 3 and the western portions of PCA's 1 and 2, designed for storm water conveyance and treatment purposes, and are exempt from protective area performance standards. This designated protective area boundary is measured horizontally from the delineated wetland boundary to the closest impervious surface. The protective area requirements should be taken into consideration for any planned improvements along East Sunset Drive and it is suggested that you contact WDNR regarding approaches to meet the requirements. Finally, please be advised that no Federal or State regulatory jurisdiction determinations relative to any wetland permits or certifications are made under this report.

LITERATURE CITED

U.S. Army Corps of Engineers, 2015, Special Public Notice: *Guidance for Submittal of Delineation Reports to the St. Paul District Corps of Engineers and the Wisconsin Department of Natural Resources*, U.S. Army Corps of Engineers, March 2015.

U.S. Army Corps of Engineers, 2014, State of Wisconsin Wetland Plant List

U.S. Army Corps of Engineers, 2012, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0). U.S. Army Engineer Research and Development Center, January 2012.

USDA Natural Resources Conservation Service, 2010, National Food Security Act Manual, Fifth Edition, Part 514.60, November 2010.

U.S. Army Corps of Engineers, 1987, U.S. Army Corps of Engineers wetlands delineation manual. Wetlands Research Program Technical Report Y-87-1.

WDNR, Surface Water Data Viewer, website at http://dnrmaps.wi.gov/sl/?Viewer=SWDV

#225470 - CA737-264 East Sunset Drive Proposed Forcemain 300-2000






























EXHIBIT 5. Sewer Service Area Map East Sunset Drive Proposed Forcemain From Tenny Avenue to STH 59 Sections 11 and 14, T6N-R19E City and Town of Waukesha, Waukesha County

Map 8-14

ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREA FOR THE CITY OF WAUKESHA AND ENVIRONS

> U. S. Public Land Survey Sections 1, 2, 11, and 12 Township 6 North, Range 19 East





EXHIBIT 5. Sewer Service Area Map East Sunset Drive Proposed Forcemain From Tenny Avenue to STH 59 Sections 11 and 14, T6N-R19E City and Town of Waukesha, Waukesha County

Map 8-19

ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED SANITARY SEWER SERVICE AREA FOR THE CITY OF WAUKESHA AND ENVIRONS

U. S. Public Land Survey Sections 13, 14, 23, and 24 Township 6 North, Range 19 East





EXHIBIT 6. Draft NRCS Wetland Inventory Map East Sunset Drive Proposed Forcemain From Tenny Avenue to STH 59 Sections 11 and 14, T6N-R19E City and Town of Waukesha, Waukesha County



EXHIBIT 6. Draft NRCS Wetland Inventory Map East Sunset Drive Proposed Forcemain From Tenny Avenue to STH 59 Sections 11 and 14, T6N-R19E City and Town of Waukesha, Waukesha County



EXHIBIT 7. ADID Wetland Map East Sunset Drive Proposed Forcemain From Tenny Avenue to STH 59 Sections 11 and 14, T6N-R19E City and Town of Waukesha, Waukesha County

ADID Wetlands In Southeast Wisconsin



Legend





Legend

Er Barana



- Wet Ditch
- Vaterway/Surface Water
- Flow Direction

Source: SEWRPC Date of Photography: 2015 CA#737-264

250

125



ê d

2

(1)

EXHIBIT 9.

PRELIMINARY VEGETATION SURVEY SUNSET DRIVE FROM TENNY AVENUE TO STH 59

Dates:	May 28, 2013 April 15 and September 9, 2015
Observers:	Daniel L. Carter, Ph.D., Principal Biologist Christopher J. Jors, Senior Biologist Jennifer Dietl, Biologist Zofia Noe, Biologist Donald M. Reed, Ph.D., Former Chief Biologist Lawrence A. Leitner, Ph.D., Former Principal Biologist Southeastern Wisconsin Regional Planning Commission
Location:	City and Town of Waukesha in parts of U.S. Public Land Survey Sections 11 and 14, Township 6 North, Range 19 East, Waukesha County, Wisconsin.

Species List: Plant Community Area No. 1 – Native Species Co-dominant species

> Acer negundo-Boxelder Carex lacustris-Lake sedge Carex pellita--Woolly sedge Carex stipata—Common fox sedge Carex stricta-Tussock sedge Cornus alba--Red-osier dogwood Epilobium coloratum -- Willow-herb Euthamia graminifolia—Grassleaf goldenrod Eutrochium maculatum-Joe-Pye weed Impatiens capensis -- Jewelweed Juglans nigra--Black walnut Salix amygdaloides -- Peach-leaved willow Salix bebbiana—Beaked willow Salix interior -- Sandbar willow Sambucus nigra—Elderberry Schoenoplectus tabernaemontani-Soft-stem bulrush Scirpus atrovirens--Green bulrush Solidago altissima -- Tall goldenrod Solidago gigantea -- Giant goldenrod Spartina pectinate-Prairie cordgrass Symphyotrichum lanceolatum--Marsh aster Symphyotrichum puniceum--Red-stemmed aster Urtica dioica-Stinging nettle Verbena hastata--Blue vervain Vitis riparia—Riverbank grape Typha latifolia-Broad-leaved cat-tail

NON-Native Species

<u>Agrostis</u> sp.--Redtop grass <u>Alliaria</u> <u>petiolata</u>--Garlic-mustard PCA No. 1 cont.

 Barbarea
 vulgaris--Yellow rocket

 Cirsium
 arvense--Canada thistle

 Cirsium
 vulgare--Bull thistle

 Dipsacus
 laciniatus--Cut-leaved teasel

 Hesperis
 matronalis
 Dames rocket

 Lonicera
 X bella--Hybrid honeysuckle

 Pastinaca
 sativa
 Wild parsnip

 Phalaris
 arundinacea--Reed canary grass

 Poa
 pratensis
 -Kentucky bluegrass

 Rhamnus
 cathartica--Common buckthorn

 Rumex
 crispus--Curly dock

 Solanum
 dulcamara
 Deadly nightshade

 Thlaspi
 arvense
 Penny cress

 Typha
 angustifolia--Narrow-leaved cat-tail

Total number of plant species: 42 Number of alien, or non-native, plant species: 16 (38 percent)

This approximately 0.8-acre plant community area consists of a constructed stormwater basin and drainage way associated with the upper reaches of Pebble Brook. Plant community types include shallow marsh, fresh (wet) meadow, and small stands of shrub-carr (willow thicket). Disturbances to the plant community area include pond excavation, side-casting of dredge spoil material, water level changes due to ditching and draining, dumping of yard waste, past filling along a former road bed, mowing along the wetland edge, and siltation and sedimentation due to stormwater runoff from adjacent lands. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

Plant Community Area No. 2 - Native Species

<u>Acer negundo</u>--Boxelder <u>Carex granularis</u>--Pale sedge <u>Carex pellita</u>--Woolly sedge <u>Cornus racemosa</u>--Grey dogwood <u>Fraxinus pennsylvanica</u>—Green ash <u>Ulmus Americana</u>—American elm

NON-Native Species

<u>Achillea</u> <u>millefolium</u>--Yarrow <u>Alliaria</u> <u>petiolata</u>--Garlic-mustard <u>Cirsium</u> <u>arvense</u>--Canada thistle <u>Convolvulus</u> <u>arvensis</u>--Field bindweed <u>Phalaris</u> <u>arundinacea</u>--Reed canary grass <u>Poa</u> <u>pratensis</u>--Kentucky bluegrass <u>Rhamnus</u> <u>cathartica</u>--Common buckthorn

Total number of plant species: 13 Number of alien, or non-native, plant species: 7 (54 percent)

This approximately 0.7-acre plant community area, associated with the upper reaches of Pebble Brook, consists of fresh (wet) meadow and second growth, Southern, wet to wet-mesic lowland hardwoods. Disturbances to the plant community area include water level changes due to ditching and draining, past filling along a former road bed, mowing, and siltation and sedimentation due to stormwater runoff from adjacent lands. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

Plant Community Area No. 3 - Native Species

<u>Acer negundo</u>--Boxelder <u>Salix discolor</u>--Pussy willow <u>Solidago altissima</u>--Tall goldenrod <u>Solidago gigantea</u>--Giant goldenrod <u>Symphyotrichum novae-angliae</u>--New England aster

NON-Native Species

<u>Phalaris</u> <u>arundinacea</u>--Reed canary grass Rhamnus cathartica--Common buckthorn

Total number of plant species: 7 Number of alien, or non-native, plant species: 2 (29 percent)

This plant community area consists of a constructed roadside wet ditch with fresh (wet) meadow. Disturbances to the plant community area include siltation and sedimentation due to stormwater runoff from adjacent lands and water level changes due to ditching and concrete-lining. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

Plant Community Area No. 4 - Native Species

Acer negundo--Boxelder <u>Cornus alba</u>--Red-osier dogwood <u>Cornus obliqua</u>--Silky dogwood <u>Echinocystis lobata</u>--Wild cucumber <u>Euthamia graminifolia</u>--Grassleaf goldenrod <u>Fraxinus pennsylvanica</u>--Green ash <u>Helianthus tuberosus</u>--Jerusalem artichoke <u>Impatiens capensis</u>--Jewelweed <u>Solidago altissima</u>--Tall goldenrod <u>Symphyotrichum puniceum</u>--Red-stemmed aster <u>Urtica dioica</u>--Stinging nettle <u>Vitis riparia</u>--Riverbank grape

NON-Native Species

 Alliaria
 petiolata</u>--Garlic-mustard

 Arctium
 minus</u>--Common burdock

 Barbarea
 vulgaris</u>--Yellow rocket

 Cirsium
 arvense</u>--Canada thistle

 Glechoma
 hederacea</u>--Creeping Charlie

 Lonicera
 X bella</u>--Hybrid honeysuckle

 Phalaris
 arundinacea

 Rhamnus
 cathartica--Common buckthorn

 Solanum
 dulcamara--Deadly nightshade

 Sonchus
 arvensis</u>--Field sow-thistle

 Typha
 angustifolia</u>--Narrow-leaved cat-tail

PCA No. 4 cont.

Total number of plant species: 20 Number of alien, or non-native, plant species: 9 (45 percent)

This approximately 1.2-acre plant community area is part of a larger wetland complex associated with an unnamed tributary to Pebble Brook and consists of open water, fresh (wet) meadow, shrub-carr, and second growth, Southern wet to wet-mesic lowland hardwoods. In addition, this plant community area includes a constructed roadside wet ditch with shrub-carr. Disturbances to the plant community area include past agricultural land management activities, water level changes due to ditching and stream channel re-alignment, side-casting of dredge spoil material, clearing of vegetation, past filling, and mowing. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

Plant Community Area No. 5 - Native Species

<u>Asclepias syriaca</u>--Common milkweed <u>Carex pellita</u>--Woolly sedge <u>Fraxinus pennsylvanica</u>--Green ash <u>Salix interior</u>--Sandbar willow <u>Sambucus nigra</u>--Elderberry <u>Solidago gigantea</u>--Giant goldenrod <u>Solidago gigantea</u>--Giant goldenrod <u>Symphyotrichum lanceolatum</u>--Marsh aster <u>Symphyotrichum puniceum</u>--Red-stemmed aster <u>Urtica dioica</u>--Stinging nettle <u>Vitis riparia</u>--Riverbank grape

NON-Native Species

<u>Phalaris</u> <u>arundinacea</u>--Reed canary grass <u>Rhamnus</u> <u>cathartica</u>--Common buckthorn <u>Typha</u> <u>angustifolia</u>--Narrow-leaved cat-tail

Total number of plant species: 14 Number of alien, or non-native, plant species: 3 (21 percent)

This approximately 0.1-acre plant community area is part of a larger wetland complex associated with the upper reaches of Pebble Brook and consists of open water, fresh (wet) meadow, and shrub-carr. Disturbances to the plant community area include mowing along the wetland edge, siltation and sedimentation due to stormwater runoff from adjacent lands, and water level changes due to ditching and draining. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

EXHIBIT 10.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region								
Project/Site: E. Sunset Dr. Proposed Force Main City/Coun	ty: <u>City</u>	of Waukesha	a/Waukes	sha County		Sampling Date: 04/15/2015		
Applicant/Owner:				State: WI		Sampling Point: <u>1</u>		
Investigator(s): Jen Dietl and Zofia Noe; SEWRPC	Section	on, Townshij	p, Range:	Section 11, T6N, R	19 <u>E</u>			
Landform (hillslope, terrace, etc.): constructed drainage way	Local	relief (conca	ave, conv	ex, none): <u>linear</u>		Slope (%):		
Subregion (LRR or MLRA): LRR K	Lat:		Long:	Datum:				
Soil Map Unit Name: Loamy land (Lu)					NWI class	sification: <u>none</u>		
Are climatic/hydrologic conditions on the site typical for this time of year	?	Yes 🗌	No 🖂	(If no, explain in Rei	marks)			
Are Vegetation, Soil, or Hydrology significantly distur	bed?	Are "Norm	al Circur	nstances" present?	Yes 🛛	No 🗌		
Are Vegetation, Soil, or Hydrology naturally problema	atic?	(If, needeo	d, explain	any answers in Rem	arks.)			
SUMMARY OF EINDINGS - Attach site man showing	compl	ina noint	locatio	ne transacte ir	nnortan	t faaturaa ata		

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soils Present? Wetland Hydrology Present?	⊠Yes ⊠Yes ⊠Yes	□No □No □No	Is the Sampled Area within a Wetland?	🛛 Yes	□No			
			If yes, optional Wetland Site ID	: Plant Community Are	ea (PCA) No. 1			
Remarks: (Explain alternative proce	Remarks: (Explain alternative procedures here or in a separate report.) Antecedent precipitation drier than normal. Sample site is part of a							
constructed roadside drainage way that is located in an unmapped wetland just upslope of a mapped wetland symbol (less than 0.25 acre). Sample is near the western wetland boundary of PCA No. 1.								

HYDROLOGY

Wetland Hydrology Indicators:				Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is	required; chec	<u>ck all that apply)</u>		Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (B9)				Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)				Moss Trim Lines (B16)
Saturation (A3)				Dry-Season Water Table (C2)
Water marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospheres on Living R	oots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced Iron (C4)		Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soil	s (C6)	Geomorphic Position (D2)
Iron Deposits (B5)		Thin Muck Surface (C7)		Shallow Aquitard (D3)
Inundation Visible on Aeria	I Imagery (B7)	Other (Explain in Remarks)		Microtopographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8))		FAC-Neutral Test (D5)
Field Observations:				
Surface Water Present? Yes	No 🛛 [Depth (inches):		
Water Table Present? Yes	No 🛛 [Depth (inches):		
Saturation Present? Ves		$\mathbf{D}_{\mathbf{r}}$ and $\mathbf{D}_{\mathbf{r}}$ and $\mathbf{D}_{\mathbf{r}}$ and $\mathbf{D}_{\mathbf{r}}$ and $\mathbf{D}_{\mathbf{r}}$		
(includes conillary frings)		Deptn (Inches): <u>U (at surface)</u>	Wetland H	ydrology Present? Yes 🖂 No 📋
(includes capillary fringe)		Deptn (inches): <u>U (at surface)</u>	Wetland Hy	ydrology Present? Yes 🛛 No 📋
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit	ge, monitoring v	well, aerial photos, previous inspections), if av	Wetland Hy	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit	ge, monitoring v 4).	Well, aerial photos, previous inspections), if av	Wetland Hy	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Deptn (inches): <u>0 (at surface)</u> well, aerial photos, previous inspections), if av	Wetland Hy	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Weptn (inches): <u>U (at surrace)</u> well, aerial photos, previous inspections), if av	Wetland H	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Weptn (inches): <u>U (at surface)</u> well, aerial photos, previous inspections), if av	Wetland Hy	ydrology Present? Yes ⊠ No ∐ ∞ Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Weptn (inches): <u>U (at surrace)</u> well, aerial photos, previous inspections), if av	Wetland H	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Well, aerial photos, previous inspections), if av	Wetland H	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Deptn (inches): <u>0 (at surrace)</u> well, aerial photos, previous inspections), if av	Wetland H	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Deptn (inches): <u>U (at surrace)</u> well, aerial photos, previous inspections), if av	Wetland H	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Deptn (inches): <u>U (at surrace)</u> well, aerial photos, previous inspections), if av	Wetland H	ydrology Present? Yes ⊠ No ∟
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Deptn (inches): <u>0 (at surrace)</u> well, aerial photos, previous inspections), if av	Wetland H	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Well, aerial photos, previous inspections), if av	Wetland Hy	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map
(includes capillary fringe) Describe Recorded Data (stream gau (Exhibit 3), and Aerial photos (Exhibit Remarks:	ge, monitoring v 4).	Deptn (inches): <u>0 (at surrace)</u> well, aerial photos, previous inspections), if av	Wetland H	ydrology Present? Yes ⊠ No ∐ no Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map

VEGETATION – Use scientific names of plants.

				camping roma <u>r</u>
Tree Stratum (Plot size: 30' radius)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: 1 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: <u>1</u> (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7.				Prevalence Index worksheet:
	<u>0</u>	= Total Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1.				FACW species x 2 =
2.				FAC species x 3 =
3				FACU species x 4 =
4.				UPL species $x 5 =$
5.				Column Totals: (A) (B)
6.				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
	<u>0</u>	= Total Cove	r	Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				□ Prevalence Index is $\leq 3.0^{1}$
1. Phalaris arundinacea	<u>100</u>	\boxtimes	FACW	Morphological Adaptations ¹ (Provide supporting
2. Dipsacus laciniatus	<u>20</u>		FACU	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
3. Solidago gigantea	<u>5</u>		FACW	
A				¹ Indicators of hydric soil and wetland hydrology must
				De present, unless disturbed of problematic.
6.				Definitions of Vegetation Strata:
7				Tree Mandy plants 2in (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height
0				
10				Sapling/shrub – Woody plants less than 3in. DBH and greater than 3 28 ft (1 m) tall
11				
12				Herb – All herbaceous (non-woody) plants, regardless
12	125	= Total Cove	r	of size, and woody plants less than 5.20 it tail.
Woody Vine Stratum (Plot size: 30' radius)	<u></u>			Woody vines – All woody vines greater than 3.28 ft in
1				neight
2				
2. <u></u> 3				
3. <u> </u>				Hydrophytic Vegetation
4	0	– Total Covo		Present? Yes 🛛 No 🗌
Remarks: (include photo number here or on a separate sheet) Fresh (we	t) meadow.		
	.,	.,		

Profile Des	scription: (Describe t	o the dep	th needed to docum	ent the ind	icator or con	firm the a	bsence	e of indicators.)	
Depth	Matrix	<u> </u>		Redox Feat			_	- <i>i</i>	- ·
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Туре	Loc ²		Texture	Remarks
0-6	10YR 3/1	100						loam	
6-12	10YR 3/1	95	10YR 4/4	5			Sity	ciay loam	
12-15	10YR 3/1	90	10YR 4/4	5	<u> </u>	PL M	Clay		with gravel
45.	7.5YR 3/3	5					·		Define als Oreccel
15+							·		Refusal: Gravel
							·		
							·		
							·		
							·		
¹ Type: C=0	Concentration D=Den	letion RM	I=Reduced Matrix MS	S= Masked S	Sand Grains			² Location: PI =Pore	Lining, M=Matrix
Hydric Soi	I Indicators:						I	ndicators for Proble	ematic Hydric Soils ³ :
	Histosol (A1)		D Pol	yvalue Belo	w Surface (S	8) (LRR R,		2 cm Muck (A	10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)			MLRA 149)B)			Coast Prairie	Redox (A16) (LLR K, L, R)
	Black Histic (A3) Hydrogon Sylfido (A4)			n Dark Surfa	ace (S9) (LRF Minoral (E1) (RR, MLRA	149B)	5 cm Mucky F	Peat or Peat (S3) (LLR K, L, R)
	Stratified Lavers (A5)			amy Gleved	Matrix (F2)	LKKK, L)		Polyvalue Bel	low Surface (S8) (LRR K. L)
	Depleted Below Dark	Surface (A	411) 🗌 Dep	pleted Matrix	x (F3)			Thin Dark Su	rface (S9) (LRR K, L)
	Thick Dark Surface (A	12)	🖾 Rec	dox Dark S	urface (F6)			Iron-Mangane	ese Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral	(S1) (S4)		oleted Dark	Surface (F7)			Piedmont Flo	odplain Soils (F19) (MLRA 149B)
	Sandy Gleyed Matrix (Sandy Redox (S5)	(34)		JOX Depress	SIULIS (FO)			Red Parent N	(146) (MERA 144A, 145, 149B) laterial (F21)
	Stripped Matrix (S6)							Very Shallow	Dark Surface (TF12)
	Dark Surface (S7) (LR	RR R, MLF	₹A 149B)					Other (Explain	n in Remarks)
³ Indicators	of Hydrophytic yogota	tion and y	wotland hydrology mus	t ha proson	t unloce diet	urbod or pr	obloma	tic	
Restrictive	Laver (if observed)	:	retiand hydrology mus	t be preseri	it, unicas usit		obierna		
Туре:	Gravel (possible fill?)	<u>)</u>						Hydric Soil Present	? Yes 🛛 No 🗌
Depth	n (inches): <u>15</u>								
Remarks:									

WETLAND DETERMINATION D	ATA FORM – Northcentral and Northeast Region	
Project/Site: E. Sunset Dr. Proposed Force Main City/Con	unty: City of Waukesha/Waukesha County Sampling Date: 04/15	/2015
Applicant/Owner:	State: <u>WI</u> Sampling Point: <u>2</u>	
Investigator(s): Jen Dietl and Zofia Noe; SEWRPC	Section, Township, Range: Section 11, T6N, R19E	
Landform (hillslope, terrace, etc.): constructed stormwater basin	Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>0-2%</u>	
Subregion (LRR or MLRA): <u>LRR K</u>	Lat: Long: Datum:	
Soil Map Unit Name: Houghton muck (HtA)	NWI classification: wet < 0.25	
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 🗌 No 🛛 (If no, explain in Remarks)	
Are Vegetation, Soil, or Hydrology significantly dist	urbed? Are "Normal Circumstances" present? Yes 🛛 No 🗌	
Are Vegetation, Soil, or Hydrology naturally probler	natic? (If, needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.	
· ·		
Hydrophytic Vegetation Present? Vas No	Is the Sampled Area	
Hydrophylic Vegetation Lesent: Tes INo	within a Wetland? Xes No	
Wetland Hydrology Present?		
	If ves, optional Wetland Site ID ⁻ PCA No. 1	
Remarks: (Explain alternative procedures here or in a separate rep	ort) Antecedent precipitation drier than normal Constructed stormwater dete	ntion
hasin		,110011
Wetland Hydrology Indicators	Secondary Indiactors (minimum of two ro	quirod)
		<u>Juneu)</u>
Primary Indicators (minimum of one is required; check all that apply	D Surface Soil Cracks (B6)	
Surface Water (A1) Wate	r-Stained Leaves (B9)	
High Water Table (A2)	tic Fauna (B13)	
Water marks (B1)	ogen Sulfide Odor (C1) Crayfish Burrows (C8)	
Sediment Deposits (B2)	zed Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery	(C9)
Drift Deposits (B3)	ence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	nt Iron Reduction in Tilled Soils (C6)	
	Muck Surface (C7) \Box Shallow Aquitard (D3)	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)	
Field Observations:		
Surface Water Present? Yes Depth (inches):		
Water Table Present? Yes No Depth (inches):	2	
Saturation Present? Yes 🛛 No 🗍 Depth (inches):		
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if available: Topo Map (Exhibit 1), WWI Map (Exhibit 2), So	oils Map
(Exhibit 3), and Aerial photos (Exhibit 4).		-
Remarks:		

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30' radius)	<u>% Cover</u>	Species?	<u>Status</u>	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: <u>1</u> (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>1</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7				Prevalence Index worksheet:
	<u>0</u>	= Total Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>0</u>	= Total Cove	r	Rapid Test for Hydrophytic Vegetation Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				□ Prevalence Index is $\leq 3.0^{1}$
1. <u>Typha angustifolia</u>	<u>100</u>	\boxtimes	<u>OBL</u>	Morphological Adaptations ¹ (Provide supporting
2. Epilobium coloratum	<u>10</u>		<u>OBL</u>	Dista in Remarks or on a separate sneet)
3. Polygonum sp.	<u>1</u>		FACU	
				¹ Indicators of hydric soil and wetland hydrology must
4				Be present, unless disturbed of problematic.
5. <u> </u>				Definitions of Vegetation Strata:
o				
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
8				at breast neight (DDF), regardless of neight
9		<u> </u>		Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
12	<u> </u>			of size, and woody plants less than 3.28 ft tall.
	<u>111</u>	= Total Cove	r	Woody vines – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)		_		height
1				
2				
3				Hydrophytic
4				Vegetation
	<u>0</u>	= Total Cove	r	Present? Yes 🖄 No 📋
Remarks: (include photo number here or on a separate sheet	.) Shallow m	harsh.		

Sampling Point: 2

Depth	Matrix			Redox Feat	tures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-9	10YR 2/1	100					Mucky loam	
9-15	10YR 4/2	95	7.5YR 4/4	5	С	PL M	Sandy clay loam	with gravel
15-19	N 2.5/1	90	7.5YR 3/4	10	С	PL M	Silty clay loam	
19+								Refusal [.] Gravel
10.								
			·					
				·	. <u> </u>			
	<u> </u>			·				
							·	
							·	
							A	
Type: C=	Concentration, D=Depl	letion, RN	1=Reduced Matrix, MS	s= Masked S	Sand Grains		Location: PL=Pore	Lining, M=Matrix
riyaric So	Histosol (A1)			vvalue Relo	W Surface (S	8) (RR P	Indicators for Probl	ematic myoric Solis": (10) (I RR K I MI RA 149R)
	Histic Epipedon (A2)			MLRA 149	B)	$\mathcal{I}_{\mathcal{I}}$		Redox (A16) (LLR K. L. R)
	Black Histic (A3)		🔲 Thi	n Dark Surfa	ace (S9) (LRI	R R, MLRA	149B) 5 cm Mucky I	Peat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)		🖂 Lo	amy Mucky	Mineral (F1)	(LRR K, L	.) 🗌 🗌 Dark Surface	(S7) (LRR K, L)
	Stratified Layers (A5)		🗌 Loa	amy Gleyed	Matrix (F2)		Polyvalue Be	low Surface (S8) (LRR K, L)
	Depleted Below Dark	Surface	(A11) 🗌 De	pleted Matrix	x (F3)		Thin Dark Su	rface (S9) (LRR K, L)
	Thick Dark Sufface (A	12) (S1)		dox Dark Su plotod Dark	Ifface (F6) Surface (E7)			ese Masses (F12) (LRR K, L, R)
	Sandy Gleved Matrix ((31) S4)		dox Depress	sions (F8)			: (TA6) (MLRA 144A, 145, 149B)
	Sandy Redox (S5)	01)					Red Parent N	Aaterial (F21)
	Stripped Matrix (S6)						Very Shallow	Dark Surface (TF12)
	Dark Surface (S7) (LR	R R, MLF	RA 149B)				Other (Explai	n in Remarks)
³ Indicators	of Hydrophytic ycaotol	tion and w	votland hydrology mur	t ha procon	t unlogo dict	urbod or pr	oblomatia	
Restrictiv	e Laver (if observed)		veliand hydrology mus	st be presen	it, unless dist			
	: Gravel (fill material?)						Hydric Soil Present	? Yes 🛛 No 🗆
Dept	th (inches): <u>19</u>							
Remarks:								

WETLAND DETERMINATION DATA	FORM – Northcentral and Northeast Region
Project/Site: E. Sunset Dr. Proposed Force Main City/County: Q	City of Waukesha/Waukesha County Sampling Date: 04/15/2015
Applicant/Owner:	State: <u>WI</u> Sampling Point: <u>3</u>
Investigator(s): Jen Dietl and Zofia Noe; SEWRPC Se	ection, Township, Range: Section 11, T6N, R19E
Landform (hillslope, terrace, etc.): hillslope Lo	ocal relief (concave, convex, none): linear Slope (%): 0-2%
Subregion (LRR or MLRA): LRR K	at: Long: Datum:
Soil Map Unit Name: Houghton muck (HtA)	NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes 🔲 No 🛛 (If no, explain in Remarks)
Are Vegetation, Soil, or Hydrology significantly disturbed?	Are "Normal Circumstances" present? Yes 🛛 No 🗌
Are Vegetation, Soil, or Hydrology naturally problematic?	(If, needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? □Yes ⊠No Hydric Soils Present? □Yes ⊠No Wetland Hydrology Present? □Yes ⊠No	Is the Sampled Area within a Wetland?
	If yes, optional Wetland Site ID:
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	ed Leaves (B9)
High Water Table (A2)	una (B13)
Saturation (A3)	its (B15)
Water marks (B1)	Sulfide Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rh	nizospheres on Living Roots (C3)
Drift Deposits (B3)	f Reduced Iron (C4)
Algal Mat or Crust (B4)	Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)	Surface (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	ain in Remarks)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes D No Depth (inches):	
Water Table Present? Yes 🗌 No 🛛 Depth (inches):	
Saturation Present? Yes I No I Depth (inches): (includes capillary fringe)	- Wetland Hydrology Present? Yes D No 🛛
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre (Exhibit 3), and Aerial photos (Exhibit 4).	evious inspections), if available: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map

Remarks:

VEGETATION – Use scientific names of plants.

	A In a a luita	Densinent	la d'a stan	<u>-</u>
Tree Stratum (Plot size: 30' radius)	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>1</u> (B)
5				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 0% (A/B)
7.				Prevalence Index worksheet:
	<u>0</u>	= Total Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3.				FACU species x 4 =
4.				UPL species x 5 =
5.				Column Totals: (A) (B)
6.				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
	<u>0</u>	= Total Cove	r	Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)				□ Dominance rest is $>50\%$ □ Prevalence Index is $\leq 3.0^1$
1. Elvmus repens	<u>100</u>	\boxtimes	FACU	Morphological Adaptations ¹ (Provide supporting
2 Poa pratensis	2		FACU	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
3 Symphyotrichum pilosum	2		FACU	
· <u></u>				¹ Indicators of hydric soil and wetland hydrology must
4				Be present, unless disturbed or problematic.
o				Definitions of Vegetation Strata:
o				
7 2				Tree – Woody plants 3in. (7.6 cm) or more in diameter at breast beight (DBH), regardless of beight
8				at breast height (BBH), regulatess of height
9				Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tail.
11				Herb – All herbaceous (non-woody) plants, regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>104</u>	= Total Cove	r	Woody vines – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)		_		height
1				
2				
3				Hydrophytic
4				Vegetation
	<u>0</u>	= Total Cove	r	
Remarks: (include photo number here or on a separate sheet	.) Upland m	eadow.		

Profile De	scription: (Describe t	o the dep	th needed to docum	ent the indi	icator or con	firm the a	bsenc	e of indicators.)	
Depth	Matrix			Redox Feat	ures		_		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		Texture	Remarks
0-10	10YR 2/1	100					Clay	loam	
10-12	10YR 2/1	88	7.5YR 4/4	2	С	М	Clay	loam	
	10YR 4/2	10							
12+									Refusal: Gravel fill material
¹ Type: C=	Concentration, D=Depl	etion, RM	Reduced Matrix, MS	S= Masked S	Sand Grains			² Location: PL=Pore	Lining, M=Matrix
Hydric So	il Indicators:				w Surface (C)				ematic Hydric Soils ³ :
	Histic Enipedon (A2)			MI RA 149	w Surrace (S8 B)) (LKK K,		Coast Prairie	Redox (A16) (IIRK I R)
	Black Histic (A3)		🗖 Thi	n Dark Surfa	ace (S9) (LRF	R R. MLRA	149B) \Box 5 cm Mucky F	Peat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)			my Mucky M	Vineral (F1) (LRR K, L)		Dark Surface	(S7) (LRR K, L)
	Stratified Layers (A5)		🗌 Loa	my Gleyed	Matrix (F2)			Polyvalue Bel	ow Surface (S8) (LRR K, L)
	Depleted Below Dark S	Surface (A	(11) 🗌 Dej	pleted Matrix	(F3)			Thin Dark Su	face (S9) (LRR K, L)
	Thick Dark Surface (A	12) (S1)		dox Dark Su	rface (F6)			Iron-Mangane Riedmont Flo	ese Masses (F12) (LRR K, L, R)
	Sandy Gleved Matrix ((31) S4)		dox Depress	sions (F8)			Mesic Spodic	(TA6) (MLRA 144A, 145, 149B)
	Sandy Redox (S5)	01)						Red Parent M	laterial (F21)
	Stripped Matrix (S6)							Very Shallow	Dark Surface (TF12)
	Dark Surface (S7) (LR	R R, MLF	RA 149B)					Other (Explain	n in Remarks)
³ Indicators	of Hydrophytic vegetat	tion and v	etland hydrology mus	t be present	t. unless distu	urbed or pro	oblema	atic.	
Restrictiv	e Layer (if observed):			<u></u>	.,				
Туре	e: Gravel fill material							Hydric Soil Present	? Yes 🗌 No 🖾
Dept	th (inches): <u>12</u>								
Remarks:	Gravel fill material fro	om past	construction of E. S	unset Drive	е.				
L									

WETLAND DETERMINATION DATA I	FORM – Northcentral and Northeas	st Region
Project/Site: E. Sunset Dr. Proposed Force Main City/County: Cit	y of Waukesha/Waukesha County	Sampling Date: 09/09/2015
Applicant/Owner:	State: <u>WI</u>	Sampling Point: <u>4</u>
Investigator(s): Jen Dietl and Dan Carter; SEWRPC Sec	tion, Township, Range: <u>Section 14, T6N, R19E</u>	
Landform (hillslope, terrace, etc.): hillslope Loc	al relief (concave, convex, none): linear	Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): LRR K Lat:	Long: Datum:	
Soil Map Unit Name: Houghton muck (HtA)	NWI c	lassification: none
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes 🔲 No 🛛 (If no, explain in Remarks)	
Are Vegetation, Soil, or Hydrology significantly disturbed?	Are "Normal Circumstances" present? Yes	No 🗌
Are Vegetation, Soil, or Hydrology naturally problematic?	(If, needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing samp	ling point locations, transects, import	ant features, etc.
Hydrophytic Vegetation Present? □Yes ⊠No Hydric Soils Present? □Yes ⊠No Wetland Hydrology Present? □Yes ⊠No	Is the Sampled Area within a Wetland?	⊠No
	If yes, optional Wetland Site ID:	
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Ind	icators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface S	oil Cracks (B6)
Surface Water (A1)	d Leaves (B9)	Patterns (B10)
High Water Table (A2)	a (B13) Moss Trin	n Lines (B16)
Saturation (A3) Marl Deposits	(B15) Dry-Seas	on Water Table (C2)
Water marks (B1)	fide Odor (C1)	Burrows (C8)
Sediment Deposits (B2)	cospheres on Living Roots (C3) Saturation	Nisible on Aerial Imagery (C9)
Drift Deposits (B3)	Reduced Iron (C4)	r Stressed Plants (D1)
Algal Mat or Crust (B4)	eduction in Tilled Soils (C6) Geomorp	hic Position (D2)
Iron Deposits (B5)	rface (C7)	Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	n in Remarks)	ographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	EAC-Neu	tral Test (D5)
Field Observations:		
Surface Water Present? Yes Depth (inches):		
Water Table Present? Yes I No I Depth (inches):		
Saturation Present? Yes No Depth (inches): 14	Wetland Hydrology Prese	nt? Yes 🗌 No 🖂

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map (Exhibit 3), and Aerial photos (Exhibit 4).

Remarks:

(includes capillary fringe)

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	· · · -
Tree Stratum (Plot size: <u>30' radius</u>)	<u>% Cover</u>	Species?	<u>Status</u>	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: <u>0</u> (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>2</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
7				Prevalence Index worksheet:
	<u>0</u>	= Total Cover	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>0</u>	= Total Cover	r	Rapid Test for Hydrophytic Vegetation Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				Prevalence Index is $\leq 3.0^{1}$
1. <u>Poa pratensis</u>	<u>60</u>	\boxtimes	FACU	Morphological Adaptations ¹ (Provide supporting
2. Elymus repens	<u>20</u>	\boxtimes	FACU	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
3. Glechoma hederacea	<u>15</u>		FACU	
4 Schedonorus arundinaceus	<u>13</u>		FACU	¹ Indicators of hydric soil and wetland hydrology must Be present unless disturbed or problematic
5. Cirsium arvense	<u>5</u>		FACU	
6. Convolvulus arvense	<u>5</u>		UPL	Definitions of Vegetation Strata:
7. <u>Daucus carota</u>	<u>3</u>		<u>UPL</u>	Tree – Woody plants 3in. (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height
9				Saplinα/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tall.
11				Herb - All herbaceous (non-woody) plants, regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>121</u>	= Total Cover	r	Weedwaines Allweedwaines greater than 2.20 ft in
Woody Vine Stratum (Plot size: 30' radius)				height
1				C C C C C C C C C C C C C C C C C C C
2				
3				Hydrophytic
4				Vegetation
-	<u>0</u>	= Total Cover	r	Present? Yes No 🛛
Remarks: (include photo number here or on a separate sheet.) Upland m	eadow, occasio	onally mow	ed for right-of-way maintenance.

Sampling Point: 4

Sampling Point: 4

Depth	Matrix		F	Redox Fea	tures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	_	Texture	Remarks
0-8	10YR 2/1	100					Loam		fill material
8-19	10YR 3/4	30					Sand	y clay	with gravel, fill material
	10YR 4/3	30							
	10YR 4/4	30							
	10YR 3/1	10							
19-32	N 2.5/0	100					Muck		
			<u> </u>						
			<u> </u>						
					. <u> </u>				
-	·					<u> </u>			
	Concontration D-Dor	plotion DM-	Poducod Matrix MS-	- Mackod 9	Sand Grains			² l ocation: DI -Doro	Lipipa M-Matrix
Hydric So	il Indicators:						1	ndicators for Proble	ematic Hydric Soils ³ :
	Histosol (A1)		Poly	value Belo	w Surface (S	8) (LRR R,		2 cm Muck (A	10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)			MLRA 149)B)			Coast Prairie	Redox (A16) (LLR K, L, R)
	Black Histic (A3)		🔲 Thin	Dark Surf	ace (S9) (LR	R R, MLRA	149B)	5 cm Mucky F	Peat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4	.)	Loar	ny Mucky	Mineral (F1) ((LRR K, L)		Dark Surface	(S7) (LRR K, L)
	Depleted Below Dark	Surface (A1	Loan	ny Gleyed eted Matri	Matrix (F2)			Polyvalue Bel Thin Dark Sur	ow Sufface (S8) (LRR K, L) face (S9) (LRR K L)
	Thick Dark Surface (A	\12)		ox Dark Su	urface (F6)			Iron-Mangane	se Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral	(S1)	Depl	eted Dark	Surface (F7)			Piedmont Floor	odplain Soils (F19) (MLRA 149B)
	Sandy Gleyed Matrix	(S4)	Redo	ox Depress	sions (F8)			Mesic Spodic	(TA6) (MLRA 144A, 145, 149B)
	Sandy Redox (S5)							Red Parent M	aterial (F21) Dark Surface (TE12)
	Dark Surface (S7) (II		149B)					Other (Explain	in Remarks)
			1402)						in remarkey
³ Indicators	of Hydrophytic vegeta	ation and wet	land hydrology must	be presen	t, unless dist	urbed or pro	blema	tic.	
Restrictive	e Layer (if observed):							
Туре	::						I	Hydric Soil Present?	? Yes 🗌 No 🖾
Dept	n (inches):								
Remarks:									

WETLAN	D DETERMI	NATION DAT	A FORM – Northo	entral and N	Northeast	Region
Project/Site: E. Sunset Dr. Proposed	Force Main	City/County:	City of Waukesha/Wauke	<u>esha County</u>		Sampling Date: 09/09/2015
Applicant/Owner:				State: W	<u>l</u>	Sampling Point: <u>5</u>
Investigator(s): Jen Dietl and Dan Ca	arter; SEWRPC	:	Section, Township, Rang	e: Section 14, T6	N, R19E	
Landform (hillslope, terrace, etc.): <u>lov</u>	<u>v terrace</u>	I	Local relief (concave, cor	ivex, none): <u>none</u>	<u>e</u>	Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): <u>LRR K</u>		I	Lat: Long:	Datu	ım:	
Soil Map Unit Name: <u>Houghton mucl</u>	<u> (HtA)</u>				NWI clas	ssification: <u>none</u>
Are climatic/hydrologic conditions on	the site typical for	this time of year?	Yes 🗌 🛛 No 🖾	(If no, explain i	n Remarks)	_
Are Vegetation <u>X</u> , Soil, or Hydr	ology <u>sig</u> ni	ficantly disturbed?	Are "Normal Circu	imstances" prese	nt? Yes 🗌	No 🖂
Are Vegetation, Soil, or Hy	ydrology na	aturally problematic	? (If, needed, explain	in any answers in	Remarks.)	
SUMMARY OF FINDINGS –	Attach site m	ap showing sa	mpling point locati	ons. transect	s. importa	nt features. etc.
		-p 3		,	, p	
			In the Sampled Are			
Hydrophytic Vegetation Present?	⊠Yes		within a Wetland?	d		
Hydric Soils Present?	⊠Yes ⊠X		within a wedana :			
wetland Hydrology Present?	X Yes					
			If yes, optional Weth	and Site ID: PCA	<u>No. 4</u>	
Remarks: (Explain alternative proce	edures here or in	a separate report.)	Antecedent precipitation	on drier than no	rmal. Distub	ed vegetation due to land
management activities (regular	mowing). This	sample site would	be similar to vegetation	on at sample sit	e six if left ur	nmanaged.
HYDROLOGY						
Wetland Hydrology Indicators:				<u>Se</u>	condary Indica	itors (minimum of two required
Primary Indicators (minimum of one	is required; chec	<u>k all that apply)</u>			Surface Soil	Cracks (B6)
		water-Sta	ined Leaves (B9)		Drainage Pa	atterns (B10)
High Water Table (A2)		Aquatic Fa	auna (B13)		Moss Trim L	lines (B16)
Saturation (A3)		Marl Depo	osits (B15)	\boxtimes	Dry-Seasor	n Water Table (C2)
Water marks (B1)		Hydrogen	Sulfide Odor (C1)		Cravfish Bu	
						(100)
Sediment Deposits (B2)			Rhizospheres on Living R	oots (C3) \Box	Saturation V	Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence	of Reduced Iron (C4)		Stunted or S	Stressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iro	on Reduction in Tilled Soil	s (C6)	Geomorphi	c Position (D2)
Iron Deposits (B5)			Surface (C7)	<u> </u>	Shallow Adu	uitard (D3)
				<u> </u>		
Inundation Visible on Aer	Tal Imagery (B7)		plain in Remarks)		_ Microtopogr	aphic Relief (D4)
Sparsely Vegetated Cond	cave Surface (B8)	1			FAC-Neutra	I Test (D5)
Field Observations:						
Surface Water Present? Yes	⊐ № ⊠ г)epth (inches):				
Water Table Dresent?		Sopth (inches): 14				
water rable Present? Tes		$\frac{14}{14}$				
Saturation Present? Yes		Depth (inches): <u>10</u>		Wetland Hydro	logy Present	? Yes 🛛 No 🗌
(includes capillary fringe)						
Describe Recorded Data (stream ga	auge, monitoring v	vell, aerial photos, p	previous inspections), if a	vailable: Topo Ma	ap (Exhibit 1),	WWI Map (Exhibit 2), Soils Ma
(Exhibit 3), and Aerial photos (Exhib	oit 4).					
Remarks: Sample site is located	in the Pebble E	Brook 100 vear flo	odplain.			
· · · · · ·		, ,				

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants.				Sampling Point: <u>5</u>			
Tree Stratum (Plot size: 30' radius)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test worksheet:			
1				Number of Dominant Species			
2				That are OBL, FACW, or FAC: <u>1</u> (A)			
3				Total Number of Dominant			
4				Species Across All Strata: <u>2</u> (B)			
5	·			Percent of Dominant Species			
6				That Are OBL, FACW, or FAC: <u>50%</u> (A/B)			
7				Prevalence Index worksheet:			
	<u>0</u>	= Total Cove	er	Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species <u>0</u> x 1 = <u>0</u>			
1			·	FACW species <u>35</u> x 2 = <u>70</u>			
2				FAC species $\underline{5}$ x 3 = $\underline{15}$			
3				FACU species <u>70</u> x 4 = <u>280</u>			
4				UPL species $\underline{0} \times 5 = \underline{0}$			
5				Column Totals: <u>110</u> (A) <u>365</u> (B)			
6				Prevalence Index = $B/A = 3.3$			
7				Hydrophytic Vegetation Indicators:			
	<u>0</u>	= Total Cove	er	Dominance Test is >50%			
Herb Stratum (Plot size: 5' radius)				□ Prevalence Index is $\leq 3.0^{1}$			
1. <u>Glechoma hederacea</u>	<u>40</u>	\boxtimes	FACU	data in Remarks or on a separate sheet)			
2. Phalaris arundinacea	<u>35</u>	\boxtimes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)			
3. <u>Alliaria petiolata</u>	<u>20</u>		FACU	1 Indiantara of hydria apil and watland hydrology must			
4. <u>Cirsium arvense</u>	<u>10</u>		FACU	Be present, unless disturbed or problematic.			
5. Symphyotrichum lanceolatum	<u>5</u>		FAC				
6				Definitions of Vegetation Strata:			
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter			
8				at breast height (DBH), regardless of height			
9				Sapling/shrub – Woody plants less than 3in. DBH			
10				and greater than 3.28 ft (1 m) tall.			
11				Herb – All herbaceous (non-woody) plants, regardless			
12				of size, and woody plants less than 3.28 ft tall.			
	<u>110</u>	= Total Cove	er	Woody vines – All woody vines greater than 3.28 ft in			
Woody Vine Stratum (Plot size: 30' radius)				height			
1							
2							
3				Hydrophytic			
4				Vegetation			
	<u>0</u>	= Total Cove	er	Present? Yes 🛛 No 🗌			
Remarka: (include photo number here or on a congrete sheet	+) Drobloma	tio bydropbytic	voqetation	due to land management activities (regular			

Remarks: (include photo number here or on a separate sheet.) Problematic hydrophytic vegetation due to land management activities (regular mowing). Indicators of hydric soils and wetland hydrology area present. If left unmanaged this sample site would be similar to vegetation at sample site six.

Profile Des	scription: (Describe to	the depth n	eeded to docu	iment the inc	licator or con	firm the ab	osence	of indicators.)	
Depth	Matrix			Redox Fea	itures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	-	Texture	Remarks
0-32	N 2.5/0	100			·		Muck		
					·				
	·				<u> </u>				
		<u> </u>			·				
	· ·				·	<u> </u>			
					<u> </u>				
					·				
					·			·	
	· ·				·			·	
¹ Type: C=(tion RM=Re	duced Matrix	MS= Masked	Sand Grains			² Location: PL=Pore L	ining M=Matrix
Hydric Soi	I Indicators:		adood matrix, I	NO MOSKEU			I	ndicators for Problem	matic Hydric Soils ³ :
	Histosol (A1)		D F	olyvalue Belo	ow Surface (S8	B) (LRR R,	•	2 cm Muck (A1	0) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)			MLRA 14	9B)			Coast Prairie F	Redox (A16) (LLR K, L, R)
	Black Histic (A3)		ד 🗌	hin Dark Surf	face (S9) (LRF	R R, MLRA	149B)	5 cm Mucky Pe	eat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)			oamy Mucky	Mineral (F1) (LRR K, L)		Dark Surface (S7) (LRR K, L)
	Stratified Layers (A5)			oamy Gleyed	Matrix (F2)			Polyvalue Belo	w Surface (S8) (LRR K, L)
	Depleted Below Dark S	unace (A11)		Pepieted Matri	IX (F3) urface (E6)				
	Sandy Mucky Mineral (2) S1)		epleted Dark	Surface (F7)			Piedmont Floor	dolain Soils (F19) (MLRA 149B)
	Sandy Gleved Matrix (S	54)		Redox Depres	sions (F8)			Mesic Spodic ((TA6) (MLRA 144A, 145, 149B)
	Sandy Redox (S5)	,						Red Parent Ma	aterial (F21)
	Stripped Matrix (S6)							Very Shallow E	Dark Surface (TF12)
	Dark Surface (S7) (LRF	R R, MLRA 1	49B)					Other (Explain	in Remarks)
3 la dia atawa	of I hadron batic accordenti		n d hu dun la au con		t unless dist.		. h. l. a. a. a. 4	i.	
Postrictive	of Hydrophytic Vegetati	on and wetta	na nyarology m	lust be preser	it, unless distu	irbed or pro	biemai	IC.	
Type								Judria Sail Brasant?	
Depth	 n (inches):						ľ	ayunc son Fresent?	
Remarks:									
rtemarks.									

WETLAND DETERMINATION DA	TA FO	DRM – M	Northce	entral and	d Nort	heast Region		
Project/Site: E. Sunset Dr. Proposed Force Main City/Coun	ty: City of	f Waukesh	na/Wauke	sha County		Sampling	Date: 09/09/2015	
Applicant/Owner:				State:	WI	Sampling	Point: <u>6</u>	
Investigator(s): Jen Dietl and Dan Carter; SEWRPC	Sectior	n, Townsh	ip, Range	: Section 14,	<u>, T6N, R′</u>	<u>9E</u>		
Landform (hillslope, terrace, etc.): low terrace	Local r	relief (cond	cave, conv	vex, none): <u>n</u>	ione	Slope (%): <u>1-3%</u>	
Subregion (LRR or MLRA): <u>LRR K</u>	Lat:		Long:	C	Datum:			
Soil Map Unit Name: Matherton silt loam (MmA)						NWI classification:	<u>T3/S3K</u>	
Are climatic/hydrologic conditions on the site typical for this time of year	?	Yes 🗌	No 🖂	(If no, expla	ain in Rer	narks)		
Are Vegetation, Soil, or Hydrology significantly distur	ped?	Are "Norr	mal Circur	mstances" pre	esent?	Yes 🖂	No 🗌	
Are Vegetation, Soil, or Hydrology naturally problema	itic?	(If, neede	ed, explair	n any answers	s in Rem	arks.)		
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.								
Hydrophytic Vegetation Present?YesNoHydric Soils Present?YesNoWetland Hydrology Present?YesNo	ls w	s the Sam vithin a W	pled Area etland?	a	⊠ Y	es 🗌	No	
		yes, optio	nal wetla	ind Site ID: P	CA NO.	<u>+</u>		
Remarks: (Explain alternative procedures here or in a separate repor	t.) Antec	cedent pro	ecipitatio	n drier than	normal			
HYDROLOGY								

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check a	all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Dry-Season Water Table (C2)	
Water marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Re	oots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil	s (C6) Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes 🗌 No 🛛 De	pth (inches):	
Water Table Present? Yes 🗌 No 🛛 De	pth (inches):	
Saturation Present? Yes 🛛 No 🗌 De	pth (inches): <u>10</u>	Wetland Hydrology Present? Yes 🛛 No 🗌
(includes capillary fringe)		unite blass Tama Man (Eschibit 4) (MM/I Man (Eschibit 2), Calla Man
(Exhibit 3) and Aerial photos (Exhibit 4)	ai, aenai photos, previous inspections), ir av	valiable: Topo Map (Exhibit T), wwwTMap (Exhibit 2), Solis Map
Remarks: Sample site is located in the Pebble Bro	ook 100 year floodplain.	

VEGETATION – Use scientific names of plants.

	A 1 I I.	Destinent	1	
Tree Stratum (Plot size: 30' radius)	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>1</u> (B)
5				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7.				Prevalence Index worksheet:
	<u>0</u>	= Total Cove	er	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>0</u>	= Total Cove	er	Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				Prevalence Index is ≤3.0 ¹
1. Phalaris arundinacea	<u>90</u>	\boxtimes	FACW	Morphological Adaptations ¹ (Provide supporting
2. Symphyotrichum puniceum	<u>15</u>		OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Symphyotrichum lanceolatum	<u>10</u>		FAC	
4. <u>Solidago gigantea</u>	<u>8</u>		FACW	 Indicators of hydric soil and wetland hydrology must Be present, unless disturbed or problematic.
5. <u>Cirsium arvense</u>	<u>3</u>		FACU	
6				Definitions of Vegetation Strata:
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height
9				Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>126</u>	= Total Cove	er	Woody vines – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height
1				
2				
3				Hydrophytic
4				Vegetation
	<u>0</u>	= Total Cove	er	Present? Yes 🛛 NO 🗌
Remarks: (include photo number here or on a separate sheet	.) Fresh (we	t) meadow.		

Profile Des	scription: (Describe to	the depth r	eeded to docu	ument the inc	licator or con	firm the at	osence	of indicators.)	
Depth	Matrix			Redox Fea	itures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	_	Texture	Remarks
0-19	N 2.5/0	100			·		Muck		
	·								
	· ·				<u> </u>				
					· .				
								·	
	· ·							·	
¹ Type: C=(tion RM=Re	educed Matrix	MS= Masked	Sand Grains			² Location: PL=Pore L	ining M=Matrix
Hydric Soi	I Indicators:			ind masked			I	ndicators for Proble	matic Hydric Soils ³ :
	Histosol (A1)		E F	Polyvalue Belo	ow Surface (Sa	B) (LRR R.	•	2 cm Muck (A1	0) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)		_	MLRA 14	9B)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Coast Prairie F	Redox (A16) (LLR K, L, R)
	Black Histic (A3)		ו 🗌	hin Dark Surf	face (S9) (LRF	R, MLRA	149B)	5 cm Mucky Pe	eat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)		🗆 L	oamy Mucky	Mineral (F1) (LRR K, L)		Dark Surface (S7) (LRR K, L)
	Stratified Layers (A5)			oamy Gleyed	Matrix (F2)			Polyvalue Belo	w Surface (S8) (LRR K, L)
	Depleted Below Dark S	urface (A11)		Depleted Matr	ix (F3)			Thin Dark Surf	ace (S9) (LRR K, L)
	TRICK Dark Surface (A1 Sandy Mucky Mineral (2) S1)		Redox Dark Si Depleted Dark	Ufface (F6)			Iron-Manganes Piedmont Floor	6 Masses (F12) (LRR K, L, R)
	Sandy Gleved Matrix (S	31) 34)		Pepieleu Daik Redox Denres	sions (F8)				(TA6) (MIRA 144A 145 149B)
	Sandy Redox (S5)	,		Course Depies				Red Parent Ma	aterial (F21)
	Stripped Matrix (S6)							Very Shallow D	Dark Surface (TF12)
	Dark Surface (S7) (LRF	R R, MLRA 1	49B)					Other (Explain	in Remarks)
0									
^a Indicators	of Hydrophytic vegetati	on and wetla	nd hydrology m	lust be preser	nt, unless distu	irbed or pro	oblemat	ic.	
Restrictive	a Layer (If observed):								
Type.	·							Hydric Soil Present?	Yes 🖄 No 📋
Depti									
Remarks.									

