evergreen consultants LLC
PO Box 680 • Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com

Pumpkin Hollow- North

Professionally Assured Wetland Delineation Report

Project Number: DAN21-011-01
Property Address: 4404 Hoepker Road, City of Madison, Dane County, Wisconsin
Parcel ID: 251-0810-094-0098-8

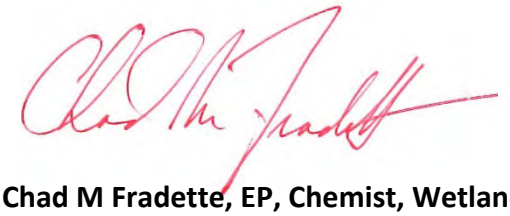
October 12, 2021

Report Request by

WangardPartners INC
INVESTMENT REAL ESTATE BROKERS AND DEVELOPERS
1200 N. Mayfoari Road, Suite 410
Milwaukee, Wisconsin 53226

evergreen consultants LLC
PO Box 680 • Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com

Field Work Certification:



Chad M Fradette, EP, Chemist, Wetland Scientist
Wisconsin DNR Professional Assured Wetland Delineator
Lead Wetland Delineator
(920) 615-0019 *chad@evergreenwis.com*

Shyann P Banker, Environmental Specialist
(920) 915-2629 *shyann@evergreenwis.com*

Table of Contents

Appendices

Introduction

Evergreen was retained by Wangard Partners to perform a professionally assured wetland delineation. The property is located at 4404 Hoepker Road, City of Madison, Wisconsin. The study area is approximately 33.4 acres in size and is in part of the Southeast ¼ of the Southeast ¼ Section 09, Township 08 North, Range 10 East, City of Madison, Dane County, Wisconsin. Site Maps can be found in Appendix A.

The wetland delineation was conducted on October 12, 2021, by Chad Fradette, a Wisconsin Department of Natural Resources (WDNR) Professionally Assured Wetland Delineator. The delineation was conducted for purposes of a development of a business. No recent disturbances were observed, and most of the study area was considered to have abnormal circumstances due to most of the Site being cropland, planted to alfalfa.

No wetlands were identified during the fieldwork.
Five sample points were placed within the study area.

An antecedent precipitation evaluation was conducted for the three months prior the site visit. It was determined climatic conditions were drier than normal at the time of the site visit. The antecedent precipitation evaluation, WETS data and Palmer Drought Index reports for the area at the time of the site visit are included in Appendix F.

Wetland boundaries were identified using procedures outlined in the 1987 Corps of Engineering Wetland Delineation Manual and Midwest Regional Supplement. The areas identified as wetland were identified based on transitions from wetland to upland vegetation, hydrology indicators and hydric soil indicators, or lack thereof, in wetland areas versus upland areas, topographical position and best professional judgment. See Appendix A for the Wetland Determination Map. Wetland data sheets are included in Appendix G.

Personnel

Mr. Fradette is an Environmental Professional, Analytical Chemist, WDNR Professionally Assured Wetland Delineator and has over eighteen years of experience conducting wetland delineations. Mr. Fradette biannually attends Advanced Wetland Delineation Training course and has completed Grasses/Sedges/Rushes course sponsored by UW-La Crosse Continuing Education/Extension. Mr. Fradette has also completed the Advanced Hydric Soils and Problematic Wetland Delineation courses conducted by the Wetland Training Institute and the Advanced Wetland Plant ID: Grasses/Sedges/Rushes and Aerial Photo Review courses conducted by the USACE and the University of Minnesota Wetland Delineator Certification Program.

Mrs. Shyann Banker, Environmental Specialist has five years of experience conducting wetland delineations. Mrs. Banker has completed the Basic and Advanced Wetland Delineation Training and Basic Plant Identification for Wetlands courses sponsored by UW-La Crosse Continuing Education/Extension.

Methodology

Available topographic maps, survey maps, WWI and NWI maps, County Soil Survey maps, wetland indicator and hydric soil maps and all available aerial photos were reviewed prior to visiting the property to identify potential wetland areas. These figures are included in Appendix A.

Antecedent precipitation information was evaluated through use of available local WETS data for the three months prior to the delineation to determine if conditions were within normal, wetter than normal or drier than normal at the time of the site visit. The Antecedent Precipitation Evaluation, WETS Data and the Palmer Drought Index reports are included in Appendix F.

Aerial images on cultivated or previously cultivated sites were reviewed for wet signatures following the Minnesota Board of Water and Soil Resources (BWSR) and St Paul District Corps of Engineers *Guidance for Offsite Hydrology/Wetland Determinations, 2016.*

Examination of vegetation, soils, and hydrology, as outlined in the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Midwest Regional Supplement, were used to characterize, and determine wetland boundaries. The Natural Resources Conservation Service (NRCS) Field Indicators of Hydric Soils in the United States Guide was also utilized to help identify hydric soils at the site. All available information including transitions in vegetation, soils and hydrology, review of aerial photos, antecedent precipitation analysis, topographic position, along with best professional judgment was applied.

Sample transects were established in a representative wetland to upland transition zone. The transects were comprised of two or more sample points located along a line running perpendicular to the wetland edge, with at least one point in obvious wetland and one point in obvious upland. A field data form was completed for each of the upland and wetland sample points. The sample locations were also located with a GPS and are indicated on Wetland Determination Map within Appendix A. Field data forms are included in Appendix G.

Wetland classification was performed according to Cowardin Classification of Wetlands and Deepwater Habitats of the United States (U.S. Fish and Wildlife Service, 1979) systems. Vegetation was identified using suitable keys (Eggers and Reed, 2014; Chadde, 1998) and a plant's hydrophytic status was determined using the most recent Midwest Region – National Wetland Plant List (U.S. Army Corps of Engineers, 2016). Wetland boundaries were determined based on the comprehensive wetland delineation method as defined in the *Corps of Engineers Wetlands Delineation Manual* (USACE, Waterways Experiment Station, Wetlands Research Program Technical Report Y-87-1) and the *Regional Supplement to the 1987 Corps of Engineers Wetland Delineation Manual:* Midwest *Regions* (Midwest Regional Supplement) (USACE ERDC, 2012).

Mapping

No wetlands were observed on the Site. The test pit locations are shown on the Wetland Determination map located in Appendix A, Site Maps.

Results

Off Site Analysis

Land Use

Aerial photographs from 1968 through 2020 were reviewed. The 1968 aerial photograph shows the Site as cropland with a wooded ditch line in the southeast corner of the study area.

A hydrology assessment was completed as the Site has been cropland historically. Three areas were reviewed for wet signature based on soils and topography. Area A was the only area that required a review in the field. All the signature in Area A was related to a grassed swale, that was avoided during planting for erosion control purposes. There was no hydric soil or other indicators observed, therefore Area A was determined to not have any wetlands present. The complete review of the Historic Aerial Photographs and Hydrology Assessment is in Appendix D.

Original Land and Bordner Survey

The Original Survey shows the Site in the southeast corner of Section 9, with the northwest corner of the Site being within a prairie. The Original Survey Notes describe the vegetation in this area as prairie and a wooded area of black and bur oak. The Bordner Survey shows the study area as cleared cropland. The Original Survey, Survey Notes, and Bordner Survey are in Appendix C.

Topography

The topography at the Site ranges from an elevation of 941 feet down to 882 feet. The topography of the Site slopes towards the ditch in the southeast corner of the study area. The Topographic Map is in Appendix A.

Precipitation

An antecedent precipitation evaluation was conducted for the three months prior the site visit. Precipitation data from the Madison Dane Regional Airport, WI WETS station indicates climatic conditions were drier than normal at the time of the site visit. The Palmer Drought Index also indicates conditions were drier than normal (Moderate Drought, -2.00 to -2.99) for this location at the time of the site visit. Based on evaluation of both sources of data, it was determined climatic conditions were drier than normal at the time of the site visit. The antecedent precipitation evaluation, WETS data and Palmer Drought Index reports for the area at the time of the site visit are included in Appendix F.

Wetland Mapping

The WDNR Wisconsin Wetland Inventory (WWI) Map was reviewed and indicates the absence of wetlands in the study area. The WWI wetland indicator soils layer was also reviewed and indicates the presence of indicator soils in the western half of the study area. The study area is mapped as having Nonhydric and Predominantly Nonhydric soil within the study area. Indicator soils are soils which are commonly found in wetlands or have inclusions of soils that are commonly found in wetlands. The WDNR Surface Water Data Viewer (SWDV) was also reviewed and indicates the presence of an unnamed steam throughout the study area, the stream is mapped on the Wetland Delineation Map in Appendix A as a ditch.

The NWI Map was reviewed and indicates the absence of wetlands within the Site. The WWI, SWDV, and NWI Maps are in Appendix A.

Mapped Soils

The NRCS Web Soil Survey and the Soil Survey of Dane County, Wisconsin, indicate the presence of the following soil types:

Report—Hydric Rating by Map Unit (WI)

Hydric Rating by Map Unit (WI)–Dane County, Wisconsin				
Map Unit Symbol	**Map Unit Name**	**Hydric Percent of Map Unit**	**Hydric Category**	**Landform Hydric Minor Components**
DnB	Dodge silt loam, 2 to 6 percent slopes	0	WI Nonhydric	—
GwB	Griswold loam, 2 to 6 percent slopes	0	WI Nonhydric	—
GwC	Griswold loam, 6 to 12 percent slopes	0	WI Nonhydric	—
GwD2	Griswold loam, 12 to 20 percent slopes, eroded	0	WI Nonhydric	—
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	0	WI Nonhydric	—
MdD2	McHenry silt loam, 12 to 20 percent slopes, eroded	0	WI Nonhydric	—
PnB	Plano silt loam, till substratum, 2 to 6 percent slopes	0	WI Nonhydric	—
RaA	Radford silt loam, 0 to 3 percent slopes	10	WI Predominantly Nonhydric	Depressions
RnB	Ringwood silt loam, 2 to 6 percent slopes	0	WI Nonhydric	—
RnC2	Ringwood silt loam, 6 to 12 percent slopes, eroded	0	WI Nonhydric	—
TrB	Troxel silt loam, 0 to 3 percent slopes	0	WI Nonhydric	—
VrB	Virgil silt loam, 1 to 4 percent slopes	5	WI Predominantly Nonhydric	Interdrumlins

Report—Taxonomic Classification of the Soils

[An asterisk by the soil name indicates a taxadjunct to the series]

Taxonomic Classification of the Soils–Dane County, Wisconsin	
Soil name	**Family or higher taxonomic classification**
Dodge	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Drummer	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Elburn	
Elburn	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Griswold	
Griswold	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Griswold	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Kendall	
Kidder	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Lamartine	Fine-silty, mixed, superactive, mesic Aquollic Hapludalfs
Lapeer	Coarse-loamy, mixed, semiactive, mesic Typic Hapludalfs
Mayville	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
McHenry	Fine-loamy, mixed, superactive, mesic Typic Hapludalfs
Otter	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Plano	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Plano	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Radford	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Ringwood	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Sable	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sebewa	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiaquolls
St. Charles	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Troxel	Fine-silty, mixed, superactive, mesic Pachic Argiudolls
Virgil	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Wyocena	Coarse-loamy, mixed, semiactive, mesic Typic Hapludalfs

NRCS County Soil Survey Report is in Appendix E.

Field Investigation

No wetlands were identified during the fieldwork. Wetland determination data sheets (Appendix G) were completed at 5 sample points that were representative of the upland conditions near the boundary and where potential wetlands may be present based on the desktop review and field reconnaissance. Appendix B provides photographs, typically at the sample point locations of the wetlands and adjacent uplands. The wetland boundary and sample point locations are shown on Wetland Determination Map within Appendix A and the wetlands are summarized in Table 1 and detailed in the following section.

T1A

T1A was placed on a rocky forested hillslope. The soil was observed to a depth of 24 inches. Wetland hydrology and hydric soils were not present at this sample point; therefore, this sample point does not meet wetland criteria.

Dominant vegetation observed in T1A included boxelder maple (*Acer negundo*, FAC), common buckthorn (*Rhamnus cathartica*, FAC), and riverbank grape *(Vitis riparia, FAC).*

No groundwater or saturation was encountered to 24 inches.

T2A

T2A was placed on a shallow hillslope within an alfalfa field. This area has been a historic grassed swale constructed for erosion control. The soil was observed to a depth of 24 inches. Wetland hydrology, hydrophytic vegetation, and hydric soils were not present at this sample point, therefore this sample point does not meet wetland criteria.

Dominant vegetation observed in T2A included common crabgrass (*Digitaria sanguinalis*, FACU) and barnyard grass *(Echinochloa crus-galli, FAC).* The adjacent vegetation at the field edge just off-site upslope is brome grass and boxelder. Due to lack of hydric soil and hydrology indicators, one would expect upland vegetation to dominate under normal circumstances.

Stones were encountered in the soil profile at 20 inches in depth. No groundwater or saturation was encountered to 24 inches.

T3A

T3A was placed on a hillslope within an alfalfa field. The soil was observed to a depth of 24 inches. Wetland hydrology, hydrophytic vegetation, and hydric soils were not present at this sample point, therefore this sample point does not meet wetland criteria.

No adjacent vegetation was available to review at a similar landscape position. Due to the lack of hydric soil and hydrology indicators one would expect upland vegetation to dominate under normal circumstances.

No groundwater or saturation was encountered to 24 inches.

T4A

T4A was placed in a wide grassed swale within a hillslope that is flanked by an alfalfa field. The soil was observed to a depth of 24 inches. Wetland hydrology, hydrophytic vegetation, and hydric soils were not present at this sample point, therefore this sample point does not meet wetland criteria.

Dominant vegetation observed in T4A included boxelder maple (*Acer negundo*, FAC) and smooth brome grass (*Bromus inermis*, FAC).

No groundwater or saturation was encountered 24 inches.

T5A

T5A was placed in a depression adjacent to the road and a narrow ditch that runs throughout the study area. The soil was observed to a depth of 24 inches. The area is drained by the adjacent narrow ditch, the ditch started a few feet away from the test point, dry and rocky. Wetland hydrology, hydrophytic vegetation, and hydric soils were not present at this sample point, therefore this sample point does not meet wetland criteria.

Dominant vegetation observed in T5A included boxelder maple (*Acer negundo*, FAC) and smooth brome grass (*Bromus inermis*, FAC), black walnut (*Juglans nigra*, FACU), and reed canary grass (*Phalaris arundinacea*, FACW).

No groundwater or saturation was encountered 24 inches.

Conclusion

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 are not discussed within this report and will be reported under separate report (e.g. navigable waterways, floodplains, cultural resources, and threatened or endangered species).

Wetlands

No wetlands were identified during the fieldwork.

Investigation of the project area determined that no wetlands exist on Site. No wetlands were identified that may be subject to federal regulation under the jurisdiction of the USACE, state regulation under the jurisdiction of WDNR, and local jurisdiction under Dane County or the City of Madison.

Concurrence and Certification

Chad M Fradette is a WDNR Professionally Assured Wetland Delineator and WDNR concurrence is granted for five years unless site conditions are significantly altered.

Chad M Fradette, EP, Chemist
WI Professionally Assured Wetland Delineator
Lead Wetland Delineator

Shyann P Banker
Environmental Specialist

References

Black, Merel R., and Judziewicz, Emmet J., *Wildflowers of Wisconsin and the Great Lakes Region, A Comprehensive Field Guide,* University of Wisconsin Press, Madison, WI, 2009

Board of Commissioners of Public Lands, *Wisconsin Public Land Survey Records: Original Field Notes and Plat Maps*, Madison, Wisconsin, 2021

Chadde, Steve W., *Wetland Plants of Wisconsin, Second Edition,* Steve Chadde, United States, 2013

Cochrane, Theodore S., Elliot, Kandis, and Lipke, Claudia S., *Prairie Plants of the University of Wisconsin-Madison Arboretum,* University of Wisconsin Press, Madison, WI, 2006

Curtis, Linda, *Woodland Carex of the Upper Midwest*, Curtis to the Third Productions, Lake Villa, IL, 2014

Czarapata, Elizabeth J., *Invasive Plants of the Upper Midwest, an Illustrated Guide to Their Identification and Control,* University of Wisconsin Press, Madison, WI, 2005

Dane County, GIS, *aerial photographs*, *topography*, Dane County, WI

Eggers, Steve D., and Reed, Donald M., U.S. Army Corps of Engineers, St. Paul District, *Wetland Plants and Plant Communities of Minnesota & Wisconsin*, 1997

Fassett, Norman C., *A Manual of Aquatic Plants*, University of Wisconsin Press, Madison, WI, 1940

Gleason, Henry A., Ph.D., and Cronquist, Arthur, Ph.D., *Manual of Vascular Plants of Northeastern* Google Earth Aerial Photographs and FSA Slides

Hipp, Andrew, *Field Guide to Wisconsin Sedges,* University of Wisconsin Press, Madison, WI, 2008

Holmgren, Noel H., *Illustrated Companion to Gleason and Cronquist's Manual, Illustrations of the Vascular Plants of Northeastern United States and Adjacent Canada,* The New York Botanical Garden, 1998

Judziewicz, Emmet J., Freckmann, Robert W., Dane, Lynn G., and Black, Merel R., *Field Guide to Wisconsin Grasses,* University of Wisconsin Press, Madison, WI, 2014

Knobel, Edward, *Field Guide to the Grasses, Sedges, and Rushes of the United States,* Dover Publications, Inc., Mineola, NY, 1977

Kopiztke, David A., and Sweeney, Dr. James M., *Threatened and Endangered Species in Forests of Wisconsin, A Guide to Assist with Forestry Activities,* International Paper Co, 2000

Lichvar, R.W. 2016. *The National Wetland Plant List*. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory

Tekiela, Stan, *Wildflowers of Wisconsin, Field Guide,* Adventure Publications, Inc., Cambridge, MN, 2000

Tekila, Stan, *Trees of Wisconsin, Field Guide,* Adventure Publications, Inc., Cambridge, MN, 2002

U.S. Army Corps of Engineers (USACOE), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region*, 2012

U.S. Fish and Wildlife Service, National Wetlands Inventory, 2021

United States and Adjacent Canada, Second Edition New York Botanical Garden, NY, 1991

United States Department of Agriculture Soil Conservation Service, *Soil Survey of Dane County, Wisconsin,* 1974

University of Wisconsin Digital Collections Center, *Wisconsin Land Economic Inventory Maps (Bordner Survey)*, Madison, WI, 2021

University of Wisconsin, *Wisconsin Historic Aerial Image Finder,* 2021

USACE, Environmental Laboratory, *Wetlands Delineation Manual, Technical Report Y-87-1*, U.S. Army Engineer Waterways Experiment Station, 1987

USACE, Minnesota Board of Water & Soil Resources, *Guidance for Offsite Hydrology/Wetland Determinations, 2016.*

USDA, FSA, Service Center, *FSA Slides for years 1981 through 2002*. Dane County, WI

USDA, Natural Resources Conservation Service (NRCS), *Field Indicators of Hydric Soils in the United States, Guide for delineating Hydric Soils*, Version 5.01, 2003

USDA, NRCS, *Web Soil Survey,* 2021

Uva, Richard H., Neal, Joseph C., and DiTomaso, Joseph M., *Weeds of the Northeast,* Cornell University Press, Ithaca, NY, 1997

Vascular Plants of Northeastern United States and Adjacent Canada, The New York Botanical Garden, 1998

Voss, Edward G., *Michigan Flora*, Cranbrook Institute of Science, Bloomfield Hills, MI, 1972

WDNR, Wisconsin Wetland Inventory Classification Guide, PUBL-W2-W2023, 1992

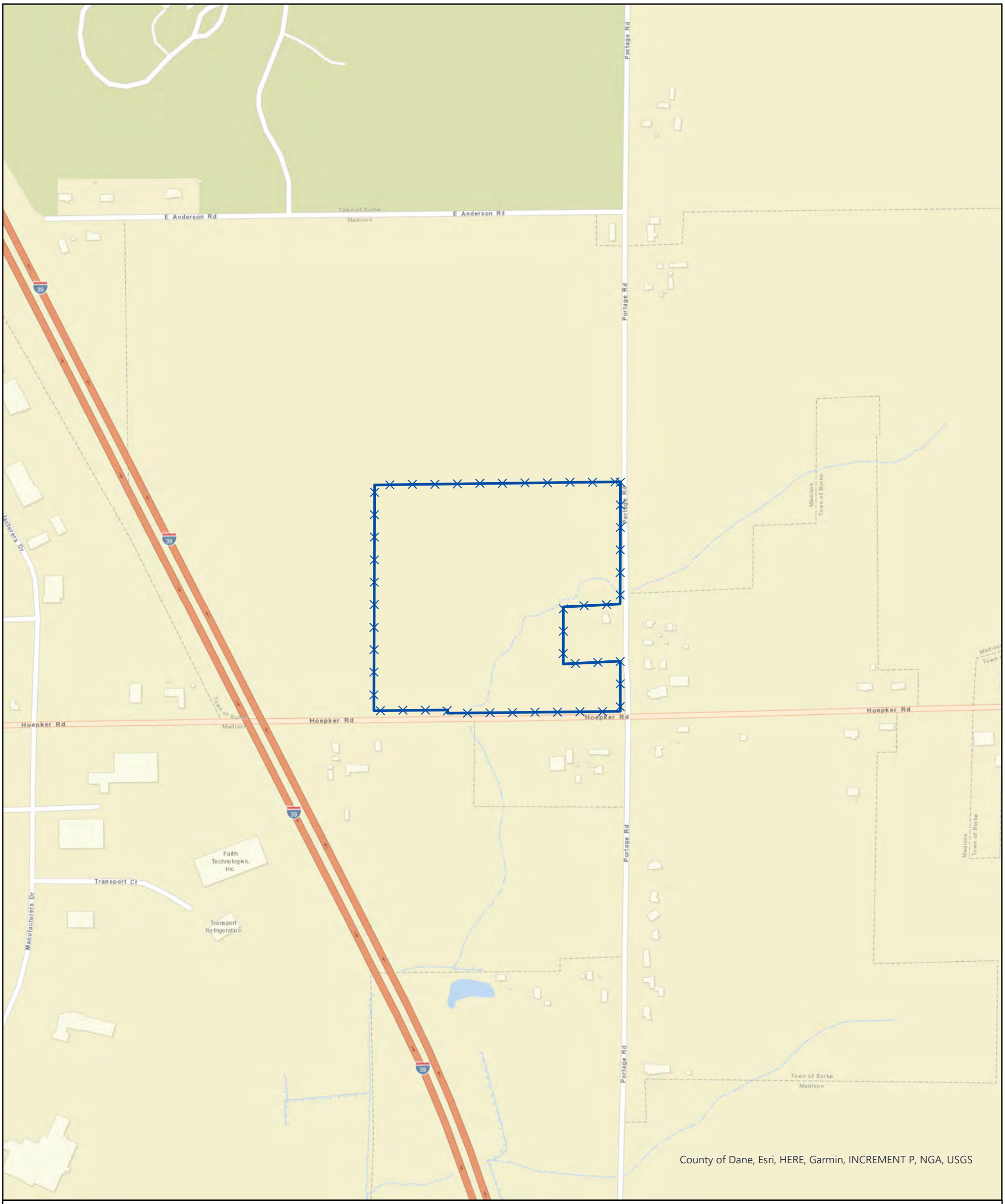
Wetland Training Institute, Inc., *2013 Pocket Guide to Hydric Soil Field Indicators,* Wetland Training Institute, Inc., Glenwood, NM, 2013

Wisconsin Department of Administration, *Basic Guide to Wisconsin's Wetlands and Their Boundaries*, 1995

Wisconsin Department of Natural Resources (WDNR), *Surface Water Data Viewer*, 2021

Appendix A:

Figures and Site Maps



Pumpkin Hollow Properties
Site Location Map
4404 Hoepker Road
City of Madison
Dane County, WI

Legend

Site Boundary

N
W
E
S

Project: DAN21-011-01

0 250 500 1,000 Feet

evergreen consultants LLC
PO Box 680 Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com

Pumpkin Hollow Properties
Wetland Delineation Map
4404 Hoepker Road
City of Madison
Dane County, WI

Legend

- Site Boundary
- Ditch
- Picture Location
- Culvert
- Sample Point

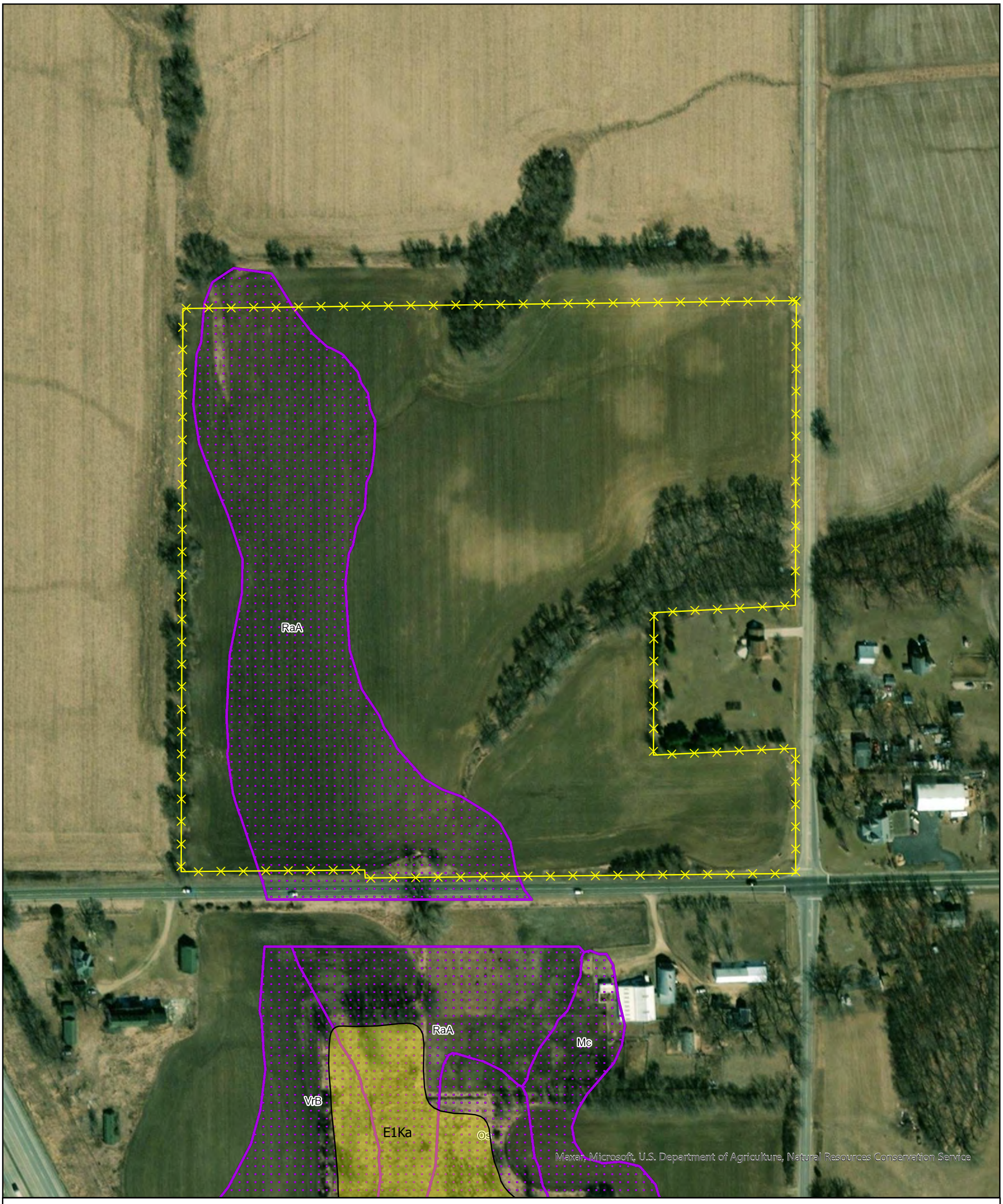
N
W E
S

Wetland Delineation was conducted by
Chad Fradette, EP, Chem,
WDNR Professionally Assured Wetland Delineator
with assistance from
Shyann Banker, Environmental Specialist

Project: DAN21-011-01

0 75 150 300
Feet

evergreen consultants LLC
2918 Van Hoof Road • Green Bay, WI 54313
Phone: 920.615.0019 • Website: www.evergreenwis.com



Pumpkin Hollow Properties
Wisconsin Wetland Inventory Map
4404 Hoepker Road
City of Madison
Dane County, WI

N
W E
S

Legend

- Site Boundary
- Wetland Points
- Wisconsin Wetland Inventory
- USDA Wetspots
- Maximum Extent Wetland Indicators

Project: DAN21-011-01

0 100 200 400
Feet

evergreen consultants LLC
PO Box 680 Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com

Pumpkin Hollow Properties
National Wetland Inventory Map
4404 Hoepker Road
City of Madison
Dane County, WI

Legend

Site Boundary

N
W
E
S

Project: DAN21-011-01

0 100 200 400
Feet

evergreen consultants LLC
PO Box 680 Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com

Pumpkin Hollow Properties
Topographic Map
4404 Hoepker Road
City of Madison
Dane County, WI

Legend

Site Boundary

Contours 1ft

N

W E

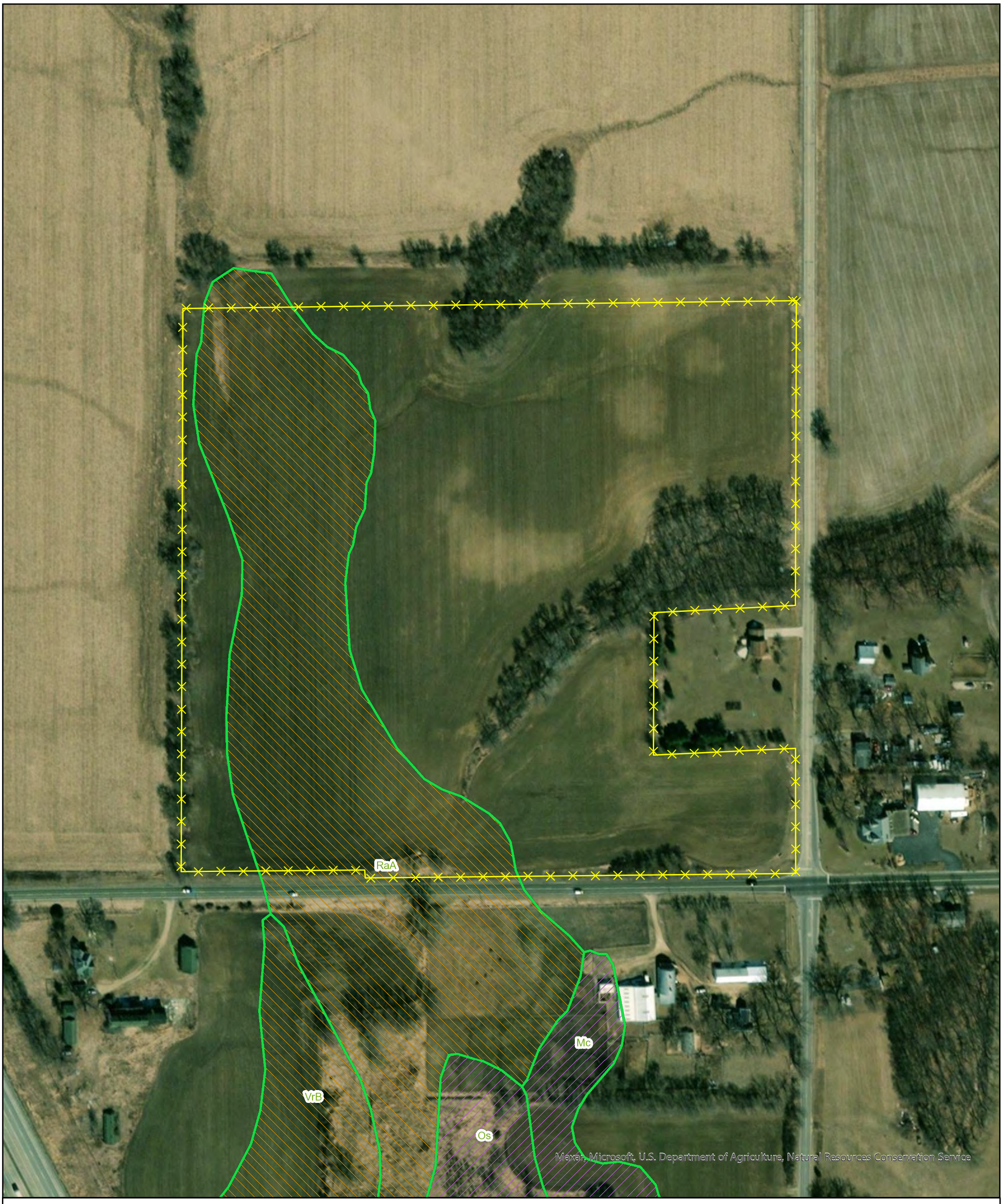
S

Project: DAN21-011-01

0 75 150 300

Feet

evergreen consultants LLC
PO Box 680 Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com



Pumpkin Hollow Properties
NRCS Soil Hydric Ratings Map
4404 Hoepker Road
City of Madison
Dane County, WI

Legend

Site Boundary

NRCS Soil Hydric Ratings

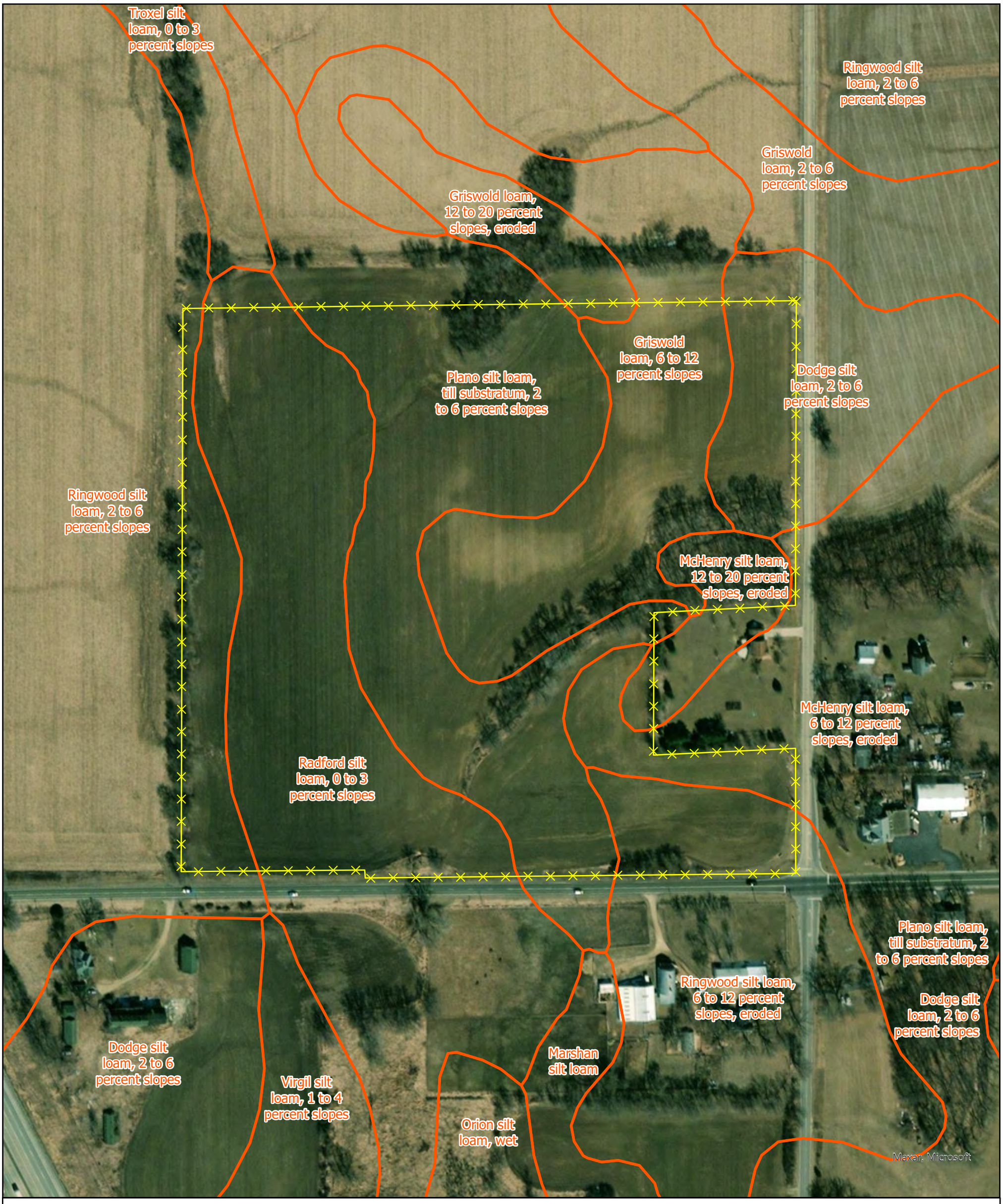
- Hydric
- Predominantly Hydric
- Partially Hydric
- Predominantly Non-Hydric

N
W E
S

Project: DAN21-011-01

0 100 200 400
Feet

evergreen consultants LLC
PO Box 680 Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com



Pumpkin Hollow Properties
NRCS Soil Survey Map
4404 Hoepker Road
City of Madison
Dane County, WI

Legend

- Site Boundary
- USA Soils Map Units

N
W E
S

Project: DAN21-011-01

0 100 200 400 Feet

evergreen consultants LLC
PO Box 680 Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com

Pumpkin Hollow Properties
Quadrangle Map
4404 Hoepker Road
City of Madison
Dane County, WI

Legend

Site Boundary

N
W E
S

Project: DAN21-011-01

0 200 400 800
Feet

evergreen consultants LLC
PO Box 680 Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com

Appendix B:

Site Pictures

1- Standing near T1A.

2- Standing near T2A facing north.

3- Standing near T2A.

4- Standing near T3A facing southeast.

5- Standing near T3A.

6- Standing near T4A facing south.

7- Standing near T4A facing north.

8- Standing near T4A facing east.

9- Standing near T5A facing west.

Appendix C:

Original Survey, Notes, and Bordner Map

Pumpkin Hollow Properties
Original Survey Map
4404 Hoepker Road
City of Madison
Dane County, WI

Legend

Site Boundary

N
W E
S

Project: DAN21-011-01

0 500 1,000 2,000
Feet

evergreen consultants LLC
PO Box 680 Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com

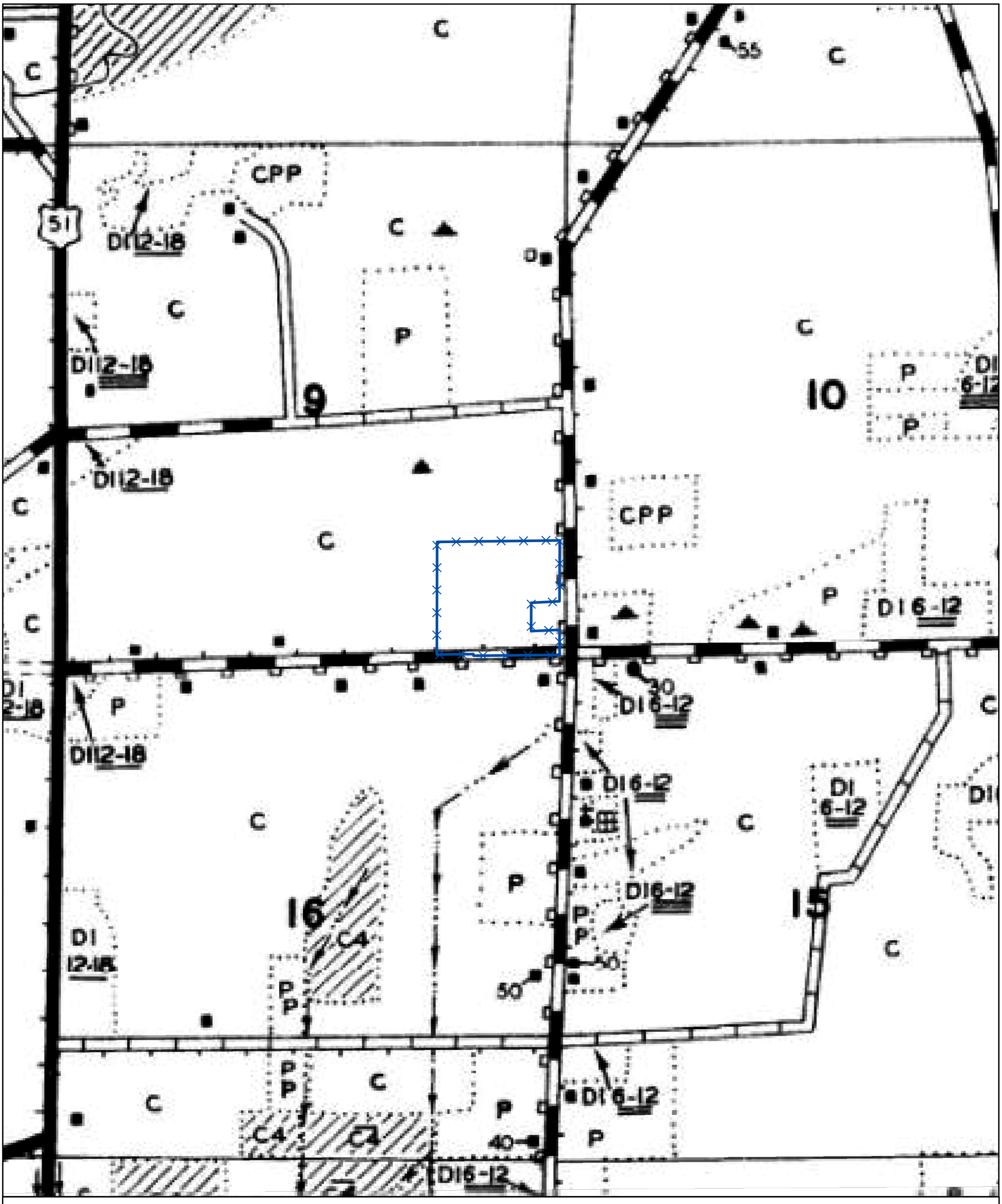
T 8 N. R 10 E. 4th Mer N. M. Surv

East	On Random Between Sections 9 & 16
15 50	Entered prairie
27 00	Left prairie & Entered timber
80 00	Intersected N & S. line 64 N of post. Land rolling & first rate & thinly timbered with Bur & Black Oak. under growth Oak hazel & grass
West	Connected Between Sections 9 & 16
40 00	Set quarter section post
	Bearings { Bur Oak. 7. D. 33. E. 131 / Do. 8. N. 46. E. 268
80 00	Section corner

T 8 N. R. 10 E. 4th Mer. N. W. Sec.

North	Between Sections 9 & 10
9 13	Bur Oak 9 inches diameter
33 00	Entered prairie
40 00	Set post & raised a mound of earth 4 feet square at the base & 2½ feet high
67 50	Left prairie & Entered timber
80 00	Set post Corner to Sections 3.4.9 & 10
bearings	Bur Oak 16. N. 73½ W. 107 Black Oak 18. S. 73½ E. 135
	Land rolling & first rate. Timber Bur & Black Oak under growth Oak hazle & grass. Growth on prairie grass

Between Sections 9 and 10



Pumpkin Hollow Properties
Bordner Survey Map
4404 Hoepker Road
City of Madison
Dane County, WI

Legend

Site Boundary

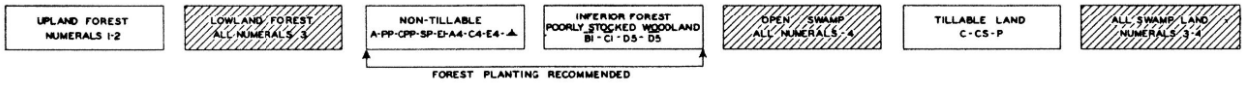
N
W
E
S

Project: DAN21-011-01

0 500 1,000 2,000 Feet

evergreen consultants LLC
PO Box 680 Pulaski, WI 54162
Phone: 920.615.0019 • Website: www.evergreenwis.com

LEGEND



LAND COVER

·····	COVER BOUNDARY	C	CLEARED CROP LAND	D3	BALSAM
A	ABANDONED	C1	POPPLE WITH WHITE BIRCH	D4	LEATHER LEAF
A1	UPLAND HARDWOODS	C1	INFERIOR C1	D5	RECENT BURN
A2	HEMLOCK WITH HARDWOOD	C2	NORWAY PINE	D5	DEAD TIMBER
A3	SWAMP HARDWOODS	C3	TAMARACK	E1	PIN CHERRY
A4	TAGALDER, WILLOW, DOGWOOD ETC.	C4	GRASS MARSH	E4	WEEDY PEAT
		C4	SEDGE MARSH	F4	CRANBERRY MARSH
B	BIRCH	C5	CULTIVATED STUMP LAND	FP	FOREST PLANTATION
B1	HARDWOOD WITH CONIFERS	CPP	POOR LAND PREVIOUSLY CROPPED	O	OPEN
B1	INFERIOR B1	D	SCRUB OAK	P	PASTURE
B2	WHITE PINE	D1	OAK-HICKORY	PP	PERMANENT PASTURE
B3	WHITE CEDAR	D2	JACK PINE	RC	RED CEDAR
B4	CAT TAIL MARSH	D3	BLACK SPRUCE	SP	STUMP PASTURE
				TG	TRUCK GARDEN

ROADS

14 FEDERAL HIGHWAY 9 STATE HIGHWAY A COUNTY HIGHWAY

- HARD SURFACED ROAD
- IMPROVED GRAVEL ROAD
- UNIMPROVED GRAVEL ROAD
- IMPROVED DIRT ROAD
- UNIMPROVED DIRT ROAD
- TRAIL
- DRIVABLE FIRE LANE
- NON-DRIVABLE FIRE LANE
- TELEPHONE LINE
- POWER LINE
- RAILROAD
- ABANDONED RAILROAD

IMPROVEMENTS

- OCCUPIED HOUSE
- D VACANT HOUSE
- SUMMER HOME
- OCCUPIED SCHOOL
- S VACANT SCHOOL
- CHURCH
- TH TOWN HALL
- CHEESE FACTORY
- CREAMERY
- FILLING STATION OR GARAGE
- STORE
- TAVERN
- H HOTEL
- SAW MILL
- GRIST MILL
- FARM BLDG LESS THAN 100 FT. FROM CENTER OF ROAD
- LOGGING CAMP
- 6 INDICATES NO. OF HOUSES IN A GROUP
- 50 INDICATES THE NUMBER OF FEET BUILDING IS LOCATED FROM CENTER OF ROAD

MISCELLANEOUS SYMBOLS

Q	QUARRY	C	CEMETERY	GC	GOLF COURSE
G	GRAVEL PIT	N	NURSERY	BD	BEAVER DAM
S	SPRING	E	EROSION	PD	PUBLIC DUMP
F	FUR FARM	T	FIRE TOWER	Y	ORCHARD
	DRAINAGE DITCH		INTERMITTENT STREAM		CIVIL TOWN BOUNDARY

WOODED AREAS

DENSITY OF STAND

IS INDICATED BY THE LINE OR LINES BELOW THE DIAMETER

- D1 6-12 ONE LINE = GOOD STAND
- D1 6-12 TWO LINES = MEDIUM STAND
- D1 6-12 THREE LINES = POOR STAND
- D1 6-12 FOUR LINES = SCATTERED

DIAMETER CLASSES

NUMERALS 0-3, 3-6 ETC. PLACED AFTER A TIMBER SYMBOL (D1 6-12) INDICATES IN INCHES THE AVERAGE DIAMETER OF THE TREES BREAST HIGH (4½ FT.) WITHIN A GIVEN COVER AREA

ONE MILE

WISCONSIN STATE PLANNING BOARD — W.P.A. COOPERATING

WISCONSIN LAND ECONOMIC INVENTORY DIVISION — 411 W. WING - STATE CAPITOL — MADISON WISCONSIN

Appendix D:

Historic Aerial Photographs and Hydrology Assessment

Review Areas

Hydrology Assessment with Aerial Imagery - Recording Form										
Project Name: Pumpkin Hollow North			Date: Oct 2021			County: DANE				
Investigator: Chad Fradette			Legal Description (Sec, T, R): Sec 9, T8N, R10E							
Year	**Image Source**	**Climate Condition** (wet, dry, normal)	**Interpretation (List hydrology indicators observed, e.g. crop stress, drowned out, standing water, etc.)**							
			A	B	C	D	E	F	G	H
1979	FSA	D	AV**	NV	NV	**Avoidance in area is likely a planted grassed swale.				
1981	FSA	N	AV**	NV	NV					
1982	FSA	N	NV	NV	AV					
1983	FSA	N	AV**	NV	NSS					
1984	FSA	W	AV**	NV	DISTURBANCE					
1985	FSA	D	AV**	NV	NV					
1986	FSA	N	NV	NV	NV					
1987	FSA	N	NV	NV	NV					
1988	FSA	D	NV	NV	NV					
1989	FSA	D	NV	NV	NV					
1990	FSA	N	AV**	NV	NV					
1991	FSA	N	NV	NV	NV					
1992	FSA	D	NV	NV	NV					
1993	FSA	W	AV**	NV	NV					
1994	FSA	N	AV**	NV	NV					
1995	FSA	N	AV**	NV	NV					
1996	FSA	W	AV**	NV	NV					
1998	FSA	N	AV**	NV	NV					
1999	FSA	W	AV**	NSS	NSS/NV					
2000	FSA	W	AV**	NV	DISTURBANCE					
2001	FSA	W	AV**	NV	NV					
2002	FSA	N	NV	NV	DISTURBANCE					
2003	FSA	N	AV**	NSS	NSS/AV**					
2004	FSA	W	AV**	CS	AV**					
2005	FSA	D	AV**	NSS	AV**					
2006	FSA	N	AV**	NV	AV**					
2008	FSA	N	NSS	NSS	NSS					
2010	FSA	W	AV**	NV	AV**					
2014	Google Earth	W	AV**	NSS	AV**					
2015	Google Earth	N	NV	NV	NV	TILE VISIBLE IN FIELD				
2017	Google Earth	W	AV**	NV	NV					
2018	Google Earth	W	AV**	NV	AV**					
Summary Table			**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
# Normal Yrs.			15	15	15					
# Normal Yrs. With wet signature			8	0	1					
% Normal Yrs. With wet signature			53%	0%	7%					

*Use key below to label photo interpretations. It is imperative that the reviewer read and understand the guidace associated with the used of these labels if alternamte labels are used, indicate in box below

Key	
WS- Wetland Signatures	AP - altered pattern
CS - Vegetation Stress	NV - normal vegetative cover
DO - drowned out	SW - standing water
NC - not cropped	SS/NSS - Soil Signature/No Soil Signature

Field data sheet reference (if applicable):	

Wetland Determination from Aerial Imagery – Recording Form

Project Name:	PUMPKIN HOLLOW-NORTH
Investigator:	CHAD M FRADETTE
County:	DANE

Date:	Oct-21
Legal Description (S, T, R):	SEC 9, T8N, R10E

Use the Decision Matrix below to complete Table 1.

Hydric Soils Present (*1)	Identified on NWI or other wetland map (*2)	Percent with wet signatures from Exhibit 1	Field verification required (*3)	Wetland?
Yes	Yes	>50%	No	Yes
Yes	Yes	30-50%	No	Yes
Yes	Yes	<30%	Yes	Yes, if other hydrology indicators present
Yes	No	>50%	No	Yes
Yes	No	30-50%	Yes	Yes, if other hydrology indicators present
Yes	No	<30%	No	No
No	Yes	>50%	No	Yes
No	Yes	30-50%	No	Yes
No	Yes	<30%	No	No
No	No	>50%	Yes	Yes, if other hydrology indicators present
No	No	30-50%	Yes	Yes, if other hydrology indicators present
No	No	<30%	No	No

***1** The presence of hydric soils can be determined from the "Hydric Rating by Map Unit Feature" under "Land Classifications" from the Web Soil Survey. "Not Hydric" is the only category considered to not have hydric soils. Field sampling for the presence/absence of hydric soil indicators can be used in lieu of the hydric rating if appropriately documented by providing completed field data sheets.

***2** At minimum, the most updated NWI data available for the area must be reviewed for this step. Any and all other local or regional wetland maps that are publically available should be reviewed.

***3** Area should be reviewed in the field for the presence/absence of wetland hydrology indicators per the applicable 87 Manual Regional Supplement, including the D2 indicator (geomorphic position).

Table 1

Area	Hydric Soils Present	Identified on NWI or other wetland map	Percent with wet signatures from Exhibit 1	Other hydrology indicators present (*1)	Wetland?
A	NO*	NO	53%	NO	NO No hydric soil or other indicators present during fieldwork
B	YES	NO	0%	N/A	NO
C	YES	NO	7%	N/A	NO

***1 Answer "N/A" if field verification is not required.**

1968 GIS

1974 GIS

1976 GIS

1979 FSA

1981 FSA

1982 FSA

1983 FSA

1984 FSA

1985 FSA

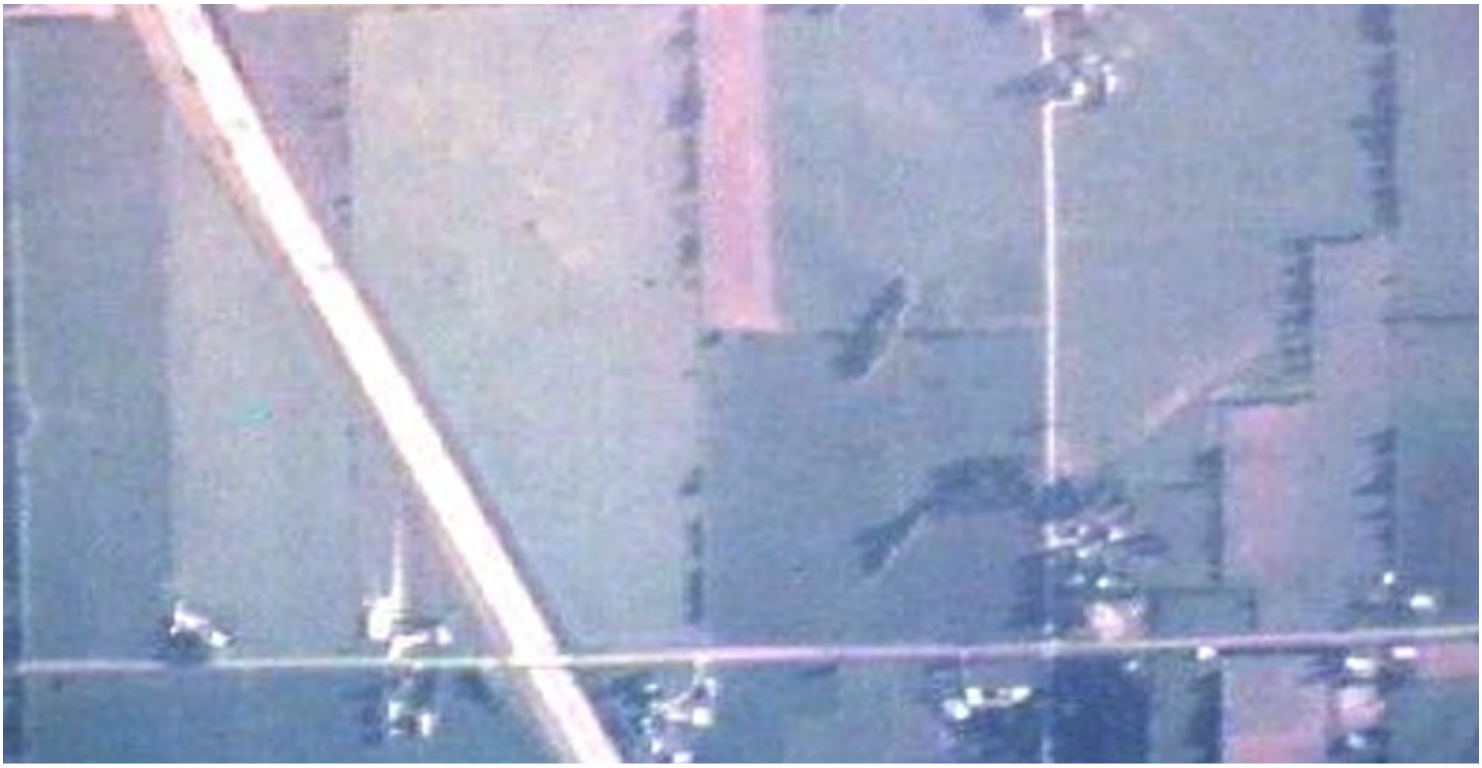
1986 FSA

1987 FSA

1988 FSA

1989 FSA

1990 FSA



1991 FSA

1992 FSA

1993 FSA

1994 FSA

1995 FSA

1996 FSA

1998 FSA

1999 FSA

2000 FSA

2001 FSA

2002 FSA

2003 FSA

2004 Maxar

2005 FSA

2006 FSA

2008 FSA

2010 FSA

2013 GE

2014 GE

2017 GE

2018 GE


Anderson Rd
Anderson Rd
39
Portage Rd
Portage Rd
Hoepker Rd
Hoepker Rd

2020 GE

Appendix E:

NRCS County Soil Survey Report

Custom Soil Resource Report
Soil Map

Map Scale: 1:3,930 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2020—Aug 4, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DnB	Dodge silt loam, 2 to 6 percent slopes	3.6	7.3%
GwB	Griswold loam, 2 to 6 percent slopes	0.4	0.9%
GwC	Griswold loam, 6 to 12 percent slopes	7.2	14.8%
GwD2	Griswold loam, 12 to 20 percent slopes, eroded	1.1	2.3%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	2.4	5.0%
MdD2	McHenry silt loam, 12 to 20 percent slopes, eroded	0.9	1.8%
PnB	Plano silt loam, till substratum, 2 to 6 percent slopes	12.4	25.3%
RaA	Radford silt loam, 0 to 3 percent slopes	11.0	22.6%
RnB	Ringwood silt loam, 2 to 6 percent slopes	6.2	12.7%
RnC2	Ringwood silt loam, 6 to 12 percent slopes, eroded	3.2	6.5%
TrB	Troxel silt loam, 0 to 3 percent slopes	0.4	0.7%
VrB	Virgil silt loam, 1 to 4 percent slopes	0.0	0.1%
Totals for Area of Interest		**48.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Federal Register. February, 28, 2012. Hydric soils of the United States.
Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Report—Hydric Rating by Map Unit (WI)

Hydric Rating by Map Unit (WI)–Dane County, Wisconsin				
Map Unit Symbol	**Map Unit Name**	**Hydric Percent of Map Unit**	**Hydric Category**	**Landform Hydric Minor Components**
DnB	Dodge silt loam, 2 to 6 percent slopes	0	WI Nonhydric	—
GwB	Griswold loam, 2 to 6 percent slopes	0	WI Nonhydric	—
GwC	Griswold loam, 6 to 12 percent slopes	0	WI Nonhydric	—
GwD2	Griswold loam, 12 to 20 percent slopes, eroded	0	WI Nonhydric	—
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	0	WI Nonhydric	—
MdD2	McHenry silt loam, 12 to 20 percent slopes, eroded	0	WI Nonhydric	—
PnB	Plano silt loam, till substratum, 2 to 6 percent slopes	0	WI Nonhydric	—
RaA	Radford silt loam, 0 to 3 percent slopes	10	WI Predominantly Nonhydric	Depressions
RnB	Ringwood silt loam, 2 to 6 percent slopes	0	WI Nonhydric	—
RnC2	Ringwood silt loam, 6 to 12 percent slopes, eroded	0	WI Nonhydric	—
TrB	Troxel silt loam, 0 to 3 percent slopes	0	WI Nonhydric	—
VrB	Virgil silt loam, 1 to 4 percent slopes	5	WI Predominantly Nonhydric	Interdrumlins

Hydric Soil List - All Components

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

Report—Hydric Soil List - All Components

Hydric Soil List - All Components–WI025-Dane County, Wisconsin					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
DnB: Dodge silt loam, 2 to 6 percent slopes	Dodge	80-95	Drumlins	No	—
	St. Charles	3-10	Drumlins	No	—
	Mayville	2-7	Drumlins	No	—
	Lamartine	0-3	Drumlins	No	—
GwB: Griswold loam, 2 to 6 percent slopes	Griswold	87-97	Till plains	No	—
	Ringwood	2-10	Till plains	No	—
	Plano-Till substratum	1-3	Till plains	No	—
GwC: Griswold loam, 6 to 12 percent slopes	Griswold	87-97	Till plains	No	—
	Ringwood	3-13	Till plains	No	—
GwD2: Griswold loam, 12 to 20 percent slopes, eroded	Griswold-Eroded	85-95	Till plains	No	—
	Ringwood	4-10	Till plains	No	—
	Kidder-Eroded	1-5	Till plains	No	—
MdC2: McHenry silt loam, 6 to 12 percent slopes, eroded	McHenry-Eroded	85-95	Moraines	No	—
	Kendall	2-7	Drainageways	No	—
	Kidder-Eroded	3-8	Moraines	No	—
MdD2: McHenry silt loam, 12 to 20 percent slopes, eroded	McHenry-Eroded	85-95	Moraines	No	—
	Dodge-Eroded	3-6	Moraines	No	—
	Wyocena	1-5	Moraines	No	—
	Lapeer	1-4	Moraines	No	—
PnB: Plano silt loam, till substratum, 2 to 6 percent slopes	Plano-Till substratum	80-90	Till plains	No	—
	Griswold	5-11	Till plains	No	—
	Elburn	5-9	Till plains	No	—
RaA: Radford silt loam, 0 to 3 percent slopes	Radford	80-95	Drainageways,flood plains	No	—
	Otter	2-8	Drainageways,flood plains	Yes	2,3
	Sable	2-5	Depressions	Yes	2,3
	Sebewa	1-4	Depressions	Yes	2,3
	Drummer	0-3	Depressions	Yes	2,3
RnB: Ringwood silt loam, 2 to 6 percent slopes	Ringwood	85-95	Moraines	No	—
	Elburn	2-6	Drainageways	No	—

Hydric Soil List - All Components–WI025-Dane County, Wisconsin					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
	Plano-Till substratum	1-4	Moraines	No	—
	Griswold	2-5	Moraines	No	—
RnC2: Ringwood silt loam, 6 to 12 percent slopes, eroded	Ringwood-Eroded	85-95	Moraines	No	—
	Griswold-Eroded	3-9	Till plains	No	—
	Plano-Till substratum	2-6	Moraines	No	—
TrB: Troxel silt loam, 0 to 3 percent slopes	Troxel-Wet substratum	80-90	Depressions,moraines	No	—
	Elburn	5-11	Drainageways	No	—
	Plano	5-9	Till plains	No	—
VrB: Virgil silt loam, 1 to 4 percent slopes	Virgil	85-95	Interdrumlins	No	—
	Sable	3-8	Interdrumlins	Yes	2
	St. Charles	2-7	Drumlins	No	—

Hydric Soils

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

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

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

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

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

Report—Hydric Soils

Hydric Soils–Dane County, Wisconsin				
Map symbol and map unit name	**Component**	**Percent of map unit**	**Landform**	**Hydric criteria**
RaA—Radford silt loam, 0 to 3 percent slopes				
	Otter	4	Drainageways, flood plains	2, 3
	Sable	3	Depressions	2, 3
	Sebewa	2	Depressions	2, 3
	Drummer	1	Depressions	2, 3
VrB—Virgil silt loam, 1 to 4 percent slopes				
	Sable	5	Interdrumlins	2

Taxonomic Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. This table shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol.* An example is Alfisols.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalfs (*Ud*, meaning humid, plus *alfs*, from Alfisols).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalfs*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, active, mesic Typic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

References:
Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. (The soils in a given survey area may have been classified according to earlier editions of this publication.)

Report—Taxonomic Classification of the Soils

[An asterisk by the soil name indicates a taxadjunct to the series]

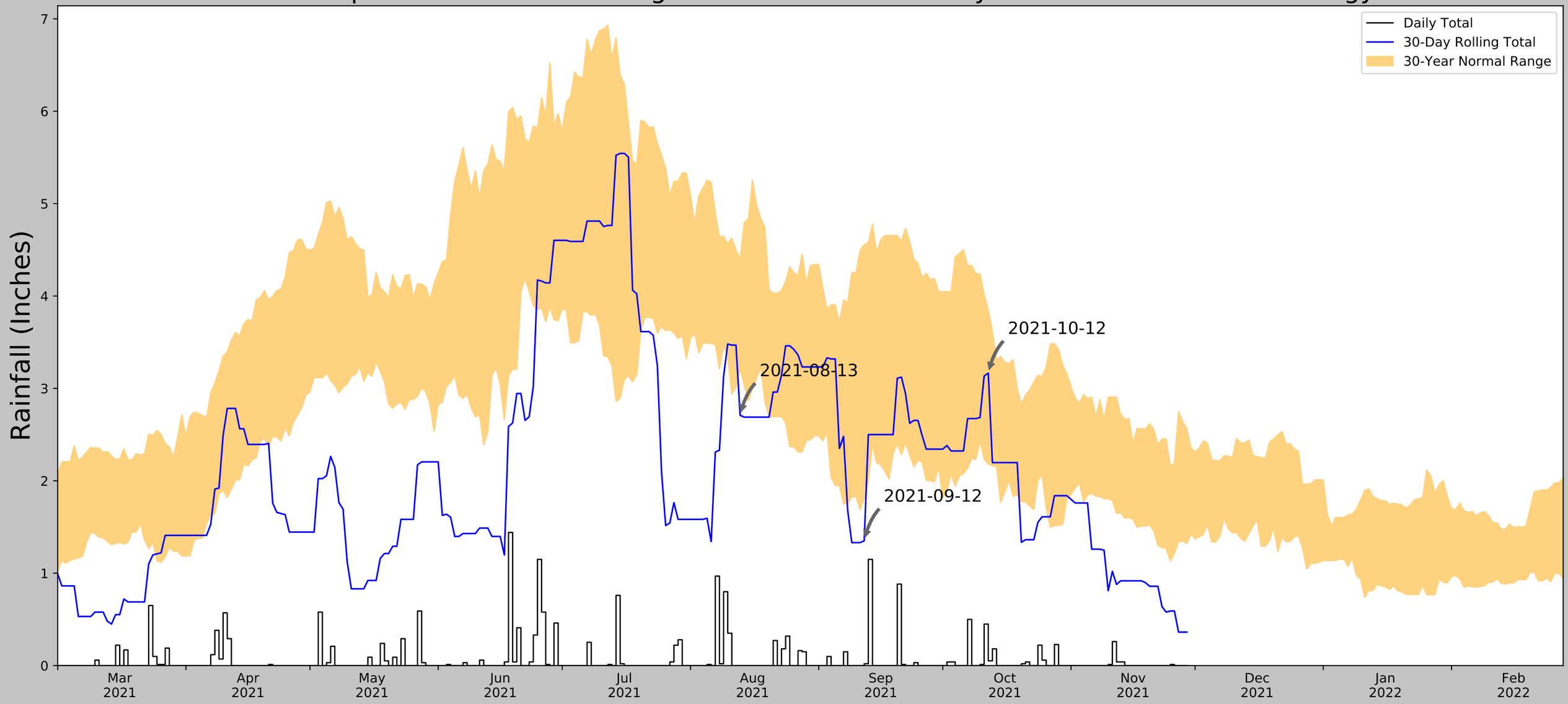
Taxonomic Classification of the Soils–Dane County, Wisconsin	
Soil name	**Family or higher taxonomic classification**
Dodge	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Drummer	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Elburn	
Elburn	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Griswold	
Griswold	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Griswold	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Kendall	
Kidder	Fine-loamy, mixed, active, mesic Typic Hapludalfs

Taxonomic Classification of the Soils–Dane County, Wisconsin	
Soil name	**Family or higher taxonomic classification**
Lamartine	Fine-silty, mixed, superactive, mesic Aquollic Hapludalfs
Lapeer	Coarse-loamy, mixed, semiactive, mesic Typic Hapludalfs
Mayville	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
McHenry	Fine-loamy, mixed, superactive, mesic Typic Hapludalfs
Otter	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Plano	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Plano	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Radford	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Ringwood	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Sable	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sebewa	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiaquolls
St. Charles	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Troxel	Fine-silty, mixed, superactive, mesic Pachic Argiudolls
Virgil	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Wyocena	Coarse-loamy, mixed, semiactive, mesic Typic Hapludalfs

Appendix F:

Precipitation Information

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



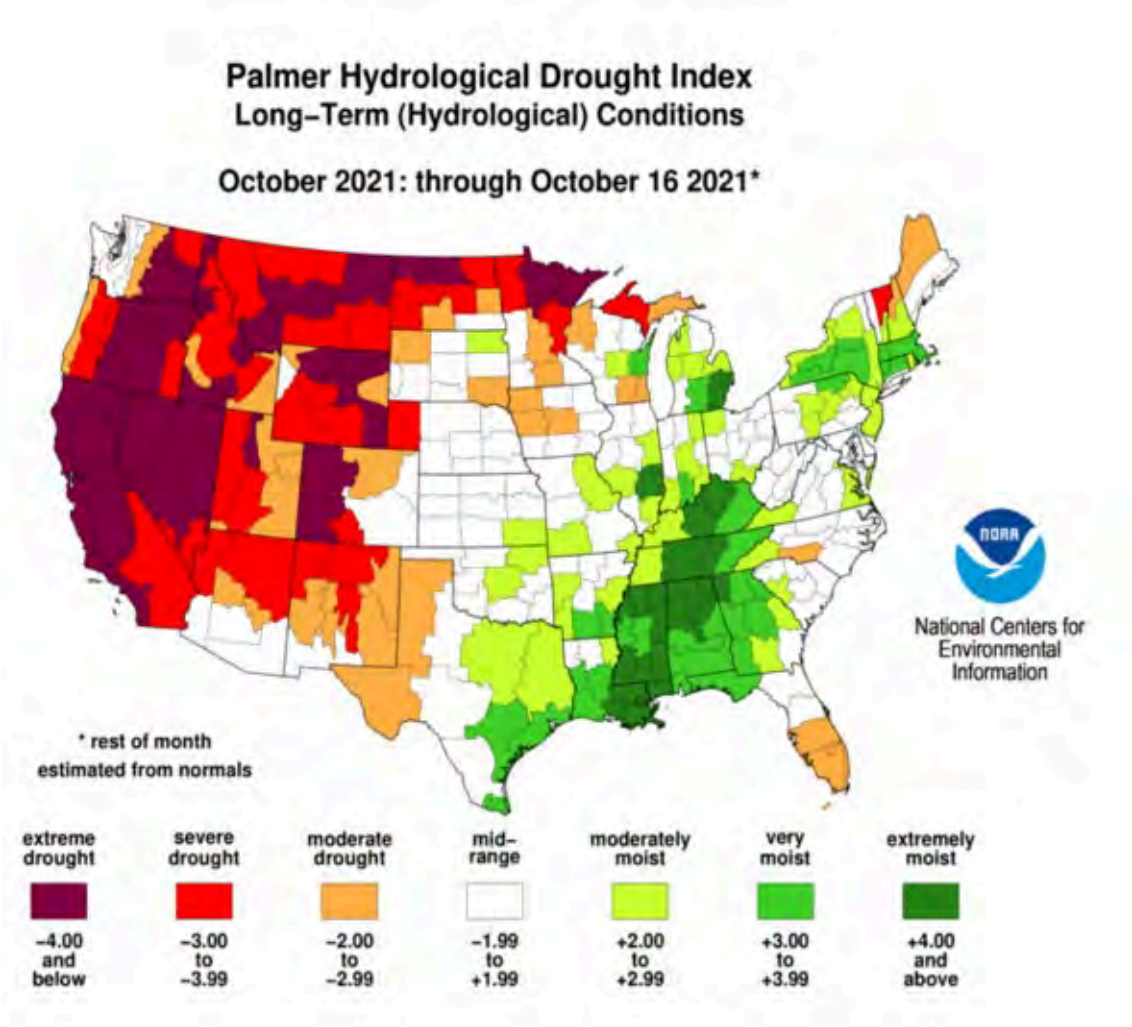
Coordinates	43.1678468, -89.3074025
Observation Date	2021-10-12
Elevation (ft)	896.8
Drought Index (PDSI)	Moderate drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-10-12	2.180709	3.849213	3.165354	Normal	2	3	6
2021-09-12	1.805512	4.555118	1.350394	Dry	1	2	2
2021-08-13	3.208268	4.397638	2.708662	Dry	1	1	1
Result							Drier than Normal - 9

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
MADISON DANE RGNL AP	43.1406, -89.3453	866.142	2.682	30.658	1.289	11353	90



Sources: National Oceanic & Atmospheric Administration, Palmer Hydrological Drought Index

Appendix G:

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: DAN21-011 Pumpkin Hollow City/County: Madison/Dane Sampling Date: 2021-10-12

Applicant/Owner: Wangard State: Wisconsin Sampling Point: T1A

Investigator(s): Chad M Fradette Section, Township, Range: Section 9, T8N, R10E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3-4

Subregion (LRR or MLRA): _____ Lat: 43.1678468 Long: -89.3074025 Datum: NAD 83

Soil Map Unit Name: PnB-Plano silt loam, 2-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✔ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	If yes, optional Wetland Site ID: _____

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

Sample point is located within a rocky hillslope, forested.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Vis ble on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No saturation or groundwater observed to 24 inches.

Remarks:

Antecedent precipitation has been drier than normal prior to the Site visit.

VEGETATION – Use scientific names of plants. Sampling Point: T1A

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	80	✔	FAC
2. Prunus serotina	5		FACU
3.			
4.			
5.			
6.			
7.			
	85%	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Rhamnus cathartica	20	✔	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20%	= Total Cover	

Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		= Total Cover	

Woody Vine Stratum (Plot size: 30 ft r)			
1. Vitis riparia	5	✔	FAC
2.			
3.			
4.			
	5%	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	105	x 3 =	315
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	110 (A)		335 (B)

Prevalence Index = B/A = 3.05

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✔ **No** ___

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

SOIL

Sampling Point: T1A

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 12	10YR 2/2	100					Silt Loam	
12 - 24	10YR 2/2	50					Silt Loam	
12 - 24	7.5YR 4/4	50					Silt Loam	Mixed up, not redox features.
-								
-								
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[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** ✔

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: DAN21-011 Pumpkin Hollow City/County: Madison/Dane Sampling Date: 2021-10-12

Applicant/Owner: Wangard State: Wisconsin Sampling Point: T2A

Investigator(s): Chad M Fradette Section, Township, Range: Section 9, T8N, R10E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1-2

Subregion (LRR or MLRA): _____ Lat: 43.1678533 Long: -89.3093863 Datum: NAD 83

Soil Map Unit Name: RaA-Radford silt loam, 0-3% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✔ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes _____	No ✔	

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

Sample point is located within a shallow hillslope within an alfalfa field.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Vis ble on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Antecedent precipitation has been drier than normal prior to the Site visit.

VEGETATION – Use scientific names of plants. Sampling Point: T2A

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Digitaria sanguinalis	40	✔	FACU
2. Echinochloa crus-galli	20	✔	FAC
3. Leucanthemum vulgare	10		UPL
4. Taraxacum officinale	10		FACU
5. Asclepias syriaca	1		UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	81% = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	50	x 4 =	200
UPL species	11	x 5 =	55
Column Totals:	81 (A)		315 (B)

Prevalence Index = B/A = 3.89

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

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

Adjacent vegetation at field edge just offsite upslope is brome grass and box elder. Due to lack of hydric soil and hydrology indicators one would expect upland vegetation to dominate under normal conditions.

SOIL

Sampling Point: T2A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 2/2	100					Silt Loam	
18 - 24	7.5YR 4/4	100					Silt Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[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** ✔

Remarks:

Stones at 20 inches.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: DAN21-011 Pumpkin Hollow City/County: Madison/Dane Sampling Date: 2021-10-12

Applicant/Owner: Wangard State: Wisconsin Sampling Point: T3A

Investigator(s): Chad M Fradette Section, Township, Range: Section 9, T8N, R10E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1-2

Subregion (LRR or MLRA): _____ Lat: 43.1664105 Long: -89.3086509 Datum: NAD 83

Soil Map Unit Name: RaA-Radford silt loam, 0-3% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✔ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes _____	No ✔	

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

Sample point is located within a hillslope in an alfalfa field.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Vis ble on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No saturation or groundwater observed to 24 inches.

Remarks:

Antecedent precipitation has been drier than normal prior to the Site visit.

VEGETATION – Use scientific names of plants. Sampling Point: T3A

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✔

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

No vegetation to review. Due to lack of hydric soil and hydrology indicators one would expect upland vegetation to dominate under normal conditions.

SOIL

Sampling Point: T3A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 24	10YR 2/2	100					Silt Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[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** ✔

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: DAN21-011 Pumpkin Hollow City/County: Madison/Dane Sampling Date: 2021-10-12

Applicant/Owner: Wangard State: Wisconsin Sampling Point: T4A

Investigator(s): Chad M Fradette Section, Township, Range: Section 9, T8N, R10E

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Convex Slope (%): 1-2

Subregion (LRR or MLRA): _____ Lat: 43.1653148 Long: -89.3074236 Datum: NAD 83

Soil Map Unit Name: PnB-Plano silt loam, 2-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✔ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes _____	No ✔	

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

Sample point is located within a wide swale within a hillslope, flanked by an alfalfa field.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Vis ble on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No saturation or groundwater observed to 24 inches.

Remarks:

Antecedent precipitation has been drier than normal prior to the Site visit.

VEGETATION – Use scientific names of plants. Sampling Point: T4A

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Acer negundo	5	✔	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5% = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Bromus inermis	110	✔	UPL
2. Solidago altissima	10		FACU
3. Asclepias syriaca	5		UPL
4. Phalaris arundinacea	5		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	130% = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1. Vitis riparia	1		FAC
2.			
3.			
4.			
	1% = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	6	x 3 =	18
FACU species	10	x 4 =	40
UPL species	115	x 5 =	575
Column Totals:	136 (A)		643 (B)

Prevalence Index = B/A = 4.73

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✔

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

SOIL

Sampling Point: T4A

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 3/2	100					Sandy Loam	
4 - 10	7.5YR 4/4	100					Loamy Sand	
10 - 24	7.5YR 3/2	100					Silt Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[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** ✔

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: DAN21-011 Pumpkin Hollow City/County: Madison/Dane Sampling Date: 2021-10-12

Applicant/Owner: Wangard State: Wisconsin Sampling Point: T5A

Investigator(s): Chad M Fradette Section, Township, Range: Section 9, T8N, R10E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): _____ Lat: 43.1647402 Long: -89.3078724 Datum: NAD 83

Soil Map Unit Name: RaA-Radford silt loam, 0-3% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✔ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes _____	No ✔	

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

Sample point is located within a depression.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Vis ble on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No saturation or groundwater observed to 24 inches. Area drained by adjacent narrow ditch. Ditch just started a few feet from test point, dry and rocky.

Remarks:

Antecedent precipitation has been drier than normal prior to the Site visit.

VEGETATION – Use scientific names of plants. Sampling Point: T5A

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	10	✔	FAC
2. Juglans nigra	10	✔	FACU
3.			
4.			
5.			
6.			
7.			
	20%	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	80	✔	FACW
2. Bromus inermis	30	✔	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	110%	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	30	x 5 =	150
Column Totals:	130 (A)		380 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

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

SOIL Sampling Point: T5A

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 3/2	100					Silt Loam	
4 - 10	7.5YR 4/4	100					Sandy Loam	
10 - 24	10YR 3/2	100					Silt Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[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** ✔

Remarks: