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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



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Field Work Certification:

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Lead Wetland Delineator

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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 stream 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.

A handwritten signature in red ink, appearing to read "Chad M Fradette", is written over a horizontal line.

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

A handwritten signature in red ink, appearing to read "Shyann P Banker", is written over a horizontal line.

Shyann P Banker
Environmental Specialist



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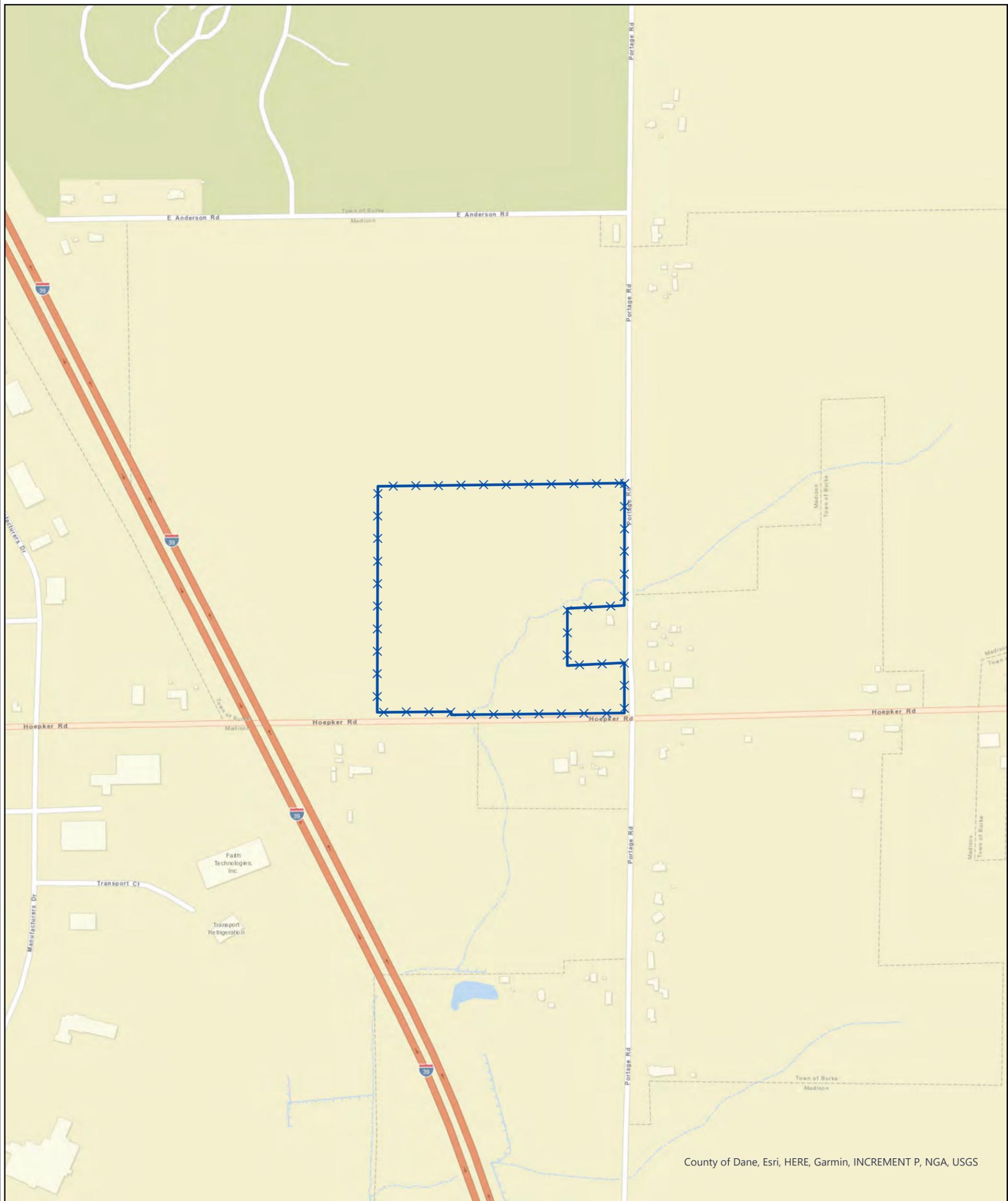
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Appendix A:

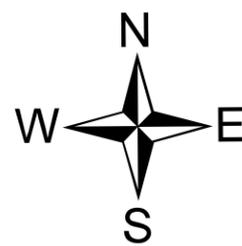
Figures and Site Maps



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

Legend

Site Boundary



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Maxar, Microsoft

Legend

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

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



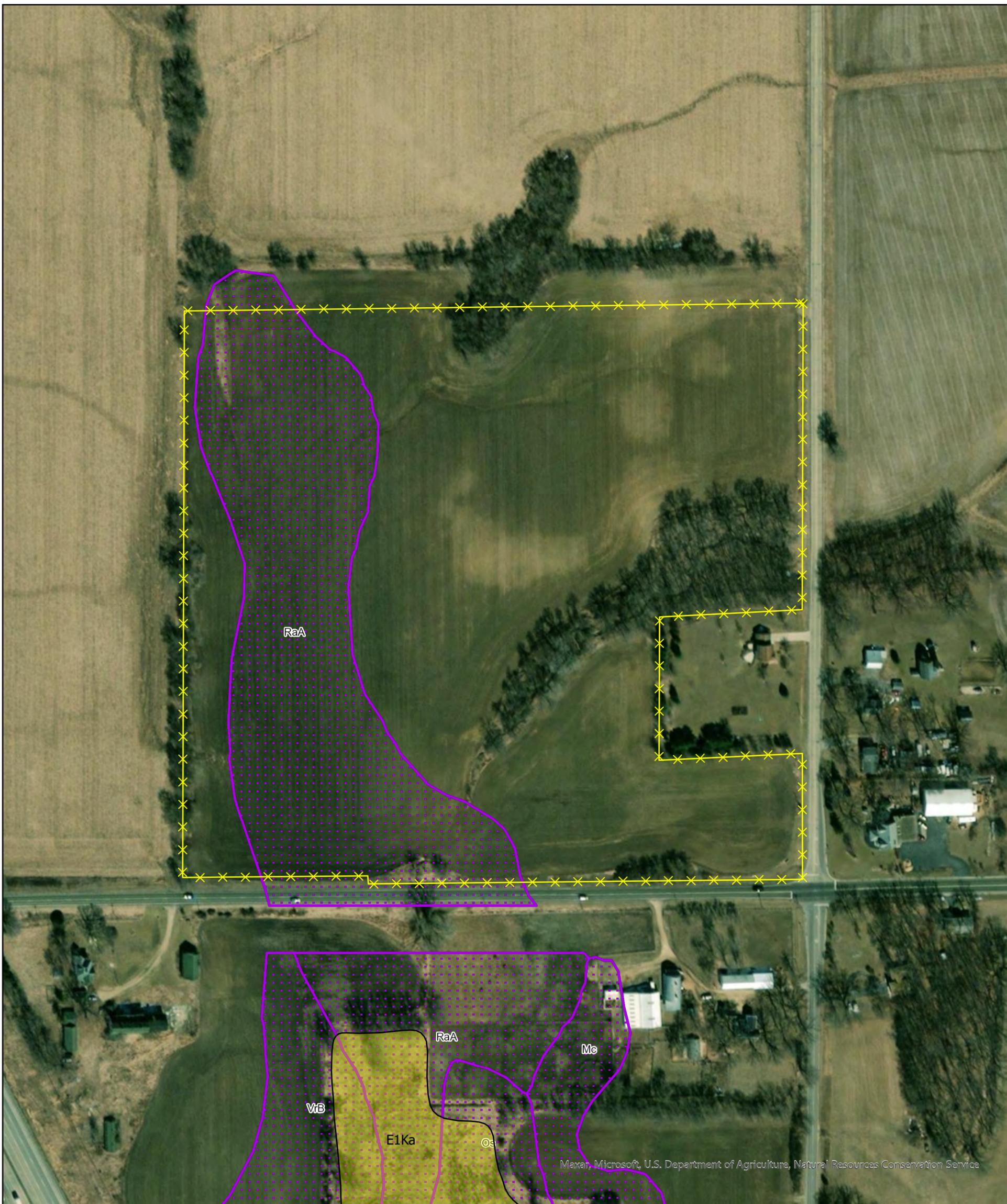
Wetland Delineation was conducted by
Chad Fradette, EP, Chem,
WDNR Professionally Assured Wetland Delineator
with assistance from
Shyann Banker, Environmental Specialist

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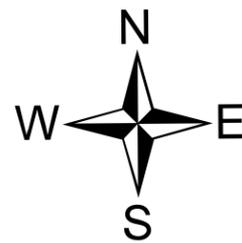
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Pumpkin Hollow Properties Wisconsin Wetland Inventory Map 4404 Hoepker Road City of Madison Dane County, WI