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: E. Sunset Dr. Proposed Force Main Ci	ty/County: City of \	Waukesha/Waukesh	na County	Sampling	Date: 09/09/2015
Applicant/Owner:			State: <u>WI</u>	Sampling	Point: <u>7</u>
Investigator(s): Jen Dietl and Dan Carter; SEWRPC	Section,	Township, Range:	Section 14, T6N, R19	<u>E</u>	
Landform (hillslope, terrace, etc.): terrace/slight drainage way	Local rel	ief (concave, conve	x, none): none to slig	ntly concave	Slope (%): 0-2%
Subregion (LRR or MLRA): <u>LRR K</u>	Lat:	Long:	Datum:		
Soil Map Unit Name: Houghton muck (HtA)			N	WI classification:	none
Are climatic/hydrologic conditions on the site typical for this time) of year? Υ	′es 🗌 🛛 🛛 🖾	(If no, explain in Rema	arks)	
Are Vegetation, Soil, or Hydrology significantl	y disturbed? A	Are "Normal Circum	stances" present? Y	′es 🖂	No 🗌
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (lf, needed, explain a	any answers in Remar	ks.)	

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soils Present? Wetland Hydrology Present?	⊠ Yes □Yes □Yes	□No ⊠No ⊠No	Is the Sampled Area within a Wetland?	☐ Yes	⊠No	
			If yes, optional Wetland Site ID:			
Permerke: (Explain alternative presedures here or in a constate report). Antocodent presinitation drive than normal. Sample site located in a very						

Remarks: (Explain alternative procedures here or in a separate report.) Antecedent precipitation drier than normal. Sample site located in a very slight drainage way between two developed parcels. Field observation of Rhamnus cathartica led to further investigation to determine if the site also had wetland hydrology and hydric soils, which it did not. The roadside ditch approximately 10 feet north of the sample, between E. Sunset Dr. and the sidewalk, is lower in elevation and is probably altering the hydrology in this sample area by intercepting surface water that likely flowed into the drainage way in the past.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check	<u>all that apply)</u>	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)
Water marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Root	ts (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes 🗌 No 🖾 De	epth (inches):	
Water Table Present? Yes 🗌 No 🖾 De	epth (inches):	
Saturation Present? Yes 🗌 No 🖾 De	epth (inches): V	Vetland Hydrology Present? Yes 🗌 No 🛛
(includes capillary tringe)		
Exhibit 3) and Aerial photos (Exhibit 4)	ell, aerial photos, previous inspections), if avai	ladie: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Solis Map
Remarks:		

VEGETATION - Use scientific names of plants.

				Samping Foint. <u>7</u>
Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Rhamnus cathartica</u>	80		FAC	Number of Dominant Species
2				That are OBL, FACW, or FAC: <u>1</u> (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>1</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7				Prevalence Index worksheet:
	<u>80</u>	= Total Cov	/er	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1. <u>Rhamnus cathartica</u>	<u>40</u>	\boxtimes	FAC	FACW species x 2 =
2. Prunus virginiana	<u>10</u>		FACU	FAC species x 3 =
3. Lonicera x bella	<u>5</u>		FACU	FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>55</u>	= Total Cov	/er	Rapid Test for Hydrophytic Vegetation Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				$\square \text{ Prevalence Index is } \leq 3.0^{1}$
1. <u>Rhamnus cathartica</u>	<u>1</u>		FAC	Morphological Adaptations ¹ (Provide supporting
2				Problematic Hydrophytic Vegetation ¹ (Explain)
3				
4				¹ Indicators of hydric soil and wetland hydrology must Be present unless disturbed or problematic
5.				
6.				Definitions of Vegetation Strata:
7.				Tree – Woody plants 3in (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height
9.				Continue Meady plants less than 2in DDU
10				and greater than 3.28 ft (1 m) tall.
11				
12				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3 28 ft tall
	1	= Total Cov	/er	
Woody Vine Stratum (Plot size: 30' radius)	-			Woody vines – All woody vines greater than 3.28 ft in height
<u> </u>				height
2.				
3.				Hudrophytic
4				Vegetation
	0	= Total Cov	/er	Present? Yes No
Remarks: (include photo number here or on a separate she	et.) Buckthorr	n thicket.		1
· · ·				

Depth	Matrix			Redox Feat	tures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	_	Texture	Remarks
0-9	10YR 2/2	100		·			Loam	<u></u> ו	
9-17	10YR 3/1	80		·			Clav	loam	
-	10YR 5/3	20		·					
17-21	10YR 4/3	80	10YR 4/6	10		PI M	Clav	loam	
17-21	10/11 4/3	10	1011(4/0				Oldy	loam	
21.24	1011 3/1			10			Clay		with arit and aroual
21-24	10 f R 4/4		101R 4/0	10			Clay		with grit and graver
	10YR 4/2	20		·			·		
									2
				. <u> </u>					
				<u> </u>					
		_							
¹ Type: C=	Concentration, D=De	pletion, RM	I=Reduced Matrix, MS	S= Masked S	Sand Grains			² Location: PL=Pore	Lining, M=Matrix
Hydric Soi	I Indicators:			haveline Del			I	Indicators for Proble	ematic Hydric Soils ³ :
	HISTOSOI (A1) Histic Eningdon (A2)			INVAIUE BEIO	w Surrace (S) (LKK R,		Coast Brairie	Redox (A16) (IIPK I P)
	Black Histic (A3)		🗂 ты	in Dark Surfs	0) ace (SQ) (R		149R)	\Box 5 cm Mucky F	Peat or Peat (S3) (LLR K R)
	Hydrogen Sulfide (A4	-)		amy Mucky I	Mineral (F1) (LRR K, L)	(1400)	Dark Surface	(S7) (LRR K, L)
	Stratified Layers (A5)	,	Lo;	amy Gleyed	Matrix (F2)	. ,		Polyvalue Bel	ow Surface (S8) (LRR K, L)
	Depleted Below Dark	Surface (A	11) 🗌 De	pleted Matrix	x (F3)			Thin Dark Sur	face (S9) (LRR K, L)
	Thick Dark Surface (A	A12)	Re	dox Dark Su	Inface (F6)			Iron-Mangane	ese Masses (F12) (LRR K, L, R)
	Sandy Mucky Minera	I (S1)		pleted Dark	Surface (F7)			Predmont Flog Masia Spedia	odplain Soils (F19) (MLRA 149B)
	Sandy Gleyeu Matrix Sandy Redox (S5)	(34)		dox Depress	SIONS (FO)			Red Parent M	(1A0) (MLRA 144A, 145, 149B) laterial (F21)
	Stripped Matrix (S6)							☐ Very Shallow	Dark Surface (TF12)
	Dark Surface (S7) (L	RR R, MLF	₹A 149B)					Other (Explain	n in Remarks)
³ Indicators	of Hydrophytic veget	ation and v	etland hydrology mus	st be presen	t, unless distu	urbed or pr	oblema	itic.	
Restrictive	e Layer (If observed):							
Type Denti	 h (inches):							Hydric Soll Present	
Depu Romarks:	IT (IIICIICS).								
itemarks.									

WETLAND DETERMI	NATION DATA I	FORM – Northcentral a	nd Northeast	Region
Project/Site: E. Sunset Dr. Proposed Force Main	City/County: Cit	y of Waukesha/Waukesha County	L	Sampling Date: 09/09/2015
Applicant/Owner:		Stat	e: <u>WI</u>	Sampling Point: <u>8</u>
Investigator(s): Jen Dietl and Dan Carter; SEWRPC	Sec	tion, Township, Range: <u>Section ?</u>	<u>14, T6N, R19E</u>	
Landform (hillslope, terrace, etc.): terrace	Loc	al relief (concave, convex, none):	none	Slope (%): <u>1-4%??</u>
Subregion (LRR or MLRA): LRR K	Lat	Long:	Datum:	
Soil Map Unit Name: Lamartine silt loam (LmB)	this time of upon		NWI cla	ssification: <u>none</u>
Are Vagetation Soil or Hydrology si	anificantly disturbed?	Are "Normal Circumstances"	piain in Remarks) procont? Voc M	
Are Vegetation Soil or Hydrology si	aturally problematic?	(If needed explain any answ	ers in Remarks)	
SUMMARY OF FINDINGS – Attach site m	ap showing same	bling point locations, tran	sects, importa	int features, etc.
			, I	,
Hydrophytic Vegetation Present? Yes	⊠No	Is the Sampled Area		
Hydric Soils Present?	⊠No	within a Wetland?	∐ Yes	⊠N0
Wetland Hydrology Present?	⊠No	If ves. optional Wetland Site ID:		
Remarks: (Explain alternative procedures here or in	a senarate report) An	tecedent precipitation drier the	an normal	
	,			
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; chec	k all that apply)		Surface So	il Cracks (B6)
Surface Water (A1)	Water-Staine	d Leaves (B9)	Drainage P	atterns (B10)
High Water Table (A2)	Aquatic Faun	a (B13)	Moss Trim	Lines (B16)
Saturation (A3)	Marl Deposits	s (B15)	Dry-Seasor	n Water Table (C2)
Water marks (B1)	Hydrogen Sul	fide Odor (C1)	Crayfish Bu	irrows (C8)
Sediment Deposits (B2)	Oxidized Rhiz	cospheres on Living Roots (C3)	Saturation	Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of F	Reduced Iron (C4)	Stunted or	Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron F	eduction in Tilled Soils (C6)	Geomorphi	c Position (D2)
Iron Deposits (B5)	Thin Muck Su	Irface (C7)	Shallow Aq	uitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain	n in Remarks)	Microtopog	raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8))		FAC-Neutra	al Test (D5)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map

Field Observations: Surface Water Present?

Water Table Present?

(includes capillary fringe)

(Exhibit 3), and Aerial photos (Exhibit 4).

Saturation Present?

Remarks:

Yes 🗌

Yes 🗌

Yes 🗌

No 🖂

No 🖂

No 🖂

Depth (inches):

Depth (inches):

Depth (inches):

Wetland Hydrology Present?

Yes 🗌

No 🖂

VEGETATION - Use scientific names of plants.

				Sampling Folint. <u>o</u>
Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: <u>1</u> (A)
3				Total Number of Dominant
4.				Species Across All Strata: <u>2</u> (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
7				Prevalence Index worksheet:
	<u>0</u>	= Total Cov	er	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1. Rhamnus cathartica	<u>5</u>	\boxtimes	FAC	FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>5</u>	= Total Cov	er	Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				$\square Prevalence Index is \leq 3.0^{1}$
1. <u>Elymus repens</u>	<u>90</u>	\boxtimes	FACU	Morphological Adaptations ¹ (Provide supporting
2. Asclepias syriaca	<u>15</u>		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Convolvulus arvensis	<u>12</u>		FACU	
4. Daucus carota	<u>10</u>		UPL	Be present, unless disturbed or problematic.
5. Barbarea vulgaris	<u>5</u>		<u>FAC</u>	
6. Alliaria petiolata	<u>2</u>		FACU	Definitions of Vegetation Strata:
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height
9				Sapling/shrub - Woody plants less than 3in DBH
10				and greater than 3.28 ft (1 m) tall.
11				Harb All borbassaus (non woody) planta regardiase
12				of size, and woody plants less than 3.28 ft tall.
	<u>134</u>	= Total Cov	er	Weeductines All weeductines greater than 2.29 ft in
Woody Vine Stratum (Plot size: 30' radius)				height
1				
2				
3				Hydrophytic
4				Vegetation
	<u>0</u>	= Total Cov	er	Present? Yes 🗌 No 🛛
Remarks: (include photo number here or on a separate sheet	.) Upland m	eadow.		

Sampling Point: 8

Sampling Point: 8

Profile Des	cription: (Describe to	o the depth	needed to docume	nt the ind	icator or cor	nfirm the ab	sence	e of indicators.)	
Depth	Matrix		F	Redox Feat	ures		_		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		Texture	Remarks
0-8	10YR 2/2	100					Loam	1	
8-17	10YR 3/2	60					Loam	1	with cobbles and gravel
	10YR 4/2	40							
17+									Refusal: Cobbles and gravel
		·							
¹ Type: C=C	Concentration, D=Deple	etion, RM=R	educed Matrix, MS	= Masked S	Sand Grains			² Location: PL=Pore	Lining, M=Matrix
Hydric Soil	Indicators:						I	Indicators for Proble	ematic Hydric Soils ³ :
	1ISTOSOI (A1) Histic Eninedon (A2)			Value Belo	w Surrace (S	o) (LKK K,		Coast Prairie	
	Rlack Histic (A3)		Thin	Dark Surfa	' D) асе (SQ) (I R I		149R)		Peat or Peat (S3) (ILR K I R)
	Hydrogen Sulfide (A4)		□ Loar	nv Muckv N	Mineral (F1) (LRR K. L)	1450)	Dark Surface	(S7) (LRR K. L)
	Stratified Layers (A5)		Loar	ny Gleyed	Matrix (F2)	,		Polyvalue Bel	ow Surface (S8) (LRR K, L)
	Depleted Below Dark S	Surface (A11) 🗌 Depl	eted Matrix	k (F3)			Thin Dark Sur	face (S9) (LRR K, L)
	Thick Dark Surface (A1	12)	Rede	ox Dark Su	rface (F6)			Iron-Mangane	se Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral ((S1)	Depl	eted Dark	Surface (F7)			Piedmont Floo	odplain Soils (F19) (MLRA 149B)
	Sandy Gleyed Matrix (Sandy Bodox (SE)	54)		ox Depress	sions (F8)			Mesic Spodic Red Barant M	(1A6) (MLRA 144A, 145, 149B)
	Strinned Matrix (S6)								Dark Surface (TE12)
	Dark Surface (S7) (LR	R R, MLRA	149B)					Other (Explain	n in Remarks)
_			,					_ 、 .	
³ Indicators	of Hydrophytic vegetat	ion and wetl	and hydrology must	be present	t, unless dist	urbed or pro	blema	tic.	
Restrictive	Layer (if observed):								
Type:	Cobbles and gravel (f	ill material?)						Hydric Soil Present?	? Yes 🗌 No 🖂
Depth	i (inches): <u>17</u>	frame mante			no no olienom	ant and C			
Remarks: P	rossible fill material f	from past p	roperty developm	ent, strea	m re-alignm	ient, and E	. Sun	set Dr. and STH 5	a intersection improvements.
L									
WETLAND DETERMIN	ATION DATA F	ORM – Northcentral a	nd Northeas	t Region					
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Project/Site: E. Sunset Dr. Proposed Force Main	City/County: City	y of Waukesha/Waukesha County	<u>/</u>	Sampling Date: 09/09/2015					
Applicant/Owner:		Stat	e: <u>WI</u>	Sampling Point: <u>9</u>					
Investigator(s): Jen Dietl and Dan Carter; SEWRPC	Sec	tion, Township, Range: <u>Section 1</u>	4, T6N, R19E						
Landform (hillslope, terrace, etc.): low terrace	Loca	al relief (concave, convex, none):	none	Slope (%): <u>1-4% ?</u>					
Subregion (LRR or MLRA): <u>LRR K</u>	Lat:	Long:	Datum:						
Soil Map Unit Name: Lamartine silt loam (LmB)?			NWI cl	assification: none					
Are climatic/hydrologic conditions on the site typical for th	is time of year?	Yes 📋 No 🖂 (If no, exp	plain in Remarks)						
Are Vegetation, Soil, or Hydrology signi	ificantly disturbed?	Are "Normal Circumstances"	oresent? Yes						
Are Vegetation, Soil, or Hydrology natu	irally problematic?	(If, needed, explain any answ	ers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map	o showing samp	ling point locations, tran	sects, import	ant features, etc.					
		is the Sampled Area							
Hydrophylic Vegetation Present?		within a Wetland?	🖂 Yes	□No					
Wetland Hydrology Present?			—	—					
		If ves. optional Wetland Site ID:	PCA No. 5						
Remarks: (Explain alternative procedures here or in a s	eparate report.) Ant	tecedent precipitation drier that	an normal.						
HYDROLOGY									
Wetland Hydrology Indicators:			Secondary Indi	cators (minimum of two required)					
Primary Indicators (minimum of one is required; check a	all that apply)		Surface S	oil Cracks (B6)					
Surface Water (A1)	U Water-Stained	Leaves (B9)	Drainage	Patterns (B10)					
High Water Table (A2)	Aquatic Fauna	a (B13)	Moss Trim	Lines (B16)					
Saturation (A3)	Marl Deposits	(B15)	Dry-Seaso	on Water Table (C2)					
Water marks (B1)	Hydrogen Sul	fide Odor (C1)	Crayfish E	Burrows (C8)					

							,			•	. ,	
	Sediment Deposits (B2)					oots (C3) Saturation Visible on Aerial Imagery (C9)			Imagery (C9)			
	Drift Deposits (B3) Presence of Reduced Iron (C4)						Stunted or Stressed Plants (D1)					
	Algal Mat or Crust	(B4)				Recen	nt Iron Reduction in Tilled Soil	s (C6)	\boxtimes	Geomorphic P	osition (D2)	
	Iron Deposits (B5)					Thin M	/luck Surface (C7)			Shallow Aquitar	d (D3)	
	Inundation Visible	on Aerial I	mage	ery (B7	') 🗌	Other	(Explain in Remarks)			Microtopograph	ic Relief (D4	.)
	Sparsely Vegetate	d Concave	Surf	ace (E	38)				\boxtimes	FAC-Neutral Te	est (D5)	
Field Obs	servations:											
Surface V	Vater Present?	Yes 🗌	No	\boxtimes	Depth (i	nches):						
Water Ta	ble Present?	Yes 🗌	No	\boxtimes	Depth (i	nches):						
Saturation (includes	n Present? capillary fringe)	Yes 🗌	No	\boxtimes	Depth (i	nches):		Wetland H	ydrol	ogy Present?	Yes 🛛	No 🗌
Describe	Recorded Data (stre	eam gauge	, moi	nitorin	g well, ae	rial photo	os, previous inspections), if av	vailable: Top	o Ma	p (Exhibit 1), WW	/I Map (Exhi	bit 2), Soils Map
(Exhibit 3), and Aerial photos	(Exhibit 4)										
Remarks:												

VEGETATION – Use scientific names of plants.

				eampinig : emit <u>e</u>
Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1	<u>/// COVCI</u>		<u>Otatus</u>	Number of Dominant Species
2.				That are OBL, FACW, or FAC: <u>1</u> (A)
3.				Total Number of Dominant
4				Species Across All Strata: <u>1</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7				Prevalence Index worksheet:
·· <u> </u>	0			
	<u> </u>		1	<u>Total % Cover or:</u> <u>Multiply by:</u>
Sapling/Shrub Stratum (Plot size: <u>30' radius</u>)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Rapid Test for Hydrophytic Vegetation
	<u>0</u>	= Total Cove	r	Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)		-		Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting)
1. <u>Phalaris arundinacea</u>	<u>100</u>		FACW	data in Remarks or on a separate sheet)
2. Asclepias syriaca	<u>10</u>		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Urtica dioica</u>	<u>5</u>		<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must
4. Alliaria petiolata	<u>3</u>		<u>FACU</u>	Be present, unless disturbed or problematic.
5				
6				Definitions of Vegetation Strata:
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height
9				Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tall.
11				Harb - All herbaceous (non-woody) plants, regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>118</u>	= Total Cove	r	
Woody Vine Stratum (Plot size: 30' radius)				woody vines – All woody vines greater than 3.28 ft in height
1				
2				
3.				Hydrophytic
4.				Vegetation
	<u>0</u>	= Total Cove	r	Present? Yes 🛛 No 🗌
Remarks: (include photo number here or on a separate sheet) Fresh (we	t) meadow.		

US Army Corps of Engineers

Sampling Point: 9

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix			Redox Feat	tures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	_	Texture	Remarks
0-12	10YR 2/1	100	(/				Loam	-	with gravel
12-14	10YR 2/1	60	10VR 3/6	10			Clave	oam	with gravel
12-14	10111 2/1	20	10113/0	10			Udy I	oann	with graver
	10YR 5/2	30							
14-16	2.5Y 4/1	98	10YR 4/6	2	C	PL M	Clay		
16-26	2.5Y 5/2	80	10YR 5/6	20	C	PL M	Clay		with disintegrating dolomite
			·						
			. <u></u>						
	Concontration D-Don	otion PM	-Roducod Matrix MC	- Mackad	Sand Grains		:	21 ocation: DI -Doro	Lipipa M-Matrix
Hydric Soi	Indicators				Sanu Grains			ndicators for Proble	ematic Hydric Soils ³
	Histosol (A1)			value Relo	w Surface (S	B) (LRR R		2 cm Muck (A	10) (LRR K. L. MLRA 149B)
	Histic Epipedon (A2)			MLRA 149	B)	<i>)</i> (_ ,		Coast Prairie	Redox (A16) (LLR K, L, R)
	Black Histic (A3)		🔲 Thir	Dark Surfa	, ace (S9) (LRF	R R, MLRA	149B)	5 cm Mucky F	Peat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)		🗌 Loa	my Mucky I	Mineral (F1) (LRR K, L)	,	Dark Surface	(S7) (LRR K, L)
	Stratified Layers (A5)		🗌 Loa	my Gleyed	Matrix (F2)			Polyvalue Bel	ow Surface (S8) (LRR K, L)
	Depleted Below Dark S	Surface (A	(11) 🗌 Dep	leted Matri	x (F3)			Thin Dark Su	face (S9) (LRR K, L)
	Thick Dark Surface (A	A12)		lox Dark Su	Inface (F6)			Iron-Mangane	ese Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral ((51) 24)		leted Dark					(TAC) (ML PA 144A 14F 149B)
	Sandy Redox (S5)	54)		lox Depres	SIULIS (FO)			Red Parent M	(1A0) (MERA 144A, 145, 145B) aterial (F21)
	Stripped Matrix (S6)							Verv Shallow	Dark Surface (TF12)
	Dark Surface (S7) (LR	R R, MLF	RA 149B)					Other (Explain	n in Remarks)
³ Indicators	of Hydrophytic vegetat	ion and v	etland hydrology mus	t be presen	t, unless distu	urbed or pro	oblemat	tic.	
Restrictive	Layer (if observed):								
Туре:	·						ŀ	Hydric Soil Present	? Yes 🛛 No 🗌
Depth	n (Inches):								
Remarks:									

WEILAND DETERMINATION DATA	A FORM – Northcentral and Northeast	Region
Project/Site: E. Sunset Dr. Proposed Forcemain City/County:]	Town of Waukesha/Waukesha County	Sampling Date: 05/28/2013
Applicant/Owner:	State: <u>WI</u>	Sampling Point: <u>A</u>
Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC S	ection, Township, Range: SE 1/4 Section 11, T6N, R1	<u>9E</u>
Landform (hillslope, terrace, etc.): drainage way	ocal relief (concave, convex, none): concave	Slope (%): 0-2%
Subregion (LRR or MLRA): LRR K	at: Long: Datum:	
Soil Map Unit Name: Houghton muck (HtA)	NWI cla	ssification: <u>none</u>
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes 🔲 No 🛛 (If no, explain in Remarks)	
Are Vegetation, Soil, or Hydrology significantly disturbed?	? Are "Normal Circumstances" present? Yes 🖂	No 🗌
Are Vegetation, Soil, or Hydrology naturally problematic?	(If, needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing san	npling point locations, transects, importa	nt features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soils Precent?	Is the Sampled Area within a Wetland?	ΠNo
Wetland Hydrology Present?		
	If ves, ontional Wetland Site ID: Plant Community	Area (PCA) No. 1
Remarks: (Explain alternative procedures here or in a separate report.) A	Above normal (4 to 6 Inches) precipitation for the past 9	0 davs.
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indica	ators (minimum of two required)
Drimony Indicators (minimum of one is required; sheek all that apply)	_	

Primary Indicators (minimum of one is required; check a	Surface Soil Cracks (B6)	
Surface Water (A1)	☑ Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)
Water marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	(C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6	6) Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No Dep	th (inches): <u>7.5</u>	
Water Table Present? Yes No Dep	oth (inches):	
Saturation Present? Yes No Dep	oth (inches): We	etland Hydrology Present? Yes 🛛 No 🗌
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well	l, aerial photos, previous inspections), if availat	ble:
Remarks: Three primary and two secondary wetland hy	drology indicators present.	
Remarks: Three primary and two secondary wetland hy	drology indicators present.	

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants.				Sampling Point: A
Tree Stratum (Plot size: 30' radius)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: <u>1</u> (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>1</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7.				Prevalence Index worksheet:
	<u>0</u>	= Total Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2.				FAC species x 3 =
3				FACU species x 4 =
4				LIPI species x 5 =
5				Column Totals: (A) (B)
6				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
7				Hydrophytic Vegetation Indicators:
··	<u>0</u>	= Total Cove		Rapid Test for Hydrophytic Vegetation Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				☐ Prevalence Index is ≤3.0 ¹
1. <u>Typha angustifolia</u>	<u>50</u>	\boxtimes	OBL	Morphological Adaptations ¹ (Provide supporting
2. <u>Carex lacustris</u>	<u>10</u>		OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3.				
				¹ Indicators of hydric soil and wetland hydrology must
+				be present, unless disturbed of problematic.
5				Definitions of Vegetation Strata:
o				
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
8				a breast height (DDH), regardless of height
9				Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>60</u>	= Total Cove	r	Woody vines – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' radius)		_		height
1				
2				
3				Hydrophytic
4				Vegetation
	<u>0</u>	= Total Cove	r	
Remarks: (include photo number here or on a separate she	et.) Shallow ma	arsh along draina	age ditch.	

Sampling Point: A

Profile Des	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix			Redox Feat	ures						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks			
						·					
						·					
-											
		<u> </u>									
-							0				
¹ Type: C=C	Concentration, D=Depl	etion, RM=R	educed Matrix, MS	= Masked S	and Grains		² Location: PL=Pore L	ining, M=Matrix			
Hydric Soi	I Indicators:			avalue D. I			Indicators for Problem	natic Hydric Soils ³ :			
	HISTOSOI (A1)				w Surrace (S	ö) (LKK K,		U) (LKK K, L, MLKA 149B) Vodox (A16) (LLB K L B)			
	Plack Histic (A2)			IVILKA 149	D) 100 (S0) (I DI			$(\mathbf{LLR}\mathbf{R}, \mathbf{L}, \mathbf{R})$			
	Jidek Filstie (A3) Hydrogen Sulfide (A4)			my Mucky M	/ineral (E1) (TRRKI)		S7) (I RR K I)			
	Stratified Lavers (A5)			my Gleved	Matrix (F2)			w Surface (S8) (LRR K. L)			
	Depleted Below Dark S	Surface (A11) 🗌 Dep	leted Matrix	(F3)		Thin Dark Surf	ace (S9) (LRR K, L)			
	Thick Dark Surface (A ²	12)		lox Dark Su	rface (F6)		Iron-Manganes	e Masses (F12) (LRR K, L, R)			
	Sandy Mucky Mineral ((S1)	🗌 Dep	leted Dark	Surface (F7)		Piedmont Floo	dplain Soils (F19) (MLRA 149B)			
	Sandy Gleyed Matrix (S4)	🗌 Red	lox Depress	ions (F8)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Sandy Redox (S5)						Red Parent Ma	terial (F21)			
	Stripped Matrix (S6)						Very Shallow E	Dark Surface (TF12)			
	Jark Surface (S7) (LR	R R, MILRA	149B)					In Remarks)			
³ Indicators	of Hydronhytic vegetat	ion and wet	and hydrology mus	t he nresent	unless distr	irhed or probl	ematic				
Restrictive	Laver (if observed):										
Type:	· · · · · · · · · · · · · · · · · · ·						Hydric Soil Present?	Yes 🕅 No 🗖			
Depth	(inches):										
Remarks: S	Stream bottom - Soils in	nundated wit	h 7.5 inches of wat	er - hydric b	y definition -	Criteria 3.					
1											

WEILAND DEIERN	IINATION DATA I	FORM – Northcentral and N	ortheast Region						
Project/Site: E. Sunset Dr. Proposed Forcemain	City/County: To	wn of Waukesha/Waukesha County	Sampling Date: 05/28/2013						
Applicant/Owner:		State: <u>WI</u>	Sampling Point: <u>B</u>						
Investigator(s): Donald M. Reed, PhD., and Jennifer	Dietl; SEWRPC Sec	ction, Township, Range: SE 1/4 Section	<u>11, T6N, R19E</u>						
Landform (hillslope, terrace, etc.): terrace	Loc	al relief (concave, convex, none): none	Slope (%): 0-2%						
Subregion (LRR or MLRA): LRR K	Lat:	: Long: Datu	n:						
Soil Map Unit Name: Houghton muck (HtA)			NWI classification: none						
Are climatic/hydrologic conditions on the site typical for	or this time of year?	Yes 🔲 No 🛛 (If no, explain ir	Remarks)						
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" presen	t? Yes 🛛 No 🗌						
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If, needed, explain any answers in	Remarks.)						
SUMMARY OF FINDINGS – Attach site n	SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.								
Hydrophytic Vegetation Present?YesHydric Soils Present?YesWetland Hydrology Present?Yes	⊠No ⊠No ⊠No	Is the Sampled Area within a Wetland?	□ Yes						
		If yes, optional Wetland Site ID:							
Remarks: (Explain alternative procedures here or in	n a separate report.) Abo	ove normal (4 to 6 Inches) precipitation	or the past 90 days.						
HYDROLOGY									

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)			
Surface Water (A1) Water-Stained Leaves (B9)	Drainage Patterns (B10)			
High Water Table (A2)	Moss Trim Lines (B16)			
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)			
Water marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2) Oxidized Rhizospheres on Living R	oots (C3) Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)	Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)	s (C6) Geomorphic Position (D2)			
Iron Deposits (B5)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)			
Field Observations:				
Surface Water Present? Yes 🗌 No 🖾 Depth (inches):				
Water Table Present? Yes 🛛 No 🗌 Depth (inches): <u>18</u>				
	Wetland Hydrology Present? Yes 🗌 No 🖂			
Saturation Present? Yes No Depth (inches): <u>17</u>	Wetland Hydrology Present? Yes 🗌 No 🛛			
Saturation Present? Yes No Depth (inches): <u>17</u> (includes capillary fringe)	Wetland Hydrology Present? Yes 🗌 No 🛛			
Saturation Present? Yes X No Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if and the stream gauge is the s	Wetland Hydrology Present? Yes D No X			
Saturation Present? Yes X No Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if and the stream gauge is a stream gauge in the stream gauge is a stream gauge.	Wetland Hydrology Present? Yes 🗌 No 🛛			
Saturation Present? Yes ⊠ No □ Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if an example, water is moving along gravel bed. No wetland bydrology indicators observed in the up of the second	Wetland Hydrology Present? Yes No 🛛			
Saturation Present? Yes ⊠ No Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if an Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes No Xo vailable:			
Saturation Present? Yes X No Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes No Image: No vailable: per portion of the root zone. Image: No Image: No			
Saturation Present? Yes ⊠ No □ Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if and Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes No Image: No vailable: per portion of the root zone. Image: No Image: No			
Saturation Present? Yes ⊠ No □ Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if an Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes No Image: No vailable:			
Saturation Present? Yes ⊠ No Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if an Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes No 🛛			
Saturation Present? Yes ⊠ No Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes 🗌 No 🛛			
Saturation Present? Yes ⊠ No □ Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if an Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes No 🛛			
Saturation Present? Yes ⊠ No □ Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if an Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes No X			
Saturation Present? Yes ⊠ No □ Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if and Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes No 🛛			
Saturation Present? Yes ⊠ No □ Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if an Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes 🗌 No 🛛			
Saturation Present? Yes ⊠ No □ Depth (inches): 17 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if an Remarks: Water is moving along gravel bed. No wetland hydrology indicators observed in the up	Wetland Hydrology Present? Yes No 🛛			

- .

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30' radius)	<u>% Cover</u>	Species?	<u>Status</u>	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, of FAC: <u>U</u> (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>1</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
7				Prevalence Index worksheet:
	<u>0</u>	= Total Cover	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>0</u>	= Total Cove	r	Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				Prevalence Index is $\leq 3.0^1$
1. <u>Poa pratensis</u>	<u>67</u>	\boxtimes	FACU	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a songrate shoot)
2. <u>Cirsium arvense</u>	<u>25</u>		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Taraxacum officinale</u>	<u>15</u>		FACU	
4. Convolvulus arvensis	<u>10</u>		<u>NI</u>	Indicators of hydric soil and wetland hydrology must Be present, unless disturbed or problematic.
5. Dactylis glomerata	<u>10</u>		FACU	
6				Definitions of Vegetation Strata:
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
8.				at breast height (DBH), regardless of height
9.				Sanling/shrub Woody plants loss than 3in DPH
10.		П		and greater than 3.28 ft (1 m) tall.
11.				
12.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3 28 ft tall
	<u>127</u>	= Total Cove	r	
Woody Vine Stratum (Plot size: 30' radius)			-	Woody vines – All woody vines greater than 3.28 ft in
1		П		neight
·· <u> </u>				
2.				
J				Hydrophytic Vegetation
4				Present? Yes 🗌 No 🖂
Remarks: (include photo number here or on a separate sheet) Upland field		l	
		~•		

Sampling Point: B

Sampling Point: B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix			Redox Feat	ures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	-	Texture	Remarks
0-17	10YR 2/1	100	(71		Silty	clav loam	with a few small stones
17.20	10YR 2/1						Sand	y clay loam	
17-20	10TR 2/1	50					Sanu		
	10YR 4/2	50							
20									Gravel
-									
¹ Type: C=C	Concentration, D=Deple	tion, RM=R	educed Matrix, MS	= Masked S	and Grains			² Location: PL=Pore	Lining, M=Matrix
Hydric Soi	I Indicators:						I	ndicators for Proble	ematic Hydric Soils ³ :
	Histosol (A1)			value Belov	w Surface (S8	8) (LRR R,		2 cm Muck (A	10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)		_	MLRA 149	B)			Coast Prairie	Redox (A16) (LLR K, L, R)
	Black Histic (A3)		Thir	n Dark Surfa	ace (S9) (LRF	R, MLRA	1 49B)	5 cm Mucky P	Peat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)		Loa	my Mucky N	Vineral (F1) (I	_RR K, L)		Dark Surface	(S7) (LRR K, L)
	Stratified Layers (A5)	urfagg (A 1 1		my Gleyed	Matrix (F2)				ow Surface (S8) (LRR K, L)
	Depieteu Below Dark S Thick Dark Surface (A1	011ace (ATT 2)		lov Dark Su	rface (E6)				(39) (LKK K, L)
	Sandy Mucky Mineral (2) S1)		leted Dark	Surface (F7)			Piedmont Flor	odplain Soils (F19) (MI RA 149B)
	Sandy Gleved Matrix (S	54)		lox Depress	ions (F8)			Mesic Spodic	(TA6) (MLRA 144A, 145, 149B)
	Sandy Redox (S5)	.,			(***)			Red Parent M	aterial (F21)
	Stripped Matrix (S6)							Very Shallow	Dark Surface (TF12)
	Dark Surface (S7) (LRF	R R, MLRA	149B)					Other (Explain	n in Remarks)
³ Indicators	of Hydrophytic vegetati	on and wet	and hydrology mus	t be present	t, unless distu	rbed or pro	blema	tic.	
Restrictive	Layer (if observed):								
Туре:	<u>Gravel</u>							Hydric Soil Present?	? Yes 🗌 No 🖂
Deptr	n (inches): <u>20</u>	n n n n n n n n f n .	tures choose of N	la hudria a di	il in dia stara al				
Remarks: L	ow chroma solis. But,	no redox lea	atures observed. N	to nyaric so	in indicators of	oserved.			

WEILAND DE	IERMINATION DAT	A FORM – Northce	entral and Northeas	t Region
Project/Site: E. Sunset Dr. Proposed Forcen	nain City/County:	City of Waukesha/Waukes	sha County	Sampling Date: 05/28/2013
Applicant/Owner:			State: <u>WI</u>	Sampling Point: <u>C</u>
Investigator(s): Donald M. Reed, PhD., and	Jennifer Dietl; SEWRPC	Section, Township, Range:	SE 1/4 Section 11, T6N, R	<u>19E</u>
Landform (hillslope, terrace, etc.): terrace		Local relief (concave, conv	ex, none): <u>none</u>	Slope (%): <u>1-3%</u>
Subregion (LRR or MLRA): LRR K		Lat: Long:	Datum:	
Soil Map Unit Name: Matherton silt Ioam (Mr	<u>nA)</u>		NWI c	lassification: none
Are climatic/hydrologic conditions on the site	typical for this time of year?	Yes 🗌 🛛 No 🖾	(If no, explain in Remarks)	
Are Vegetation, Soil, or Hydrology	significantly disturbe	d? Are "Normal Circum	nstances" present? Yes	🛛 No 🗌
Are Vegetation, Soil, or Hydrology	naturally problemation	? (If, needed, explain	any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach	site map showing sa	ampling point locatio	ns, transects, import	ant features, etc.
Hydrophytic Vegetation Present? Ye Hydric Soils Present? Ye Wetland Hydrology Present? Ye	s ⊠No s ⊠No s ⊠No	Is the Sampled Area within a Wetland?	🗌 Yes	⊠No
		If yes, optional Wetlar	nd Site ID:	
Remarks: (Explain alternative procedures h	nere or in a separate report.)	Above normal (4 to 6 Inche	es) precipitation for the past	90 days.
Wetland Hydrology Indicators:			Secondary Indi	cators (minimum of two required)
			<u>Scoolidary indi</u>	

	all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)
Water marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C	C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes 🗌 No 🛛 Dep	epth (inches):	
Water Table Present? Yes 🗌 No 🛛 Dep	epth (inches):	
Saturation Present? Yes 🗌 No 🛛 Dep	epth (inches): Wetla	land Hydrology Present? Yes 🗌 No 🛛
(includes capillary tringe)		
Describe Recorded Data (stream gauge, monitoring wel	ell, aerial photos, previous inspections), if available	e:
Remarks: No wetland hydrology indicators observed.		
Remarks: No wetland hydrology indicators observed.		
Remarks: No wetland hydrology indicators observed.		
Remarks: No wetland hydrology indicators observed.		
Remarks: No wetland hydrology indicators observed.		
Remarks: No wetland hydrology indicators observed.		
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Remarks: No wetland hydrology indicators observed.		
Remarks: No wetland hydrology indicators observed.		
Remarks: No wetland hydrology indicators observed.		
Remarks: No wetland hydrology indicators observed.		
Remarks: No wetland hydrology indicators observed.		

VEGETATION – Use scientific names of plants.

Time Statum (Plot size: 30 radius) % Cover Species? Status Dominance Test worksheet: 1	·	Absolute	Dominant	Indicator	
1.	Tree Stratum (Plot size: <u>30' radius</u>)	<u>% Cover</u>	Species?	<u>Status</u>	Dominance Test worksheet:
2	1				Number of Dominant Species
3.	2				That are OBL, FACW, of FAC: $\underline{0}$ (A)
4	3				Total Number of Dominant
5.	4				Species Across All Strata: <u>1</u> (B)
6.	5				Percent of Dominant Species
7	6				That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
	7				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 30' radius) OBL species x 1 = 1.		<u>0</u>	= Total Cover		Total % Cover of: Multiply by:
1.	Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
2	1				FACW species x 2 =
3	2				FAC species x 3 =
4	3				FACU species x 4 =
5	4				UPL species x 5 =
6.	5				Column Totals: (A) (B)
7	6				Prevalence Index = B/A =
0 = Total Cover Definitions for Hydrophytic Vegetation Herb Stratum (Plot size: <u>5' radius</u>) Definition are Test is >50% Prevalence Index is <3.01	7				Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5' radius) I Prevalence Index is ≤3.0 ¹ 1. Poa pratensis 75 Image: FACU classical stratum (Plot size: 5' radius) Image: Marks or on a separate sheet) 2. Cirsium anvense 20 Image: FACU classical stratum officinale Image: FACU classica		<u>0</u>	= Total Cover		Dominance Test is >50%
1. Poa pratensis 75 ✓ FACU ☐ Morphological Adaptations ! (Provide supporting data in Remarks or on a separate sheet) 2. Cirsium arvense 20 ☐ FACU ☐ Morphological Adaptations ! (Provide supporting data in Remarks or on a separate sheet) 3. Taraxacum officinale 15 ☐ FACU ☐ Problematic Hydrophytic Vegetation ! (Explain) 4. Comus racemosa 10 ☐ EAC Be present, unless disturbed or problematic. 5. Dactivits glomerata 5 ☐ MI Definitions of Vegetation Strata: 7	Herb Stratum (Plot size: 5' radius)				Prevalence Index is ≤3.0 ¹
2. Cirsium arvense 20 FACU □ Problematic Hydrophytic Vegetation ¹ (Explain) 3. Taraxacum officinale 15 □ FACU □ Problematic Hydrophytic Vegetation ¹ (Explain) 4. Cornus racemosa 10 □ FAC Be present, unless disturbed or problematic. 5. Dactylis glomerata 5 □ FACU □ Indicators of hydric soil and wetland hydrology must Be present, unless disturbed or problematic. 6. Daucus carota 5 □ NI Definitions of Vegetation Strata: 7	1. <u>Poa pratensis</u>	<u>75</u>	\boxtimes	FACU	Morphological Adaptations ¹ (Provide supporting data in Remarka or on a congrete sheat)
3. Taraxacum officinale 15 Image: FACU official o	2. <u>Cirsium arvense</u>	<u>20</u>		FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
4. Cornus racemosa 10 FAC Indicators of hydro soil and wetland hydrology must Be present, unless disturbed or problematic. 5. Dactylis glomerata 5 FACU Be present, unless disturbed or problematic. 6. Daucus carota 5 NI Definitions of Vegetation Strata: 7	3. <u>Taraxacum officinale</u>	<u>15</u>		FACU	1
5. Dactviis giomerata 5 I FACU 6. Daucus carota 5 INI Definitions of Vegetation Strata: 7	4. Cornus racemosa	<u>10</u>		<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must Be present, unless disturbed or problematic.
6. Daucus carota 5 NI Definitions of Vegetation Strata: 7	5. Dactylis glomerata	<u>5</u>		FACU	
7 Tree - Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height 9 at breast height (DBH), regardless of height 9 sapling/shrub - Woody plants less than 3in. DBH and greater than 3.28 ft (1 m) tall. 10 11 12 12	6. <u>Daucus carota</u>	<u>5</u>		<u>NI</u>	Definitions of Vegetation Strata:
8	7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
9 Sapling/shrub – Woody plants less than 3in. DBH 10 and greater than 3.28 ft (1 m) tall. 11 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. 12 Woody vines – All woody vines greater than 3.28 ft tall. 13.0 = Total Cover Woody vines – All woody vines greater than 3.28 ft in height Hydrophytic 1	8				at breast height (DBH), regardless of height
10	9				Sanling/shruh – Woody plants less than 3in, DBH
11. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. 12. Merb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. 13.0 = Total Cover Woody vines - All woody vines greater than 3.28 ft in height 1. 2. 3.	10				and greater than 3.28 ft (1 m) tall.
12	11				Horb All borbossius (non woody) planta, regardloop
$\frac{130}{10} = \text{Total Cover}$	12				of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30' radius) Image: Stratum (Plot size: 30' radius) 1. Image: Image: Stratum (Plot size: 30' radius) 2. Image: Image: Image: Stratum (Plot size: 30' radius) 3. Image: Image: Image: Image: Stratum (Plot size: 30' radius) 4. Image: Ima		<u>130</u>	= Total Cover		Weedward All weedwards are then 2.20 ft is
1	Woody Vine Stratum (Plot size: 30' radius)				Woody vines – All woody vines greater than 3.28 ft in height
2 Hydrophytic 3 Hydrophytic Vegetation 4 Present? Yes No [X]	1.				
3. Hydrophytic 4. Vegetation $\underline{0}$ = Total Cover Present? Yes Remarke: (include phote number here or on a concerte chect) Unlead field No Xet	2				
4 □ Vegetation <u>0</u> = Total Cover Yes □ No ⊠	3.				Hydrophytic
$\underline{0} = \text{Total Cover}$ Present? Yes \square No \boxtimes	4.				Vegetation
Pemerke: (include phote number here or on a concrete sheet \ Leland field		<u>0</u>	= Total Cover		Present? Yes □ No ⊠
Remarks. (include photo number here of on a separate sheet.) Opland held.	Remarks: (include photo number here or on a separate sheet	.) Upland field	J.		

Depth (inches) Matrix Redox Features 0-10 10YR 2/1 100 % Type! Loc2 Texture Remarks 0-10 10YR 2/1 100 % Type! Loc2 Silt loam (top dressing?) 10	5
Color (moist) % Color (moist) % Type! Loc ² Texture Remarks 0-10 10YR 2/1 100	;
0-10 10YR 2/1 100 Silt loam (top dressing?) 10 Refusal Refusal 10 Silt loam Refusal 10 Silt loam Refusal 10 Silt loam Refusal 10 Silt loam Refusal 11 Silt loam Silt loam 12 Silt loam Silt loam 13 Silt loam Silt loam 14 Silt loam Silt loam	
10 Refusal 10 Refusal 10 Refusal 11 Refusal 12 Refusal 13 Refusal 14 Refusal 15 Refusal 16 Refusal 17 Refusal 11 Refusal 12 Refusal 13 Refusal 14 Refusal 15 Refusal 14 Refusal 15 Refusal 15 Refusal 16 Refusal 17 Refusal 16 Refusal	
Image:	
Image: Stratified Layers (A5) Image: Stratified Layers (A5) Image: Stratified Layers (A5) Image: Stratified Layers (A5) Image: Stratified Layers (A1) Image: Stratified Layers (A12) I	 149B)
Image:	
Image:	 149B)
Image:	 149B)
Image:	 149B)
Image: Indicators: Indicators for Problematic Hydric Soils Image: Indicators: Indicators for Problematic Hydric Soils ³ : Image: Ima	 149B)
Image:	 149B)
Image:	 149B)
Indicators: Indicators: Indicators: Indicators for Problematic Hydric Soils ³ : Inditot: Indicators for Problematic H	 149B)
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains ² Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) 2 cm Muck (A10) (LRR K, L, MLRA Coast Prairie Redox (A16) (LLR K, I) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LLR Hydrogen Sulfide (A4) Hydrogen Sulfide Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (F6) Thick Dark Surface (A12) Redox Dark Surface (F7) Piedmont Floodplain Soils (F19) (MI	149B)
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains ² Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LLR K, L, Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LLR Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRF K, L) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MI	149B)
Indicators: Indicators for Problematic Hydric Soils ³ : Hydric Soil Indicators: Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LLR K, L, Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LLR Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (F6) Thin On-Manganese Masses (F12) (LRF K, L) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MI	149B)
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LLR K, L) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LLR Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRF Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MI	149B)
Image: Stratified Layers (A5) Image: Milling Stratified Layers (A5) Image: Stratified Layers (A5) Image: Stratified Layers (A5) Image: Stratified Layers (A5) Image: Loamy Mucky Mineral (F1) (LRR K, L) Image: Stratified Layers (A5) Image: Loamy Mucky Mineral (F1) (LRR K, L) Image: Stratified Layers (A5) Image: Loamy Mucky Mineral (F1) (LRR K, L) Image: Stratified Layers (A5) Image: Loamy Mucky Mineral (F1) (LRR K, L) Image: Stratified Layers (A5) Image: Loamy Mucky Mineral (F2) Image: Stratified Layers (A11) Image: Loamy Mucky Mineral (F3) Image: Stratified Layers (A12) Image: Redox Dark Surface (F6) Image: Strate Mineral (S1) Image: Depleted Dark Surface (F7) Image: Strate Mineral (S1) Image: Depleted Dark Surface (F7)	
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LLR Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRF Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (ML	L, R)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRF Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MI	K, L, R)
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRF Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MI	
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRF Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MI	K , L)
Image: Sufface (A12) Image: Redux Bark Sufface (F0) Image: Image: Redux Bark Sufface (F0) Image: Sandy Mucky Mineral (S1) Image: Depleted Dark Sufface (F7) Image: Piedmont Floodplain Soils (F19) (MI	
	RA 149B)
Sandy Gleved Matrix (S4)	45, 149B)
Sandy Redox (S5)	, ,
Stripped Matrix (S6) Very Shallow Dark Surface (TF12)	
Dark Surface (S7) (LRR R, MLRA 149B)	
³ Indicators of Hydrophytic vegetation and wetland hydrology must be present junless disturbed or problematic	
Restrictive Layer (if observed):	
Type: Gravel fill material Hydric Soil Present? Yes 🗌 No	\boxtimes
Depth (inches): 10	
Remarks: No hydric soil indicators observed.	

	FORM – Northcentral and Northeast Region
Project/Site: E. Sunset Dr. Proposed Forcemain City/County: City/Count	ty of Waukesha/Waukesha County Sampling Date: 05/28/2013
Applicant/Owner:	State: <u>WI</u> Sampling Point: <u>D</u>
Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC Sec	ction, Township, Range: <u>SE 1/4 Section 11, T6N, R19E</u>
Landform (hillslope, terrace, etc.): drainage way Loc	cal relief (concave, convex, none): <u>concave</u> Slope (%): <u>1-3%</u>
Subregion (LRR or MLRA): LRR K Lat	: Long: Datum:
Soil Map Unit Name: Matherton silt loam (MmA)	NWI classification: <u>none</u>
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes 🗌 No 🛛 (If no, explain in Remarks)
Are Vegetation, Soil, or Hydrologysignificantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic?	(If, needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? MVas No	Is the Sampled Area
Hydrophytic Vegetation resent: \square Yes \square No	within a Wetland? Xes No
Wetland Hydrology Present?	
	If yes, optional Wetland Site ID: PCA No. 1
Remarks: (Explain alternative procedures here or in a separate report.) Ab	ove normal (4 to 6 Inches) precipitation for the past 90 days.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required
Primary Indicators (minimum of one is required: check all that apply)	
Thindly indicators (minimum of one is required, check all that apply)	
Surface Water (A1)	d Leaves (89)
Surface Water (A1) Water-Staine Agustia Factor	d Leaves (B9)
Image: Surface Water (A1) Image: Water Staine Image: High Water Table (A2) Image: Aquatic Faunce	Guid Leaves (B9) Drainage Patterns (B10) Ima (B13) Moss Trim Lines (B16)
Image: Surface Water (A1) Image: Water Staine Image: High Water Table (A2) Image: Aquatic Faun Image: Saturation (A3) Image: Mark Deposite	Sufface Soil Cracks (B6) Id Leaves (B9) Image Patterns (B10) Ia (B13) Image Patterns (B16) Is (B15) Image Patterns (B16)
Image: Surface Water (A1) Image: Water Staine Image: High Water Table (A2) Image: Aquatic Faunt Image: Saturation (A3) Image: Marl Deposite Image: Water marks (B1) Image: Hydrogen Surface State	Sufface Soil Cracks (B6) Id Leaves (B9) Id Leaves (B10) Id Leaves (B13) Id Leaves (B16) Id Leaves (
Iminiary indicators (minimum or one is required, encod an that appy) Iminiary indicators (minimum or one is required, encod an that appy) Iminiary indicators (Minimum or one is required, encod an that appy) Iminiary indicators (Minimum or one is required, encod an that appy) Iminiary indicators (Minimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encod an that appy) Iminimum or one is required, encode an that appy) Iminimum or one is required, encode an that appy) Iminimum or one is required, encode an that appy appy and that appy appy and that appy appy and that appy appy appy appy appy appy appy ap	Surface Soil Cracks (B6) Id Leaves (B9) Image Patterns (B10) Ia (B13) Image Patterns (B16) Is (B15) Image Patterns (B16) Ifide Odor (C1) Image Patterns (C8) If comparison on Living Roots (C3) Image Patterns (C1)
Image: Surface Water (A1) Water-Staine High Water Table (A2) Aquatic Faun Saturation (A3) Marl Deposits Water marks (B1) Hydrogen Su Sediment Deposits (B2) Oxidized Rhiz Drift Deposits (B3) Presence of I	Image Soft Cracks (B6) Image Soft Cracks (B
Image: Surface Water (A1) Image: Water Value (A2) Image: Water Value (A2) Image: Balance Water Table (A2) Image: Aquatic Faunt Image: Balance Water Value (A3) Image: Mari Deposits Image: Balance Water Water Value (A3) Image: Mari Deposits Image: Balance Water Water Value (A3) Image: Mari Deposits Image: Balance Water Water Value (B1) Image: Hydrogen Suter Value (B2) Image: Balance Water Value (B3) Image: Presence of Image: Presence o	Surface Soil Cracks (B6) Guerrace Soil Cracks (B6) Drainage Patterns (B10) Ima (B13) Ima (B13) Ima (B13) Ima (B15) Ima (B15) Ima (B15) Ima (B16) Ima (B17) Ima (B18) Ima (B13)
Image: Surface Water (A1) Image: Water Water (A1) Water-Staine High Water Table (A2) Aquatic Faun Saturation (A3) Marl Deposits Water marks (B1) Hydrogen Su Sediment Deposits (B2) Oxidized Rhiz Algal Mat or Crust (B4) Recent Iron F Iron Deposits (B5) Thin Muck Su	Surface Soil Cracks (B6) Surface Soil Cracks (B6) d Leaves (B9) a (B13) brainage Patterns (B10) as (B13) bry-Season Water Table (C2) Ifide Odor (C1) crayfish Burrows (C8) zospheres on Living Roots (C3) Reduced Iron (C4) Stunted or Stressed Plants (D1) Reduction in Tilled Soils (C6) urface (C7)
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Imiliary indicators (minimum of one is required, check an that appy) Imiliary indicators (minimum of one is required, check an that appy) Imiliary indicators (minimum of one is required, check an that appy) Imiliary indicators (minimum of one is required, check an that appy) Imiliary indicators (minimum of one is required, check an that appy) Imiliary indicators (minimum of one is required, check an that appy) Imiliary indicators (minimum of one is required, check an that appy) Imiliary indicators (minimum of one is required, check and indicators (minimum of one is requi	Sufface Soil Cracks (B6) Image Soil Cracks (C7) Image Soil Cracks (D5) Image Soil Cracks (D5)
Imiliary indicators (minimum or one is required, encoded in that appy) Imiliary indicators (minimum or one is required, encoded in that appy) Imiliary indicators (Minimum or one is required, encoded in that appy) Imiliary indicators (Minimum or one is required, encoded in that appy) Imiliary indicators (Minimum or one is required, encoded in that appy) Imiliary indicators (Minimum or one is required, encoded in that appy) Imiliary indicators (Mained in the indicators (Mained in the indicator (Mained in the indinthe indicator (Mained in the indicator (Main	Sufface Soil Cracks (B6) Image Soil Cracks (C6) Image Soil Cracks (C7) Image Soil Cracks (C7) Image Soil Cracks (C7) Image Soil Cracks (C7) Image Soil Cracks
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Imilarly indicators (minimum of one is required, check an that appy) Imilarly indicators (minimum of one is required, check an that appy) Imilarly indicators (Main mathematic of the is required, check an that appy) Imilarly indicators (Main mathematic of the is required, check an that appy) Imilarly indicators (Main mathematic of the is required, check an that appy) Imilarly indicators (Main mathematic of the is required, check an that appy) Imilarly indicators (Main mathematic of the isometry indicators (Main mathematic of the isometry (Main mathemat	□ Sufface Soli Cracks (B6) □ Drainage Patterns (B10) □ Moss Trim Lines (B16) □ Dry-Season Water Table (C2) Ifide Odor (C1) □ □ Crayfish Burrows (C8) zospheres on Living Roots (C3) □ Reduced Iron (C4) □ Reduction in Tilled Soils (C6) ☑ Geomorphic Position (D2) urface (C7) □ n in Remarks) □ Ø Ketland Hydrology Present? Yes ⊠ No
Imilarly indicators (minimum of one is required, check an that appy) Imilarly indicators (minimum of one is required, check an that appy) Imilarly indicators (Main and Carlos (Main and Carlos (Main)) Imilarly indicators (Main) Imilarly inditered (Main) Imilar	□ Surface Soil Cracks (B6) □ Drainage Patterns (B10) □ Moss Trim Lines (B16) □ Dry-Season Water Table (C2) Ifide Odor (C1) □ □ Crayfish Burrows (C8) □ Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) □ Reduction in Tilled Soils (C6) ☑ Geomorphic Position (D2) □ Shallow Aquitard (D3) n in Remarks) □ □ FAC-Neutral Test (D5)
Image: Surface Water (A1) Image: Water Stained High Water Table (A2) Aquatic Faun Saturation (A3) Marl Deposits Water marks (B1) Hydrogen Su Sediment Deposits (B2) Oxidized Rhiz Algal Mat or Crust (B4) Recent Iron F Iron Deposits (B5) Thin Muck St Inundation Visible on Aerial Imagery (B7) Other (Explain Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): <th>□ Sufface Soli Cracks (B6) □ Drainage Patterns (B10) □ Drainage Patterns (B10) □ Moss Trim Lines (B16) □ Dry-Season Water Table (C2) Ifide Odor (C1) □ □ Crayfish Burrows (C8) zospheres on Living Roots (C3) □ Reduced Iron (C4) □ Reduction in Tilled Soils (C6) ⊠ Geomorphic Position (D2) □ urface (C7) □ n in Remarks) □ Wetland Hydrology Present? Yes ⊠ Vious inspections), if available: Vious inspections), if available:</th>	□ Sufface Soli Cracks (B6) □ Drainage Patterns (B10) □ Drainage Patterns (B10) □ Moss Trim Lines (B16) □ Dry-Season Water Table (C2) Ifide Odor (C1) □ □ Crayfish Burrows (C8) zospheres on Living Roots (C3) □ Reduced Iron (C4) □ Reduction in Tilled Soils (C6) ⊠ Geomorphic Position (D2) □ urface (C7) □ n in Remarks) □ Wetland Hydrology Present? Yes ⊠ Vious inspections), if available: Vious inspections), if available:

Remarks: Two primary and one secondary wetland hydrology indicators present.

VEGETATION – Use scientific names of plants.

		<u> </u>	1 12 4	
Tree Stratum (Plot size: 30' radius)	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: <u>0</u> (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>0</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 0% (A/B)
7				Prevalence Index worksheet:
	<u>0</u>	= Total Cove	er	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>0</u>	= Total Cove	er	Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				Prevalence Index is ≤3.0 ¹
1. <u>Typha angustifolia</u>	<u>1</u>		<u>OBL</u>	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2				Problematic Hydrophytic Vegetation ¹ (Explain)
3				1
4.				Be present, unless disturbed or problematic.
5.				
6.				Definitions of Vegetation Strata:
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
8.				at breast height (DBH), regardless of height
9				Sanling/shrub - Woody plants less than 3in DBH
10				and greater than 3.28 ft (1 m) tall.
11				
12				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
	<u>1</u>	= Total Cove	er	
Woody Vine Stratum (Plot size: 30' radius)				Woody vines – All woody vines greater than 3.28 ft in height
1.				height
2.				
3.				Hydrophytic
4.				Vegetation
	0	= Total Cove	er	Present? Yes No
Remarks: (include photo number here or on a separate sheet	.) Only Typha	a angustifolia gro	owing in mov	ing stream. Phalaris arundinacea and Urtica dioica are

growing along the drainage way banks.

Sampling Point: D

Sampling Point: D

Profile Des	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth	Matrix			Redox Feat	ures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
(
						·		
		<u> </u>						
		<u> </u>						
						·		
¹ Type: C=C	Concentration, D=Deple	etion, RM=Re	duced Matrix, MS	= Masked S	and Grains		² Location: PL=Pore I	_ining, M=Matrix
Hydric Soil	Indicators:	,	,				Indicators for Proble	matic Hydric Soils ³ :
	Histosol (A1)			yvalue Belov	v Surface (Sa	B) (LRR R,	2 cm Muck (A	10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)			MLRA 149	B)		Coast Prairie I	Redox (A16) (LLR K, L, R)
	Black Histic (A3)		🔲 Thii	n Dark Surfa	ce (S9) (LRF	R, MLRA 1498	3) 🔲 5 cm Mucky P	eat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)		🗌 Loa	my Mucky N	/lineral (F1) (LRR K, L)	Dark Surface ((S7) (LRR K, L)
	Stratified Layers (A5)		🗌 Loa	my Gleyed I	Matrix (F2)		Polyvalue Belo	ow Surface (S8) (LRR K, L)
	Depleted Below Dark S	Surface (A11)	Dep	pleted Matrix	(F3)		Thin Dark Sur	face (S9) (LRR K, L)
	Thick Dark Surface (A1	2)		lox Dark Su	rface (F6)			se Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral (S1)		Dieted Dark			Piedmont Floo	
	Sandy Gleyed Matrix (54)		lox Depress	ions (F8)			(1A6) (MLRA 144A, 145, 149B)
	Stripped Matrix (S6)							alellai (F21) Dark Surface (TE12)
	Dark Surface (S7) (I RI		49B)				Other (Fynlai	n in Remarks)
			102)					in in Remarkey
³ Indicators of	of Hydrophytic vegetati	ion and wetla	nd hydrology mus	t be present	, unless distu	irbed or problem	atic.	
Restrictive	Layer (if observed):		, ,,			·		
Type:							Hydric Soil Present?	Yes 🖂 No 🗌
Depth	(inches):							
Remarks: S	tream bottom - Soils ir	nundated with	7.5 inches of wat	er, hydric by	definition - 0	Criteria 3.		
L								

WEILAND DEIERMI	NATION DATA	FORM – Northcentr	al and Northeast I	kegion
Project/Site: E. Sunset Dr. Proposed Forcemain	City/County: C	City of Waukesha/Waukesha (County	Sampling Date: 05/28/2013
Applicant/Owner:			State: <u>WI</u>	Sampling Point: <u>E</u>
Investigator(s): Donald M. Reed, PhD., and Jennifer D	ietl; SEWRPC Se	ection, Township, Range: <u>NE</u>	1/4 Section 14, T6N, R19	<u>E</u>
Landform (hillslope, terrace, etc.): low terrace	Lo	ocal relief (concave, convex, n	one): <u>none</u>	Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): <u>LRR K</u>	La	at: Long:	Datum:	
Soil Map Unit Name: Houghton muck (HtA)			NWI class	sification: <u>none</u>
Are climatic/hydrologic conditions on the site typical for	this time of year?	Yes 🗌 No 🛛 (If r	no, explain in Remarks)	_
Are Vegetation, Soil, or Hydrology si	gnificantly disturbed?	Are "Normal Circumstar	nces" present? Yes 🛛	No 🗌
Are Vegetation, Soil, or Hydrology na	aturally problematic?	(If, needed, explain any	answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site m	ap showing sam	pling point locations,	transects, importan	t features, etc.
Hydrophytic Vegetation Present? Hydric Soils Present? Wetland Hydrology Present? Yes	□No □No □No	Is the Sampled Area within a Wetland?	⊠ Yes	□No
		If yes, optional Wetland Si	te ID: PCA No. 2	
Remarks: (Explain alternative procedures here or in	a separate report.) A	bove normal (4 to 6 Inches) p	recipitation for the past 90	days.
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required: chec	k all that apply)			

Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Drainage Patterns (B10)
High Water Table (A2)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres on Living R	oots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	ls (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches): <u>1</u>	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes 🛛 No 🗌
	, , , , , , , , , , , , , , , , , , , ,
(includes capillary fringe)	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:
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(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a Remarks: One primary and two secondary wetland hydrology indicators present.	vailable:

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of plants.				Sampling Point: <u>E</u>		
Tree Stratum (Plot size: 30' radius)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test worksheet:		
1				Number of Dominant Species		
2				That are OBL, FACW, or FAC: <u>2</u> (A)		
3				Total Number of Dominant		
4.				Species Across All Strata: <u>2</u> (B)		
5.				Percent of Dominant Species		
6				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)		
7.				Prevalence Index worksheet:		
	<u>0</u>	= Total Cov	/er	Total % Cover of: Multiply by:		
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =		
1				FACW species x 2 =		
2.				FAC species x 3 =		
3.				FACU species x 4 =		
4.				UPL species x 5 =		
5.				Column Totals: (A) (B)		
6.				Prevalence Index = B/A =		
7.				Hydrophytic Vegetation Indicators:		
	0	= Total Cov	/er	Rapid Test for Hydrophytic Vegetation		
Herb Stratum (Plot size: 5' radius)	_			\square Prevalence Index is $\leq 3.0^1$		
1 Carex pellita	<u>50</u>	\boxtimes	OBL	Morphological Adaptations ¹ (Provide supporting		
2 Phalaris arundinacea	33	\boxtimes	FACW	data in Remarks or on a separate sheet)		
3 Convolvulus anonsis	10		NI			
	3		EACU	¹ Indicators of hydric soil and wetland hydrology must		
4. <u>Cirsium arvense</u>	<u>5</u>		<u>1700</u>	Be present, unless disturbed or problematic.		
5. <u>Cornus racemosa</u>	<u>1</u>		FAC	Definitions of Vegetation Strata		
6						
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter		
8				at breast height (DBH), regardless of height		
9				Sapling/shrub – Woody plants less than 3in. DBH		
10				and greater than 3.28 ft (1 m) tall.		
11				Herb – All herbaceous (non-woody) plants, regardless		
12				of size, and woody plants less than 3.28 ft tall.		
	<u>97</u>	= Total Cov	/er	Weedy vince All weedy vince greater than 2.29 ft in		
Woody Vine Stratum (Plot size: 30' radius)				height		
1						
2						
3				Hydrophytic		
4.				Vegetation		
	<u>0</u>	= Total Cov	ver	Present? Yes No		
Remarks: (include photo number here or on a separate	sheet.) Fresh (wet) meadow and	Southern sed	lge meadow.		

Frome Des	Matrice	the depth hee					Sence	of indicators.)	
Depth		0/ -	1 (1 1)	Redox Feat		1 2	-	T = 1 4	
(inches)	Color (moist)	% Co	olor (moist)	%	Туре	Loc ²		Texture	Remarks
0-19	N 1/0	100					Muck		with gravel
19									gravel fill material
									_
							. <u> </u>		
¹ Type: C=C	Concentration, D=Deple	tion, RM=Redu	ced Matrix, M	S= Masked S	and Grains		2	2Location: PL=Pore	Lining, M=Matrix
Hydric Soi	Indicators:						Ir	ndicators for Proble	ematic Hydric Soils ³ :
	Histosol (A1)		🗌 Po	olyvalue Belov	w Surface (S8	8) (LRR R,		2 cm Muck (A	(10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)		— —	MLRA 149	B)			Coast Prairie	Redox (A16) (LLR K, L, R)
	Black Histic (A3)			nn Dark Surfa	ace (S9) (LRR Vincral (E1) (I	R, MLRA	149B)	5 cm Mucky H	Peat or Peat (S3) (LLR K, L, R)
	Stratified Lavers (A5)			arriy Mucky M	Matrix (E2)	KKK, L)			(57) (LRR R, L)
	Depleted Below Dark Si	urface (A11)		epleted Matrix	(F3)			Thin Dark Su	$r_{\rm face}$ (S9) (LRR K, L)
	Thick Dark Surface (A12	2)		edox Dark Su	rface (F6)			Iron-Mangane	ese Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral (S	, S1)	De	epleted Dark	Surface (F7)			Piedmont Flo	odplain Soils (F19) (MLRA 149B)
	Sandy Gleyed Matrix (S	4)	🗌 Re	edox Depress	ions (F8)			Mesic Spodic	: (TA6) (MLRA 144A, 145, 149B)
	Sandy Redox (S5)							Red Parent M	laterial (F21)
	Stripped Matrix (S6)		•					Very Shallow	Dark Surface (TF12)
	Jark Surface (S7) (LRR	K R, MLRA 1491	3)						n in Remarks)
³ Indicators	of Hydrophytic vegetatio	on and wetland	hvdroloav mu	ist be present	. unless distu	rbed or prol	blemati	ic.	
Restrictive	Laver (if observed):		, a. e.e.g.je		.,				
Type:	gravel fill						F	lydric Soil Present	? Yes 🛛 No 🗌
Depth	(inches): <u>19</u>							-	
Remarks: C	One hydric soil indicator	present - A1. H	listosol.						

WEILAND DETERMINATION DAT	A FORM – Northcentral and Northe	ast Region
Project/Site: E. Sunset Dr. Proposed Forcemain City/County	Town of Waukesha/Waukesha County	Sampling Date: 05/28/2013
Applicant/Owner:	State: WI	Sampling Point: <u>F</u>
Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC	Section, Township, Range: NE 1/4 Section 14, T6N	I <u>, R19E</u>
Landform (hillslope, terrace, etc.): hillslope	Local relief (concave, convex, none): convex	Slope (%): <u>1-3%</u>
Subregion (LRR or MLRA): LRR K	Lat: Long: Datum:	_
Soil Map Unit Name: Matherton silt Ioam (MmA)	NV	/I classification: none
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes 🔲 🛛 No 🖾 (If no, explain in Remar	ks)
Are Vegetation, Soil, or Hydrology significantly disturb	ed? Are "Normal Circumstances" present? Ye	s 🛛 No 🗌
Are Vegetation, Soil, or Hydrology naturally problemati	c? (If, needed, explain any answers in Remarks	s.)
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point locations, transects, imp	ortant features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No Wetland Hydrology Present? Yes No	Is the Sampled Area within a Wetland?	⊠No
	If yes, optional Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separate report.)) Above normal (4 to 6 Inches) precipitation for the p	ast 90 days.

HYDROLOGY

- .

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water marks (B1) Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres on Living Re	oots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	s (C6) Geomorphic Position (D2)
Iron Deposits (B5)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes 🗌 No 🛛 Depth (inches):	
Water Table Present? Yes 🗌 No 🛛 Depth (inches):	
Saturation Present? Yes 🛛 No 🗌 Denth (inches): 16	Wetlend Undrelen: Dresent? Ves 🗖 No 🕅
	wetland Hydrology Present? Yes No X
(includes capillary fringe)	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable: hydrology indicator present.
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable: hydrology indicator present.
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable:
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable: hydrology indicator present.
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable: hydrology indicator present.
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable: hydrology indicator present.
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable: hydrology indicator present.
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable: hydrology indicator present.
Contraction recorded in the contract of the con	vailable: hydrology indicator present.
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av Remarks: Drainage has been altered due to past road construction. Only one secondary wetland	vailable: hydrology indicator present.

VEGETATION – Use scientific names of plants.

				Camping Fonte <u>r</u>
Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: <u>1</u> (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>1</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7				Prevalence Index worksheet:
	<u>0</u>	= Total Cove	er	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	<u>0</u>	= Total Cove	er	Rapid Test for Hydrophytic Vegetation Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				□ Prevalence Index is $\leq 3.0^{1}$
1. Phalaris arundinacea	<u>80</u>	\boxtimes	FACW	Morphological Adaptations ¹ (Provide supporting
2				Deta in Remarks or on a separate sheet)
3				
4				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed of problematic.
6.				Definitions of Vegetation Strata:
7				Tree Maady plants 2in (7.6 cm) or more in diameter
۲ ۹				at breast height (DBH), regardless of height
0				
10				Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 5.26 it (1 iii) tail.
10				Herb – All herbaceous (non-woody) plants, regardless
12	80			of size, and woody plants less than 3.28 ft tall.
	<u>00</u>		er	Woody vines – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: <u>30' radius)</u>				height
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes ⊠ No □
		= Total Cove	er	
Remarks: (Include photo number here or on a separate sheet	.) ⊢resh (wet)) meadow.		

Profile Des	scription: (Describe to	o the depth ne	eded to docum	ent the indi	cator or conf	irm the abs	ence	of indicators.)	
Depth	Matrix			Redox Feat	ures				
(inches)	Color (moist)	% 0	Color (moist)	%	Type ¹	Loc ²		Texture	Remarks
0-18	N 2.5/0	100	. ,	·		Ν	Muck		
	·								
				·				· _	
	· ·			·					
	·			·					
	· ·			·	·				
	·			·				, .	
		<u> </u>		· . <u></u>	·				
	· ·			·	·			· .	
				·					
		<u> </u>		·					
		<u> </u>		·					
	·			·					
1 T urnet C =(Concentration D-Dank	ation DM-Dad	used Matrix MC	- Maakad C	and Oraina			2	ining NA-NAstric
Hydric Soi	Indicators:	etion, RIVI=Red	uced Matrix, Ma	s= Masked S	and Grains			dicators for Problem	natic Hydric Soils ³ :
	Histosol (A1)		🗌 Pol	yvalue Belov	v Surface (S8) (LRR R,	"	2 cm Muck (A1	0) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)		—		B)			Coast Prairie R	edox (A16) (LLR K, L, R)
	Black Histic (A3)		🔲 Thi	n Dark Surfa	ce (S9) (LRR	R, MLRA 14	49B)	5 cm Mucky Pe	eat or Peat (S3) (LLR K, L, R)
	Hydrogen Sulfide (A4)			amy Mucky N	lineral (F1) (L	RR K, L)		Dark Surface (67) (LRR K, L)
	Stratified Layers (A5) Depleted Below Dark S	Surface (A11)		amy Gleyed I pleted Matrix	VIATRIX (F2)			Polyvalue Belo Thin Dark Surfa	
	Thick Dark Surface (A1	2)		dox Dark Su	face (F6)				e Masses (F12) (LRR K. L. R)
	Sandy Mucky Mineral (Ś1)	🗌 Dej	pleted Dark S	Surface (F7)			Piedmont Floor	dplain Soils (F19) (MLRA 149B)
	Sandy Gleyed Matrix (S	54)	🗌 Red	dox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Sandy Redox (S5)							Red Parent Ma	terial (F21) bark Surface (TE12)
	Dark Surface (S7) (LRI	R R. MLRA 14	9 B)					Other (Explain	in Remarks)
	24 24400 (07) (2								
³ Indicators	of Hydrophytic vegetati	ion and wetland	d hydrology mus	st be present	, unless distu	bed or probl	lemat	ic.	
Restrictive	Layer (if observed):								
Type	(inchec);						F	Hydric Soil Present?	Yes 🛛 No 🗌
Depti Remarks: 9	i (inches) Soil has been graded ar	nd sloned to ac	commidate drai	nage from th	e Fast Sunse	t Drive roady	way	18 inches of soil com	pressed to 7 inches in soil probe
One hydric	soil indicator present -	A1. Histosol.		nage nom u		C DIIVE TOddy	way.		

WETLAN	D DETERMIN	ATION DAT	A FORM – N	lorthcentral a	and Northeast	Region
Project/Site: E. Sunset Dr. Proposed	Forcemain	City/County:	Town of Waukes	sha/Waukesha Cou	unty	Sampling Date: 05/28/2013
Applicant/Owner:				Sta	ate: <u>WI</u>	Sampling Point: <u>G</u>
Investigator(s): Donald M. Reed, PhD	., and Jennifer Diet	<u>tl; SEWRPC</u>	Section, Townshi	p, Range: <u>NE 1/4</u>	Section 14, T6N, R1	<u>9E</u>
Landform (hillslope, terrace, etc.): low	<u>/ terrace</u>		Local relief (conc	ave, convex, none): <u>none</u>	Slope (%): <u>1-3%</u>
Subregion (LRR or MLRA): <u>LRR K</u>			Lat:	Long:	Datum:	
Soil Map Unit Name: Matherton silt lo	<u>am (MmA)</u>				NWI cla	ssification: <u>none</u>
Are climatic/hydrologic conditions on t	he site typical for th	nis time of year?	Yes 🗌	No 🛛 (If no, e	xplain in Remarks)	_
Are Vegetation, Soil, or Hy	drology sign	ificantly disturbed	d? Are "Norn	nal Circumstances	" present? Yes 🖂	No 🗌
Are Vegetation, Soil, or Hy	drology natu	rally problematic	? (If, neede	d, explain any ans	wers in Remarks.)	
SUMMARY OF FINDINGS – A	Attach site map	o showing sa	mpling point	locations, tra	nsects, importa	nt features, etc.
Hydrophytic Vegetation Present? Hydric Soils Present? Wetland Hydrology Present?	⊠Yes [⊠Yes [⊠Yes []No]No]No	Is the Sam within a We	oled Area etland?	⊠ Yes	□No
			If ves, option	nal Wetland Site ID): PCA No. 3	
Remarks: (Explain alternative proce	dures here or in a s	separate report.)	Above normal (4	to 6 Inches) precip	pitation for the past 9	0 days.
HYDROLOGY						
Wetland Hydrology Indicators:					Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one	is required; check a	all that apply)			Surface So	il Cracks (B6)
Surface Water (A1)		U Water-Sta	ained Leaves (B9))	Drainage P	atterns (B10)

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Surface Water (A1) Water-S High Water Table (A2) Aquatic Saturation (A3) Marl De Water marks (B1) Hydroge Sediment Deposits (B2) Oxidized Drift Deposits (B3) Presence	tained Leaves (B9) Drainage Patterns (B10) Fauna (B13) Moss Trim Lines (B16) posits (B15) Dry-Season Water Table (C2) n Sulfide Odor (C1) Crayfish Burrows (C8) I Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) e of Reduced Iron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	ron Reduction in Tilled Soils (C6)
Iron Deposits (B5)	ck Surface (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	xplain in Remarks)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes Depth (inches):	<u> </u>
Water Table Present? Yes No Depth (inches): <u>1</u>	
Saturation Present? Yes No Depth (inches): <u>0</u> (includes capillary fringe)	(at surface) Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos	, previous inspections), if available:
Remarks: One primary and two secondary wetland hydrology indicato	s present.

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants.				Sampling Point: <u>G</u>
Tree Stratum (Plot size: 30' radius)	Absolute <u>% Cover</u>	Dominant <u>Species?</u>	Indicator <u>Status</u>	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant
4.				Species Across All Strata: <u>1</u> (B)
5.				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7.				Prevalence Index worksheet:
··· <u></u>	<u>0</u>	= Total Cov	er	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2.				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x5=
5.				Column Totals: (A) (B)
6.				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	0	= Total Cov	er	Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5' radius)	_			Dominance lest is >50% Prevalence Index is $\leq 3.0^1$
1 Phalaris arundinacea	67	\bowtie	FACW	☐ Morphological Adaptations ¹ (Provide supporting
	1		FACU	data in Remarks or on a separate sheet)
	_			
5. <u> </u>				¹ Indicators of hydric soil and wetland hydrology must
4				Be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Deminione of Vegetation official
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height
9				Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tall.
11				Herb – All herbaceous (non-woody) plants regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>68</u>	= Total Cov	er	We advising All woods wings are to them 2.20 ft in
Woody Vine Stratum (Plot size: 30' radius)				height
1				
2.				
3.				Hydrophytic
4.				Vegetation
	<u>0</u>	= Total Cov	er	Present? Yes No
Remarks: (include photo number here or on a separate s	heet.) Fresh (wet) meadow.		1

Profile De	scription: (Describe to	o the dep	th needed to docum	ent the ind	licator or cor	nfirm the a	bsenc	e of indicators.)	
Depth	Matrix			Redox Fea	tures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		Texture	Remarks
0-19	N 2.5/0	100					Muck	(
19-23	N 2.5/0	67	7.5YR 4/6	c/p	С	М	Clay		
	5Y 4/1	33							
			-						
							·		
								<u> </u>	
	·								
							·		
¹ Type: C=	Concentration, D=Depl	etion, RM	I=Reduced Matrix, MS	= Masked S	Sand Grains			² Location: PL=Pore L	ining, M=Matrix
Hydric So	il Indicators:		,,					Indicators for Proble	matic Hydric Soils ³ :
\square	Histosol (A1)		D Pol	yvalue Belo	w Surface (S	8) (LRR R,	,	2 cm Muck (A1	10) (LRR K, L, MLRA 149B)
	Histic Epipedon (A2)			MLRA 149	9B)			Coast Prairie F	Redox (A16) (LLR K, L, R)
	Black Histic (A3)		∐ Thi	n Dark Surf	ace (S9) (LR Minoral (E1) (R R, MLRA	A 149B)) 📋 5 cm Mucky Po	eat or Peat (S3) (LLR K, L, R)
	Stratified Lavers (A5)			arriy Mucky amy Gleved	Matrix (F2)	LKK K, L)			$(\mathbf{LRR}, \mathbf{L})$ w Surface (S8) (LRR K I)
	Depleted Below Dark S	Surface (A	A11) 🗌 De	pleted Matri	x (F3)			Thin Dark Surf	ace (S9) (LRR K, L)
	Thick Dark Surface (A1	12)	🗌 Re	dox Dark Su	urface (F6)			Iron-Manganes	se Masses (F12) (LRR K, L, R)
	Sandy Mucky Mineral ((S1)		oleted Dark	Surface (F7)			Piedmont Floo	dplain Soils (F19) (MLRA 149B)
	Sandy Gleyed Matrix (54)		oox Depress	SIONS (F8)			INIESIC Spodic (Red Parent Ma	(TA6) (MLRA 144A, 145, 149B) aterial (E21)
	Stripped Matrix (S6)							Very Shallow [Dark Surface (TF12)
	Dark Surface (S7) (LR	R R, MLF	RA 149B)					Other (Explain	in Remarks)
31	af the description of a second state				4		- 1- 1	41-	
Restrictiv	e l aver (if observed):	ion and v	etiano nyorology mus	st be presen	it, uniess disti	urbed or pro	opiema		
Туре	: :							Hydric Soil Present?	Yes 🖾 No 🗖
Dept	h (inches):								
Remarks:	One hydric soil indicato	r present	- A1. Histosol.						

WETLAND DETERMINATIO	N DATA FORM – Nor	thcentral and Northeas	t Region
Project/Site: E. Sunset Dr. Proposed Forcemain Cit	y/County: Town of Waukesha/	<u> Naukesha County</u>	Sampling Date: 05/28/2013
Applicant/Owner:		State: <u>WI</u>	Sampling Point: <u>H</u>
Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEW	<u>/RPC</u> Section, Township, R	ange: <u>NE 1/4 Section 14, T6N, R</u>	<u>19E</u>
Landform (hillslope, terrace, etc.): low terrace	Local relief (concave,	convex, none): <u>none</u>	Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): LRR K	Lat: Lon	g: Datum:	
Soil Map Unit Name: <u>Houghton muck (HtA)</u>		NWI cl	assification:
Are climatic/nydrologic conditions on the site typical for this time	of year? Yes No	(If no, explain in Remarks)	
Are Vegetation, Soll, or Hydrology significanti	y disturbed? Are Norman of	volain any answers in Remarks	
Are vegetation, Soli, or Hydrology naturally pr			
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point loc	ations, transects, importa	ant features, etc.
Hydrophytic Vegetation Present? Xes No	Is the Sampled	Area	
Hydric Soils Present? Yes No	within a wetian	id? 🛛 🖾 Yes	
Wetland Hydrology Present?			
	If yes, optional V	Vetland Site ID: PCA No. 3	
Remarks: (Explain alternative procedures here or in a separat	te report.) Above normal (4 to 6	Inches) precipitation for the past	90 days.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary India	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	apply)	Surface So	oil Cracks (B6)
Surface Water (A1)	Water Stained Leaves (PO)		Pottorno (B10)
	Aquatic Fauna (B13)		i Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Seaso	on Water Table (C2)
Water marks (B1)	Hydrogen Sulfide Odor (C1)	🗌 Crayfish B	urrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Livir	ig Roots (C3)	Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or	Stressed Plants (D1)
	Recent Iron Reduction in Tilled	Soils (C6) Soils (C6)	hic Position (D2)
	This Music Surface (CZ)		
	Thin Muck Surface (C7)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		graphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		🖂 FAC-Neut	ral Test (D5)
Field Observations:			
Surface Water Present? Yes 🗌 No 🖾 Depth (inc	ches):		
Water Table Present? Yes 🗌 No 🛛 Depth (inc	ches):		
Saturation Present? Yes 🛛 No 🗍 Depth (inc	ches): 0 (at surface)	Wotland Hydrology Prosor	
(includes capillary fringe)		Wettand Hydrology Preser	
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspections).	if available:	
	F		
Remarks: One primary and two secondary wetland hydrology	indicators present.		

VEGETATION – Use scientific names of plants.

		<u> </u>		Camping Font. <u>11</u>
Tree Stratum (Plot size: 30' radius)	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That are OBL, FACW, or FAC: <u>1</u> (A)
3				Total Number of Dominant
4				Species Across All Strata: <u>1</u> (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
7				Prevalence Index worksheet:
	<u>0</u>	= Total Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 30' radius)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
	<u>0</u>	= Total Cove	r	Rapid Test for Hydrophytic Vegetation Dominance Test is >50%
Herb Stratum (Plot size: 5' radius)				$\square \text{ Prevalence Index is } \le 3.0^{1}$
1. Phalaris arundinacea	<u>80</u>	\boxtimes	FACW	Morphological Adaptations ¹ (Provide supporting
2 Solidado altissima	3		FACU	data in Remarks or on a separate sheet)
3 Cirsium arvense	1		FACU	
	1		FACU	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Sonchus arvensis</u>	<u> </u>		<u>1 A00</u>	Be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3in. (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height
9				Sapling/shrub – Woody plants less than 3in. DBH
10				and greater than 3.28 ft (1 m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
12				of size, and woody plants less than 3.28 ft tall.
	<u>85</u>	= Total Cove	r	Weady vince All weady vince greater than 2.28 ft in
Woody Vine Stratum (Plot size: 30' radius)				height
1				
2				
3				Hydrophytic
4				Vegetation
_	<u>0</u>	= Total Cove	۱r	Present? Yes No
Remarks: (include photo number here or on a separate sheet	.) Fresh (wet)) meadow.		

Sampling Point: H

Sampling Point: H

Depth Matrix Redox Features (inches) Color (moist) % Type1 Loc2 Texture Remarks 17 N 2.5/0 100 Muck Refusal - rocks7 17
(inches) Color (moist) % Type ¹ Loc ² Texture Remarks 0-17 N 2.5/0 100 Muck Refusal - rocks? 17 Image: State of the
0-17 N 2.5/0 100 Muck 17
17 Refusal - rocks? 17 Refusal - rocks? 18 Refusal - rocks? 19 Refusal - rocks? 11
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¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains ² Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Mistosol (A1) Polyvalue Below Surface (S8) (LRR R, Biack Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (F6) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Sandy Redox (S5) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rocks Depth (inches): <u>17</u> Remarks: One hydric soil indicator present - A1. Histosol.
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□ Histic Epipedon (A2) MLRA 149B) □ Coast Prairie Redox (A16) (LLR K, L, I □ Black Histic (A3) □ Thin Dark Surface (S9) (LRR R, MLRA 149B) □ 5 cm Mucky Peat or Peat (S3) (LLR K, □ Hydrogen Sulfide (A4) □ Loamy Mucky Mineral (F1) (LRR K, L) □ Dark Surface (S7) (LRR K, L) □ Stratified Layers (A5) □ Loamy Gleyed Matrix (F2) □ Polyvalue Below Surface (S8) (LRR K, L) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thin Dark Surface (S9) (LRR K, L) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) □ Iron-Manganese Masses (F12) (LRR K, L) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) □ Piedmont Floodplain Soils (F19) (MLR □ Sandy Redox (S5) □ Redox Depressions (F8) □ Mesic Spodic (TA6) (MLRA 144A, 145 □ Dark Surface (S7) (LRR R, MLRA 149B) □ Other (Explain in Remarks) ³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Remarks: One hydric soil indicator present - A1. Histosol.
□ Black Histic (A3) □ Thin Dark Surface (S9) (LRR R, MLRA 149B) □ 5 cm Mucky Peat or Peat (S3) (LLR K, L) □ Hydrogen Sulfide (A4) □ Loamy Mucky Mineral (F1) (LRR K, L) □ Dark Surface (S7) (LRR K, L) □ Stratified Layers (A5) □ Loamy Gleyed Matrix (F2) □ Polyvalue Below Surface (S8) (LRR K, L) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thin Dark Surface (S9) (LRR K, L) □ Thick Dark Surface (A12) □ Depleted Matrix (F3) □ Thin Dark Surface (S9) (LRR K, L) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) □ Piedmont Floodplain Soils (F19) (MLR □ Sandy Redox (S5) □ Redox Depressions (F8) □ Mesic Spodic (TA6) (MLRA 144A, 145 □ Dark Surface (S7) (LRR R, MLRA 149B) □ Redox Depressions (F8) □ Other (Explain in Remarks) ³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Image: Soil Present? Yes ⊠ No Remarks: One hydric soil indicator present - A1. Histosol. Hydric Soil Present? Yes ∑ No
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□ Dark Surface (S7) (LKR R, MLKA 149B) □ Other (Explain in Remarks) 3 ¹ Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed):
³ Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Rocks Depth (inches): <u>17</u> Remarks: One hydric soil indicator present - A1. Histosol.
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Depth (inches): <u>17</u> Remarks: One hydric soil indicator present - A1. Histosol.
Remarks: One hydric soil indicator present - A1. Histosol.

Photo 1. Wetland sample site 1 (04/15/2015). Fresh (wet) meadow, PCA 1.



Photo 3. Upland sample site 3 (04/15/2015). Upland old field between Sunset Dr. and wetland sample 2.



Photo 5. Wetland sample site 5 (09/09/2015). Mowed fresh (wet) meadow, PCA 4.



Photo 2. Wetland sample site 2 (04/15/2015). Shallow marsh, PCA 1.



Photo 4. Upland sample site 4 (09/09/2015). Upland old field between Sunset Dr. and wetland sample 5.



Photo 6. Wetland sample site 6 (09/09/2015). Fresh (wet) meadow, PCA 4.



Photo 7. Upland sample site 7 (09/09/2015). Buckthorn thicket.



Photo 9. Wetland sample site 9 (09/09/2015). Fresh (wet) meadow, PCA 5.



Photo 11. Upland sample site B (05/28/2013). Old field.



Photo 8. Upland sample site 8 (09/09/2015). Old field/meadow.



Photo 10. Wetland sample site A (05/28/2013) PCA 1.



Photo 12. Upland sample site C (05/28/2013). Old field.



Photo 13. Wetland sample site D (05/28/2013). Fresh (wet) meadow along open water stream, PCA 1.



Photo 15. Upland sample site F (05/28/2013). Upland meadow/old field between Sunset and wetland.



Photo 17. Wetland sample site H (05/28/2013). Fresh (wet) meadow PCA 4.



Photo 14. Wetland sample site E (05/28/2013). Fresh (wet) meadow PCA 2.



Photo 16. Wetland sample site G (05/28/2013). Fresh (wet) meadow, PCA 4.



Photo 18. West view from sample site 1, PCA 1.



Photo 19. 04/25/2015 East view from Gramling Lane of sample site A (05/28/2013), PCA 1.



Photo 21. West view from Gramling Lane of PCA 1. (04/15/2015).



Photo 23. 05/28/2013 East view of PCA 4 near sample site F.



Photo 20. 05/28/2013 East view from Gramling Lane of site A, PCA 1.



Photo 22. East view of wet ditch starting at Sunset View. (09/09/2015).



Photo 24. South side of Sunset, Pebble Brook culverts, PCA 4 (09/09/2015).



Photo 25. West view PCA 4, near wetland sample site 6 (09/09/2015).



Photo 26. South view PCA 5, sample sites 8 and 9 (09/09/2015).



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