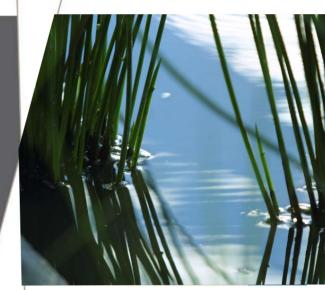
Wetland Delineation Report

Quality West Construction: Netherwood Road Wetland Delineation

Cardno Project Number: J178357800

Prepared for Quality West Construction/ Gary Karls

August 11, 2017





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Document History

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Table of Contents

1	Intro	duction	4	
2	Meth	ods		5
	2.1	Backgi	round Information	5
		2.1.1	USGS Topographical Map	5
		2.1.2	Soil Survey	5
		2.1.3	Mapped Wetlands	6
		2.1.4	Current, Historic, and High-Resolution Aerial Imagery	6
	2.2	Investi	igation Methodology	6
		2.2.1	Naming Protocol	6
		2.2.2	Site Photographs	6
		2.2.3	Delineation Data Forms	6
		2.2.4	Survey of Wetland Boundary	6
3	Resu	Its and D	Discussion	8
	3.1	Recen	t Climatic Conditions and Precipitation Data	8
	3.2	Genera	al Site Conditions	8
	3.3	Upland	ds	8
	3.4	Wetlan	nds	8
	3.5	Natura	ally Problematic and Significantly Disturbed Data Points	9
	3.6	Other \	Water Resources and Additional Observations	9
4	Sum	mary and	I Conclusion	10
5	Litera	ature Cite	ed	11

Figures

1.	Location	Мар
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- 2. Topographic Map
- 3. Mapped Soil Units
- 4. Wisconsin Wetland Inventory (WWI) Mapped Wetlands
- 5. Delineated Wetlands

Appendices

- A. Site Photographs
- B. Wetland Delineation Data Forms Northcentral and Northeast Region

1 Introduction

Cardno was contracted by Quality West Construction, Inc. to perform a wetland delineation of a privately owned parcel located along Netherwood Road, within the Town of Oregon, Dane County, Wisconsin (Figure 1). The proposed site development of a residential home and driveway were flagged by the Wisconsin Department of Natural Resources (WDNR) as potentially impacting wetlands. Therefore a wetland delineation will be used to support future development planning and identify potential project permits.

Based on a field investigation conducted by Cardno on August 10, 2017 and review of related resource maps, it is Cardno's professional opinion that one wetland complex totaling 0.77 acres exists within the project area.

This report outlines the wetland delineation investigation, methodology, and its findings as completed by Cardno staff. This report has been compiled by the following staff that are trained and experienced in delineation methodologies and applicable regulations:

- Robb Roos Senior Consultant, PWS; Lead Field Delineator and Report Author: Robb has been working in the field of wetland ecology and ecological restoration for ten years. He holds a Master of Science degree in Biology with an emphasis in Restoration Ecology from Grand Valley State University. Robb has been leading wetland delineation field teams for over six years with Cardno on projects throughout the Midwest. Robb has also completed WDNR and USACE-based wetland delineation trainings and is currently certified as a Wetland Professional by the Society of Wetland Scientists. Currently, Robb leads wetland delineations, habitat surveys, report writing, permitting and project management.
- **Trae Hoeske Technician:** Trae has several years of experience in environmental restoration. He holds a Bachelor's of Science degree in Environmental Science from the University of Dubuque. Currently, Trae works as a field technician supporting various consulting and restoration activities including wetland delineations, monitoring and report writing.

2 Methods

2.1 Background Information

Sources of information that were consulted to identify potential wetlands within the project area prior to field investigation are listed below:

- United States Geological Survey (USGS) Topographical Map (Figure 2)
- USDA-NRCS Web Soil Survey Database for Dane County, Wisconsin (Figure 3)
- WDNR Wisconsin Wetland Inventory (WWI) Mapping (Figure 4)
- National Agricultural Imagery Program (NAIP) Aerial Imagery (Figures 3 and 4)

These maps identify potential wetlands and hydric soil units within the project area. The sole use of any of these maps to make wetland determinations is not acceptable. Descriptions of findings from the review of this background information is provided in the subsections, below.

2.1.1 USGS Topographical Map

The USGS topographic map (Figure 2) identified a somewhat flat, low-lying area along the northern part of the project area. This spot is the low spot in the surrounding landscape. The project area quickly increases in elevation to the south and west of this area. Based on this review, the northern area is potentially in a concave or flat position that will collect water shedding from the convex, higher elevation areas located to the south and west.

2.1.2 Soil Survey

The NRCS soil map of the project area (Figure 3) identified the four soil types outlined in Table 2-1, below. In total, approximately 0.87 (17%) of the 4.92 acre project area contains mapped hydric soil units. Hydric soil units are restricted to the northeastern half of the project area and are correlated with the topographic break noted in Section 2.1.1.

Symbol	Description	Hydric Soil Unit?	Acres within Project Area
BbB	Batavia silt loam, gravelly substratum, 2 to 6 percent slopes	No	3.33
TrB	Troxel silt loam, 1 to 3 percent slopes	Yes	0.87
KdC2	Kidder loam 6 to 12 percent slopes, eroded	No	0.70
BoD2	Boyer sandy loam, 12 to 20 percent slopes, eroded	No	0.02
		<u>Total</u>	4.92

Table 2-1 Mapped Soil Units within the Project Area

2.1.3 <u>Mapped Wetlands</u>

The Wisconsin Wetland Inventory (WWI) map of the project area (Figure 4) identified an area of wetland that was too small to delineate. The mapped wetland is depicted on the northern end of the site.

2.1.4 Current, Historic, and High-Resolution Aerial Imagery

Historic aerial imagery ranging from 2000 to 2014 was reviewed in order to evaluate the project area for wetland signatures. Based on historic imagery review, wetland signature was identified along the northern project area boundary. Observations of potential hydrology are evident including saturation and differences in vegetation.

2.2 Investigation Methodology

The delineation of wetlands and other waters of the State were based on the methodology described in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) January 2012 as required by current policy.

Prior to the field work, background information was reviewed to establish the probability and potential location of wetlands and waterways within the project area. On August 10, 2017, a general reconnaissance of the entire project area was conducted to evaluate site conditions. Next, the project area was walked with the specific intent of determining wetland boundaries. Data points were sampled during this time at locations within and near the wetland areas to document soil characteristics, evidence of hydrology, and dominant vegetation. Soils were examined to assess soil characteristics, site hydrology, and comparison to known NRCS hydric soil indicators. Complete descriptions of typical soil series can be found in the soil survey for this county. Data point locations are identified on the Wetland Delineation Figure (Figure 5).

Delineation in the field occurred within the project area boundary provided to Cardno. This project area is depicted on all figures that accompany this report. The project area is defined as the parcel located on Nertherwood Road.

2.2.1 Naming Protocol

Features identified on attached figures and appendices are named in the following manner:

- DP = Data Point (includes photos of these areas)
- PP = Photo Point

2.2.2 Site Photographs

Photographs of data point and general photo point locations are located in Appendix A. These photographs are the visual documentation of site conditions at the time of inspection. The photographs are intended to provide representative visual samples of wetland and upland data points, as well as general site conditions.

2.2.3 Delineation Data Forms

The Northcentral and Northeast Region Wetland Determination Data Forms used in the wetland delineation process are located in Appendix B. These forms are the written documentation of how representative sample stations meet or do not meet each of the wetland criteria. Plant species nomenclature follows the Northcentral and Northeast 2016 Regional Wetland Plant List (Lichvar et al., 2016). Soils were identified using the methods outlined in the USDA NRCS Field Indicators of Hydric Soils in the United States, Version 8.1 (USDA-NRCS 2017).

2.2.4 Survey of Wetland Boundary

Cardno GPS surveyed all data point locations and wetland boundary locations. The field data collection settings, within GPS units, use available satellites, including two DGPS (Differential Global Positioning System) satellites, to capture location data. Using the WAAS (Wide Area Augmentation System), satellite readings generally

provide sub-meter accuracy of data point locations and wetland boundaries. Cardno's GPS units acquire multiple readings per data point to increase accuracy.

Please note that while Cardno's GPS survey provides reasonably accurate spatial information regarding the wetlands delineated, it does not constitute the same accuracy as a professional land survey. The St. Paul District USACE and WDNR may require an official survey be completed by a Professional Land Surveyor or Professional Engineer in order to verify the delineation boundaries for impact and regulatory purposes. In order to facilitate this process, wetland boundaries were marked with pink pin flags in the field.

3 Results and Discussion

3.1 Recent Climatic Conditions and Precipitation Data

Recent precipitation data was compared with historic precipitation data from a 46-year dataset (1971-2017) from a nearby weather station (Stoughton, WI) to determine if normal hydrologic and climatic conditions were present on-site during the delineation. When compared to the WETS Station data, the observed precipitation data from three months prior to the delineation indicated antecedent precipitation conditions were wet at the time of the delineation on August 10, 2017. The antecedent hydrologic condition analysis is provided below:

		Long-term r	ainfall records (1971 - 2017)					
WETS Station: Stoughton, WI	Month	<30%	Mean	>30%	Actual	Condition	Condition Value	Month Weight Value	Condition Value X Month Weight
3rd Prior Month	May	2.42	3.63	4.35	3.62	Normal	2	1	2
2nd Prior Month	June	2.76	4.38	5.28	7.55	Wet	3	2	6
1st Prior Month	July	2.91	4.02	4.74	6.60	Wet	3	3	9
								Sum:	17
If sum is:					Condition Values:		Cor	ditions Onsite:	Wet
6 to 9	then prior perio	d has been drier	than normal		(1) Dry				
10 to 14	then prior perio	then prior period has been normal			(2) Normal				
15 to 18	then prior perio	d has been wette	er than normal		(3) Wet				

3.2 General Site Conditions

Based on this field investigation, and review of related resource maps, it is our professional opinion that one wetland totaling approximately 0.77 acres (15%) exists within the project area (Figure 5). Descriptions of the upland and wetland areas are provided below.

3.3 Uplands

Upland within the project area consisted primarily of old field, fallow pastureland vegetation. These areas were free of shrubs and trees. Dominant species include the following:

- Great plantain (Plantago major)
- Canadian thistle (Cirsium arvense)
- Common milkweed (Asclepias syriaca)
- Alfalfa (Medicago sativa)
- Eastern daisy fleabane (Erigeron annuus)
- Common dandelion (Taraxacum officinale)
- Creeping wild rye (*Elymus repens*)
- Red clover (*Trifolium pratense*)
- Straw-color flat sedge (Cyperus strigosus).

Upland areas do not contain any signs of wetland hydrology, including concave depressions or other questionable landforms. Data points taken within these areas were usually at the shoulder of slope that gradually declined into wetland areas more suitable for collecting water. Hydric soils were present at all upland and wetland data point locations. Upland vegetation species dominated these areas, however, at time the wetland species straw-color flat sedge (*Cyperus strigosus*) was also dominant.

3.4 Wetlands

Across the entire project area, a total of one wetland complex was identified that contained fresh (wet) meadow. Total delineated wetland area within the project area is approximately 0.77 acres (15% of the entire project area). The completed wetland delineation data forms are included as Appendix B. Figure 5 depicts the wetland boundaries.

The wetland boundary occurs along the foot slope of the upland/wetland transition area located at the northern end of the project area where topography becomes flat and depressed below the surrounding landscape. The wetland boundary was delineated primarily by areas where the local relief transitions from a convex to a concave position. Although not present immediately along the wetland boundary at data point locations, it is evident that a shallow aquitard (D3) of tightly packed clay soils perch the water table for extended periods of time following rainfall events in these wetland areas. Soil investigations identified no saturation or water table below the surface to a depth of 24-inches. Other indicators of hydrology within this wetland area includes geomorphic position (D2) and passing of the FAC-neutral test (D5). The dominant hydrophytic vegetation within this wetland complex includes reed canary grass (*Phalaris arundinacea*), straw-color flat sedge (*Cyperus strigosus*), and large barnyard grass (*Echinochloa crus-galli*). While vegetation was always dominated by wetland species in these areas, the presence of the upland species creeping wild rye (*Elymus repens*) was also dominant in portions of the wetland area.

3.5 Naturally Problematic and Significantly Disturbed Data Points

During the site delineation there were no naturally problematic or significantly disturbed data points. Normal circumstances were considered to be present due to the fallow nature of the previously hayed field.

3.6 Other Water Resources and Additional Observations

No other water resources were identified on site. Although not explained in detail in the above wetland descriptions, it appears the adjacent property to the east of the project area may contain portions of wetland. Significant water ponding was evident immediately north of Netherwood Road. However, there was no evidence of culvert or other connection between these areas and the wetland identified within the project area.

Within the project site a culverted gravel drive entrance has been installed. This was placed across the roadside ditch with permissions from the Town of Oregon.

4 Summary and Conclusion

Cardno was contracted by Quality West Construction, Inc. to perform a wetland delineation of a privately owned parcel located along Netherwood Road, within the Town of Oregon, Dane County, Wisconsin. Prior to the field work, background information was reviewed to establish the probability and potential location of wetlands and waterways within the project area. On August 10, 2017, a general reconnaissance of the entire project area site was conducted to evaluate site conditions. The project area was then walked with the specific intent of delineating and documenting wetland boundaries.

Based on this field investigation, and review of related resource maps, it is our professional opinion that one wetland totaling approximately 0.77 acres (15%) exists within the project area (Figure 5). This fresh (wet) meadow boundary was primarily delineated based on the presence of geomorphic position (D2) and shallow aquitard (D3). Hydric soils were present throughout all data point locations. Vegetation transitioned from a dominance of hydrophytic vegetation in the wetland areas to that of upland vegetation in the upland areas.

The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers, state regulation under the jurisdiction of Wisconsin DNR, and local jurisdiction under the county, town, city or village.

5 Literature Cited

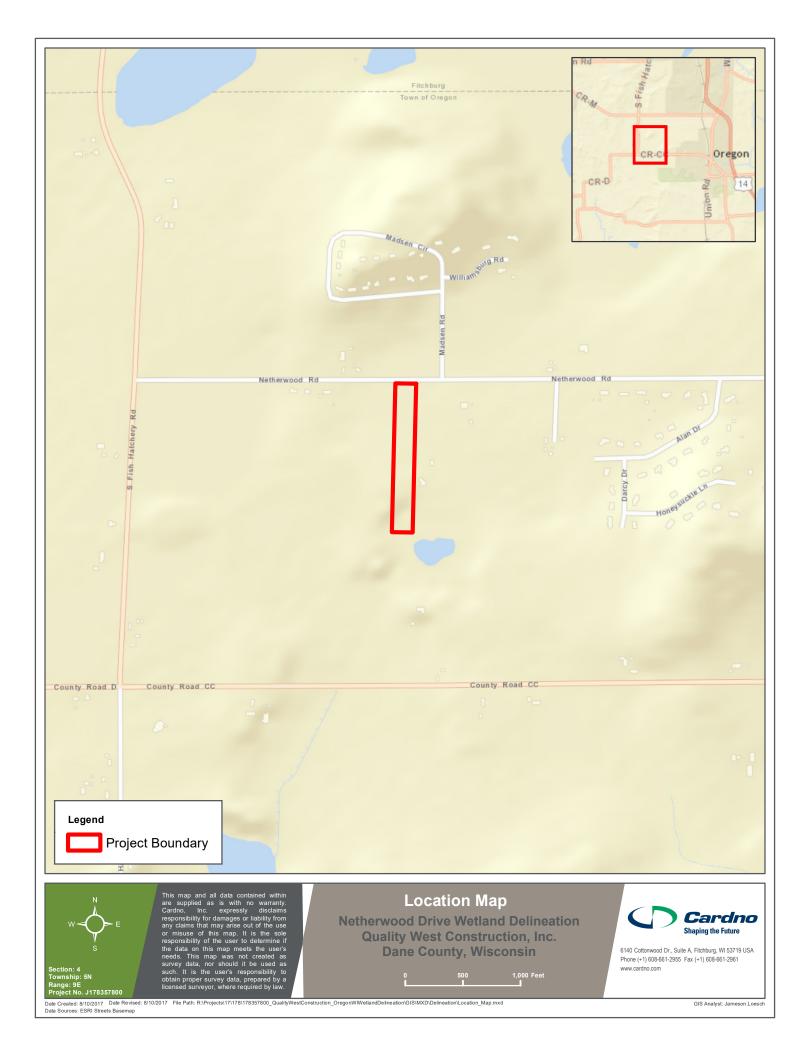
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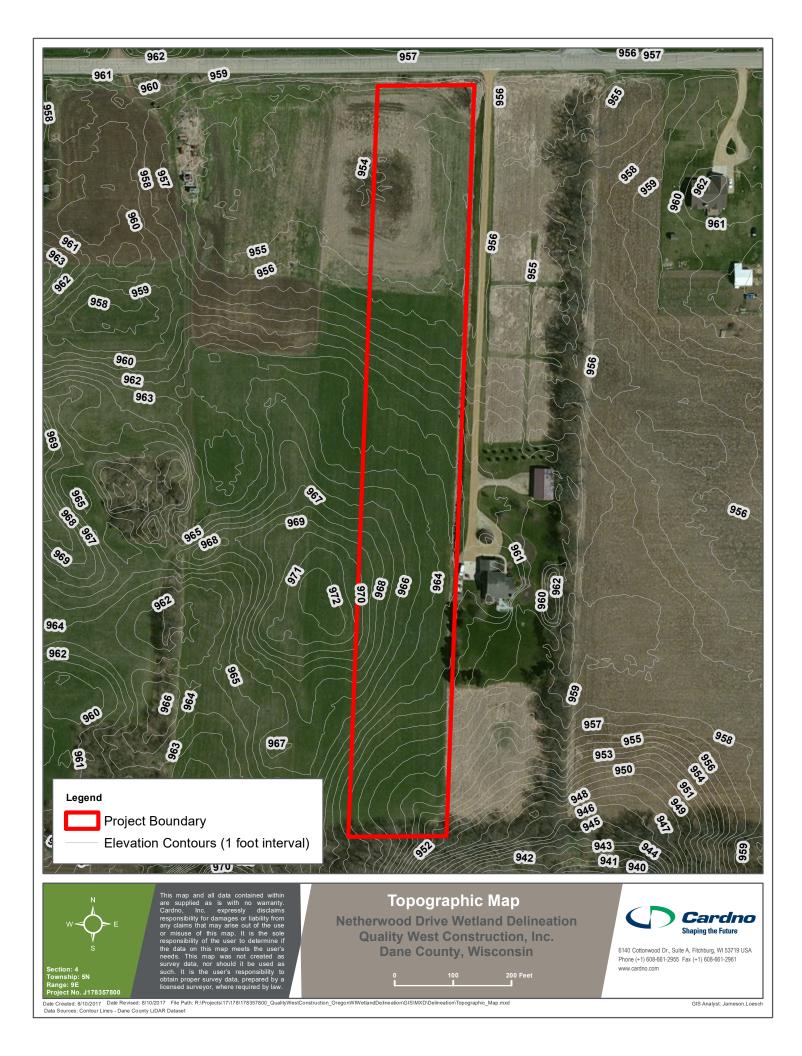
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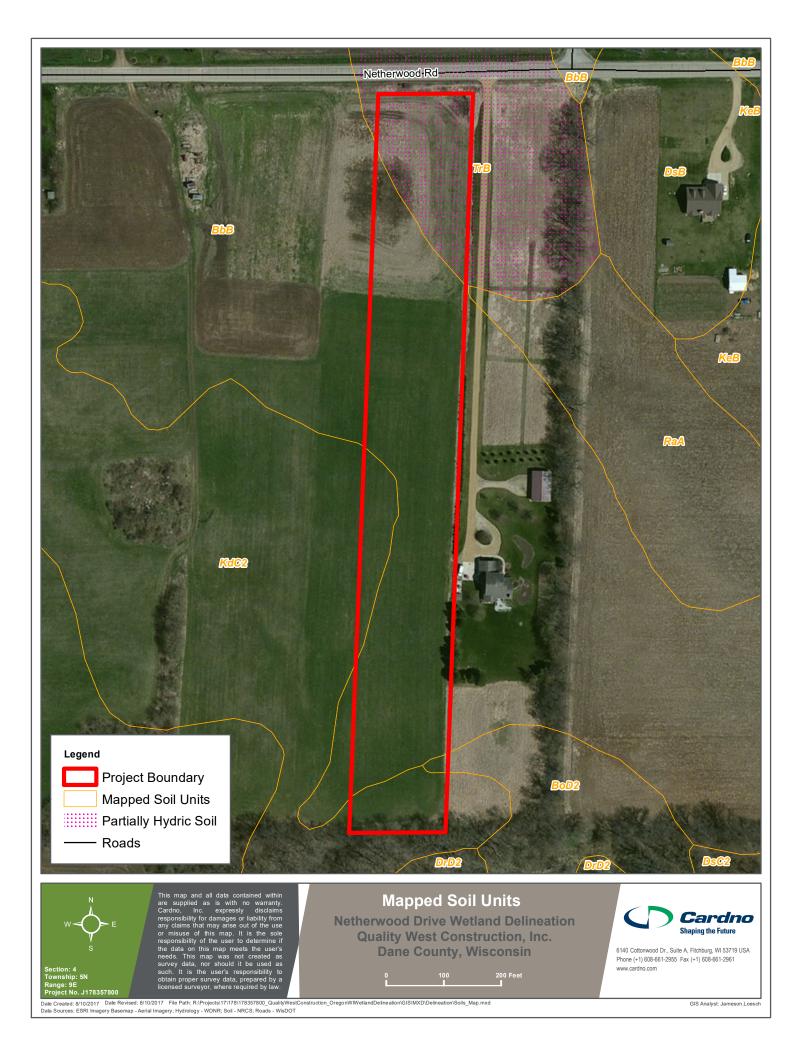
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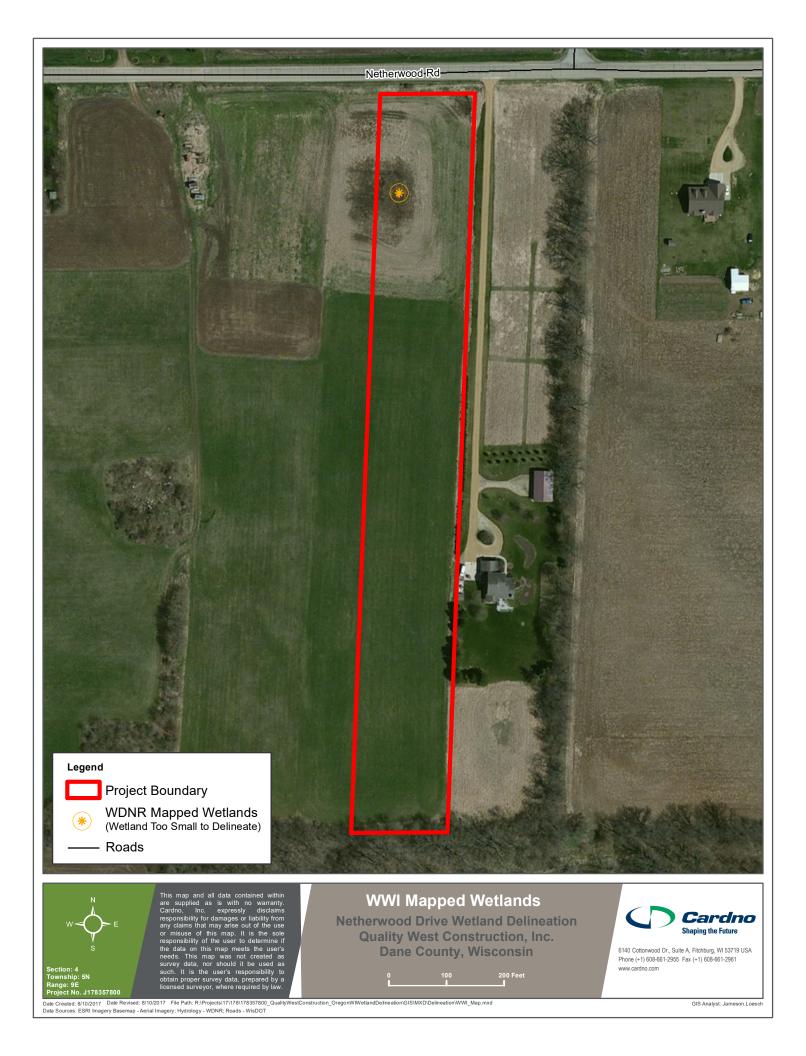
Quality West Construction: Netherwood Road Wetland Delineation

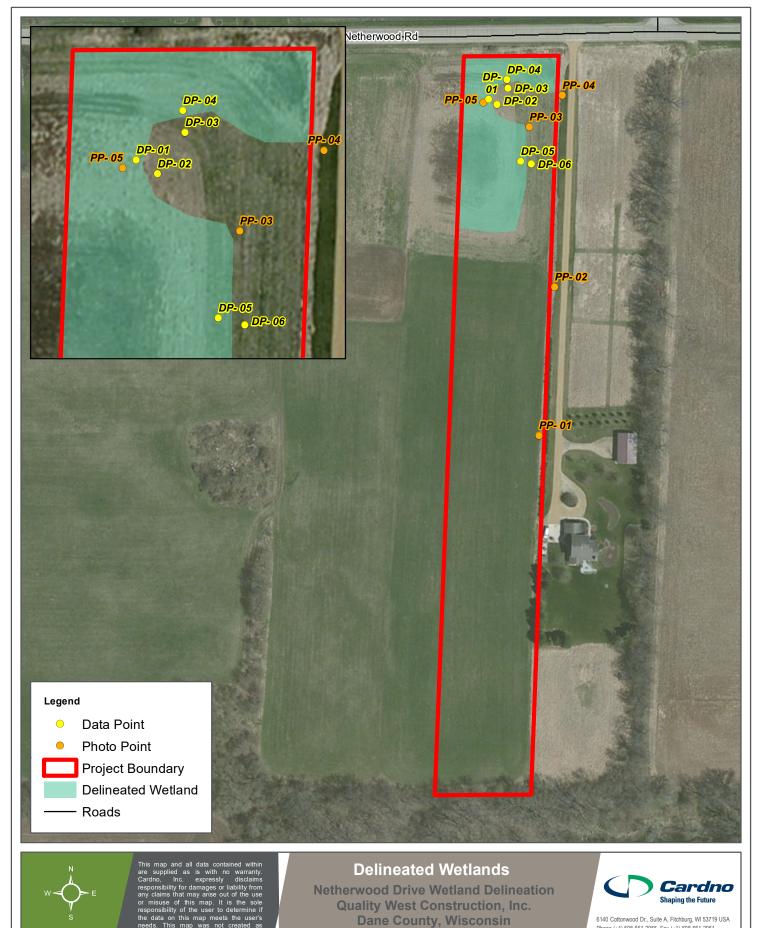
FIGURES











nstruction_OregonWIWe

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA Phone (+1) 608-661-2955 Fax (+1) 608-661-2961 www.cardno.com

Date Created: 8/10/2017 Date Revised: 8/10/2017 File Path: R:\Projects:1171178\178357800 Data Sources: ESRI Imagery Basemap - Aerial Imagery; Hydrology - WDNR; Roads - WisDOT

178357800

Quality West Construction: Netherwood Road Wetland Delineation



Site Photographs



DP-01, view north



DP-01, view south



DP-01, view east



DP-01, view west

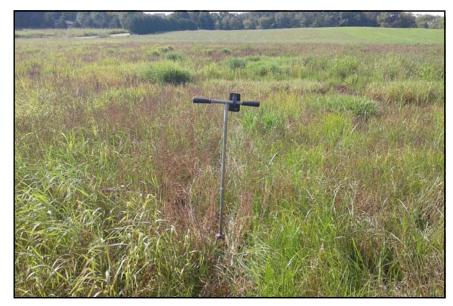


Site Photographs August 10, 2017





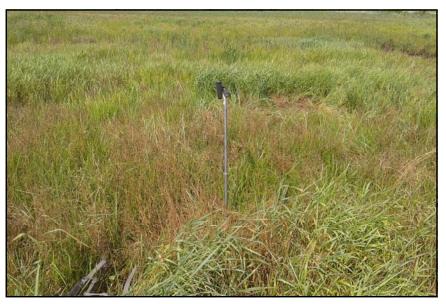
DP-02, view north



DP-02, view south



DP-02, view east



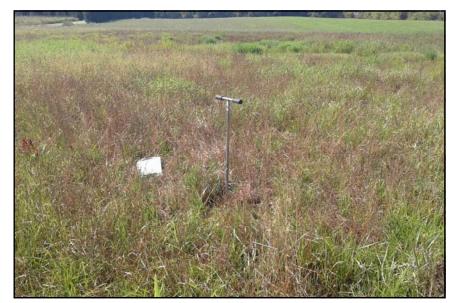
DP-02, view west







DP-03, view north



DP-03, view south



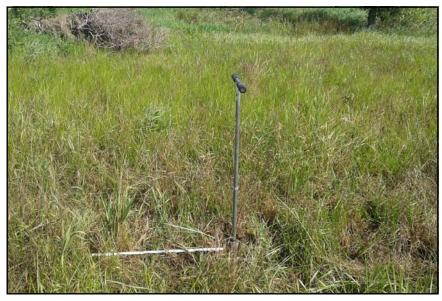
DP-03, view east



DP-03, view west



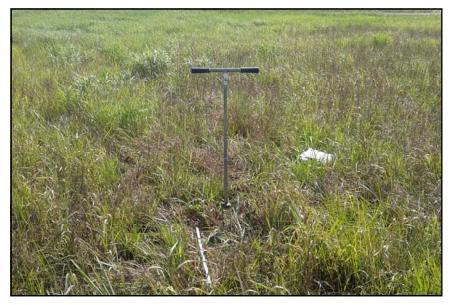




DP-04, view north



DP-04, view south



DP-04, view east



DP-04, view west







DP-05, view north



DP-05, view south



DP-05, view east



DP-05, view west







DP-06, view north



DP-06, view south



DP-06, view east



DP-06, view west







PP-01, view north



PP-03, view south



PP-02, view northwest



PP-03, view west







PP-04, view southwest



PP-05, view east

J178357800



PP-04, view west

Netherwood Road Wetland Delineation Site Photographs



August 10, 2017

Quality West Construction, Inc. Town of Oregon, Dane County, WI Quality West Construction: Netherwood Road Wetland Delineation

APPENDIX



Wetland Delineation Data Forms -Northcentral and Northeast Region

WETLAND DETERMINATION DATA FORM -- Northcentral Northeast Region

Project/Site:	Quality West Constru	Quality West Construction - Netherwood Drive				Dane County, Town of Oregon			Sampling Da	ate: 8/10/2017
Applicant/Owner:	Quality West Constru	uction					State:	WI	Sampling Po	pint: 1
Investigator(s):	R. Roos, T. Hoeske			Se	Section, Township, Range:			T5N, R9E, S4		
Landform (hillslope, te	rrace, etc.):	Тоє	slope		Local	relief (conc	ave, conv	ex, none):	concave	
Slope (%): 1	% Lat:	42.936055		Long:		-89.42890	1		Datum:	NAD83
Soil Map Unit Name:	TrB - Troxel s	silt loam, 1 to 3 percent	slopes					NWI class	ification:	None
Are climatic / hydrolog	ic conditions on the sit	e typical for this time o	f year?	Yes	No	X (If n	no, explain	in Remark	(s.)	
Are Vegetation	, Soil	, or Hydrology	significantl	y disturbed?	Are "No	ormal Circu	Imstances	present?	Yes	X No
Are Vegetation	, Soil	, or Hydrology	naturally pr	roblematic?	(If need	led, explair	n any answ	ers in Rer	marks.)	
SUMMARY OF I	FINDINGS Atta	ch site map show	ing samp	ling point lo	ocations, tra	ansects,	, importa	ant feat	ures, etc.	
Hydrophytic Vegetati	on Present?	Yes X	No	Is th	e Sampled Ar	ea				
Hydric Soil Present?		Yes X	No	with	in a Wetland?			Yes 2	X No	
Wetland Hydrology F	Present?	Yes X	No	If yes	s, optional Wet	land Site II	D: _			
A WETS Table Analy	sis was completed for	es here or in a separat the project area. Com e of year. This analysis	parison of rec							7) revealed climatic

HYDROLOGY

Wetland Hydrology Indicato	rs:						Secondary Indicators (minimum of two required)		
Primary Indicators (minimum	of one is required	d; check	all the	at apply)			Surface Soil Cracks (B6)		
Surface Water (A1)		_		Water-Stained Lea	aves (B9)		Drainage Patterns (B10)		
High Water Table (A2)		_		Aquatic Fauna (B1	13)		Moss Trim Lines (B16)		
Saturation (A3)		_		Marl Deposits (B1	5)		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)						C6)	X Geomorphic Position (D2)		
Iron Deposits (B5)				Thin Muck Surface	e (C7)		X Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)				Other (Explain in R	Remarks)		Microtopograpic Relief (D4)		
Sparsely Vegetated Con	cave Surface (B	8)					FAC-Neutral Test (D5)		
Field Observations:									
Surface Water Present?	Yes	No	Х	Depth (inches):					
Water Table Present?	Yes	No	Х	Depth (inches):					
Saturation Present?	Yes	No	Х	Depth (inches):		Wetland Hy	ydrology Present? Yes X No		
(includes capillary fringe)				_					
Remarks: Soils contained heavy packed water through the soil itself wh							water nearby. This soil type also appeared to limit movement of 1 hour.		

VEGETATION - Use scientific names of plants.

Sampling Point:

1

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: <u>30 ft.</u>)	% Cover	Species?	Status	Dominance Test Worksheet:
1 2				Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant Species Across All Strata 2 (B)
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)
6 7.				$OBL, FACW, OFFAC. \qquad \underbrace{OC}_{OC} (FCC)$
1		= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)		- 10101 00.0.		Total % Cover of: Multiply by:
1.				$\begin{array}{c} \hline \hline \\ OBL species \\ \hline \\ 0 \\ \hline \\ \end{array} \\ 0 \\ \hline \\ x \\ 1 \\ = \\ 0 \\ \hline \\ \end{array} \\ \hline \\ 0 \\ \hline \\ \end{array}$
2.				FACW species $35 \times 2 = 70$
3.				FAC species $16 \times 3 = 48$
4.				FACU species 25 x 4 = 100
5.				UPL species 5 x 5 = 25
6.				Column Totals: 81 (A) 243 (B)
7.				Prevalence Index = B/A = 3.00
		= Total Cover	r	
Herb Stratum (Plot size: 5 ft.)				
1. Cyperus strigosus	30	Yes	FACW	Hydrophytic Vegetation Indicators:
2. Elymus repens	20	Yes	FACU	Rapid Test for Hydrophytic Vegetation
3. Echinochloa crus-galli	15	No	FAC	Dominance Test is >50%
4. Trifolium pratense	5	No	FACU	X Prevalence Index is $\leq 3.0^1$
5. Medicago sativa	5	No	UPL	Morphological Adaptations ¹ (Provide supporting data
6. Phalaris arundinacea	5	No	FACW	in Remarks or on a separate sheet)
7. Persicaria virginiana	1	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must be
9.				present, unless disturbed or problematic.
10				·
11				
12				Definitions of Vegetation Strata:
13.				Tree - Woody plants 3 inches (7.6 cm) or more in diameter
14				at breast height (DBH), regardless of height.
15				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				Herb - All herbaceous (non-woody) plants, regardless of
18 19				size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in
20				height.
	81	= Total Cover	r	
Woody Vine Stratum (Plot size: <u>30 ft.</u>)				
1				
2				Hydrophytic
3			<u> </u>	Vegetation
4			·	Present ? Yes <u>x</u> No
		= Total Cover	r	
Remarks: (Include photo numbers here or on a separa	te sheet.)			

___ -

inches) 0-11" 11-24" 	Color (moist) 10YR 4/1 10YR 5/2	% 98 90	Color (moist) 10YR 4/3 7.5YR 5/8 10YR 5/1	<u>%</u> 2 5 5	Type' C C D	<u>Loc²</u> <u>M</u> <u>M</u>	Texture Clay Clay Clay	Remarks
			7.5YR 5/8	5	С	М	Clay	
	10YR 5/2	90						
			10YR 5/1	5		<u>M</u>	Clay	
						·		
					. 2.	·		
pe: C=Concent dric Soil Indica		RM=Redu	iced Matrix, MS=Mask	ed Sand G	rains. ² Loca		e Lining, M=Matrix. Indicators for Problem	atic Hvdric Soils ³ :
Histosol (A1)			Stripped Matrix (S	6)			2 cm Muck (A10	•
Histic Epipedon (A2) Dark Surface (S7)							5 cm Mucky Pea	at or Peat (S3) (Test)
Black Histic (High Chroma Sar				Polyvalue Below	
Hydrogen Su Stratified Lay		_	Loamy Mucky Mir Loamy Gleyed Mi		_RR L)		Thin Dark Surfac	ce (S9) • Masses (F12) (Test)
	low Dark Surface (A	11) —	X Depleted Matrix (Mesic Spodic (T	A6) (Test in MLRA 144A and 14
Thick Dark S	urface (A12)		Redox Dark Surfa	ace (F6)			of LRR R)	
	y Mineral (S1)		Depleted Dark Su				Other (Explain in	n Remarks)
	d Matrix (S4)		Redox Depressio					
Sandy Redo	x (33)	-	Marl (F10) (LRR I Very Shallow Dar		F22) (MLRA	145)		
		_						
diactors of hydr			hudrologu muot ho n	rocont unio	oo diaturbaa	l ar problema	tio	
			d hydrology must be p	resent, unie			auc.	
strictive Layer	(if observed):							
Type: Clay	Aquitard							
Depth (inche	s): <u>Su</u>	rface				Hydric Soi	I Present?	Yes <u>X</u> No
marks:								

WETLAND DETERMINATION DATA FORM -- Northcentral Northeast Region

Project/Site:	Quality West Constru	uction - Netherwood	Drive	City/County:	Dane County, Town of Oregon			Sampling Date:	8/10/2017
Applicant/Owner:	Quality West Constru	uction				State:	WI	Sampling Point:	2
Investigator(s):	R. Roos, T. Hoeske			Secti	Section, Township, Range:			T5N, R9E, S4	
Landform (hillslope, te	errace, etc.):	В	ackslope		Local relief (cor	ncave, conv	ex, none):	concave	
Slope (%):	1% Lat:	42.93602	9	Long:	-89.4288	46		Datum:	NAD83
Soil Map Unit Name:	TrB - Troxel s	silt loam, 1 to 3 perce	ent slopes				NWI classi	ification:	None
Are climatic / hydrolog	gic conditions on the sit	e typical for this time	of year?	Yes	No X (If	no, explain	in Remark	s.)	
Are Vegetation	, Soil	, or Hydrology	significa	ntly disturbed?	Are "Normal Circ	cumstances	present?	Yes X	No
Are Vegetation	, Soil	, or Hydrology	naturally	problematic?	(If needed, expla	ain any answ	ers in Ren	narks.)	
SUMMARY OF	FINDINGS Atta	ch site map sho	wing sam	pling point loca	ations, transects	s, import	ant featu	ures, etc.	
Hydrophytic Vegetat	ion Present?	Yes	No X	Is the S	Sampled Area				
Hydric Soil Present?		Yes X	No	within	a Wetland?		Yes	No X	
Wetland Hydrology F	Present?	Yes	No X	lf yes, c	optional Wetland Site	ID:			
A WETS Table Anal	in alternative procedur ysis was completed for ere atypical for this time	the project area. Co	mparison of i					,	evealed climatic

HYDROLOGY

Wetland Hydrology Indicato	rs:						Secondary Indicators (minimum of	two required)			
Primary Indicators (minimum o	of one is required	check	all tha	it apply)			Surface Soil Cracks (B6)				
Surface Water (A1)		_		Water-Stained Lea	aves (B9)		Drainage Patterns (B10)				
High Water Table (A2)		_		Aquatic Fauna (B1	3)		Moss Trim Lines (B16)				
Saturation (A3)	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 Im	nagery (C9)			
Drift Deposits (B3)		_	Presence of Reduced Iron (C4)				Stunted or Stressed Plants (D	1)			
Algal Mat or Crust (B4)		_	Recent Iron Reduction in Tilled Soils (C6)			C6)	Geomorphic Position (D2)				
Iron Deposits (B5)		_	Thin Muck Surface (C7)				Shallow Aquitard (D3)				
Inundation Visible on Aer	al Imagery (B7)	al Imagery (B7) Other (Explain in Remarks)					Microtopograpic Relief (D4)				
Sparsely Vegetated Cond	ave Surface (B8))					FAC-Neutral Test (D5)				
Field Observations:											
Surface Water Present?	Yes	No	Х	Depth (inches):							
Water Table Present?	Yes	No	Х	Depth (inches):							
Saturation Present?	Yes	No	Х	Depth (inches):		Wetland H	ydrology Present? Yes	No X			
(includes capillary fringe)				_							
Describe Recorded Data (stre	am gauge, monit	oring we	ell, ae	rial photos, previous	inspections), if avail	lable:					
Remarks:											

VEGETATION - Use scientific names of plants.

Sampling Point:

2

	Absolute	Dominant	Indicator	Derringen Test Werkelset
<u>Tree Stratum</u> (Plot size: <u>30 ft.</u>) 1.	% Cover	Species?	Status	Dominance Test Worksheet:
2.				Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
3 4		·		Total Number of Dominant Species Across All Strata <u>3</u> (B)
5		·		Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)
7.				
		= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species <u>0</u> x 1 = <u>0</u>
2				FACW species 20 x 2 = 40
3				FAC species <u>2</u> x 3 = <u>6</u>
4				FACU species 42 x 4 = 168
5.				UPL species 0 x 5 = 0
6.				Column Totals: 64 (A) 214 (B)
7				Prevalence Index = B/A = 3.34
1		= Total Cover		
Herb Stratum (Plot size: <u>5 ft.</u>)				
1. Elymus repens	20	Yes	FACU	Hydrophytic Vegetation Indicators:
2. Trifolium pratense	20	Yes	FACU	Rapid Test for Hydrophytic Vegetation
3. Cyperus strigosus	20	Yes	FACW	Dominance Test is >50%
4. Plantago major	2	No	FACU	Prevalence Index is $\leq 3.0^1$
5. <u>Rumex crispus</u> 6.	2	No	FAC	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation ¹ (Explain)
8.				
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
9 10		·		
11				
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter
14				at breast height (DBH), regardless of height.
15 16		·		Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				Herb - All herbaceous (non-woody) plants, regardless of
18 19				size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in
20				height.
	64	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft.</u>)				
1				
2				Hydrophytic
3				Vegetation
4				Present ? Yes No X
		= Total Cover		
Remarks: (Include photo numbers here or on a separ	ate sheet.)			
1				

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Depth	Matrix			dox Feat	ures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-9"	10YR 3/2	98	10YR 4/4	2	C	M	Clay	
9-20"	10YR 4/2	85	7.5YR 5/8	5	С	Μ	Clay	
			10YR 4/1	10	D	М	Clay	
20-26"	10YR 5/2	85	7.5YR 5/8	5	С	М	Clay	
			10YR 5/1	10	D	М	Clay	
Type: C=Cor Iydric Soil II		n, RM=Red	uced Matrix, MS=Maske	ed Sand G	irains. ² Loca	tion: PL=Por		ematic Hydric Soils ³ :
Histoso			Stripped Matrix (S	6)				(10) (Test) (LRR L)
	pipedon (A2)	-	Dark Surface (S7)		. ==			Peat or Peat (S3) (Test)
	istic (A3)	-	High Chroma San					low Surface (S8)
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky Min Loamy Gleyed Ma		LRR L)		Thin Dark Su	ese Masses (F12) (Test)
	d Below Dark Surface (A11) -	X Depleted Matrix (F				Mesic Spodic	(TA6) (Test in MLRA 144A and 145
	ark Surface (A12)	-	Redox Dark Surfa				of LRR R)	
	Aucky Mineral (S1)	-	Depleted Dark Su				Other (Explain	n in Remarks)
	Gleyed Matrix (S4) Redox (S5)	-	Redox Depression Marl (F10) (LRR L					
Culldy		-	Very Shallow Dark		(F22) (MLRA	145)		
Indicators of	hydrophytic vegetation	and wetlar	nd hydrology must be pr	resent, unl	ess disturbed	l or problema	atic.	
Restrictive L	ayer (if observed):							
Type:								
	nches):					Hydric So	il Present?	Yes X No
Cemarks:	nches).					Hydric Sol	il Flesent?	
cemarks:								

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WETLAND DETERMINATION DATA FORM -- Northcentral Northeast Region

Project/Site:	Quality We	est Constructio	on - Nether	wood Road	City	y/County:	Dane Count	ty, Town of Oi	regon	Sampling [Date:	8/10/201	7
Applicant/Owner:		est Constructio						State:		Sampling F	-	3	
Investigator(s):	R. Roos, T					Section.	Township, Rar	nae:		T5N, R9E,	-		
Landform (hillslope, to	-			Backslope		_ ,	Local relief (concave, con	vex, none):				
	2%	Lat:	42.5	936107	Long	a:	-89.42		· · ·	Datum:		NAD83	
Soil Map Unit Name:		-		percent slopes		·	00112		NWI classi			None	
Are climatic / hydrolog						Yes	No X	(If no, explair	-	-			
Are Vegetation	•			gysignifica	antly disturb		Are "Normal (ХN	0	
Are Vegetation	, Sc			gy naturally			(If needed, ex				<u> </u>	U	
Ū.										,			
SUMMARY OF	FINDINGS	- Attach	site map	showing sam	ipling po	Sint locatio	ons, transed	cts, impor	iant featu	ires, etc.			
Hydrophytic Vegeta	ation Present?	E.	Yes	No X		Is the Sam	pled Area						
Hydric Soil Present	?		Yes	X No		within a W	etland?		Yes	No	Х		
Wetland Hydrology	Present?		Yes	<u>No X</u>		If yes, optic	onal Wetland S	ite ID:					
A WETS Table Ana conditions on site w	•					•					17) reve	aled climatic	;
HYDROLOGY													
Wetland Hydrology	y Indicators:		-		-		S	Secondary Ind	dicators (mir	nimum of two	require	d)	
Primary Indicators ((minimum of c	ne is required	; check all	that apply)				Surface	Soil Cracks	(B6)			
Surface Water	r (A1)			Water-Stained	J Leaves (B	39)		Drainage	e Patterns (I	B10)			
High Water Ta	able (A2)			Aquatic Fauna	a (B13)		_	Moss Tr	im Lines (B1	16)			
Saturation (A3	,			Marl Deposits	. ,		_		son Water 1	. ,			
Water Marks (. ,			Hydrogen Sulf		,	_		Burrows (C	,			
Sediment Dep	. ,			Oxidized Rhiz	-	-	ts (C3)			n Aerial Image	∍ry (C9)		
Drift Deposits (. ,			Presence of R		. ,				Plants (D1)			
Algal Mat or C				Recent Iron R		Tilled Soils (C	C6)		phic Positio				
Iron Deposits (Thin Muck Su		·•)	_		Aquitard (D				
Inundation Vision Sparsely Vege				Other (Explain	i in Remark	.s)	_		ograpic Rel				
		e Sunace (Do	3)				-	FAC-Ne	utral Test (D	<i>J</i> 5)			
Field Observations					,								
Surface Water Pres		Yes	No >										
Water Table Preser		Yes	No >		·								
Saturation Present?		Yes	No >	C Depth (inche	es):		Wetland Hyd	Irology Prese	ent?	Yes	No	<u> </u>	
(includes capillary fr Describe Recorded		aquaq moni	toring wall	aarial photos, prov	vious inenes	ationa) if avai	labla						
		gauge, moni	.oning wen,										
Remarks:													

VEGETATION - Use scientific names of plants.

3

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 ft.)	% Cover	Species?	Status	Dominance Test Worksheet:
1				Number of Dominant Species That Are
2				OBL, FACW, or FAC: (A)
3				Total Number of Dominant Species
4				Across All Strata <u>3</u> (B)
5				Percent of Dominant Species That Are
6				OBL, FACW, or FAC: <u>33%</u> (A/B)
7				
		= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species <u>20</u> x 2 = <u>40</u>
3				FAC species 0 x 3 = 0
4				FACU species 52 x 4 = 208
5				UPL species $10 \times 5 = 50$
6				Column Totals: 82 (A) 298 (B)
7				Prevalence Index = $B/A = 3.63$
Horb Stratum (Dist size, 5.4)		= Total Cover	•	
<u>Herb Stratum</u> (Plot size: <u>5 ft.</u>) 1. <i>Trifolium pratense</i>	25	Yes	FACU	Hydrophytic Vegetation Indicators:
Trifolium pratense Elymus repens	25	Yes	FACU	Rapid Test for Hydrophytic Vegetation
3. Cyperus strigosus	20	Yes	FACU	Dominance Test is >50%
4. Medicago sativa	10	No	UPL	Prevalence Index is $\leq 3.0^{1}$
5. Plantago major	1	No	FACU	Morphological Adaptations ¹ (Provide supporting data
6. Taraxacum officinale	1	No	FACU	in Remarks or on a separate sheet)
7.	•		17100	Problematic Hydrophytic Vegetation ¹ (Explain)
8				
9.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10				· · · · · · · · · · · · · · · · · · ·
11				
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter
14				at breast height (DBH), regardless of height.
15				Sapling/shrub - Woody plants less than 3 inches DBH and
16				greater than 3.28 ft (1 m) tall.
17				Herb - All herbaceous (non-woody) plants, regardless of
18				size, and woody plants less than 3.28 ft tall.
19				
20				Woody vines - All woody vines greater than 3.28 ft in height.
	82	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft.</u>)				
1				
2				Hydrophytic
3.				Vegetation Present ? Yes No ×
4		= Total Cover		Present ? Yes <u>No X</u>
		= Total Cover		
Remarks: (Include photo numbers here or on a separa	te sheet.)			

SOIL

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(inches)	Matrix			dox Featu			_	_
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks
0-11"	10YR 4/1	98	10YR 4/3	2	С	M	Clay Loam	
11-24"	10YR 5/1	80	10YR 5/6	10	С	М	Clay	
			10YR 6/1	10	D	М	Clay	
				. <u> </u>				
				. <u> </u>				
			duced Matrix, MS=Mas		Oraina ² Las			
ydric Soil In		n, Rivi=Re	uced Matrix, MS=Mas	keu Sanu (Stains. Loc	alion: PL=	Indicators for Problem	atic Hydric Soils':
Histosol		-	Stripped Matrix (S				2 cm Muck (A10)	
Histic Ep Black His	vipedon (A2) stic (A3)	-	Dark Surface (S7 High Chroma Sar		LRR L)		5 cm Mucky Pea Polyvalue Below	t or Peat (S3) (Test) Surface (S8)
	n Sulfide (A4)	-	Loamy Mucky Mir		-		Thin Dark Surfac	
	Layers (A5)	-	Loamy Gleyed Ma					Masses (F12) (Test)
	Below Dark Surface (A11)	X Depleted Matrix (I	-			Mesic Spodic (T/ 145 of LRR R)	A6) (Test in MLRA 144A and
	ark Surface (A12) lucky Mineral (S1)	-	Redox Dark Surfa Depleted Dark Su				Other (Explain in	Remarks)
Sandy G	leyed Matrix (S4)	-	Redox Depression	ns (F8)				
Sandy R	edox (S5)	-	Marl (F10) (LRR L Very Shallow Dar	-		145)		
		-	very Shallow Dah	k Sullace	(FZZ) (IVILRA	× 145)		
		and wetla	nd hydrology must be p	present, un	less disturbe	ed or proble	matic.	
estrictive La	yer (if observed):							
Туре:								
Depth (in	nches):					Hydric So	oil Present? Y	es <u>X</u> No
emarks:								

WETLAND DETERMINATION DATA FORM -- Northcentral Northeast Region

Project/Site:	Quality West Cor	struction - Netherwood	Road	City/County:	Dane County, T	own of Ore	egon	Sampling Date:	8/10/2017
Applicant/Owner:	Quality West Cor	struction				State:	WI	Sampling Point:	4
Investigator(s):	R. Roos, T. Hoes	ke		Section	on, Township, Range	:		T5N, R9E, S4	
Landform (hillslope, te	errace, etc.):	٦	oeslope		Local relief (con	cave, conv	ex, none):	concave	
Slope (%):	2% Lat:	42.93614	7	Long:	-89.42877	79		Datum:	NAD83
Soil Map Unit Name:	TrB - Tro	el silt loam, 1 to 3 perc	ent slopes				NWI class	sification:	None
Are climatic / hydrolog	gic conditions on th	e site typical for this time	e of year?	Yes	No X (If	no, explain	in Remar	ks.)	
Are Vegetation	, Soil	, or Hydrology	significan	tly disturbed?	Are "Normal Circ	umstances	" present?	Yes X	No
Are Vegetation	, Soil	, or Hydrology	naturally	problematic?	(If needed, expla	in any ansv	vers in Rei	marks.)	
SUMMARY OF	FINDINGS A	ttach site map sh	owing sam	pling point loca	tions, transects	, import	ant feat	ures, etc.	
Hydrophytic Vegetat	tion Present?	Yes X	No	Is the S	ampled Area				
Hydric Soil Present?	?	Yes X	No	within a	Wetland?		Yes	X No	
Wetland Hydrology I	Present?	Yes X	No	If yes, o	ptional Wetland Site	ID:			
A WETS Table Anal	lysis was completed	dures here or in a sepa I for the project area. C time of year. This analy	omparison of re					,	evealed climatic

HYDROLOGY

Wetland Hydrology Indicato	rs:						Secondary Indicators (minimum of two required)			
Primary Indicators (minimum	of one is required	d; check	all tha	at apply)			Surface Soil Cracks (B6)			
Surface Water (A1)		_		Water-Stained Lea	aves (B9)		Drainage Patterns (B10)			
High Water Table (A2)		_		Aquatic Fauna (B1	3)		Moss Trim Lines (B16)			
Saturation (A3)		_		Marl Deposits (B1	5)		Dry-Season Water Table (C2)			
Water Marks (B1)		_		Hydrogen Sulfide	Odor (C1)		Crayfish Burrows (C8)			
Sediment Deposits (B2)		_		Oxidized Rhizosph	neres on Living Root	s (C3)	Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		_		Presence of Redu	ced Iron (C4)		Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)		_		Recent Iron Reduc	ction in Tilled Soils (C6)	X Geomorphic Position (D2)			
Iron Deposits (B5)		_		Thin Muck Surface	e (C7)		X Shallow Aquitard (D3)			
Inundation Visible on Aer	ial Imagery (B7)	_		Other (Explain in F	Remarks)		Microtopograpic Relief (D4)			
Sparsely Vegetated Con	cave Surface (B8	8)					X FAC-Neutral Test (D5)			
Field Observations:										
Surface Water Present?	Yes	No	Х	Depth (inches):						
Water Table Present?	Yes	No	Х	Depth (inches):						
Saturation Present?	Yes	No	Х	Depth (inches):		Wetland Hy	ydrology Present? Yes X No			
(includes capillary fringe)										
Describe Recorded Data (stre	am gauge, moni	itoring w	ell, ae	rial photos, previous	inspections), if ava	ilable:				
Remarks:										
	•						water nearby. This spoil type also appeared to limit movement of			
water through the soil itself wh	lich led to no wat	ter table	or sat	uration present ever	n after the soil pit wa	is open for >1	1 hour.			

VEGETATION - Use scientific names of plants.

Sampling Point:

4

	Absolute	Dominant	Indicator	
	% Cover	Species?	Status	Dominance Test Worksheet:
1 2		·		Number of Dominant Species That Are OBL, FACW, or FAC: 2
3		·		Total Number of Dominant Species Across All Strata 3 (B)
5 6		·		Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)
7				
		= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species 50 x 2 = 100
3				FAC species <u>4</u> x 3 = <u>12</u>
4				FACU species 20 x 4 = 80
5				UPL species 0 x 5 = 0
6.				Column Totals: 74 (A) 192 (B)
7				Prevalence Index = B/A = 2.59
		= Total Cover		
Herb Stratum (Plot size: <u>5 ft.</u>)				
1. Cyperus strigosus	35	Yes	FACW	Hydrophytic Vegetation Indicators:
2. Elymus repens	15	Yes	FACU	Rapid Test for Hydrophytic Vegetation
3. Phalaris arundinacea	15	Yes	FACW	X Dominance Test is >50%
4. Trifolium pratense	5	No	FACU	X Prevalence Index is $\leq 3.0^1$
5. Rumex crispus	2	No	FAC	Morphological Adaptations ¹ (Provide supporting data
6. <u>Echinochloa crus-galli</u>	2	No	FAC	in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation ¹ (Explain)
8				¹ Indicators of hydric soil and wetland hydrology must be
9				present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13		·		Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
15				Sapling/shrub - Woody plants less than 3 inches DBH and
16				greater than 3.28 ft (1 m) tall.
17 18				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
19 20		·		Woody vines - All woody vines greater than 3.28 ft in height.
	74	= Total Cover		
Woody Vine Stratum (Plot size: 30 ft.)				
1.				
2.				Hydrophytic
3.				Vegetation
4.				Present ? Yes x No
		= Total Cover		
Remarks: (Include photo numbers here or on a separa	te sheet)			
ixemarks. (include prioto numbers here or on a separa	te sheet.)			

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0-10* 10YR 4/1 98 10YR 4/4 2 C M Clay 10-24* 10YR 5/3 85 7.5YR 5/8 10 C M Clay 10-24* 10YR 5/3 85 7.5YR 5/8 10 C M Clay 10-24* 10YR 5/3 85 7.5YR 5/8 10 C M Clay 10-24* 10YR 5/3 5 D M Clay Image: Clay	Depth	Matrix			dox Featu		73		
10-24* 10YR 5/3 85 7.5YR 5/8 10 C M Clay	inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
	0-10"	10YR 4/1	98	10YR 4/4	2	С	М	Clay Loam	
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. dric Soil Indicators: Histosol (A1) Histosol (A2) Black Histic (A3) High Chroma Sands (S11) (LRR L) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Phydrogen Sulfide (A4) Depleted Matrix (F3) Trick Dark Surface (A11) X Depleted Matrix (F3) Sandy Gleved Matrix (F3) Sandy Mucky Mineral (S1) Sandy Redox (S5) Matrix (S4) Sandy Redox (S5) Matrix (F1) Very Shallow Dark Surface (F7) Sandy Redox (S5) Matrix (F1) Very Shallow Dark Surface (F7) Sandy Redox (S5) Matrix (F1) Very Shallow Dark Surface (F7) Sandy Redox (S5) Matrix (F10) (LRR L) Very Shallow Dark Surface (F7) Sandy Redox (S5) Matrix (F10) (LRR L) Very Shallow Dark Surface (F7) Sandy Glevel Matrix (S4) Bark Histore of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemati	10-24"	10YR 5/3	85	7.5YR 5/8	10	С	М	Clay	
Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (Test) (LRR L) Histic Epipedon (A2) Dark Surface (S7) 5 cm Mucky Peat or Peat (S3) (Test) Black Histic (A3) High Chroma Sands (S11) (LRR L) Polyvalue Below Surface (S8) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Mesic Spodic (TA6) (Test in MLRA 144A and 1 of LRR R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) of LRR R) Other (Explain in Remarks) Sandy Redox (S5) Matrix (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) Other (Explain in Remarks) ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Yes_X No Type:				10YR 5/1	5	D	М	Clay	
Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (Test) (LRR L) Histic Epipedon (A2) Dark Surface (S7) 5 cm Mucky Peat or Peat (S3) (Test) Black Histic (A3) High Chroma Sands (S11) (LRR L) Polyvalue Below Surface (S8) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Mesic Spodic (TA6) (Test in MLRA 144A and 1 of LRR R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) of LRR R) Other (Explain in Remarks) Sandy Redox (S5) Matrix (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) Other (Explain in Remarks) ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Yes_X No Type:									
Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (Test) (LRR L) Histic Epipedon (A2) Dark Surface (S7) 5 cm Mucky Peat or Peat (S3) (Test) Black Histic (A3) High Chroma Sands (S11) (LRR L) Polyvalue Below Surface (S8) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Mesic Spodic (TA6) (Test in MLRA 144A and 1 of LRR R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) of LRR R) Other (Explain in Remarks) Sandy Redox (S5) Matrix (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) Other (Explain in Remarks) ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Yes_X No Type:									
dric Soil Indicators: Indicators for Problematic Hydric Soils ³ :			·						
dric Soil Indicators: Indicators for Problematic Hydric Soils ³ :			·						
dric Soil Indicators: Indicators for Problematic Hydric Soils ³ :			·						
dric Soil Indicators: Indicators for Problematic Hydric Soils ³ :			·						
dric Soil Indicators: Indicators for Problematic Hydric Soils ³ :									
dric Soil Indicators: Indicators for Problematic Hydric Soils ³ :			·						
dric Soil Indicators: Indicators for Problematic Hydric Soils ³ :			·						
dric Soil Indicators: Indicators for Problematic Hydric Soils ³ :									
Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (Test) (LRR L) Histic Epipedon (A2) Dark Surface (S7) 5 cm Mucky Peat or Peat (S3) (Test) Black Histic (A3) High Chroma Sands (S11) (LRR L) Polyvalue Below Surface (S8) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Mesic Spodic (TA6) (Test in MLRA 144A and 1 of LRR R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR L) Other (Explain in Remarks) dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Type:	pe: C=Con	centration, D=Depletion,	RM=Redu	ced Matrix, MS=Mask	ed Sand Gr	rains. ² Loca	tion: PL=Pc		
Histic Epipedon (A2) Dark Surface (S7) 5 cm Mucky Peat or Peat (S3) (Test) Black Histic (A3) High Chroma Sands (S11) (LRR L) Polyvalue Below Surface (S8) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Mesic Spodic (TA6) (Test in MLRA 144A and 1 of LRR R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) Very Shallow Dark Surface (F22) (MLRA 145)				Christer and Materia (C	1 (1)				-
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Mesic Spodic (TA6) (Test in MLRA 144A and 1 of LRR R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR L) Other (Explain in Remarks) Very Shallow Dark Surface (F22) (MLRA 145) Very Shallow Dark Surface (F22) (MLRA 145) dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Type: Type:									
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Mesic Spodic (TA6) (Test in MLRA 144A and 1 of LRR R) Thick Dark Surface (A12) Redox Dark Surface (F6) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Redox (S5) Mari (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Type:			_	High Chroma San	nds (S11) (L				
Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Mesic Spodic (TA6) (Test in MLRA 144A and 1 of LRR R) Thick Dark Surface (A12) Redox Dark Surface (F6) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mari (F10) (LRR L) Sandy Redox (S5) Mari (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Type:			_			.RR L)			
Thick Dark Surface (A12) Redox Dark Surface (F6) of LRR R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Image: Comparison of the structure o			11)						
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X									
Sandy Redox (S5) Marl (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. instrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes								Other (Explain	in Remarks)
Very Shallow Dark Surface (F22) (MLRA 145) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estrictive Layer (if observed): Type: Depth (inches):	Sandy G	Gleyed Matrix (S4)	_	Redox Depression	ns (F8)				
	Sandy R	Redox (S5)	_						
Strictive Layer (if observed):			_	Very Shallow Darl	k Surface (F	=22) (MLRA	145)		
Strictive Layer (if observed):									
Type:		hydrophytic vegetation a	nd wetland	hydrology must be pr	resent, unle	ss disturbed	d or problem	natic.	
Depth (inches): Hydric Soil Present? Yes X No	dicators of	nyaropnyao vogotation a							
		· · · · ·							
marks:	strictive La	· · · · ·							
	estrictive La	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	strictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	strictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	strictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	strictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	strictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	strictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	strictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	estrictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	estrictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	estrictive La	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	estrictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No
	strictive La Type: Depth (ii	ayer (if observed):					Hydric So	bil Present?	Yes <u>X</u> No

WETLAND DETERMINATION DATA FORM -- Northcentral Northeast Region

Project/Site:	Quality West	Construction - Neth	erwood F	Road	City/Co	ounty:	Dane	County, To	own of Ore	gon	Sampling [Date:	8/10/2017
Applicant/Owner:	Quality West	Construction							State:	WI	Sampling F	oint:	5
Investigator(s):	R. Roos, T. H	oeske				Section,	Townshi	p, Range:			T5N, R9E,	S4	
Landform (hillslope, te	errace, etc.):		Т	peslope			Local r	elief (conc	cave, conv	ex, none):	concave		
Slope (%):	1% La	t:4	2.935756	6	Long:			-89.428694	4		Datum:		NAD83
Soil Map Unit Name:	TrB - T	roxel silt loam, 1 to	3 perce	nt slopes						NWI class	sification:		None
Are climatic / hydrolog	gic conditions or	the site typical for	this time	of year?	١	Yes	No	X (If n	no, explain	in Remar	ks.)		
Are Vegetation	, Soil	, or Hydro	logy	significantly	disturbed?		Are "No	rmal Circu	umstances	present?	Yes	X No	o
Are Vegetation	, Soil	, or Hydro	logy	naturally pro	blematic?		(If need	ed, explair	n any answ	ers in Rei	marks.)		
SUMMARY OF	FINDINGS	Attach site ma	ap sho	wing sampli	ng point	locatio	ons, tra	insects,	, importa	ant feat	ures, etc.		
Hydrophytic Vegetat	tion Present?	Yes	х	No	ls	the Sam	pled Are	ea					
Hydric Soil Present?	?	Yes	Х	No	w	vithin a We	etland?			Yes	X No		
Wetland Hydrology	Present?	Yes	Х	No	lf	yes, optio	nal Wetl	and Site II	D: _				
Remarks: (Expla A WETS Table Anal conditions on site we	lysis was comple		area. Co	mparison of rece								17) reve	aled climatic

HYDROLOGY

Wetland Hydrology Indicato	rs:						Secondary Indicators (minimum of two required)			
Primary Indicators (minimum o	of one is required	; check	all tha	at apply)			Surface Soil Cracks (B6)			
Surface Water (A1)		_		Water-Stained Lea	aves (B9)		Drainage Patterns (B10)			
High Water Table (A2)		_		Aquatic Fauna (B1	13)		Moss Trim Lines (B16)			
Saturation (A3)		_		Marl Deposits (B1	5)		Dry-Season Water Table (C2)			
Water Marks (B1)				Hydrogen Sulfide	Odor (C1)		Crayfish Burrows (C8)			
Sediment Deposits (B2)				Oxidized Rhizosph	neres on Living Root	ts (C3)	Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)				Presence of Redu	ced Iron (C4)		Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)				Recent Iron Reduc	ction in Tilled Soils (C6)	X Geomorphic Position (D2)			
Iron Deposits (B5)				Thin Muck Surface	e (C7)		X Shallow Aquitard (D3)			
Inundation Visible on Aer	al Imagery (B7)			Other (Explain in F	Remarks)		Microtopograpic Relief (D4)			
Sparsely Vegetated Cond	ave Surface (B8	5)		_			X FAC-Neutral Test (D5)			
Field Observations:										
Surface Water Present?	Yes	No	Х	Depth (inches):						
Water Table Present?	Yes	No	Х	Depth (inches):						
Saturation Present?	Yes	No	Х	Depth (inches):		Wetland Hy	vdrology Present? Yes X No			
(includes capillary fringe)										
Remarks: Soils contained heavy packed water through the soil itself wh	•						water nearby. This soil sype also appeared a limit movement of I hour.			

VEGETATION - Use scientific names of plants.

Sampling Point: 5

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: <u>30 ft.</u>)	% Cover	Species?	Status	Dominance Test Worksheet:
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
3				Total Number of Dominant Species Across All Strata 3 (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)
7.				
		= Total Cover		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2				FACW species <u>30</u> x 2 = <u>60</u>
3				FAC species <u>5</u> x 3 = <u>15</u>
4				FACU species <u>15</u> x 4 = <u>60</u>
5				UPL species 0 x 5 = 0
6				Column Totals: 50 (A) 135 (B)
7				Prevalence Index = B/A = 2.70
Linde Strokum (Disk sizes 5.6		= Total Cover	·	
<u>Herb Stratum</u> (Plot size: <u>5 ft.</u>) 1. <i>Cyperus strigosus</i>	20	Yes	FACW	Hydrophytic Vegetation Indicators:
2. Phalaris arundinacea		Yes	FACW	Rapid Test for Hydrophytic Vegetation
3. Elymus repens	10	Yes	FACU	X Dominance Test is >50%
4. Trifolium Pratense	5	No	FACU	X Prevalence Index is $\leq 3.0^{1}$
5. Echinochloa crus-galli	5	No	FAC	Morphological Adaptations ¹ (Provide supporting data
6.				in Remarks or on a separate sheet)
7.				Problematic Hydrophytic Vegetation ¹ (Explain)
8.				¹ Indicators of hydric soil and wetland hydrology must be
9.				present, unless disturbed or problematic.
10.				
11.				
12.				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter
14 15				at breast height (DBH), regardless of height.
16				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
19				Woody vines - All woody vines greater than 3.28 ft in
20				height.
	50	= Total Cover	r	
Woody Vine Stratum (Plot size: <u>30 ft.</u>)				
1				
2				Hydrophytic
3				Vegetation
4				Present ? Yes x No
		= Total Cover	r	
Remarks: (Include photo numbers here or on a separa	ate sheet.)			
	,			

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	ription: (Describe to t	ine depth h				the absent	ce of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	dox Feat %	ures Type ¹	Loc ²	Texture	Remarks
0-13"	10YR 3/1	98	10YR 4/4	2	C	М	Clay Loam	
13-24"	7.5YR 5/1	95	10YR 6/6	5	C	M	Clay	
15-24	7.511(5/1		10110/0					
. 								
_		_	_	_	_		_	
	ncentration, D=Depletion	on RM=Red	uced Matrix MS=Mask	ed Sand G	irains ² l oca	tion: PI =Po	re Lining M=Matrix	
Hydric Soil I							Indicators for Proble	matic Hydric Soils ³ :
Histoso		-	Stripped Matrix (S				,	0) (Test) (LRR L)
	pipedon (A2) listic (A3)	-	Dark Surface (S7 High Chroma Sar		IRRI)		5 cm Mucky Pe Polyvalue Belo	eat or Peat (S3) (Test) w Surface (S8)
	en Sulfide (A4)	-	Loamy Mucky Mi				Thin Dark Surfa	
	d Layers (A5)	-	Loamy Gleyed M		,		Iron-Manganes	se Masses (F12) (Test)
	ed Below Dark Surface	(A11)	Depleted Matrix (Mesic Spodic (of LRR R)	TA6) (Test in MLRA 144A and 145
	ark Surface (A12) Mucky Mineral (S1)	-	X Redox Dark Surfa Depleted Dark Su				Other (Explain	in Romarks)
	Gleyed Matrix (S4)	-	Redox Depressio					in Remarks)
	Redox (S5)	-	Marl (F10) (LRR I					
		-	Very Shallow Dar	k Surface ((F22) (MLRA	145)		
3Indicators of	f hydrophytic vegetatio	n and wetlar	d hydrology must be p	resent, unle	ess disturbed	l or problem	atic.	
Restrictive L	ayer (if observed):							
Type:	Clay Aquitard							
•		. <i>(</i>					" B (0	v v u
	inches):	Surface				Hydric So	bil Present?	Yes X No
Remarks:								

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WETLAND DETERMINATION DATA FORM -- Northcentral Northeast Region

Project/Site:	Quality West Construction - Netherwood Drive			City/Count	ty: Dane	Dane County, Town of Oregon				te: 8/10/2017
Applicant/Owner:	Quality West Co	nstruction					State:	WI	Sampling Poir	nt: 6
Investigator(s):	R. Roos, T. Hoe	ske		S	ection, Townsh	ip, Range:			T5N, R9E, S4	4
Landform (hillslope, te	errace, etc.):	E	ackslope		Local	relief (conca	ave, conv	ex, none):	convex	
Slope (%):	2% Lat:	42.93574	14	Long:		-89.428626	i		Datum:	NAD83
Soil Map Unit Name:	TrB - Tro	oxel silt loam, 1 to 3 perc	ent slopes					NWI class	ification:	None
Are climatic / hydrolog	gic conditions on t	ne site typical for this tim	e of year?	Yes	SNo	X (If no	o, explain	in Remark	(s.)	
Are Vegetation	, Soil	, or Hydrology	significa	antly disturbed?	Are "No	ormal Circu	mstances	present?	Yes 🔰	KNo
Are Vegetation	, Soil	, or Hydrology	naturall	y problematic?	(If need	led, explain	any answ	ers in Rer	narks.)	
SUMMARY OF	FINDINGS /	Attach site map sh	owing san	npling point lo	ocations, tra	ansects,	importa	ant feat	ures, etc.	
Hydrophytic Vegetat	ion Present?	Yes	No X	Is th	e Sampled Ar	ea				
Hydric Soil Present?	,	Yes X	No	with	in a Wetland?			Yes	No	х
Wetland Hydrology	Present?	Yes	No X	If yes	s, optional Wet	land Site ID	: <u>-</u>			
A WETS Table Anal	ysis was complete	edures here or in a sepa d for the project area. C time of year. This analy	omparison of) revealed climatic

HYDROLOGY

Wetland Hydrology Indicato	rs:					Secondary Indicators (minimum of two required)				
Primary Indicators (minimum	of one is required	; check	all tha	at 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 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 Aer	ial Imagery (B7)	_		Other (Explain in Remarks)		Microtopograpic Relief (D4)				
Sparsely Vegetated Con	cave Surface (B8)				FAC-Neutral Test (D5)				
Field Observations:										
Surface Water Present?	Yes	No	Х	Depth (inches):						
Water Table Present?	Yes	No	Х	Depth (inches):						
Saturation Present?	Yes	No	Х	Depth (inches):	Wetland H	ydrology Present? Yes No X				
(includes capillary fringe)										
Describe Recorded Data (stre	am gauge, monit	oring w	ell, ae	rial photos, previous inspections), if avai	ilable:					
Remarks:										
Remarks.										

VEGETATION - Use scientific names of plants.

Sampling Point:

6

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: <u>30 ft.</u>)	% Cover	Species?	Status	Dominance Test Worksheet:
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant Species Across All Strata 2 (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)
7.				
		= Total Cover	-	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15 ft.)				Total % Cover of: Multiply by:
1				OBL species 0 x 1 = 0
2		·		FACW species <u>0</u> x 2 = <u>0</u>
3		·		FAC species $0 x 3 = 0$
4				FACU species 97 x 4 = 388
5		<u> </u>		UPL species <u>6</u> x 5 = <u>30</u>
6		<u> </u>		Column Totals: 103 (A) 418 (B)
7		·		Prevalence Index = B/A = 4.06
Herb Stratum_(Plot size: <u>5 ft.</u>)		= Total Cover	-	
1. Elymus repens	60	Yes	FACU	Hydrophytic Vegetation Indicators:
2. Trifolium pratense	30	Yes	FACU	Rapid Test for Hydrophytic Vegetation
3. Medicago sativa	5	No	UPL	Dominance Test is >50%
4. Erigeron annuus	2	No	FACU	Prevalence Index is $\leq 3.0^1$
5. Taraxacum officinale	2	No	FACU	Morphological Adaptations ¹ (Provide supporting data
6. Plantago major	2	No	FACU	in Remarks or on a separate sheet)
7. Asclepias syriaca	1	No	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
8. Cirsium arvense	1	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be
9				present, unless disturbed or problematic.
10				
11				
12				Definitions of Vegetation Strata:
13				Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
15				Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.
17				
18				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
19				Woody vines - All woody vines greater than 3.28 ft in
20				height.
Woody Vine Stratum (Plot size: 30 ft.)	103	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft.</u>) 1.				
2.				
3.				Hydrophytic Vegetation
4.				
4		= Total Cover		Present ? Yes No \times
Demonica (include abete numbers bars er en e eener	to oboot)	= 10101 00701		
Remarks: (Include photo numbers here or on a separa	ie sneet.)			

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Hydric Soil Indicators: Indicators for Problematic Hydric Soils*: Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (Test) (LRR L) Histic Epipedon (A2) Dark Surface (S7) 5 cm Mucky Peat or Peat (S3) (Test) Black Histic (A3) High Chroma Sands (S11) (LRR L) Polyvalue Below Surface (S8) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Mesic Spodic (TA6) (Test in MLRA 144A and of LRR R) Thick Dark Surface (A12) X Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Depleted Dark Surface (F22) (MLRA 145) Other (Explain in Remarks) Sandy Redox (S5) Mari (F10) (LRR L) Very Shallow Dark Surface (F22) (MLRA 145) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:	O-13" 10YR 3/1 94 10YR 4/3 3 C M Clay Loam 13-24" 10YR 6/1 93 10YR 6/2 3 D M Clay Loam 13-24" 10YR 6/1 93 10YR 6/4 5 C M Clay 13-24" 10YR 6/1 93 10YR 7/1 2 D M Clay 10YR 7/1 2 D M Clay Image: Clay Im	Depth	Matrix			dox Feat				
I3-24' I0YR 6/1 93 I0YR 6/4 5 C M Clay I3-24' I0YR 6/1 93 I0YR 6/4 5 C M Clay I3-24' I0YR 6/1 93 I0YR 7/1 2 D M Clay III I0YR 7/1 2 D M Clay IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	13-24* 10YR 6/1 93 10YR 6/2 3 D M Clay Loam 13-24* 10YR 6/1 93 10YR 7/1 2 D M Clay 13-24* 10YR 6/1 93 10YR 7/1 2 D M Clay 10YR 7/1 2 D M Clay	(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
13-24* 10YR 6/1 93 10YR 7/1 2 D M Clay 10YR 7/1 2 D M Clay	13-24' 10YR 6/1 93 10YR 6/4 5 C M Clay 13-24' 10YR 7/1 2 D M Clay	0-13"	10YR 3/1	94	10YR 4/3	3	С	Μ	Clay Loam	
Image: Solution of the second state	IOYR 7/1 2 D M Clay Image: Imag				10YR 6/2	3	D	М	Clay Loam	
Type: C-Concentration, D-Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. ydric Soil Indicators: Indicators for Problematic Hydric Soils*: Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (Test) (LRR L) Black Histis Explexion (A2) Dark Surface (S7) 5 or Muck (Peat or Peat (S3) (Test) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Boew Dark Surface (A11) Depleted Matrix (F2) Iron-Manganese Masses (F12) (Test) Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR L) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR L) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR L) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR L) Thick Dark Surface (F22) (MLRA 145) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. test train the present? Yes_X No_	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. ydric Soll Indicators: Indicators for Problematic Hydric Soils*: Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (Test) (LRR L) Black Histis (A3) High Chroma Sands (S11) (LRR L) 5 cm Mucky Paet or Paet (S3) (Test) Black Histis (A3) High Chroma Sands (S11) (LRR L) Polyvalue Below Surface (S8) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR L) Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Thin Dark Surface (S9) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Dark Surface (F2) (MLRA 145) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. estirctive Layer (if observed): Type:	13-24"	10YR 6/1	93	10YR 6/4	5	С	М	Clay	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators: Indicators for Problematic Hydric Soils*: Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (Test) (LRR L) Histosol (A2) Dark Surface (S7) 5 cm Muck y Peat or Peat (S3) (Test) Histosol (A4) Loamy Mucky Mineral (F1) (LRR L) Folyvalue Below Surface (S8) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR L) Other (Explain in Remarks) Very Shallow Dark Surface (F22) (MLRA 145) Very Shallow Dark Surface (F22) (MLRA 145) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Image: Mark (F2) Type:	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. ydric Soil Indicators: Indicators for Problematic Hydric Soils*: Histosol (A1) Stripped Matrix (S6) 2 cm Muck (A10) (Test) (LRR L) Black Histis Epipedon (A2) Dark Surface (S7) 5 cm Mucky Paet or Paet (S3) (Test) Black Histis (A3) High Chroma Sands (S11) (LRR L) — Polyvalue Below Surface (S8) Hydrogen Suffide (A4) Loamy Mucky Mineral (F1) (LRR L) — Thin Dark Surface (S9) Stratified Layers (A5) Loamy Gleyed Matrix (F2) — Tron-Manganese Masses (F12) (Test) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) — Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Redox Dark Surface (F2) (MLRA 145) — Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. _ resplay to the present? Type:				10YR 7/1	2	D	М	Clay	
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