Legend

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

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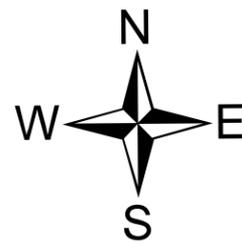


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Pumpkin Hollow Properties
National Wetland Inventory Map
4404 Hoepker Road
City of Madison
Dane County, WI



Legend

 Site Boundary

Project: DAN21-011-01

0 100 200 400
 Feet



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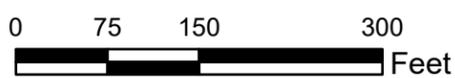
Pumpkin Hollow Properties
 Topographic Map
 4404 Hoepker Road
 City of Madison
 Dane County, WI



Legend

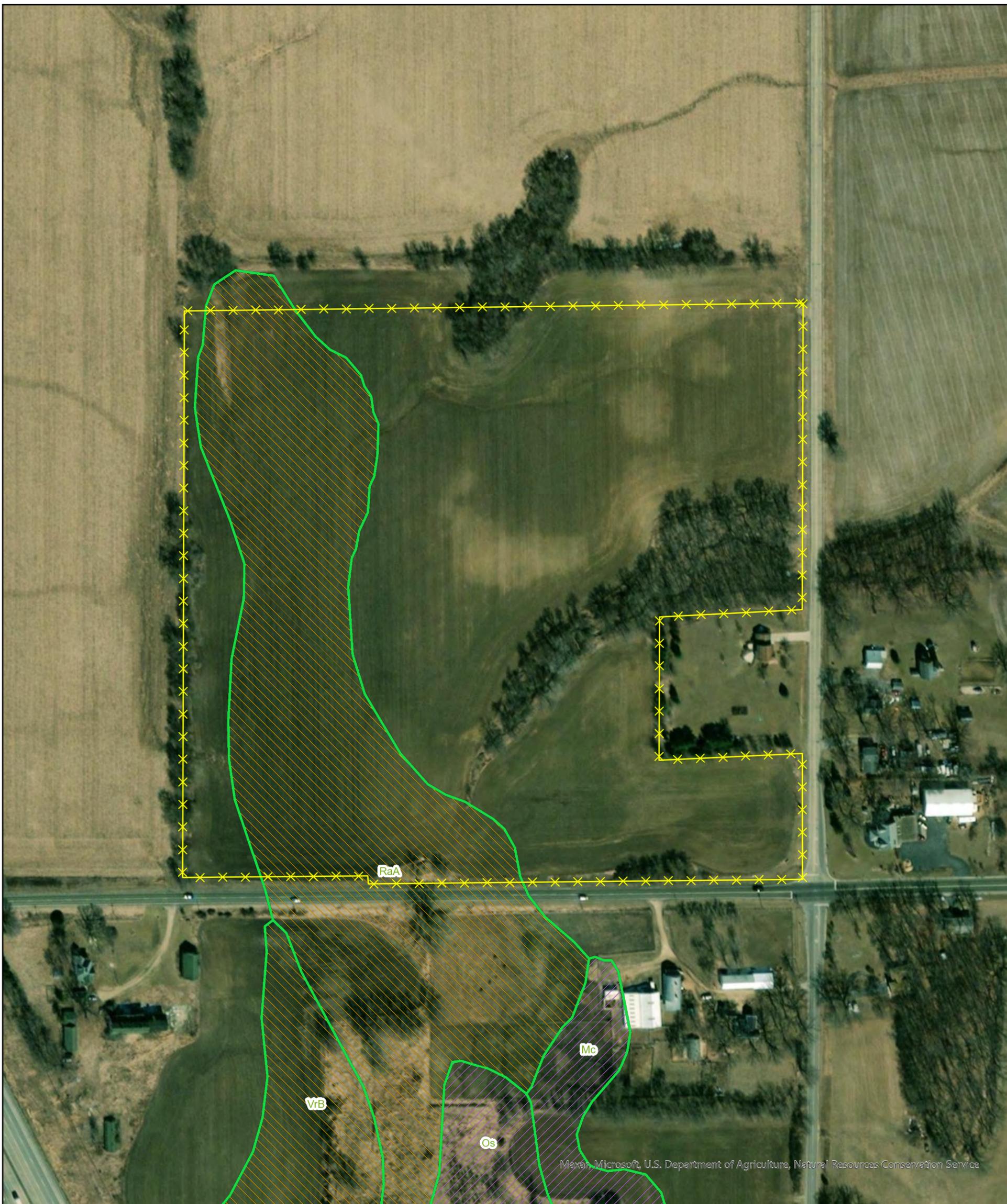
- Site Boundary
- Contours 1ft

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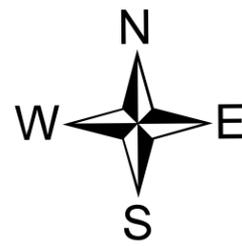
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Mapan, Microsoft, U.S. Department of Agriculture, Natural Resources Conservation Service

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

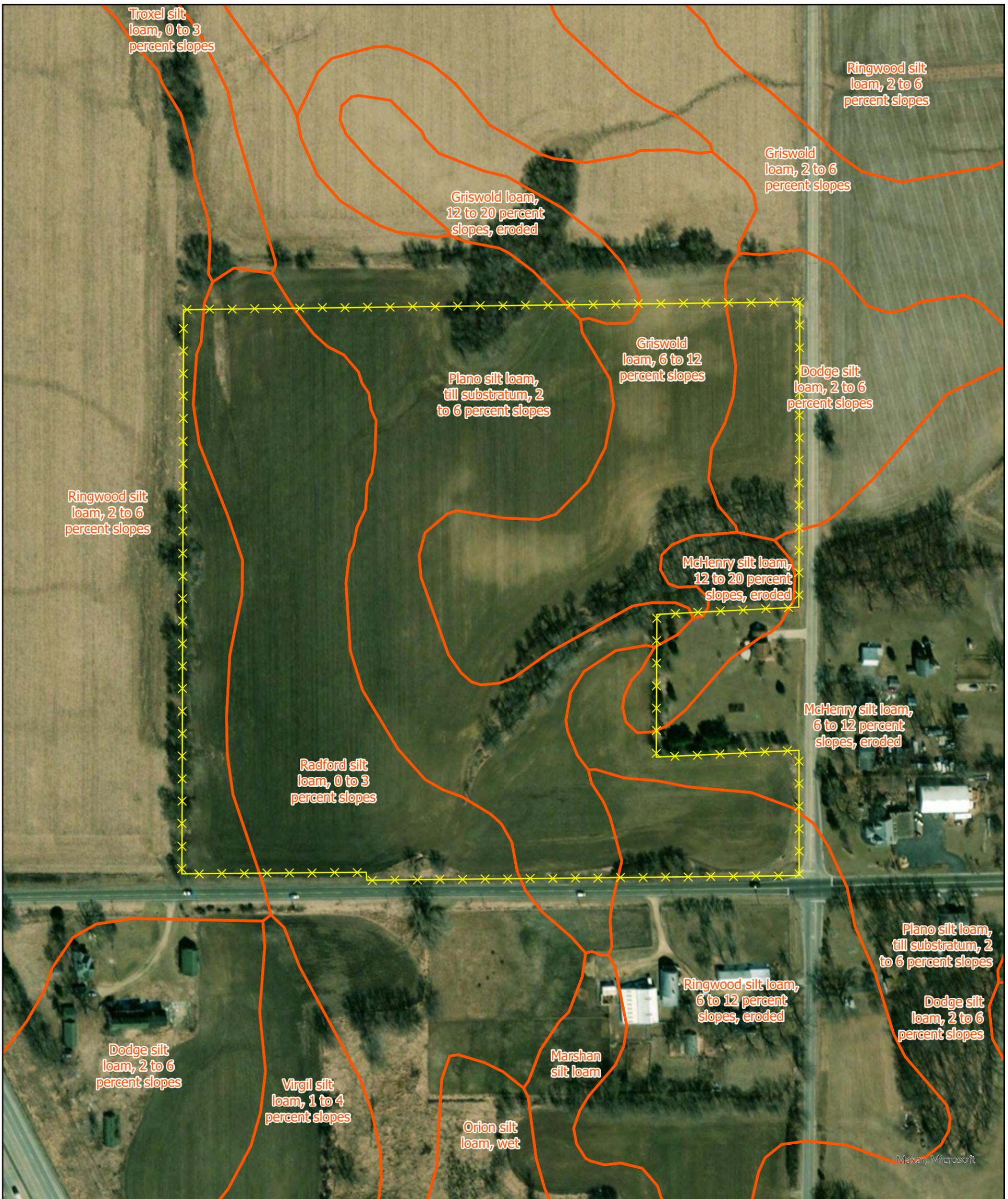
Predominantly Non-Hydric

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



Legend

- Site Boundary
- USA Soils Map Units

Project: DAN21-011-01

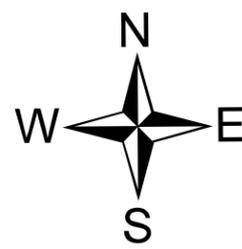


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Pumpkin Hollow Properties
 Quadrangle Map
 4404 Hoepker Road
 City of Madison
 Dane County, WI



Legend

Site Boundary

Project: DAN21-011-01



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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



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



Legend

 Site Boundary

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To N. R. 10 E. 4th Mer N. W. 1/4

East On Random Between Sections 9 & 16

15 50 Entered prairie

27 00 Left prairie & entered timber

30 00 Intersected N & S line 64

N of post. Sand rolling
& first rate & thin by timber
with Bur & Black Oak.

under growth Oak hazel
& grass

West Connected Between Sections 9 & 16

40 00 Set quarter section post

bearing { Bur Oak. 7. S. 33. E. 131
 { Do. 8. N. 46. E. 268

30 00 Section corner

Between Sections 9 and 16

T. & N. R. 10 E. 4th Mer. N. W. Sec. 9

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

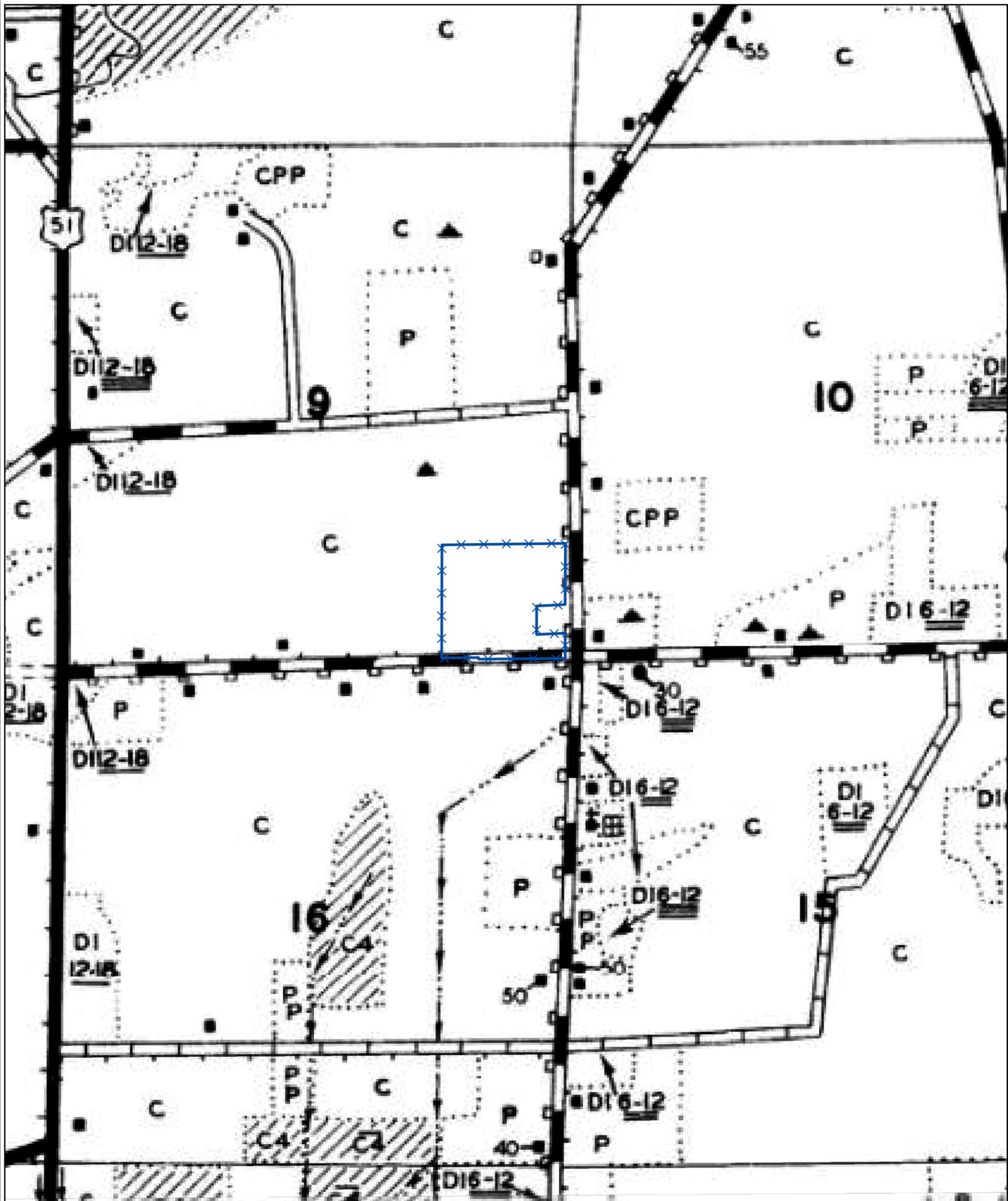
bearing { Bur Oak 16. N. 73½ W. 107

{ Black Oak 18. S. 73½ E. 635

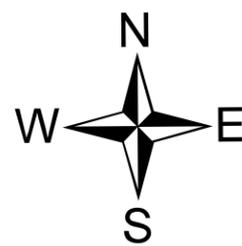
Land rolling & first rate Timber

Bur & Black Oak under
growth Oak hazel & grass.

Growth on prairie grass



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



Legend

 Site Boundary

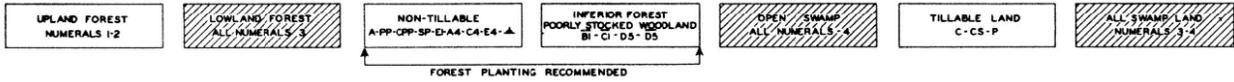
Project: DAN21-011-01



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LEGEND



LAND COVER

- | | | |
|--------------------------------------|----------------------------------|----------------------|
| COVER BOUNDARY | C CLEARED CROP LAND | D3 BALSAM |
| A ABANDONED | C1 POPLAR 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 |
| B BIRCH | C4 SEDGE MARSH | F4 CRANBERRY MARSH |
| B1 HARDWOOD WITH CONIFERS | C5 CULTIVATED STUMP LAND | FP FOREST PLANTATION |
| B1 INFERIOR B1 | CPP POOR LAND PREVIOUSLY CROPPED | O OPEN |
| B2 WHITE PINE | D SCRUB OAK | P PASTURE |
| B3 WHITE CEDAR | D1 OAK-HICKORY | PP PERMANENT PASTURE |
| B4 CAT TAIL MARSH | D2 JACK PINE | RC RED CEDAR |
| | D3 BLACK SPRUCE | SP STUMP PASTURE |
| | | TG TRUCK GARDEN |

MISCELLANEOUS SYMBOLS

- | | | |
|------------------|-----------------------|-----------------------|
| Q QUARRY | CE 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 |

ROADS

- | | | |
|----------------------|--------------------------|--------------------------|
| Ⓜ FEDERAL HIGHWAY | ▽ STATE HIGHWAY | Ⓐ 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 |

WOODED AREAS

- DENSITY OF STAND
- IS INDICATED BY THE LINE OR LINES BELOW THE DIAMETER
- DI 0-12 ONE LINE=GOOD STAND
- DI 0-12 TWO LINES=MEDIUM STAND
- DI 0-12 THREE LINES=POOR STAND
- DI 0-12 FOUR LINES=SCATTERED
- DIAMETER CLASSES
- NUMERALS 0-3, 3-4 ETC PLACED AFTER A TIMBER SYMBOL, (DI 0-12) INDICATES IN INCHES THE AVERAGE DIAMETER OF THE TREES BREAST HIGH (4 1/2 FT.) WITHIN A GIVEN COVER AREA

