

Assured Wetland Delineation Report

Downing Farm Property

City of Waukesha, Waukesha County, Wisconsin July 26, 2019

Project Number: 20190195

506 Springdale Street | Mount Horeb, WI 53572 | www.heartlandecological.com

Downing Farm Property

City of Waukesha, Waukesha County, Wisconsin July 26, 2019

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Table of Contents

1.0	Introduction4
2.0	Methods5
2.1	Wetlands5
3.0	Results and Discussion
3.1	Desktop Review6
Ta	ble 1. Summary of NRCS Mapped Soils within the Study Area7
3.2	Field Review9
Ta	ble 2. Summary of Wetlands Identified within the Study Area9
3.3	Other Considerations12
4.0	Conclusion13
5.0	References

Appendix A | Figures

- Appendix B | WETS Analysis
- Appendix C | Wetland Determination Data Sheets
- Appendix D | Site Photographs
- Appendix E | Delineator Qualifications
- Appendix F | NAIP Aerial Imagery 2005-2018



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

1.0 Introduction

Heartland Ecological Group, Inc. ("Heartland") completed an assured wetland determination and delineation on the Downing Farm site on June 4, 2019 at the request of Belinski Homes. Fieldwork was completed by Jeff Kraemer, an assured delineator qualified via the Wisconsin Department of Natural Resources (WDNR) Wetland Delineation Assurance Program (Appendix E, Qualifications). The 81.31-acre site (the "Study Area") is north of Summit Avenue, in the western half of Section 31, T7N, R19E, City of Waukesha, Waukesha County, WI (Figure 1, Appendix A). The purpose of the wetland delineation was to determine the location and extent of wetlands within the Study Area.

Four (4) wetland areas totaling approximately 4.43 acres were delineated and mapped within the Study Area (Figure 6, Appendix A). Wetlands discussed in this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the WDNR, and local zoning authorities. Heartland recommends this report be submitted to local authorities, the WDNR, and USACE for final jurisdictional review and concurrence.



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

2.0 Methods

2.1 Wetlands

Wetlands were determined and delineated using the criteria and methods described in the USACE Wetlands Delineation Manual, T.R. Y-87-1 ("1987 Corps Manual") and the applicable *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*. In addition, the *Guidance for Submittal of Delineation Reports to the St. Paul District USACE and the WDNR* (WDNR, 2015) was followed in completing the wetland delineation and report.

Determinations and delineations utilized available resources including the U.S. Geological Survey's (USGS) *WI 7.5 Minute Series (Topographic) Map* (Figure 2, Appendix A), the Natural Resource Conservation Service's (NRCS) Soil Survey Geographic Database (SSURGO), U.S. Department of Agriculture's (USDA) *Web Soil Survey* (Figure 3, Appendix A), the Wisconsin Department of Natural Resources *Surface Water Data Viewer's* wetland indicator data layer (Figure 4, Appendix A), the WDNR's *Wisconsin Wetland Inventory* data layer (Figure 5, Appendix A), and aerial imagery available through the USDA Farm Service Agency's (FSA) National Agriculture Imagery Program (NAIP). The USGS *National Hydrography Dataset* is included on Figures 2 and 5, Appendix A.

Wetland determinations were completed on-site at sample points, often along transects, using the three (3) criteria (vegetation, soil, and hydrology) approach per the 1987 Corps Manual and the Regional Supplement. Procedures in these sources were followed to demonstrate that, under normal circumstances, wetlands were present or not present based on a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology.

Atypical conditions were encountered within the Study Area due to the presence of pasture and/or hay fields. Therefore, procedures for managed plant communities in the *Problematic hydrophytic vegetation* section described in Chapter 5 of the Regional Supplement were used. NAIP imagery were reviewed for evidence of crop stress, saturation, or inundation signatures. Sample point placements for the wetland delineation were partially determined based on such signatures.

Recent weather conditions influence the visibility or presence of certain wetland hydrology indicators. An assessment of recent precipitation patterns helps to determine if



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

climatic/hydrologic conditions were typical when the field investigation was completed. Therefore, a review of the antecedent precipitation in the three (3) months leading up to the field investigation was completed. Using a WETS analysis developed by the NRCS, the amounts of precipitation in these three (3) months were compared to averages and standard deviation thresholds over the past 30 years to generally represent if conditions encountered during the investigation were normal, wet, or dry. Recent precipitation events in the week prior to the investigation were considered while interpreting wetland hydrology indicators. In some cases, the Palmer Drought Index was checked for long-term drought or moist conditions (NOAA, 2018).

The uppermost wetland boundary and sample points were identified and marked with wetland flagging and located with a Global Positioning System (GPS) capable of sub-meter accuracy. In some cases, wetland flagging was not utilized to mark the boundary and the location was only recorded with a GPS unit, particularly in active agricultural areas. The GPS data was then used to map the wetlands using ESRI ArcMap[™] 10.6 software.

3.0 Results and Discussion

3.1 Desktop Review

Climatic Conditions

According to the WETS analysis using the previous three (3) months of precipitation data, conditions encountered at the time of the fieldwork were expected to be normal for the time of year (Appendix B). The Palmer Drought Index was checked on line and the long-term conditions at the time of the fieldwork were in the extremely moist range. Fieldwork was completed outside the dry-season based on long-term regional hydrology data utilized in the WebWIMP Climatic Water Balance web site.

General Topography and Land Use

The topography within the Study Area was rolling, with various hills, depressions, and slopes present. A topographic high of approximately 1050 feet above mean sea level (msl) is present at the top of a hill near the center of the Study Area. A topographic low of approximately 985 feet above msl is present within areas determined to be wetlands along the northern, eastern, and western boundaries of the Study Area (Figures 2 and 6,



Appendix A). Land uses within the Study Area are primarily grazed pasture and a pine plantation. Surrounding areas are primarily agricultural row cropping and pasture, with residential, woodland, and wetland areas also present. General drainage is to the north and east within the northern half of the Study Area and to the west in the southern half of the Study Area.

Soil Mapping

Soils mapped by the NRCS Soil Survey within the Study Area and their hydric status are summarized in Table 1. Wetlands identified during the field investigation are located within areas mapped as predominantly hydric, predominantly non-hydric, and non-hydric soils, including wetland indicator soils (Figures 3 and 4, Appendix A).

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
HmB: Hochheim loam, 2 to 6 percent slopes	Hochheim	85-92	Drumlins	No
	Theresa	5-8	Drumlins	No
	Lamartine	3-7	Drumlins	No
HmB2: Hochheim loam, 2 to 6 percent slopes, eroded	Hochheim- Eroded	80-91	Drumlins	No
	Theresa- Eroded	6-12	Till plains	No
	Lamartine	3-8	Drumlins	No
HmC2: Hochheim loam, 6 to 12 percent slopes, eroded	Hochheim- Eroded	85-92	Drumlins	No
	Theresa	4-8	Drumlins	No
	Hochheim	4-7	Drumlins	No
HmD2: Hochheim loam, 12 to 20 percent slopes, eroded	Hochheim- Eroded	80-91	Drumlins	No
	Theresa	6-12	Drumlins	No
	Hochheim	3-8	Drumlins	No
HoD3: Hochheim soils, 12 to 20 percent slopes, severely eroded	Hochheim	100	Ground moraines,drumlins	No
KIA: Kendall silt loam, 1 to 3 percent slopes	Kendall	90	Ground moraines	No



Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
	Pella soils		Depressions	Yes
LmB: Lamartine silt loam, 0 to 3 percent slopes	Lamartine	80-91	Interdrumlins	No
	Pella	6-11	Drainageways	Yes
	Ossian	3-9	Depressions	Yes
Ph: Pella silt loam, 0 to 2 percent slopes	Pella	80-91	Drainageways	Yes
	Kendall	5-9	Drainageways	No
	Lamartine	4-8	Drainageways	No
	Palms-Muck	1-3	Depressions	Yes
RkB: Ritchey silt loam, 1 to 6 percent slopes	Ritchey	100	Ground moraines	No
ThB: Theresa silt loam, 2 to 6 percent slopes	Theresa	80-92	Drumlins	No
	Hochheim	5-14	Drumlins	No
	Lamartine	3-6	Drumlins	No

Wetland Mapping

The Wisconsin Wetlands Inventory (WWI) mapping (Figure 5, Appendix A) depicts two (2) wetland areas within the Study Area. One (1) broadleaf deciduous forested (T3K) wetland in the northwestern corner of the southern half of the Study Area, and one (1) shrub/scrub emergent/wet meadow wetland along the northern edge of the Study Area are identified.

Aerial Photography

Due to a lack of mapped hydric soils within areas of pasture and/or hay fields, a formal offsite analysis was not completed; however, available NAIP imagery from 2005 through 2018 were reviewed to assist in understanding the recent history of the Study Area and to evaluate for general presence of wetland signatures. This imagery showed a consistent use of pasturing and/or hay harvesting within the Study Area. The imagery also revealed consistent wetland signatures in the location of the field delineated wetland W-3, but consistent wetland signatures were not observed in any other locations.



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

3.2 Field Review

Four (4) wetlands were identified and delineated within the Study Area. Wetland determination data sheets (Appendix C) were completed at 13 sample points that were representative of the wetland and upland conditions near the boundary and where potential wetlands may be present based on the desktop review and field reconnaissance. Appendix D provides photographs, typically at the sample point locations of the wetlands and adjacent uplands. The wetland boundary and sample point locations are shown on Figure 6 (Appendix A) and the wetlands are summarized in Table 2 and detailed in the following sections.

Wetland ID	Wetland Description			Acreage (on-site)
W-1	Grazed Sedge Meadow / Hardwood Swamp / Drainage Channel	Contiguous to an unnamed tributary of Brandy Brook	Moderately susceptible, 50 feet	1.72
W-2	Wet Meadow swale	Contiguous to an unnamed tributary of Brandy Brook	Less susceptible, 10-30 feet	0.08
W-3	Grazed Sedge Meadow	Drains off-site, Potentially isolated	Moderately susceptible, 50 feet	1.34
W-4	Shrub Carr / Mesic Woodland	Contiguous to an unnamed tributary of Pebble Creek	Moderately susceptible, 50 feet	1.29
*Classification based on Heartland's professional opinion. Jurisdictional authority of wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities may have additional restrictions. USACE has authority for				4.43

Table 2. Summary of Wetlands Identified within the Study Area

Wetlands 1 (W-1 and W-2)

Wetland 1 (W-1) is a 1.72-acre complex of grazed sedge meadow and hardwood swamp located along an unnamed tributary of Brandy Brook. This wetland is partially located within a pine plantation in the southwestern portion of the Study Area.

Wetland 2 (W-2) is a 0.08-acre wet meadow swale that barely extends into the western boundary of the Study Area. W-2 is contiguous with W-1 but separated by a culvert running underneath a gravel driveway.

determining federal jurisdiction of wetlands and waterways.



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

Dominant vegetation observed in W-1 included jewelweed (*Impatiens capensis*, FACW), awlfruited sedge (*Carex stipata*, OBL), devil's beggarstick (*Bidens frondosa*, FACW), fox sedge (*Carex vulpinoidea*, OBL), buckthorn (*Rhamnus cathartica*, FAC), black elder (*Sambucus nigra*, FACW), box elder (*Acer negundo*, FAC), honeysuckle (*Lonicera x bella*, FACU), eastern white pine (*Pinus strobus*, FACU), American elm (*Ulmus Americana*, FACW), cottonwood (*Populus deltoides*, FAC) and silver maple (*Acer saccharinum*, FACW)

Redox Dark Surface (F6) and Depleted Matrix (F3) hydric soil indicators were noted in W-1, which is consistent with the NRCS-mapped Pella silt loam, and drainageway components of the NRCS-mapped Lamartine silt loam.

The primary wetland hydrology indicators of Surface Water (A1), High Water Table (A2), Saturation (A3), and Drift Deposits (B3) were observed within W-1. Secondary indicators included Drainage Patterns (B10), Geomorphic Position (D2), and a positive FAC-Neutral Test (D5).

Wetland W-1 is contiguous with an unnamed tributary of Brandy Brook. The boundary of W-1 generally followed a moderately-defined topographic break and featured hydrophytic vegetation not present in the adjacent uplands.

Wetland 3 (W-3)

Wetland W-3 is a 1.34-acre, potentially isolated, grazed sedge meadow located within low eleveation portions of the pasture making up the northern half of the Study Area. The wetland drains off-site to the east, but does not appear to connect to a surface water.

Dominant vegetation observed in W-2 included tussock sedge (*Carex stricta*, OBL), reed canary grass (*Phalaris arundinacea*, FACW), limestone meadow sedge (*Carex granularis*, FACW), red fescue (*Festuca rubra*, FACU), curly dock (*Rumex crispus*, FAC), awl-fruited sedge (*Carex stipata*, OBL), and fox sedge (*Carex vulpinoidea*, OBL).

Depleted Below Dark Surface (A11) and Redox Dark Surface (F6) hydric soil indicators were noted in W-3, which is inconsistent with the NRCS-mapped Hochheim loam soil type.

Primary wetland hydrology indicators noted in W-3 included High Water Table (A2) and Saturation (A3), while secondary indicators included Geomorphic Position (D2), and a positive FAC-Neutral Test (D5).



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

The boundary of W-3 followed a moderately defined topographic break and featured a transition from hydrophytic sedge meadow vegetation to non-hydrophytic upland pasture vegetation within the adjacent uplands.

Wetland 4 (W-4)

Wetland W-4 is a 1.29-acre complex of shrub carr and mesic woodland that extends within the northern boundary of the Study Area. The remainder of this wetland complex extends offsite to the north.

Dominant vegetation observed in W-4 included reed canary grass, Kentucky bluegrass (*Poa pratensis*, FACU), limestone meadow sedge, pinkweed (*Persicaria pensylvanica*, FACW), red fescue, fowl manna grass (*Glyceria striata*, OBL), green ash (*Fraxinus pennsylvanica*, FACW), multiflora rose (*Rosa multiflora*, FACU), honeysuckle (*Lonicera x bella*, FACU), and cracked willow (*Salix x fragilis*, FAC).

Depleted Below Dark Surface (A11) and Depleted Matrix (F3) hydric soil indicators were noted in W-4, which is consistent with depressional areas of the NRCS-mapped Lamartine silt loam soil type.

The primary wetland hydrology indicator of Saturation (A3) was noted in W-4. Secondary indicators of wetland hydrology included Geomorphic Position (D2) and a positive FAC-Neutral Test (D5).

The boundary of W-4 followed moderately-defined topographic break and featured a change in shrub carr / mesic woodland hydrophytic vegetation within the wetlands and upland pasture vegetation outside of the wetlands.



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

3.3 Other Considerations

This report is limited to the identification and delineation of wetlands within the Study Area. Other regulated environmental resources that result in land use restrictions may be present within the Study Area that were not evaluated by Heartland (e.g. navigable waterways, floodplains, cultural resources, and threatened or endangered species).

Wisconsin Act 183 provides exemptions to permitting requirements for certain nonfederal wetlands. Nonfederal wetlands are wetlands that are not subject to federal jurisdiction. Exemptions apply to projects in urban areas with wetland impacts up to 1-acre per parcel. An urban area is defined as an incorporated area; an area within ½ mile of an incorporated area; or an area served by a sewerage system. Exemptions for nonfederal wetlands also apply to projects in rural areas with wetland impacts up to three (3) acres per parcel. Exemptions in rural areas only apply to structures with an agricultural purpose such as buildings, roads, and driveways. The determination of federal and nonfederal wetlands MUST be made by the USACE through an Approved Jurisdictional Determination (AJD). This report may be submitted to the USACE to assist with their determination.

Wis. Adm. Code NR 151 ("NR 151") requires that a "protective area" (buffer) be determined from the Ordinary High-Water Mark (OHWM) of lakes, streams and rivers, or at the delineated boundary of wetlands. Per NR 151.12, the protective area width for "less susceptible" wetlands is determined by using 10% of the average wetland width, no less than 10 feet or more than 30 feet. "Moderately susceptible" wetlands, lakes, and perennial and intermittent streams identified on recent mapping require a protective area width of 50 feet; while "highly susceptible wetlands" are associated with outstanding or exceptional resource waters in areas of special natural resource interest and require protective area width of 75 feet. Table 2 above lists the potential wetland buffers per NR 151 for each wetland identified based on Heartland's professional opinion. Please note that jurisdictional authority on wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities and regional planning organizations may have additional land use restrictions within or adjacent to wetlands.



4.0 Conclusion

Heartland completed an assured wetland determination and delineation within the Downing Farm site on June 4, 2019 at the request of Belinski Homes. Fieldwork was completed by Jeff Kraemer, an assured delineator qualified via the WDNR Wetland Delineation Assurance Program. The Study Area lies in Section 31, T7N, R19E, City of Waukesha, Waukesha County, WI.

Four (4) wetland areas were delineated and mapped within the 81.31-acre Study Area. The wetlands, which may be classified as sedge meadow, wet meadow, shrub carr, mesic woodland, and hardwood swamp, total approximately 4.43 acres within the Study Area. Potential unnamed tributaries of Brandy Brook and Pebble Creek were observed within the Study Area.

Wetlands and waterways discussed in this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the WDNR, and the local zoning authority. Heartland recommends this report be submitted to the USACE for final jurisdictional review and concurrence. Review by local authorities may be necessary for determination of any applicable zoning and setback restrictions.

Heartland recommends that all applicable regulatory agency reviews and permits are obtained prior to beginning work within the Study Area or within or adjacent to wetlands or waterways. Heartland can assist with evaluating the need for additional environmental reviews, surveys, or regulatory agency coordination in consideration of the proposed activity and land use as requested but is outside of the scope of the wetland delineation.

Experienced and qualified professionals completed the wetland determination and delineation using standard practices and professional judgment. Wetland boundaries may be affected by conditions present within the Study Area at the time of the fieldwork. All final decisions on wetlands and their boundaries are made by the USACE, the WDNR, and/or sometimes a local unit of government. Wetland determination and boundary reviews by regulatory agencies may result in modifications to the findings presented to the Client. These modifications may result from varying conditions between the time the wetland



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

delineation was completed and the time of the review. Factors that may influence the findings may include but not limited to precipitation patterns, drainage modifications, changes or modification to vegetation, and the time of year.

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Page **14**



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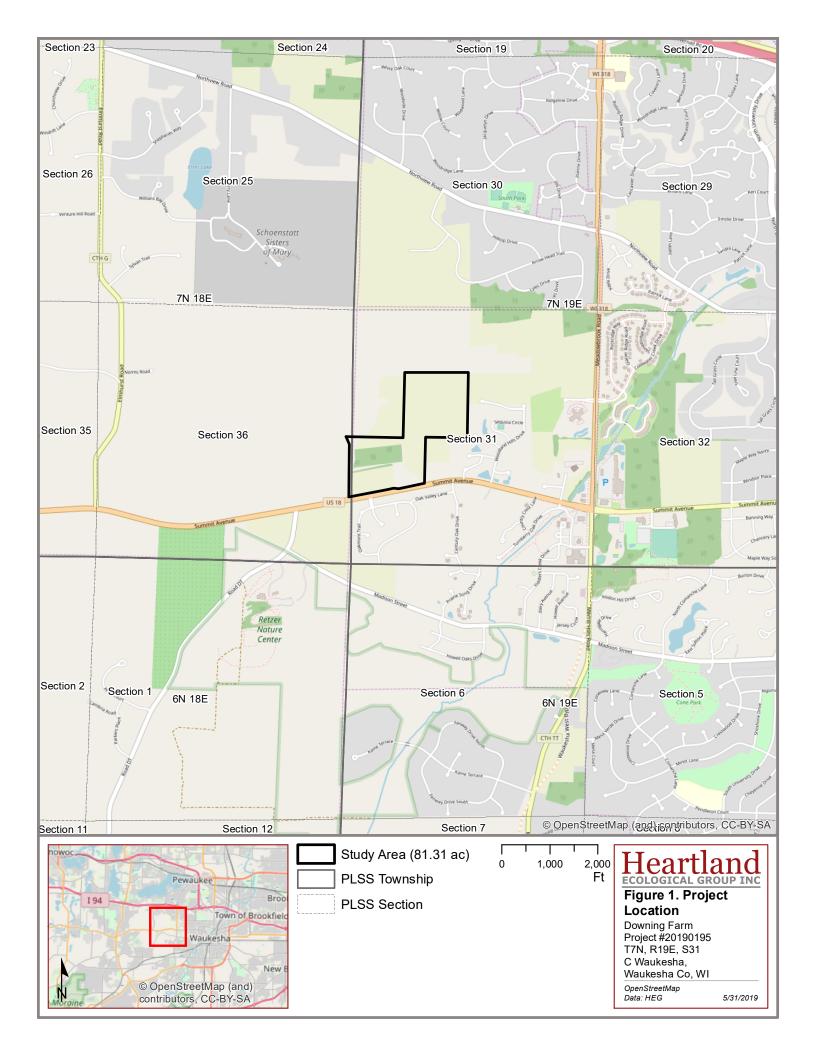
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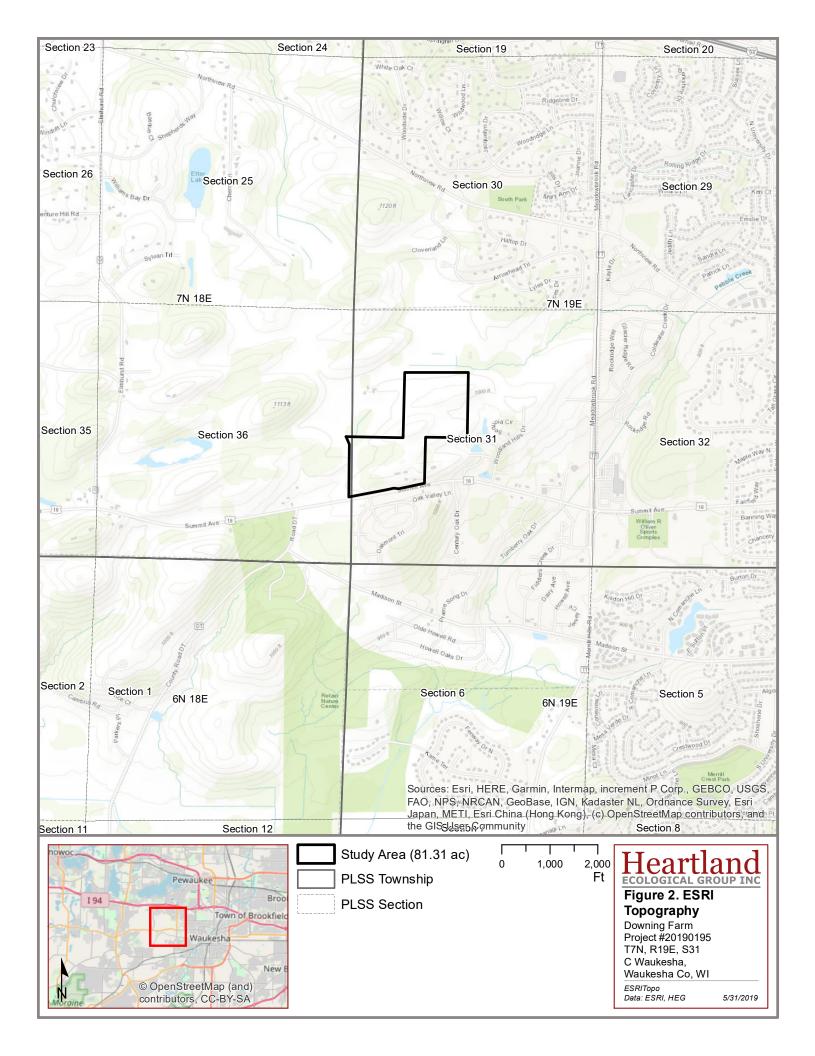
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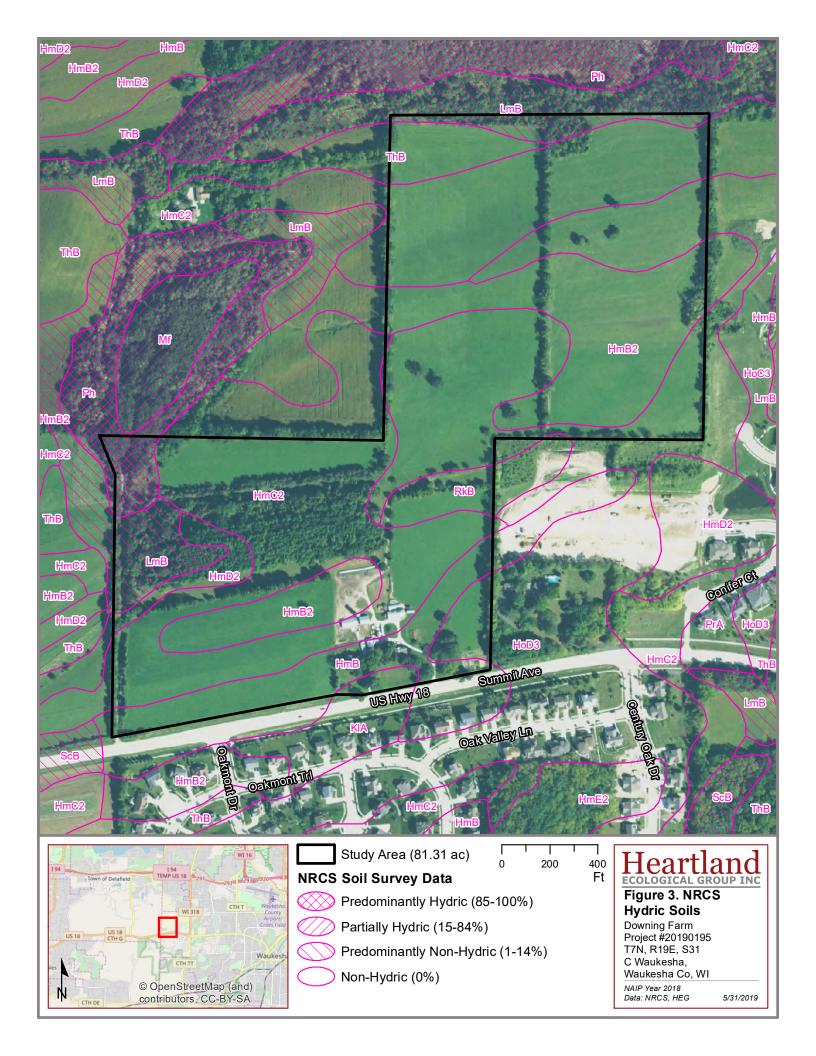


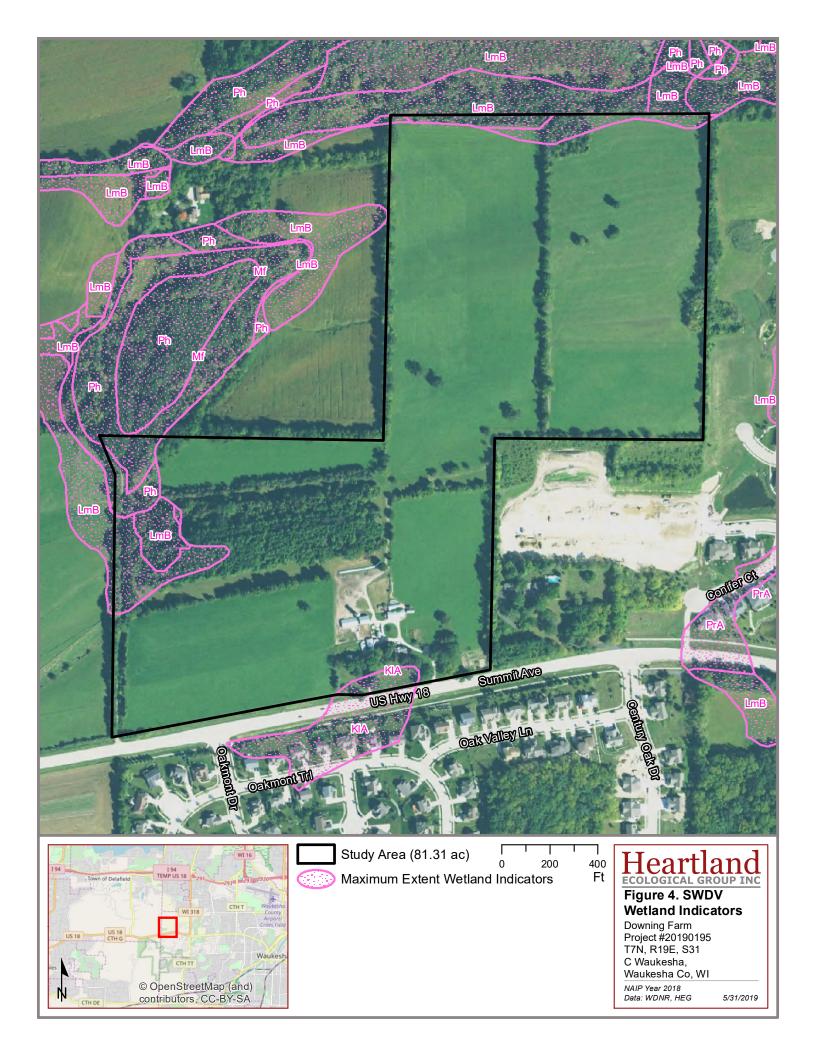
Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

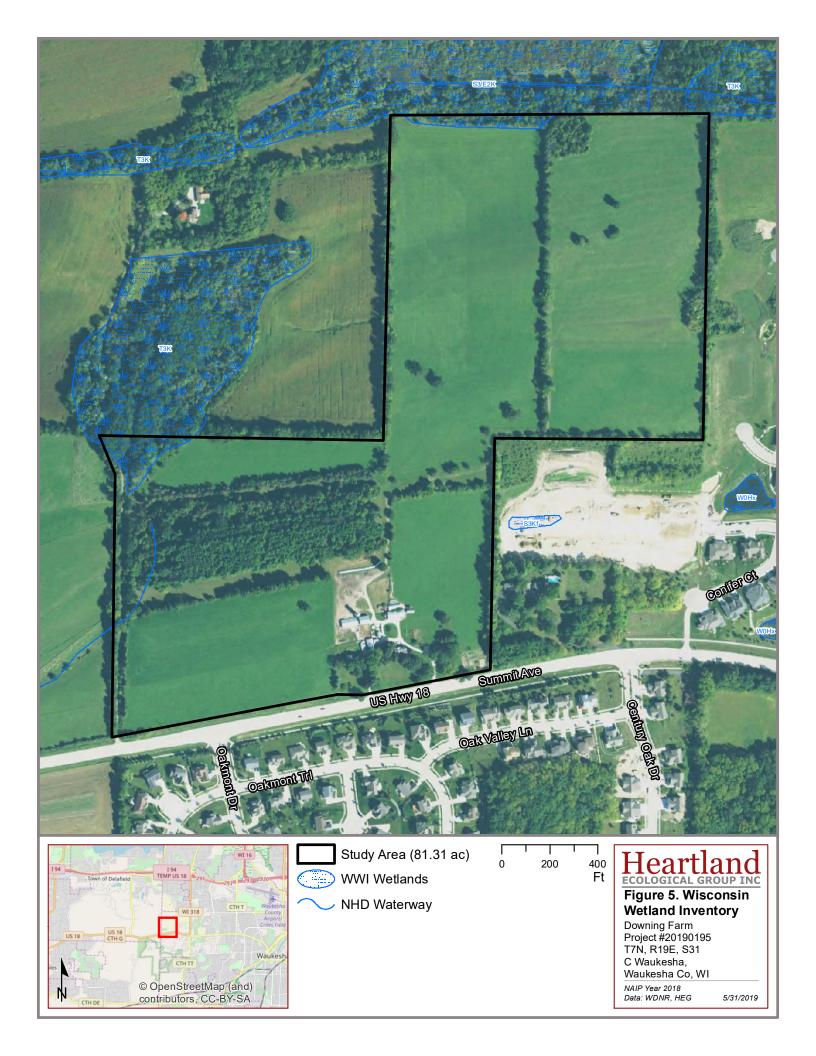
Appendix A | Figures

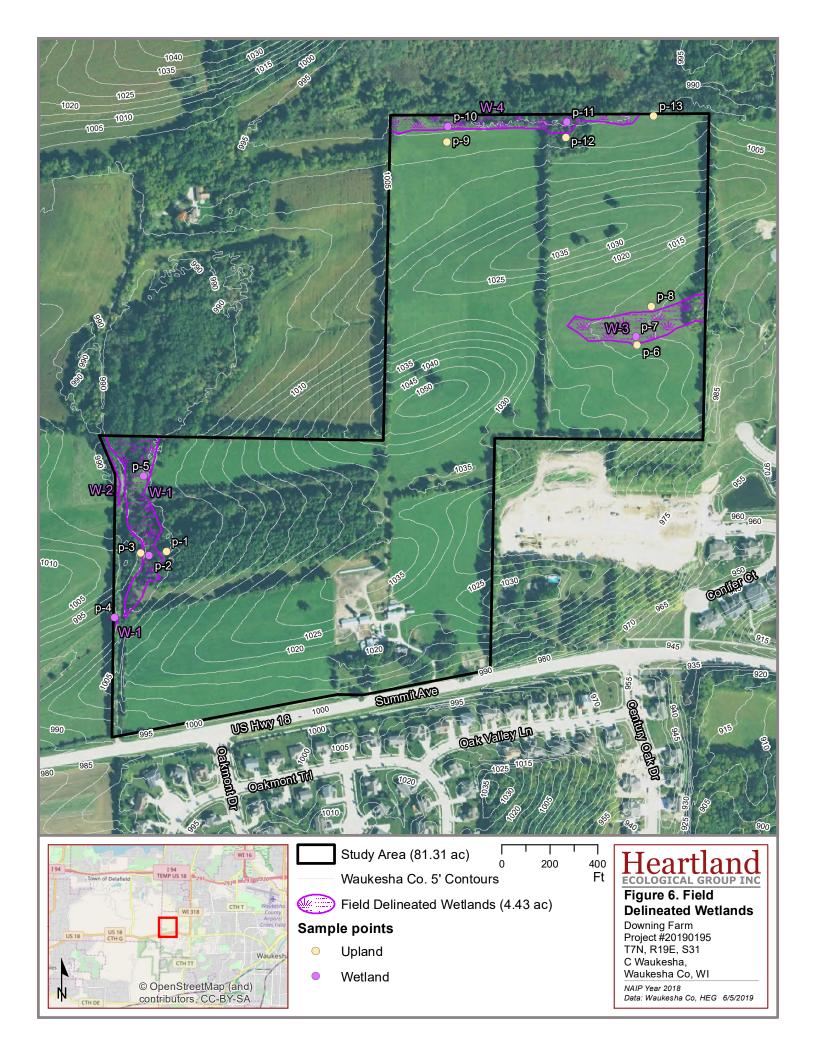














Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

Appendix B | WETS Analysis

WETS Analysis Worksheet

Reference:

Project Name:	Downing Farm
Project Number:	20190195
Period of interest:	March - May 2019
Station:	Occonomowoc, WI
County:	Waukesha

Long-term rainfall records (from WETS table)

		3 years in 10		3 years in 10
	Month	less than	Normal	greater than
1st month prior:	May	2.46	3.65	4.37
2nd month prior:	April	2.62	3.55	4.17
3rd month prior:	March	1.26	2.05	2.48
		Sum =	9.25	

*Normal precipitation with 30% to 70% probability of occurrence

Normal	2	2	4
Dry	1	1	1
		Sum*** =	11
	Determination:		Wet
			Dry

Month

Weight

3

Х

Product

6

Normal

Site determination

Condition**

Value

2

Condition

Dry/Normal*/Wet

Normal

Condition v	alue:	*If sum is:	
Dry =	1	6 to 9	then period has been drier than normal
Normal =	2	10 to 14	then period has been normal
Wet =	3	15 to 18	then period has been wetter than normal

Precipitation data source: Midwest Regional Climate Center, cli-MATE: MRCC Application Tools Environment

Donald E. Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

Site

Rainfall (in)

4.36

3.77

0.98

9.11



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

Appendix C | Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Downing Farm	City/County: C Waukesha/Waukesha Co Sampling Date: 6/4/2019
Applicant/Owner: John Donovan, Belinski Homes	State: WI Sampling Point: P1
Investigator(s): Jeff Kraemer, Heartland Ecological Group	Section, Township, Range: T7N, R19E, S21
Landform (hillside, terrace, etc.): Sideslope	ocal relief (concave, convex, none): <u>None</u> Slope %: <u>5</u>
Subregion (LRR or MLRA): LRR K Lat:	Long: Datum:
Soil Map Unit Name: Lamartine silt Ioam (LmB)	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly of	isturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally prob	lematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes <u>No X</u>
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report A WETS analysis was conducted and indicates that conditions are no pine plantation near the western limits of the study area.	.) mal for the time of year. Sample point recorded within an upland portion of a
HYDROLOGY	

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two re-	quired)
Primary Indicators (minimum of one is require	ed; 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 Ro	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 Soils	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 X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetlar	nd Hydrology Present? Yes	No X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mon	nitoring well aerial photos, previous inspe	ctions) if	available:	
		,,		
Remarks:				
No wetland hydrology indicators observed.				

VEGETATION - Use scientific names of plants.

Sampling Point: P1

<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Pinus strobus	70	Yes	FACU	Number of Dominant Species
2. Acer negundo	10	No	FAC	That Are OBL, FACW, or FAC: (A
 <u>Ulmus americana</u> <u></u>	5	No	FACW	Total Number of Dominant Species Across All Strata:4(B
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC:25.0% (A
7				Prevalence Index worksheet:
	85	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft)				OBL species 0 x 1 = 0
1. Lonicera X bella	35	Yes	FACU	FACW species 25 x 2 = 50
2. Sambucus nigra	10	No	FACW	FAC species 68 x 3 = 204
3. Rhamnus cathartica	8	No	FAC	FACU species 153 x 4 = 612
4.				UPL species 0 x 5 = 0
5.				Column Totals: 246 (A) 866
аланананананананананананананананананана				Prevalence Index = B/A = 3.52
7.				Hydrophytic Vegetation Indicators:
	53	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5ft)		-		2 - Dominance Test is >50%
1. Viola sororia	50	Yes	FAC	3 - Prevalence Index is ≤3.0 ¹
2. Schedonorus pratensis	30	Yes	FACU	4 - Morphological Adaptations ¹ (Provide support
3. Alliaria petiolata	15	No	FACU	data in Remarks or on a separate sheet)
4. Impatiens capensis	10	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
	3			
5. <u>Taraxacum officinale</u> 6.	3	No	FACU	¹ Indicators of hydric soil and wetland hydrology mu be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of heig
10				Sapling/shrub – Woody plants less than 3 in. DBH
11		. <u> </u>		and greater than or equal to 3.28 ft (1 m) tall.
12	108	=Total Cover		Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft)				Woody vines – All woody vines greater than 3.28 f
1				height.
1				
				Hydrophytic Vegetation
2.				
2.		·		Present? Yes No X

	cription: (Describe	to the de				ator or c	onfirm th	e absence of indic	ators.)	
Depth	Matrix			x Featu		. 2	-		5	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		xture	Remai	
0 - 4	10YR 3/2	100					Loamy	//Clayey	SiL	
4 - 18	10YR 5/4	100					Loamy	//Clayey	SiL	
					·					
					. <u> </u>					
					·					
1								2		
	oncentration, D=Dep	letion, RN	I=Reduced Matrix, N	MS=Mas	ked San	d Grains.		² Location: PL=Pore		-
Hydric Soil Histosol			Dobacelue Role		aa (S9) (Indicators for Prot 2 cm Muck (A1	-	
	oipedon (A2)		Polyvalue Belo MLRA 149B		ice (36) (LKK K,	-	Coast Prairie R		
Black Hi			Thin Dark Sur	,			149B)			-
	n Sulfide (A4)		High Chroma				149B)5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Polyvalue Below Surface (S8) (LRR K, L)			
	Layers (A5)		Loamy Mucky				-	Thin Dark Surfa		
	Below Dark Surface	e (A11)	Loamy Gleyed			, ,	Iron-Manganese Masses (F12) (LRR K, L, R)			
	ark Surface (A12)	()	Depleted Matri		()		Piedmont Floodplain Soils (F19) (MLRA 149B)			
	lucky Mineral (S1)		Redox Dark S		-6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy G	leyed Matrix (S4)		Depleted Dark	Surface	e (F7)		-	Red Parent Mat	terial (F21)	
Sandy R	edox (S5)		Redox Depres	sions (F	8)		-	Very Shallow D	ark Surface (F	22)
Stripped	Matrix (S6)		Marl (F10) (LR	RRK,L)				Other (Explain i	n Remarks)	
Dark Su	rface (S7)									
	f hydrophytic vegetat		etland hydrology m	ust be p	resent, u	nless dist	turbed or p	problematic.		
	Layer (if observed):									
Type:								0.11.0		N <i>Y</i>
Depth (ir	nches):						Hydrid	c Soil Present?	Yes	<u>No X</u>
Remarks:										
No hydric so	il indicators observed	1								

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Downing Farm		City/County: C Wauk	kesha/Waukesha Co	Sampling Date: 6/4/2019
Applicant/Owner: John Donovan, Belinsk			State: WI	Sampling Point: P2
Investigator(s): Jeff Kraemer, Heartland Ecol		Section. Tov	wnship, Range: T7N, R19	· · · · ·
Landform (hillside, terrace, etc.): Drainagev		elief (concave, conve		Slope %: 1
Subregion (LRR or MLRA): LRR K	Lat:	Long:		Datum:
Soil Map Unit Name: Lamartine silt loam (Ln	nB)		NWI classification:	N/A
Are climatic / hydrologic conditions on the site	e typical for this time of year?	Yes X	No (If no, e	explain in Remarks.)
Are Vegetation , Soil , or Hydro		ed? Are "Norm	nal Circumstances" prese	
Are Vegetation, Soil, or Hydro			l, explain any answers in	
SUMMARY OF FINDINGS – Attach				
SUMMART OF FINDINGS - Allach	Site map showing samp		ions, transects, im	portant leatures, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea	
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No
Wetland Hydrology Present?	Yes X No	If yes, optional Wet	tland Site ID:	
Remarks: (Explain alternative procedures he A WETS analysis was conducted and indicat pine plantation near the western limits of the planting of lumber pine species. This area co planted white pines.	tes that conditions are normal for study area - not normal circums	stances, vegetation (t	tree stratum) disturbed di	ue to historic clearing and
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	s (B6)
X Surface Water (A1)	Water-Stained Leaves (B	(9)	X Drainage Patterns (
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	
X Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres or			n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed	
Algal Mat or Crust (B4)	Recent Iron Reduction in	Filled Solis (Co)	X Geomorphic Positio	
Iron Deposits (B5)	Thin Muck Surface (C7)	1	Shallow Aquitard (D	
Inundation Visible on Aerial Imagery (B7		S)	Microtopographic R	
Sparsely Vegetated Concave Surface (B	8)	F	X FAC-Neutral Test (J5)
Field Observations: Surface Water Present? Yes X	No. Donth (inchos):	Λ		
Surface Water Present? Yes X Water Table Present? Yes X	NoDepth (inches):NoDepth (inches):	4		
Saturation Present? Yes X	No Depth (inches):		d Hydrology Present?	Yes X No
(includes capillary fringe)			a nyurology i recent.	
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, prev	vious inspections), if a	available:	
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Remarks: Drainageway is 5-8 feet wide with 4-8 inches drainageway.	of water. Little flow, water is ne	ear the OHWM. Samp	le point recorded approx	timately 6 feet from the

VEGETATION - Use scientific names of plants.

Sampling Point: P2

<u>Tree Stratum</u> (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Pinus strobus	30	Yes	FACU	
2. Ulmus americana	15	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
3. Quercus macrocarpa	10	No	FACU	
4. Acer negundo	5	No	Total Number of DominantSpecies Across All Strata:6(B)	
5.			FAC	
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)
7.				Prevalence Index worksheet:
	60	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft)				OBL species 20 x 1 = 20
1. Rhamnus cathartica	8	Yes	FAC	FACW species 80 x 2 = 160
2. Sambucus nigra	5	Yes	FACW	FAC species 13 x 3 = 39
3	-			FACU species 47 x 4 = 188
4.				UPL species $0 \times 5 = 0$
				Column Totals: 160 (A) 407 (B)
				Prevalence Index = $B/A = 2.54$
7.				Hydrophytic Vegetation Indicators:
	13	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5ft)				X 2 - Dominance Test is >50%
1. Impatiens capensis	50	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
2. Carex stipata	20	Yes	OBL	4 - Morphological Adaptations ¹ (Provide supporting
3. Pilea pumila	5	No	FACW	data in Remarks or on a separate sheet)
4. Alliaria petiolata	5	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Bidens frondosa	5	No	FACW	
6. Taraxacum officinale	2	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
•			······	
0				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
9 10.				
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				
	87	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
<u>Woody Vine Stratum</u> (Plot size: 30ft)				
1.				Woody vines – All woody vines greater than 3.28 ft in height.
2.			······	loight.
3.				Hydrophytic
4.				Vegetation Present? Yes X No
···		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rate shoot)			
	,	foract / loudon	d faraat anaai	as however, the tree stratum is dominated by planted

No woody vines observed. Vegetation consists primarily of mesic forest / lowland forest species; however, the tree stratum is dominated by planted white pine.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)	
Depth Matrix Redox Features	
(inches) Color (moist) % Color (moist) % Type ¹ Loc ² Texture	Remarks
0 - 14 10YR 3/1 62 10YR 4/2 30 D M Loamy/Clayey	SiCL
10YR 5/6 8 C M	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining	
Hydric Soil Indicators: Indicators for Problemati	•
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRF Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A	
	eat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surfa	
Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9	
	es (F12) (LRR K, L, R)
Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain S	oils (F19) (MLRA 149B)
Sandy Mucky Mineral (S1) X Redox Dark Surface (F6) Mesic Spodic (TA6) (N	ILRA 144A, 145, 149B)
Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F	
Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Sur	· · · ·
Stripped Matrix (S6)Marl (F10) (LRR K, L)Other (Explain in Rem.	arks)
Dark Surface (S7)	
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
Restrictive Layer (if observed):	
Туре:	
	es <u>X</u> No
Remarks:	

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Downing Farm		City/County: C Waukesha/Waukes	ha Co Sampling Date: 6/4/2019
Applicant/Owner: John Donovan, Belinski	Homes	State	e: WI Sampling Point: P3
Investigator(s): Jeff Kraemer, Heartland Ecolo	gical Group	Section, Township, Range	: T7N, R19E, S21
Landform (hillside, terrace, etc.): Sideslope	Local	l relief (concave, convex, none): <u>None</u>	e Slope %: 7
Subregion (LRR or MLRA): LRR K	Lat:	Long:	Datum:
Soil Map Unit Name: Lamartine silt loam (Lml	3)	NWI clas	sification: <u>N/A</u>
Are climatic / hydrologic conditions on the site t	ypical for this time of year?	Yes X No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrold	ogysignificantly distur	rbed? Are "Normal Circumstan	ces" present? Yes X No
Are Vegetation, Soil, or Hydrold	ogynaturally problem	atic? (If needed, explain any a	answers in Remarks.)
SUMMARY OF FINDINGS – Attach s	ite map showing sam	npling point locations, trans	ects, important features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area	
Hydric Soil Present?	Yes No X	within a Wetland? Ye	es No_X
Wetland Hydrology Present?	Yes No X	If yes, optional Wetland Site ID:	
Remarks: (Explain alternative procedures her A WETS analysis was conducted and indicate of the drainageway and P2.	,	for the time of year. Sample point rea	corded within upland woodlands west

HYDROLOGY

Wetland Hydrology Indicat	ors:				Secondary Indicators (mini	<u>mum of two required)</u>		
Primary Indicators (minimum	<u>n of one is require</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 De	eposits (B15)		Dry-Season Water Table (C2)			
Water Marks (B1)		Hydrog	en Sulfide Odor (C1)		Crayfish Burrows (C8)			
Sediment Deposits (B2)		Oxidize	d Rhizospheres on Living R	oots (C3)	Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Presen	ce of Reduced Iron (C4)		Stunted or Stressed Pl	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 M	uck Surface (C7)		Shallow Aquitard (D3)			
Inundation Visible on Ae	rial Imagery (B7) Other (Explain in Remarks)		Microtopographic Relie	ef (D4)		
Sparsely Vegetated Con	icave Surface (B	8)			FAC-Neutral Test (D5))		
Field Observations:								
Surface Water Present?	Yes	No X	Depth (inches):					
Water Table Present?	Yes	No X	Depth (inches):					
Saturation Present?	Yes	No X	Depth (inches):	Wetlan	nd Hydrology Present? Yes No X			
(includes capillary fringe)								
Describe Recorded Data (str	eam gauge, moi	nitoring well,	aerial photos, previous inspe	ections), if	available:			
Remarks:	iona abaanvad							
Remarks: No wetland hydrology indicat	tors observed.							
	tors observed.							
	tors observed.							
	tors observed.							
	tors observed.							
	tors observed.							
	tors observed.							
	tors observed.							

VEGETATION - Use scientific names of plants.

Sampling Point:

P3

<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
 Celtis occidentalis 2. 	50	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
3				Total Number of DominantSpecies Across All Strata:3(B)
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC:33.3% (A/B
7		<u></u>		Prevalence Index worksheet:
	50	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft 15ft)			OBL species 0 x 1 = 0
1. Lonicera X bella	60	Yes	FACU	FACW species <u>3</u> x 2 = <u>6</u>
2. Rhamnus cathartica	10	No	FAC	FAC species 85 x 3 = 255
3		·		FACU species 148 x 4 = 592
4				UPL species 0 x 5 = 0
5				Column Totals: 236 (A) 853 (B
6				Prevalence Index = B/A = 3.61
7				Hydrophytic Vegetation Indicators:
	70	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5ft)				2 - Dominance Test is >50%
1. Alliaria petiolata	65	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
2. Rhamnus cathartica	15	No	FAC	4 - Morphological Adaptations ¹ (Provide support
3. <u>Viola sororia</u>	10	No	FAC	data in Remarks or on a separate sheet)
4. Rosa multiflora	10	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Arctium minus	10	No	FACU	¹ Indicators of hydric soil and wetland hydrology must
6. Taraxacum officinale	3	No	FACU	be present, unless disturbed or problematic.
7. Impatiens capensis	3	No	FACW	Definitions of Vegetation Strata:
8		·		Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of heigh
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardles
	116	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft)			Woody vines – All woody vines greater than 3.28 ft
1				height.
2				Hydrophytic
3.				Vegetation
				Present? Yes <u>No X</u>
4		=Total Cover		

Profile Desc	ription: (Describe	to the de	pth needed to doc	ument t	he indica	tor or c	onfirm the absence	of indica	ators.)	
Depth	Matrix		Redo	x Featur	res					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0 - 3	10YR 3/2	100					Loamy/Clayey		SiCL	
3 - 12	10YR 3/4	100					Loamy/Clayey		SiCL	
12 - 18	10YR 4/4	100					Loamy/Clayey		SiCl	L
								-		
		·								
								_		
		·								
		· <u> </u>								
17							21		Linin n. M. M.	4
Hydric Soil	oncentration, D=Dep	ietion, Riv	I=Reduced Matrix, I	vi5=inias	ked Sand	Grains.			Lining, M=Ma lematic Hydr	<u>^</u>
Histosol			Polyvalue Belo	ow Surfa	ce (S8) (I	RR R.) (LRR K, L,	
	pipedon (A2)		MLRA 149E			,	Coast Prairie Redox (A16) (LRR K, L, R)			
	stic (A3)		Thin Dark Sur	,) (LRR R	MLRA) (LRR K, L, R)
	n Sulfide (A4)		High Chroma				Polyvalue Below Surface (S8) (LRR K, L)			
Stratified	l Layers (A5)		Loamy Mucky	Mineral	(F1) (LRI	R K, L)	Thin Dark Surface (S9) (LRR K, L)			
Depleted	d Below Dark Surfac	e (A11)	Loamy Gleyed	l Matrix ((F2)		Iron-M	anganese	e Masses (F12	2) (LRR K, L, R)
Thick Da	ark Surface (A12)		Depleted Matr	ix (F3)			Piedmont Floodplain Soils (F19) (MLRA 149B)			
	lucky Mineral (S1)		Redox Dark S	•	,		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Bleyed Matrix (S4)		Depleted Dark		. ,		Red Parent Material (F21)			
	edox (S5)		Redox Depres		8)		Very Shallow Dark Surface (F22) Other (Explain in Remarks)			
	Matrix (S6) rface (S7)		Marl (F10) (LF	(R K, L)			Other	Explain ir	n Remarks)	
	nace (S7)									
³ Indicators of	f hydrophytic vegeta	tion and w	etland hydrology m	ust be p	resent, ur	nless dis	turbed or problematic			
	Layer (if observed):		, , ,		,					
Туре:										
Depth (ir	nches):						Hydric Soil Pres	ent?	Yes	<u>No X</u>
Remarks:							<u>I</u>			
No hydric so	il indicators observe	d.								

Project/Site: Downing Farm	City/County: C Waukesha/Waukesha Co Sampling Date: 6/4/2019						
Applicant/Owner: John Donovan, Belinski Homes	State: WI Sampling Point: P4						
Investigator(s): Jeff Kraemer, Heartland Ecological Group	Section, Township, Range: T7N, R19E, S21						
Landform (hillside, terrace, etc.): Swale Local r	relief (concave, convex, none): <u>Concave</u> Slope %: <u>0 - 2</u>						
Subregion (LRR or MLRA): LRR K Lat:	Long: Datum:						
Soil Map Unit Name: Lamartine silt loam (LmB)	NWI classification: N/A						
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)						
Are Vegetation, Soil, or Hydrologysignificantly disturbed? Are "Normal Circumstances" present? Yes X No							
Are Vegetation , Soil , or Hydrology naturally problema							
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important leatures, etc.						
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area						
Hydric Soil Present? Yes X No	within a Wetland? Yes X No						
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID:						
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted and indicates that conditions are normal for the time of year. Sample point recorded at the eastern end of a swale that is connected to the remainder of W-1 via a culvert under a driveway. This swale barely extends into the study area, but continues offsite to the west.							
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 (E							
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)						
X Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)						
Water Marks (B1) Hydrogen Sulfide Odor (Sediment Deposits (B2) Oxidized Rhizospheres of							
X Drift Deposits (B3) Presence of Reduced Iron							
Algal Mat or Crust (B4) Recent Iron Reduction in							
Iron Deposits (B5) Thin Muck Surface (C7)	Shallow Aquitard (D3)						
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark							
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)						
Field Observations:							
Surface Water Present? Yes No X Depth (inches):							
Water Table Present? Yes X No Depth (inches):	18						
Saturation Present? Yes X No Depth (inches):	10 Wetland Hydrology Present? Yes X No						
(includes capillary fringe)							
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:						
Pomorko:							

Remarks:

Sampling Point:

P4

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer negundo	<u>60</u>	Yes	FAC	
2. Carya ovata	10	No	FACU	Number of Dominant SpeciesThat Are OBL, FACW, or FAC:5(A)
	10	INU	FACU	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: 100.0% (A/B)
7				Prevalence Index worksheet:
	70	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft)				OBL species 5 x 1 = 5
1. Rhamnus cathartica	20	Yes	FAC	FACW species 23 x 2 = 46
2. Acer negundo	10	Yes	FAC	FAC species 92 x 3 = 276
3		·		FACU species <u>13</u> x 4 = <u>52</u>
4				UPL species x 5 =
5				Column Totals: 133 (A) 379 (B)
6				Prevalence Index = B/A = 2.85
7				Hydrophytic Vegetation Indicators:
	30	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5ft)				X 2 - Dominance Test is >50%
1. Impatiens capensis	15	Yes	FACW	X_3 - Prevalence Index is ≤3.0 ¹
2. Bidens frondosa	8	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting
3. Glyceria striata	5	No	OBL	data in Remarks or on a separate sheet)
4. Alliaria petiolata	3	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Geum canadense	2	No	FAC	¹ Indicators of hydric soil and wetland hydrology must
6.				be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				Serling/shruh Woody plants loss than 2 in DDU
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				
	33	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft)				
1,				Woody vines – All woody vines greater than 3.28 ft in height.
2.				
				Hydrophytic
3 4.		·		Vegetation Present? Yes X No
*		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rata shoot)			
No woody vines observed.	rate sneet.)			

0 - 18 10YR 4/2 75 10YR 5/6 10 C M Loamy/Clayey SiCL (w/15 10YR 3/2 15	% pebbles)				
10YR 3/2 15 10YR 3/2 10 10					
Image:					
Hydric Soil Indicators:Indicators for Problematic HydHistosol (A1)Polyvalue Below Surface (S8) (LRR R, MLRA 149B)2 cm Muck (A10) (LRR K, L Coast Prairie Redox (A16) (Coast Prairie Redox (A16) (Stratified Layers (A5)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)5 cm Mucky Peat or Peat (S Polyvalue Below Surface (S11) (LRR K, L)Depleted Below Dark Surface (A11)Loamy Mucky Mineral (F1) (LRR K, L)Thin Dark Surface (S9) (LR Polyvalue Below Surface (S9) (LR Polyvalue Below Surface (S9) (LR Sandy Mucky Mineral (S1)X Depleted Matrix (F3)Thin Dark Surface (F6)Sandy Redox (S5)Redox Depressions (F8)Very Shallow Dark SurfaceVery Shallow Dark SurfaceStripped Matrix (S6)Marl (F10) (LRR K, L)Other (Explain in Remarks)					
Hydric Soil Indicators:Indicators for Problematic HydHistosol (A1)Polyvalue Below Surface (S8) (LRR R, MLRA 149B)2 cm Muck (A10) (LRR K, L Coast Prairie Redox (A16) (Coast Prairie Redox (A16) (Stratified Layers (A5)Hydrogen Sulfide (A4)Thin Dark Surface (S9) (LRR R, MLRA 149B)5 cm Mucky Peat or Peat (S Polyvalue Below Surface (S11) (LRR K, L)Depleted Below Dark Surface (A11)Loamy Mucky Mineral (F1) (LRR K, L)Thin Dark Surface (S9) (LR Polyvalue Below Surface (S9) (LR Polyvalue Below Surface (S9) (LR Sandy Mucky Mineral (S1)X Depleted Matrix (F3)Thin Dark Surface (F6)Sandy Redox (S5)Redox Depressions (F8)Very Shallow Dark SurfaceVery Shallow Dark SurfaceStripped Matrix (S6)Marl (F10) (LRR K, L)Other (Explain in Remarks)					
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Sandy Gleyed Matrix (S4)Depleted Dark Surface (F7)Red Parent Material (F21)Sandy Redox (S5)Redox Depressions (F8)Very Shallow Dark SurfaceStripped Matrix (S6)Marl (F10) (LRR K, L)Other (Explain in Remarks)	Piedmont Floodplain Soils (F19) (MLRA 149B				
Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks)	F22)				
—					
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.					
Restrictive Layer (if observed):					
Туре:					
Depth (inches):					
Remarks:	No				
Mixed sediment deposits.	No				
	No				
	No				
	<u>No</u>				
	<u> No </u>				

Project/Site: Downing Farm	City/County: C Waukesha/Waukesha Co Sampling Date: 6/4/2019					
Applicant/Owner: John Donovan, Belinski Homes	State: WI Sampling Point: P5					
Investigator(s): Jeff Kraemer, Heartland Ecological Group	Section, Township, Range: T7N, R19E, S21					
	relief (concave, convex, none): Concave Slope %: 0 - 3					
Subregion (LRR or MLRA): LRR K Lat:	Long: Datum:					
Soil Map Unit Name: Pella silt loam (Ph)	NWI classification: T3K					
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrologysignificantly disturb						
Are Vegetation, Soil, or Hydrologynaturally problemation						
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area					
Hydric Soil Present? Yes No	within a Wetland? Yes No X					
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID:					
Remarks: (Explain alternative procedures here or in a separate report.)	-					
A WETS analysis was conducted and indicates that conditions are normal f						
that transitions into a hardwood swamp, near the northwestern corner of the	e of the southern half of the study area.					
I						
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 (B						
X High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)					
X Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)					
Water Marks (B1) Hydrogen Sulfide Odor (0						
Sediment Deposits (B2) Oxidized Rhizospheres o						
Drift Deposits (B3) Presence of Reduced Iro						
Algal Mat or Crust (B4) Recent Iron Reduction in						
Iron Deposits (B5) Thin Muck Surface (C7)						
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark						
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No X Depth (inches):						
Water Table Present? Yes X No Depth (inches):						
Saturation Present? Yes X No Depth (inches):						
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev	vious inspections), if available:					
Remarks:						

<u>Tree Stratum</u> (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Populus deltoides	20	Yes	FAC	
2. Acer saccharinum	10	Yes	FACW	Number of Dominant SpeciesThat Are OBL, FACW, or FAC:5(A)
3. Acer negundo	3	No	FAC	
4.				Total Number of Dominant Species Across All Strata: 6 (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)
7				Prevalence Index worksheet:
1.		=Total Cover		Total % Cover of: Multiply by:
<u>Sapling/Shrub Stratum</u> (Plot size: 15ft)				$\begin{array}{c} \hline \hline \\ $
1. Lonicera X bella	5	Yes	FACU	FACW species $30 \times 2 = 60$
2. Rhamnus cathartica	5	Yes	FAC	FAC species $28 \times 3 = 84$
2				FACU species 10 $x 4 = 40$
3 4.				UPL species $0 \times 5 = 0$
				Column Totals: 133 (A) 249 (B)
5 6.				Prevalence Index = $B/A = 1.87$
7.				Hydrophytic Vegetation Indicators:
	10	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
<u>Herb Stratum</u> (Plot size: 5ft)				X 2 - Dominance Test is >50%
1. Carex stipata	30	Yes	OBL	$3 - \text{Prevalence Index is } \le 3.0^1$
2. Carex vulpinoidea	30	Yes	OBL	4 - Morphological Adaptations ¹ (Provide supporting
3. Phalaris arundinacea	10	No	FACW	data in Remarks or on a separate sheet)
4. Impatiens capensis	10	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Alisma triviale	5	No	OBL	
6. Poa pratensis	5	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	90	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				Live and the
3				Hydrophytic Vegetation
4				Present? Yes X No
	:	=Total Cover		
Remarks: (Include photo numbers here or on a separ No woody vines observed. This area consist of a sedo	,	hat transitions	into a hardwo	bod swamp in the surrounding areas.

Profile Des	cription: (Describe	to the dep	oth needed to doc	ument t	he indica	ator or co	onfirm the absence of indi	cators.)		
Depth	Matrix			x Featu						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
	·									
					·	<u> </u>				
	·									
·										
	oncentration, D=Depl	letion, RM	=Reduced Matrix, I	MS=Mas	ked San	d Grains.		e Lining, M=Matrix.		
Hydric Soil	Indicators:						Indicators for Pro	blematic Hydric Soils ³ :		
Histosol	l (A1)		Polyvalue Belo	ow Surfa	ice (S8) (LRR R,	2 cm Muck (A	10) (LRR K, L, MLRA 149B)		
Histic E	pipedon (A2)		MLRA 149E	B)			Coast Prairie I	Redox (A16) (LRR K, L, R)		
Black H	istic (A3)		Thin Dark Sur	face (S9) (LRR R	, MLRA 1	49B) 5 cm Mucky P	eat or Peat (S3) (LRR K, L, R)		
Hydroge	en Sulfide (A4)		High Chroma	Sands (S	S11) (LR I	R K, L)	Polyvalue Belo	ow Surface (S8) (LRR K, L)		
	d Layers (A5)		Loamy Mucky					ace (S9) (LRR K, L)		
	d Below Dark Surface	e (A11)	Loamy Gleyed			. ,		se Masses (F12) (LRR K, L, R		
		()			()			dplain Soils (F19) (MLRA 149		
	Thick Dark Surface (A12) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Redox Dark Surface (F6)						Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Gleyed Matrix (S4)		Depleted Dark		-		Red Parent Ma			
	Redox (S5)		Redox Depres		0)			Dark Surface (F22)		
	d Matrix (S6)		Marl (F10) (LF	(R K, L)			Other (Explain	in Remarks)		
Dark Su	ırface (S7)									
	of hydrophytic vegetat		etland hydrology m	ust be p	resent, u	nless dist	urbed or problematic.			
Restrictive	Layer (if observed):									
Type:										
Depth (i	nches):						Hydric Soil Present?	Yes No		
Remarks:										
No informati	on on soils at this loc	ation.								
1										

Project/Site: Downing Farm	City/County: C Waukesha/Waukesha Co Sampling Date: 6/4/2019					
Applicant/Owner: John Donovan, Belinski Homes	State: WI Sampling Point: P6					
Investigator(s): Jeff Kraemer, Heartland Ecological Group	Section, Township, Range: T7N, R19E, S21					
Landform (hillside, terrace, etc.): Sideslope Local	relief (concave, convex, none): None Slope %: <u>3 - 5</u>					
Subregion (LRR or MLRA): LRR K Lat:	Long: Datum:					
Soil Map Unit Name: Hochheim Ioam (HmB2)	NWI classification: N/A					
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)					
re Vegetation X_, Soil, or Hydrologysignificantly disturbed? Are "Normal Circumstances" present? Yes XNo						
Are Vegetation, Soil, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area					
Hydric Soil Present? Yes No X	within a Wetland? Yes No X					
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:					
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted and indicates that conditions are normal	for the time of year. Sample point recorded within an upland pasture.					

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is requ	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 Roo	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 (B	7) Other (Explain in Remarks)	Microtopographic Relief (D4)					
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)					
Field Observations:							
Surface Water Present? Yes	No X Depth (inches):						
Water Table Present? Yes	No X Depth (inches):						
Saturation Present? Yes	No X Depth (inches):	Wetland Hydrology Present? Yes No X					
(includes capillary fringe)							
Describe Recorded Data (stream gauge, me	onitoring well, aerial photos, previous inspect	ions), if available:					
Remarks:							
No wetland hydrology indicators observed.							

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2.		·		Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
3. 4.		·		Total Number of Dominant Species Across All Strata: 1 (B)
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
7				Prevalence Index worksheet:
<u>Sapling/Shrub Stratum</u> (Plot size: 15ft)		=Total Cover		Total % Cover of: Multiply by: OBL species 0 x 1 = 0
1.				FACW species $0 x 2 = 0$
2.				FAC species $0 \times 3 = 0$
3.				FACU species 80 x 4 = 320
4.				UPL species $10 \times 5 = 50$
E				Column Totals: 90 (A) 370 (B)
6				Prevalence Index = $B/A = 4.11$
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
<u>Herb Stratum</u> (Plot size: 5ft)				2 - Dominance Test is >50%
1. Poa pratensis	50	Yes	FACU	$3 - Prevalence Index is \leq 3.0^{1}$
2. Phleum pratense	10	No	FACU	4 - Morphological Adaptations ¹ (Provide supporting
3. Dactylis glomerata	10	No	FACU	data in Remarks or on a separate sheet)
4. Bromus inermis	10	No	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Trifolium hybridum	5	No	FACU	
6. Plantago major	5	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10.				
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				
	90	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft)				
				Woody vines – All woody vines greater than 3.28 ft in height.
		·		- Toight
2				Hydrophytic
				Vegetation Present? Yes No X
4		=Total Cover		
Remarks: (Include photo numbers here or on a separ	ate sheet.)			
No trees, shrubs, or woody vines observed. Vegetatio	n consists o	of upland grass	es. This area	is a managed pasture.

Profile Desc	ription: (Describe	to the de	oth needed to doc	ument t	he indica	tor or c	onfirm the	absence of indica	tors.)	
Depth	Matrix		Redo	x Featu	res					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Tex	ture	Rema	ırks
0 - 6	10YR 3/3	97	10YR 4/6	3	С	М	Loamy	/Clayey	SiL	
6 - 18	10YR 5/4	85					Loamy	/Clayey	SiC	L
	10YR 4/2	15								
					·					
					·					
					·					
					·					
	oncentration, D=Dep	Lation RM		18-Maa	kod Sono		2	Location: PL=Pore	Lining M-M	otriv
Hydric Soil I				/10-1VIA5	skeu Sano	Giains.		Indicators for Prob		
Histosol			Polyvalue Belo	w Surfa	ice (S8) (I	RR R.		2 cm Muck (A10	-	
	ipedon (A2)		 MLRA 149B		. , .		-	Coast Prairie Re		
Black His	stic (A3)		Thin Dark Surf	ace (S9) (LRR R	MLRA	149B)	5 cm Mucky Pea	at or Peat (S3	3) (LRR K, L, R)
	Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L)						_	Polyvalue Below	/ Surface (S8) (LRR K, L)
	Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L)				R K, L)	-	Thin Dark Surfac		-	
	Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2)						Iron-Manganese Masses (F12) (LRR K, L, R)			
Thick Dark Surface (A12) Depleted Matrix (F3)							Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7)						Red Parent Material (F21)				
Sandy Redox (S5) Redox Depressions (F8)						Very Shallow Dark Surface (F22)				
Stripped Matrix (S6) Marl (F10) (LRR K, L)						Other (Explain in Remarks)				
Dark Surface (S7)										
	hydrophytic vegetat		etland hydrology mu	ust be p	resent, ur	iless dist	turbed or p	roblematic.		
	_ayer (if observed):									
Туре:								0.11.0	X	N <i>Y</i>
	nches):						Hydric	Soil Present?	Yes	NoX
Remarks:	il indicators observed	4								
NO HYUNC SOL		J.								

Project/Site: Downing Farm	City/County: C Waukesha/Waukesha Co Sampling Date: 6/4/2019				
Applicant/Owner: John Donovan, Belinski Homes	State: WI Sampling Point: P7				
Investigator(s): Jeff Kraemer, Heartland Ecological Group	Section, Township, Range: T7N, R19E, S21				
	relief (concave, convex, none): <u>Concave</u> Slope %: <u>1 - 3</u>				
Subregion (LRR or MLRA): LRR K Lat:					
Soil Map Unit Name: Hochheim Ioam (HmB2)	NWI classification: N/A				
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)				
Are Vegetation X, Soil , or Hydrology significantly distur	bed? Are "Normal Circumstances" present? Yes X No				
Are Vegetation, Soil, or Hydrologynaturally problems	atic? (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? Yes X No	Is the Sampled Area				
Hydric Soil Present? Yes X No	within a Wetland? Yes X No				
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID:				
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted and indicates that conditions are normal present near the eastern edge of the study area. This area is saturated thr into an eroded gully.	for the time of year. Sample point recorded within a grazed sedge meadow oughout with pockets of inundation in some areas. This area drains offsite				
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)				
X High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)				
X 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 Ir	on (C4) Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4) Recent Iron Reduction i	n Tilled Soils (C6) X Geomorphic Position (D2)				
Iron Deposits (B5) Thin Muck Surface (C7)					
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remain	rks) X Microtopographic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No X Depth (inches)	:				
Water Table Present? Yes X No Depth (inches)	. 3				
Saturation Present? Yes X No Depth (inches)	0 Wetland Hydrology Present? Yes X No				
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), il available:				
Remarks:					
Tomano.					

<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:				
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)				
3. 4.				Total Number of Dominant Species Across All Strata: 7 (B)				
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.7%</u> (A/B)				
7				Prevalence Index worksheet:				
		=Total Cover		Total % Cover of: Multiply by:				
Sapling/Shrub Stratum (Plot size: 15ft)				OBL species 50 x 1 = 50				
1				FACW species 20 x 2 = 40				
2				FAC species 10 x 3 = 30				
3				FACU species 10 x 4 = 40				
4.				UPL species 0 x 5 = 0				
5.				Column Totals: 90 (A) 160 (B)				
6.				Prevalence Index = B/A = 1.78				
7.				Hydrophytic Vegetation Indicators:				
	:	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation				
Herb Stratum (Plot size: 5ft)				X 2 - Dominance Test is >50%				
1. Carex stricta	20	Yes	OBL	X 3 - Prevalence Index is ≤3.0 ¹				
2. Phalaris arundinacea	10	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supporting				
3. Carex granularis	10	Yes	FACW	data in Remarks or on a separate sheet)				
4. Festuca rubra	10	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)				
5. Rumex crispus	10	Yes	FAC					
6. Carex stipata	15	Yes	OBL	 ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 				
7. Carex vulpinoidea	10	Yes	OBL	Definitions of Vegetation Strata:				
8. Schoenoplectus tabernaemontani	5	No	OBL	-				
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
10				Sapling/shrub – Woody plants less than 3 in. DBH				
11				and greater than or equal to 3.28 ft (1 m) tall.				
12		Tatal Causa		Herb – All herbaceous (non-woody) plants, regardless				
Wester View Oterhans (Distriction 00ff	90	=Total Cover		of size, and woody plants less than 3.28 ft tall.				
<u>Woody Vine Stratum</u> (Plot size: <u>30ft</u>) 1.				Woody vines – All woody vines greater than 3.28 ft in height.				
2.								
3.				Hydrophytic				
4.				Vegetation Present? Yes X No				
	:	=Total Cover						
Remarks: (Include photo numbers here or on a separ	rate sheet.)							
No trees, shrubs, or woody vines observed. Vegetatio	n in this area	a consists of a	grazed sedge	e meadow dominated by various Carex species.				

SOIL

		to the de				ator or c	onfirm the absence of i	indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Featur %	res Type ¹	Loc ²	Texture	Remarks
0 - 12	10YR 3/1	85	10YR 5/6	15	C	 M	Loamy/Clayey	SiCL
	·							
	10YR 5/1	<u>80</u>	10YR 5/6				Loamy/Clayey	SiCL
Hydric Soil Histosol Histic E Black H Hydroge Stratified X Depleted Thick Di Sandy N Sandy C Sandy F Strippec Dark Su	(A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) irface (S7)	e (A11)	Polyvalue Belo MLRA 149B Thin Dark Surf High Chroma S Loamy Mucky Loamy Gleyed Depleted Matri X Redox Dark St Depleted Dark Redox Depres Marl (F10) (LR	ow Surfa) ace (S9) Sands (S Mineral Matrix (ix (F3) urface (F Surface sions (Fi R K, L)	ce (S8) () (LRR R 511) (LRI (F1) (LRI (F1) (LRI (F1) (LRI (F1) (LRI (F1) (LRI 8)	LRR R, , MLRA ⁻ R K, L) R K, L)	Indicators for 2 cm Muck Coast Prai 5 cm Muck Polyvalue Thin Dark Iron-Mang Piedmont Mesic Spo Red Parer Very Shall	Pore Lining, M=Matrix. Problematic Hydric Soils ³ : k (A10) (LRR K, L, MLRA 149B) irie Redox (A16) (LRR K, L, R) ky Peat or Peat (S3) (LRR K, L, R) Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B) odic (TA6) (MLRA 144A, 145, 149B) ht Material (F21) ow Dark Surface (F22) olain in Remarks)
	Layer (if observed):							
Type:								
Depth (i	nches):						Hydric Soil Present	? Yes <u>X</u> No
Remarks:								

Project/Site: Downing Farm	City/County: C Waukesha/Waukesha Co Sampling Date: 6/4/2019								
Applicant/Owner: John Donovan, Belinski Ho	mes	State: WI Sampling Point: P8							
nvestigator(s): Jeff Kraemer, Heartland Ecological Group Section, Township, Range: T7N, R19E, S21									
Landform (hillside, terrace, etc.): Sideslope	Local	relief (concave, convex, none): None	Slope %: <u>3 - 5</u>						
Subregion (LRR or MLRA): LRR K	Lat:	Long: Datum:							
Soil Map Unit Name: Hochheim loam (HmB2)		NWI classification: N/A							
Are climatic / hydrologic conditions on the site typi	cal for this time of year?	Yes <u>X</u> No((If no, explain in Remarks.)						
Are Vegetation X , Soil , or Hydrology	Are Vegetation X, Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No								
Are Vegetation, Soil, or Hydrology	naturally problema	atic? (If needed, explain any answ	wers in Remarks.)						
SUMMARY OF FINDINGS – Attach site	SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.								
Hydrophytic Vegetation Present? Yes	s No X	Is the Sampled Area							
Hydric Soil Present? Yes	No X	within a Wetland? Yes	No X						
Wetland Hydrology Present? Yes	s NoX	If yes, optional Wetland Site ID:							
Remarks: (Explain alternative procedures here o A WETS analysis was conducted and indicates th grazed pasture.	,	for the time of year. Sample point record	ded within an upland area of a						

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is require	ed; 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 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) 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 (B	Sparsely Vegetated Concave Surface (B8)			
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches): W	etland Hydrology Present? Yes No X		
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, previous inspection	s), if available:		
Remarks:				
No wetland hydrology indicators observed.				
Describe Recorded Data (stream gauge, mor Remarks:	hitoring well, aerial photos, previous inspection	s), if available:		

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.				Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
3 4				Total Number of Dominant Species Across All Strata:2(B)
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC:0.0% (A/B)
7				Prevalence Index worksheet:
	:	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft)				OBL species 0 x 1 = 0
1				FACW species 10 x 2 = 20
2				FAC species 0 x 3 = 0
3				FACU species x 4 = 460
4				UPL species 0 x 5 = 0
5.				Column Totals: 125 (A) 480 (B)
6.				Prevalence Index = B/A = 3.84
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
<u>Herb Stratum</u> (Plot size: 5ft)				2 - Dominance Test is >50%
1. Poa pratensis	50	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
2. Trifolium repens	20	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting
3. Festuca rubra	15	No	FACU	data in Remarks or on a separate sheet)
4. Carex granularis	10	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Trifolium hybridum	10	No	FACU	
6. Dactylis glomerata	10	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. Plantago major	5	No	FACU	Definitions of Vegetation Strata:
8. Taraxacum officinale	5	No	FACU	
9	5		TACO	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				
····	125	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				Hudronhutio
3				Hydrophytic Vegetation
4				Present? Yes No X
	:	=Total Cover		
Remarks: (Include photo numbers here or on a separate				
No trees, shrubs, or woody vines observed. Vegetation	n consists o	f upland pastu	re.	

		to the de				ator or c	onfirm the absence	of indica	tors.)	
Depth	Matrix			x Featu		. 2			_	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rema	
0 - 6	10YR 3/2	100					Loamy/Clayey		SiCl	L
6 - 12	2.5Y 3/3	99	10YR 4/6	1	С	Μ	Loamy/Clayey		SiCI	L
12 - 18	10YR 5/4	100					Loamy/Clayey		SiCl	L
		·								
		·								
		<u> </u>								
		·								
		·								
		. <u> </u>								
¹ Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.	² Location:	PL=Pore	Lining, M=Ma	atrix.
Hydric Soil I		,	,			-			lematic Hydr	
Histosol	(A1)		Polyvalue Belo	w Surfa	ce (S8) (l	LRR R,	2 cm I	Muck (A10) (LRR K, L,	MLRA 149B)
Histic Ep	oipedon (A2)		MLRA 149B)			Coast	Prairie Re	edox (A16) (Ll	RR K, L, R)
Black His			Thin Dark Surf					-) (LRR K, L, R)
	n Sulfide (A4)		High Chroma S	-					/ Surface (S8)	
	Layers (A5)		Loamy Mucky			R K, L)			ce (S9) (LRR	
	Below Dark Surface	e (A11)	Loamy Gleyed		(F2)			-	-	2) (LRR K, L, R)
	ark Surface (A12)		Depleted Matri		-0)				-	19) (MLRA 149B)
	lucky Mineral (S1)		Redox Dark Su	`	,					44A, 145, 149B)
	ileyed Matrix (S4)		Depleted Dark		· · /				erial (F21)	· · · · ·
	edox (S5) Matrix (S6)		Redox Depress Marl (F10) (LR	-	0)		Very Shallow Dark Surface (F22) Other (Explain in Remarks)			
	face (S7)			ις ς, ε)				(Explain li	i itemaiks)	
³ Indicators of	f hydrophytic vegeta	tion and w	etland hydrology mu	ust be p	resent, ur	nless dist	turbed or problemation	D.		
	_ayer (if observed):		, , , , , , , , , , , , , , , , , , , ,		,		, i			
Type:										
Depth (ir	nches):						Hydric Soil Pres	ent?	Yes	No X
Remarks:	·									
	il indicators observe	d.								

Project/Site: Downing Farm	(City/County: C Waukesha/Waukesha Co	Sampling Date: 6/4/2019
Applicant/Owner: John Donovan, Belinski Hor	nes	State: WI	Sampling Point: P9
Investigator(s): Jeff Kraemer, Heartland Ecologica	al Group	Section, Township, Range: T7N, F	₹19E, S21
Landform (hillside, terrace, etc.): Sideslope	Local re	lief (concave, convex, none): <u>None</u>	Slope %: <u>3 - 5</u>
Subregion (LRR or MLRA): LRR K	Lat:	Long:	Datum:
Soil Map Unit Name: Theresa silt loam (ThB)		NWI classificatio	n: N/A
Are climatic / hydrologic conditions on the site typic	cal for this time of year?	Yes X No (If no	, explain in Remarks.)
Are Vegetation X , Soil , or Hydrology	significantly disturbe	d? Are "Normal Circumstances" pre	esent? Yes X No
Are Vegetation, Soil, or Hydrology	naturally problemation	c? (If needed, explain any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing samp	ling point locations, transects, i	mportant features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or A WETS analysis was conducted and indicates the the northern edge of the study area.	No X No X	Is the Sampled Area within a Wetland? Yes If yes, optional Wetland Site ID: r the time of year. Sample point recorded w	No X
HYDROLOGY			
Wetland Hydrology Indicators:			(minimum of two required)
Primary Indicators (minimum of one is required; c	Surface Soil Crac		
Surface Water (A1)	Water-Stained Leaves (B9		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines	()
Saturation (A3)	Marl Deposits (B15)	Dry-Season Wate	ər Table (C2)

<u> </u>	<u> </u>						
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)	Geomorphic Position (D2)					
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B) Other (Explain in Remarks)	Microtopographic Relief (D4)					
Sparsely Vegetated Concave Surface (8)	FAC-Neutral Test (D5)					
Field Observations:							
Surface Water Present? Yes	No X Depth (inches):						
Water Table Present? Yes	No X Depth (inches):						
Saturation Present? Yes	No X Depth (inches): Wetlan	d Hydrology Present? Yes No X					
(includes capillary fringe)							
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previous inspections), if	available:					
Remarks:							
No wetland hydrology indicators observed.							

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2.		·		Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
3. 4.				Total Number of Dominant Species Across All Strata:1(B)
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft)				OBL species x 1 =
1				FACW species 0 x 2 = 0
2.				FAC species 0 x 3 = 0
3.				FACU species 108 x 4 = 432
4.				UPL species 6 x 5 = 30
5.				Column Totals: 114 (A) 462 (B)
6.		·		Prevalence Index = $B/A = 4.05$
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
<u>Herb Stratum</u> (Plot size: 5ft)		,		2 - Dominance Test is >50%
1. Festuca rubra	65	Yes	FACU	3 - Prevalence Index is $\leq 3.0^{1}$
2. Dactylis glomerata	20	No	FACU	4 - Morphological Adaptations ¹ (Provide supporting
	15	No	FACU	data in Remarks or on a separate sheet)
3. Poa pratensis				
4. Trifolium pratense	5	<u>No</u>	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Taraxacum officinale	3	No	FACU	¹ Indicators of hydric soil and wetland hydrology must
6. Daucus carota	3	No	UPL	be present, unless disturbed or problematic.
7. Medicago sativa	3	No	UPL	Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	114	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2.				
3				Hydrophytic Vegetation
4.				Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a separ	ate sheet.)			
No trees, shrubs, or woody vines observed. This area			has not recent	tly been grazed.

Profile Desc	ription: (Describe	to the de	pth needed to docu	ument t	he indica	tor or c	onfirm the abs	sence of indi	cators.)	
Depth	Matrix		Redo	x Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rema	ʻks
0 - 13	2.5Y 3/3	100					Loamy/Clay	/ey	SiCL	
13 - 18	10YR 5/4	100					Loamy/Clay	/ey	SiCL	
		·								
		·								
		·								
		·								
¹ Type: C=Co	ncentration, D=Dep	letion, RM	I=Reduced Matrix, M	/IS=Mas	ked Sand	Grains.	² Loca	ation: PL=Por	re Lining, M=Ma	ıtrix.
Hydric Soil I								ators for Pro	blematic Hydr	ic Soils³:
Histosol ((A1)		Polyvalue Belo	w Surfa	ce (S8) (I	LRR R,	2	2 cm Muck (A	10) (LRR K, L, I	MLRA 149B)
	ipedon (A2)		MLRA 149B	<i>'</i>					Redox (A16) (LF	
Black His	. ,		Thin Dark Surf				· · · · · · · · · · · · · · · · · · ·	-	eat or Peat (S3	
	n Sulfide (A4)		High Chroma S	-				-	ow Surface (S8)	
	Layers (A5)		Loamy Mucky			R K, L)			face (S9) (LRR	
	Below Dark Surface	e (A11)	Loamy Gleyed		F2)			-	-	2) (LRR K, L, R)
	rk Surface (A12)		Depleted Matri							9) (MLRA 149B)
	ucky Mineral (S1)		Redox Dark Su		-					44A, 145, 149B)
	eyed Matrix (S4)		Depleted Dark					Red Parent Ma		
	edox (S5)		Redox Depress		8)			-	Dark Surface (F	22)
	Matrix (S6)		Marl (F10) (LR	R K, L)			(Other (Explain	in Remarks)	
Dark Sur	face (S7)									
³ Indicators of	budrophytic vogoto	tion and u	atland hydrology my	uat ha ni	recent ur	loop die	turbad or proble	matia		
	ayer (if observed):		etland hydrology mu	ust be p	resent, ur	liess als	lurbed or proble	ematic.		
Type:	ayer (ir observed).									
	ches):						Hydric Soi	Present?	Yes	No X
Remarks:							,			
	indicators observe	d.								
,										
I										

City/County: C Waukesha/Waukesha Co Sampling Date: 6/4/2019						
State: WI Sampling Point: P10						
Section, Township, Range: T7N, R19E, S21						
relief (concave, convex, none): Concave Slope %: 1						
Long: Datum:						
NWI classification: S3/E2K						
Yes X No (If no, explain in Remarks.)						
rbed? Are "Normal Circumstances" present? Yes X No						
atic? (If needed, explain any answers in Remarks.)						
npling point locations, transects, important features, etc.						
Is the Sampled Area within a Wetland? Yes X No If yes, optional Wetland Site ID:						
for the time of year. Sample point recorded within a shrub carr at the toe of ydric soil indicator despite the 16+ soil layer being depleted - surface layer						
Secondary Indicators (minimum of two required)						
Surface Soil Cracks (B6) (B9) Drainage Patterns (B10)						
Moss Trim Lines (B16)						
Dry-Season Water Table (C2)						
(C1) Crayfish Burrows (C8)						
on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)						
ron (C4) Stunted or Stressed Plants (D1)						
in Tilled Soils (C6) X Geomorphic Position (D2)						
7) Shallow Aquitard (D3)						
arks) Microtopographic Relief (D4)						
X FAC-Neutral Test (D5)						
):						
): 16						
10 Wetland Hydrology Present? Yes X No						
evious inspections), if available:						

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Fraxinus pennsylvanica	<u>20</u>	Yes	FACW	
2. Acer negundo	5	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 5
3 4				Total Number of Dominant Species Across All Strata: 5 (B
56				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A
7				Prevalence Index worksheet:
	25	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft)			OBL species <u>5</u> x 1 = <u>5</u>
1. Salix interior	20	Yes	FACW	FACW species 127 x 2 = 254
2. Cornus alba	12	Yes	FACW	FAC species 10 x 3 = 30
3. Acer negundo	5	No	FAC	FACU species <u>5</u> x 4 = <u>20</u>
4				UPL species 0 x 5 = 0
5				Column Totals: 147 (A) 309
6				Prevalence Index = B/A = 2.10
7				Hydrophytic Vegetation Indicators:
	37	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5ft)				X 2 - Dominance Test is >50%
1. Phalaris arundinacea	70	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Mimulus ringens	5	No	OBL	4 - Morphological Adaptations ¹ (Provide suppo
3. Poa pratensis	5	No	FACU	data in Remarks or on a separate sheet)
4. Solidago gigantea	5	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology mu be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8.				Demitions of Vegetation Strata.
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height
10 11				Sapling/shrub – Woody plants less than 3 in. DBI and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardl
	85	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft	_)			Woody vines – All woody vines greater than 3.28
1				height.
2				Hydrophytic
-				Vegetation
3				Present? Yes X No
3 4				

Profile Desc	ription: (Describe	to the dep	oth needed to docu	ument t	he indica	ator or c	onfirm the absence of	indicators.)
Depth	Matrix			x Featur				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 13	10YR 2/2	97	10YR 5/6	3	С	М	Loamy/Clayey	SiCL
13 - 16	10YR 2/1	100					Loamy/Clayey	SiCL
16 - 24	10YR 5/1	88	10YR 5/6	12	С	М	Loamy/Clayey	SiCL
¹ Type: C=Co	oncentration, D=Depl	etion, RM	=Reduced Matrix, M	1S=Mas	ked Sand	d Grains.	² Location: PL	=Pore Lining, M=Matrix.
Hydric Soil								r Problematic Hydric Soils ³ :
Histosol			Polyvalue Belo		ce (S8) (LRR R,		k (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		MLRA 149B					irie Redox (A16) (LRR K, L, R)
Black Hi	()		Thin Dark Surfa					ky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		High Chroma S					Below Surface (S8) (LRR K, L)
	Layers (A5)		Loamy Mucky I			R K, L)		Surface (S9) (LRR K, L)
	Below Dark Surface	e (A11)	Loamy Gleyed		F2)			janese Masses (F12) (LRR K, L, R)
	ark Surface (A12)		Depleted Matrix					Floodplain Soils (F19) (MLRA 149B)
·	lucky Mineral (S1)		Redox Dark Su	`	'			odic (TA6) (MLRA 144A, 145, 149B)
·	leyed Matrix (S4)		Depleted Dark					nt Material (F21)
·	edox (S5)		Redox Depress		8)			low Dark Surface (F22)
	Matrix (S6) face (S7)		Marl (F10) (LR	R K, L)			Other (Ex	plain in Remarks)
³ Indicators of	f hydrophytic vegetat	ion and w	etland hydrology mu	ıst be pı	resent, ui	nless dist	turbed or problematic.	
	_ayer (if observed):							
Туре:								
Depth (ir	nches):						Hydric Soil Present	? Yes <u>No X</u>
Remarks:							•	
								m meeting the A12 indicator. Based
on landscape	e position, vegetation	i, hydrolog	ly, and somewhat po	oorly dra	ained soil	s, a posi	tive wetland determination	on was made.

Project/Site: Downing Farm	City/County: C Waukesha/Waukesha Co Sampling Date: 6/4/2019
Applicant/Owner: John Donovan, Belinski Homes	State: WI Sampling Point: P11
Investigator(s): Jeff Kraemer, Heartland Ecological Group	Section, Township, Range: T7N, R19E, S21
	· · · · · · · · · · · · · · · · · · ·
Subregion (LRR or MLRA): LRR K Lat:	Long: Datum:
Soil Map Unit Name: Lamartine silt loam (LmB)	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly distu	rbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problem	atic? (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 X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID:
woodland along the northern boundary of the study area.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves ((B9) Surface Soil Cracks (B6) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	(B9) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15)	(B9) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor	(B9) Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (Aquatic Fauna (B13)) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres	(B9) Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (Aquatic Fauna (B13) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced In	(B9) Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) ron (C4) Stunted or Stressed Plants (D1)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction in	Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) ron (C4) Stunted or Stressed Plants (D1) in Tilled Soils (C6) X Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction i Iron Deposits (B5) Thin Muck Surface (C7)	Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) ron (C4) Stunted or Stressed Plants (D1) in Tilled Soils (C6) X Geomorphic Position (D2)) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction in	Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) ron (C4) Stunted or Stressed Plants (D1) in Tilled Soils (C6) X Geomorphic Position (D2)) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction i Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remainded)	(B9) Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) ron (C4) Stunted or Stressed Plants (D1) in Tilled Soils (C6) X o) Shallow Aquitard (D3) rks) Microtopographic Relief (D4)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction i Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remains) Sparsely Vegetated Concave Surface (B8) Field Observations:	Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) ron (C4) Stunted or Stressed Plants (D1) in Tilled Soils (C6) X Geomorphic Position (D2)) Shallow Aquitard (D3) rks) Microtopographic Relief (D4) X FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction i Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remains) Sparsely Vegetated Concave Surface (B8) Field Observations:	
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction i Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remains) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches)	(B9) Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) ron (C4) Stunted or Stressed Plants (D1) in Tilled Soils (C6) X Geomorphic Position (D2) y: 20
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction i Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remains) Sparsely Vegetated Concave Surface (B8) Start (B8) Field Observations: No X Depth (inches) Water Table Present? Yes No Depth (inches)	(B9) Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) ron (C4) Stunted or Stressed Plants (D1) in Tilled Soils (C6) X Geomorphic Position (D2) y: 20
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction i Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remains) Sparsely Vegetated Concave Surface (B8) Saturation Present? Yes X No Depth (inches) Saturation Present? Yes X No Depth (inches)	(B9) Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) orn (C4) Stunted or Stressed Plants (D1) in Tilled Soils (C6) X y: 20 y: 20 y: 16 Wetland Hydrology Present? Yes Yes X
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Marl Deposits (B15) Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Oxidized Rhizospheres Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Recent Iron Reduction i Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remains) Sparsely Vegetated Concave Surface (B8) Staturation in Remains) Field Observations: No Depth (inches) Water Table Present? Yes X No Depth (inches) Saturation Present? Yes X No Depth (inches) Saturation Present? Yes X No Depth (inches) Saturation Present? Yes X No Depth (inches)	(B9) Surface Soil Cracks (B6) (B9) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) orn (C4) Stunted or Stressed Plants (D1) in Tilled Soils (C6) X y: 20 y: 20 y: 16 Wetland Hydrology Present? Yes Yes X

	Species?	Status	Dominance Test worksheet:		
50	Yes	FAC	Number of Densinent Origina		
30	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	6	(A)
			Total Number of Dominant		
			Species Across All Strata:	10	(B)
			Porcent of Dominant Species		
			That Are OBL, FACW, or FAC:	60.0%	(A/E
			Prevalence Index worksheet:		
80	=Total Cover		Total % Cover of:	Multiply by	:
)			OBL species 12 x	1 = 12	
10	Yes	FACW	FACW species 60 x	2 = 120)
5	Yes	FACU	FAC species 60 x	3 = 180)
5	Yes	FACU	FACU species 47 x	4 = 188	3
			UPL species 0 x	5 = 0	
			Column Totals: 179 (A	A) 500) (E
			Prevalence Index = B/A =	2.79	
			Hydrophytic Vegetation Indicat	ors:	
20	=Total Cover		1 - Rapid Test for Hydrophyti	c Vegetation	
			X 2 - Dominance Test is >50%	-	
20	Yes	FACU	X 3 - Prevalence Index is ≤3.0 ¹		
10	Yes	FACW		s ¹ (Provide s	upport
10	Yes	FACW	data in Remarks or on a s	eparate shee	et)
10	Yes	FACU	Problematic Hydrophytic Veg	etation ¹ (Exp	olain)
10	Yes	OBL			,
8	No	FAC			y mus
3	No	FACU			
2	No	OBL	_		
2	No	FACU	31	,	
2	No	FAC	Oralia atabash - Mtarahanta I		
2	No	FACU			. DBH
79	=Total Cover				
)					
			-	greater than	3.28 ft
			Hydrophytic		
			Vegetation Present? Yes X	No	
	=Total Cover				
	$ \begin{array}{c} 10 \\ 5 \\ 5 \\ 20 \\ 20 \\ 20 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2$	10 Yes 5 Yes 5 Yes 5 Yes 20 =Total Cover 20 Yes 10 Yes 2 No 2 No 2 No 2 No 2 No 2 No	10 Yes FACW 5 Yes FACU 5 Yes FACU 5 Yes FACU 20 =Total Cover	Percent of Dominant Species 80 =Total Cover 10 Yes 5 Yes 5 Yes 5 Yes 5 Yes 5 Yes 60 x 5 Yes 7 FACU 5 Yes 7 FACU 7 Yes 7 FACU 7 Prevalence Index 8 No 70 Yes 70 FACU 70 FACU 70 FACU 70 FACU	Species Across All Strata: 10 Species Across All Strata: 10 Percent of Dominant Species 60.0% That Are OBL, FACW, or FAC: 60.0% Prevalence Index worksheet: Total % Cover of: Multiply by 0 Yes FACW 5 Yes FACU FAC species 60 x 2 = 120 5 Yes FACU FAC species 60 x 3 = 180 5 Yes FACU FAC species 60 x 3 = 180 5 Yes FACU FAC species 60 x 5 = 0 Column Totals: 179 (A) 500 9

Profile Desc	cription: (Describe	to the de	pth needed to docu	ument t	he indica	ator or c	onfirm the absence	of indicators.)
Depth	Matrix			x Featur		<u> </u>		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 3	10YR 3/2	97	10YR 4/6	3	С	М	Loamy/Clayey	SiCL
3 - 16	10YR 4/2	92	10YR 5/6	8	С	М	Loamy/Clayey	SiCL
16 - 20	10YR 5/1	88	10YR 5/6	12	С	М	Loamy/Clayey	SiCL
¹ Type: C=Co	oncentration, D=Dep	letion, RM	I=Reduced Matrix, N	/IS=Mas	ked San	d Grains.	² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil		,						for Problematic Hydric Soils ³ :
Histosol			Polyvalue Belo		ce (S8) (LRR R,		/luck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B	·				Prairie Redox (A16) (LRR K, L, R)
	stic (A3)		Thin Dark Surf					Aucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4) d Layers (A5)		High Chroma S					lue Below Surface (S8) (LRR K, L) ark Surface (S9) (LRR K, L)
	d Below Dark Surface	e (A11)	Loamy Gleyed			ι κ ικ , Ε)		anganese Masses (F12) (LRR K, L, R)
	ark Surface (A12)	5 (711)	X Depleted Matri		(12)			ont Floodplain Soils (F19) (MLRA 149B)
	lucky Mineral (S1)		Redox Dark Su		-6)			Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy G	Bleyed Matrix (S4)		Depleted Dark	Surface	e (F7)			arent Material (F21)
Sandy R	Redox (S5)		Redox Depress		8)		Very S	hallow Dark Surface (F22)
	Matrix (S6)		Marl (F10) (LR	R K, L)			Other((Explain in Remarks)
Dark Su	rface (S7)							
³ Indicators o	f hydrophytic vegetat	tion and w	etland hvdroloαv mι	ust be p	resent. u	nless dis	turbed or problematic	
	Layer (if observed):		, , , , , , , , , , , , , , , , , , , ,	I	,			
Туре:								
Depth (ir	nches):						Hydric Soil Pres	ent? Yes <u>X</u> No
Remarks:							-	

Project/Site: Downing Farm	City/County: C Wai	ikesha/Waukesha Co Sampling Date: <u>6/4/2019</u>		
Applicant/Owner: John Donovan, Belinski Hor	nes	State: WI Sampling Point: P12		
Investigator(s): Jeff Kraemer, Heartland Ecologica	wnship, Range: T7N, R19E, S21			
Landform (hillside, terrace, etc.): Sideslope	Local relief (concave, conv	ex, none): None Slope %: 3 - 5		
Subregion (LRR or MLRA): LRR K	Lat: Long:	Datum:		
Soil Map Unit Name: Lamartine silt loam (LmB)	NWI classification: N/A			
Are climatic / hydrologic conditions on the site typic	cal for this time of year? Yes X	No (If no, explain in Remarks.)		
Are Vegetation, Soil, or Hydrology	significantly disturbed? Are "Nor	— mal Circumstances" present? Yes X No		
Are Vegetation, Soil, or Hydrology		d, explain any answers in Remarks.)		
		tions, transects, important features, etc.		
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes				
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or				
lot near the northern boundary of the study area.	- -	Sample point recorded within an upland grazed wood		
HYDROLOGY				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; c	neck 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 (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)	Microtopographic Relief (D4)			

Sparsely Vegetated Co	-			,	FAC-Neutral Test	. ,		
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 Hydrology Present	Yes	No X	(
(includes capillary fringe)		_						
Describe Recorded Data (s	tream gauge	e, monitoring	well,	aerial photos, previous i	nspections), if available:			
Remarks:								
No wetland hydrology indic	ators observ	ed.						

3.	<u>Tree Stratum</u> (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
2.	1. Fraxinus pennsylvanica	50	Yes	FACW	Number of Dominant Species		
4.	2					1	(A)
4.	3				Total Number of Dominant		
6.	4.					4	(B)
6.	5				Percent of Dominant Species		
50 =Total % Cover of: Multiply by: Sapling/Shrub Stratum (Plot size: 15ft) Ves FACU FACW species 0 x 1 = 0 1. Lonicera X bella 10 Yes FACU FACW species 50 x 2 = 100 2. Rosa multiflora 5 Yes FACU FAC species 12 x 3 = 36 3.	6					25.0%	(A/B
Saping/Shrub Stratum (Plot size: 15th) 1. Lonicera X bella 10 Yes FACU FACW species 50 x 2 = 100 2. Rosa multiflora 5 Yes FACU FAC species 12 x 3 = 36 3.	7				Prevalence Index worksheet:		
I. Lonicera X bella 10 Yes FACU FACW species 50 x 2 = 100 2. Rosa multiflora 5 Yes FACU FACU species 12 x 3 = 36 3.		50	=Total Cover		Total % Cover of:	Multiply by:	
2. Rosa multiflora 5 Yes FACU FAC species 12 x 3 = 36 3.	Sapling/Shrub Stratum (Plot size: 15ft)			OBL species 0 x	1 =0	
3.	1. Lonicera X bella	10	Yes	FACU	FACW species 50 x	2 = 100	
4.	2. Rosa multiflora	5	Yes	FACU	FAC species 12 x	3 =36	
5.	3.				FACU species 114 x	4 = 456	
6.	4				UPL species 0 x	5 = 0	
6.	5.				Column Totals: 176 (A	A) 592	(B
7.	6				Prevalence Index = B/A =	3.36	
Herb Stratum (Plot size:5ft) 2 - Dominance Test is >50% 1. Schedonorus pratensis 10 No FACU 2 - Dominance Test is >50% 2. Poa pratensis 10 No FACU 4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet) 3. Viola sororia 10 No FACU 4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet) 4. Alliaria petiolata 8 No FACU 4 - Morphological Adaptations ¹ (Explain) 5. Dactylis glomerata 5 No FACU 4 - Morphological adwetland hydrology mus be present, unless disturbed or problematic. 6. Solidago canadensis 1 No FACU Definitions of Vegetation Strate: 7. Circaee canadensis 1 No FACU Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 10.					Hydrophytic Vegetation Indicat	ors:	
1. Schedonorus pratensis 70 Yes FACU 3 - Prevalence Index is ≤3.0 ¹ 2. Poa pratensis 10 No FACU 4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet) 3. Viola sororia 10 No FAC 4. Alliaria petiolata 8 No FACU 5. Dactylis glomerata 5 No FACU 5. Dactylis glomerata 3 No FACU 6. Solidago canadensis 3 No FACU 7. Cirsium vulgare 2 No FACU 8. Geum canadense 2 No FACU 9. Circaea canadensis 1 No FACU 10.		15	=Total Cover		1 - Rapid Test for Hydrophyti	c Vegetation	
2. Poa pratensis 10 No FACU 4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet) 3. Viola sororia 10 No FAC 4. Alliaria petiolata 8 No FACU 5. Dactylis glomerata 5 No FACU 6. Solidago canadensis 3 No FACU 7. Cirsium vulgare 2 No FACU 8. Geum canadense 2 No FACU 9. Circaea canadensis 1 No FACU 10.	Herb Stratum (Plot size: 5ft)				2 - Dominance Test is >50%		
3. Viola sororia 10 No FAC data in Remarks or on a separate sheet) 4. Alliaria petiolata 8 No FAC Problematic Hydrophytic Vegetation ¹ (Explain) 5. Dactylis glomerata 5 No FACU Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic. 6. Solidago canadensis 3 No FACU Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic. 7. Cirsium vulgare 2 No FACU Definitions of Vegetation Strata: 8. Geum canadense 2 No FACU Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic. 10.	1. Schedonorus pratensis	70	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹		
a. Alliaria petiolata 10 No FAC	2. Poa pratensis	10	No	FACU	4 - Morphological Adaptation	s ¹ (Provide su	pportii
5. Dactylis glomerata 5 No FACU ¹ Indicators of hydric soil and wetland hydrology mustic. 6. Solidago canadensis 3 No FACU be present, unless disturbed or problematic. 7. Cirsium vulgare 2 No FACU Definitions of Vegetation Strata: 8. Geum canadense 2 No FACU Definitions of Vegetation Strata: 9. Circaea canadensis 1 No FACU Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height 10.	3. Viola sororia	10	No	FAC	data in Remarks or on a se	eparate sheet))
6. Solidago canadensis 3 No FACU 7. Cirsium vulgare 2 No FACU 8. Geum canadense 2 No FACU 9. Circaea canadensis 1 No FACU 10. 1 No FACU Definitions of Vegetation Strata: 10. 1 No FACU Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height and greater than or equal to 3.28 ft (1 m) tall. 11.	4. Alliaria petiolata	8	No	FACU	Problematic Hydrophytic Veg	etation ¹ (Expl	ain)
6. Solidago canadensis 3 No FACU be present, unless disturbed or problematic. 7. Cirsium vulgare 2 No FACU Definitions of Vegetation Strata: 8. Geum canadense 2 No FAC Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height diameter at breast height (DBH), regardless of height and greater than or equal to 3.28 ft (1 m) tall. 10.	5. Dactylis glomerata	5	No	FACU			
8. Geum canadense 2 No FAC 9. Circaea canadensis 1 No FACU 10. 1 No FACU 11. 1 No FACU 11. 1 No FACU 11. 1 No FACU 11. 1 No FACU 12. 111 =Total Cover Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 12. 111 =Total Cover Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. 2. 3.	6. Solidago canadensis	3	No	FACU			must
9. Circaea canadensis 1 No FACU If the e - Woody plants 3 in (7.6 cm) of more in diameter at breast height (DBH), regardless of height diameter at breast height (DBH), regardless of height 3 in 2.0 cm 10.	7. Cirsium vulgare	2	No	FACU	Definitions of Vegetation Strata	:	
9. Circaea canadensis 1 No FACU diameter at breast height (DBH), regardless of height 10.	8. Geum canadense	2	No	FAC	_		
11.	9. Circaea canadensis	1	No	FACU			height
11.	10.				Oralla alabash - Missila alaata k		
12.	11.						рвн
111 =Total Cover of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30ft) Woody vines greater than 3.28 ft tall. 1. Woody vines – All woody vines greater than 3.28 ft tall. 2. Hydrophytic 3. Hydrophytic 4. Total Cover							
Woody Vine Stratum (Plot size: 30ft) Woody vines greater than 3.28 ft height. 1.		111	=Total Cover				ardies
1.	Woody Vine Stratum (Plot size: 30ft)			Marsharden Allanda da da da		00 # :
2.		_ ′				greater than 3.	.28 π Ι
3.	0	_					
4 Vegetation Present? Yes No _X		_					
=Total Cover					_	No X	
			=Total Cover				
An additional approximately 20% cover worth of dead ash trees are present. No woody vines observed. Upland woodlot.	· · ·	• /					

Indicators Color (moist) % Type1 Local Texture Remarks 0 - 11 10YR 3/3 100			to the dep				ator or c	onfirm th	ne absence of indica	itors.)	
0 - 11 10YR 3/3 100 Loamy/Clayey SICL 11 - 18 10YR 5/4 100 Indicators for Problematic Hydric Solis? 11 - 18 10YR 5/4 Polyalue Below Surface (S8) (LRR R, Hydric Solis? 2 cm Muck (A10) (LRR K, L, MLRA 149E) 11 - 18 Histosc (A1) MLRA 149B) 5 cm Muck Pator Peat (S3) (LRR K, L) 11 - 110 Eark Surface (A1) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) 12 - 110 Eark Surface (A1) Loamy Gley	Depth (inches)	Matrix Color (moist)	0/_				\log^2	Те	ovturo	Roma	arke
11 - 18 10YR 5/4 100 Loamy/Clayey SiCL	<u> </u>	. , , , ,			70	туре					
Image: Sufface (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Image: Sufface (A1) Histic Epipedon (A2) MLRA 149B) Coast Prairie Reduck (A10) (LRR K, L) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Reduck (A10) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Stratified Matrix (S4) Depleted Matrix (F2) Trinn-Mangarese Masses (F12) (LRR K, L) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F6) Mesic Spodic (TA6) (MLR A 1444, 145, 1444, 145, 1444, 145, 145) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Surface (S5) Mean (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Mari (F10) (LRR K, L) Other (Explain in Remarks) 3 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If Observed): Type:											
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 149 Coast Prairie Redox (A16) (LRR K, L, J Coast Prairie Redox (A16) (LRR K, L, J Stratified Layers (A5) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) 5 cm Mucky Peat or Peat (S3) (LRR K, Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F2) Iron-Manganese Masses (F12) (LRR K, Piedmont Floodplain Soils (F19) (MLR Mesic Spodic (TA6) (MLRA 144A, 145, Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Redox Depressions (F8) Very Shallow Dark Surface (F22) 3 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Mesci Present? Yes_ No	11 - 18	10YR 5/4	100			·		Loam	y/Clayey	SiC	L
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, MLRA 149B) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLR 144A, 145, Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Other (Explain in Remarks) Dark Surface (S7) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes_ No Type:											
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Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, MLRA 149B) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLR 144A, 145, Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Other (Explain in Remarks) Dark Surface (S7) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes_ No Type:											
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Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, L) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLR Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, Sandy Redox (S5) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) ************************************	Hydric Soil I	ndicators:							Indicators for Prob	lematic Hydi	ric Soils ³ :
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, Polyvalue Below Surface (S3) (LRR K, Stratified Layers (A5) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLR Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, Sandy Redox (S5) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Type: Depth (inches): Yes No						ice (S8) (LRR R,				-
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Dark Surface (S7) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No					•	8)					-22)
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): YesNo				Marl (F10) (LF	(R K, L)				Other (Explain in	n Remarks)	
Restrictive Layer (if observed):		Tace (37)									
Type:	³ Indicators of	hydrophytic vegeta	tion and w	etland hydrology m	ust be p	resent, u	nless dis	turbed or	problematic.		
Depth (inches): Yes No		_ayer (if observed):	:								
	-										•• • • •
Remarks:		iches):						Hydri	c Soil Present?	Yes	<u>No X</u>
No hydric soil indicators observed.		lindiactora obconva	d								
No hydric soli indicators observed.	NO NYARIC SOI	indicators observe	d.								

Project/Site: Downing Farm	City/County: C Waukesha/Waukesha Co Sampling Date: 6/4/2019
Applicant/Owner: John Donovan, Belinski Homes	State: WI Sampling Point: P13
Investigator(s): Jeff Kraemer, Heartland Ecological Group	Section, Township, Range: T7N, R19E, S21
Landform (hillside, terrace, etc.): Sideslope Loca	al relief (concave, convex, none): <u>None</u> Slope %: <u>3 - 5</u>
Subregion (LRR or MLRA): LRR K Lat:	Long: Datum:
Soil Map Unit Name: Lamartine silt Ioam (LmB)	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation X , Soil , or Hydrology significantly dist	urbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problem	natic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No X
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted and indicates that conditions are normanorthern property boundary.	al for the time of year. Sample point recorded within upland pasture near the

HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is require	Surface Soil Cracks (B6)					
Surface Water (A1)	Drainage Patterns (B10)					
High Water Table (A2)	High Water Table (A2) Aquatic Fauna (B13)					
Saturation (A3)	aturation (A3) Marl Deposits (B15)					
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)				
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Ro	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	s (C6)	Geomorphic Position (D2)			
Iron Deposits (B5)	_ · · · · · · · · · · · · · · · · · · ·					
Inundation Visible on Aerial Imagery (B7		Microtopographic Relief (D4)				
Sparsely Vegetated Concave Surface (B	FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present? Yes No X			
		, rochair				
(includes capillary fringe)		Wettan				
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(includes capillary fringe)			· · · ·			
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(includes capillary fringe) Describe Recorded Data (stream gauge, mor Remarks:			· · · ·			

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator 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: 1 (B)			
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)			
7				Prevalence Index worksheet:			
		=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15ft)				OBL species 0 x 1 = 0			
1				FACW species 0 x 2 = 0			
2.				FAC species 0 x 3 = 0			
3.				FACU species 100 x 4 = 400			
4.				UPL species 0 x 5 = 0			
5.				Column Totals: 100 (A) 400 (B)			
6.				Prevalence Index = $B/A = 4.00$			
7.				Hydrophytic Vegetation Indicators:			
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
<u>Herb Stratum</u> (Plot size: 5ft)				2 - Dominance Test is >50%			
1. Dactylis glomerata	70	Yes	FACU	3 - Prevalence Index is < 3.01			
2. Poa pratensis	10	No	FACU	4 - Morphological Adaptations ¹ (Provide supporting			
3. Trifolium pratense	10	No	FACU	data in Remarks or on a separate sheet)			
4. Taraxacum officinale	5	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)			
5. Solidago canadensis	5	No	FACU				
5. Solidago canadensis 6.			FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
7				Definitions of Vegetation Strata:			
8				Tree – Woody plants 3 in. (7.6 cm) or more in			
9				diameter at breast height (DBH), regardless of height.			
10				Sapling/shrub – Woody plants less than 3 in. DBH			
11				and greater than or equal to 3.28 ft (1 m) tall.			
12.				Herb – All herbaceous (non-woody) plants, regardless			
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Woody Vine Stratum (Plot size: 30ft)				Woody vines – All woody vines greater than 3.28 ft in			
1				height.			
2.							
3.				Hydrophytic Vegetation			
4.				Present? Yes No X			
		=Total Cover					
Remarks: (Include photo numbers here or on a separ	ate sheet.)						
No trees, shrubs, or woody vines observed. Upland pa	,						

Profile Desc	ription: (Describe	to the de				ator or c	onfirm the absence of ind	cators.)	
Depth	Matrix			x Featu		2			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0 - 8	2.5Y 3/3	100					Loamy/Clayey	SiL	. <u> </u>
8 - 12	10YR 4/3	85	10YR 4/6	5	С	М	Loamy/Clayey	SiC	L
	10YR 2/1	10							
12 - 20	N 2.5/	100					Loamy/Clayey	SiL	
17 0.0							2		
	ncentration, D=Depl	letion, RM	=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.			
Hydric Soil Indicators:					Indicators for Pro	-			
	Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B)					2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)			
	Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA								
	Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L)					Polyvalue Below Surface (S8) (LRR K, L)			
	Layers (A5)		Loamy Mucky					face (S9) (LRR	
	Below Dark Surface	e (A11)	Loamy Gleyed			, _,			2) (LRR K, L, R)
Thick Dark Surface (A12) Depleted Matrix (F3)				Piedmont Floodplain Soils (F19) (MLRA 149B)					
	Sandy Mucky Mineral (S1) Redox Dark Surface (F6)				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Sandy Gl	Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7)				Red Parent Material (F21)				
Sandy Re	edox (S5)		Redox Depress	sions (F	8)		Very Shallow	Dark Surface (F	-22)
Stripped	Matrix (S6)		Marl (F10) (LR	R K, L)			Other (Explain	n in Remarks)	
Dark Sur	face (S7)								
³ Indicators of	hydrophytic vegetat	ion and w	etland hydrolody mi	ist he n	resent u	nless dist	turbed or problematic.		
	ayer (if observed):		cliand hydrology me	ist be p	resent, u	1033 013			
Туре:									
Depth (inches):					Hydric Soil Present?	Yes	No X		
Remarks:							-		
No hydric soil	l indicators observed	d. Mixed s	lope wash in the soi	l profile	-				

ASSURED WETLAND DELINEATION REPORT



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

Appendix D | Site Photographs

Solutions for people, projects, and ecological resources.





Photo #1 Sample point P1



Photo #2 Sample point P1



Photo #3 Sample point P1



Photo #5 Sample point P2



Photo #4 Sample point P1



Photo #6 Sample point P2



Downing Farm Property John Donovan Photos taken 6/04/2019



Photo #7 Sample point P2



Photo #8 Sample point P2



Photo #9 Sample point P3



Photo #11Sample point P3



Photo #10 Sample point P3



Photo #12 Sample point P3





Photo #13 Sample point P3



Photo #14 Sample point P4



Photo #15 Sample point P4



Photo #17 Sample point P5



Photo #16 Sample point P4



Photo #18 Sample point P5





Photo #19 Sample point P5



Photo #20 Sample point P5



Photo #21 Sample point P6



Photo #23 Sample point P6



Photo #22 Sample point P6



Photo #24 Sample point P6





Photo #25 Sample point P7



Photo #26 Sample point P7



Photo #27 Sample point P7



Photo #29 Sample point P7



Photo #28 Sample point P7

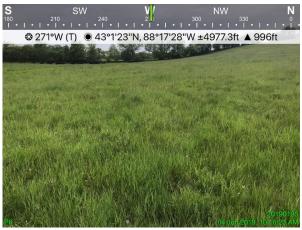


Photo #30 Sample point P8





Photo #31 Sample point P8



Photo #33 Sample point P8



Photo #35 Sample point P9



Photo #32 Sample point P8



Photo #34 Sample point P9



Photo #36 Sample point P9





Photo #37 Sample point P9



Photo #39 Sample point P10



Photo #41 Sample point P10



Photo #38 Sample point P10



Photo #40 Sample point P10



Photo #42 Sample point P11





Photo #43 Sample point P11



Photo #45 Sample point P12



Photo #47 Sample point P12



Photo #44 Sample point P11



Photo #46 Sample point P12



Photo #48 Sample point P12



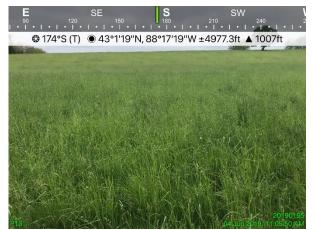


Photo #49 Sample point P13



Photo #51 Sample point P13



Photo #50 Sample point P13



Photo #52 Sample point P13

ASSURED WETLAND DELINEATION REPORT



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

Appendix E | Delineator Qualifications

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Jeff Kraemer

Principal Scientist 506 Springdale Street Mount Horeb, WI 53572 jeff@heartlandecological.com (608) 490-2450

Jeff is the founder of Heartland Ecological Group, Inc. With over 16 years of experience as an environmental consultant, ecological and regulatory policy practitioner, and managing business leader, Jeff provides proven value to clients with his vast experience guiding often complex projects through environmental regulatory and technical challenges applied throughout a diversity of industry sectors. Jeff is recognized by the Wisconsin Department of Natural Resources Wetland Delineation Assurance Program and is the longest standing assured wetland delineator in the state of Wisconsin.

Jeff is a recognized expert in the field of wetland ecology and delineation; wetland restoration and mitigation banking; and regulatory policy and permitting associated with wetlands and waterways. His experience includes: Wetland Determination, Delineation & Functional Assessment; Wetland Restoration, Mitigation, Banking & Monitoring; Botanical / Biological Surveys & Natural Resource Inventories; Rare Species Surveys, Conservation Plans & Monitoring; Habitat Restoration, Wildlife Surveys, SCAT surveys, Environmental Assessments; Local, state, federal permit applications; Expert Witness testimony; and Regulatory permit compliance.

Education

MS, Biological Sciences (Emphasis in Wetland Ecology), University of Wisconsin – Milwaukee, WI, 2003

BS, Biological Sciences (Emphasis in Aquatic Biology) University of Wisconsin – La Crosse, WI, 1999

Regional Supplement Field Practicum Wetland Training Institute (WTI) Portage, WI, 2017

Basic and Advanced Wetland Delineation Training, Continuing Education and Extension, UW-La Crosse, WI, 2001

Identification of Sedges Workshop, UW-Milwaukee, Saukville, WI, 2001

Vegetation of Wisconsin Workshop, UW-Milwaukee, Saukville, WI 2000

Environmental Corridor Delineation Workshop, Southeastern Wisconsin Regional Planning Commission (SEWRPC), 2004 Wetland Soils and Hydrology Workshop, Wetland Training Institute, Toledo, OH, 2003

Critical Methods in Wetland Delineation University of Wisconsin - La Crosse Continuing Education and Extension Madison, WI, 2006 - 2018

Federal Wetland Regulatory Policy Course Wetlands Training Institute (WTI) Cottage Grove, WI, 2010

Registrations

Professionally Assured Wetland Delineator, Wisconsin Department of Natural Resources (2005-Present)

Wetland Professional in Training (WPIT), Society of Wetland Scientists Certification Programs



City of Madison, Various Projects, Madison, WI

Completed numerous wetland delineations on behalf the City of Madison in support of stormwater improvement and other facility improvement projects.

Private Landowners & Recreational Properties

Erin Hills Golf Course, Washington County, WI

Completed wetland delineations throughout the approximate 200-acre golf course property. Provided wetland regulatory guidance in support of the renovation of Erin Hills in preparation for hosting the 2017 U.S. Open championships.

La Belle Golf Course, The Prestwick Group, Inc., Lac La Belle, WI

Completed wetland delineations throughout the approximate 250-acre golf course property. Provided wetland regulatory guidance in support of the renovation of the La Belle Golf Course.

Big Hollow Wetland Mitigation Bank, Spring Green, WI

Completed wetland delineations on the approximate 200-acre property and evaluated the potential for developing a private wetland mitigation bank. Coordinated detailed hydrology monitoring and modeling to address potential off-site water impacts and support the development of the hydrology restoration plan. Completed the prospectus documents and submittals to the Interagency Review Team. Organized and led public informational meetings, and various stakeholder meetings to address local concerns.

The Farm Golf Course, Cottage Grove, WI

Completed wetland delineations throughout the approximate 100-acre golf course property. Provided wetland regulatory guidance in support of residential development adjacent to the golf course.

ASSURED WETLAND DELINEATION REPORT



Belinski Homes Downing Farm Project #: 20190195 July 26, 2019

Appendix F | NAIP Aerial Imagery 2005 - 2018

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