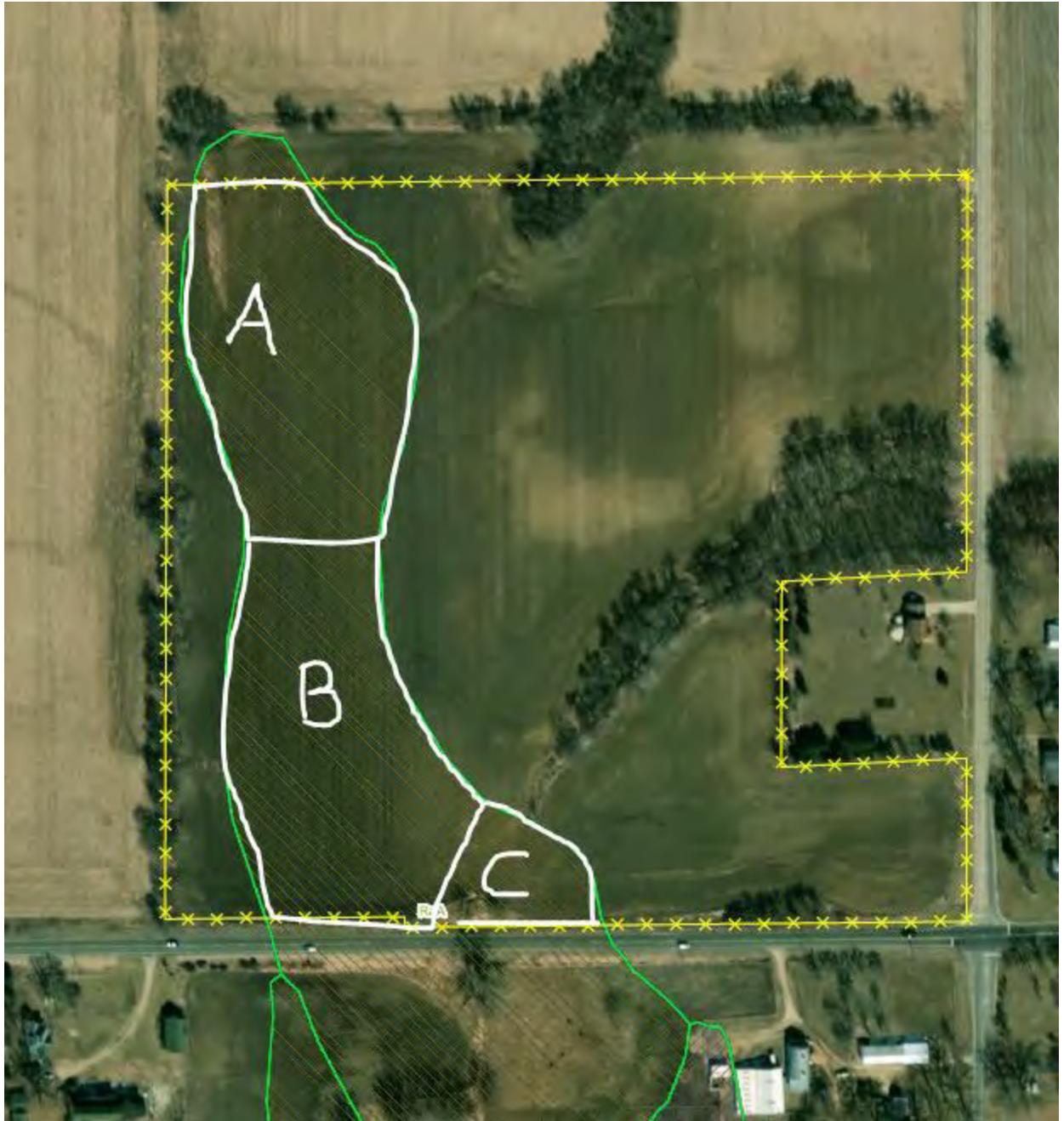
IMPROVEMENTS

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



Appendix D:

Historic Aerial Photographs and Hydrology Assessment

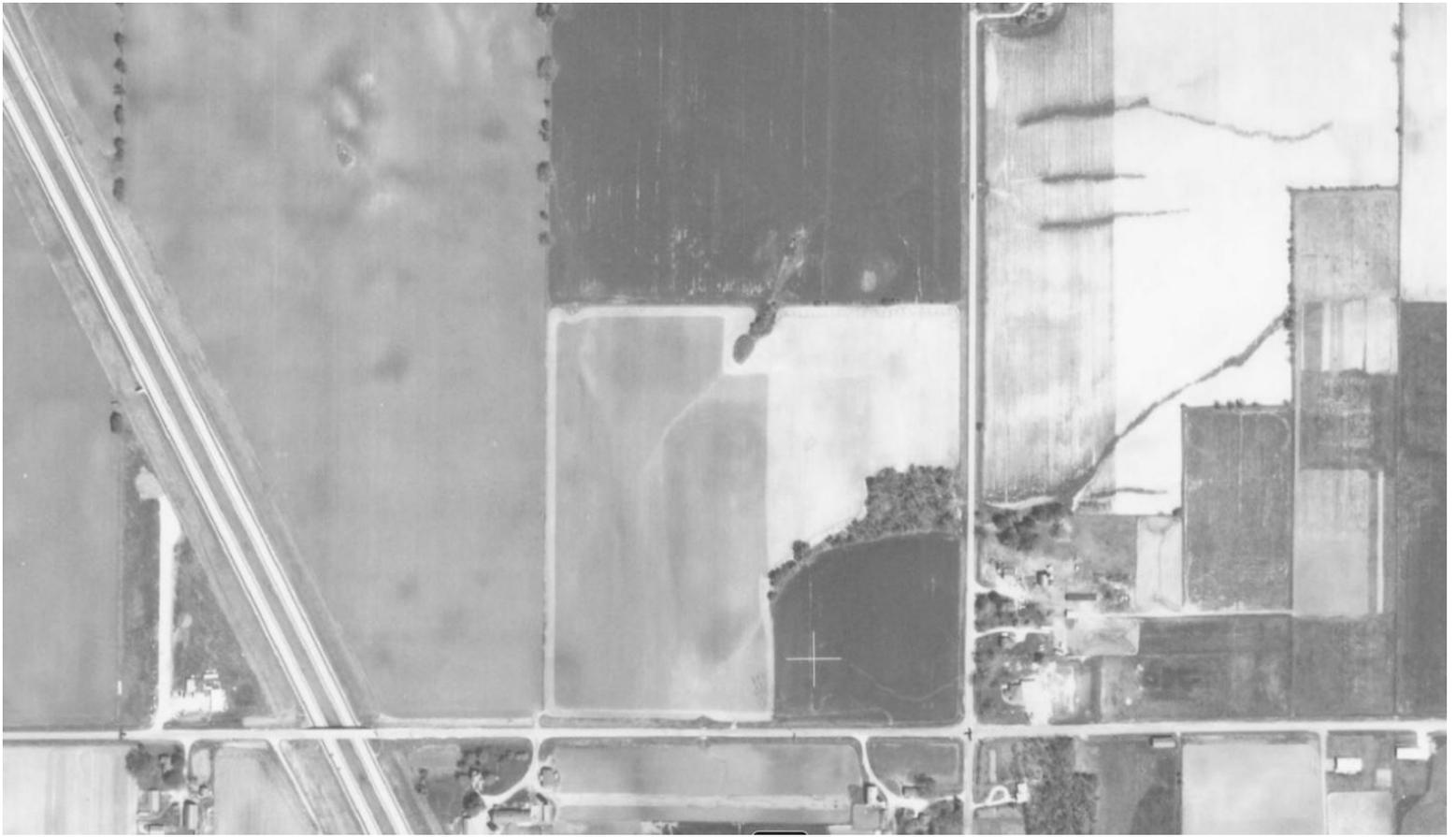


Review Areas

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 guidance associated with the used of these labels if alternate 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



1968 GIS



1974 GIS



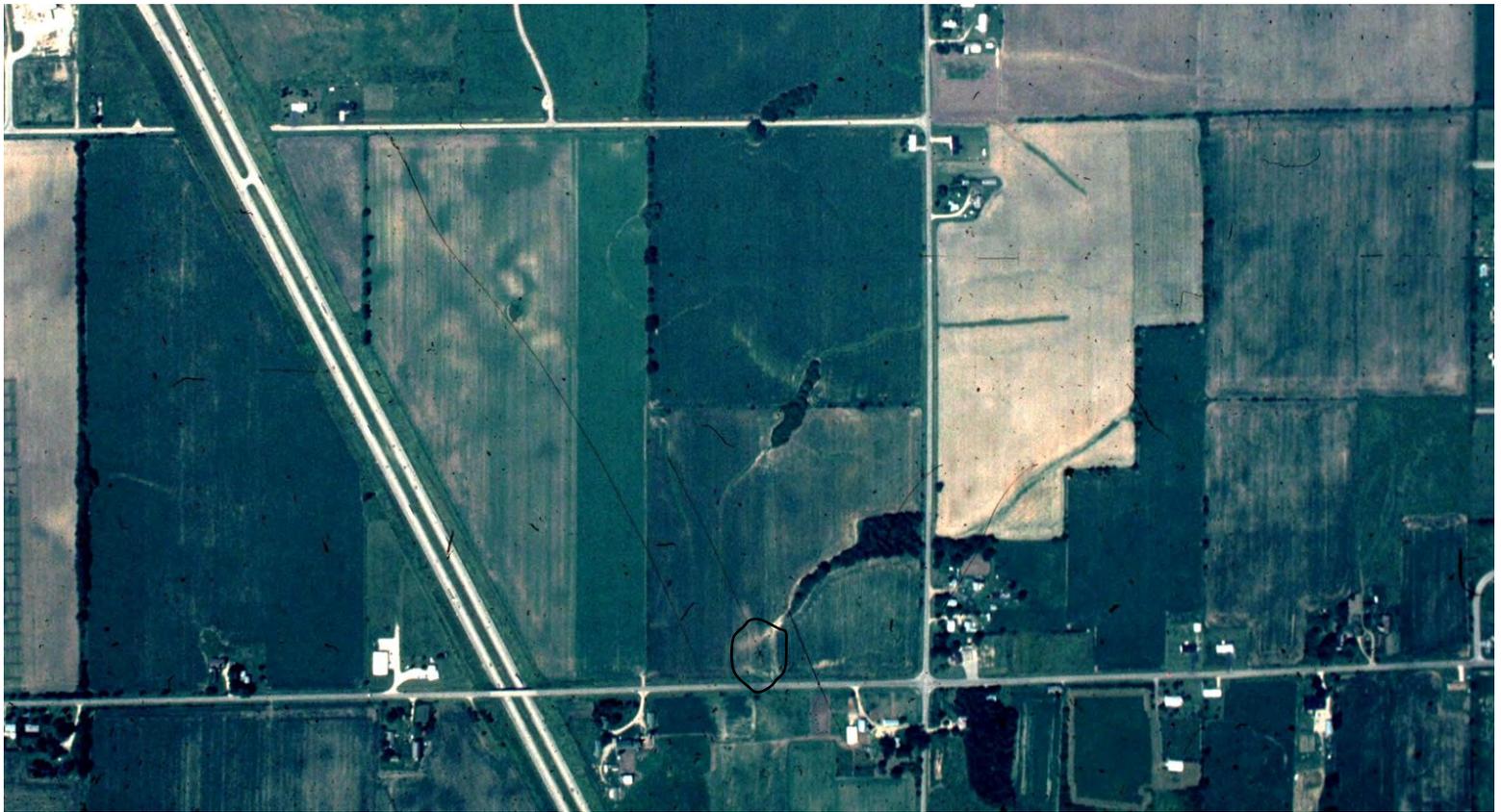
1976 GIS



1979 FSA



1981 FSA



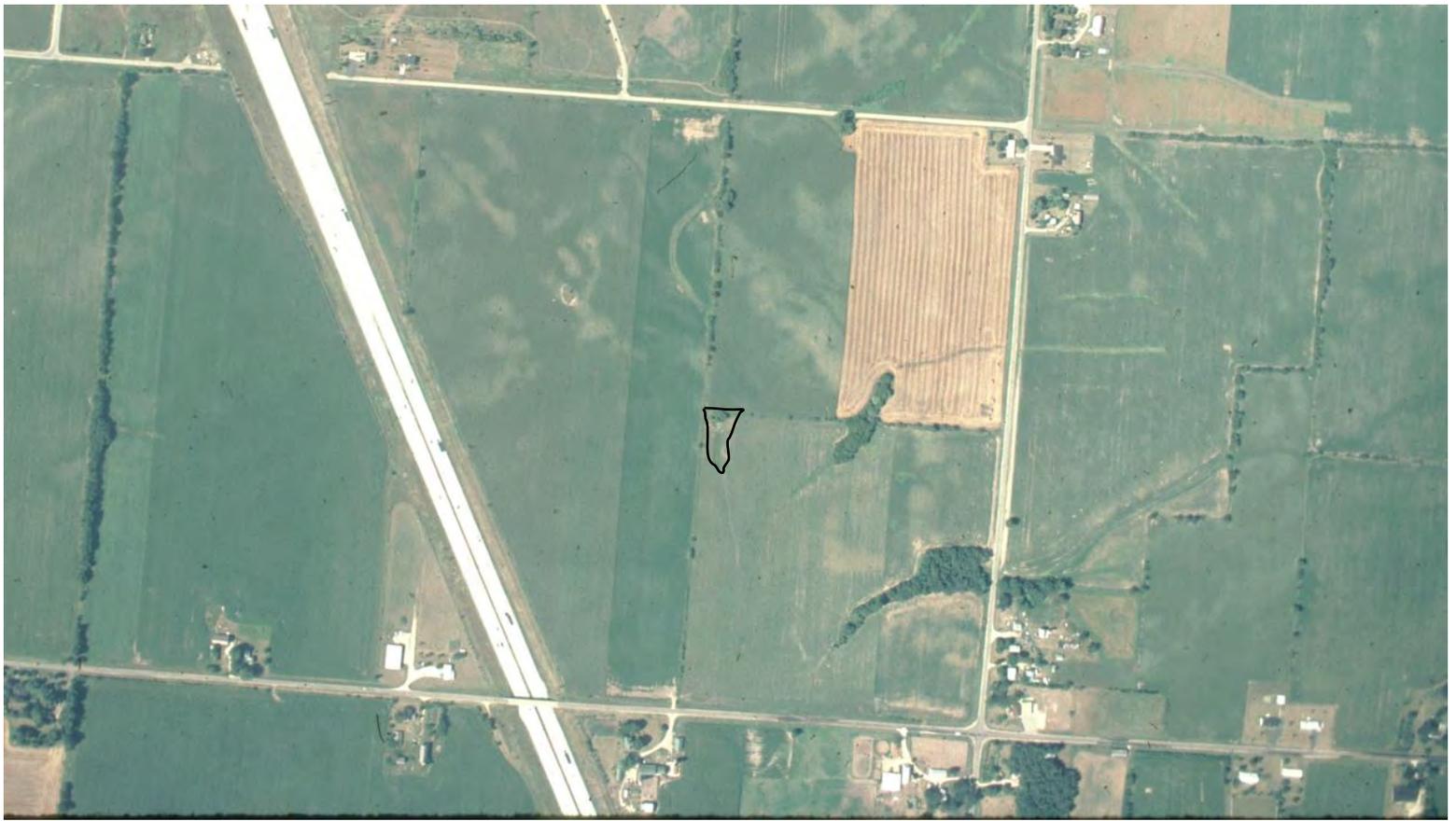
1982 FSA



1983 FSA



1984 FSA



1985 FSA



1986 FSA



1987 FSA



1988 FSA



1989 FSA



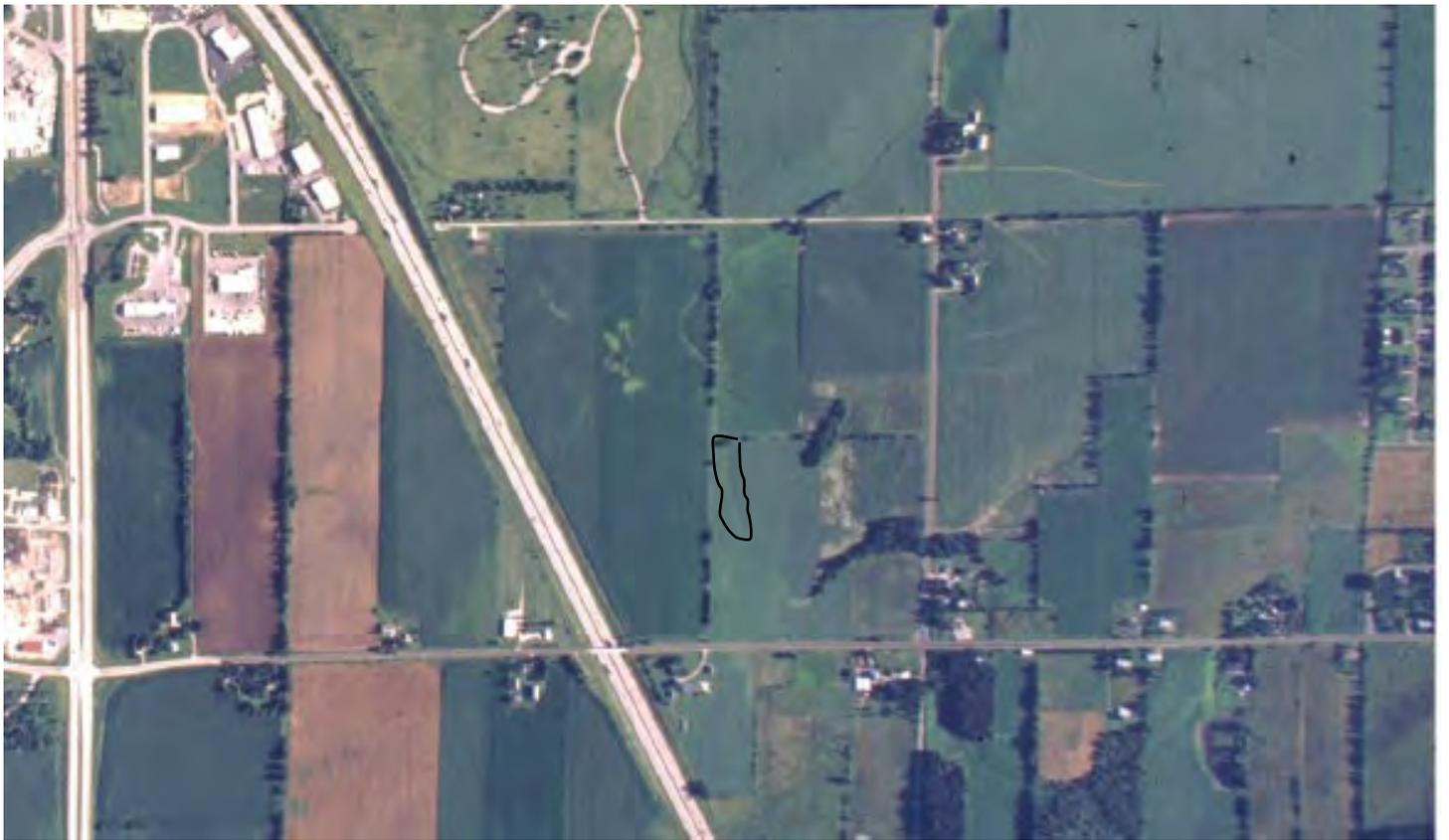
1990 FSA



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



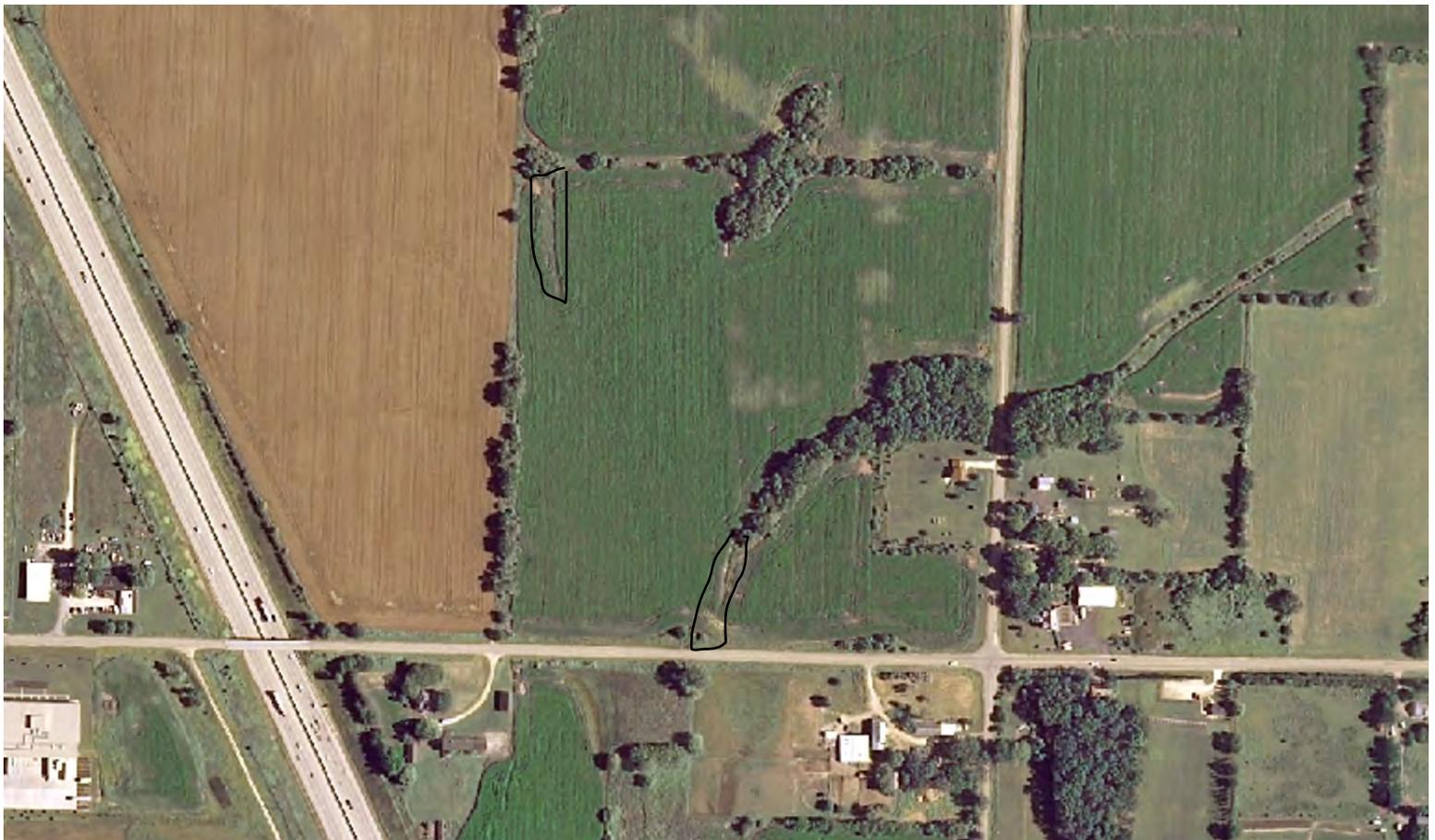
2005 FSA



2006 FSA



2008 FSA



2010 FSA



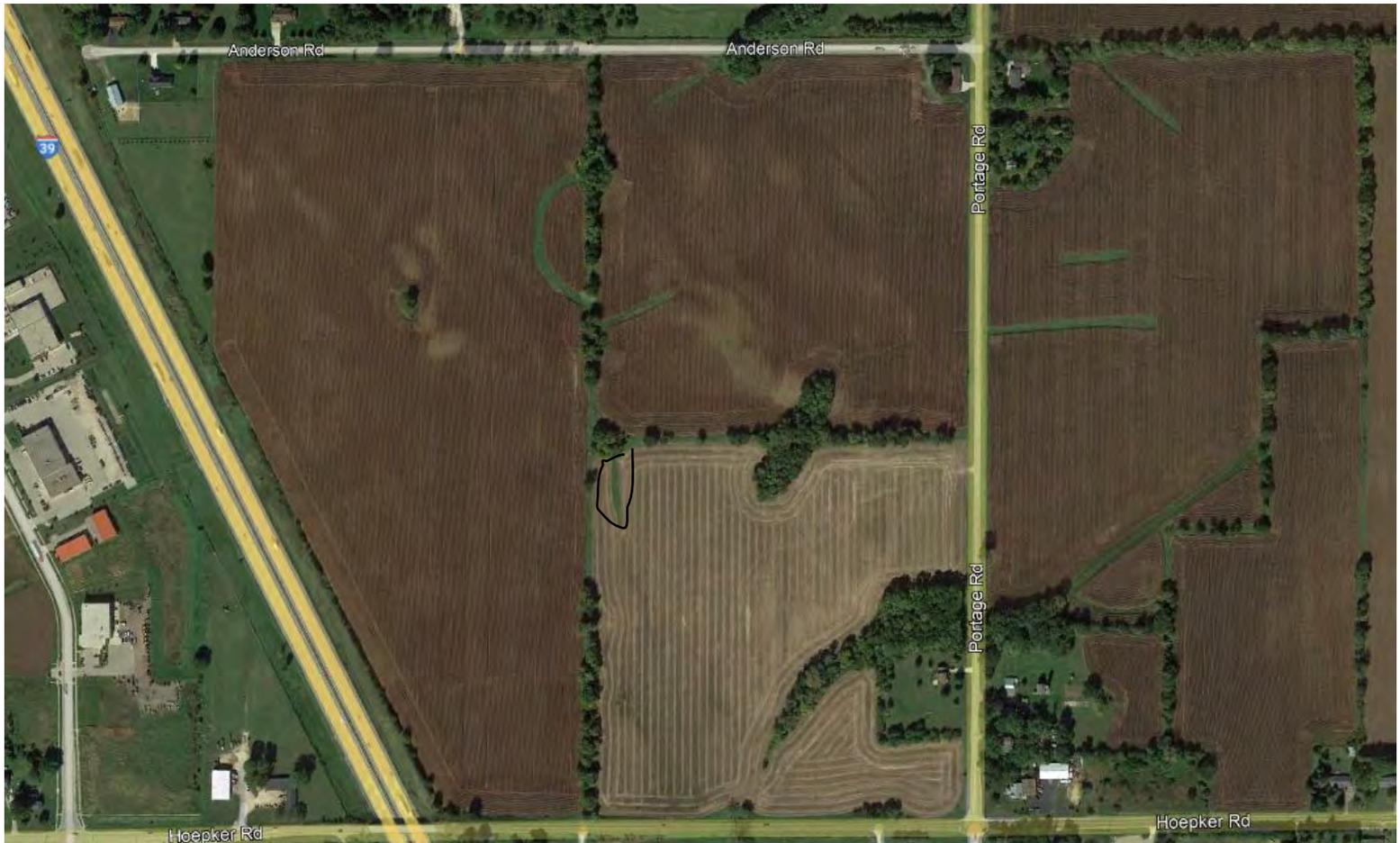
2013 GE



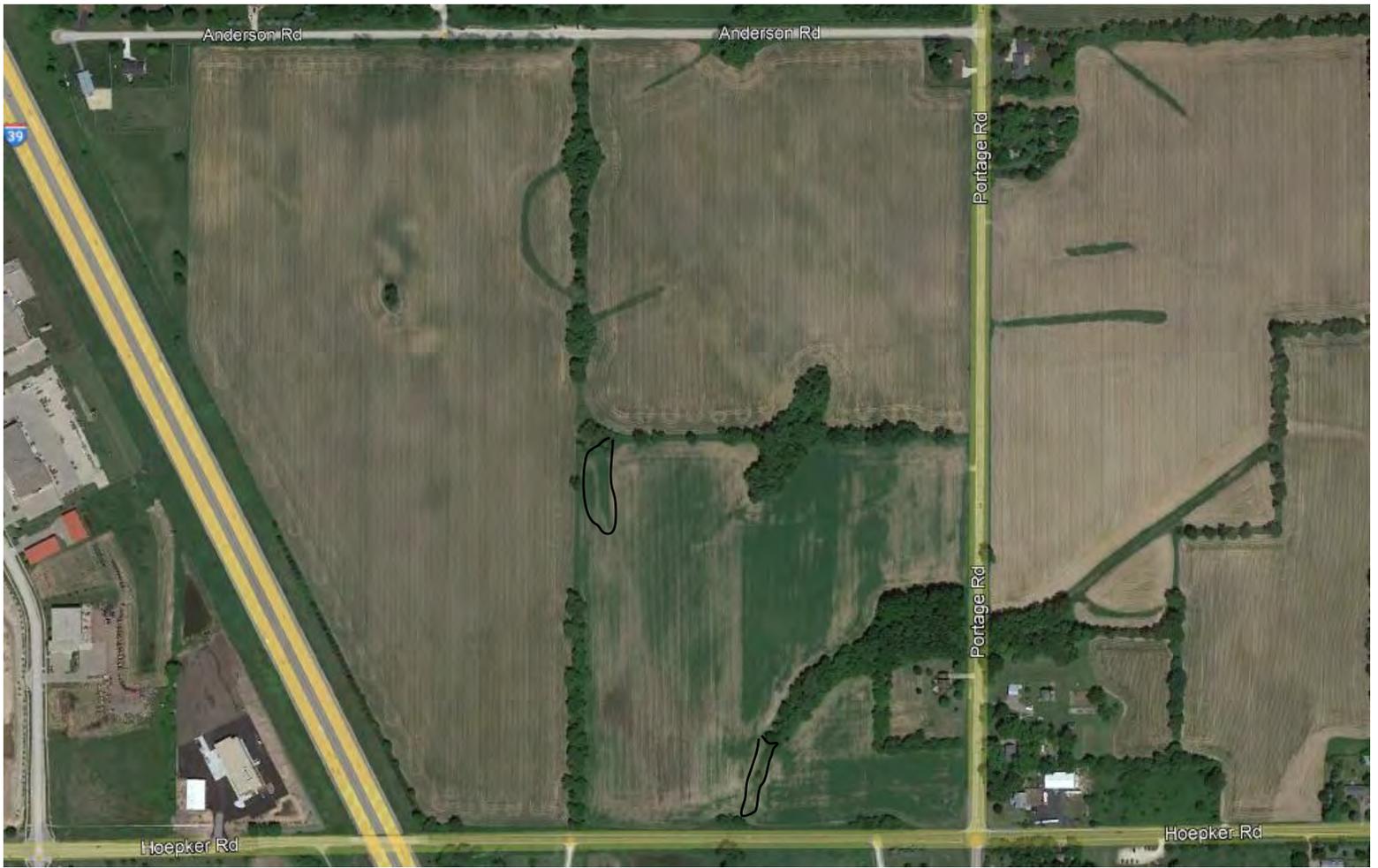
2014 GE



2017 GE



2018 GE



2020 GE

Appendix E:

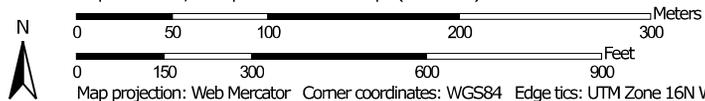
NRCS County Soil Survey Report

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

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



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.

Custom Soil Resource Report

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).

Custom Soil Resource Report

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	—
PnB: Plano silt loam, till substratum, 2 to 6 percent slopes	Lapeer	1-4	Moraines	No	—
	Plano-Till substratum	80-90	Till plains	No	—
	Griswold	5-11	Till plains	No	—
RaA: Radford silt loam, 0 to 3 percent slopes	Elburn	5-9	Till plains	No	—
	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
RnB: Ringwood silt loam, 2 to 6 percent slopes	Drummer	0-3	Depressions	Yes	2,3
	Ringwood	85-95	Moraines	No	—
	Elburn	2-6	Drainageways	No	—

Custom Soil Resource Report

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).

Custom Soil Resource Report

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).

Custom Soil Resource Report

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 Arguidolls
Griswold	
Griswold	Fine-loamy, mixed, superactive, mesic Typic Arguidolls
Griswold	Fine-loamy, mixed, superactive, mesic Typic Arguidolls
Kendall	
Kidder	Fine-loamy, mixed, active, mesic Typic Hapludalfs

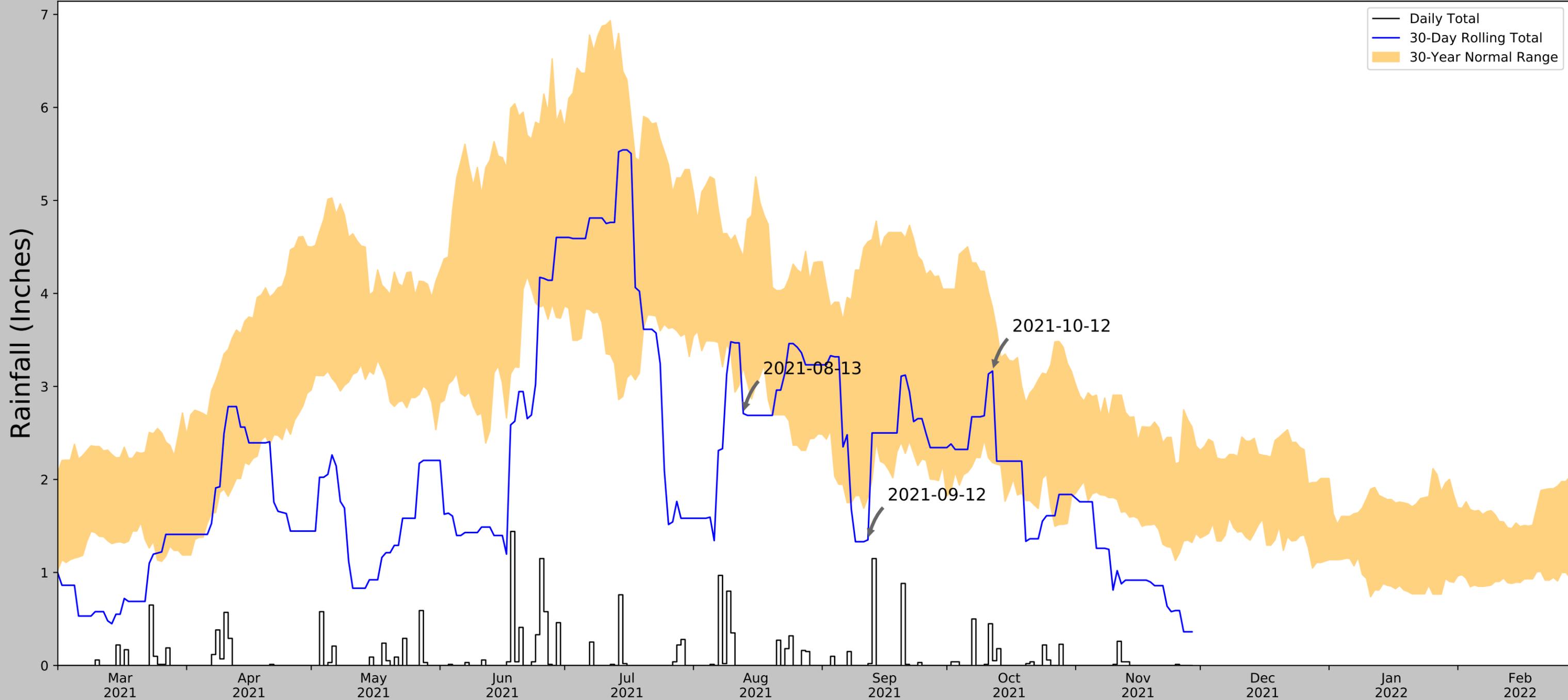
Custom Soil Resource Report

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 Endoaqualls
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 ₂ O 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

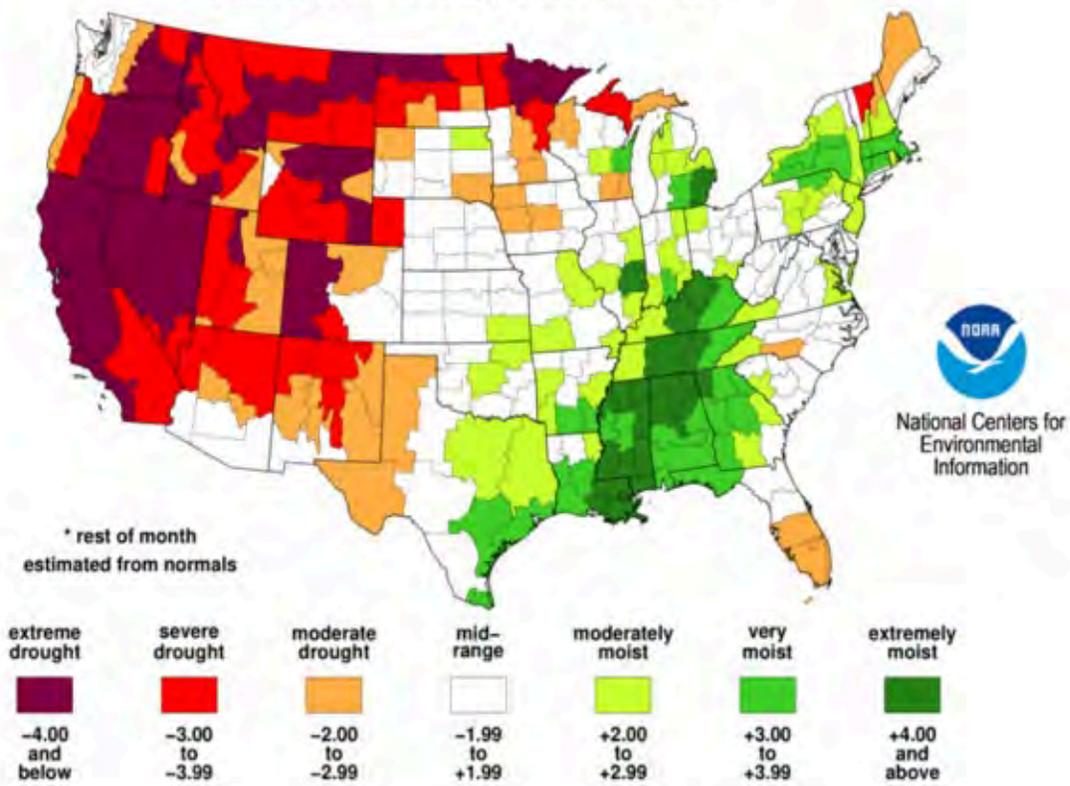
Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

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

Palmer Hydrological Drought Index Long-Term (Hydrological) Conditions

October 2021: through October 16 2021*



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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; margin-top: 10px;">Sample point is located within a rocky hillslope, forested.</p>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible 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 <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>

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

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Acer negundo</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Prunus serotina</u>	<u>5</u>		<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
<u>85%</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Rhamnus cathartica</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>105</u></td> <td>x 3 = <u>315</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>335</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.05</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>105</u>	x 3 = <u>315</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>110</u> (A)	<u>335</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>105</u>	x 3 = <u>315</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>110</u> (A)	<u>335</u> (B)																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
<u>20%</u> = Total Cover																		
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. _____				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
_____ = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Vitis riparia</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	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.														
2. _____																		
3. _____																		
4. _____																		
<u>5%</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														

SOIL

Sampling Point: T1A

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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.
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: 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 Soils³:

- 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)

³Indicators 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
--	--

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: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible 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 <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
---	--

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

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft r</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ = Total Cover			
Herb Stratum (Plot size: <u>5 ft r</u>)				
1. <u>Digitaria sanguinalis</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Echinochloa crus-galli</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Leucanthemum vulgare</u>	<u>10</u>		<u>UPL</u>	
4. <u>Taraxacum officinale</u>	<u>10</u>		<u>FACU</u>	
5. <u>Asclepias syriaca</u>	<u>1</u>		<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	<u>81%</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30 ft r</u>)				
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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>50</u>	x 4 = <u>200</u>
UPL species <u>11</u>	x 5 = <u>55</u>
Column Totals: <u>81</u> (A)	<u>315</u> (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 ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

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

²Location: 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 Soils³:

- 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)

³Indicators 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
--	--

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: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
---	--

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

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft r</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
				_____ = Total Cover
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
				_____ = Total Cover
Herb Stratum (Plot size: <u>5 ft r</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
				_____ = Total Cover
Woody Vine Stratum (Plot size: <u>30 ft r</u>)				
1.				
2.				
3.				
4.				
				_____ = Total Cover
Remarks: (Include photo numbers here or on a separate sheet.)				
<p>No vegetation to review. Due to lack of hydric soil and hydrology indicators one would expect upland vegetation to dominate under normal conditions.</p>				

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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>0</u> (A)	<u>0</u> (B)

Prevalence Index = B/A = NaN

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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

SOIL

Sampling Point: T3A

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

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

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

²Location: 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 Soils³:

- 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)

³Indicators 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
--	--

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: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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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: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>6</u></td> <td>x 3 = <u>18</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>115</u></td> <td>x 5 = <u>575</u></td> </tr> <tr> <td>Column Totals: <u>136</u> (A)</td> <td><u>643</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.73</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>6</u>	x 3 = <u>18</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>115</u>	x 5 = <u>575</u>	Column Totals: <u>136</u> (A)	<u>643</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>6</u>	x 3 = <u>18</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>115</u>	x 5 = <u>575</u>																	
Column Totals: <u>136</u> (A)	<u>643</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)	1. <u>Acer negundo</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>														
2. _____	_____	_____	_____	_____														
3. _____	_____	_____	_____	_____														
4. _____	_____	_____	_____	_____														
5. _____	_____	_____	_____	_____														
6. _____	_____	_____	_____	_____														
7. _____	_____	_____	_____	_____														
<u>5%</u> = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Herb Stratum (Plot size: <u>5 ft r</u>)	1. <u>Bromus inermis</u>	<u>110</u>	<input checked="" type="checkbox"/>		<u>UPL</u>													
2. <u>Solidago altissima</u>	<u>10</u>	_____	_____		<u>FACU</u>													
3. <u>Asclepias syriaca</u>	<u>5</u>	_____	_____		<u>UPL</u>													
4. <u>Phalaris arundinacea</u>	<u>5</u>	_____	_____		<u>FACW</u>													
5. _____	_____	_____	_____		_____													
6. _____	_____	_____	_____		_____													
7. _____	_____	_____	_____		_____													
8. _____	_____	_____	_____		_____													
9. _____	_____	_____	_____		_____													
10. _____	_____	_____	_____		_____													
11. _____	_____	_____	_____		_____													
12. _____	_____	_____	_____	_____														
<u>130%</u> = Total Cover				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.														
Woody Vine Stratum (Plot size: <u>30 ft r</u>)	1. <u>Vitis riparia</u>	<u>1</u>	_____		<u>FAC</u>													
2. _____	_____	_____	_____		_____													
3. _____	_____	_____	_____		_____													
4. _____	_____	_____	_____	_____														
<u>1%</u> = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: 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 Soils³:

- 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)

³Indicators 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Sample point is located within a depression.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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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

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Acer negundo</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. <u>Juglans nigra</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>20%</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. _____				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>80</u></td> <td>x 2 = <u>160</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>130</u></td> <td>(A) <u>380</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.92</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>80</u>	x 2 = <u>160</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>130</u>	(A) <u>380</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>80</u>	x 2 = <u>160</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>30</u>	x 5 = <u>150</u>																	
Column Totals: <u>130</u>	(A) <u>380</u> (B)																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
		= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Phalaris arundinacea</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Bromus inermis</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>110%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____				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.														
2. _____																		
3. _____																		
4. _____																		
		= Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.)																		
				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

SOIL

Sampling Point: T5A

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: 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 Soils³:

- 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)

³Indicators 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: