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Sambatek Project #20916

Level 2 Wetland Delineation Report

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Trunk Highway 14

Nicollet County

-FOR-

Minnesota Department of Transportation

Mankato/Windom District (D7)
State Project 5202-58

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Table of Contents

INTRODUCTION AND BACKGROUND 1

LEGAL CONTEXT 1

STATE REGULATIONS 1

MINNESOTA WCA 1

GOVERNOR'S EXECUTIVE ORDERS 03-04 AND 00-02 2

PUBLIC WATERS WORK PROGRAM 2

FEDERAL REGULATIONS 2

CLEAN WATER ACT (CWA) (SECTION 404) 2

DOT ORDER 5660.1A 2

EXECUTIVE ORDER (EO) 11990-PROTECTION OF WETLANDS 2

PURPOSE OF THIS REPORT 2

WETLAND DELINEATION METHODOLOGY 3

REVIEW OF PUBLISHED RESOURCES 3

LiDAR TOPOGRAPHIC MAP 3

NICOLLET COUNTY SOIL SURVEY 3

NWI 6

DNR PUBLIC WATERS AND PUBLIC WATERS WETLANDS 8

PRECIPITATION DATA 8

THREE PARAMETER WETLAND DELINEATION (NON FARMED WETLANDS) 9

ROUTINE FIELD WETLAND DELINEATION 10

WETLAND/WET DITCH REFERENCE CHART 10

RESULTS 14

OTHER AQUATIC RESOURCES 200

NON WET AREAS 214

CONCLUSIONS 218

FIGURES

Location Map
Wet Feature Location Map (60 sheets)
LiDAR Topographic Map (60 Sheets)
Nicollet County Soil Survey Map (7 sheets)
NWI Map (7 Sheets)
DNR Public Waters Map (7 Sheets)
Level 1/Level 2 Comparison Flowchart
Data Sheets

INTRODUCTION AND BACKGROUND

Sambatek has prepared this Level 2 Wetland Delineation Report for State Project 5202-58, located along approximately 12.25 miles of TH 14. The Project Corridor begins approximately 0.40 miles west of the TH 14 intersection with 471st Avenue near Nicollet, Minnesota. The Project Corridor ends approximately 0.50 miles south of the TH 14 and TH15 intersection near New Ulm, Minnesota in Nicollet County. This project involves the expansion and realignment of TH 14 to improve the roadway to handle increased traffic. In some areas where the surrounding landscape does not provide sufficient space to expand TH 14, a new alignment is being proposed. In the areas of the new alignment, the Project Corridor typically extends through privately owned agricultural fields. Since the portions of Project Corridor are privately owned the landowners were contacted prior to the field work to confirm access to their property. Some landowners requested to receive a call a day prior to fieldwork commencing on their property, while other landowners requested that we did not go on their property at all. These restricted properties are outlined on the attached maps. No work was performed on the properties where access was denied by the landowner.

A Level 1 Office Wetland Delineation was conducted prior to fieldwork activities to locate possible wetland areas in advance of a site visit. Fieldwork for the project was completed between October 11-12 and 17, November 2-4, 6-10, 13-15 and 21-22, 2017. Land use through the Project Corridor is primarily agricultural with some smaller areas of light commercial/industrial. Aerial mapping used as base map is from 2015.

The Project Corridor is located within Bank Service Area 9, within the Minnesota River - Mankato (#28) major watershed.

This Wetland Delineation Report is provided to MnDOT and the regulatory agencies for the purpose of identifying wetland and other aquatic resources within the proposed TH 14 Project Corridor and as a resource for the permitting process.

LEGAL CONTEXT

At the state government level, wetlands are protected by the Minnesota Wetland Conservation Act (WCA) administered by the Board of Water and Soil Resources (BWSR) and the Public Waters Program administered by the Minnesota Department of Natural Resources (DNR).

At the federal government level wetlands are protected by Section 404 of the Clean Water Act (CWA).

To comply with Section 404 of the CWA, the federal government mandates the use of the *1987 U.S. Army Corps of Engineers Wetland Delineation Manual* (hereafter *The 1987 Manual*) and the regional supplement for the Project Corridor. The proposed project is located within the Midwest Region, therefore the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region was utilized as part of the delineation activities. A 1994 Federal Memorandum of Agreement between the Department of Defense, Department of Interior, U.S. Environmental Protection Agency (EPA), and the U.S. Department of Agriculture

requires the use of *The 1987 Manual* and regional supplement by all federal resource agencies on non-agricultural lands.

Wetland regulations relevant to the TH 14 Project Corridor are summarized below.

STATE REGULATIONS

Minnesota WCA
The WCA establishes a state policy of no-net-loss of wetlands and requires in the course of project development, the avoidance of wetlands, minimization of impacts to wetlands, and mitigation for unavoidable impacts to wetlands. The WCA specifies several exemptions, e.g. conditions under which wet areas are not afforded the protection of the WCA. Categories of exemptions that potentially apply to the TH 14 Project Corridor, excerpted from the Minnesota Wetland Conservation Act Manual, are 1) incidental wetlands, and 2) *de minimis* exemption.

"Incidental wetlands" are wetland areas that the applicant can demonstrate, to the satisfaction of the local government unit, were created in non-wetland areas solely by actions, the purpose of which was not to create the wetland. Incidental wetlands include drainage ditches, impoundments, or excavations constructed in non-wetland areas solely for the purpose of effluent treatment, containment of waste material, storm water retention or detention, drainage, soil and water conservation practices, and water quality improvements and not as part of a wetland replacement process that may, over time, take on wetland characteristics.

A *de minimis* exemption is an area of wetland that may be impacted for which there is no obligation to mitigate for it. The amount of allowable *de minimis* varies with respect to several factors such as location in the State, wetland types impacted and the presence of shoreland zones. However, if the *de minimis* impact threshold is exceeded then mitigation is required for all proposed wetland impacts.

Governor's Executive Order 03-04 and 00-02
This is the No-Net-Loss of Wetlands policy for the State of Minnesota.

Public Waters Work Permit Program
Those wetlands, waters and streams that are included on Public Waters and Public Water Wetlands Inventory maps are under the jurisdiction of the DNR. The DNR has jurisdiction over that portion of the Public Water Wetland that is below the established Ordinary High Water Level (OHW). Areas above the OHW are regulated by the WCA.

FEDERAL REGULATIONS

Clean Water Act (CWA) (Section 404)
Section 404 of the CWA regulates the discharge of dredged or fill material into Waters of the United States, including wetlands. The U.S. Army Corps of Engineers (USACOE) administers the Section 404 permit program, while the EPA oversees the overall implementation of the CWA.

DOT Order 5660.1A
"Preservation of the Nation's Wetlands" policy.

Executive Order (EO) 11990 – Protection of Wetlands
EO 11990 requires federal agencies to minimize detrimental actions affecting wetlands while preserving and enhancing the natural and beneficial values of wetlands. This protection is extended to road improvements that, in part, receive federal funding.

PURPOSE OF THIS REPORT

The purpose of this Level 2 Wetland Delineation Report is to:

- Present an accurate record of wetland resources within the TH 14 Project Corridor
- Provide a document to guide the Technical Evaluation Panel (TEP) members in a field review,
- Solicit review and comment on wetland resources from MnDOT and wetland regulatory agencies early in the design process,
- Calculate estimated wetland impacts by wetland type for the proposed road improvement project.

This report is intended for the review of appropriate wetland resource agencies such as BWSR, Nicollet County Soil and Water Conservation District (SWCD), DNR, and the USACOE. This report is also intended to serve as a resource with which to guide a TEP in the wetland boundary verification exercise. As a result of the TEP, it is expected that the wetland regulatory agencies will concur in agreement of the wetland resources delineated and documented within the Project Corridor. This Wetland Delineation Report is intended so that the road designers can have the necessary information to avoid and minimize impacts to wetlands to the extent practicable.

WETLAND DELINEATION METHODOLOGY

Review of Published Resources

The review of published resources is relevant to any effort in assessing where wetland conditions may exist and their extents in an area. However, these resources should be considered only as a tool in identifying potential wetland conditions and should not substitute an on-site examination in the final determination of wetland conditions and their extents. Published resources used in the wetland delineation process of the Project Corridor included: topography maps, Nicollet County Soil Survey, the 2014 Update of the National Wetland Inventory (NWI) map, DNR Public Waters Inventory maps for Nicollet County, historical precipitation data, and historical aerial photography.

LiDAR Topography Map
Topography for the Project Corridor was acquired from the MNDNR GIS database (http://arcgis.dnr.state.mn.us/maps/mntopo/) and overlain on aerial photos to examine for indications of wetland conditions existing within the Project Corridor.

Nicollet County Soil Survey

The Nicollet County Soil Survey (SSURGO, 2011) was examined for the Project Corridor. SSURGO digital soils data were obtained and overlain on aerial photography for use during this review. Hydric soils are defined in the *Field Indicators of Hydric Soils in the United States: Guide for Identifying and Delineating Hydric Soils*, Version 8.1, 2017 (NRCS, 2017), *The 1987 Corps of Engineers Wetland Delineation Manual* (The 1987 Manual), and the *Midwest Regional Supplement to the Corps of Engineers Wetland Delineation Manual* (The Regional Supplement). These resources were reviewed in preparation of this report. Table 1 provides a summary of the mapped soil types within the Project Corridor.

Based on the Hydric Rating obtained from the Soil Survey, soil types can be categorized into six categories:

- All hydric – all components listed for a given map unit are rated as being hydric,
- Predominantly hydric – more than 66% to less than 100% components are hydric,
- Partially hydric – more than 33% to less than 67% of components are hydric,
- Predominantly non-hydric – more than 0% and less than 34% of components are hydric,
- Not hydric – all components are rated as not hydric and
- Unknown hydric – at least one component is not rated so a definitive rating for the map unit cannot be made.

Table 1. Mapped Soil Types within Project Area

Map Unit Symbol	Map Unit Name	Hydric Soil Rating	Rating Description	Drainage Classification
27A	Dickenson loam, 0-2% slopes	0	Non hydric	Well drained
27B	Dickenson loam, 2-6% slopes	0	Non hydric	Well drained
39A	Wadena loam, 0-2% slopes	1	Predominantly non hydric	Well drained
39B	Wadena loam, 2-6% slopes	0	Non hydric	Well drained
41B	Estherville sandy loam, 2-6% slopes	1	Predominantly non hydric	Somewhat excessively drained
86	Canisteo clay loam, 0-2% slopes	100	All Hydric	Poorly drained
94B	Terril loam, 2-6% slopes	8	Predominantly non hydric	Well drained
94C	Terril loam, 6-12% slopes	5	Predominantly non hydric	Moderately well drained
100B	Capaston loam, 1-6% slopes	15	Predominantly non hydric	Well drained
102B	Clarion loam, 2-6% slopes	5	Predominantly non hydric	Moderately well drained
106B	Lester loam, 2-6% slopes	10	Predominantly non hydric	Well drained
106C2	Lester loam, 6-10% slopes, moderately eroded	2	Predominantly non hydric	Well drained
109	Cordova clay loam, 0-2% slopes	90	Predominantly hydric	Poorly drained

Map Unit Symbol	Map Unit Name	Hydric Soil Rating	Rating Description	Drainage Classification
112	Harps clay loam, 0-2% slopes	100	All Hydric	Poorly drained
134	Okoboji silty clay loam, 0-1% slopes	100	All hydric	Very poorly drained
239	Le Sueur loam, 1-3% slopes	15	Predominantly non hydric	Somewhat poorly drained
283A	Plainfield loamy sand, 0-2% slopes	0	Non hydric	Excessively drained
283B	Plainfield loamy sand, 2-6% slopes	0	Non hydric	Excessively drained
283C	Plainfield loamy sand, 2-6% slopes ponded	0	Non hydric	Excessively drained
321	Tilfer silty clay loam	93	Predominantly hydric	Very poorly drained
327A	Dickman sandy loam, 0-2% slopes	3	Predominantly non hydric	Somewhat excessively drained
336	Delft clay loam, 0-2% slopes	95	Predominantly hydric	Poorly drained
386	Okoboji mucky silty clay loam	100	All hydric	Very poorly drained
575	Nishna silty clay loam	95	Predominantly hydric	Poorly drained
611F	Hawick loamy sand, 20-40% slopes	0	Non hydric	Excessively drained
920C2	Clarion-Storden-Pilot Grove complex, 6-10% slopes, moderately eroded	1	Predominantly non hydric	Well drained
921C2	Clarion-Storden complex, 6-10% slopes, moderately eroded	5	Predominantly non hydric	Well drained
923	Copaston-Rock outcrop complex, 2-60% slopes	0	Non hydric	Well drained
960D2	Omsrud-Storden complex, 10-16% slopes, moderately eroded	0	Non hydric	Well drained
960F	Belview-Omsrud complex, 22-40% slopes	10	Predominantly non hydric	Well drained
978	Cordova-Rolfe complex, 0-2% slopes	95	Predominantly hydric	Poorly drained
1030	Udorthents-Pits, gravel complex	10	Predominantly non hydric	Well drained
1075	Klossner and Muskego soils, ponded, 0-1% slopes	100	All hydric	Very poorly drained
1901B	Le Sueur-Lester complex, 1-6% slopes	5	Predominantly non hydric	Somewhat poorly drained
L83A	Webster clay loam, 0-2% slopes	95	Predominantly hydric	Poorly drained

Map Unit Symbol	Map Unit Name	Hydric Soil Rating	Rating Description	Drainage Classification
L84A	Glencoe clay loam, 0-1% slopes	100	All hydric	Very poorly drained
L85A	Nicollet clay loam, 1-3% slopes	10	Predominantly non hydric	Somewhat poorly drained
L107A	Canisteo-Glencoe complex, 0-2% slopes	90	Predominantly hydric	Poorly drained
W	Water	0	N/A	N/A

National Wetland Inventory

Digital NWI data were obtained from the Minnesota Geospatial Commons website (http://gisdata.mn.gov/), overlain on aerial photography and depicted on maps used during this review of the Project Corridor. NWI-identified wetlands are from the 2014 Update performed by the Minnesota DNR. There are thirty nine NWI wetland areas either wholly or partially within the Project Corridor.

Table 2. NWI Mapped Wetland within Project Area

Cowardin	Circular 39	Wetland Plant Community	Delineation Area	Location
PEM1Ax	Type 1	Seasonally Flooded Basin-excavated	N/A	1775' west of the TH 14/481st Ave, 2000' up driveway on east side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 3	1775' west of the TH 14/481st Ave, 2000' up driveway on west side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 2	1775' west of the TH 14/481st Ave, NW quadrant of TH 14 and driveway
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 1	1700' east of the TH 14/491st Ave intersection, north side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 7	1700' east of the TH 14/491st Ave intersection, south side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 9	800' west of the TH 14/503rd Ave intersection, north side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 11 Wetland 12	500' west of the TH 14/503rd Ave intersection, south side
PEM1C	Type 3	Shallow Marsh	Wetland 10	500' west of the TH 14/503rd Ave intersection, south side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 13	600' west of the TH 14/C.R. 21 intersection, south side
PEM1C	Type 3	Shallow Marsh	Wet Ditch 23	1400' west of the TH 14/C.R. 21 intersection, north side
PEM1C	Type 3	Shallow Marsh	Wetland 14	1400' west of the TH 14/C.R. 21 intersection, north side, north of Wet Ditch 23
PEM1C	Type 3	Shallow Marsh	Wetland 15	1400' west of the TH 14/C.R. 21 intersection, south side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 17	2800' west of the TH 14/C.R. 21 intersection, north side, 500' north of TH 14

Cowardin	Circular 39	Wetland Plant Community	Delineation Area	Location
PEM1B	Type 2	Fresh Wet Meadow	Wet Ditch 27	3550' west of the TH 14/C.R. 21 intersection, south side
PFO1B	Type 7	Hardwood Swamp	Wetland 18	4650' east of the TH 14/478th Street intersection, south side
PFO1Ah	Type 1	Floodplain Forest-Diked	Wetland 19	3800' east of the TH 14/478th Street intersection, south side
PEM1B	Type 2	Fresh Wet Meadow	N/A	3800' east of the TH 14/478th Street intersection, south side
PEM1Af	Type 1	Seasonally Flooded Basin-farmed	Wetland 20	1675' east of the TH 14/478th Street intersection, north side
PEM1C	Type 3	Shallow Marsh	Wetland 22	1900' east of the 531st Ave/466th Street intersection, south side
PEM1C	Type 3	Shallow Marsh	Wetland 23	1200' east of the 531st Ave/466th Street intersection, south side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 24	750' east of the 531st Ave/466th Street intersection, north side
PEM1A	Type 1	Seasonally Flooded Basin	N/A	SE quadrant of the 531st Street/466th Ave intersection
PFO1B	Type 7	Hardwood Swamp	Wetland 21	600' north of the TH 14/531st Street intersection, then 300' east in field
PFO1B	Type 7	Hardwood Swamp	N/A	400' north of the TH 14/531st Street intersection, then 100' east in field
PEM1B	Type 2	Fresh Wet Meadow	Wetland 27	2000' north of the TH 14/541st Ave intersection, west side
PEM1B	Type 2	Fresh Wet Meadow	Wetland 26	1200' north of the TH 14/541st Ave intersection, west side
PFO1Ax	Type 1	Floodplain Forest	Wetland 28	1700' east of the TH 14/541st Lane, south side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 30	500' south of the TH 14/561st Ave intersection, east side
PFO1A	Type 1	Floodplain Forest	Wetland 29	350' south of the TH 14/561st Ave intersection, west side
PFO1B	Type 7	Hardwood Swamp	N/A	700' north of the TH 14/561st Ave intersection, east side
PEM1A	Type 1	Seasonally Flooded Basin	Wetland 32	700' north of the TH 14/561st Ave intersection, west side
PSS1A	Type 2/6	Shrub/Scrub	Wetland 31, Wetland 33, Wetland 34	300' north of the TH 14/561st Ave intersection, west side
PEM1B	Type 2	Fresh Wet Meadow	Wetland 35	TH 14/Jeremy Drive intersection, south side

Cowardin	Circular 39	Wetland Plant Community	Delineation Area	Location
PFO1B	Type 7	Hardwood Swamp	Wetland 36	400' south of the TH 14/571st Lane, east side
PFO1B	Type 7	Hardwood Swamp	OAR 4	650' west of the TH 14/571st Lane, south side
PFO1C	Type 7	Hardwood Swamp	Wetland 41	1400' west of the TH 14/TH 15 intersection, south side-at the boat landing
PFO1C	Type 7	Hardwood Swamp	Wetland 42	1000' west of the TH 14/TH 15 intersection, south side-at the boat landing
PFO1C	Type 7	Hardwood Swamp	Wetland 44	1700' north of the TH 14/446th Street intersection, west side
PFO1C	Type 7	Hardwood Swamp	Wetland 43	4500' north of the TH 14/446th Street intersection, west side

Public Waters / Public Waters Wetlands

Public Waters and Public Waters Wetlands are those wetlands regulated by the DNR and specifically excluded from jurisdiction under the WCA. The following, excerpted from the DNR webpage, summarizes key facts about Public Waters and Public Water Wetlands:

Public waters are all waterbasins and watercourses that meet the criteria set forth in Minnesota Statutes, Section 103G.005, subd. 15 that are identified on Public Water Inventory maps authorized by Minnesota Statutes, Section 103G.201*. Public waters wetlands include all type 3, type 4, and type 5 wetlands (as defined in U.S. Fish and Wildlife Service Circular No. 39, 1971 edition) that are 10 acres or more in size in unincorporated areas or 2.5 acres or more in size in incorporated areas (see: Minnesota Statutes Section 103G.005, subd. 17b, Wetland Type). Currently, DNR Waters utilizes scanned mylar county-scale maps printed on paper to show the general location of the public waters and public waters wetlands (lakes, wetlands, and watercourses) under its regulatory jurisdiction. These maps are commonly known as Public Waters Inventory (PWI) maps. The regulatory "boundary" of these waters and wetlands is called the ordinary high water level (OHWL).*

There are four DNR public waters or public watercourses located within the Project Corridor. The majority of the corridor is located adjacent to the Minnesota River. Many of the Public Waters identified within the Project Corridor drain toward the Minnesota River. All of the Public Watercourses drain into the Minnesota River from the north. DNR Public Waters are shown on Table 3.

Table 3. Summary of DNR Public Waters within the Project Area

DNR Public Water	Location	Delineation Area	Water Feature
Swan Lake Outlet	50' east of TH 14/481st Ave, both sides of TH 14	WD 6 and WD 45	Public Waterway
Unnamed Creek	3200' west of TH 14/C.R. 21 intersection, both sides of TH 14	Drains WL 17 WD 27	Public Waterway

DNR Public Water	Location	Delineation Area	Water Feature
Heymans Creek	360' north of TH 14/571st Lane intersection, both sides of TH 14	WL 37, OAR 4	Public Waterway
Heymans Creek	2575' east of TH 14/445th Avenue intersection, both sides of TH 14	OAR 5	Public Waterway

Precipitation Data

Analysis of precipitation data pertinent to the Project Corridor helps to interpret wetland signatures observed during the review of historical aerial photography. Abnormal precipitation is considered to be that below the 30th percentile (drier than normal) and above the 70th percentile (wetter than normal). Normal precipitation is based on the 30-year average for the period of 1981-2010. Table 4 summarizes the antecedent moisture of the three prior months to the site visit. Precipitation data were obtained from the Minnesota State Climatology Office website (http://climate.umn.edu/). For the purpose of this study, Sambatek utilized Section 5, Township 109N, Range 29W (Courtland Township, Nicollet County) as the project location for the precipitation data.

Table 4. Antecedent Moisture Data for Section 5, T109N, R29W

Month / Year	30-Year Average* (inches)	Actual* (inches)	Difference (inches)	
December 2016	0.98	1.78	+0.80	
January 2017	0.74	0.78	+0.04	
February 2017	0.70	0.48	-0.22	
March 2017	1.88	0.81	-1.07	
April 2017	2.76	3.49	+0.73	
May 2017	3.42	4.94	+1.52	
June 2017	4.99	3.10	-1.89	
July 2017	3.91	2.69	-1.22	
August 2017	4.06	8.04	+3.98	NRCS Method Condition
September 2017	3.03	2.36	-0.67	Normal (2)
October 2017	2.29	4.70	+2.41	Wet (6)
November 2017	1.64	0.05	-1.59	Dry (3)
Total (Dec – Nov)	**30.40**	**33.22**	**+2.82**	**Normal (11)**

*2016- 2017 and 30 year Data from the Minnesota State Climatology Office website
NRCS Condition Method utilizes Rainfall Documentation Worksheet; 6-9 (Dry); 10-14 (Normal); 15-18 (Wet)

According to the historical precipitation data obtained from the Minnesota State Climatology Office, the Project Corridor was experiencing normal conditions at the time of the site visit. Aerials from 2015, a normal year, were used for the figures in this report.

THREE-PARAMETER WETLAND DELINEATIONS (NON-FARMED WETLANDS)

The delineation of wetlands in non-farmed areas was conducted in accordance to routine determination Level 2 methods described in *The 1987 Manual, the Regional Supplement, and the Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and Wetland Conservation Act Local governmental Units in Minnesota, Version 2 (2015)*. Data on soils, hydrology, and vegetation (the three parameters mandated in *The 1987 Manual*) were collected at each potential wetland. One sampling transect was established at each wetland, which included one sampling location clearly on the upland side of the wetland boundary and another sampling location clearly on the wetland side of the wetland boundary. The wetland boundary was established at the line where one or more of the mandatory parameters (hydric soils, indicators of wetland hydrology, and a predominance of hydrophytic vegetation) were not present.

The definition of hydric soils as used in this report is per *Field Indicators of Hydric Soils in the United States: Guide for Identifying and Delineating Hydric Soils, Version 8.1, 2017* (NRCS 2010). *The 1987 Manual* provides additional information relevant to the definition and characteristics of hydric soils. Digital soils data for Nicollet County were overlain on aerial photos and reviewed for locations of mapped hydric soils, potential inclusions of hydric soils and non-hydric soils within the TH 14 Project Corridor. Soil map units considered hydric in Nicollet County were based on the hydric rating for each map unit. The definitions of wetland hydrology and predominance of hydrophytic vegetation follow *The 1987 Manual* and *The Regional Supplement*. The designation of Wetland Plant Indicator Status for plants observed in wetland and upland sampling pits follows *The National List of Plant Species that Occur in Wetlands – 2016 Update.* Boundaries of wetlands/wet ditches were recorded with a Trimble GeoXH GPS unit, which provides sub-meter accuracy.

ROUTINE FIELD WETLAND DELINEATION

Sambatek implemented the Level 2 routine wetland delineation methodology and determined that forty six (46) wetlands were located within the TH 14 Project Corridor. In addition, forty six (46) wet ditches and nine (9) Other Aquatic Resources were identified within the Project Corridor. After reviewing the available aerial photography, two Wet Ditches delineated in the field were determined to historically be wetlands. These areas were identified as Wet Ditch 6 and Wet Ditch 23 in the field, however they are identified as Wetland 4 and Wetland 46, respectively in this report. This is why there is a gap in the numbering of the wet ditches.

Table 5 provides a summary of the forty six (46) wetlands located within the TH 14 Project Corridor.

Table 6 provides a summary of the forty six (46) Wet Ditches that were identified within the TH 14 Project Corridor.

Table 5. Summary of Wetlands Identified within the Project Corridor

Wetland ID	Wetland Type			County, Major Watershed #, BSA #	Latitude	Longitude
	Circular 39	Cowardin	Eggers and Reed Classification			
Wetland 1	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.27165	-94.2437
Wetland 2	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.2726	-94.2385
Wetland 3	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.27615	-94.235
Wetland 4	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.27541	-94.2348
Wetland 5	Type 3	PEM1C	Shallow Marsh	Nicollet, 28, 9	44.27237	-94.2289
Wetland 6	Type 3	PEM1C	Shallow Marsh	Nicollet, 28, 9	44.27178	-94.2292
Wetland 7	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.27083	-94.2447
Wetland 8	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.26658	-94.2842
Wetland 9	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.26826	-94.2794
Wetland 10	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.26603	-94.2783
Wetland 11	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.26709	-94.2783
Wetland 12	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.26659	-94.2799
Wetland 13	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.26493	-94.2937
Wetland 14	Type 3	PEM1C	Shallow Marsh	Nicollet, 28, 9	44.26632	-94.296
Wetland 15	Type 3	PEM1C	Shallow Marsh	Nicollet, 28, 9	44.26502	-94.2962
Wetland 16	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.26636	-94.3007
Wetland 17	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.2682	-94.3037
Wetland 18	Type 7	PFO1B	Hardwood Swamp	Nicollet, 28, 9	44.26432	-94.3115
Wetland 19	Type 1	PFO1A	Floodplain Forest	Nicollet, 28, 9	44.26476	-94.3152
Wetland 20	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.27176	-94.3178
Wetland 21	Type 7	PFO1B	Hardwood Swamp	Nicollet, 28, 9	44.26868	-94.3305
Wetland 22	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.27468	-94.324
Wetland 23	Type 3	PEM1C	Shallow Marsh	Nicollet, 28, 9	44.27368	-94.3277
Wetland 24	Type 3	PEM1C	Shallow Marsh	Nicollet, 28, 9	44.27555	-94.329
Wetland 25	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.2813	-94.3516
Wetland 26	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.27539	-94.3534
Wetland 27	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.27695	-94.3456
Wetland 28	Type 1	PFO1Ax	Floodplain Forest	Nicollet, 28, 9	44.27485	-94.3632
Wetland 29	Type 1	PFO1A	Floodplain Forest	Nicollet, 28, 9	44.28431	-94.3932
Wetland 30	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.28336	-94.3918
Wetland 31	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.28629	-94.3933
Wetland 32	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.28661	-94.3927
Wetland 33	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.28672	-94.394
Wetland 34	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.28725	-94.3951
Wetland 35	Type 2	PFO1B/PEM 1B	Hardwood Swamp/ Fresh Wet Meadow	Nicollet, 28, 9	44.28865	-94.4039
Wetland 36	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.291	-94.4119
Wetland 37	Type 2	PFO1B	Hardwood Swamp	Nicollet, 28, 9	44.29271	-94.4134
Wetland 38	Type 1	PEM1A	Seasonally Flooded Basin	Nicollet, 28, 9	44.29766	-94.4206
Wetland 39	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.30374	-94.4239
Wetland 40	Type 2	PEM1B	Fresh Wet Meadow	Nicollet, 28, 9	44.30341	-94.4249
Wetland 41	Type 1	PFO1B	Floodplain Forest	Nicollet, 28, 9	44.29917	-94.4278
Wetland 42	Type 1	PFO1B	Floodplain Forest	Nicollet, 28, 9	44.30001	-94.4265
Wetland 43	Type 1	PFO1B	Floodplain Forest	Nicollet, 28, 9	44.3155	-94.4346
Wetland 44	Type 1	PFO1B	Floodplain Forest	Nicollet, 28, 9	44.30835	-94.4294
Wetland 45	Type 1	PFO1B	Floodplain Forest	Nicollet, 28, 9	44.31042	-94.4273
Wetland 46	Type 3	PEM1C	Shallow Marsh	Nicollet, 28, 9	44.2657	-94.2957

Table 6. Summary of Identified Wet Ditches within Project Corridor

Wet Ditch ID	Area (acres)	Latitude	Longitude
1	0.22	44.2715	-94.2414
2	0.14	44.2716	-94.2397
3	0.33	44.2735	-94.2221
4	0.17	44.2735	-94.2218
5	1.26	44.2725	-94.2284
7	0.02	44.2704	-94.2483
8	0.05	44.2704	-94.2486
9	0.05	44.2702	-94.2503
10	0.08	44.2705	-94.2503
11	0.06	44.2703	-94.2527
12	0.08	44.2699	-94.2533
13	0.05	44.2683	-94.2709
14	0.03	44.2687	-94.268
15	0.04	44.2688	-94.2665
16	0.49	44.2675	-94.2799
17	0.37	44.2673	-94.2812
18	0.17	44.2673	-94.2782
19	0.25	44.2667	-94.2836
20	0.11	44.266	-94.2902
21	0.06	44.266	-94.2932
22	0.11	44.2658	-94.2922
24	0.29	44.2649	-94.3006
25	0.01	44.2649	-94.3037
26	0.01	44.2649	-94.3045
27	0.18	44.2645	-94.3041
28	0.10	44.2649	-94.31
29	0.02	44.2819	-94.3518
30	0.11	44.2845	-94.3908
31	0.03	44.2851	-94.3924
32	0.17	44.2906	-94.4076
33	0.23	44.2927	-94.4122
34	0.70	44.2951	-94.416
35	0.27	44.2962	-94.4174
36	0.29	44.2985	-94.4201
37	0.08	44.2981	-94.4201
38	0.68	44.2987	-94.4203
39	0.60	44.3042	-94.4247
40	0.52	44.3073	-94.4274
41	0.38	44.3146	-94.4321
42	0.16	44.3195	-94.436
43	0.07	44.2713	-94.2401
44	0.05	44.2682	-94.27
45	0.35	44.2714	-94.2304
46	0.22	44.2707	-94.2486
47	0.13	44.2705	-94.2479
48	0.31	44.2711	-94.2412

*After review in the office, Wet Ditches 6 and 23 were determined to be historically wetlands and are now identified as Wetlands 4 and 46. This explains why there is no Wet Ditch 6 or 23 listed in the table above.

It can be assumed that an area shown to exist in the same soil series of the Soil Survey and exhibits the same vegetation characteristics as a previously delineated wetland/wet ditch, will also exhibit the same sub-surface soil characteristics as the previously delineated wetland/wet ditch. This assumption allows an area to reference a previously delineated wetland/wet ditch when determining whether to classify it as wet or non-wet. This removes the necessity of taking soil samples at each potential wetland/wet ditch. Table 7 provides a summary of the wetlands and wet ditches in the Project Corridor and indicates if they referenced or were used as a reference for another area.

Table 7. Wetlands/Wet Ditches and Reference Sites

Feature ID	Data Collected	Referenced to
Wetland 1	Y	
Wetland 2	Y	
Wetland 3	Y	

Feature ID	Data Collected	Referenced to
Wetland 4	N	WL 3
Wetland 5	Y	
Wetland 6	N	WL 5
Wetland 7	Y	
Wetland 8	N	WL 1
Wetland 9	Y	
Wetland 10	N	WL 3
Wetland 11	N	WL 3
Wetland 12	Y	
Wetland 13	Y	
Wetland 14	Y	
Wetland 15	N	WL 14
Wetland 16	Y	
Wetland 17	Y	
Wetland 18	Y	
Wetland 19	N	WL 18
Wetland 20	Y	
Wetland 21	Y	
Wetland 22	N	WL 12
Wetland 23	N	WL 14
Wetland 24	N	WL 14
Wetland 25	N	WL 1
Wetland 26	Y	
Wetland 27	Y	
Wetland 28	Y	
Wetland 29	Y	
Wetland 30	N	WL 29
Wetland 31	Y	
Wetland 32	Y	
Wetland 33	Y	
Wetland 34	N	WL 33
Wetland 35	N	WL 33
Wetland 36	N	WL 26
Wetland 37	Y	
Wetland 38	Y	
Wetland 39	N	WL 38
Wetland 40	N	WL 32
Wetland 41	Y	

Feature ID	Data Collected	Referenced to
Wetland 42	Y	
Wetland 43	N	WL 41
Wetland 44	N	WL 41
Wetland 45	N	WL 33
Wetland 46	N	WL 14
Wet Ditch 1	Y	
Wet Ditch 2	Y	
Wet Ditch 3	Y	
Wet Ditch 4	N	WL 12
Wet Ditch 5	N	WD 3
Wet Ditch 7	Y	
Wet Ditch 8	Y	
Wet Ditch 9	N	WD 8
Wet Ditch 10	N	WD 8
Wet Ditch 11	N	WD 8
Wet Ditch 12	N	WD 8
Wet Ditch 13	N	WD 8
Wet Ditch 14	N	WD 8
Wet Ditch 15	Y	
Wet Ditch 16	Y	
Wet Ditch 17	N	WD 16
Wet Ditch 18	N	WD 16
Wet Ditch 19	N	WD 16
Wet Ditch 20	Y	
Wet Ditch 21	N	WL 13
Wet Ditch 22	N	WD 20
Wet Ditch 24	N	WL 12
Wet Ditch 25	N	WL 12
Wet Ditch 26	N	WD 20
Wet Ditch 27	N	WD 20
Wet Ditch 28	N	WL 21
Wet Ditch 29	N	WL 1
Wet Ditch 30	N	WL 29
Wet Ditch 31	N	WL 32
Wet Ditch 32	Y	
Wet Ditch 33	N	WD 32
Wet Ditch 34	Y	
Wet Ditch 35	Y	

Feature ID	Data Collected	Referenced to
Wet Ditch 36	N	WD 35
Wet Ditch 37	N	WD 35
Wet Ditch 38	N	WD 32
Wet Ditch 39	N	WD 35
Wet Ditch 40	N	WD 35
Wet Ditch 41	N	WD 35
Wet Ditch 42	N	WD 35
Wet Ditch 43	N	WL 2
Wet Ditch 44	N	WD 8
Wet Ditch 45	N	WL 26
Wet Ditch 46	N	WD 7
Wet Ditch 47	N	WD 7
Wet Ditch 48	N	WL 3

*After review in the office, Wet Ditches 6 and 23 were determined to be historically wetlands and are now identified as Wetlands 4 and 46. This explains why there is no Wet Ditch 6 or 23 listed in the table above.

RESULTS

Delineated Wetlands

Wetland 1

Date of Wetland Delineation: October 11, 2017

Location: Approximately 1700' east of the TH 14/491st Avenue intersection, north side of TH 14.

Wetland Description: Wetland 1 is located on the north side of TH 14. It is dominated by Reed Canary Grass and has a grassy channel which runs along the eastern edge of the wetland. This channel is fully vegetated so is considered as part of Wetland 1. The grassy channel is connected to a channel on the south side of TH 14 which passes through Wetland 7. Wetland 1 corresponds with Area 44 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) on the wet side which transitions to Indian grass (FACU) on the upland side.

Map Pages
Wet Feature Location Map page 5 of 60
LiDAR Topography Map page 5 of 60
NWI Map page 1, 2 of 8
PWI Map page 1, 2 of 8

Photos of Wetland 1:



Wetland 1, facing north



Wetland 1, facing south



Wetland 1, facing northeast

Wetland 2

Date of Wetland Delineation: October 17, 2017

Location: Approximately 1775' west of the TH 14/481st Avenue, northwest quadrant of TH 14 and driveway entrance.

Wetland Description: Wetland 2 is located on the north side of TH 14, in the northwest quadrant of TH 14 and a farm driveway. Wetland 2 is a closed depression which receives runoff from adjacent lands. It is dominated by Reed Canary Grass and has no discernable outlet. Wetland 2 corresponds with Area 46 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo-Glencoe complex, 0-2% slopes, Poorly drained (L107A)

Soil Survey Hydric Rating: 90%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) on the wetland side which transitions to Smooth Brome (FACU) on the upland side.

Map Pages
Wet Feature Location Map page 4 of 60
LiDAR Topography Map page 4 of 60
NWI Map page 1 of 8
PWI Map page 1 of 8

Photos of Wetland 2:


Wetland 2, facing north


Wetland 2, facing south


Wetland 2, facing southwest


Wetland 2, facing east

Wetland 3

Date of Wetland Delineation: October 17, 2017

Location: Approximately 1775' west of the TH 14/481st Avenue intersection, up the driveway and on the west side.

Wetland Description: Wetland 3 is located on the north side of TH 14 approximately 1850' up a farm driveway, and is on the west side of the driveway. This driveway begins within the Project Corridor but exits the corridor as you move to the north. The driveway enters the corridor again where the corridor bumps out to accommodate future road creation. Wetland 3 is located on the west side of the driveway. It is a Reed Canary dominated meadow which extends beyond the Project Corridor boundary. Wetland 3 corresponds with Area 49 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo clay loam, 0-2% slopes, Poorly drained (86)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) on the wetland side which transitions to Smooth Brome (FACU) on the upland side.

Map Pages
Wet Feature Location Map page 2 of 60
LiDAR Topography Map page 2 of 60
NWI Map page 1 of 8
PWI Map page 1 of 8

Photos of Wetland 3:


Wetland 3, facing north


Wetland 3, facing west


Wetland 3, facing west

Wetland 4

Date of Wetland Delineation: October 11, 2017

Location: Approximately 1775' west of the TH 14/481st Avenue intersection, up the driveway and on the east side.

Wetland Description: Wetland 4 is located on the north side of TH 14 approximately 1850' up a farm driveway, and is on the east side of the driveway. This driveway begins within the Project Corridor but exits the corridor as you move to the north. The driveway enters the corridor again where Project Corridor bumps out to accommodate future road creation. Wetland 4 is located on the east side of the driveway. Wetland 4 lies in the low area between the driveway and Wet Ditch 6 just to the east.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo clay loam, 0-2% slopes, Poorly drained (86)

Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) on the wetland side which transitions to Smooth Brome (FACU) on the upland side.

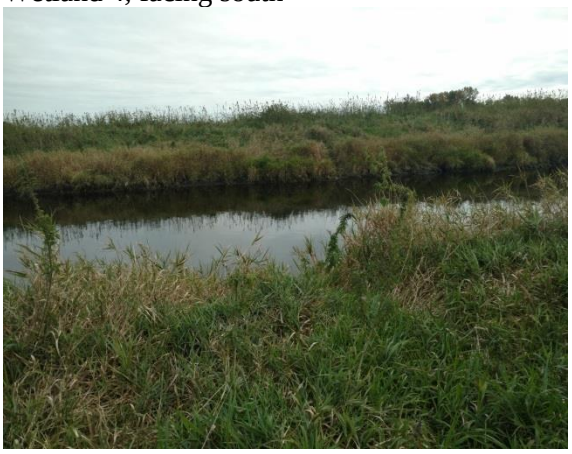
No data sheets were done for Wetland 4 due to similarities in soil, vegetation and hydrology to Wetland 3. Wetland 3 was used as a reference for Wetland 4.

Map Pages
Wet Feature Location Map page 2 of 60
LiDAR Topography Map page 2 of 60
NWI Map page 1 of 8
PWI Map page 1 of 8

Photos of Wetland 4:


Wetland 4, facing south


Wetland 4, facing south


Wetland 4, facing east


Wetland 4, facing south

Wetland 5

Date of Wetland Delineation: October 11, 2017

Location: Approximately 400' east of the TH 14/481st Avenue intersection, south side of highway.

Wetland Description: Wetland 5 is a Cattail marsh with a fringe of Reed Canary Grass surrounding it. Wetland 5 appears to have been created to hold storm water runoff, receiving overland flow from the south side of TH 14 as well as directed flow from the north side of TH 14 via culvert which enters Wetland 5 along the northeast edge. Water is then directed toward Wet Ditch 45. Wetland 5 is part of MnDOT pond WQ 5202-01 which was constructed under SP 5203-104.

Delineated Wetland Type: Type 3, Shallow Marsh, PEM1C

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Delft clay loam, 0-2% slopes, Poorly drained (336)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wetland:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Cattail (OBL) and Reed Canary Grass (FACW) on the wetland side of the boundary which transitions to Alfalfa (FACU) on the upland side.

Map Pages
Wet Feature Location Map page 3 of 60
LiDAR Topography Map page 3 of 60
NWI Map page 1 of 8
PWI Map page 1 of 8

Photos of Wetland 5:



Wetland 5, facing northwest



Wetland 5, facing northeast



Wetland 5, facing east

Wetland 6

Date of Wetland Delineation: October 11, 2017

Location: Approximately 400' east of the TH 14/481st Avenue intersection, south side of highway, just south of Wetland 5.

Wetland Description: Wetland 6 is a Cattail marsh with a fringe of Reed Canary Grass surrounding it. Wetland 6 appears to have been created to hold storm water runoff, receiving overland flow from the south side of TH 14. Wetland 6 is separated from Wetland 5 by a berm located between the two wetlands. There is a rip rap swale between Wetland 6 and Wet Ditch 45 which acts as an emergency overflow for the wetland. Wetland 6 is a component of MnDOT pond WQ 5202-01 which was constructed as part of SP 5203-104.

Delineated Wetland Type: Type 3, Shallow Marsh, PEM1C

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Delft clay loam, 0-2% slopes, Poorly drained (336)

Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wetland:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Cattail (OBL) and Reed Canary Grass (FACW) which transitions to Alfalfa (FACU) on the upland side.

No data sheets were done for Wetland 6 due to similarities in soil, vegetation and hydrology to Wetland 5. Wetland 5 was used as a reference for Wetland 6.

Map Pages
Wet Feature Location Map page 3 of 60
LiDAR Topography Map page 3 of 60
NWI Map page 1 of 8
PWI Map page 1 of 8

Photos of Wetland 6:


Wetland 6, facing north


Wetland 6, facing northeast


Wetland 6, facing east, showing berm


Wetland 6, facing west, showing rip rap overflow

Wetland 7

Date of Wetland Delineation: October 11, 2017

Location: Approximately 1700' east of the TH 14/491st Avenue intersection, south side of TH 14.

Wetland Description: Wetland 7 is located on the south side of TH 14. It is dominated by Reed Canary Grass and has a grassy channel which runs through the middle to the western edge of the wetland. This channel is fully vegetated so is considered as part of Wetland 7. The channel is connected to a channel via culvert beneath TH 14 on the north side which passes through Wetland 1. Wetland 7 corresponds with Area 45 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

Nicollet County Soil Survey:
Canisteo clay loam, 0-2% slopes, Poorly drained (86)

Soil Survey Hydric Rating: 100%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Solidago gigantea (Giant Goldenrod), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) along the wetland side of the boundary which transitions to Smooth Brome (FACU) on the upland side.

Map Pages
Wet Feature Location Map page 5 of 60
LiDAR Topography Map page 5 of 60
NWI Map page 1, 2 of 8
PWI Map page 1, 2 of 8

Photos of Wetland 7:



Wetland 7, facing east



Wetland 7, facing southeast



Wetland 7, facing southwest

Wetland 8

Date of Wetland Delineation: August 24, 2017

Location: Approximately 1800' east of the TH 14/C.R. 21 intersection, south side of highway.

Wetland Description: Wetland 8 is located on the south side of TH 14. Wetland 8 is a farmed wetland, planted with corn, which is bounded by robust corn on three sides. A portion of Wetland 8 extends into the unfarmed right-of-way, where it is dominated by Reed Canary Grass. The Reed Canary Grass transitions Smooth Brome as the slope to the roadway increases. The corn which is within the wetland boundary is stunted and discolored as a result of being wet much of the time. It is a shallow depression which receives runoff from the surrounding fields. Wetland 8 corresponds with Area 39 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Zea mays (Corn), N/A
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Corn (UPL) on the wetland side which transitions to Smooth Brome (FACU) on the upland side.

No data sheets were done for Wetland 8 due to similarities in soil, vegetation and hydrology to Wetland 1. Wetland 1 was used as a reference for Wetland 8.

Map Pages
Wet Feature Location Map page 11 of 60
LiDAR Topography Map page 11 of 60
NWI Map page 2 of 8
PWI Map page 2 of 8

Photos of Wetland 8:



Wetland 8, facing east



Wetland 8, facing southeast



Wetland 8, facing southwest



Wetland 8, facing west

Wetland 9

Date of Wetland Delineation: November 3, 2017

Location: Approximately 800' west of the TH 14/503rd Avenue intersection, on the north side.

Wetland Description: Wetland 9 is located on the north side of TH 14. It is mostly rectangle in shape and has been avoided by farming practices due to its wetness. It is also at a slightly lower elevation than the surrounding fields. The adjacent fields are planted with corn to the east, west and south and soy bean to the north. There is a small channel from the SE edge of Wetland 9 to Wet Ditch 16, which is located in the roadway ditch and is parallel to TH 14. Wetland 9 corresponds with Area 41 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Okoboji mucky silty clay loam, Very poorly drained (386)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Poa pratensis (Kentucky Bluegrass), FACW
Spartina pectinata (Prairie Cordgrass), FACW

Basis of Delineated Boundary: The wetland boundary was placed primarily by the changes in topography which generally corresponded to relative dominance of the vegetation. All of the grasses are FACW, they transition to corn and soybean as the elevation increases.

Map Pages
Wet Feature Location Map page 10 of 60
LiDAR Topography Map page 10 of 60
NWI Map page 2 of 8
PWI Map page 2 of 8

Photos of Wetland 9:


Wetland 9, facing west


Wetland 9, facing northwest


Wetland 9, facing northeast


Wetland 9, facing east

Wetland 10

Date of Wetland Delineation: November 3, 2017

Location: Location: Approximately 800' west of the TH 14/503rd Avenue intersection, on the south side, approximately 300' back from the south edge of TH 14.

Wetland Description: Wetland 10 is located partially within a fenced in pasture area and extends to the east, past the fence and into a corn field. There is standing water within the fenced portion of the wetland and the area is dominated by Reed Canary Grass. Wetland 10 corresponds with Area 40 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo clay loam, 0-2% slopes, Poorly drained (86)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) along the wetland side of the boundary which transitions to Smooth Brome (FACU) on the upland side of the boundary.

No data sheets were done for Wetland 10 due to similarities in soil, vegetation and hydrology to Wetland 3. Wetland 3 was used as a reference for Wetland 10.

Map Pages
Wet Feature Location Map page 10 of 60
LiDAR Topography Map page 10 of 60
NWI Map page 2 of 8
PWI Map page 2 of 8

Photos of Wetland 10:


Wetland 10, facing south


Wetland 10, facing southwest


Wetland 10, facing northwest


Wetland 10, facing north

Wetland 11

Date of Wetland Delineation: November 3, 2017

Location: Location: Approximately 800' west of the TH 14/503rd Avenue intersection, on the south side of TH 14.

Wetland Description: Wetland 11 is located mostly within a fenced in pasture area and extends to the north, just slightly past the fence and into the right of way. There is standing water within the fenced portion of the wetland and the area is dominated by Reed Canary Grass. Wetland 11 shares characteristics with Wetland 10.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo clay loam, 0-2% slopes, Poorly drained (86)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) which transitions to Smooth Brome (FACU) on the upland side.

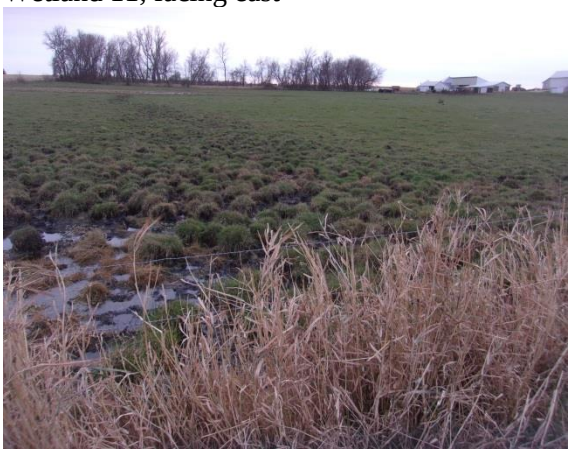
No data sheets were done for Wetland 11 due to similarities in soil, vegetation and hydrology to Wetland 3. Wetland 3 was used as a reference for Wetland 11.

Map Pages
Wet Feature Location Map page 10 of 60
LiDAR Topography Map page 10 of 60
NWI Map page 2 of 8
PWI Map page 2 of 8

Photos of Wetland 11:


Wetland 11, facing east


Wetland 11, facing southeast


Wetland 11, facing southwest


Wetland 11, facing west

Wetland 12

Date of Wetland Delineation: November 3, 2017

Location: Location: Approximately 800' west of the TH 14/503rd Avenue intersection, on the south side of TH 14.

Wetland Description: Wetland 12 is located mostly within a fenced in pasture area. There is standing water within the fenced portion of the wetland and the area is dominated by Reed Canary Grass. Wetland 12 shares characteristics with Wetlands10 and 11.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Cordova clay loam, 0-2% slopes, Poorly drained (109)

Hydric Rating: 90%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) on the wetland side of the boundary which transitions to Smooth Brome (FACU) on the upland side.

Map Pages
Wet Feature Location Map page 10 of 60
LiDAR Topography Map page 10 of 60
NWI Map page 2 of 8
PWI Map page 2 of 8

Photos of Wetland 12:


Wetland 12, facing east


Wetland 12, facing southeast


Wetland 12, facing southwest


Wetland 12, facing west

Wetland 13

Date of Wetland Delineation: November 4, 2017

Location: Approximately 600'west of the TH 14/C.R. 21 intersection, south side of highway.

Wetland Description: Wetland 13 is located on the south side of TH 14 and had standing water present at the time of the site visit. Wetland 13 is lower than the surrounding field (east, west, and south) which is planted in corn. Wetland 13 extends to the south slightly beyond the Project Corridor boundary. Wetland 13 corresponds with Area 37 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Cordova-Rolfe complex, 2-6% slopes, Poorly drained (978)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Carex lacustris (Lake Sedge), OBL

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) on the wetland side of the boundary which transitions to Smooth Brome (FACU) and Canada Thistle (FACU) on the upland side.

Map Pages
Wet Feature Location Map page 12 of 60
LiDAR Topography Map page 12 of 60
NWI Map page 3 of 8
PWI Map page 3 of 8

Photos of Wetland 13:


Wetland 13, facing east


Wetland 13, facing southeast


Wetland 13, facing southwest


Wetland 13, facing west

Wetland 14

Date of Wetland Delineation: November 4, 2017

Location: Approximately 1400' west of the TH 14/County Road 21 intersection, north side of highway.

Wetland Description: Wetland 14 is located on the north side of TH 14 and is a shallow marsh which lies just beyond the highway right of way. It is connected via culvert to Wet Ditch 23 but separated by a berm everywhere else. It then connects to Wetland 15 on the south side of the highway via culvert. Wetland 14 corresponds with Area 35 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 3, Shallow Marsh, PEM1C

NWI: PEM1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Typha spp. (Cattail), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) which transitions to Smooth Brome (FACU) on the upland side.

Map Pages
Wet Feature Location Map page 12 of 60
LiDAR Topography Map page 12 of 60
NWI Map page 3 of 8
PWI Map page 3 of 8

Photos of Wetland 14:


Wetland 14, facing west


Wetland 14, facing northwest


Wetland 14, facing northeast


Wetland 14, facing east

Wetland 15

Date of Wetland Delineation: November 4, 2017

Location: Approximately 1400' west of the TH 14/County Road 21 intersection, south side of highway.

Wetland Description: Wetland 15 is located on the south side of TH 14 and is a shallow marsh which continues beyond the highway right of way. It is connected via culvert to Wet Ditch 23 and Wetland 14 via a culvert that extends under TH 14. Wetland 15 extends south beyond the Project Corridor boundary. Wetland 15 corresponds with Area 36 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 3, Shallow Marsh, PEM1C

NWI: PEM1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Typha spp. (Cattail), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) which transitions to Smooth Brome (FACU) on the upland side.

No data sheets were done for Wetland 15 due to similarities in soil, vegetation and hydrology to Wetland 14. Wetland 14 was used as a reference for Wetland 15.

Map Pages
Wet Feature Location Map page 12 of 60
LiDAR Topography Map page 12 of 60
NWI Map page 3 of 8
PWI Map page 3 of 8

Photos of Wetland 15:


Wetland 15, facing east


Wetland 15, facing southeast


Wetland 15, facing southwest


Wetland 15, facing west

Wetland 16

Date of Wetland Delineation: November 6, 2017

Location: Approximately 2700' west of the TH 14/County Road 21 intersection, approximately 500' north of the north edge of the highway.

Wetland Description: Wetland 16 is located on the north side of TH 14, approximately 500 feet north of the edge of the highway in the middle of a corn field. Wetland 16 is a shallow depression which has been planted in corn. The corn is less dense and bare areas are present.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo-Glencoe complex, 0-2% slopes, Poorly drained (L107A)

Soil Survey Hydric Rating: 90%, Predominantly hydric

Dominant Vegetation of Wetland:
Zea mays (Corn), N/A

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in soil colors. The soil transitions from a 5/2 with redox under dark surface to a 3/1 with no redox under a dark surface.

Map Pages
Wet Feature Location Map page 14, 15 of 60
LiDAR Topography Map page 14, 15 of 60
NWI Map page 3 of 8
PWI Map page 3 of 8

Photos of Wetland 16:


Wetland 16, facing west


Wetland 16, facing north


Wetland 16, facing east


Wetland 16, facing south

Wetland 17

Date of Wetland Delineation: November 6, 2017

Location: Approximately 2800' west of the TH 14/County Road 21 intersection, approximately 500' north of the north edge of the highway.

Wetland Description: Wetland 17 is located on the north side of TH 14, approximately 500 feet north of the edge of the highway in the middle of a corn field. Wetland 17 is a shallow depression dominated by Reed Canary Grass. Wetland 17 has a vertical drain tile pipe located in the center of the wetland. DNR mapping indicates that there is an unnamed stream which begins at the south end of the wetland. No stream was observed during the site visit. Wetland 17 corresponds with Area 32 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1A

DNR Public Waters Map: Unnamed Stream, exiting Wetland 17

Nicollet County Soil Survey:
Okoboji mucky silty clay loam, Very poorly drained (386)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) on the wetland side of the boundary which transitions to Corn (N/A) on the upland side.

Map Pages
Wet Feature Location Map page 14, 15, 17 of 60
LiDAR Topography Map page 14, 15, 17 of 60
NWI Map page 3 of 8
PWI Map page 3 of 8

Photos of Wetland 17:


Wetland 17, facing east


Wetland 17, facing north


Wetland 17, facing west


Wetland 17, facing southwest

Wetland 18

Date of Wetland Delineation: November 7, 2017

Location: Approximately 4650' east of the TH 14/478th Street intersection, on the south side of the highway.

Wetland Description: Wetland 18 is located on the south side of TH 14 and is a wooded wetland with a Reed Canary Grass understory.

Delineated Wetland Type: Type 7, Hardwood Swamp, PFO1B

NWI: PFO1B

DNR Public Waters Map: None

Nicollet County Soil Survey:
Lester loam, 2-6% slopes, Well drained (106B)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Salix nigra (Black Willow), OBL
Populus deltoides (Eastern Cottonwood), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) on the wetland side of the boundary which transitions to Smooth Brome (FACU) on the upland side.

Map Pages
Wet Feature Location Map page 16 of 60
LiDAR Topography Map page 16 of 60
NWI Map page 3 of 8
PWI Map page 3 of 8

Photos of Wetland 18:


Wetland 18, facing east


Wetland 18, facing southeast


Wetland 18, facing southwest


Wetland 18, facing west

Wetland 19

Date of Wetland Delineation: November 7, 2017

Location: Approximately 3800' east of the TH 14/478th Street intersection, on the south side of the highway.

Wetland Description: Wetland 19 is located on the south side of TH 14 and is a wooded wetland with a Reed Canary Grass understory. The wooded portion of Wetland 19 has standing water in the middle. A 36" culvert drains areas north of TH 14 south toward Wetland 19.

Delineated Wetland Type: Type 1, Floodplain Forest, PFO1A

NWI: PFO1Ah

DNR Public Waters Map: None

Nicollet County Soil Survey:
Lester loam, 2-6% slopes, Well drained (106B)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Salix nigra (Black Willow), OBL
Populus deltoides (Eastern Cottonwood), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) along the wetland side of the boundary which transitions to Smooth Brome (FACU) on the upland side.

No data sheets were done for Wetland 19 due to similarities in soil, vegetation and hydrology to Wetland 18. Wetland 18 was used as a reference for Wetland 19.

Map Pages
Wet Feature Location Map page 19 of 60
LiDAR Topography Map page 19 of 60
NWI Map page 3 of 8
PWI Map page 3 of 8

Photos of Wetland 19:


Wetland 19, facing east


Wetland 19, facing southeast


Wetland 19, facing southwest


Wetland 19, facing west

Wetland 20

Date of Wetland Delineation: November 7, 2017

Location: Approximately 3000' east of the TH 14/478th Street intersection, approximately 2300' north of the north side of the highway, in the middle of a cornfield.

Wetland Description: Wetland 20 is located on the north side of TH 14 and is approximately 2300 feet north of TH 14. Wetland 20 is a shallow marsh with a Reed Canary Grass fringe. The center of the wetland has a few feet of water present but most of the wetland is saturated with Reed Canary Grass present. Wetland 20 corresponds to Area 27 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Cordova-Rolfe complex, 2-6% slopes, Poorly drained (978)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

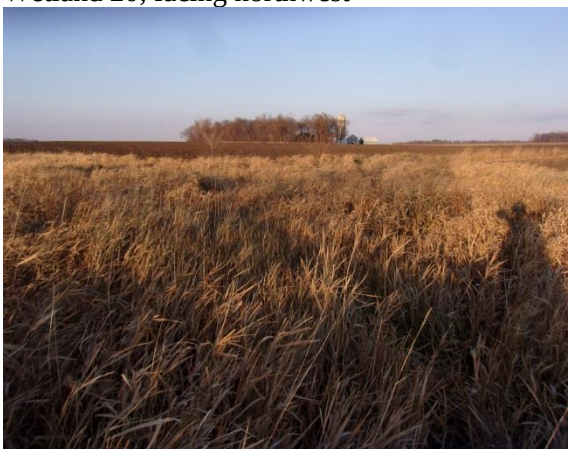
Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. Vegetation consists mainly of Reed Canary Grass (FACW) on the wetland side of the boundary which transitions to Smooth Brome (FACU) on the upland side.

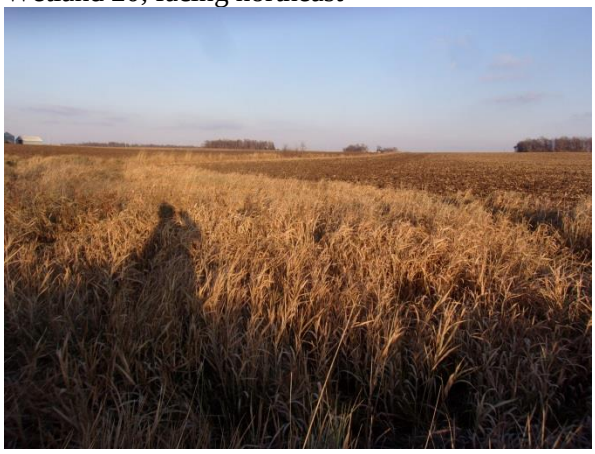
Map Pages
Wet Feature Location Map page 20, 23 of 60
LiDAR Topography Map page 20, 23 of 60
NWI Map page 3 of 8
PWI Map page 3 of 8

Photos of Wetland 20:


Wetland 20, facing northwest


Wetland 20, facing northeast


Wetland 20, facing east


Wetland 20, facing south

Wetland 21

Date of Wetland Delineation: November 8, 2017

Location: Approximately 600' north of the TH 14/531st Avenue intersection, approximately 350' east of the east side of 531st Avenue.

Wetland Description: Wetland 21 is located in a wooded area just to the east of 531st Ave. It is a shallow basin vegetated with FACW species. Slopes gently and ground was mostly bare.

Delineated Wetland Type: Type 7, Hardwood Swamp, PFO1B

NWI: PFO1B

DNR Public Waters Map: None

Nicollet County Soil Survey:
Lester loam, 6-10% slopes, Moderately eroded, Well drained (106C2)

Soil Survey Hydric Rating: 2%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Urtica dioica (Stinging Nettle), FACW
Salix interior (Sandbar Willow), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in soil color. Soils in the wet area were a 4/1 with redox under a 2/2. Upland soils were 2/2 down to 30" with no depletion present.

Map Pages
Wet Feature Location Map page 25, 26 of 60
LiDAR Topography Map page 25, 26 of 60
NWI Map page 4 of 8
PWI Map page 4 of 8

Photos of Wetland 21:


Wetland 21, facing west


Wetland 21, facing north


Wetland 21, facing south


Wetland 21, facing east

Wetland 22

Date of Wetland Delineation: November 8, 2017

Location: Approximately 1900' east of the 531st Avenue/466th Street intersection, south side of 466th Street.

Wetland Description: Wetland 22 is located along the south edge of 466th Street and extends beyond the Project Corridor limits in this area. It is a shallow basin with standing water in the center and sloping gradually to the edge. Wetland 22 corresponds with Area 25 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Cordova clay loam, 0-2% slopes, Poorly drained (109)

Soil Survey Hydric Rating: 90%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Bolboschoenus fluviatilis (River Bulrush), OBL

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in soil color. Soils in the wet area were a 4/1 with redox under a 2/2. Upland soils were 2/2 down to 30" with no depletion present.

No data sheets were done for Wetland 22 due to similarities in soil, vegetation and hydrology to Wetland 12. Wetland 12 was used as a reference for Wetland 22.

Map Pages
Wet Feature Location Map page 27 of 60
LiDAR Topography Map page 27 of 60
NWI Map page 4 of 8
PWI Map page 4 of 8

Photos of Wetland 22:


Wetland 22, facing east


Wetland 22, facing southeast


Wetland 22, facing southwest


Wetland 22, facing west

Wetland 23

Date of Wetland Delineation: November 8, 2017

Location: Approximately 1200' east of the 531st Avenue/466th Street intersection, south side of 466th Street.

Wetland Description: Wetland 23 is located on the south side of 466th Street and is a shallow marsh with standing water in the center and sloping gradually to the edge. It is dominated by cattail with a Reed Canary Grass fringe. The landowner has farmed within 10 feet of the cattail edge. Wetland 23 corresponds with Area 24 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 3, Shallow Marsh, PEM1C

NWI: PEM1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Typha spp. (Cattail spp.), OBL

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) to bare soil. A narrow vegetated strip dominated by Smooth Brome (FACU) on the north end of Wetland 23 was used to determine the elevation of the wetland boundary in areas of bare soil.
No data sheets were done for Wetland 23 due to similarities in soil, vegetation and hydrology to Wetland 14. Wetland 14 was used as a reference for Wetland 23.

Map Pages
Wet Feature Location Map page 27, 28 of 60
LiDAR Topography Map page 27, 28 of 60
NWI Map page 4 of 8
PWI Map page 4 of 8

Photos of Wetland 23:


Wetland 23, facing east


Wetland 23, facing southeast


Wetland 23, facing southwest


Wetland 23, facing west

Wetland 24

Date of Wetland Delineation: November 8, 2017

Location: Approximately 750' east of the 531st Avenue/466th Street intersection, north side of 466th Street.

Wetland Description: Wetland 24 is located on the north side of 466th Street and is a shallow marsh with standing water in the center and sloping gradually to the edge. It is currently in use as pasture and was inaccessible due to fencing. The wetland boundary was determined using aerial photographs in conjunction with observation made during the field visit. The boundary was not located in the field because it was inaccessible due to the fencing. The center of the wetland is a cattail marsh. The south edge of Wetland 24 is a Reed Canary meadow which extends just to the south of the fence line. The majority of Wetland 24 extends outside of the Project Corridor.

Delineated Wetland Type: Type 3, Shallow Marsh, PEM1C

NWI: PEM1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Typha spp. (Cattail spp.), OBL

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) on the wetland side of the boundary to Smooth Brome (FACU) along the upland side of the boundary.

No data sheets were done for Wetland 24 due to similarities in soil, vegetation and hydrology to Wetland 14. Wetland 14 was used as a reference for Wetland 24.

Map Pages
Wet Feature Location Map page 27 of 60
LiDAR Topography Map page 27 of 60
NWI Map page 4 of 8
PWI Map page 4 of 8

Photos of Wetland 24:


Wetland 24, facing west


Wetland 24, facing northwest


Wetland 24, facing northeast


Wetland 24, facing east

Wetland 25

Date of Wetland Delineation: November 8, 2017

Location: Approximately 500' south of the 541st Avenue/460th Lane intersection, east side of 541st Avenue.

Wetland Description: Wetland 25 is located on the east side of 541st Avenue and is a shallow Reed Canary filled basin. It lies on the very edge of a farmed field in the corner created by 541st Ave and the home owner's driveway. Wetland 25 corresponds with Area 20 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) along the wetland side of the boundary to Smooth Brome (FACU) on the upland side of the boundary.

No data sheets were done for Wetland 25 due to similarities in soil, vegetation and hydrology to Wetland 1. Wetland 1 was used as a reference for Wetland 25.

Map Pages
Wet Feature Location Map page 35 of 60
LiDAR Topography Map page 35 of 60
NWI Map page 4 of 8
PWI Map page 4 of 8

Photos of Wetland 25:



Wetland 25, facing north


Wetland 25, facing northeast


Wetland 25, facing southeast


Wetland 25, facing south

Wetland 26

Date of Wetland Delineation: November 9, 2017

Location: Approximately 1200' north of the TH 14/541st Avenue intersection, west side of 541st Avenue.

Wetland Description: Wetland 26 is located on the west side of 541st Avenue and is a shallow Reed Canary filled basin. The land owner has planted corn to the edge of the Reed Canary Grass. Wetland 26 corresponds with Area 26 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1B

DNR Public Waters Map: None

Nicollet County Soil Survey:
Delft clay loam, 0-2% slopes, Poorly drained (336)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) on the wetland side of the boundary to Smooth Brome (FACU) and Canada Thistle (FACU) on the upland side of the boundary.

Map Pages
Wet Feature Location Map page 37 of 60
LiDAR Topography Map page 37 of 60
NWI Map page 5 of 8
PWI Map page 5 of 8

Photos of Wetland 26:


Wetland 26, facing south


Wetland 26, facing southwest


Wetland 26, facing northwest


Wetland 26, facing north

Wetland 27

Date of Wetland Delineation: November 9, 2017

Location: Approximately 1900' north of the TH 14/541st Avenue intersection, approximately 1650' east of 541st Avenue.

Wetland Description: Wetland 27 is located on the east side of 541st Avenue, approximately 1650' east in the middle of a corn field and is a shallow basin dominated by River Bulrush with a Reed Canary Grass fringe. The land owner has planted corn to the edge of the Reed Canary Grass. Wetland 27 corresponds with Area 21 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1B

DNR Public Waters Map: None

Nicollet County Soil Survey:
Delft clay loam, 0-2% slopes, Somewhat poorly drained (239)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Bolboschoenus fluviatilis (River Bulrush), OBL

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) on the wetland side of the boundary to Smooth Brome (FACU) and bare soil on the upland side of the boundary.

Map Pages
Wet Feature Location Map page 32 of 60
LiDAR Topography Map page 32 of 60
NWI Map page 4 of 8
PWI Map page 4 of 8

Photos of Wetland 27:


Wetland 27, facing northwest


Wetland 27, facing north


Wetland 27, facing northeast


Wetland 27, facing east

Wetland 28

Date of Wetland Delineation: November 10, 2017

Location: Approximately 1700' east of the TH 14/541st Avenue intersection, south side of TH 14.

Wetland Description: Wetland 28 is located on the south side of TH 14, and is a wooded wetland. The NWI map identifies Wetland 28 as an excavated basin. The leading edge of the wetland is abrupt, leading down to Reed Canary Grass, Common Scouring Rush, Red Osier Dogwood, Cottonwood and Black Willow.

Delineated Wetland Type: Type 1, Floodplain Forest, PFO1Ax

NWI: PFO1Ax

DNR Public Waters Map: None

Nicollet County Soil Survey:
Udorthents-Pits, gravel complex, Well drained (1030)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Equisetum hyemale (River Bulrush), FACW
Populus deltoides (Cottonwood), FAC
Salix nigra (Black Willow), OBL

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) on the wetland side of the boundary to Smooth Brome (FACU) and bare soil on the upland side of the boundary. The vegetation transition is very abrupt along the wetland boundary.

Map Pages
Wet Feature Location Map page 39 of 60
LiDAR Topography Map page 39 of 60
NWI Map page 5 of 8
PWI Map page 5 of 8

Photos of Wetland 28:


Wetland 28, facing east


Wetland 28, facing southeast


Wetland 28, facing southwest


Wetland 28, facing west

Wetland 29

Date of Wetland Delineation: November 10, 2017

Location: Approximately 350' south of the TH 14/561st Avenue intersection, west side of 561st Avenue.

Wetland Description: Wetland 29 is located on the south side of TH 14, just west of 561st Avenue and is a Reed Canary basin with deeper pockets of cattail marsh interspersed within. Approximately half of the wetland lies outside of the proposed Project Corridor boundaries. Wetland 29 corresponds with Area 8 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 1, Floodplain Forest, PFO1A

NWI: PFO1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Webster clay loam, 0-2% slopes, Poorly drained (L83A)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) along the wetland side of the boundary to Smooth Brome (FACU) on the upland side of the boundary.

Map Pages
Wet Feature Location Map page 45 of 60
LiDAR Topography Map page 45 of 60
NWI Map page 6 of 8
PWI Map page 6 of 8

Photos of Wetland 29:


Wetland 29, facing west


Wetland 29, facing northwest


Wetland 29, facing northeast


Wetland 29, facing east

Wetland 30

Date of Wetland Delineation: November 10, 2017

Location: Approximately 500' south of the TH 14/561st Avenue intersection, east side of 561st Avenue.

Wetland Description: Wetland 30 is located on the south side of TH 14, just east of 561st Avenue and is a Reed Canary Grass meadow. The majority of the wetland lies to the east outside of the proposed Project Corridor boundaries.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Webster clay loam, 0-2% slopes, Poorly drained (L83A)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) to Smooth Brome (FACU).

No data sheets were done for Wetland 30 due to similarities in soil, vegetation and hydrology to Wetland 29. Wetland 29 was used as a reference for Wetland 30.

Map Pages
Wet Feature Location Map page 46 of 60
LiDAR Topography Map page 46 of 60
NWI Map page 6 of 8
PWI Map page 6 of 8

Photos of Wetland 30:


Wetland 30, facing north


Wetland 30, facing northeast


Wetland 30, facing southeast


Wetland 30, facing south

Wetland 31

Date of Wetland Delineation: November 14, 2017

Location: Approximately 300' north of the TH 14/561st Avenue intersection, west side of 561st Avenue.

Wetland Description: Wetland 31 is located on the north side of TH 14. Wetland 31 is shown as an extensive wetland complex composed of multiple wetland types on the NWI map. Four distinct wetlands separated by upland areas dominated by Smooth Brome were delineated with the NWI mapped wetland complex. Wetland 31 is the largest wetland delineated within this complex.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PEM1A, PSS1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Copaston loam, 0-6% slopes, Well drained (100B)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Carex lacustris (Lake Sedge), OBL

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) to Smooth Brome (FACU).

Map Pages
Wet Feature Location Map page 45 of 60
LiDAR Topography Map page 45 of 60
NWI Map page 6 of 8
PWI Map page 6 of 8

Photos of Wetland 31:



Wetland 31, facing west



Wetland 31, facing north



Wetland 31, facing east

Wetland 32

Date of Wetland Delineation: November 14, 2017

Location: Approximately 700' north of the TH 14/561st Avenue intersection, west side of 561st Avenue.

Wetland Description: Wetland 32 is located on the north side of TH 14, and is part of an extensive area wetland complex mapped on the NWI map. Four wetlands were delineated within the NWI mapped wetland complex with lands in between being distinctly upland due to a dominance of Smooth Brome. Only the eastern edge of Wetland 32 is within the Project Corridor.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Copaston loam, 0-6% slopes, Well drained (321)

Soil Survey Hydric Rating: 93%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Carex lacustris (Lake Sedge), OBL

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) to Smooth Brome (FACU).

Map Pages
Wet Feature Location Map page 45 of 60
LiDAR Topography Map page 45 of 60
NWI Map page 6 of 8
PWI Map page 6 of 8

Photos of Wetland 32:


Wetland 32, facing west


Wetland 32, facing northwest


Wetland 32, facing north


Wetland 32, facing northeast

Wetland 33

Date of Wetland Delineation: November 14, 2017

Location: Approximately 300' north of the TH 14/561st Avenue intersection, west side of 561st Avenue.

Wetland Description: Wetland 33 is located on the north side of TH 14. Wetland 33 is part of a large NWI mapped wetland complex that consists of multiple wetland types. Four wetlands were delineated within this complex. These wetlands are separated by upland areas dominated by Smooth Brome. Wetland 33 is located along the edge of several ballfields.
Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Dickenson loam, 0-2% slopes, Well drained (27A)

Soil Survey Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) along the wetland side of the boundary to Smooth Brome (FACU) on the upland side of the boundary.

Map Pages
Wet Feature Location Map page 45, 47 of 60
LiDAR Topography Map page 45, 47 of 60
NWI Map page 6 of 8
PWI Map page 6 of 8

Photos of Wetland 33:


Wetland 33, facing northwest


Wetland 33, facing north


Wetland 33, facing northeast


Wetland 33, facing east

Wetland 34

Date of Wetland Delineation: November 14, 2017

Location: Approximately 300' north of the TH 14/561st Avenue intersection, west side of 561st Avenue.

Wetland Description: Wetland 34 is located on the north side of TH 14, and is the fourth wetland delineated within the large NWI mapped wetland complex located at the intersection of TH 14 and 561st Avenue. Wetland 34 is separated from the other wetlands by upland areas dominated by Smooth Brome.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: PEM1A

DNR Public Waters Map: None

Nicollet County Soil Survey:
Dickenson loam, 0-2% slopes, Well drained (27A)

Soil Survey Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from a dominance of Reed Canary Grass (FACW) along the wetland side of the boundary to a dominance of Smooth Brome (FACU) along the upland side of the boundary.

No data sheets were done for Wetland 34 due to similarities in soil, vegetation and hydrology to Wetland 33. Wetland 33 was used as a reference for Wetland 34.

Map Pages
Wet Feature Location Map page 45, 47 of 60
LiDAR Topography Map page 45, 47 of 60
NWI Map page 6 of 8
PWI Map page 6 of 8

Photos of Wetland 34:


Wetland 34, facing northwest


Wetland 34, facing north


Wetland 34, facing northeast


Wetland 34, facing east

Wetland 35

Date of Wetland Delineation: November 15, 2017

Location: The intersection of TH 14 and Jeremy Drive, south side of TH 14.

Wetland Description: Wetland 35 is located on the south side of TH 14, and is part of an extensive wetland complex consisting of multiple wetland types on the NWI map. The majority of the wetland is a Reed Canary dominated meadow with pockets of granite lined depressions which hold standing water and are vegetated with obligate wetland species.

Delineated Wetland Type: Type 2, Hardwood Swamp/Fresh Wet Meadow, PFO1B/PEM1B

NWI: PFO1B/PEM1B

DNR Public Waters Map: None

Nicollet County Soil Survey:
Dickenson loam, 0-2% slopes, Well drained (27A)

Soil Survey Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) on the wetland side of the boundary to Smooth Brome (FACU) on the upland side of the boundary.

No data sheets were done for Wetland 35 due to similarities in soil, vegetation and hydrology to Wetland 33. Wetland 33 was used as a reference for Wetland 35.

Map Pages
Wet Feature Location Map page 49 of 60
LiDAR Topography Map page 49 of 60
NWI Map page 6 of 8
PWI Map page 6 of 8

Photos of Wetland 35:


Wetland 35, facing west


Wetland 35, facing northwest


Wetland 35, facing south, granite pool


Wetland 35, facing south, granite pool

Wetland 36

Date of Wetland Delineation: November 15, 2017

Location: Approximately 400' south of the TH 14/571st Lane intersection, on the east side of 571st Lane.

Wetland Description: Wetland 36 is located on the south side of TH 14, along the east edge of 571st Lane. It is a long, narrow depression which abuts a wooded area. It is dominated by Reed Canary Grass.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: PFO1B

DNR Public Waters Map: None

Nicollet County Soil Survey:
Delft clay loam, 0-2% slopes, Poorly drained (336)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) on the wetland side of the boundary to Smooth Brome (FACU) on the upland side of the boundary.

No data sheets were done for Wetland 36 due to similarities in soil, vegetation and hydrology to Wetland 36. Wetland 36 was used as a reference for Wetland 26.

Map Pages
Wet Feature Location Map page 50 of 60
LiDAR Topography Map page 50 of 60
NWI Map page 6 of 8
PWI Map page 6 of 8

Photos of Wetland 36:


Wetland 36, facing north


Wetland 36, facing northeast


Wetland 36, facing southeast


Wetland 36, facing south

Wetland 37

Date of Wetland Delineation: November 15, 2017

Location: Approximately 500' west of the TH 14/571st Lane intersection, on the south side of TH 14.

Wetland Description: Wetland 37 is located on the south side of TH 14, and is a hardwood swamp. It has steep sides and a very distinct boundary. There was standing water present at the time of the delineation.

Delineated Wetland Type: Type 2, Hardwood Swamp, PFO1B

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Copaston-Rock outcrop complex, 2-60% slopes, Well drained (923)

Soil Survey Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

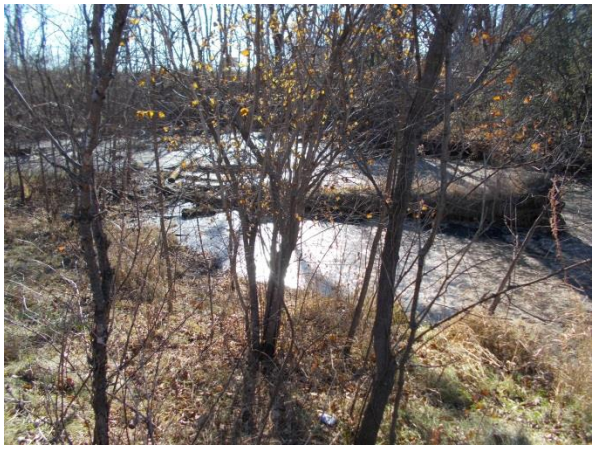
Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) along the wetland side of the boundary to Smooth Brome (FACU) on the upland side of the boundary.

Map Pages

Wet Feature Location Map page 50 of 60
LiDAR Topography Map page 50 of 60
NWI Map page 6 of 8
PWI Map page 6 of 8

Photos of Wetland 37:


Wetland 37, facing west


Wetland 37, facing southwest


Wetland 37, facing southeast


Wetland 37, facing east

Wetland 38

Date of Wetland Delineation: November 21, 2017

Location: Approximately 2800' west of the TH 14/571st Lane intersection, on the south side of TH 14.

Wetland Description: Wetland 38 is located on the south side of TH 14, and is a seasonally flooded basin. Wetland 38 is a low area in the corner of the field where water gathers and has produced wetland conditions. The very eastern portion was vegetated with Reed Canary Grass and the rest of the area was being cropped. Wetland 38 corresponds to Area 4 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 1, Seasonally Flooded Basin, PEM1A

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Alopecurus carolinianus (Carolina Foxtail), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) and Carolina Foxtail (FACW) along the wetland side of the boundary to Smooth Brome (FACU) and Canada Thistle (FACU) along the upland side of the boundary.

Map Pages
Wet Feature Location Map page 52 of 60
LiDAR Topography Map page 52 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wetland 38:


Wetland 38, facing northwest


Wetland 38, facing west


Wetland 38, facing southwest


Wetland 38, facing southeast

Wetland 39

Date of Wetland Delineation: November 21, 2017

Location: Approximately 300' east of the TH 14/446th Street intersection, on the north side of TH 14.

Wetland Description: Wetland 39 is located on the south side of TH 14, and is a Fresh Wet Meadow. Wetland 39 is a Reed Canary depression with gradual side slopes that transitions to a Green Ash over story.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) along the wetland side of the boundary to Common Milkweed (FACU) and Canada Goldenrod (FACU) along the upland side of the boundary.

No data sheets were done for Wetland 39 due to similarities in soil, vegetation and hydrology to Wetland 39. Wetland 38 was used as a reference for Wetland 39.

Map Pages
Wet Feature Location Map page 56 of 60
LiDAR Topography Map page 56 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of Wetland 39:


Wetland 39, facing southeast


Wetland 39, facing south


Wetland 39, facing west


Wetland 39, facing northwest

Wetland 40

Date of Wetland Delineation: November 22, 2017

Location: Approximately 600' west of the TH 14/TH 37 intersection, on the south side of TH 14.

Wetland Description: Wetland 40 is located on the south side of TH 14, and is a Fresh Wet Meadow. Wetland 40 is a Reed Canary depression with gradual side slopes that transition to Smooth Brome upland.

Delineated Wetland Type: Type 2, Fresh Wet Meadow, PEM1B

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Copaston loam, 0-6% slopes, Well drained (321)

Soil Survey Hydric Rating: 93%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation dominance. As the elevation goes up, the vegetation transitions from Reed Canary Grass (FACW) along the wetland side of the boundary to Common Milkweed (FACU) and Canada Goldenrod (FACU) along the upland side of the boundary.

No data sheets were done for Wetland 40 due to similarities in soil, vegetation and hydrology to Wetland 32. Wetland 32 was used as a reference for Wetland 40.

Map Pages
Wet Feature Location Map page 56 of 60
LiDAR Topography Map page 56 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of Wetland 40:



Wetland 40, facing southeast



Wetland 40, facing south



Wetland 40, facing southwest



Wetland 40, facing northwest

Wetland 41

Date of Wetland Delineation: November 22, 2017

Location: Approximately 1400' west of the TH 14/TH 37 intersection, on the south side of TH 37 at the boat landing.

Wetland Description: Wetland 41 is located on the south side of TH 37, and is a floodplain forest wetland. Wetland 41 is a wooded area with predominantly bare soils and detritus from numerous flood events in the past. The actual boat landing splits Wetland 41 and Wetland 42.

Delineated Wetland Type: Type 1, Floodplain Forest, PFO1B

NWI: PFO1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Nishna silty clay loam, Poorly drained (575)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW
Acer saccharinum (Silver Maple), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and visible hydrology indicators. Most of the area lacks an herbaceous understory but there was strong evidence (water stained leaves, detritus) indicating level to which the river rises.

Map Pages
Wet Feature Location Map page 53 of 60
LiDAR Topography Map page 53 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wetland 41:


Wetland 41, facing northeast


Wetland 41, facing east


Wetland 41, facing south


Wetland 41, facing southeast

Wetland 42

Date of Wetland Delineation: November 22, 2017

Location: Approximately 1000' west of the TH 14/TH 37 intersection, on the south side of TH 37 at the boat landing.

Wetland Description: Wetland 42 is located on the south side of TH 37, and is a floodplain forest wetland. Wetland 42 is a wooded area with predominantly bare soils and detritus from numerous flood events in the past. The actual boat landing splits Wetland 41 and Wetland.

Delineated Wetland Type: Type 1, Floodplain Forest, PFO1B

NWI: PFO1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wetland:
Acer saccharinum (Silver Maple), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and visible hydrology indicators. Most of the area lacks an herbaceous understory but there was strong evidence (water stained leaves, detritus) indicating where the river level rises to.

Map Pages
Wet Feature Location Map page 53 of 60
LiDAR Topography Map page 53 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wetland 42:



Wetland 42, facing northeast



Wetland 42, facing east



Wetland 42, facing southeast



Wetland 42, facing south

Wetland 43

Date of Wetland Delineation: November 22, 2017

Location: Approximately 4500' northwest of the TH 14/466th Street intersection, on the west side of TH 14.

Wetland Description: Wetland 43 is located on the west side of TH 14, and is a floodplain forest wetland. Wetland 43 slopes from the edge of wetland down to the Minnesota River. The boundary line for Wetland 43 extends north to the end of the Project Corridor and travels south to a point where an oxbow of the Minnesota River crosses within the Project Corridor. The area where Wetland 43 terminates is above most of the immediate floodplain.

Delineated Wetland Type: Type 1, Floodplain Forest, PFO1B

NWI: PFO1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wetland:
Acer saccharinum (Silver Maple), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and visible hydrology indicators. Most of the area lacks an herbaceous understory but there was strong evidence (water stained leaves, detritus) indicating where the river level rises to.

No data sheets were done for Wetland 43 due to similarities in soil, vegetation and hydrology to Wetland 42. Wetland 42 was used as a reference for Wetland 43.

Map Pages
Wet Feature Location Map page 59, 60 of 60
LiDAR Topography Map page 59, 60 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wetland 43:


Wetland 43, facing southeast


Wetland 43, facing south


Wetland 43, facing west


Wetland 43, facing northwest

Wetland 44

Date of Wetland Delineation: November 22, 2017

Location: Approximately 1700' northwest of the TH 14/466th Street intersection, on the west side of TH 14.

Wetland Description: Wetland 44 is located on the west side of TH 14, and is a floodplain forest wetland. Wetland 44 slopes from the edge of wetland down to the Minnesota River. The boundary line for Wetland 44 extends north to a point where an oxbow of the Minnesota River crosses within the Project Corridor. Wetland 44 extends south beyond the Project Corridor boundary.

Delineated Wetland Type: Type 1, Floodplain Forest, PFO1B

NWI: PFO1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Dickenson loam, 0-2% slopes, Well drained (27A)

Soil Survey Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wetland:
Acer saccharinum (Silver Maple), FACW
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation. The vegetation transitions Reed Canary Grass (FACW) along the wetland side of the boundary to a dominance of Smooth Brome (FACU) along the upland side of the boundary. The vegetation transition corresponds to an increase in elevation.

No data sheets were done for Wetland 44 due to similarities in soil, vegetation and hydrology to Wetland 33. Wetland 33 was used as a reference for Wetland 44.

Map Pages
Wet Feature Location Map page 57, 58 of 60
LiDAR Topography Map page 57, 58 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of Wetland 44:


Wetland 44, facing southeast


Wetland 44, facing south


Wetland 44, facing west


Wetland 44, facing northwest

Wetland 45

Date of Wetland Delineation: November 22, 2017

Location: Approximately 2000' north of the TH 14/466th Street intersection, on the east side of TH 14, approximately 500' east of the east side of TH 14.

Wetland Description: Wetland 45 is located on the east side of TH 14, and is a Fresh Wet Meadow wetland. Wetland 45 is on top of the slope which leads down to the river. It is a closed basin which receives runoff from the surrounding fields. Wetland 45 corresponds with Area 1 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 1, Floodplain Forest, PFO1B

NWI: PFO1C

DNR Public Waters Map: None

Nicollet County Soil Survey:
Dickenson loam, 0-2% slopes, Well drained (27A)

Soil Survey Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wetland:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: Boundary placed using a combination of topographic change and change in vegetation. The vegetation transitions from Reed Canary Grass (FACW) along the wetland side of the boundary to a dominance of Smooth Brome (FACU) along the upland side of the boundary, which corresponds to an increase in elevation.

No data sheets were done for Wetland 45 due to similarities in soil, vegetation and hydrology to Wetland 33. Wetland 33 was used as a reference for Wetland 45.

Map Pages
Wet Feature Location Map page 58 of 60
LiDAR Topography Map page 58 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of Wetland 45:


Wetland 45, facing northwest


Wetland 45, facing north


Wetland 45, facing east


Wetland 45, facing southeast

Wetland 46

Date of Delineation: November 4, 2017

Location: Approximately 1400' west of the TH 14/County Road 21 intersection, north side of highway.

Wetland Description: Wetland 46 is located on the north side of TH 14 and is a linear wetland dominated by Cattail that runs parallel to TH 14. Wetland 46 is connected by a culvert to Wetland 14, which is located just the north of Wetland 46. There is a constructed berm between these two water features. Wetland 46 is also connected to Wetland 15 via culvert beneath TH 14. Wetland 46 receives runoff from TH 14 and adjacent lands. Aerial photos appear to show Wetlands 14, 15 and Wetland 46 as one large wetland area which has been bisected by TH 14 at some point in the past. Wetland 46 appears to be the result of excavation with the spoils being used to construct a berm between Wetland 14 and 46. Although Wetland 46 is likely a result of excavation for the construction of TH 14, it is located in an area that is historically wetland and should be considered a natural wetland. Wetland 46 corresponds with Area 35 from the Level 1 Wetland Delineation Report.

Delineated Wetland Type: Type 3, Shallow Marsh, PEM1C

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Canada Thistle (FACU) as elevation increases.

No data sheets were done for Wetland 46 due to similarities in soil, vegetation and hydrology to Wetland 14. Wetland 14 was used as a reference for Wetland 46.

Map Pages
Wet Feature Location Map page 12 of 60
LiDAR Topography Map page 12 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wetland 46:



Wetland 46, facing west



Wetland 46, facing northwest



Wetland 47, facing northeast



Wetland 46, facing east

RESULTS

Delineated Wet Ditches

Wet Ditch 1

Date of Delineation: October 11, 2017

Location: Approximately 2400' east of the TH 14/491st Avenue intersection, north side of TH 14.

Wetland Description: Wet Ditch 1 is located on the north side of TH 14 and runs parallel to TH 14. It is dominated by Reed Canary Grass and Wire Sedge and is saturated to the surface. Wet Ditch 1 is separated from Wet Ditch 2 by a field entrance. Wet Ditch 1 receives runoff from TH 14 and the surrounding fields.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo clay loam, 0-2% slopes, Poorly drained (86)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW
Carex lacustris (Lake sedge), OBL

Basis of Delineated Boundary: Boundary placed using a combination of topography and change in vegetation. The boundary was placed near the toe of the slope where the vegetation transitions from a dominance of Reed Canary Grass (FACW) along the wetland side of the boundary to a dominance of Smooth Brome (FACU) along the upland side of the boundary.

Map Pages
Wet Feature Location Map page 5 of 60
LiDAR Topography Map page 5 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 1:


Wet Ditch 1, facing west


Wet Ditch 1, facing east


Wet Ditch 1, facing north

Wet Ditch 2

Date of Delineation: October 11, 2017

Location: Approximately 2500' west of the TH 14/481st Avenue intersection, north side of TH 14.

Wetland Description: Wet Ditch 2 is located on the north side of TH 14 and is a narrow ditch which runs parallel to TH 14. Wet Ditch 2 is separated from Wet Ditch 1 by a field entrance. Wet Ditch 2 receives runoff from TH 14 and the surrounding fields.

NWI: None

DNR Public Waters Map: None

Chippewa County Soil Survey:
Canisteo-Glencoe complex, 0-2% slopes, Poorly drained (L107A)

Soil Survey Hydric Rating: 90%, Predominantly hydric

Dominant Vegetation of Wet Ditch:
Carex lacustris (Lake Sedge), OBL

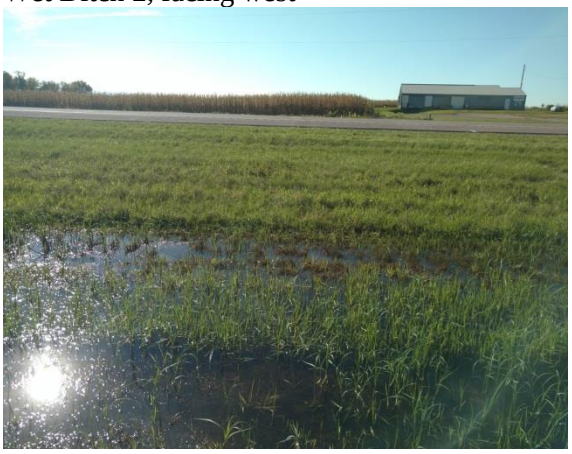
Basis of Delineated Boundary: The boundary was placed using a combination of topography and the vegetation transition from Lake Sedge (OBL) along the wetland side of the boundary to Kentucky Bluegrass (FAC) and Canada Thistle (FACU) along the upland side of the boundary.

Map Pages
Wet Feature Location Map page 5 of 60
LiDAR Topography Map page 5 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 2:


Wet Ditch 2, facing west


Wet Ditch 2, facing east


Wet Ditch 2, facing north


Wet Ditch 2, bottom of ditch, typical

Wet Ditch 3

Date of Delineation: October 11, 2017

Location: Approximately 1500' east of the TH 14/481st Avenue intersection, on the north side of TH 14.

Wetland Description: Wet Ditch 3 is located on the north side of TH 14 and is a narrow ditch which runs parallel to TH 14. Wet Ditch 3 receives runoff from TH 14 and the surrounding fields. Wet Ditch 3 appears to have been recently cleaned and re-seeded.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo clay loam, 0-2% slopes, Poorly drained (86)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Echinochloa crus-galli (Barnyard Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Barnyard Grass (FACW) along the wetland side of the boundary transitions to Red Clover (FACU) along the upland side of the boundary.

Map Pages
Wet Feature Location Map page 1, 3 of 60
LiDAR Topography Map page 1, 3 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 3:



Wet Ditch 3, facing south



Wet Ditch 3, facing northwest



Wet Ditch 3, facing northeast



Wet Ditch 3, facing east

Wet Ditch 4

Date of Delineation: October 11, 2017

Location: Approximately 2700' east of the TH 14/481st Avenue intersection, on the north side of TH 14.

Wetland Description: Wet Ditch 4 is located on the north side of TH 14 and is a narrow ditch which runs parallel to TH 14. Wet Ditch 4 receives runoff from TH 14 and the surrounding fields. Wet Ditch 4 appears to have been recently cleaned and re-seeded.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Cordova clay loam, 0-2% slopes, Poorly drained (109)

Soil Survey Hydric Rating: 90%, Predominantly hydric

Dominant Vegetation of Wet Ditch:
Echinochloa crus-galli (Barnyard Grass), FACW

Basis of Delineated Boundary: The boundary was placed along the elevation where the vegetation transitions from Barnyard Grass (FACW) along the wetland side of the boundary to Red clover (FACU) along the upland side of the boundary.

No data sheets were done for Wet Ditch 4 due to similarities in soil, vegetation and hydrology to Wetland 12. Wetland 12 was used as a reference for Wet Ditch 4.

Map Pages
Wet Feature Location Map page 1 of 60
LiDAR Topography Map page 1 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 4:



Wet Ditch 4, facing northwest



Wet Ditch 4, facing north



Wet Ditch 4, facing east



Wet Ditch 4, facing southeast

Wet Ditch 5

Date of Delineation: October 11, 2017

Location: Approximately 2000' east of the TH 14/481st Avenue intersection, on the north side of TH 14.

Wetland Description: Wet Ditch 5 is located on the south side of TH 14 and is a narrow ditch which runs parallel to TH 14. Wet Ditch 5 receives runoff from TH 14 and the surrounding fields. The ditch appears to have been cleaned and re-seeded recently.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo clay loam, 0-2% slopes, Poorly drained (86)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Echinochloa crus-galli (Barnyard Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. The vegetation transitions from a dominance of Barnyard Grass (FACW) along the wetland side of the boundary to Red Clover (FACU) and Smooth Brome (FACU) along the upland side of the boundary.

No data sheets were done for Wet Ditch 5 due to similarities in soil, vegetation and hydrology to Wet Ditch 3. Wet Ditch 3 was used as a reference for Wet Ditch 5.

Map Pages
Wet Feature Location Map page 1, 3 of 60
LiDAR Topography Map page 1, 3 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 5:



Wet Ditch 5, facing east



Wet Ditch 5, facing southeast



Wet Ditch 5, facing southwest



Wet Ditch 5, facing west

Wet Ditch 7

Date of Delineation: October 12, 2017

Location: Approximately 775' east of the TH 14/491st Avenue intersection, on the south side.

Wetland Description: Wet Ditch 7 is located on the south side of TH 14 and is a linear ditch dominated by Reed Canary Grass and runs parallel to TH 14. Wet Ditch 7 is connected to Wet Ditch 8 to the west via a culvert beneath a field entrance. Wet Ditch 7 is connected to Wet Ditch 46 to the east via culvert beneath a field entrance. Wet Ditch 7 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Clarion loam, 2-6% slopes, Moderately well drained (102B)

Soil Survey Hydric Rating: 5%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Canada Thistle (FACU) as elevation increases.

Map Pages
Wet Feature Location Map page 6 of 60
LiDAR Topography Map page 6 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 7:



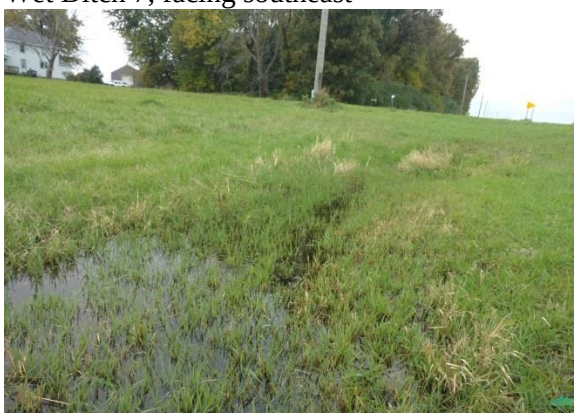
Wet Ditch 7, facing east



Wet Ditch 7, facing southeast



Wet Ditch 7, facing southwest


Wet Ditch 7, facing west

Wet Ditch 8

Date of Delineation: October 12, 2017

Location: Approximately 600' east of the TH 14/491st Avenue intersection, on the south side.

Wetland Description: Wet Ditch 8 is located on the south side of TH 14 and is a linear ditch dominated by Reed Canary Grass and runs parallel to TH 14. Wet Ditch 8 is connected to Wet Ditch 7 to the east via culvert beneath a drive entrance. Wet Ditch 8 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Le Sueur loam, 1-3% slopes, Somewhat poorly drained (239)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed along the vegetation transition from a dominance of Reed Canary Grass (FACW) along the wetland side of the boundary to a dominance of Smooth Brome (FACU) and Dandelion (FACU) along the upland side of the boundary.

Map Pages
Wet Feature Location Map page 6 of 60
LiDAR Topography Map page 6 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 8:



Wet Ditch 8, facing east



Wet Ditch 8, facing southeast



Wet Ditch 8, facing southwest



Wet Ditch 8, facing west

Wet Ditch 9

Date of Delineation: October 12, 2017

Location: The southeast quadrant of the TH 14/491st Avenue intersection.

Wetland Description: Wet Ditch 9 is located on the south side of TH 14 and is a linear ditch dominated by Reed Canary Grass and runs parallel to TH 14. Wet Ditch 9 is connected to Wet Ditch 12 to the west via culvert beneath 491st Avenue. Wet Ditch 9 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Le Sueur loam, 1-3% slopes, Somewhat poorly drained (239)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Dandelion (FACU) as elevation increases.

No data sheets were done for Wet Ditch 9 due to similarities in soil, vegetation and hydrology to Wet Ditch 8. Wet Ditch 8 was used as a reference for Wet Ditch 9.

Map Pages
Wet Feature Location Map page 6 of 60
LiDAR Topography Map page 6 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 9


Wet Ditch 9, facing east



Wet Ditch 9, facing southeast



Wet Ditch 9, facing southwest


Wet Ditch 9, facing west

Wet Ditch 10

Date of Delineation: October 12, 2017

Location: The northeast quadrant of the TH 14/491st Avenue intersection.

Wetland Description: Wet Ditch 10 is located on the north side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 10 is connected to Wet Ditch 11 to the west via a culvert beneath Township Road 168 (labeled as 491st Avenue on the south extension of the road). Wet Ditch 10 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Le Sueur loam, 1-3% slopes, Somewhat poorly drained (239)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed along the contour where the vegetation transitions from a dominance of Reed Canary Grass (FACW) along the wetland side of the boundary to a dominance of Smooth Brome (FACU) along the upland side of the boundary.

No data sheets were done for Wet Ditch 10 due to similarities in soil, vegetation and hydrology to Wet Ditch 8. Wet Ditch 8 was used as a reference for Wet Ditch 10.

Map Pages
Wet Feature Location Map page 6 of 60
LiDAR Topography Map page 6 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 10:



Wet Ditch 10, facing west



Wet Ditch 10, facing northwest


Wet Ditch 10, facing northeast


Wet Ditch 10, facing east

Wet Ditch 11

Date of Delineation: November 2, 2017

Location: The northwest quadrant of the TH 14/491st Avenue intersection.

Wetland Description: Wet Ditch 11 is located on the north side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 11 is connected to Wet Ditch 10 to the east via culvert beneath Township Road 168 (labeled as 491st Avenue on the south extension of the road). Wet Ditch 11 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Le Sueur loam, 1-3% slopes, Somewhat poorly drained (239)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed along the contour where the vegetation transitions from a dominance of Reed Canary Grass along the wetland side of the boundary to a dominance of Smooth Brome (FACU) along the upland side of the boundary.

No data sheets were done for Wet Ditch 11 due to similarities in soil, vegetation and hydrology to Wet Ditch 8. Wet Ditch 8 was used as a reference for Wet Ditch 11.

Map Pages
Wet Feature Location Map page 6 of 60
LiDAR Topography Map page 6 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 11:


Wet Ditch 11, facing west


Wet Ditch 11, facing northwest


Wet Ditch 11, facing northeast


Wet Ditch 11, facing east

Wet Ditch 12

Date of Delineation: October 12, 2017

Location: The southwest quadrant of the TH 14/491st Avenue intersection.

Wetland Description: Wet Ditch 12 is located on the south side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 12 is connected to Wet Ditch 9 via a culvert beneath 491st Avenue. Wet Ditch 12 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Le Sueur loam, 1-3% slopes, Somewhat poorly drained (239)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed along the elevation that corresponds to the vegetation transition from a dominance of Reed Canary Grass (FACW) along the wet side of the boundary to a dominance of Smooth Brome (FACU) along the upland side of the boundary.

No data sheets were done for Wet Ditch 12 due to similarities in soil, vegetation and hydrology to Wet Ditch 8. Wet Ditch 8 was used as a reference for Wet Ditch 12.

Map Pages
Wet Feature Location Map page 6 of 60
LiDAR Topography Map page 6 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 12:


Wet Ditch 12, facing west


Wet Ditch 12, facing southwest


Wet Ditch 12, facing southeast


Wet Ditch 12, facing east

Wet Ditch 13

Date of Delineation: November 3, 2017

Location: Approximately 1700' east of the TH 14/466th Street intersection, on the north side.

Wetland Description: Wet Ditch 13 is located on the north side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 13 is not connected to any other water feature by culvert nor overland connection. Wet Ditch 13 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Le Sueur loam, 1-3% slopes, Somewhat poorly drained (239)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU), Red Clover (FACU) and Dandelion (FACU) as elevation increases.

No data sheets were done for Wet Ditch 13 due to similarities in soil, vegetation and hydrology to Wet Ditch 8. Wet Ditch 8 was used as a reference for Wet Ditch 13.

Map Pages
Wet Feature Location Map page 9 of 60
LiDAR Topography Map page 9 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 13:


Wet Ditch 13, facing west


Wet Ditch 13, facing northwest


Wet Ditch 13, facing northeast


Wet Ditch 13, facing east

Wet Ditch 14

Date of Delineation: November 3, 2017

Location: Approximately 2400' east of the TH 14/466th Street intersection, on the north side.

Wetland Description: Wet Ditch 14 is located on the north side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 14 is connected to Wet Ditch 15 via culvert beneath the drive entrance to a farm residence. There was standing water in low areas of the ditch. Wet Ditch 14 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Le Sueur loam, 1-3% slopes, Somewhat poorly drained (239)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Red Clover (FACU) as elevation increases.

No data sheets were done for Wet Ditch 14 due to similarities in soil, vegetation and hydrology to Wet Ditch 8. Wet Ditch 8 was used as a reference for Wet Ditch 14.

Map Pages
Wet Feature Location Map page 8 of 60
LiDAR Topography Map page 8 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 14:


Wet Ditch 14, facing west


Wet Ditch 14, facing northwest


Wet Ditch 14, facing northeast


Wet Ditch 14, facing east

Wet Ditch 15

Date of Delineation: November 3, 2017

Location: Approximately 2600' east of the TH 14/466th Street intersection, on the north side.

Wetland Description: Wet Ditch 15 is located on the north side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 15 is connected to Wet Ditch 14 via culvert beneath the drive entrance to a farm residence. Wet Ditch 15 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Cordova-Rolfe complex, 0-2% slopes, Poorly drained (978)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Red Clover (FACU) as elevation increases.

Map Pages
Wet Feature Location Map page 8 of 60
LiDAR Topography Map page 8 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 15:


Wet Ditch 15, facing west


Wet Ditch 15, facing northwest


Wet Ditch 15, facing northeast


Wet Ditch 15, facing east

Wet Ditch 16

Date of Delineation: November 3, 2017

Location: Approximately 750' west of the TH 14/466th Street intersection, on the north side.

Wetland Description: Wet Ditch 16 is located on the north side of TH 14 and is a linear ditch dominated by Reed Canary Grass and runs parallel to TH 14. Wet Ditch 16 is connected to Wet Ditch 17 via a culvert beneath a field entrance. There was standing water present in deeper pockets of the ditch. Wet Ditch 16 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Harps clay loam, 0-2% slopes, Poorly drained (112)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU), White Clover (FACU), and Dandelion (FACU) as elevation increases.

Map Pages
Wet Feature Location Map page 10 of 60
LiDAR Topography Map page 10 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 16:


Wet Ditch 16, facing west


Wet Ditch 16, facing northwest


Wet Ditch 16, facing northeast


Wet Ditch 16, facing east

Wet Ditch 17

Date of Delineation: November 3, 2017

Location: Approximately 1500' west of the TH 14/466th Street intersection, on the north side.

Wetland Description: Wet Ditch 17 is located on the north side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 17 is connected to Wet Ditch 16 via culvert beneath a field entrance. Wet Ditch 17 receives runoff from TH 14 and adjacent lands. The west end of Wet Ditch 17 terminates at a culvert beneath a slight berm which separates Wet Ditch 17 from a channel leading to the north which connects to a wetland beyond the Project Corridor..

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Harps clay loam, 0-2% slopes, Poorly drained (112)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Red Clover (FACU) as elevation increases.

No data sheets were done for Wet Ditch 17 due to similarities in soil, vegetation and hydrology to Wet Ditch 16. Wet Ditch 16 was used as a reference for Wet Ditch 17.

Map Pages
Wet Feature Location Map page 10 of 60
LiDAR Topography Map page 10 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 17:



Wet Ditch 17, facing west



Wet Ditch 17, facing northwest



Wet Ditch 17, facing northeast



Wet Ditch 17, facing east

Wet Ditch 18

Date of Delineation: November 3, 2017

Location: Approximately 700' west of the TH 14/466th Street intersection, on the south side.

Wetland Description: Wet Ditch 18 is located on the south side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 18 is connected to Wet Ditch 19 via a culvert beneath a driveway entrance to a residential property.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Harps clay loam, 0-2% slopes, Poorly drained (112)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Red Clover (FACU) as elevation increases.

No data sheets were done for Wet Ditch 18 due to similarities in soil, vegetation and hydrology to Wet Ditch 16. Wet Ditch 16 was used as a reference for Wet Ditch 18.

Map Pages
Wet Feature Location Map page 10 of 60
LiDAR Topography Map page 10 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 18:


Wet Ditch 18, facing east


Wet Ditch 18, facing southeast


Wet Ditch 18, facing southwest


Wet Ditch 18, facing west

Wet Ditch 19

Date of Delineation: November 3, 2017

Location: Approximately 1400' west of the TH 14/466th Street intersection, on the south side.

Wetland Description: Wet Ditch 19 is located on the south side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 19 is connected to Wet Ditch 18 via culvert beneath a driveway entrance to a residential property. There was standing water in low spots along Wet Ditch 19.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Harps clay loam, 0-2% slopes, Poorly drained (112)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Red Clover (FACU) as elevation increases.

No data sheets were done for Wet Ditch 19 due to similarities in soil, vegetation and hydrology to Wet Ditch 16. Wet Ditch 16 was used as a reference for Wet Ditch 19.

Map Pages
Wet Feature Location Map page 10 of 60
LiDAR Topography Map page 10 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wet Ditch 19:


Wet Ditch 19, facing east


Wet Ditch 19, facing southeast


Wet Ditch 19, facing southwest


Wet Ditch 19, facing west

Wet Ditch 20

Date of Delineation: November 4, 2017

Location: Southeast quadrant of the TH 14/County Road 21 intersection.

Wetland Description: Wet Ditch 20 is located on the south side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 20 is isolated and has no culvert connection to any other area. Wet Ditch 20 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Lester loam, 2-6% slopes, Well drained (106B)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Dandelion (FACU) as elevation increases.

Map Pages
Wet Feature Location Map page 11, 12 of 60
LiDAR Topography Map page 11, 12 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wet Ditch 20:



Wet Ditch 20, facing east


Wet Ditch 20, facing southeast


Wet Ditch 20, facing southwest


Wet Ditch 20, facing west

Wet Ditch 21

Date of Delineation: November 4, 2017

Location: Northwest quadrant of the TH 14/County Road 21 intersection.

Wetland Description: Wet Ditch 21 is located on the north side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 21 is isolated and has no culvert connection to any other area. Wet Ditch 21 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Cordova-Rolfe complex, 2-6% slopes, Poorly drained (978)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW
Eleocharis palustris (Common Spikerush), OBL

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Alfalfa (FACU) as elevation increases.

No data sheets were done for Wet Ditch 21 due to similarities in soil, vegetation and hydrology to Wetland 13. Wetland 13 was used as a reference for Wet Ditch 21.

Map Pages
Wet Feature Location Map page 12 of 60
LiDAR Topography Map page 12 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wet Ditch 21:



Wet Ditch 21, facing west



Wet Ditch 21, facing northwest



Wet Ditch 21, facing northeast



Wet Ditch 21, facing east

Wet Ditch 22

Date of Delineation: November 4, 2017

Location: Southwest quadrant of the TH 14/County Road 21 intersection.

Wetland Description: Wet Ditch 22 is located on the south side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 22 is isolated and has no culvert connection to any other area. Wet Ditch 22 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Lester loam, 2-6% slopes, Well drained (106B)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW
Eleocharis palustris (Common Spikerush), OBL

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Red Clover (FACU) as elevation increases.

No data sheets were done for Wet Ditch 22 due to similarities in soil, vegetation and hydrology to Wet Ditch 20. Wet Ditch 20 was used as a reference for Wet Ditch 22.

Map Pages
Wet Feature Location Map page 12 of 60
LiDAR Topography Map page 12 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wet Ditch 22:



Wet Ditch 22, facing east



Wet Ditch 22, facing southeast



Wet Ditch 22, facing southwest



Wet Ditch 22, facing west

Wet Ditch 24

Date of Delineation: November 4, 2017

Location: Approximately 2000' west of the TH 14/County Road 21 intersection, north side of highway.

Wetland Description: Wet Ditch 24 is located on the south side of TH 14 and is a linear ditch dominated by Reed Canary Grass that runs parallel to TH 14. Wet Ditch 24 is connected to Wetland 15 through the continuation of the existing topography. Wet Ditch 24 receives runoff from TH 14 and adjacent lands. Aerial photos appear to show Wetlands 14, 15 and Wet Ditch 23 as one large wetland area which has been bisected by TH 14 at some point in the past. Wet Ditch 24 does not appear to be a part of this original larger wetland area.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 24 due to similarities in soil, vegetation and hydrology to Wetland 1. Wetland 1 was used as a reference for Wet Ditch 24.

Map Pages
Wet Feature Location Map page 13, 15 of 60
LiDAR Topography Map page 13, 15 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wet Ditch 24:


Wet Ditch 24, facing east


Wet Ditch 24, facing southeast


Wet Ditch 24, facing southwest


Wet Ditch 24, facing west

Wet Ditch 25

Date of Delineation: November 6, 2017

Location: Approximately 3200' west of the TH 14/County Road 21 intersection, north side of highway.

Wetland Description: Wet Ditch 25 is located on the north side of TH 14 and is a very small basin dominated by Reed Canary Grass. There is an above ground structure between Wet Ditch 25 and the north side of a berm. To the north is Wetland 17. DNR mapping indicate the presence of an unnamed stream which starts at the south tip of Wetland 17, passing through Wet Ditch 25, via culvert beneath TH 14 and continuing to the south through Wet Ditch 27.Wet Ditch 25 receives runoff from TH 14 and adjacent lands. The channel between Wetland 17 and Wet Ditch 25 indicated on DNR mapping was investigated for the presence of wetland conditions and was determined to be upland.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Cordova clay loam, 0-2% slopes, Poorly drained (109)

Soil Survey Hydric Rating: 90%, Predominantly hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Crown Vetch (UPL) as elevation increases.

No data sheets were done for Wet Ditch 25 due to similarities in soil, vegetation and hydrology to Wetland 12. Wetland 12 was used as a reference for Wet Ditch 25.

Map Pages
Wet Feature Location Map page 13, 15 of 60
LiDAR Topography Map page 13, 15 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wet Ditch 25:


Wet Ditch 25, facing west


Wet Ditch 25, facing northwest


Wet Ditch 25, facing northeast


Wet Ditch 25, facing east

Wet Ditch 26

Date of Delineation: November 6, 2017

Location: Approximately 3400' west of the TH 14/County Road 21 intersection, north side of highway.

Wetland Description: Wet Ditch 26 is located on the north side of TH 14 and is a linear ditch oriented parallel to TH 14 that is dominated by Reed Canary Grass. Wet Ditch 26 is isolated and lacks a culvert connection to any other wet feature. Wet Ditch 26 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Lester loam, 2-6% slopes, Well drained (106B)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW
Rumex crispus (Curly Dock), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Canada Thistle (FACU) as elevation increases.

No data sheets were done for Wet Ditch 26 due to similarities in soil, vegetation and hydrology to Wet Ditch 20. Wet Ditch 20 was used as a reference for Wet Ditch 26.

Map Pages
Wet Feature Location Map page 13, 15 of 60
LiDAR Topography Map page 13, 15 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wet Ditch 26:


Wet Ditch 26, facing west


Wet Ditch 26, facing northwest


Wet Ditch 26, facing northeast


Wet Ditch 26, facing east

Wet Ditch 27

Date of Delineation: November 6, 2017

Location: Approximately 3300' west of the TH 14/County Road 21 intersection, north side of highway.

Wetland Description: Wet Ditch 27 is located on the south side of TH 14 and is a linear ditch oriented at an angle to TH 14 that is dominated by Reed Canary Grass. Wet Ditch 27 is connected via culvert beneath TH 14 to Wetland 25. Wet Ditch 27 directs water through a series of ditches and natural streams southward to the Minnesota River. Wet Ditch 27 receives runoff from TH 14 and adjacent lands. Wet Ditch 27 corresponds with Area 34 from the Level 1 Wetland Delineation Report.

NWI: None

DNR Public Waters Map: Unnamed Stream

Nicollet County Soil Survey:
Lester loam, 2-6% slopes, Well drained (106B)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 27 due to similarities in soil, vegetation and hydrology to Wet Ditch 20. Wet Ditch 20 was used as a reference for Wet Ditch 27.

Map Pages
Wet Feature Location Map page 13, 15, 16 of 60
LiDAR Topography Map page 13, 15, 16 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wet Ditch 27:


Wet Ditch 27, facing southwest


Wet Ditch 27, facing west


Wet Ditch 27, facing northwest


Wet Ditch 27, facing north

Wet Ditch 28

Date of Delineation: November 7, 2017

Location: Location: Approximately 4700' east of the TH 14/478th Street intersection, on the north side of the highway.

Wetland Description: Wet Ditch 28 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 that is dominated by Reed Canary Grass. Wet Ditch 28 receives runoff from TH 14 and adjacent lands.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Lester loam, 6-10% slopes, Moderately eroded, Well drained (106C2)

Soil Survey Hydric Rating: 2%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Canada Thistle (FACU) as elevation increases.

No data sheets were done for Wet Ditch 28 due to similarities in soil, vegetation and hydrology to Wetland 21. Wetland 21 was used as a reference for Wet Ditch 28.

Map Pages
Wet Feature Location Map page 16 of 60
LiDAR Topography Map page 16 of 60
NWI Map page 3 of 7
PWI Map page 3 of 7

Photos of Wet Ditch 28:



Wet Ditch 28, facing west



Wet Ditch 28, facing northwest



Wet Ditch 28, facing northeast



Wet Ditch 28, facing east

Wet Ditch 29

Date of Delineation: November 9, 2017

Location: Approximately 375' south of the 541st Avenue/460th Lane intersection, east side of 541st Avenue.

Wetland Description: Wet Ditch 29 is located on the east side of 541st Avenue and is a linear ditch which is parallel to 541st Avenue and dominated by Reed Canary Grass. Wet Ditch 29 receives runoff from 541st Avenue and adjacent lands. Wet Ditch 29 corresponds with Area 19 from the Level 1 Wetland Delineation Report.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Glencoe clay loam, 0-1% slopes, Very poorly drained (L84A)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) and Dandelion (FACU) as elevation increases.

No data sheets were done for Wet Ditch 29 due to similarities in soil, vegetation and hydrology to Wetland 1. Wetland 1 was used as a reference for Wet Ditch 29.

Map Pages
Wet Feature Location Map page 35 of 60
LiDAR Topography Map page 35 of 60
NWI Map page 4 of 7
PWI Map page 4 of 7

Photos of Wet Ditch 29:


Wet Ditch 29, facing north


Wet Ditch 29, facing northeast


Wet Ditch 29, facing southeast


Wet Ditch 29, facing east

Wet Ditch 30

Date of Delineation: November 14, 2017

Location: The northeast quadrant of the TH 14/561st Avenue intersection.

Wetland Description: Wet Ditch 30 is located on the north side of TH 14 and is a linear ditch parallel to TH 14 that is dominated by Reed Canary Grass. Wet Ditch 30 receives runoff from TH 14 and adjacent lands. Wet Ditch 30 corresponds with Area 9 from the Level 1 Wetland Delineation Report.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Webster clay loam, 0-2% slopes, Poorly drained (L83A)

Soil Survey Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 30 due to similarities in soil, vegetation and hydrology to Wetland 29. Wetland 29 was used as a reference for Wet Ditch 30.

Map Pages
Wet Feature Location Map page 45 of 60
LiDAR Topography Map page 45 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wet Ditch 30:



Wet Ditch 30, facing west



Wet Ditch 30, facing northwest



Wet Ditch 30, facing northeast



Wet Ditch 30, facing east

Wet Ditch 31

Date of Delineation: November 15, 2017

Location: The northwest quadrant of the TH 14/561st Avenue intersection.

Wetland Description: Wet Ditch 31 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Reed Canary Grass. Wet Ditch 30 receives runoff from TH 14 and adjacent lands. Wet Ditch 31 is connected via culvert beneath TH 14 to Wetland 29 on the south side of TH 14.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Tilfer silty clay loam, Very poorly drained (321)

Soil Survey Hydric Rating: 93%, Predominantly hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW
Eleocharis obtusa (Blunt Spikerush), OBL

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 31 due to similarities in soil, vegetation and hydrology to Wetland 32. Wetland 32 was used as a reference for Wet Ditch 31.

Map Pages
Wet Feature Location Map page 45 of 60
LiDAR Topography Map page 45 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wet Ditch 31:



Wet Ditch 31, facing west


Wet Ditch 31, facing northwest


Wet Ditch 31, facing northeast


Wet Ditch 31, facing east

Wet Ditch 32

Date of Delineation: November 15, 2017

Location: The northeast quadrant of the TH 14/Kohn Drive intersection.

Wetland Description: Wet Ditch 32 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 32 receives runoff from TH 14 and adjacent lands. Wet Ditch 32 is connected to Wet Ditch 33 via culvert beneath Kohn Drive at the west end of the wet ditch.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Plainfield loamy sand, 2-6% slopes, Excessively drained (283B)

Soil Survey Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) as elevation increases.

Map Pages
Wet Feature Location Map page 50 of 60
LiDAR Topography Map page 50 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wet Ditch 32:


Wet Ditch 32, facing west


Wet Ditch 32, facing northwest


Wet Ditch 32, facing northeast


Wet Ditch 32, facing east

Wet Ditch 33

Date of Delineation: November 15, 2017

Location: The northwest quadrant of the TH 14/Kohn Drive intersection.

Wetland Description: Wet Ditch 33 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 33 receives runoff from TH 14 and adjacent lands. Wet Ditch 33 is connected to Wet Ditch 32 via culvert beneath Kohn Drive at the west end of the wet ditch.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Plainfield loamy sand, 2-6% slopes, Excessively drained (283B)

Soil Survey Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Bolboschoenus fluviatilis (River Bulrush), OBL

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 33 due to similarities in soil, vegetation and hydrology to Wet Ditch 32. Wet Ditch 32 was used as a reference for Wet Ditch 33.

Map Pages
Wet Feature Location Map page 50 of 60
LiDAR Topography Map page 50 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wet Ditch 33:


Wet Ditch 33, facing west


Wet Ditch 33, facing northwest


Wet Ditch 33, facing northeast


Wet Ditch 33, facing east

Wet Ditch 34

Date of Delineation: November 15, 2017

Location: Approximately 1000' west of the TH 14/571st Avenue intersection, north side of highway.

Wetland Description: Wet Ditch 34 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 34 receives runoff from TH 14 and adjacent lands. Wet Ditch 34 is connected to Wet Ditch 35 via culvert beneath a residential drive entrance. There was standing water in low areas of the ditch at the time of the site visit. Wet Ditch 34 tilts to the east where flow is directed towards OAR 4 to the east.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Plainfield loamy sand, 6-15% slopes, Excessively drained (283C)

Soil Survey Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) and Indian grass (FACU) as elevation increases.

Map Pages
Wet Feature Location Map page 51 of 60
LiDAR Topography Map page 51 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wet Ditch 34:


Wet Ditch 34, facing west


Wet Ditch 34, facing northwest


Wet Ditch 34, facing northeast


Wet Ditch 34, facing east

Wet Ditch 35

Date of Delineation: November 21, 2017

Location: Approximately 2300' west of the TH 14/571st Avenue intersection, north side of highway.

Wetland Description: Wet Ditch 35 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 35 receives runoff from TH 14 and adjacent lands. Wet Ditch 35 is connected to Wet Ditch 34 via culvert beneath a residential drive entrance and it is connected to Wet Ditch 36 to the west via culvert beneath a field entrance.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6%, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) and Canada Thistle (FACU) as elevation increases.

Map Pages
Wet Feature Location Map page 52 of 60
LiDAR Topography Map page 52 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wet Ditch 35:


Wet Ditch 35, facing west


Wet Ditch 35, facing northwest


Wet Ditch 35, facing northeast


Wet Ditch 35, facing east

Wet Ditch 36

Date of Delineation: November 21, 2017

Location: Approximately 1700' east of the TH 14/CSAH 37 intersection, north side of highway.

Wetland Description: Wet Ditch 36 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 36 receives runoff from TH 14 and adjacent lands. Wet Ditch 36 is connected to Wet Ditch 35 via culvert beneath a field entrance. It is connected to Wet Ditch 37 via culvert beneath TH 14 and is connected to Wet Ditch 38 on the west end via culvert beneath a residential drive entrance. There was standing water in deeper pockets of the ditch at the time of the site visit.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW
Carex lacustris (Lake Sedge), OBL

Basis of Delineated Boundary: The boundary placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 36 due to similarities in soil, vegetation and hydrology to Wet Ditch 35. Wet Ditch 35 was used as a reference for Wet Ditch 36.

Map Pages
Wet Feature Location Map page 52 of 60
LiDAR Topography Map page 52 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wet Ditch 36:


Wet Ditch 36, facing west


Wet Ditch 36, facing northwest


Wet Ditch 36, facing northeast


Wet Ditch 36, facing east

Wet Ditch 37

Date of Delineation: November 21, 2017

Location: Approximately 1750' east of the TH 14/CSAH 37 intersection, south side of highway.

Wetland Description: Wet Ditch 37 is located on the south side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 37 receives runoff from TH 14 and adjacent lands. Wet Ditch 37 is connected to Wet Ditch 36 via culvert beneath TH 14 and is adjacent to Wetland 38. There was standing water in deeper pockets of the ditch at the time of the site visit. Wet Ditch 37 corresponds with Area 4 from the Level 1 Wetland Delineation Report.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well Drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 37 due to similarities in soil, vegetation and hydrology to Wet Ditch 35. Wet Ditch 35 was used as a reference for Wet Ditch 37.

Map Pages
Wet Feature Location Map page 52 of 60
LiDAR Topography Map page 52 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wet Ditch 37:


Wet Ditch 37, facing southeast


Wet Ditch 37, facing south


Wet Ditch 37, facing west


Wet Ditch 36, facing northwest

Wet Ditch 38

Date of Delineation: November 21, 2017

Location: Begins at the north edge of the TH 14/CSAH 37 intersection and extends approximately 1400' to the southeast.

Wetland Description: Wet Ditch 38 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 38 receives runoff from TH 14 and adjacent lands. Wet Ditch 38 is connected to Wet Ditch 36 via culvert beneath a residential drive entrance. There was standing water in deeper pockets of the ditch at the time of the site visit. Wet Ditch 38 corresponds with Area 3 from the Level 1 Wetland Delineation Report.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

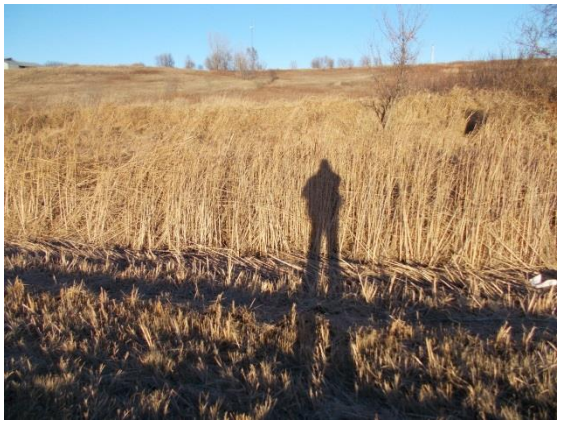
Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) and Canada Goldenrod (FACU) as elevation increases.

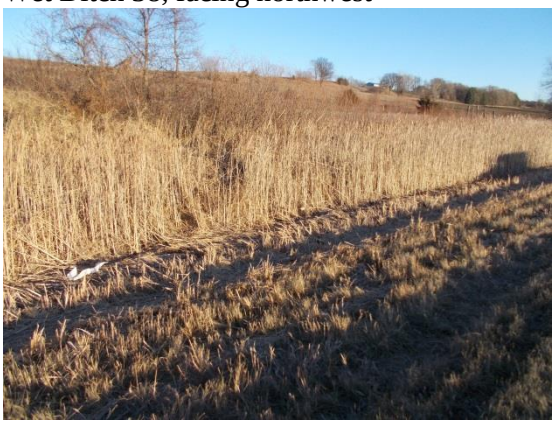
No data sheets were done for Wet Ditch 38 due to similarities in soil, vegetation and hydrology to Wet Ditch 35. Wet Ditch 35 was used as a reference for Wet Ditch 38.

Map Pages
Wet Feature Location Map page 52, 54 of 60
LiDAR Topography Map page 52, 54 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of Wet Ditch 38:


Wet Ditch 38, facing northwest


Wet Ditch 38, facing north


Wet Ditch 38, facing east


Wet Ditch 38, facing southeast

Wet Ditch 39

Date of Delineation: November 21, 2017

Location: Begins at the north edge of the TH 14/CSAH 37 intersection and extends approximately 900' to the northwest.

Wetland Description: Wet Ditch 39 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 39 receives runoff from TH 14 and adjacent lands. There was standing water in deeper pockets of the ditch at the time of the site visit. Wet Ditch 39 corresponds with Area 2 from the Level 1 Wetland Delineation Report.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

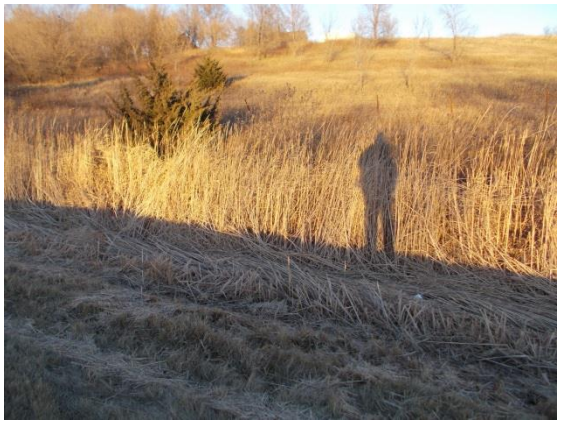
Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) and Canada Thistle (FACU) as elevation increases.

No data sheets were done for Wet Ditch 39 due to similarities in soil, vegetation and hydrology to Wet Ditch 35. Wet Ditch 35 was used as a reference for Wet Ditch 39.

Map Pages
Wet Feature Location Map page 56 of 60
LiDAR Topography Map page 56 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of Wet Ditch 39:


Wet Ditch 39, facing northwest


Wet Ditch 39, facing north


Wet Ditch 39, facing east


Wet Ditch 39, facing southeast

Wet Ditch 40

Date of Delineation: November 27, 2017

Location: Approximately 500' northwest of the TH 14/446th Street intersection, on the north side of the highway.

Wetland Description: Wet Ditch 40 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 40 receives runoff from TH 14 and adjacent lands. There was standing water in deeper pockets of the ditch at the time of the site visit.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW
Equisetum hyemale (Common Scouring Rush), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) and Canada Thistle (FACU) as elevation increases.

No data sheets were done for Wet Ditch 40 due to similarities in soil, vegetation and hydrology to Wet Ditch 35. Wet Ditch 35 was used as a reference for Wet Ditch 40.

Map Pages
Wet Feature Location Map page 57 of 60
LiDAR Topography Map page 57 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of Wet Ditch 40:


Wet Ditch 40, facing northwest


Wet Ditch 40, facing north


Wet Ditch 40, facing east


Wet Ditch 40, facing southeast

Wet Ditch 41

Date of Delineation: November 27, 2017

Location: Approximately 3500' northwest of the TH 14/446th Street intersection, on the north side of the highway.

Wetland Description: Wet Ditch 41 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 41 receives runoff from TH 14 and adjacent lands. There was standing water in deeper pockets of the ditch at the time of the site visit.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 41 due to similarities in soil, vegetation and hydrology to Wet Ditch 35. Wet Ditch 35 was used as a reference for Wet Ditch 41.

Map Pages
Wet Feature Location Map page 58, 59 of 60
LiDAR Topography Map page 58, 59 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of Wet Ditch 41:


Wet Ditch 41, facing northwest


Wet Ditch 41, facing north


Wet Ditch 41, facing east


Wet Ditch 41, facing southeast

Wet Ditch 42

Date of Delineation: November 22, 2017

Location: Approximately 6000' northwest of the TH 14/446th Street intersection, on the north side of the highway.

Wetland Description: Wet Ditch 42 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 42 receives runoff from TH 14 and adjacent lands. There was standing water in deeper pockets of the ditch at the time of the site visit. Wet Ditch 42 extends to the northwest beyond the Project Corridor boundary.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating: 8%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Typha spp. (Cattail spp.), OBL
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Cattail (OBL) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 42 due to similarities in soil, vegetation and hydrology to Wet Ditch 35. Wet Ditch 35 was used as a reference for Wet Ditch 42.

Map Pages
Wet Feature Location Map page 60 of 60
LiDAR Topography Map page 60 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of Wet Ditch 42:


Wet Ditch 42, facing northwest


Wet Ditch 42, facing north


Wet Ditch 42, facing east


Wet Ditch 42, facing southeast

Wet Ditch 43

Date of Delineation: October 12, 2017

Location: Approximately 2850' east of the TH 14/491st Avenue intersection, on the south side of the highway.

Wetland Description: Wet Ditch 43 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Cattail. Wet Ditch 43 receives runoff from TH 14 and adjacent lands. There was standing water in deeper pockets of the ditch at the time of the site visit.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo-Glencoe complex, 0-2% slopes, Poorly drained (L107A)

Soil Survey Hydric Rating: 90%, Predominantly hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 43 due to similarities in soil, vegetation and hydrology to Wetland 2. Wetland 2 was used as a reference for Wet Ditch 43.

Map Pages
Wet Feature Location Map page 5 of 60
LiDAR Topography Map page 5 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 43:



Wet Ditch 43, facing east



Wet Ditch 43, facing southeast



Wet Ditch 43, facing southwest



Wet Ditch 43, facing west

Wet Ditch 44

Date of Delineation: November 3, 2017

Location: Location: Approximately 1700' east of the TH 14/466th Street intersection, on the south side of highway.

Wetland Description: Wet Ditch 44 is located on the south side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Reed Canary Grass. Wet Ditch 44 receives runoff from TH 14 and adjacent lands. There was standing water in deeper pockets of the ditch at the time of the site visit.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Le Sueur loam, 1-3% slopes, Somewhat poorly drained (239)

Soil Survey Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU), Red Clover (FACU) and Dandelion (FACU) as elevation increases.

No data sheets were done for Wet Ditch 44 due to similarities in soil, vegetation and hydrology to Wet Ditch 8. Wet Ditch 8 was used as a reference for Wet Ditch 44.

Map Pages
Wet Feature Location Map page 9 of 60
LiDAR Topography Map page 9 of 60
NWI Map page 2 of 7
PWI Map page 2 of 7

Photos of Wet Ditch 44:



Wet Ditch 44, facing east



Wet Ditch 44, facing southeast



Wet Ditch 44, facing southwest



Wet Ditch 44, facing west

Wet Ditch 45

Date of Delineation: October 11, 2017

Location: The southeast quadrant of the TH 14/481st Avenue intersection.

Wetland Description: Wet Ditch 45 is located on the south side of TH 14 and is a main lateral drainage ditch which drains from Swan Lake in the north. The ditch is wide but shallow and has a vegetated substrate so was all called a wet ditch instead of an OAR. Wet Ditch 45 is connected to Wet Ditch 6 on the north side of TH 14 via culvert beneath the highway. This drainage eventually works its way to the south where it drains into tributaries of the Minnesota River. Wet Ditch 45 corresponds with Area 48 from the Level 1 Wetland Delineation Report previously completed.

NWI: None

DNR Public Waters Map: Unnamed Stream

Nicollet County Soil Survey:
Delft clay loam, 0-2% slopes, Poorly drained (336)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 45 due to similarities in soil, vegetation and hydrology to Wet Ditch 26. Wet Ditch 26 was used as a reference for Wet Ditch 45.

Map Pages
Wet Feature Location Map page 3 of 60
LiDAR Topography Map page 3 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 45:



Wet Ditch 45, facing east



Wet Ditch 45, facing southeast



Wet Ditch 45, facing southwest



Wet Ditch 45, facing west

Wet Ditch 46

Date of Delineation: October 17, 2017

Location: Approximately 1000' east of the TH 14/491st Avenue intersection, on the north side of the highway.

Wetland Description: Wet Ditch 46 is located on the north side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Reed Canary Grass. Wet Ditch 46 receives runoff from TH 14 and adjacent lands. Wet Ditch 46 is contiguous with Wetland 1 at the east end of the ditch.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Clarion loam, 2-6% slopes, Moderately well drained (102B)

Soil Survey Hydric Rating: 5%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 46 due to similarities in soil, vegetation and hydrology to Wet Ditch 7. Wet Ditch 7 was used as a reference for Wet Ditch 46.

Map Pages
Wet Feature Location Map page 5 of 60
LiDAR Topography Map page 5 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 46:



Wet Ditch 46, facing west



Wet Ditch 46, facing northwest



Wet Ditch 46, facing northeast



Wet Ditch 46, facing east

Wet Ditch 47

Date of Delineation: October 17, 2017

Location: Approximately 1000' east of the TH 14/491st Avenue intersection, on the south side of the highway.

Wetland Description: Wet Ditch 47 is located on the south side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Reed Canary Grass. Wet Ditch 47 receives runoff from TH 14 and adjacent lands. Wet Ditch 47 is contiguous with Wetland 2 at the east end of the ditch.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Clarion loam, 2-6% slopes, Moderately well drained (102B)

Soil Survey Hydric Rating: 5%, Predominantly non hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 47 due to similarities in soil, vegetation and hydrology to Wet Ditch 7. Wet Ditch 7 was used as a reference for Wet Ditch 47.

Map Pages
Wet Feature Location Map page 5, 6 of 60
LiDAR Topography Map page 5, 6 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 47:



Wet Ditch 47, facing east



Wet Ditch 47, facing southeast



Wet Ditch 47, facing southwest



Wet Ditch 47, facing west

Wet Ditch 48

Date of Delineation: October 17, 2017

Location: Approximately 2400' east of the TH 14/491st Avenue intersection, on the south side of the highway.

Wetland Description: Wet Ditch 48 is located on the south side of TH 14 and is a linear ditch which is parallel to TH 14 and dominated by Reed Canary Grass. Wet Ditch 48 receives runoff from TH 14 and adjacent lands. Wet Ditch 48 is contiguous with Wetland 2 at the west end of the ditch.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Canisteo clay loam, 0-2% slopes, Poorly drained (86)

Soil Survey Hydric Rating: 100%, All hydric

Dominant Vegetation of Wet Ditch:
Phalaris arundinacea (Reed Canary Grass), FACW

Basis of Delineated Boundary: The boundary was placed using a combination of topography and change in vegetation. Reed Canary Grass (FACW) transitions to Smooth Brome (FACU) as elevation increases.

No data sheets were done for Wet Ditch 48 due to similarities in soil, vegetation and hydrology to Wetland 3. Wetland 3 was used as a reference for Wet Ditch 48.

Map Pages
Wet Feature Location Map page 5 of 60
LiDAR Topography Map page 5 of 60
NWI Map page 1 of 7
PWI Map page 1 of 7

Photos of Wet Ditch 48:



Wet Ditch 48, facing east



Wet Ditch 48, facing southeast



Wet Ditch 48, facing southwest



Wet Ditch 48, facing west

OTHER AQUATIC RESOURCES

Other Aquatic Resources (OAR) are identified as lakes, rivers and streams that are regulated waterbodies, but do not meet the definition of a wetland per the *1987 Manual* and regional supplements. Nine OARs were identified within the Project Corridor and are described below.

OAR 1

Date of Investigation: November 10, 2017

Location: OAR 1 crosses TH 14 from north to south at the intersection of TH 14 and 547th Lane.

OAR Description: OAR 1 is an ephemeral stream which flows from north to south and eventually the Minnesota River. It is approximately 4 feet wide and where it is wet, the water is between 4" and 8" deep. The bottom is sand and cobble and lacks consistent vegetation. The vegetation along the edge is predominantly upland. By the time the creek reaches the south edge of the Project Corridor, it was completely dry.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)
Hawick loamy sand, 20-40% slopes, Excessively drained (611F)

Soil Survey Hydric Rating:
8%, Predominantly non hydric (94B)
0%, Non hydric (611F)

Reason for OAR determination: There is no place along the River where soil, vegetation and hydrology show wetland characteristics at the same place at the same time.

Map Pages
Wet Feature Location Map page 40 of 60
LiDAR Topography Map page 40 of 60
NWI Map page 5 of 7
PWI Map page 5 of 7

Photos of OAR 1:


OAR 1, facing north


OAR 1, facing north


OAR 1, facing north


OAR 1, facing east


OAR 1, facing east, typical bank


OAR 1, facing south

OAR 2

Date of Investigation: November 10, 2017

Location: OAR 2 is approximately 450' west of the TH 14/551st Avenue intersection, about 200' south of the south edge of TH 14.

OAR Description: OAR 2 is an excavated pit in an active gravel quarry. There was an area along the western edge which had some wetland vegetation but lack hydric soil in the area.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Wadena loam, 0-2% slopes, Well drained (39A)

Soil Survey Hydric Rating:
1%, Predominantly non hydric (39A)

Reason for OAR determination: There is no place along the creek where soil, vegetation and hydrology show wetland characteristics at the same place at the same time.

Map Pages
Wet Feature Location Map page 40 of 60
LiDAR Topography Map page 40 of 60
NWI Map page 5 of 7
PWI Map page 5 of 7

Photos of OAR 2:


OAR 2, facing west


OAR 2, facing northwest


OAR 2, facing north


OAR 2, facing northeast

OAR 3

Date of Investigation: November 10, 2017

Location: OAR 3 crosses TH 14 from north to south approximately 2150' east of the TH 14/561st Avenue intersection.

OAR Description: OAR 3 is an ephemeral stream which flows from north to south and eventually the Minnesota River. It is approximately 2-4 feet wide and the water is between 4" and 8" deep. The bottom is sand and cobble and lacks consistent vegetation. The vegetation along the edge is predominantly upland.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)

Soil Survey Hydric Rating:
8%, Predominantly non hydric (94B)

Reason for OAR determination: There is no place along the creek where soil, vegetation and hydrology show wetland characteristics at the same place at the same time.

Map Pages
Wet Feature Location Map page 42, 43 of 60
LiDAR Topography Map page 42, 43 of 60
NWI Map page 5 of 7
PWI Map page 5 of 7

Photos of OAR 3:


OAR 3, facing north


OAR 3, facing north


OAR 3, facing east, typical bank


OAR 3, facing north


OAR 3, facing south


OAR 3, facing south

OAR 4

Date of Investigation: November 15, 2017

Location: OAR 4 crosses TH 14 from north to south approximately 650' west of the TH 14/571st Lane intersection.

OAR Description: OAR 4 is a perennial stream which flows from north to south and eventually the Minnesota River. It is approximately 8-12 feet wide and the water is between 1' and 2' deep. The bottom is sand and cobble and lacks consistent vegetation. The vegetation along the edge is predominantly upland or mostly bare.

NWI: PFO1B (south side)

DNR Public Waters Map: Unnamed Stream

Nicollet County Soil Survey:
Copaston-Rock outcrop complex, 2-60% slopes, Well drained (923)
Hawick loamy sand, 20-40% slopes, Excessively drained (611F)

Soil Survey Hydric Rating:
0%, Non hydric (923)
0%, Non hydric (611F)

Reason for OAR determination: There is no place along the creek where soil, vegetation and hydrology show wetland characteristics at the same place at the same time.

Map Pages
Wet Feature Location Map page 51 of 60
LiDAR Topography Map page 51 of 60
NWI Map page 6 of 7
PWI Map page 6 of 7

Photos of OAR 4:


OAR 4, north end of culverts


OAR 4, facing north. WD 34 enters on left


OAR 4, facing east, typical bank


OAR 4, facing south


OAR 4, facing east, typical bank


OAR 4, facing south

OAR 5

Date of Investigation: November 22, 2017

Location: OAR 5 crosses 446th Street approximately 2600' east of the TH 14/466th Street intersection.

OAR Description: OAR 5 is a perennial creek which flows from north to south through a large box culvert. It varies in width from 10 to 15 feet and its bed is comprised of sand, gravel and large rocks. 446th Street is approximately 50 feet above the creek elevation. The banks of the creek are mostly bare.

NWI: None

DNR Public Waters Map: Unnamed Stream

Nicollet County Soil Survey:
Hawick loamy sand, 20-40% slopes, Excessively drained (611F)

Soil Survey Hydric Rating:
0%, Non hydric (611F)

Reason for OAR determination: There is no place along the creek where soil, vegetation and hydrology show wetland characteristics at the same place at the same time.

Map Pages
Wet Feature Location Map page 55 of 60
LiDAR Topography Map page 55 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of OAR 5:



OAR 5, facing south



OAR 5, facing north.



OAR 5, facing north



OAR 5, facing east, typical bank



OAR 4, facing south



OAR 5, facing west, typical bank

OAR 6

Date of Investigation: November 22, 2017

Location: OAR 6 is a creek which is passes beneath TH 14, and is approximately 4,000 feet north of the TH 14/CSAH 37 intersection.

OAR Description: OAR 6 is an ephemeral creek which flows westward beneath TH 14 through a culvert and then to the Minnesota River. It varies in width from 2 to 4 feet and its bed is comprised of sand and gravel. The banks of the creek lack herbaceous vegetation almost entirely. Only the east side of OAR 6 was mapped, the west side of the OAR passes through private property which was inaccessible due to property owner's request.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)
Belview-Omsrud complex, 22-40% slopes, Well drained (960F)

Soil Survey Hydric Rating:
8%, Predominantly non hydric (94B)
10%, Predominantly non hydric (960F)

Reason for OAR determination: There is no place along the creek where soil, vegetation and hydrology show wetland characteristics at the same place at the same time.

Map Pages
Wet Feature Location Map page 58, 59 of 60
LiDAR Topography Map page 58, 59 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of OAR 6:


OAR 6, facing east


OAR 6, facing west


OAR 6, facing west, typical banks


OAR 6, facing west


OAR 6, facing north, concrete flume @ culvert


OAR 6, facing west, concrete flume

OAR 7

Date of Investigation: November 22, 2017

Location: OAR 7 is a creek which is passes beneath TH 14, and is approximately 3,200 feet north of the TH 14/CSAH 37 intersection.

OAR Description: OAR 7 is an ephemeral creek which flows westward beneath TH 14 through a culvert and then to the Minnesota River. It varies in width from 2 to 4 feet and its bed is comprised of sand and gravel. The banks of the creek lack herbaceous vegetation almost entirely.

NWI: None

DNR Public Waters Map: None

Nicollet County Soil Survey:
Terril loam, 2-6% slopes, Well drained (94B)
Belview-Omsrud complex, 22-40% slopes, Well drained (960F)

Soil Survey Hydric Rating:
8%, Predominantly non hydric (94B)
10%, Predominantly non hydric (960F)

Reason for OAR determination: There is no place along the creek where soil, vegetation and hydrology show wetland characteristics at the same place at the same time.

Map Pages
Wet Feature Location Map page 58 of 60
LiDAR Topography Map page 58 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of OAR 7:


OAR 7, facing east


OAR 7, facing west


OAR 7, facing west, concrete flume @ culvert


OAR 7, facing north


OAR 7, facing northwest


OAR 7, facing west

OAR 8

Date of Investigation: November 22, 2017

Location: OAR 8 is an oxbow of the Minnesota River that intersects the Project Corridor approximately 3,000 feet north of the TH 14/ 446th Street intersection.

OAR Description: OAR 8 is an oxbow of the Minnesota River. The bank of OAR 8 is steep and no wetland indicators were observed along its banks. It varies in width from 200 to 250 feet.

NWI: R2UBH

DNR Public Waters Map: Minnesota River

Nicollet County Soil Survey:
Water (W)

Soil Survey Hydric Rating:
Not rated (W)

Reason for OAR determination: There is no place along the oxbow bank where soil, vegetation and hydrology show wetland characteristics at the same place at the same time.

Map Pages
Wet Feature Location Map page 58 of 60
LiDAR Topography Map page 58 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of OAR 8:



OAR 8, facing south



OAR 8, facing south west

OAR 9

Date of Investigation: October 11, 2017

Location: Approximately 1775' west of the TH 14/ 481st Avenue intersection along the east side of the driveway

OAR Description: OAR 9 is a perennial stream that acts as the outlet for Swan Lake. Water continually flows through OAR 9. The creek bed is comprised of sand and gravel and is almost completely devoid of vegetation.

NWI: PEM1Ax

DNR Public Waters Map: Unnamed Stream (M-055-086)

Nicollet County Soil Survey:
Delft clay loam, 0-2% slopes, Poorly drained (336)

Soil Survey Hydric Rating: 95%, Predominantly hydric

Reason for OAR determination: There is no place along the stream bed where all three of the wetland conditions are met.

Map Pages
Wet Feature Location Map page 58 of 60
LiDAR Topography Map page 58 of 60
NWI Map page 7 of 7
PWI Map page 7 of 7

Photos of OAR 9:



OAR 9, facing north from TH 14



OAR 9, facing south from TH 14

Table 8. Summary of Non Wetland areas checked within the Project Corridor

Area ID	Level 1 Location	Location	Reason for Field Examination	Reason for Non-Wetland Determination
Area **A**	Area 5	Approximately 3000' east of the TH 14/571st Lane intersection	Identified in Level 1 analysis as showing wetland signatures 5/5 times in normal years.	Vegetation is all non-wet. Includes Smooth Brome, Indian grass, Burdock, Canada Goldenrod, etc. No hydrology indicators present.
Area **B**	Area 6	Southwest quadrant of the TH 14/571st Lane intersection	Identified in Level 1 analysis as showing wetland signatures 5/5 times in normal years.	Vegetation is all non-wet. Includes Quackgrass, Red Clover and Dandelion. No hydrology indicators present.
Area **C**	Area 7	Approximately 500' west of the TH 14/Jenny Drive intersection	Identified in Level 1 analysis as showing wetland signatures 5/5 times in normal years.	Vegetation is all non-wet. Includes Smooth Brome, Red Clover and Dandelion. No hydrology indicators present.
Area **D**	Area 10	Approximately 2300' west of the TH 14/551st Avenue intersection	Identified in Level 1 analysis as showing wetland signatures 3/5 times in normal years.	Area is currently a soybean field. It is on a side slope and shows no evidence of hydrology being present.
Area **E**	Area 11	Northeast quadrant of the TH 14/551st Avenue intersection	Identified in Level 1 analysis as showing wetland signatures 5/5 times in normal years.	Vegetation is all non-wet. Includes Smooth Brome, Red Clover and Dandelion. No hydrology indicators present.
Area **F**	Area 12	Approximately 1000' east of the TH 14/547th Lane intersection	Identified in Level 1 analysis as showing wetland signatures 3/5 times in normal years.	Vegetation is all non-wet. Includes Smooth Brome, Quackgrass and Indian grass. No hydrology indicators present.
Area **G**	Area 17	Intersection of TH 14/541st Avenue, approximately 1900' north, on west side.	Identified in Level 1 analysis as showing wetland signatures 5/5 times in normal years.	Area contains fill mounds on 3 sides. Dominant vegetation is Smooth Brome. Area which looks wet on aerials is large Cottonwood tree.
Area **H**	Area 18	Approximately 250' south of 541st Avenue/460th Lane intersection, west side	Identified in Level 1 analysis as showing wetland signatures 3/5 times in normal years.	Area is a farmed field, shows no evidence of wetness. Vegetated portion of area is 100% Smooth Brome.

Table 8. Summary of Non Wetland areas checked within the Project Corridor

Area ID	Level 1 Location	Location	Reason for Field Examination	Reason for Non-Wetland Determination
Area **I**	Area 23	Approximately 700' north of the TH 14/3rd Street intersection	Identified in Level 1 analysis as showing wetland signatures 3/5 times in normal years.	Swale directs water downslope but doesn't appear to concentrate anyplace in particular. Dominant vegetation is Smooth Brome.
Area **J**	Area 26	Approximately 1500' north of the TH 14/531st Avenue intersection, approximately 700' east in the field.	Identified in Level 1 analysis as showing wetland signatures 5/5 times in normal years.	Area was tilled. No evidence of wetland signatures present.
Area **K**	Area 28	Approximately 1700' east of the TH 14/478th Street intersection	Identified in Level 1 analysis as showing wetland signatures 5/5 times in normal years.	Field is very hilly. Dominant vegetation is Smooth Brome.
Area **L**	Area 29	Approximately 2250' east of the TH 14/478th Street intersection	Identified in Level 1 analysis as showing wetland signatures 5/5 times in normal years.	Field is very hilly. Dominant vegetation is Smooth Brome.
Area **M**	Area 30	Approximately 3800' west of the TH 14/County Road 21 intersection, approximately 750' north in field	Identified in Level 1 analysis as showing wetland signatures 2/5 times in normal years.	No vegetation present. Vertical drain tile in middle of area. Soils are 3/1 under a 2/1-non hydric.
Area **N**	Area 33	Approximately 2350' west of the TH 14/County Road 21 intersection, north side of highway	Identified in Level 1 analysis as showing wetland signatures 3/5 times in normal years.	Area was tilled. No evidence of wetland signatures present.

Table 8. Summary of Non Wetland areas checked within the Project Corridor

Area ID	Level 1 Location	Location	Reason for Field Examination	Reason for Non-Wetland Determination
Area **O**	Area 43	Approximately 2700' east of the TH 14/466th Street intersection, south side of highway	Identified in Level 1 analysis as showing wetland signatures 2/5 times in normal years.	Area was tilled. No evidence of wetland signatures present.

Photos of Non Wet areas:



Area 5, facing southwest



Area 6, facing southwest



Area 7, facing west



Area 10, facing south


Area 12, facing southwest


Area 17, facing west


Area 17, facing west


Area 18, facing west


Area 23, facing east


Area 23, facing east

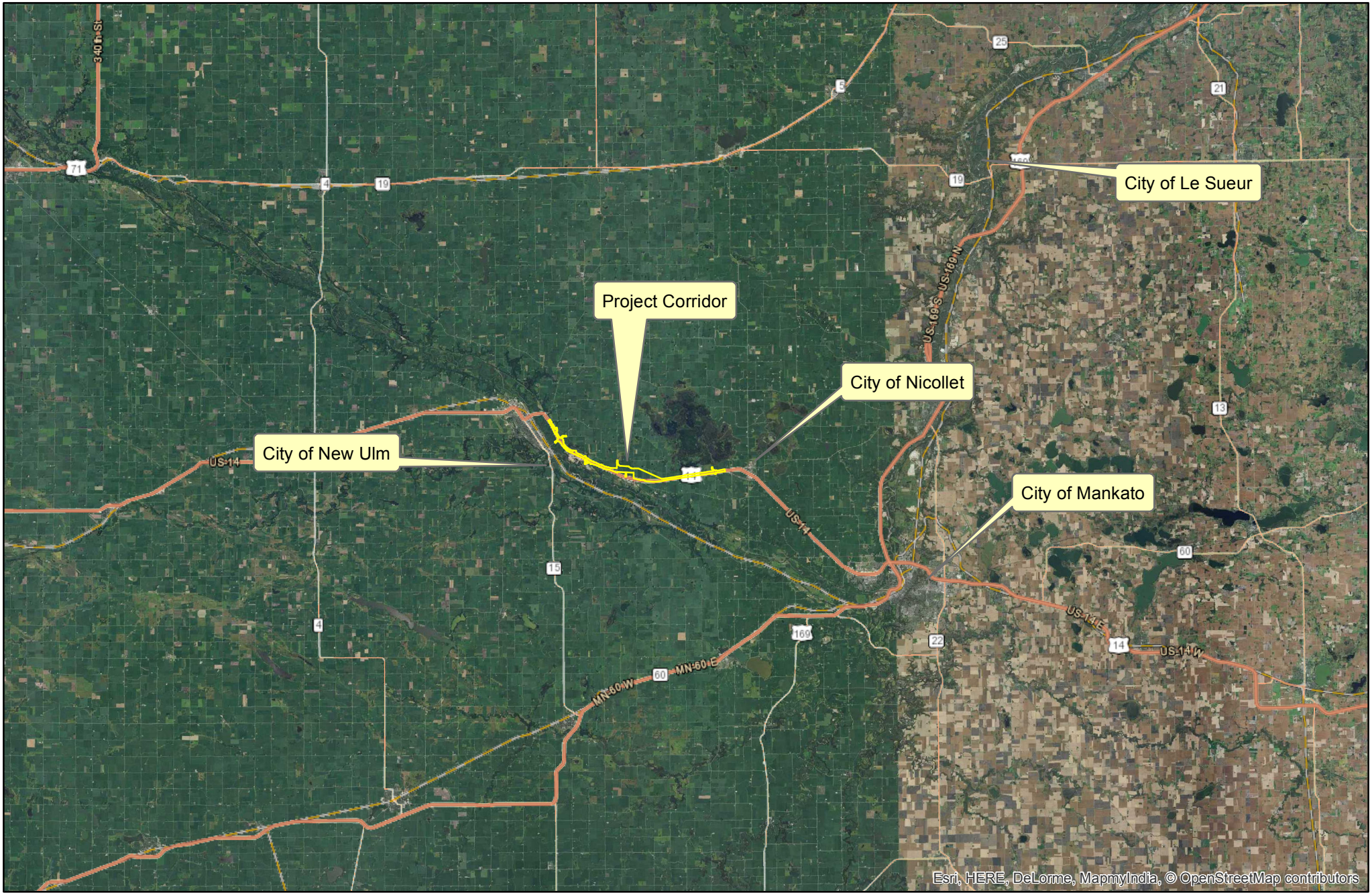

Area 26, facing east


Area 30, facing east

CONCLUSIONS

Forty six (46) wetlands were delineated within the TH 14 Project Corridor, which involves an approximate 12.25 miles of TH 14, from approximately one half mile south of the TH 14/TH 15 intersection in near New Ulm to approximately 0.40 miles east of the TH 14/471st Avenue intersection, just east of the City of Nicollet Minnesota, all in Nicollet County. The Project Corridor varies in width in order to allow for the expansion of TH 14 between New Ulm and Nicollet. In addition, forty six (46) wet ditches and nine (9) Other Aquatic Resources (OAR) were also identified within the Project Corridor. Twenty one (21) additional areas identified in the Level 1 Wetland Delineation Report were investigated and found to lack conditions to be considered wetland. All of the wetlands/wet ditches were delineated based on the three-parameter approach in accordance to *The 1987 Manual*. Field activities were completed on October 11-12 and 17, November 2-4, 6-10, 13-15 and 21-22, 2017.

The above described wetland delineation was performed by Sambatek's Environmental Scientist, JD Donath (Minnesota Certified Wetland Delineator #1105). The delineation was performed in accordance to *The 1987 Manual* and *The Regional Supplement*. The delineation meets the standards and criterion described in *The 1987 Manual* and conforms to applicable standards and regulations in place at the time the delineation was completed.



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N W E S

0 2.5 5
Miles

Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC



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N
W E
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0 100 200
Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Data Points
- Project Boundary

Restricted Properties

- Call first
- No access





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N
W E
S

0 100 200
Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Data Points
- Project Boundary

Restricted Properties

- Call first
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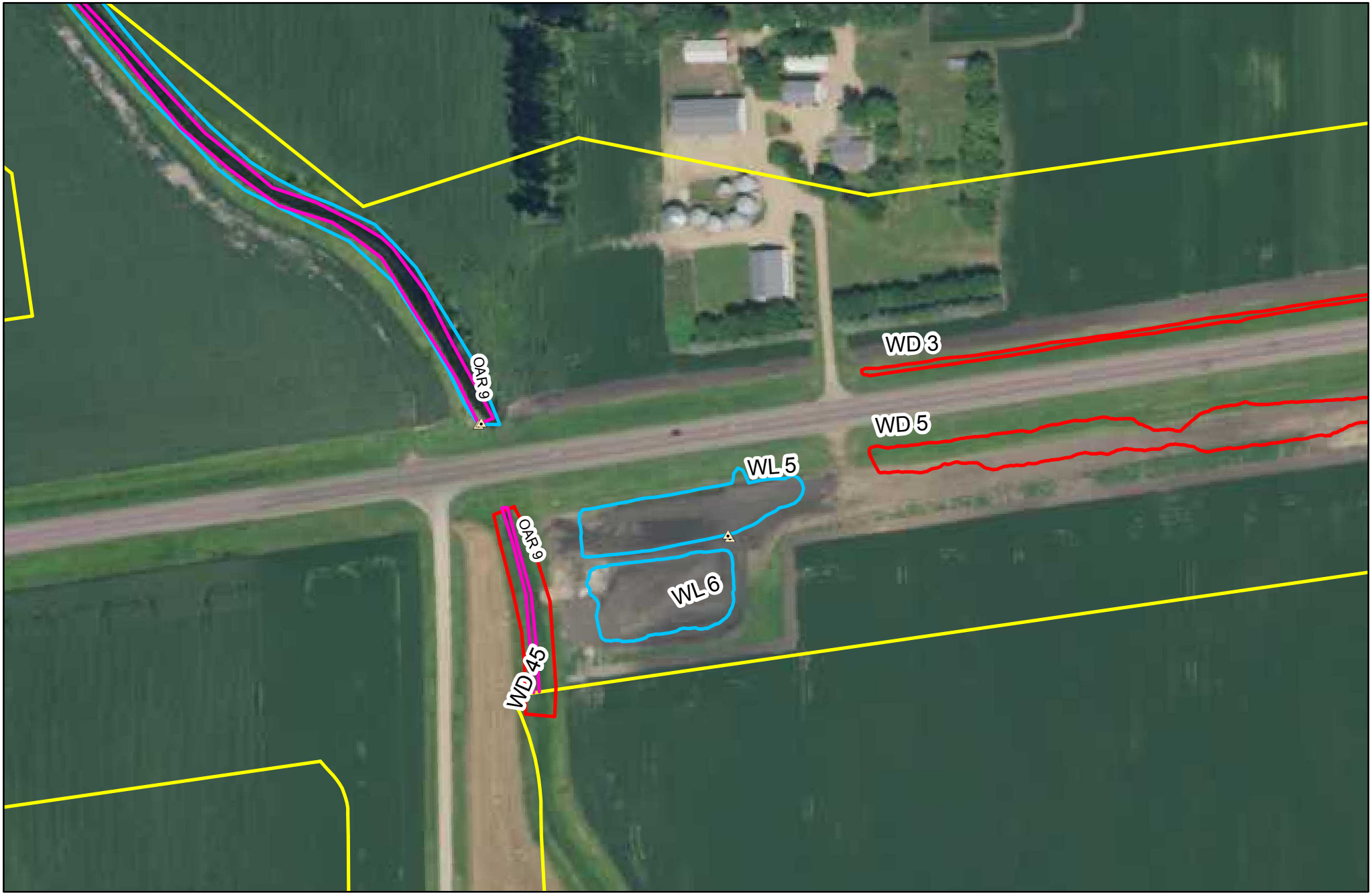

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N W E S

0 100 200

Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Data Points
- Project Boundary

Restricted Properties

- Call first
- No access





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N
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S

0 100 200
Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

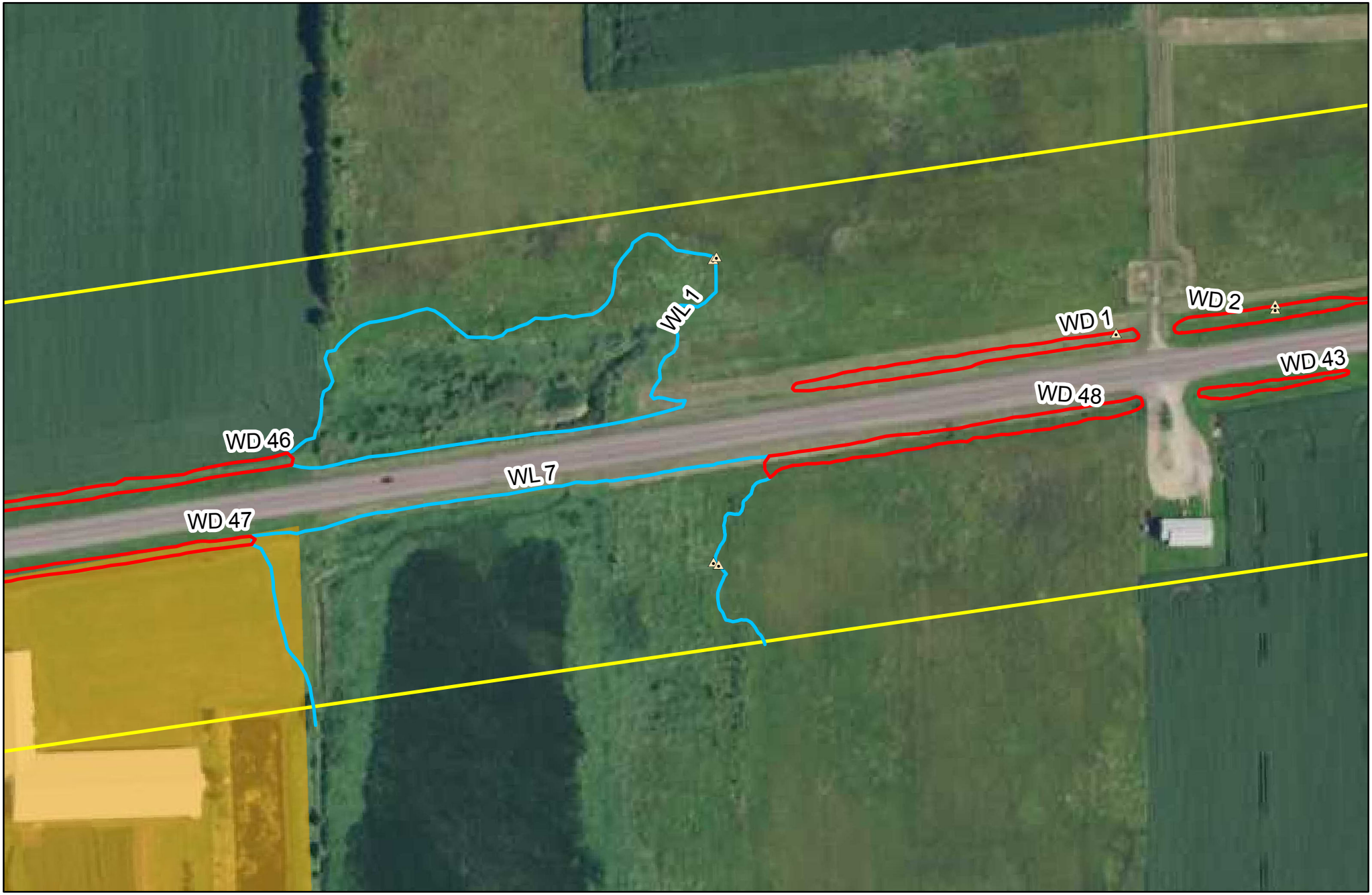
Legend

- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Data Points
- Project Boundary

Restricted Properties

- Call first
- No access





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0 100 200
Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
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Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

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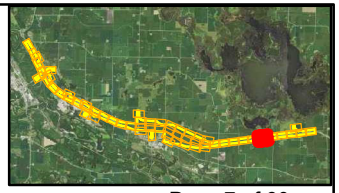



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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

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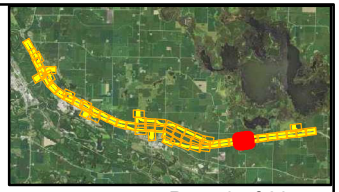



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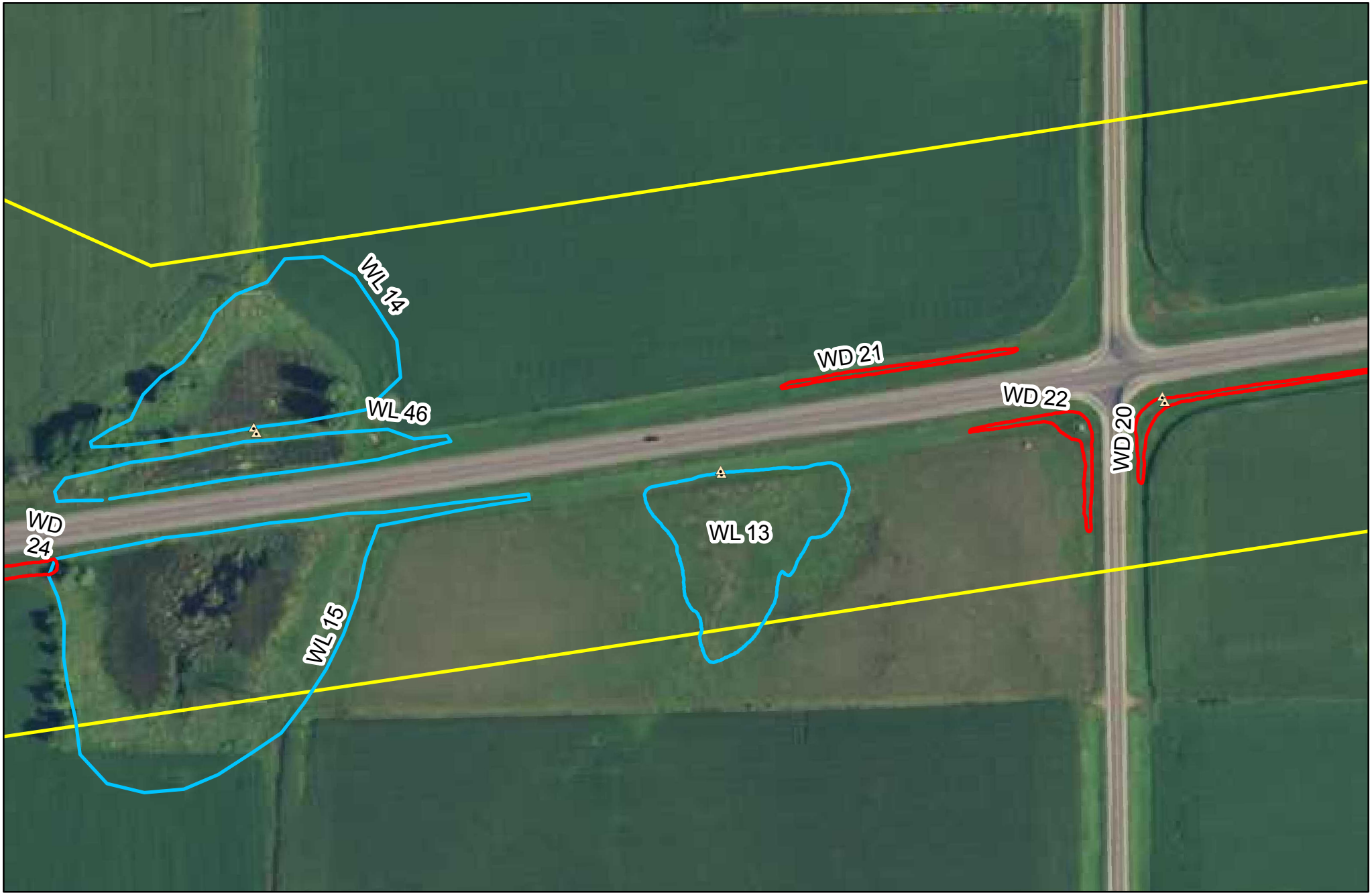

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*Proposed new alignment north of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

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- SP 5202-58 Wetlands
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- Project Boundary

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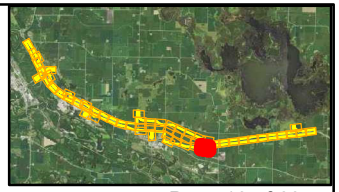



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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed south of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

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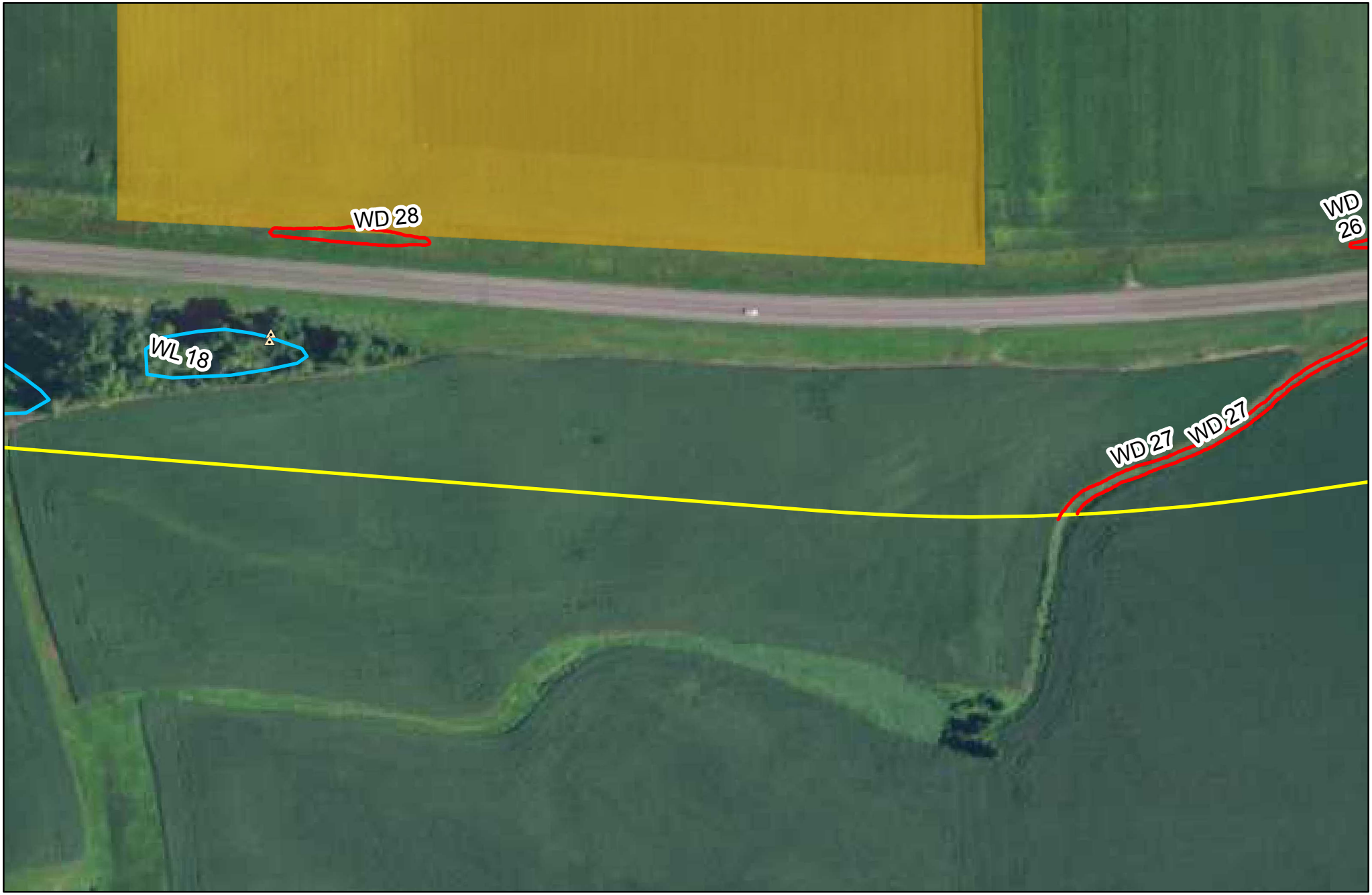

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed north of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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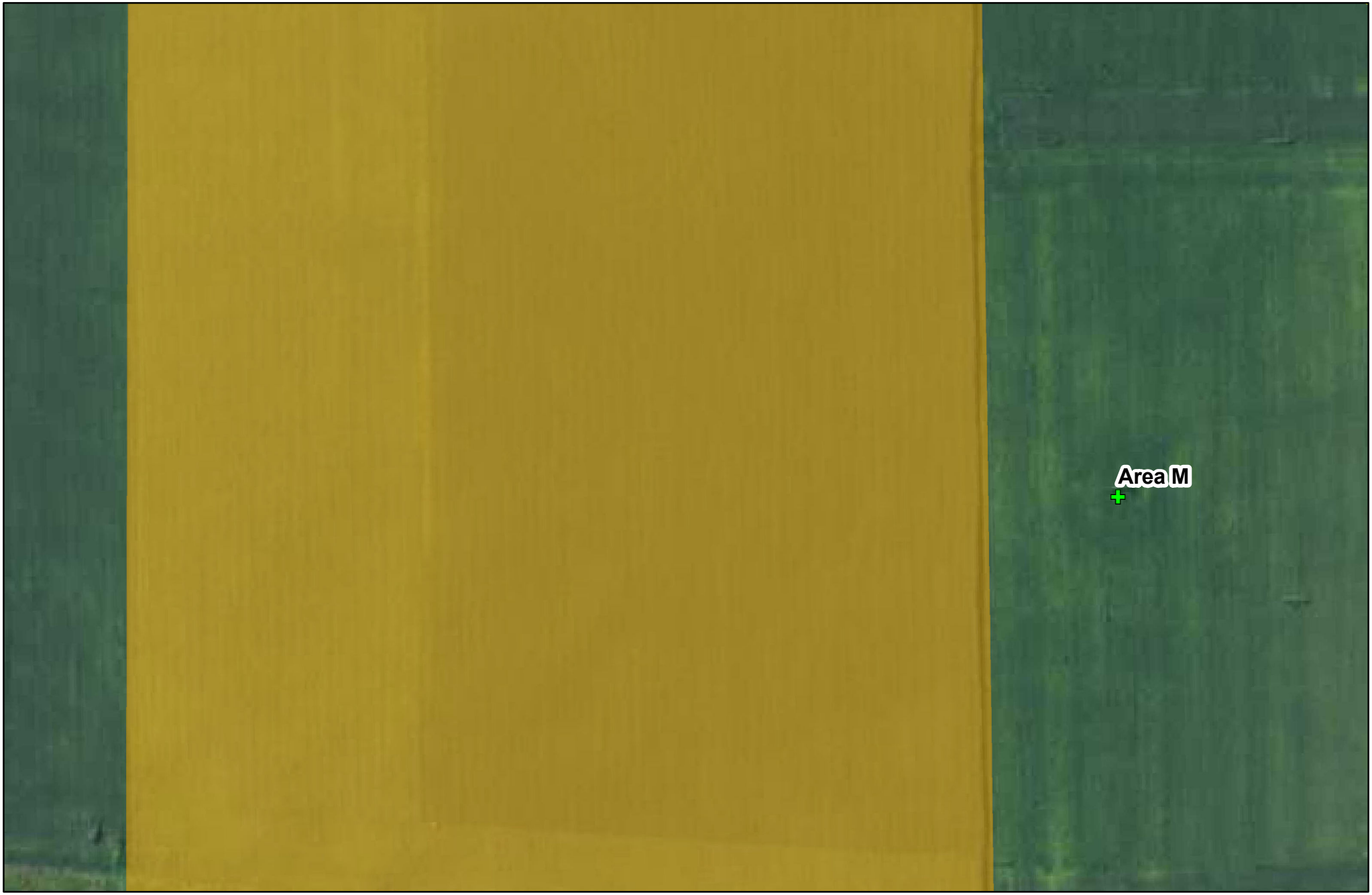

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Mn/DOT

Nicollet County, Minnesota

*New alignment proposed

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed north of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

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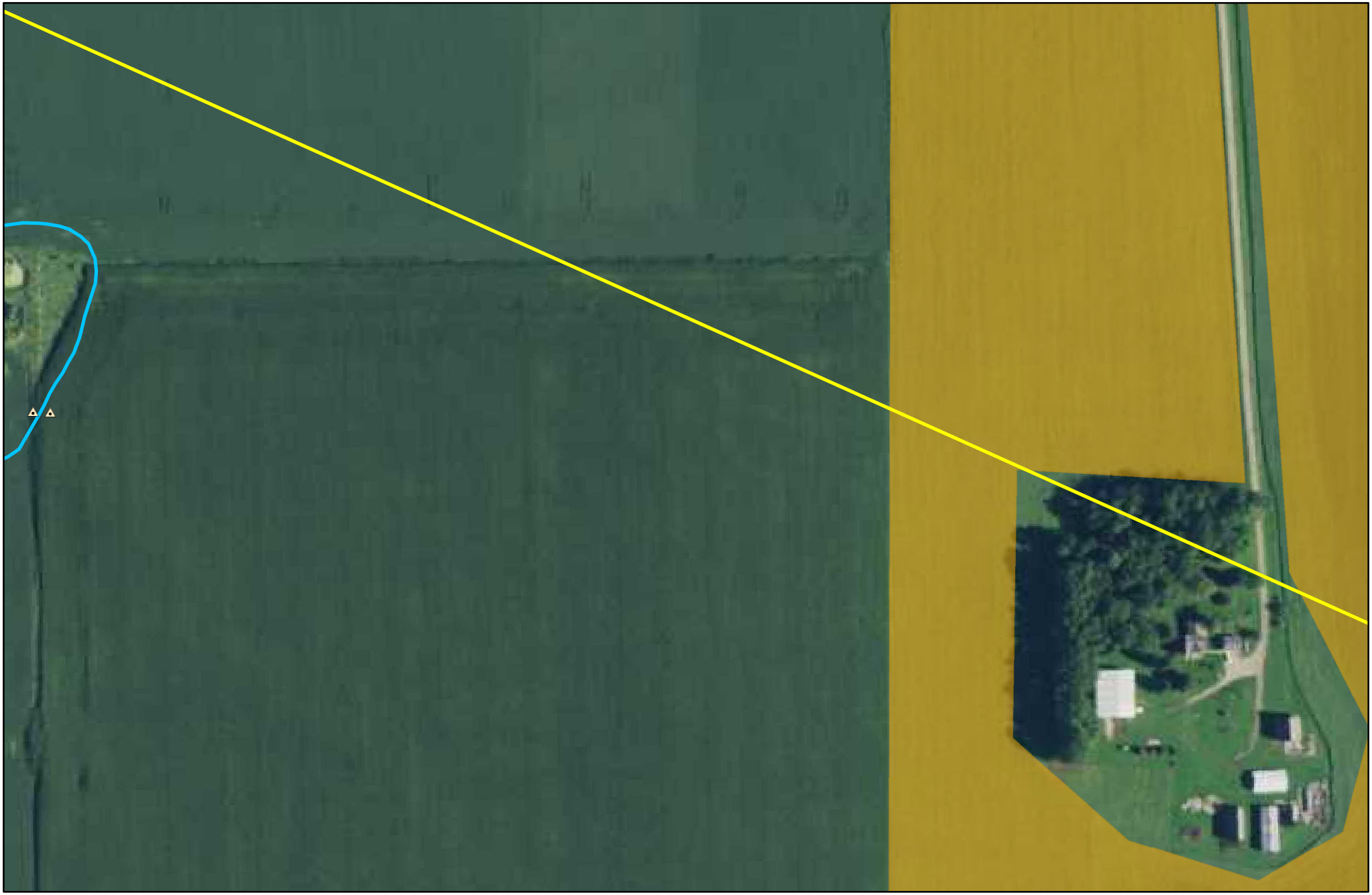

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed south of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

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0 100 200

Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*The area shown is in the center of the Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
- SP 5202-58 OAR line
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Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed north of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
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Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed south of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
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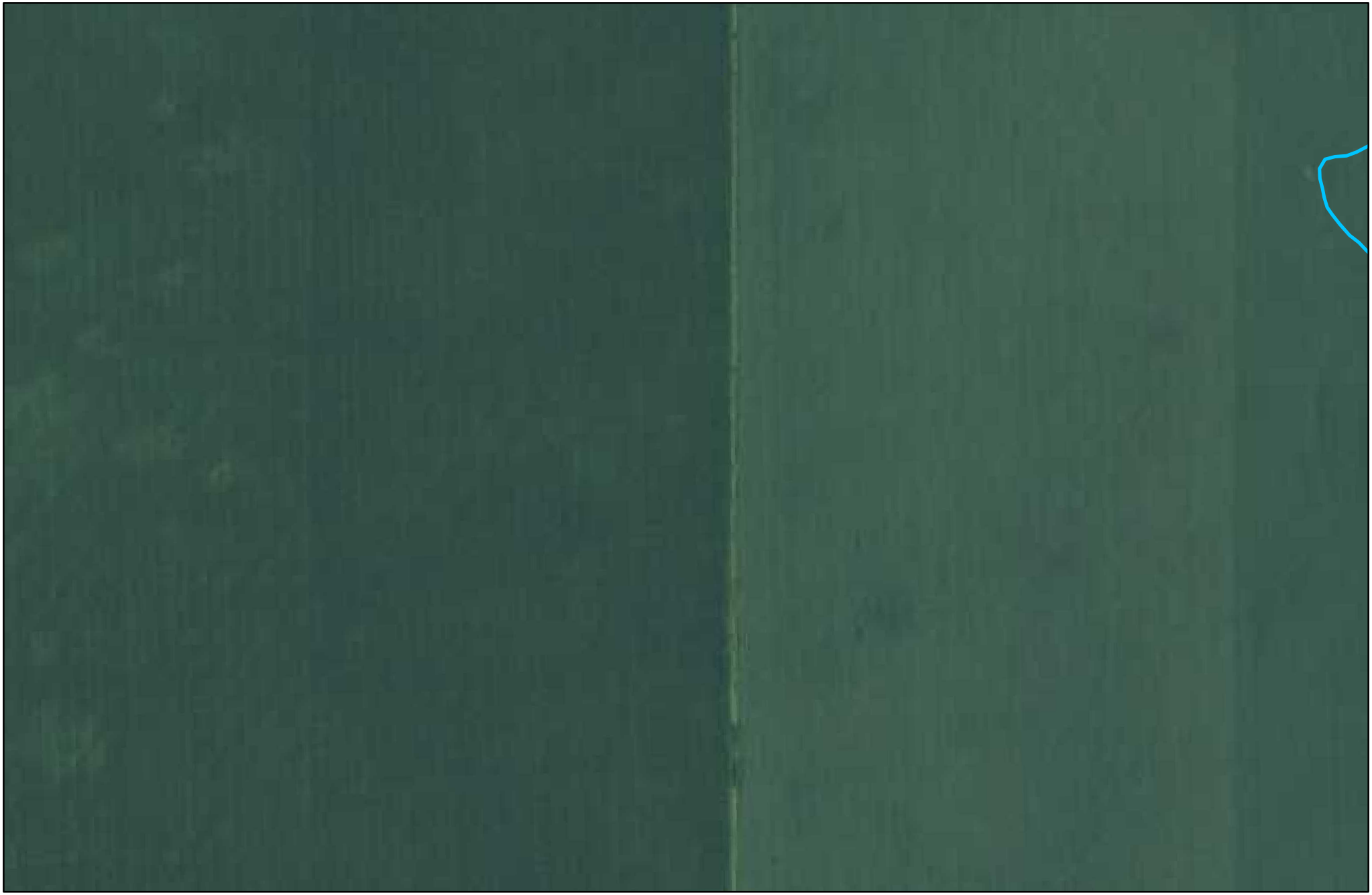

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed

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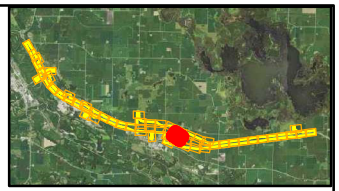

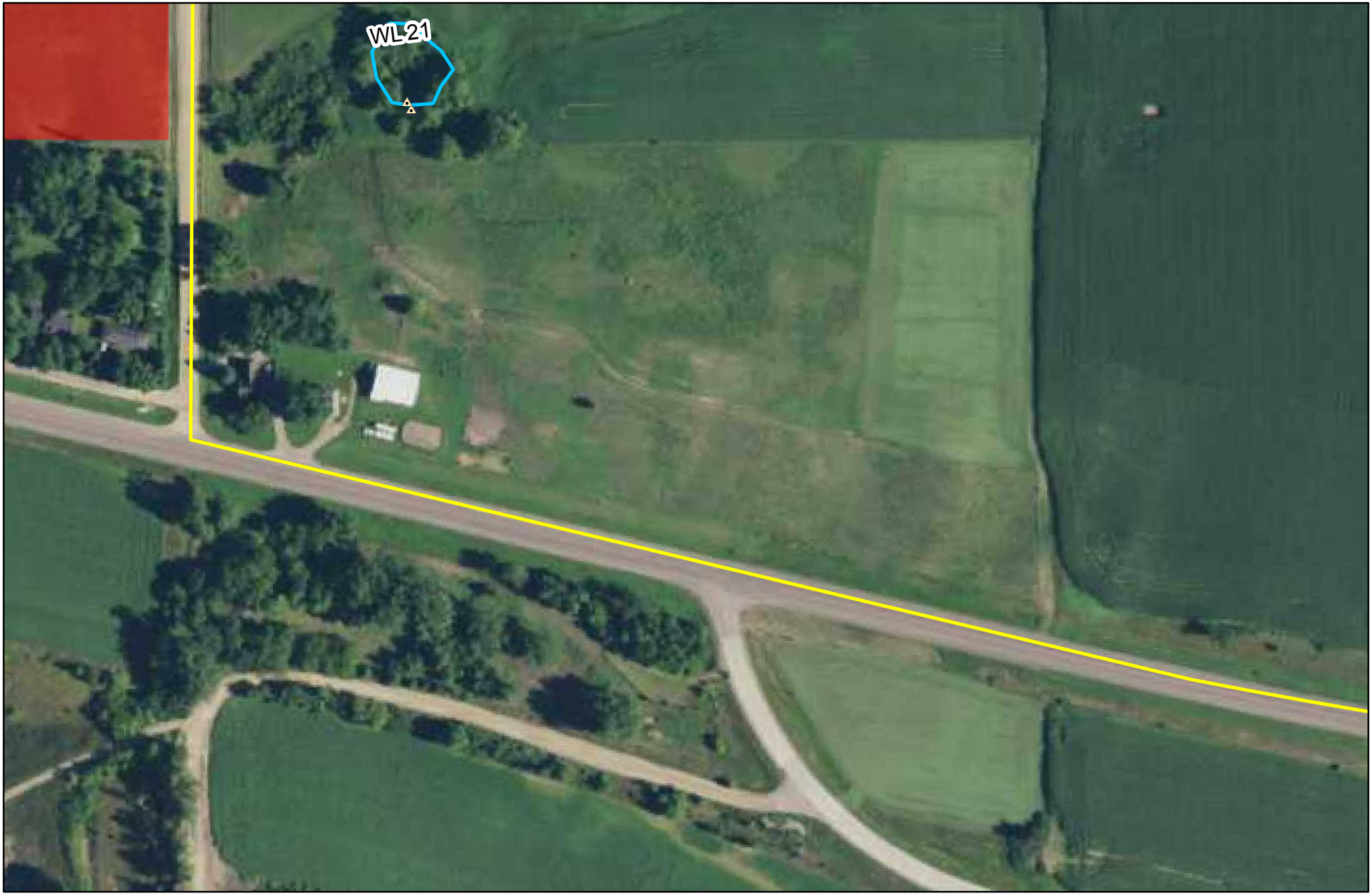

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed north of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed northeast of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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Sources: MetroGIS, NRCS, LMIC

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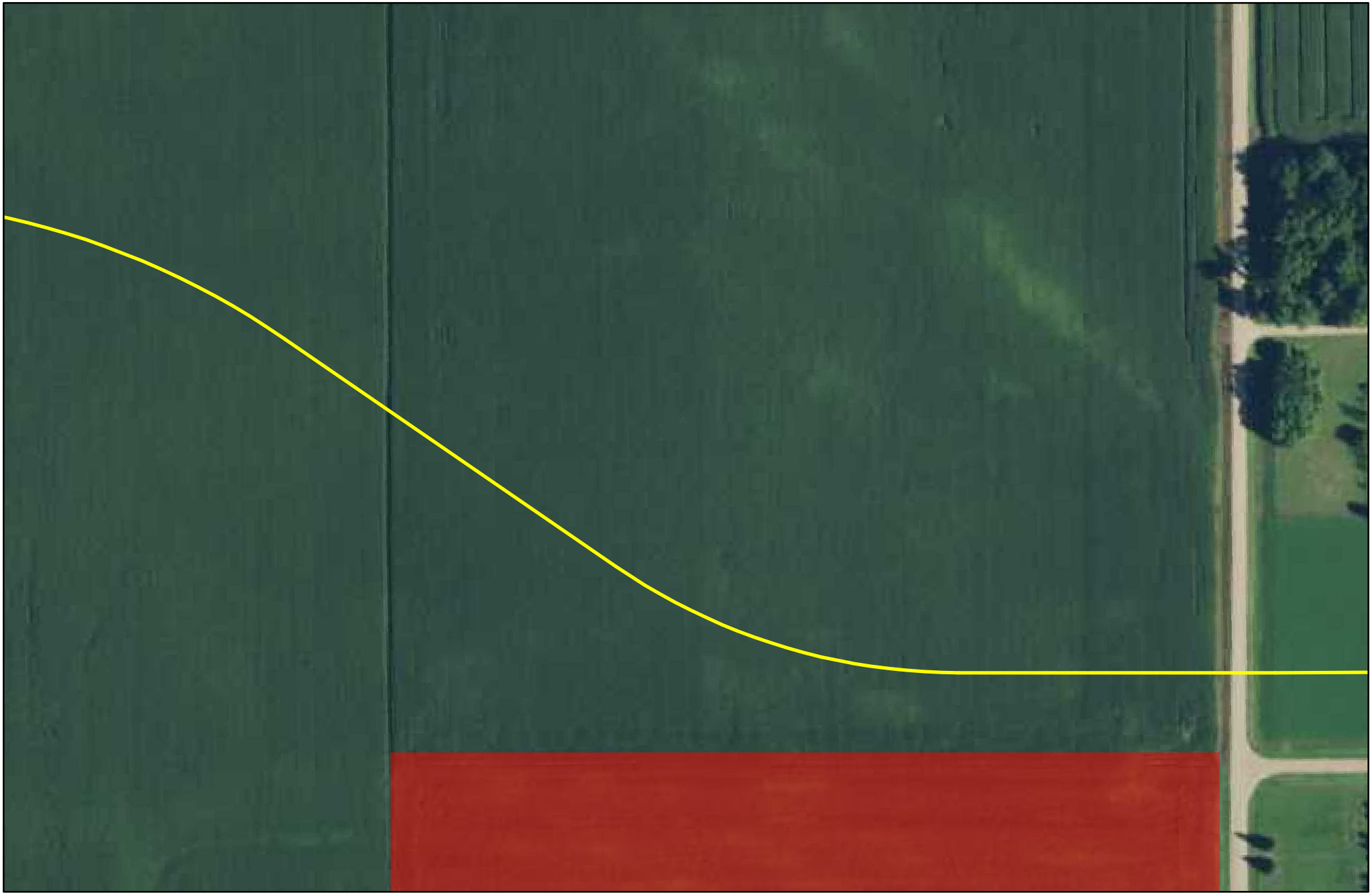

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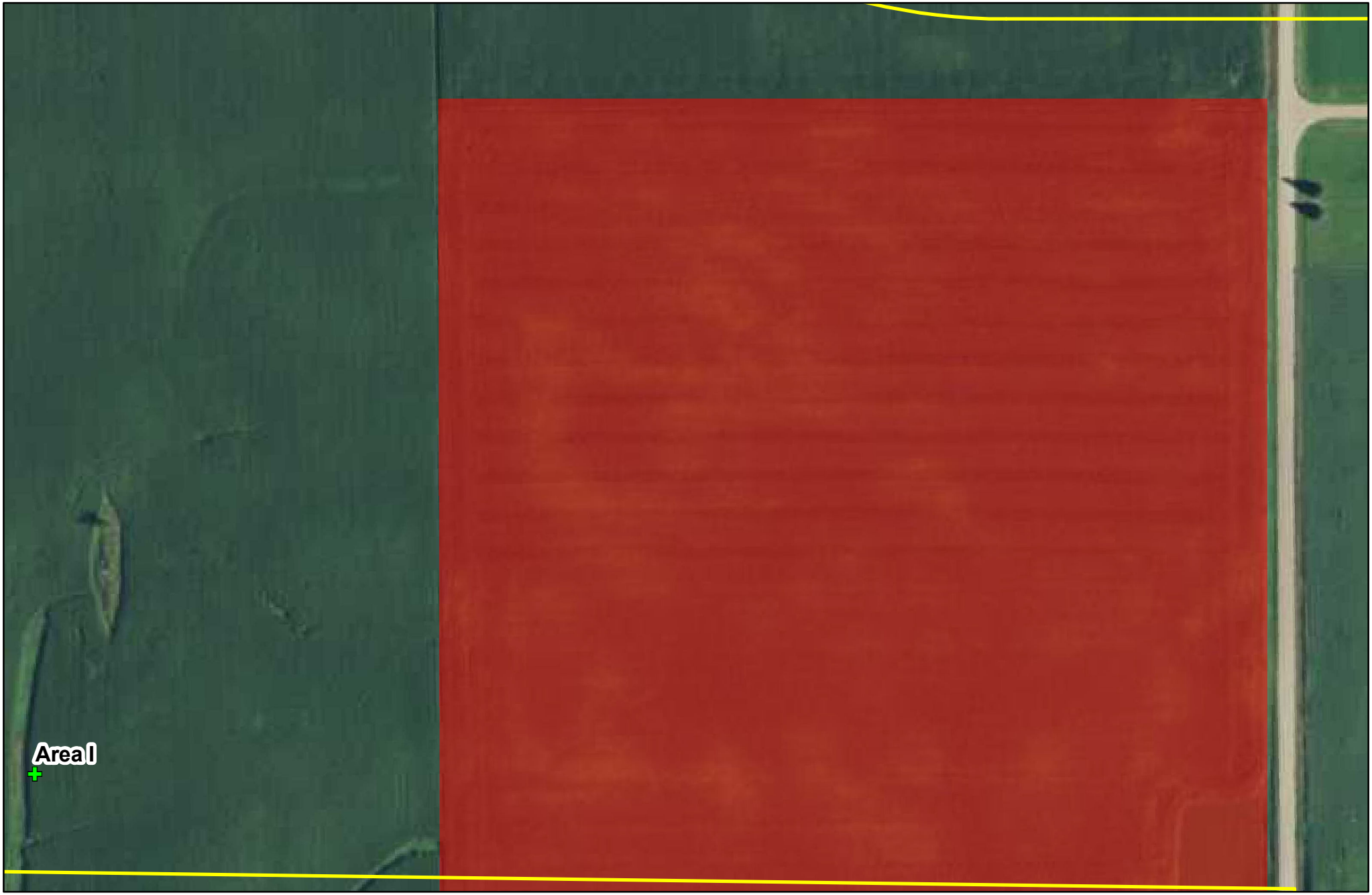

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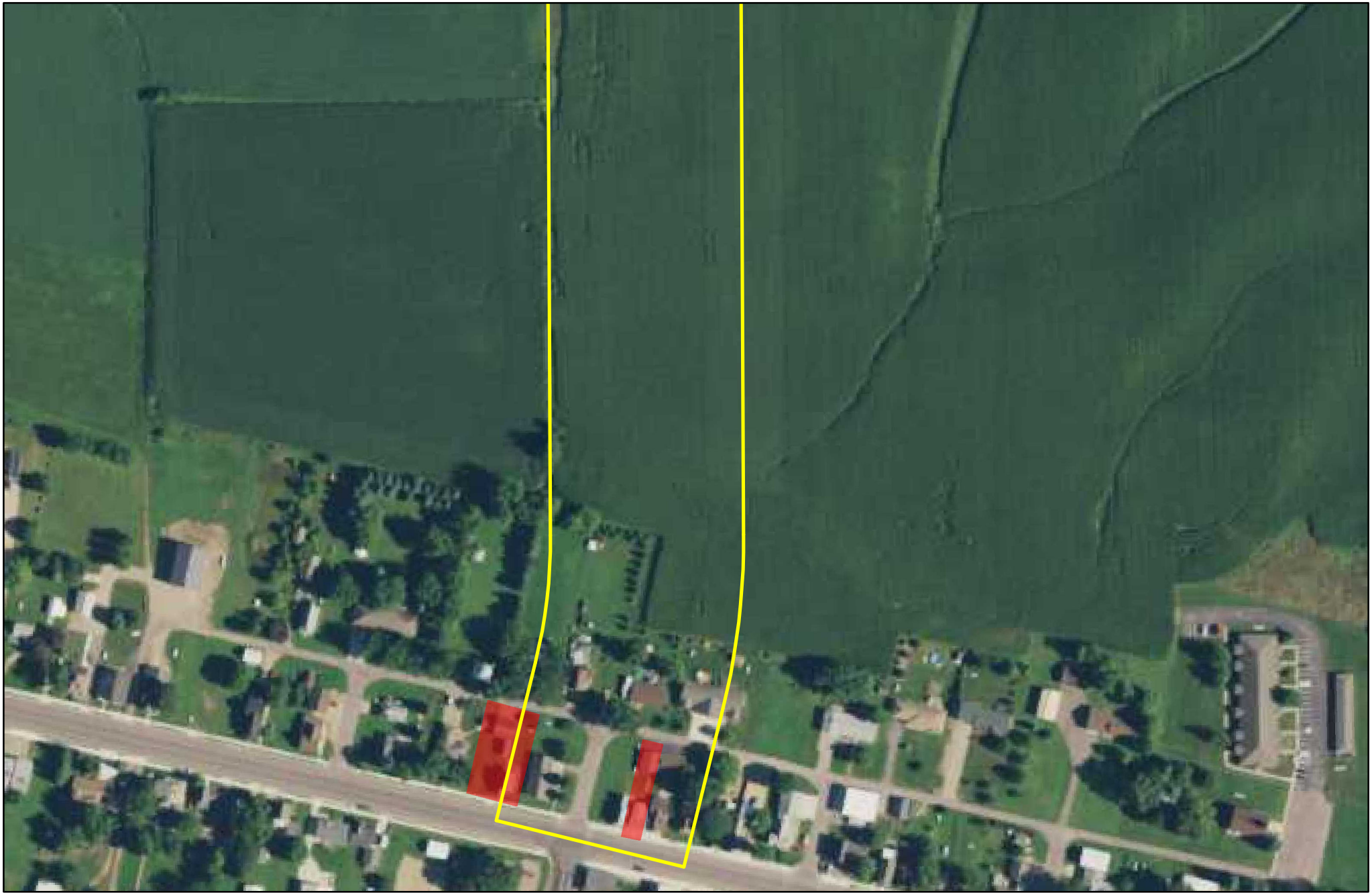

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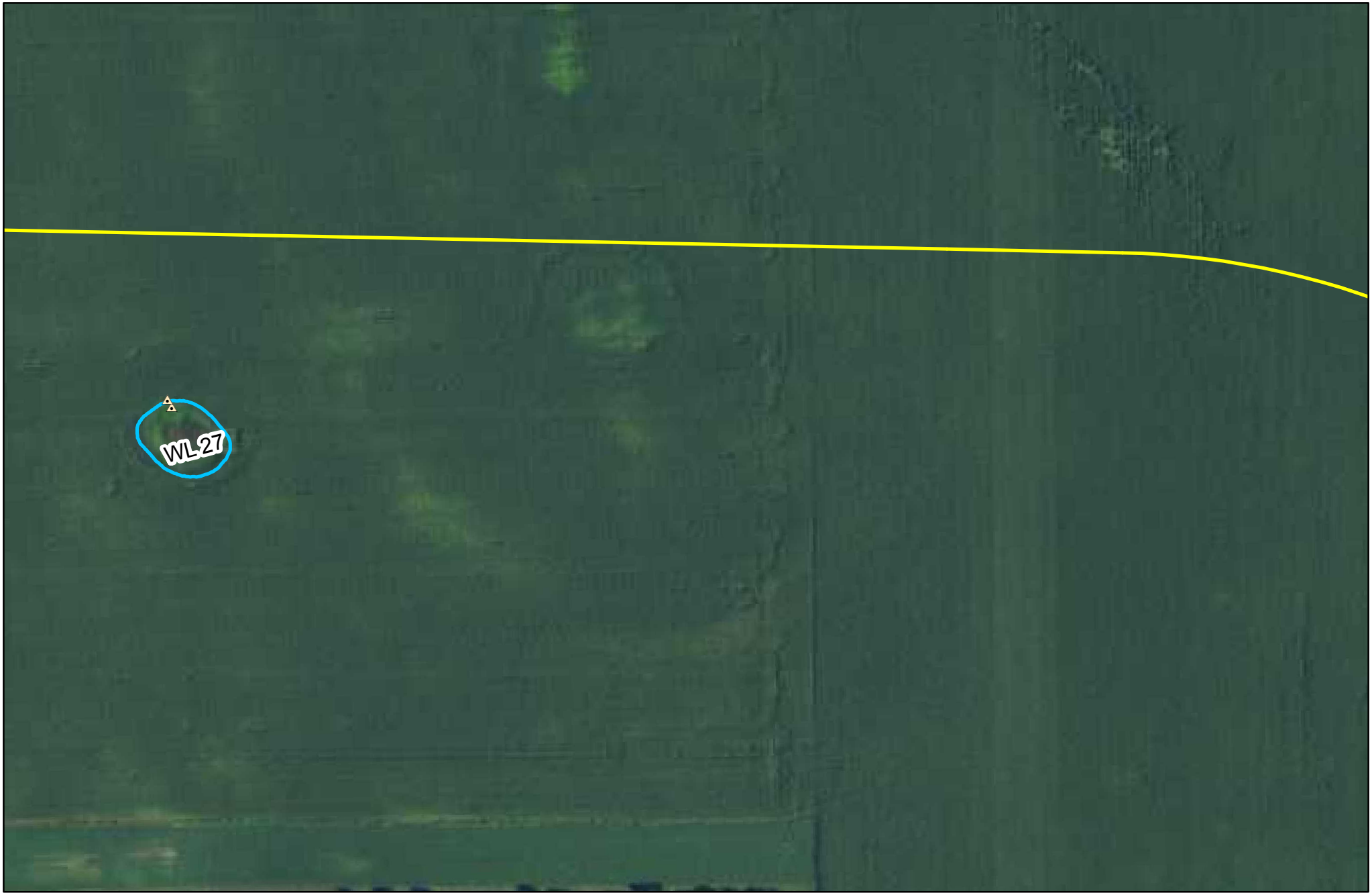

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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Sources: MetroGIS, NRCS, LMIC

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- No access





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N
W E
S

0 100 200
Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed north of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Data Points
- Project Boundary

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed north of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

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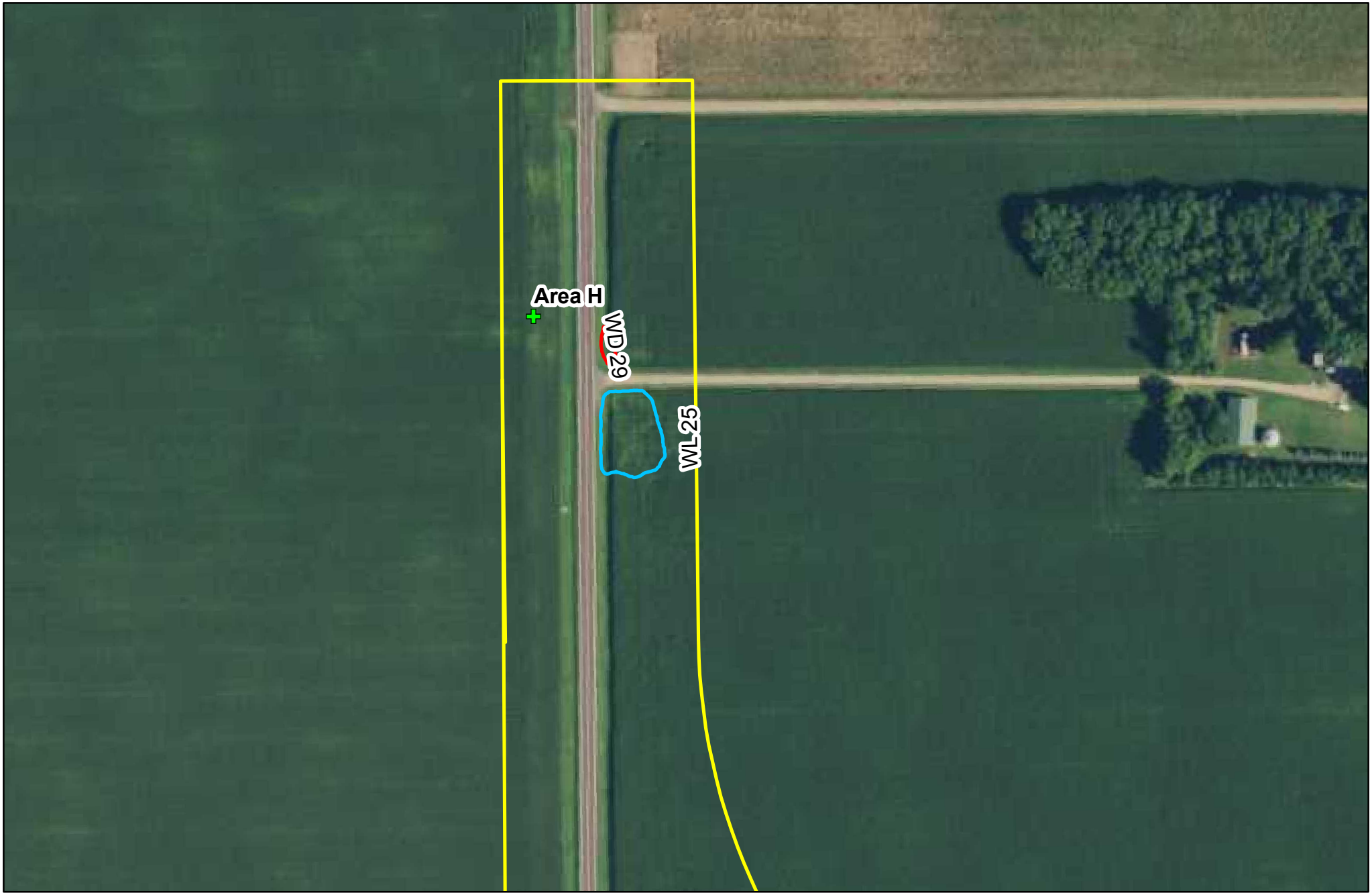

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Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
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Scale In Feet

Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed south of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed north of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

- Non Wet Areas
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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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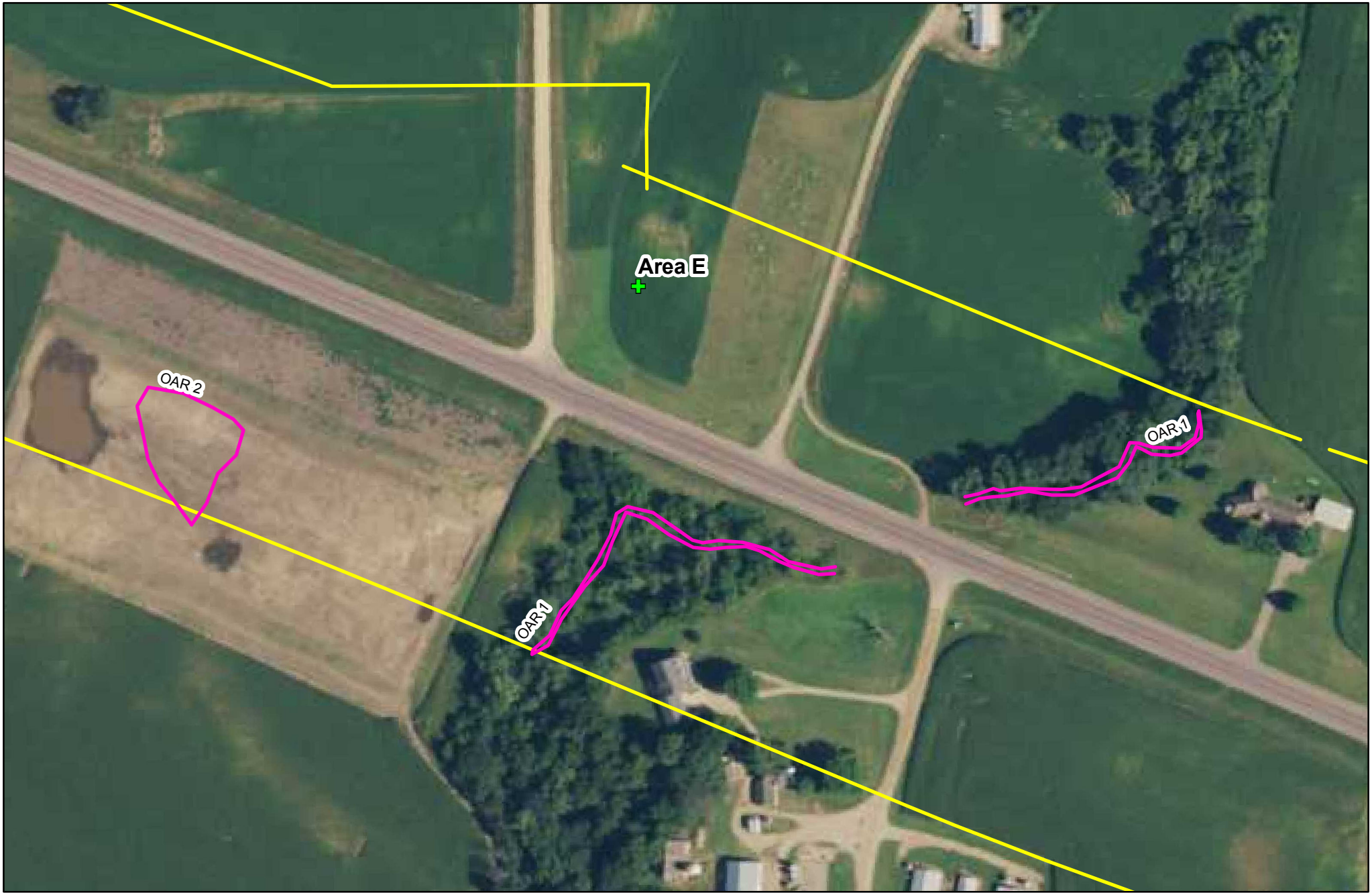

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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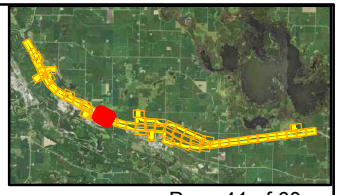

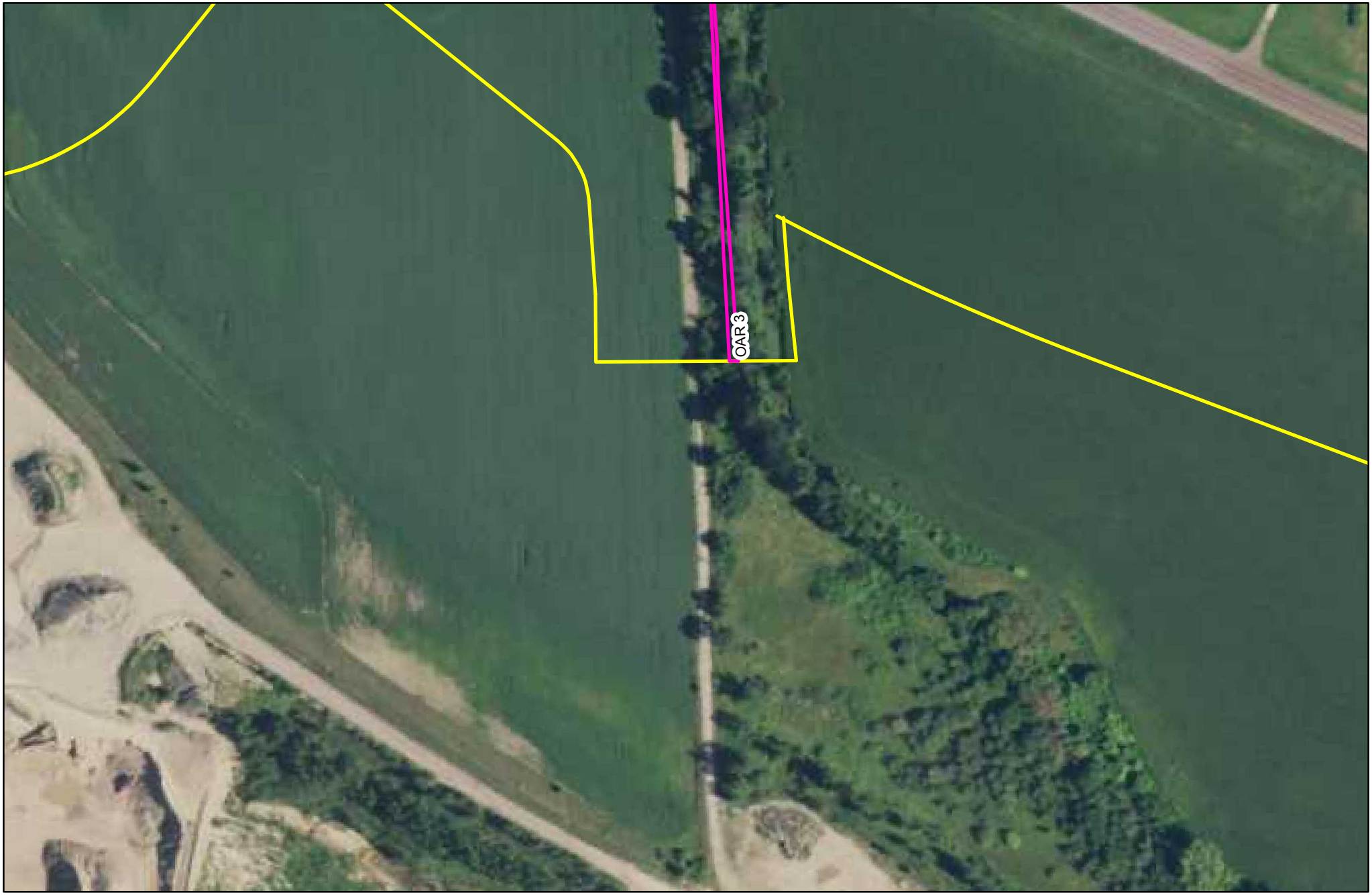

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Wet Feature Location Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*New alignment proposed north of the shown Project Boundary

Sources: MetroGIS, NRCS, LMIC

Legend

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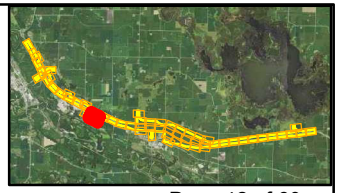



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TH 14 (SP 5202-58)

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Nicollet County, Minnesota

Sources: MetroGIS, NRCS, LMIC

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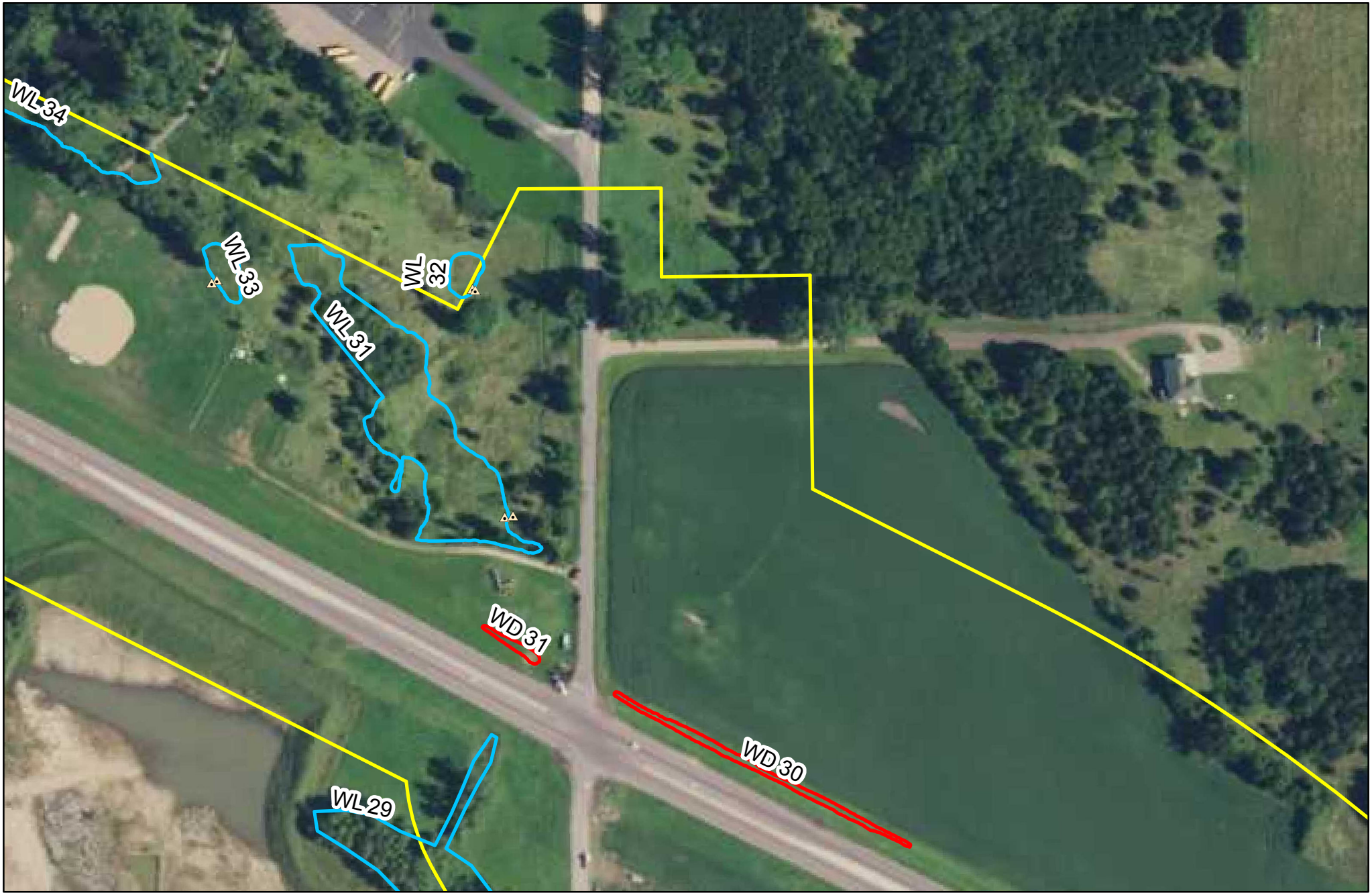

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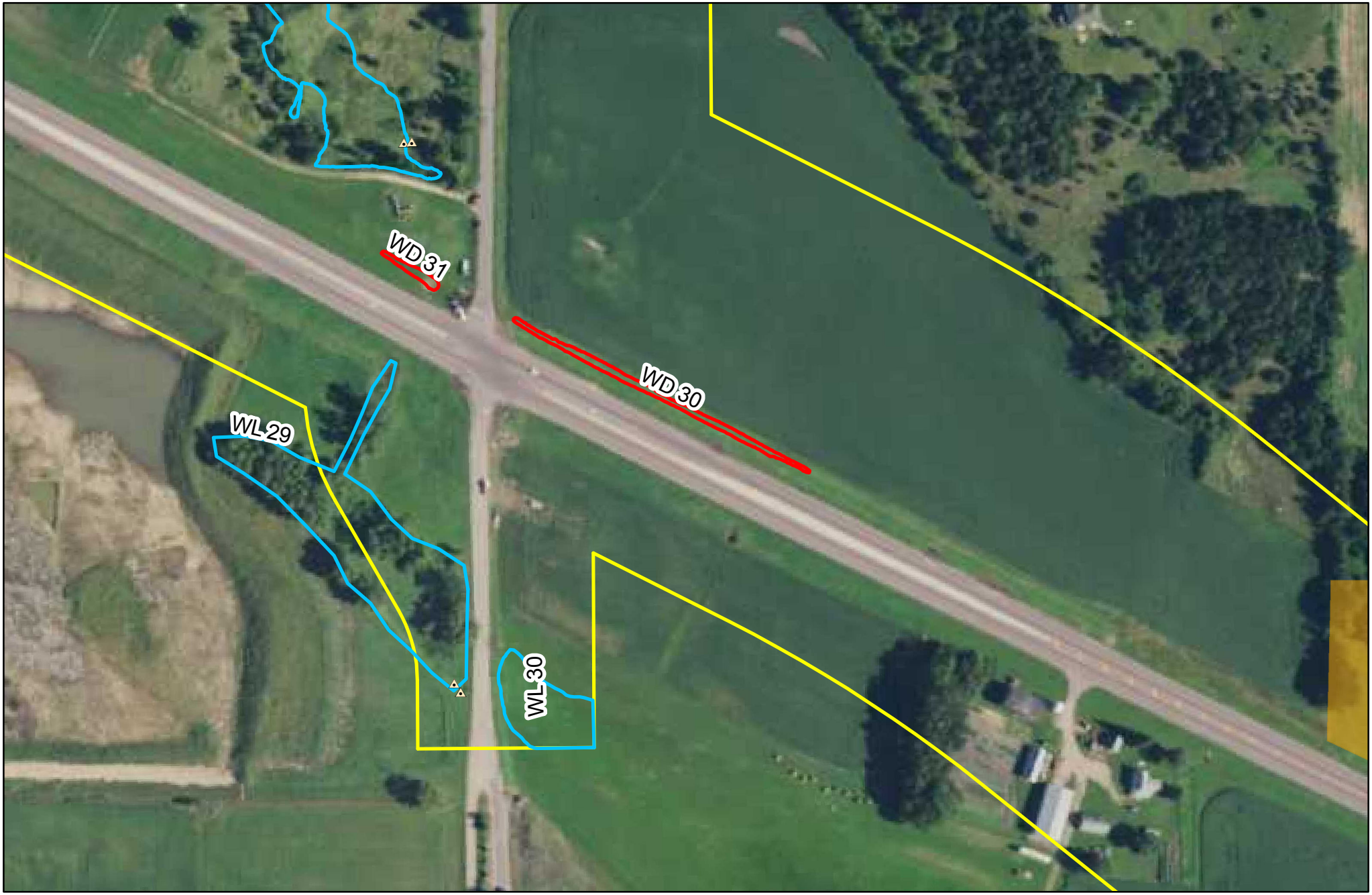

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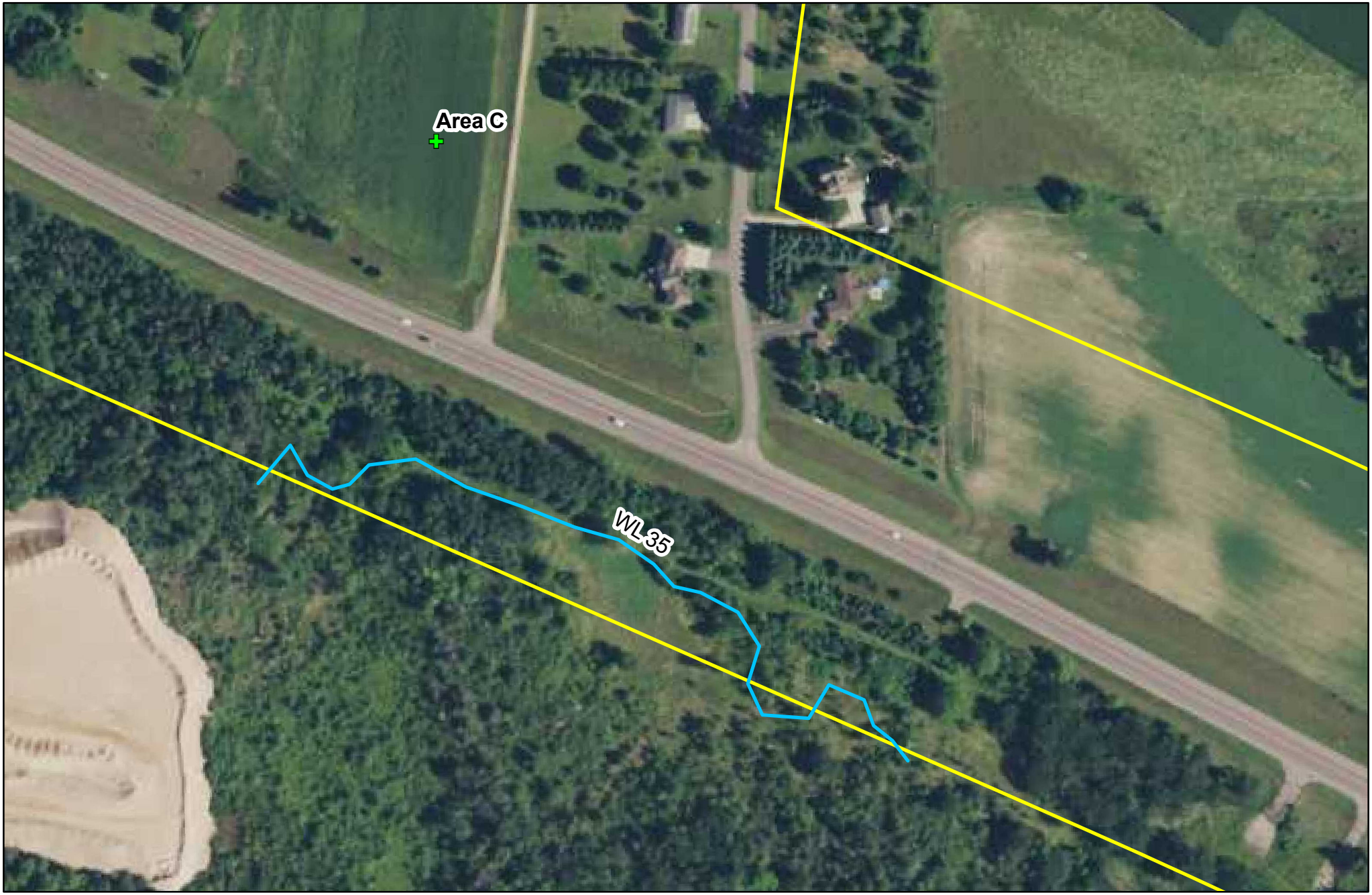

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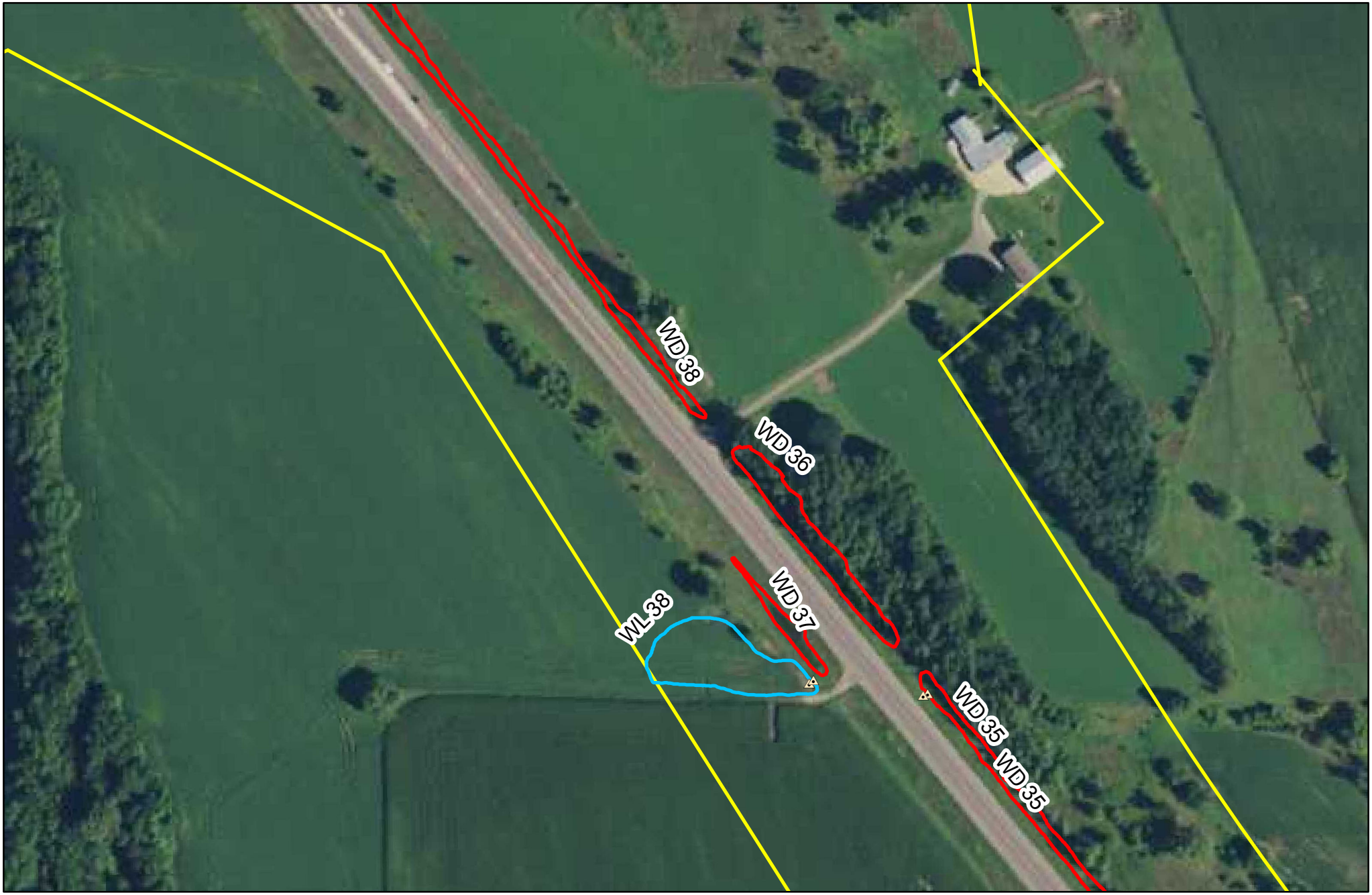

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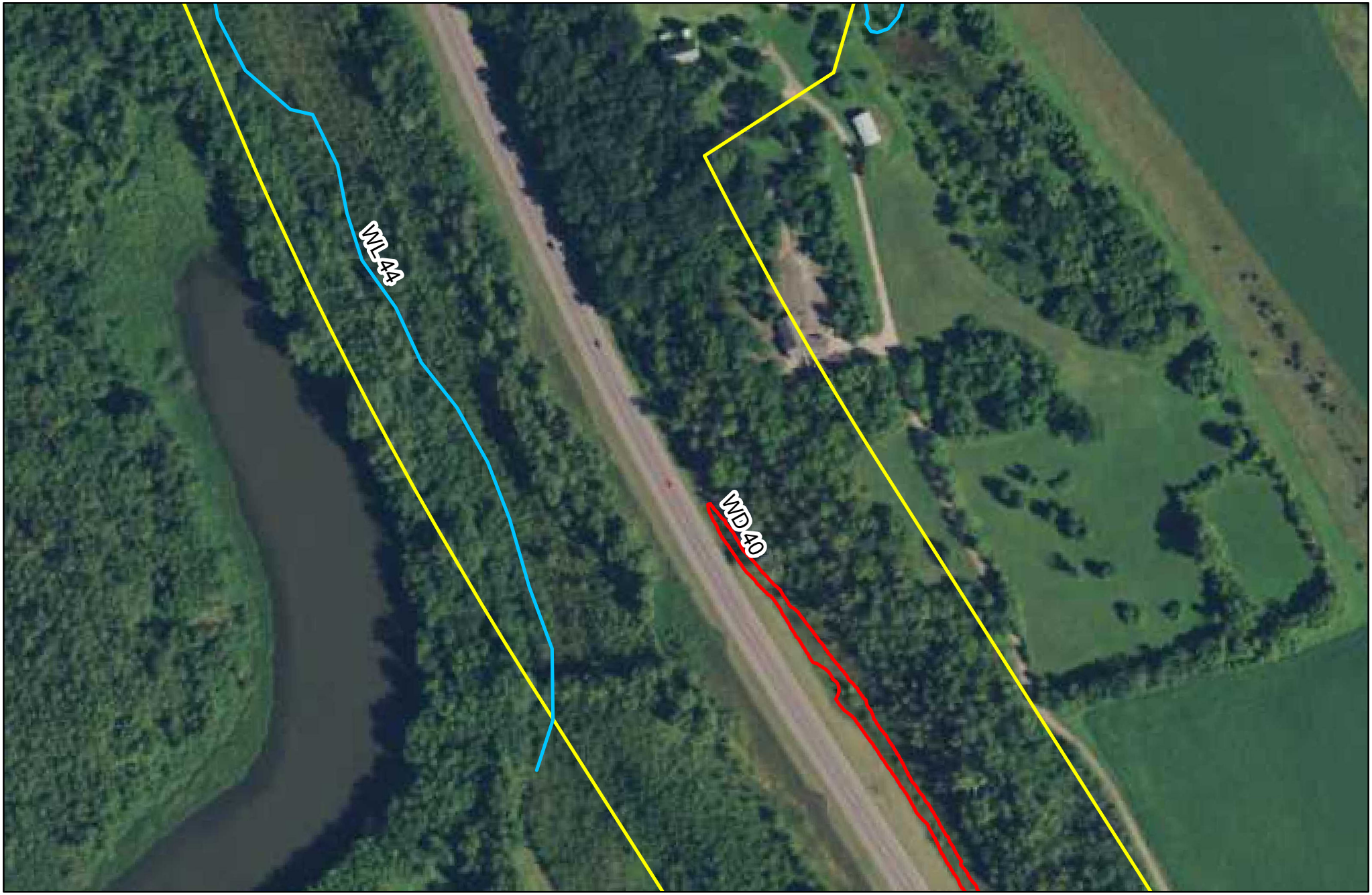

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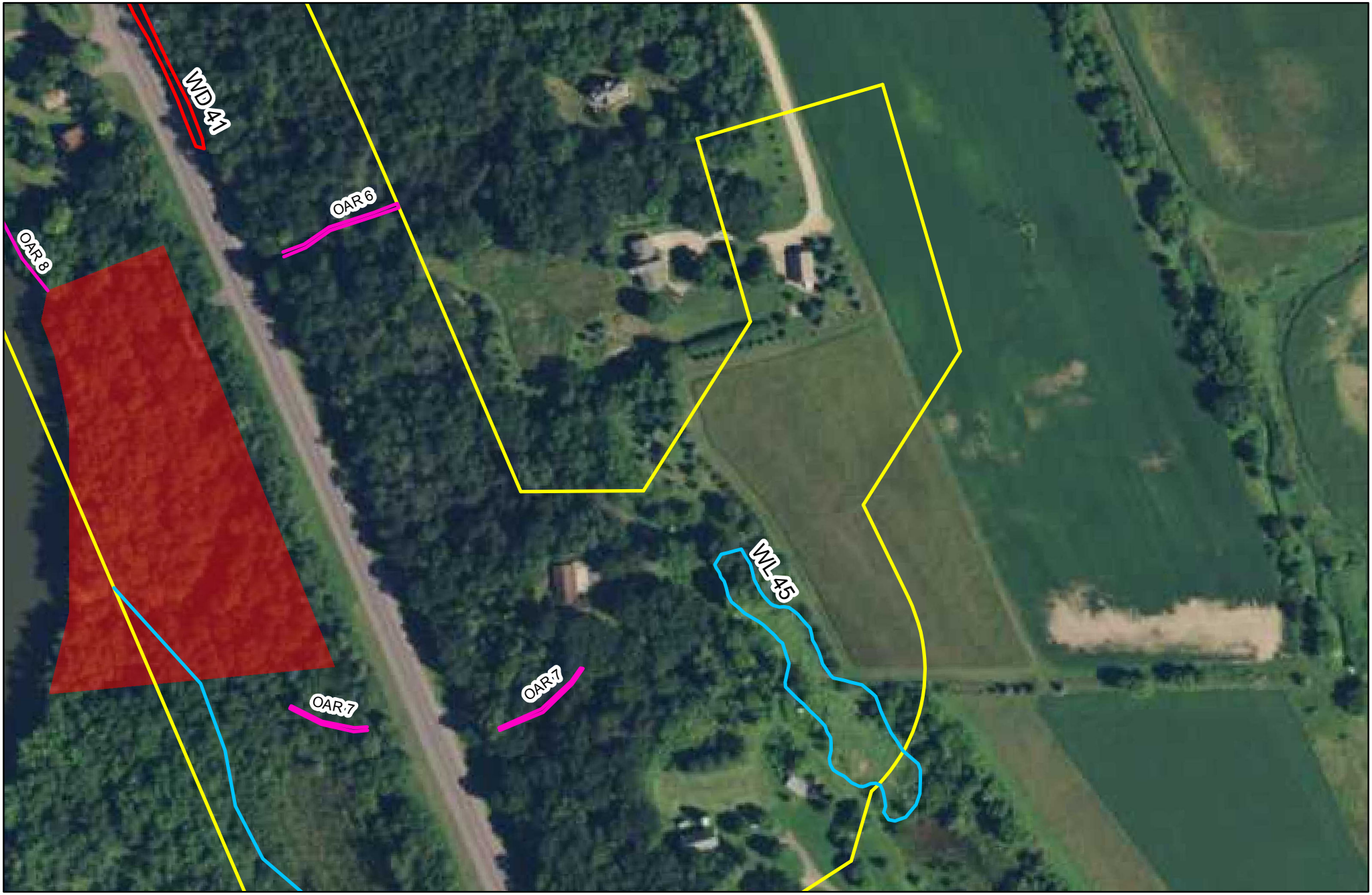

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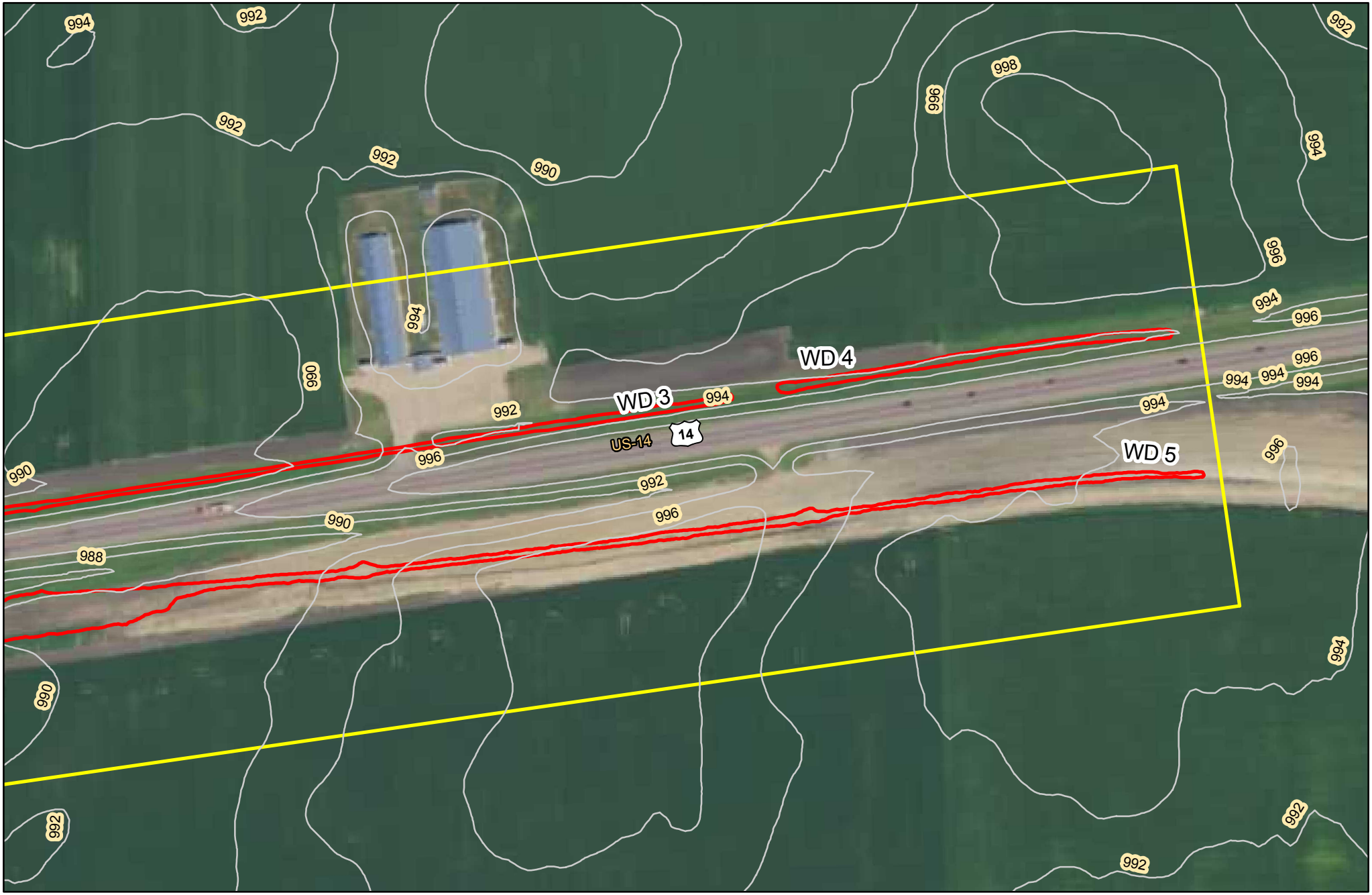

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LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
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- Project Boundary

Restricted Properties

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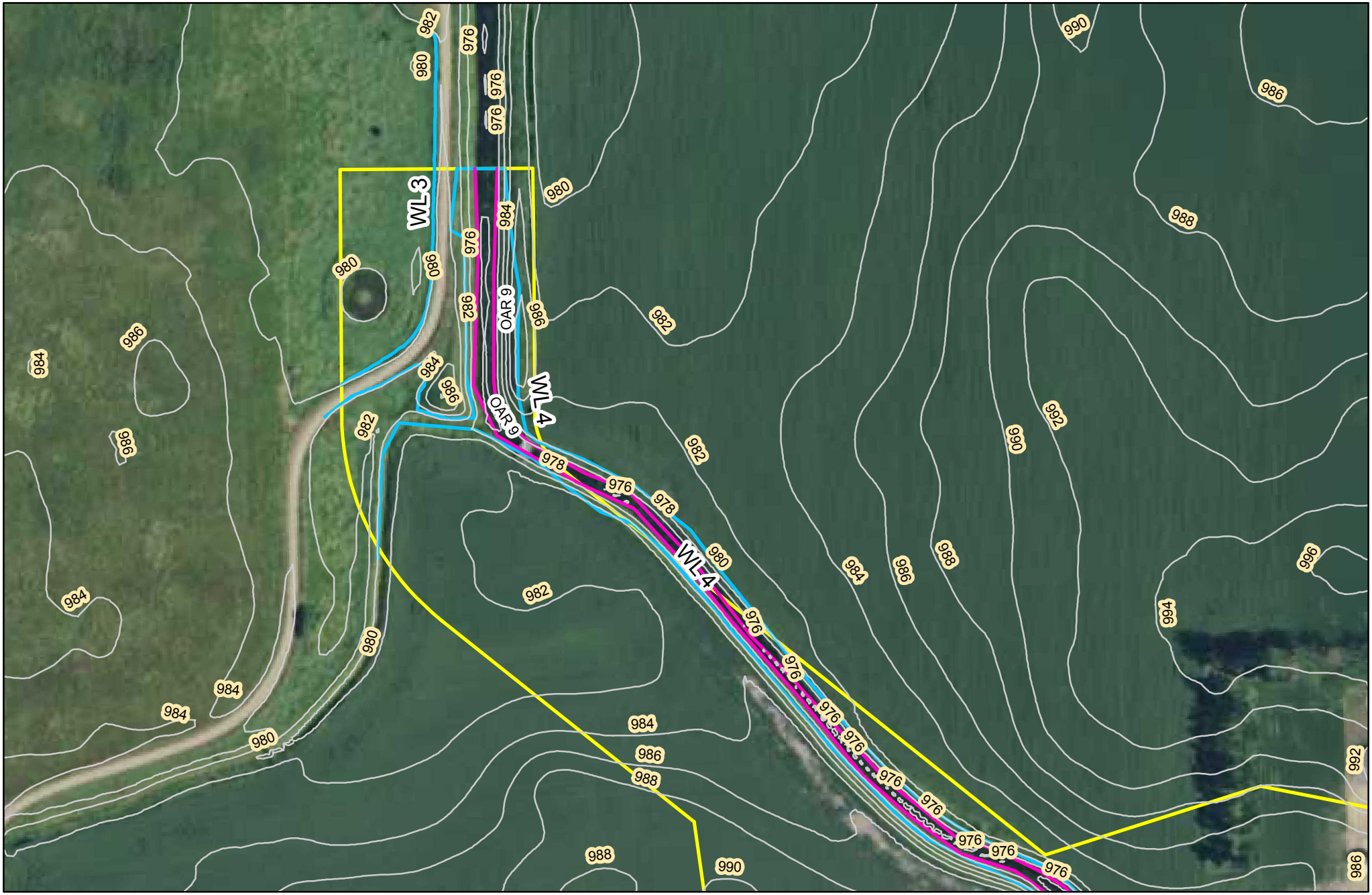
Sources: MetroGIS, NRCS, LMIC



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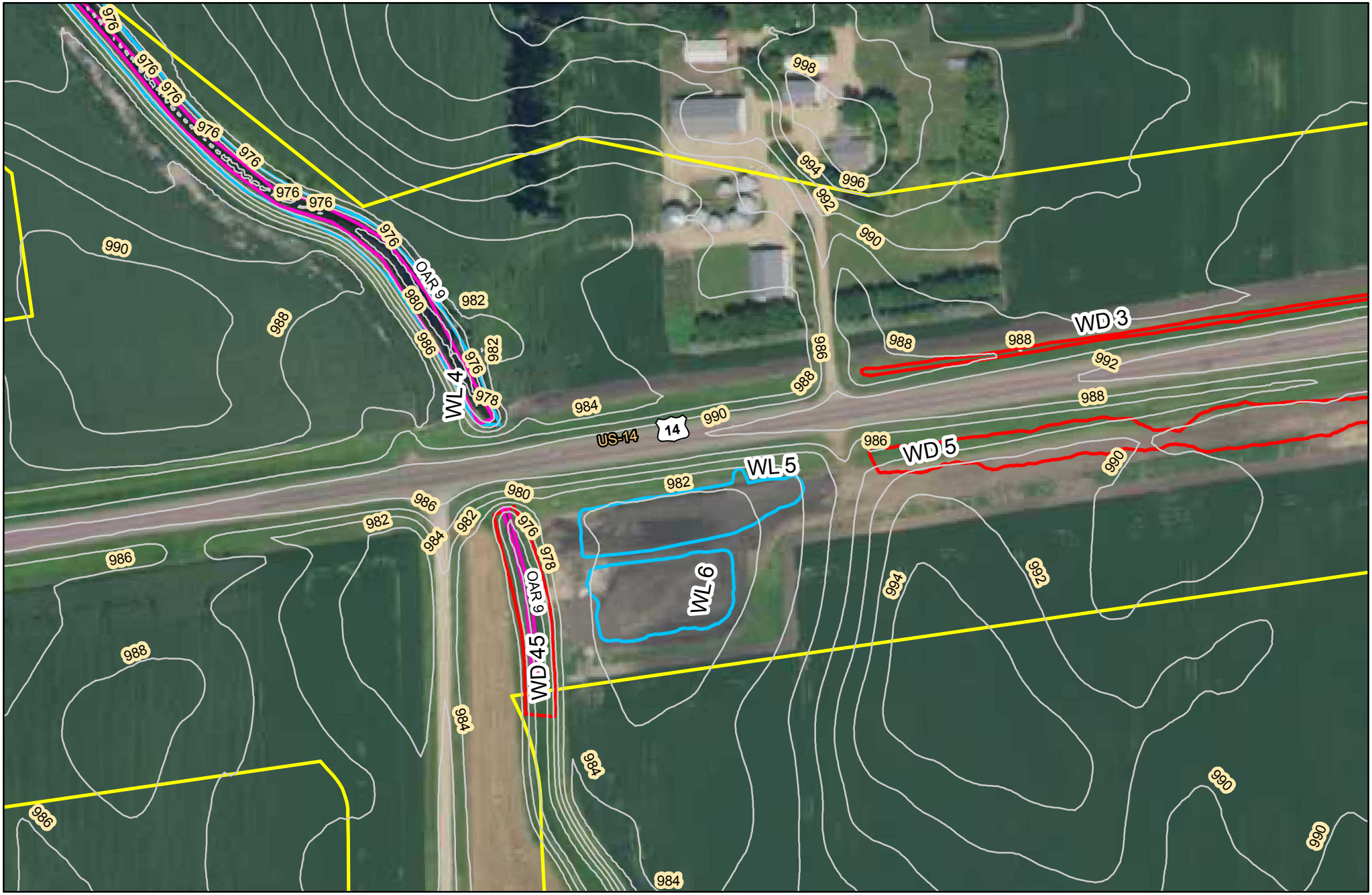

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N
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Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
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Sources: MetroGIS, NRCS, LMIC



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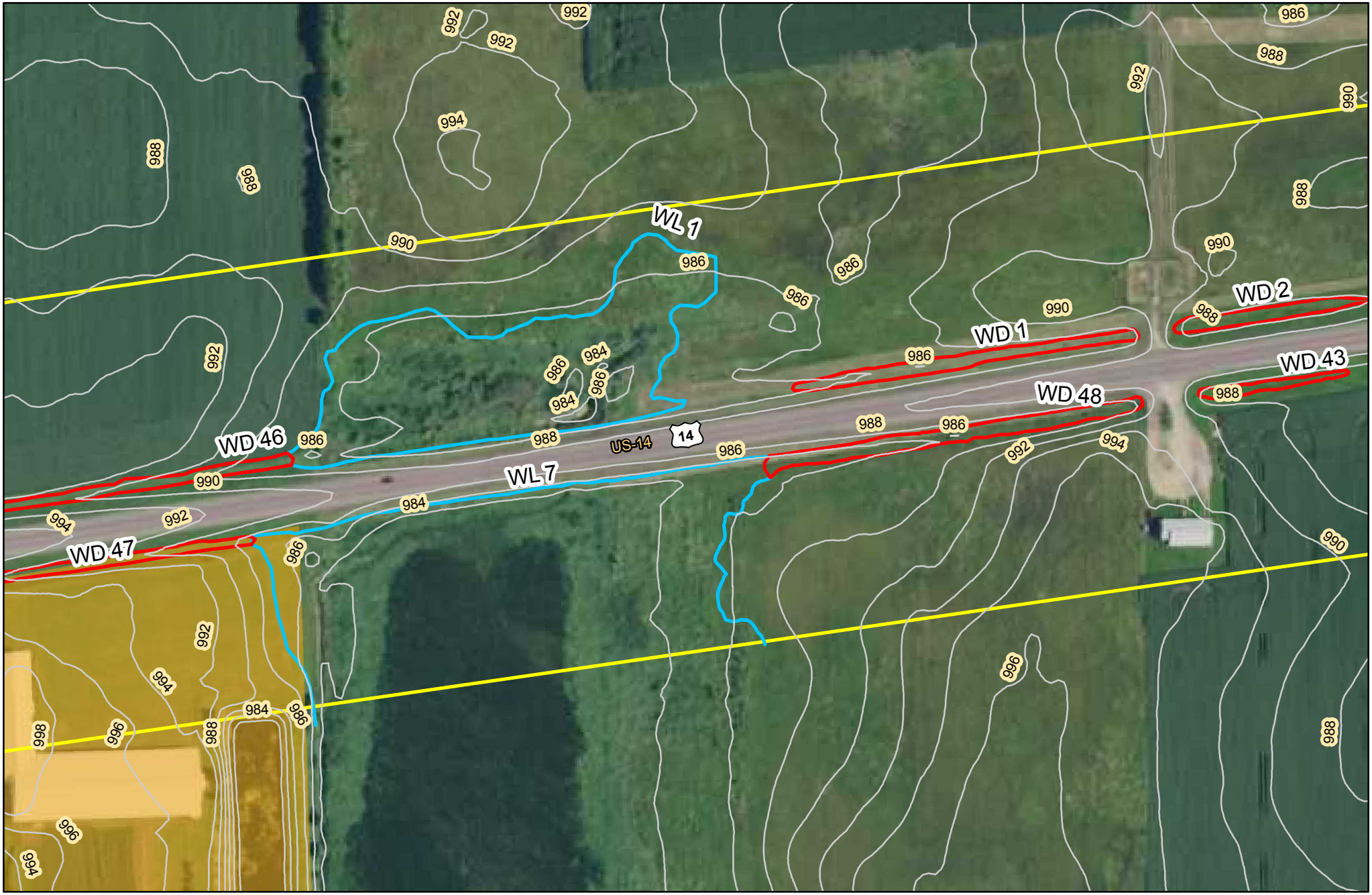

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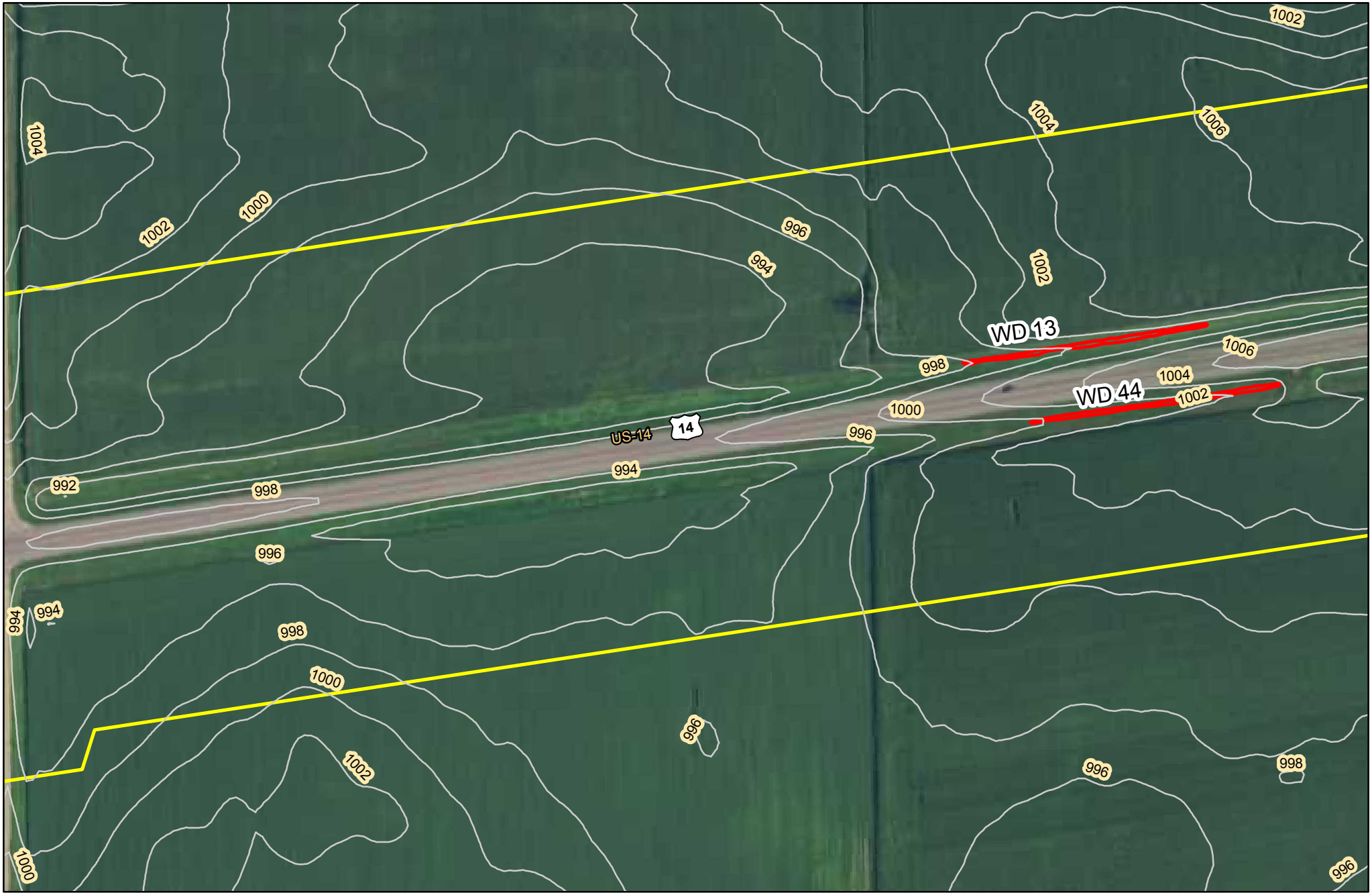

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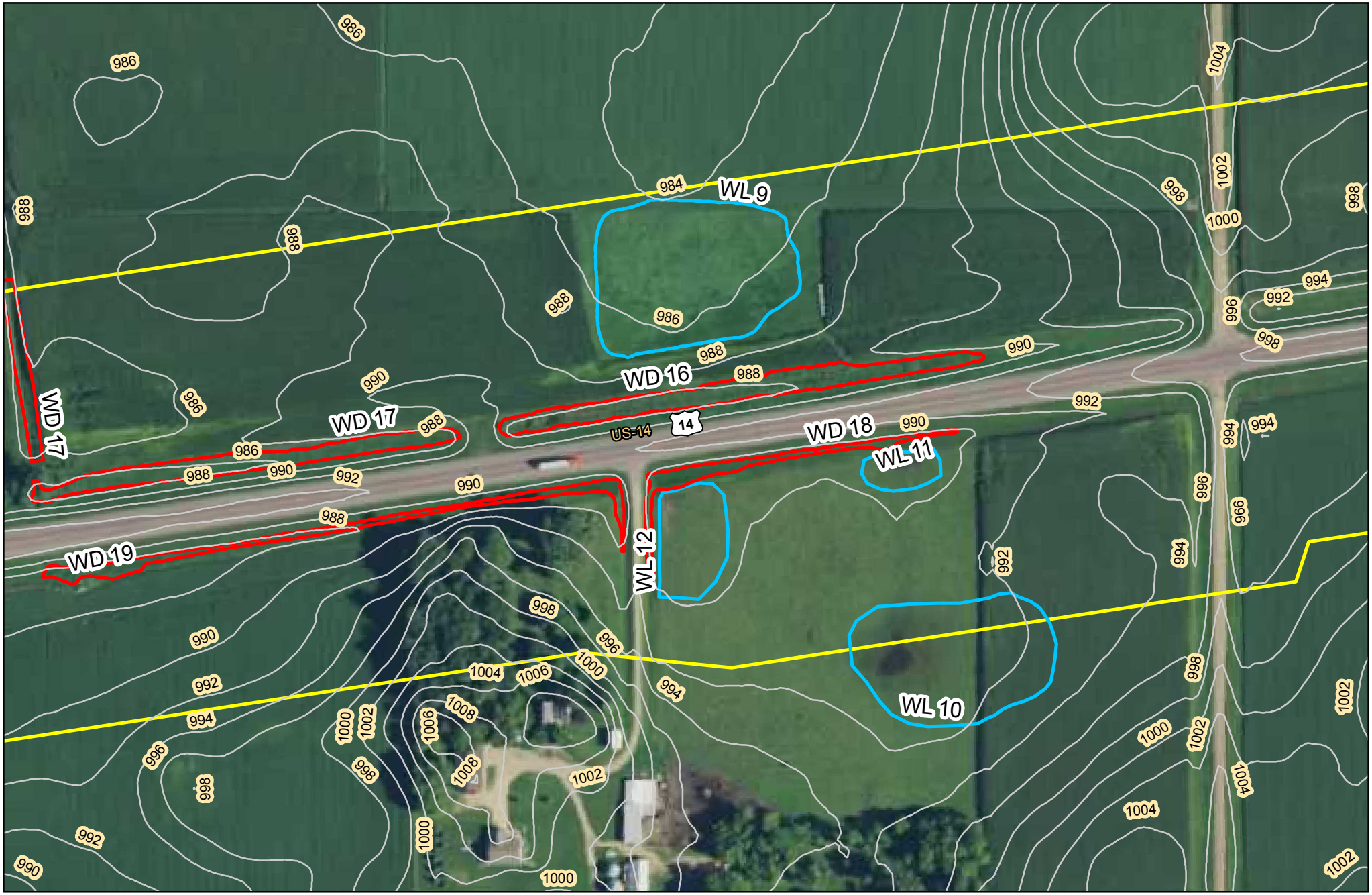

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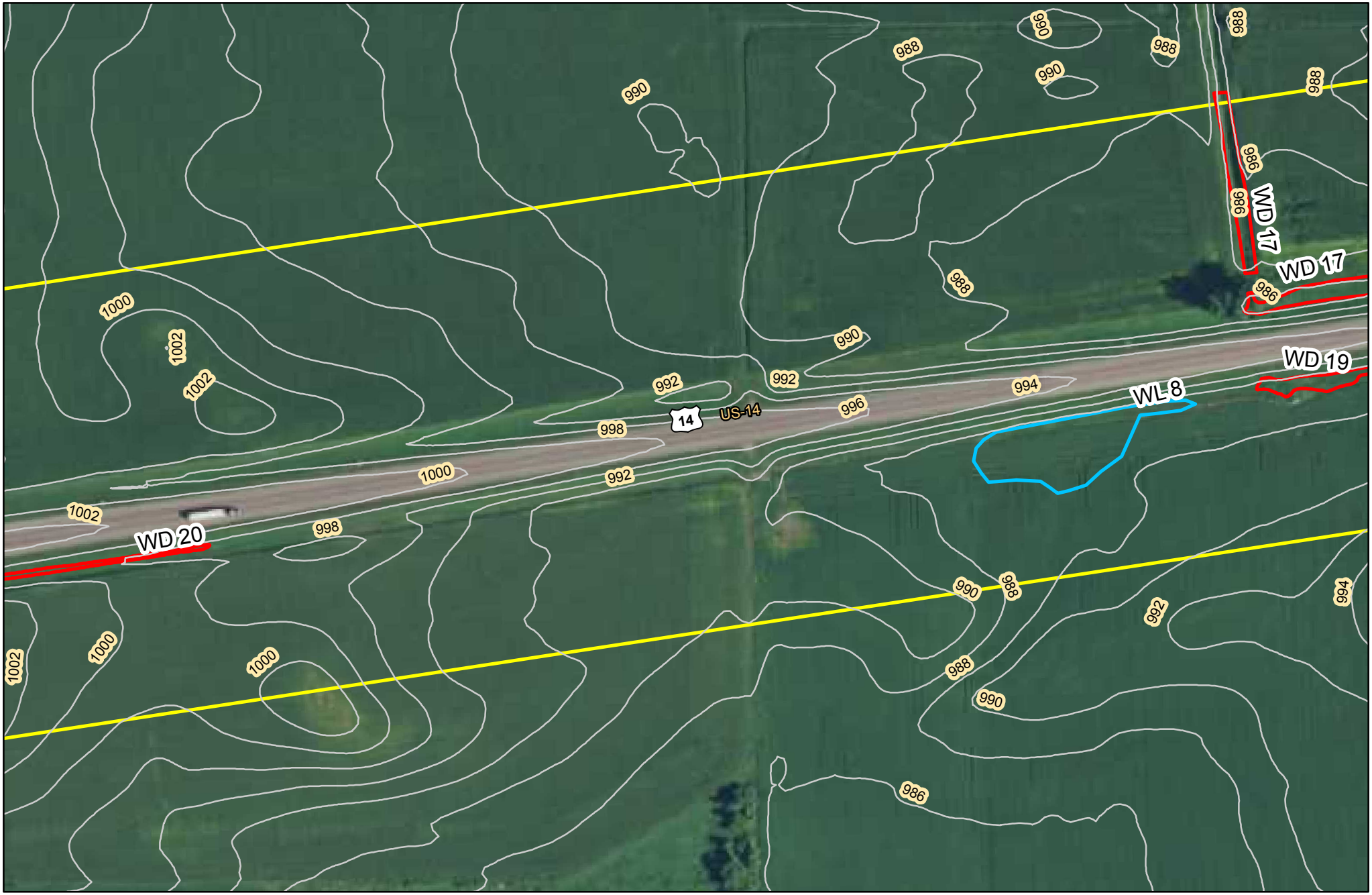

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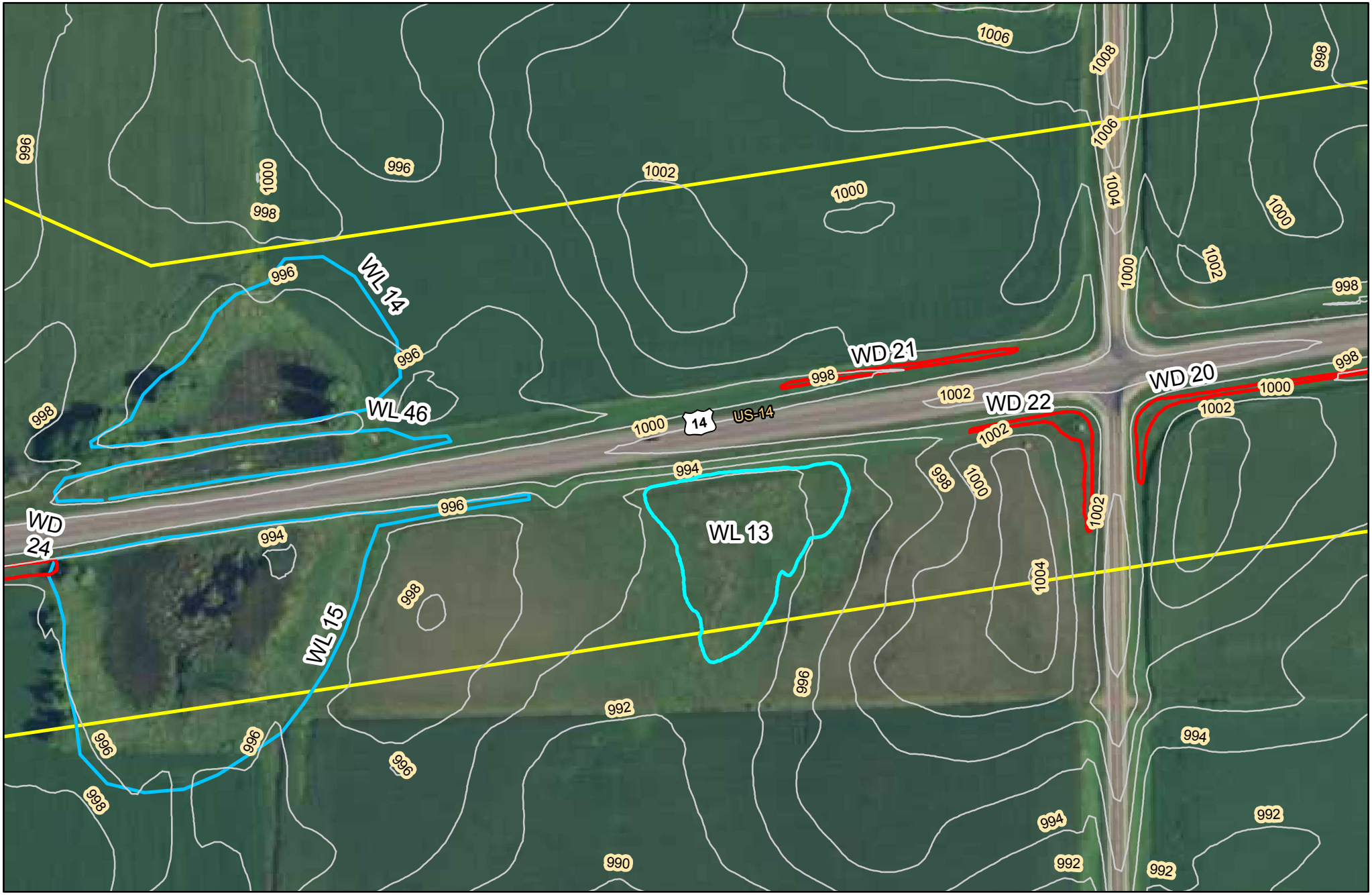

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Nicollet County, Minnesota

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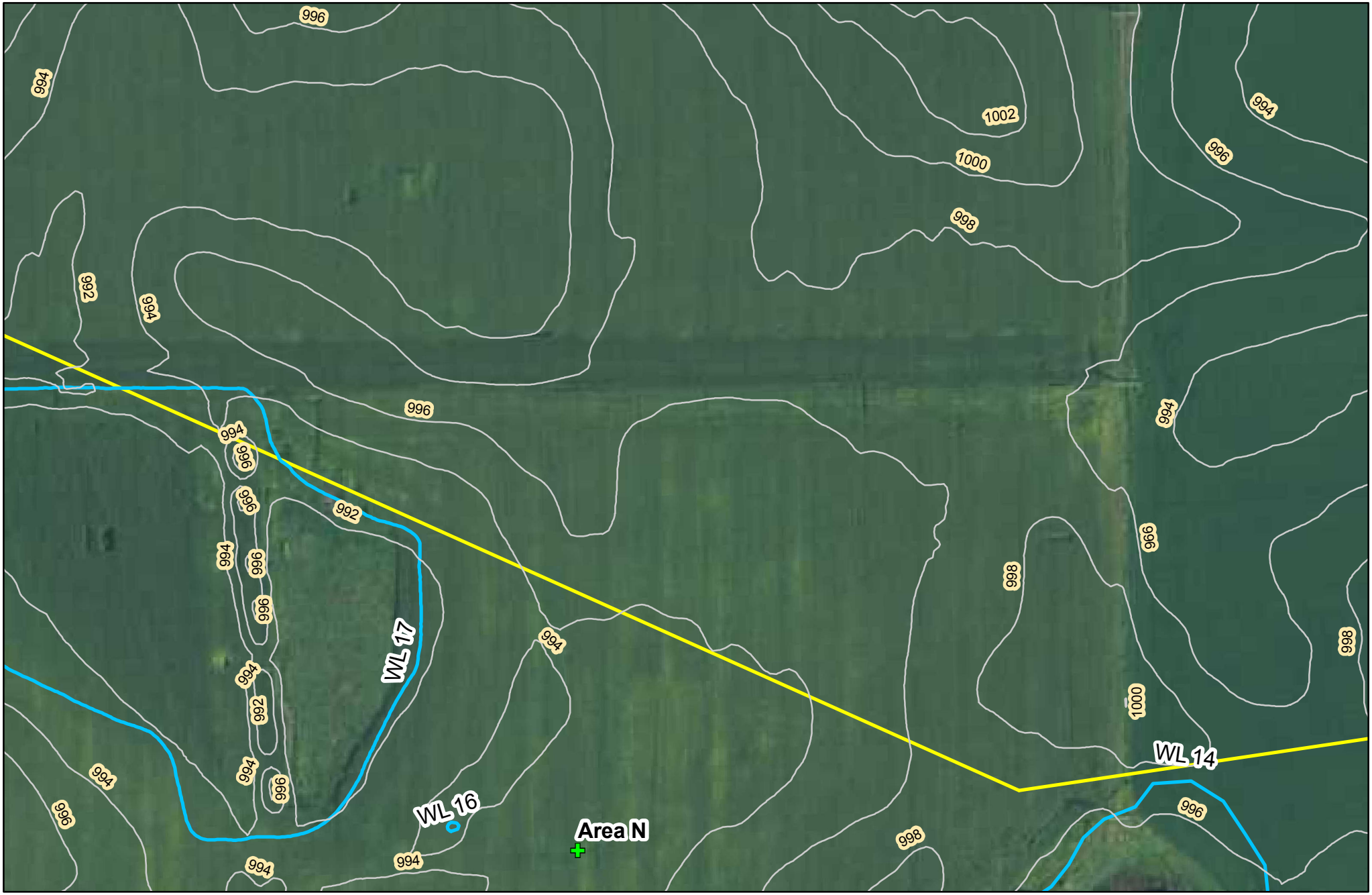

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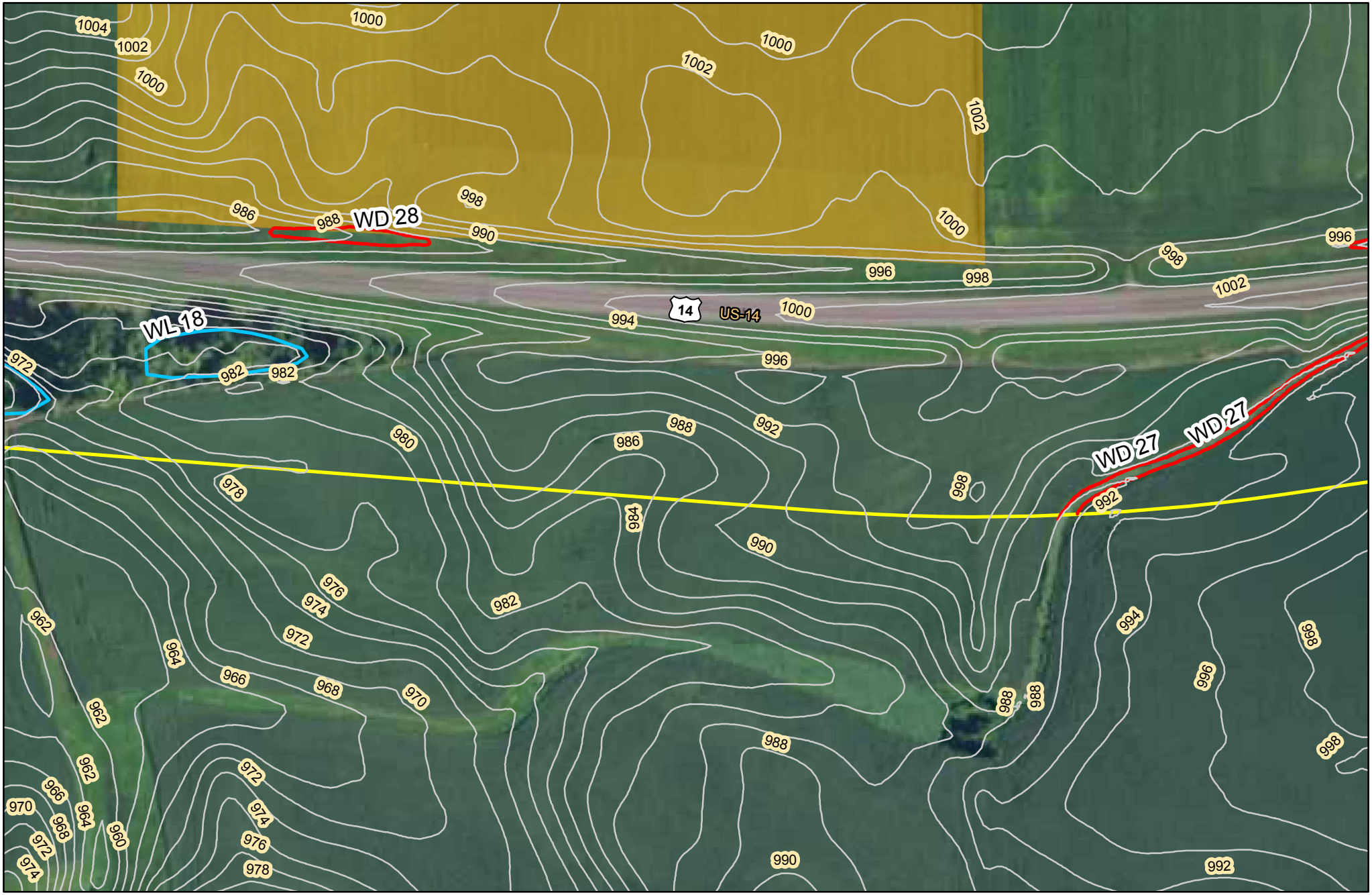

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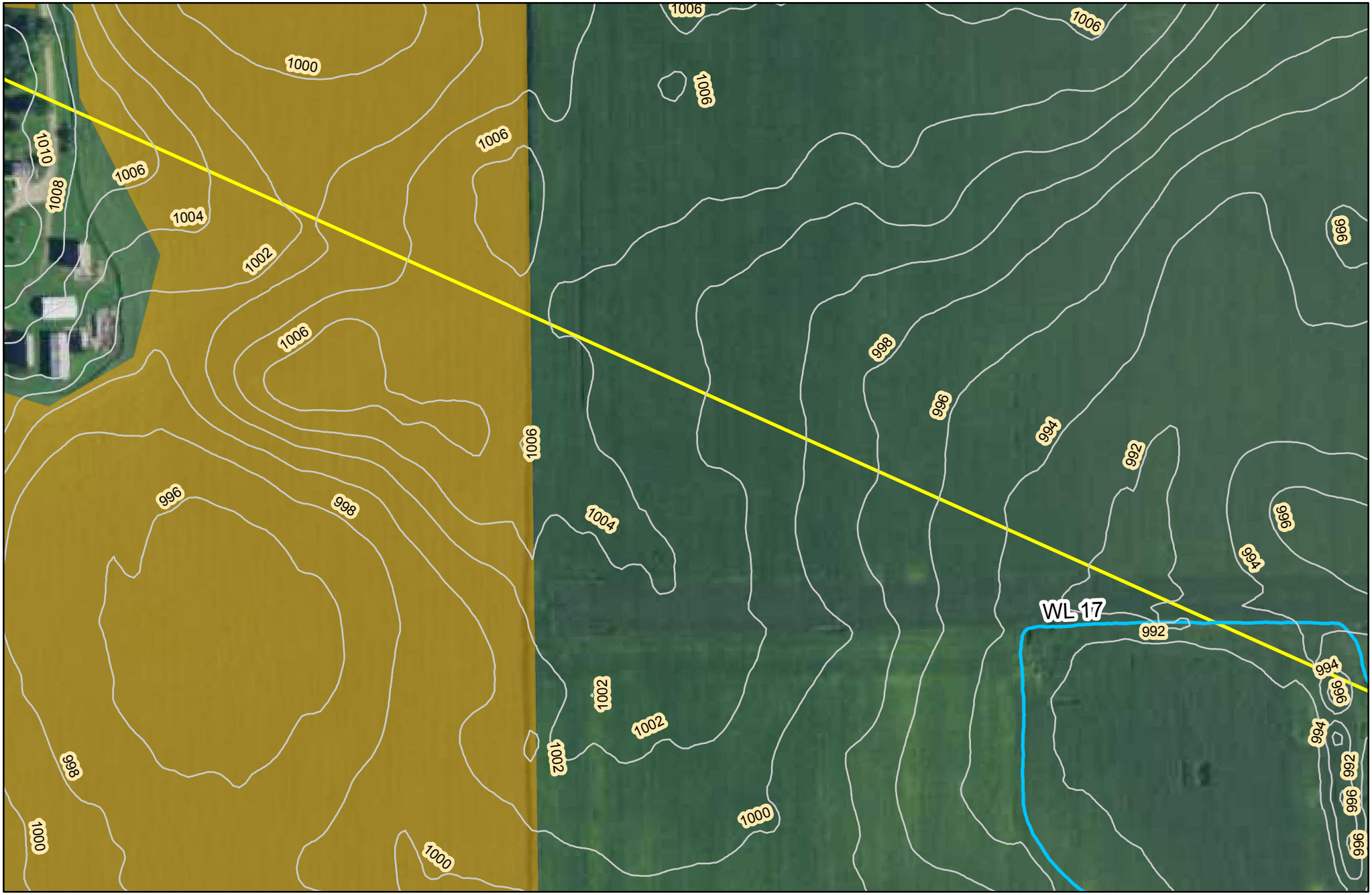

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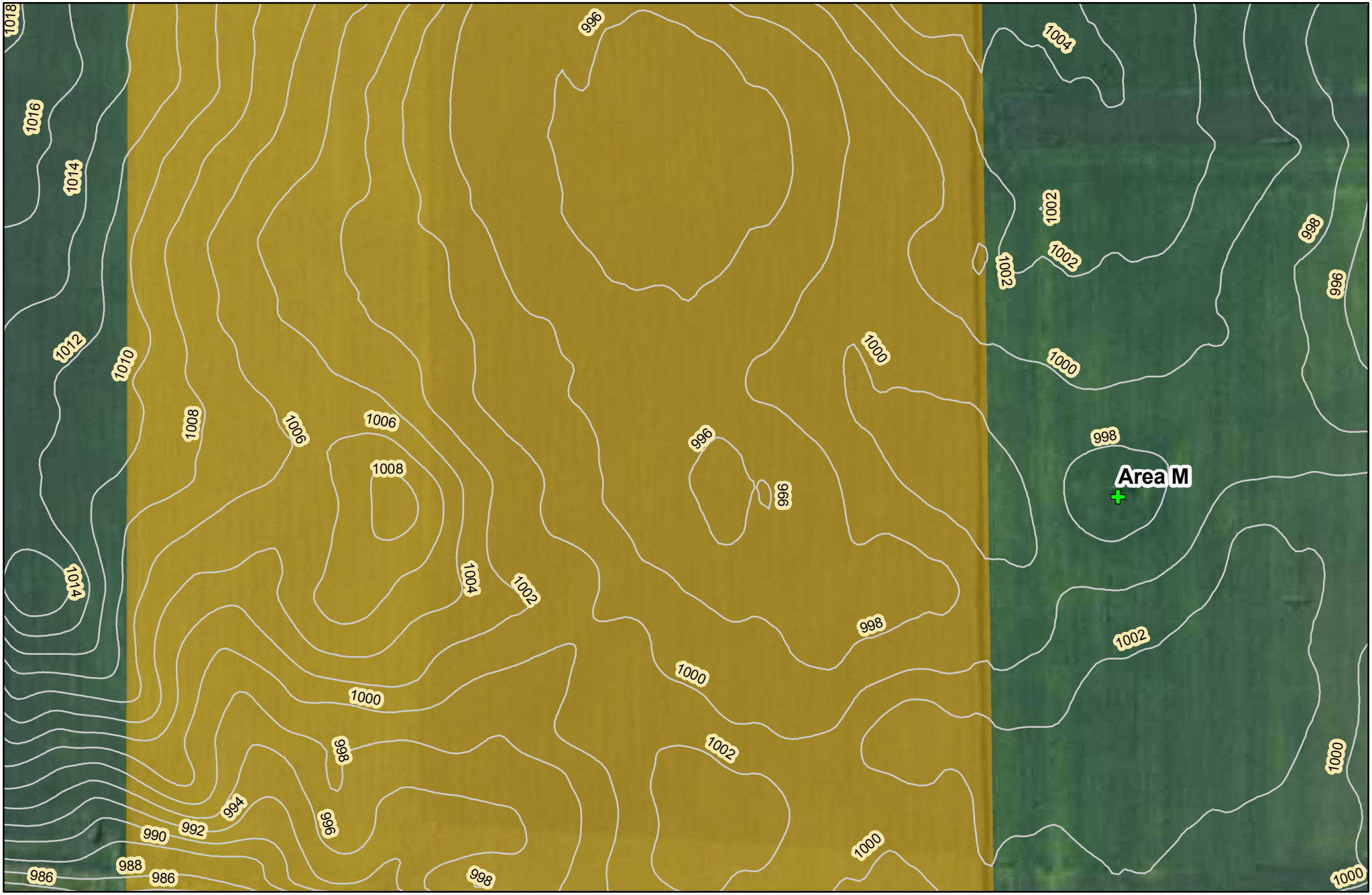

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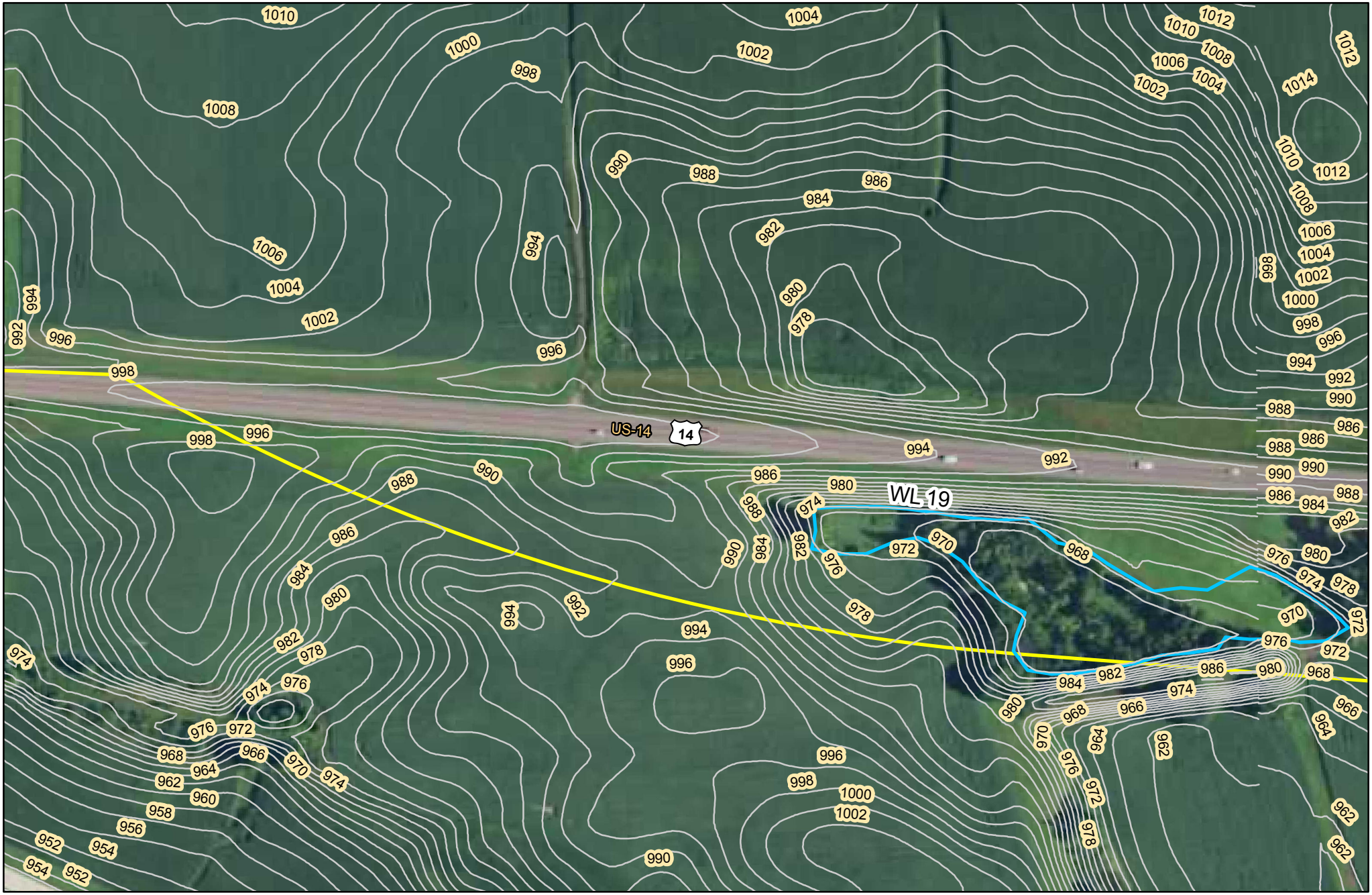

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Nicollet County, Minnesota

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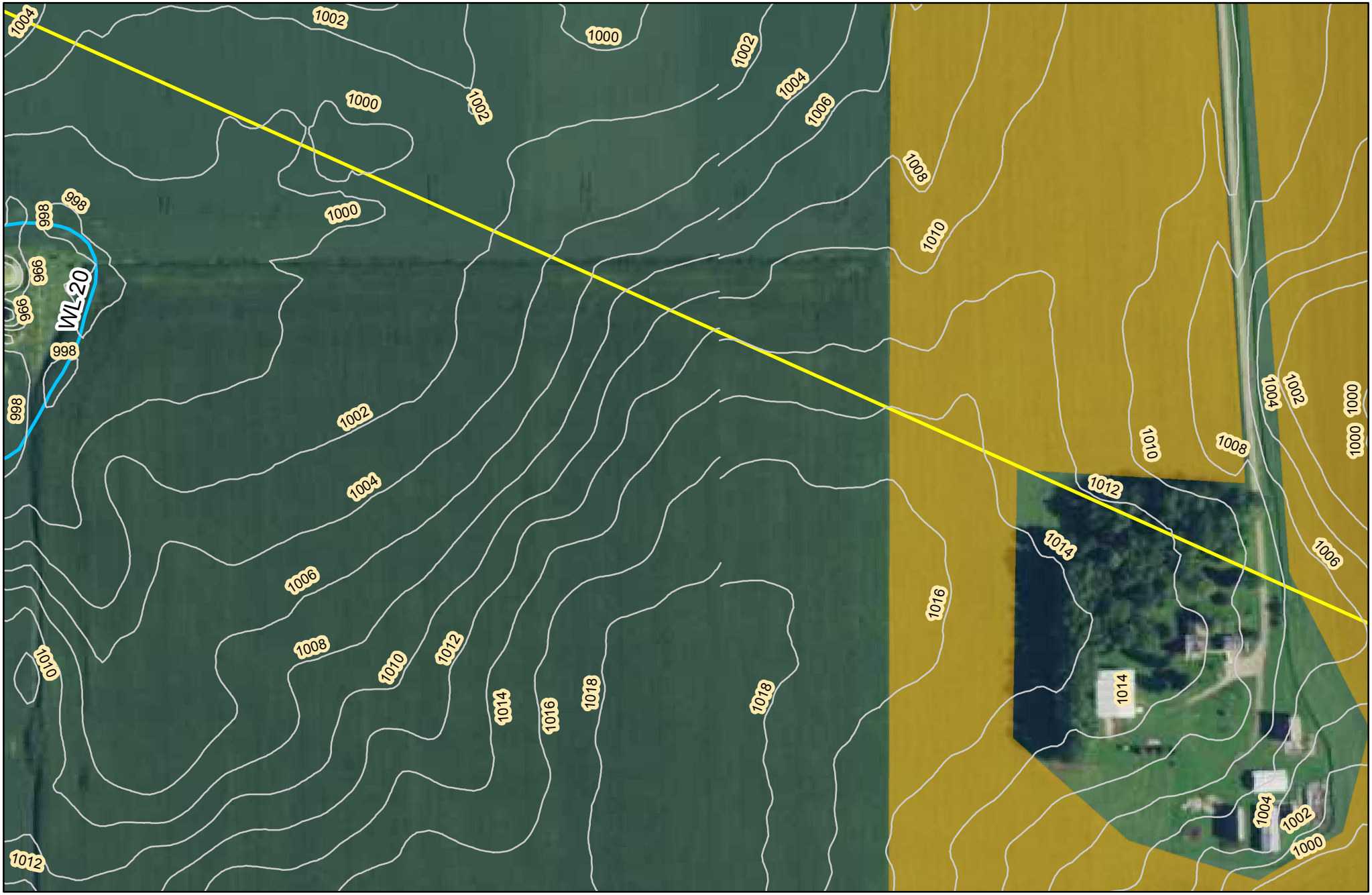

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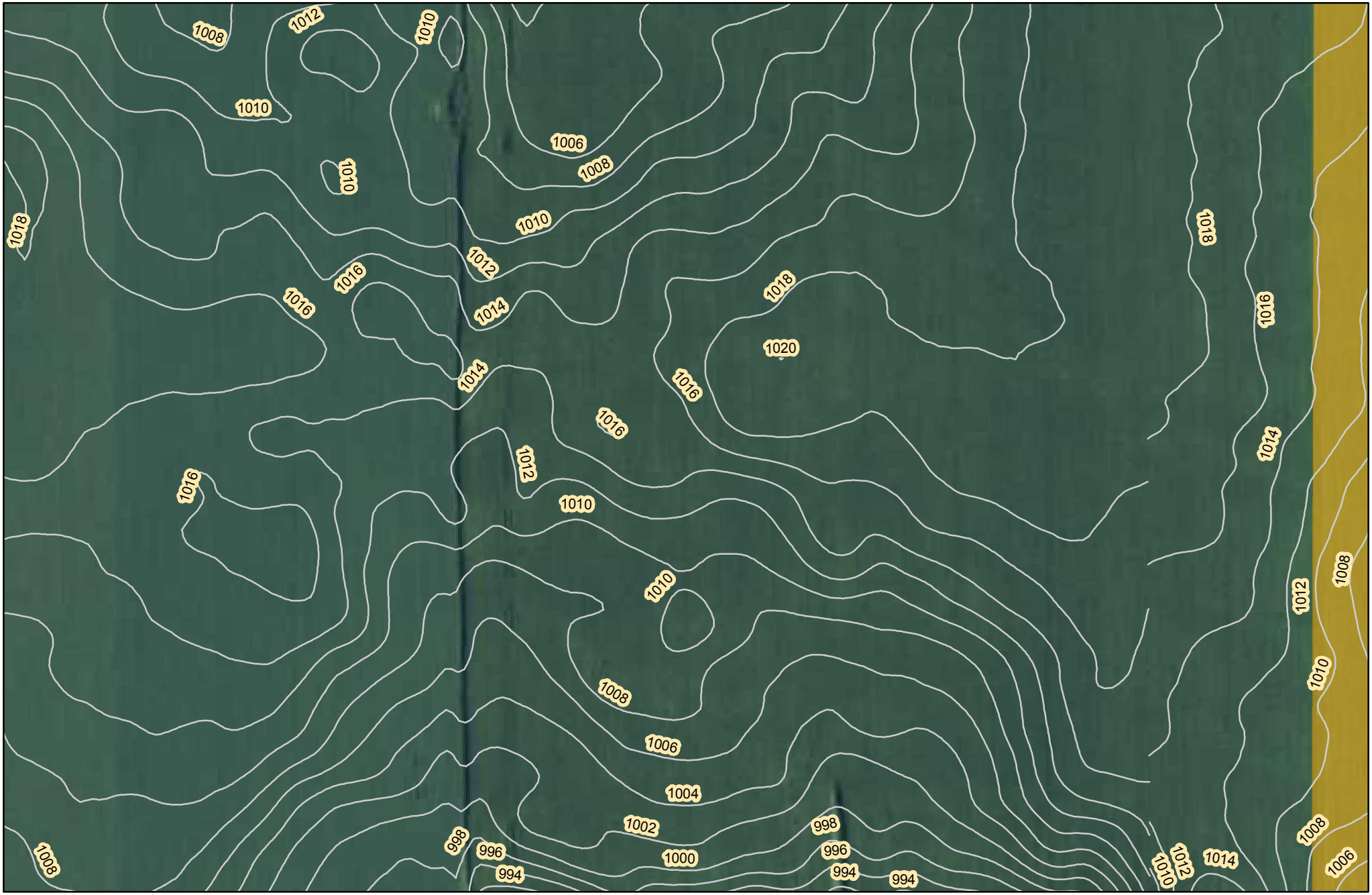

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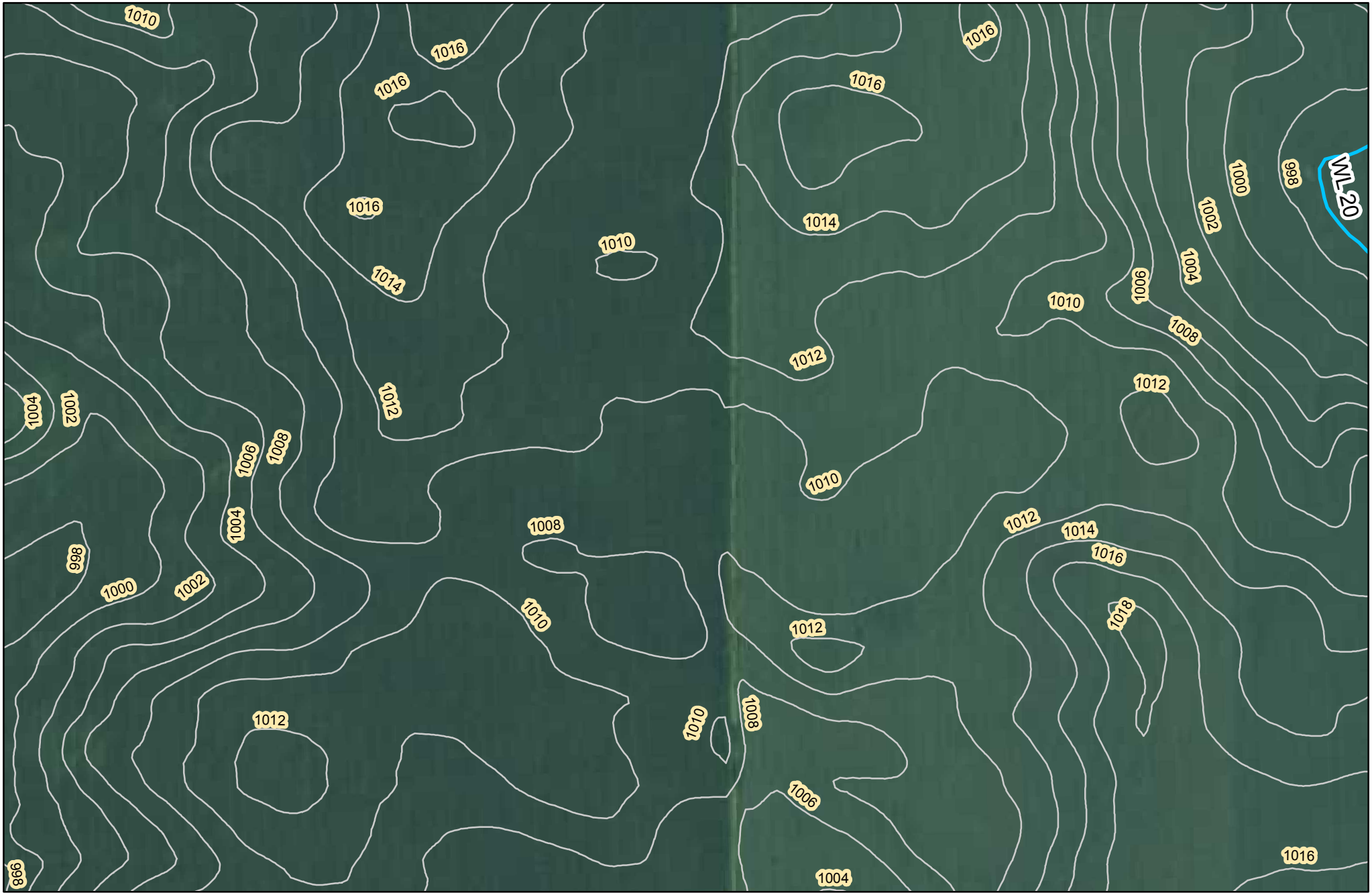

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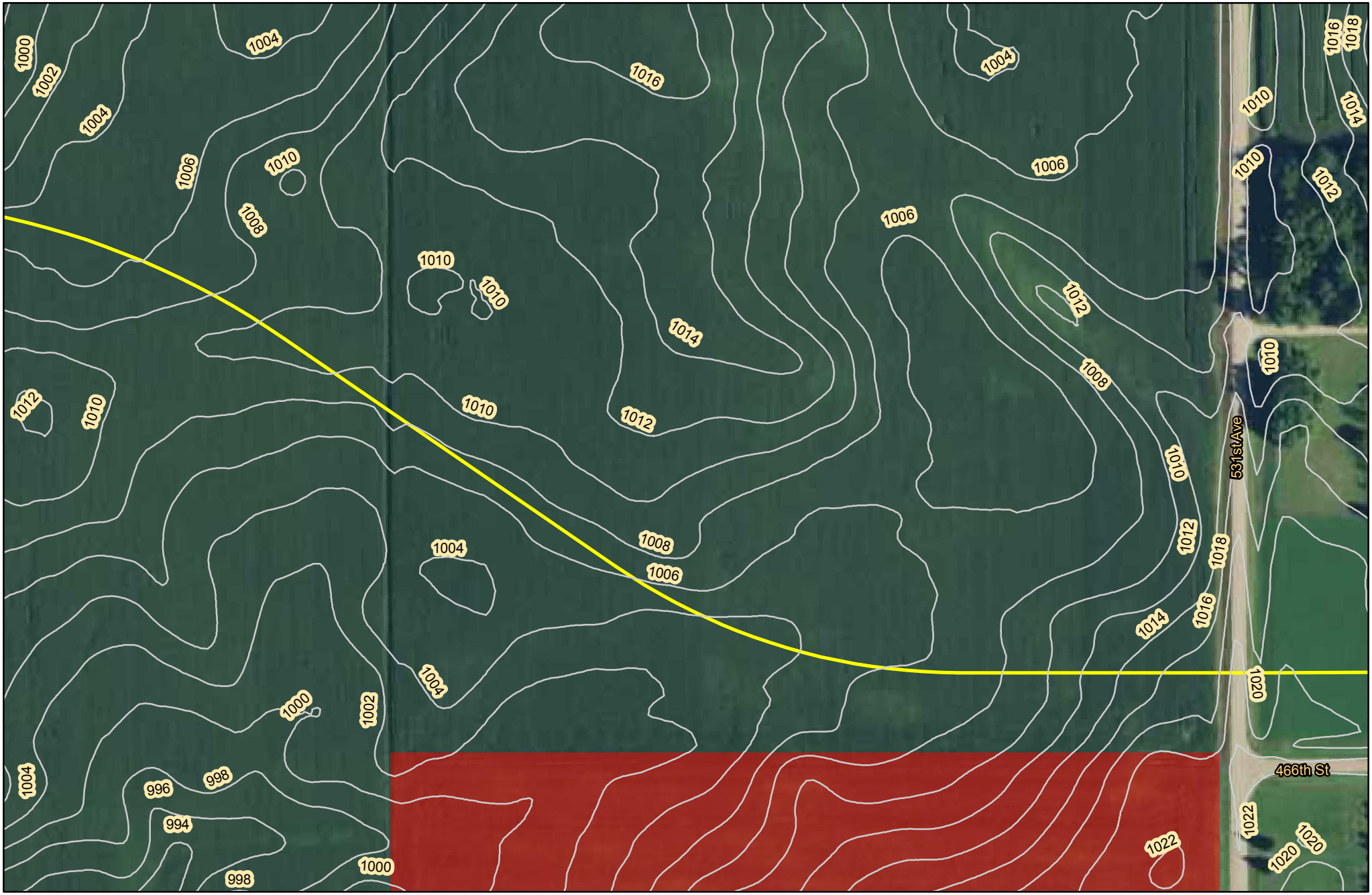

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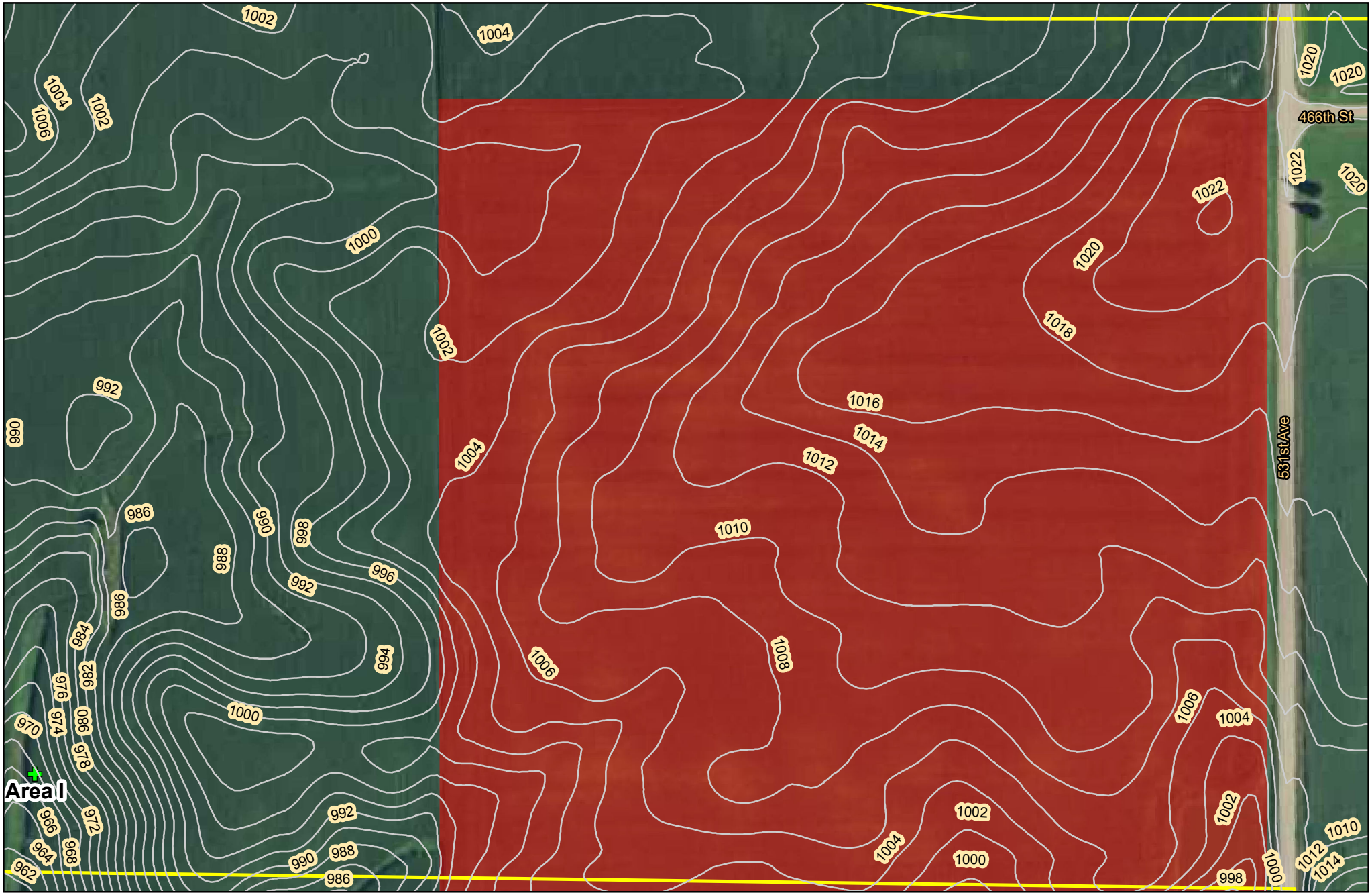

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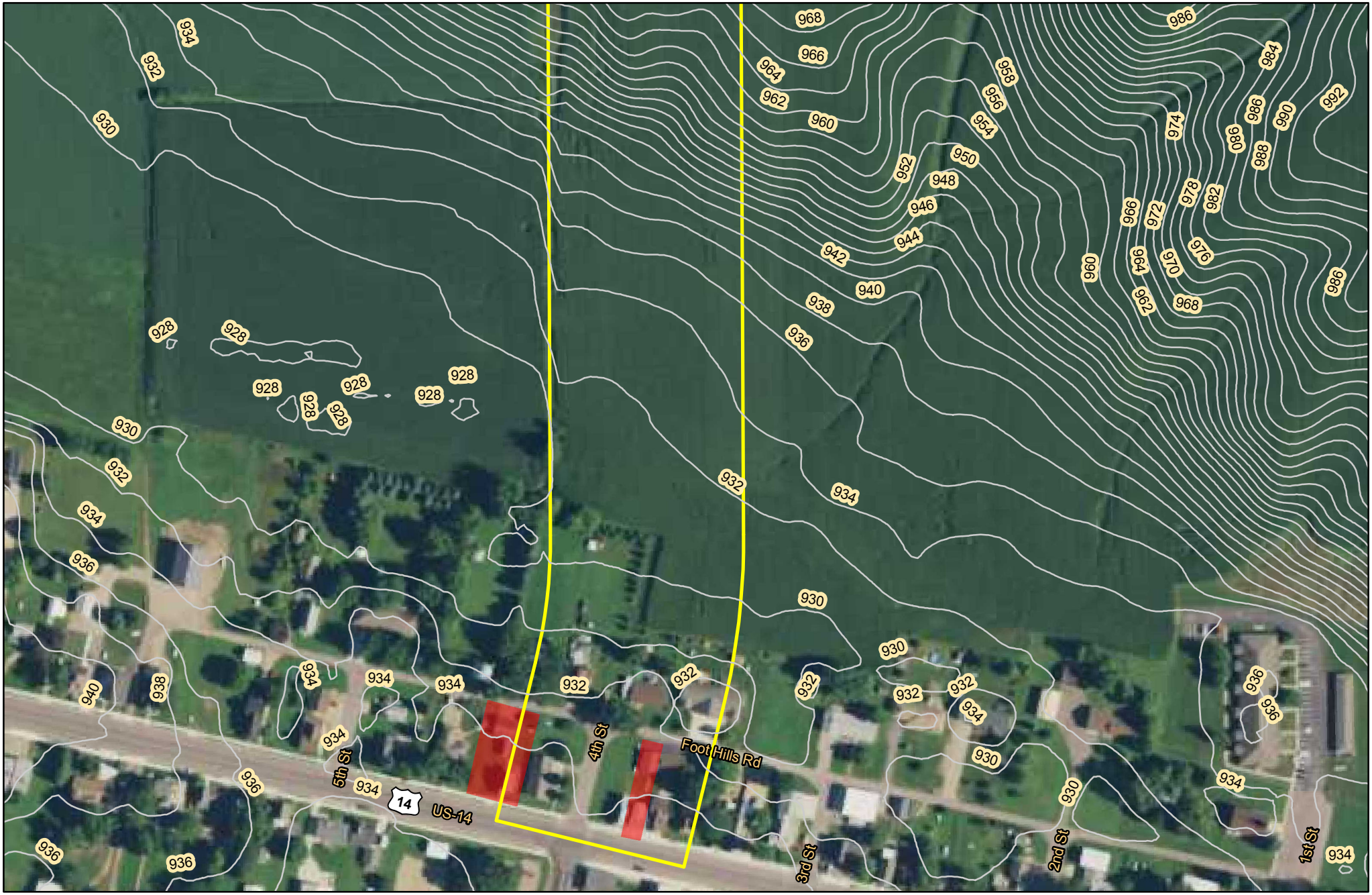

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N W E S

0 100 200

Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
- No access

Sources: MetroGIS, NRCS, LMIC



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N W E S

0 100 200

Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*Proposed new alignment south of the shown Project Boundary

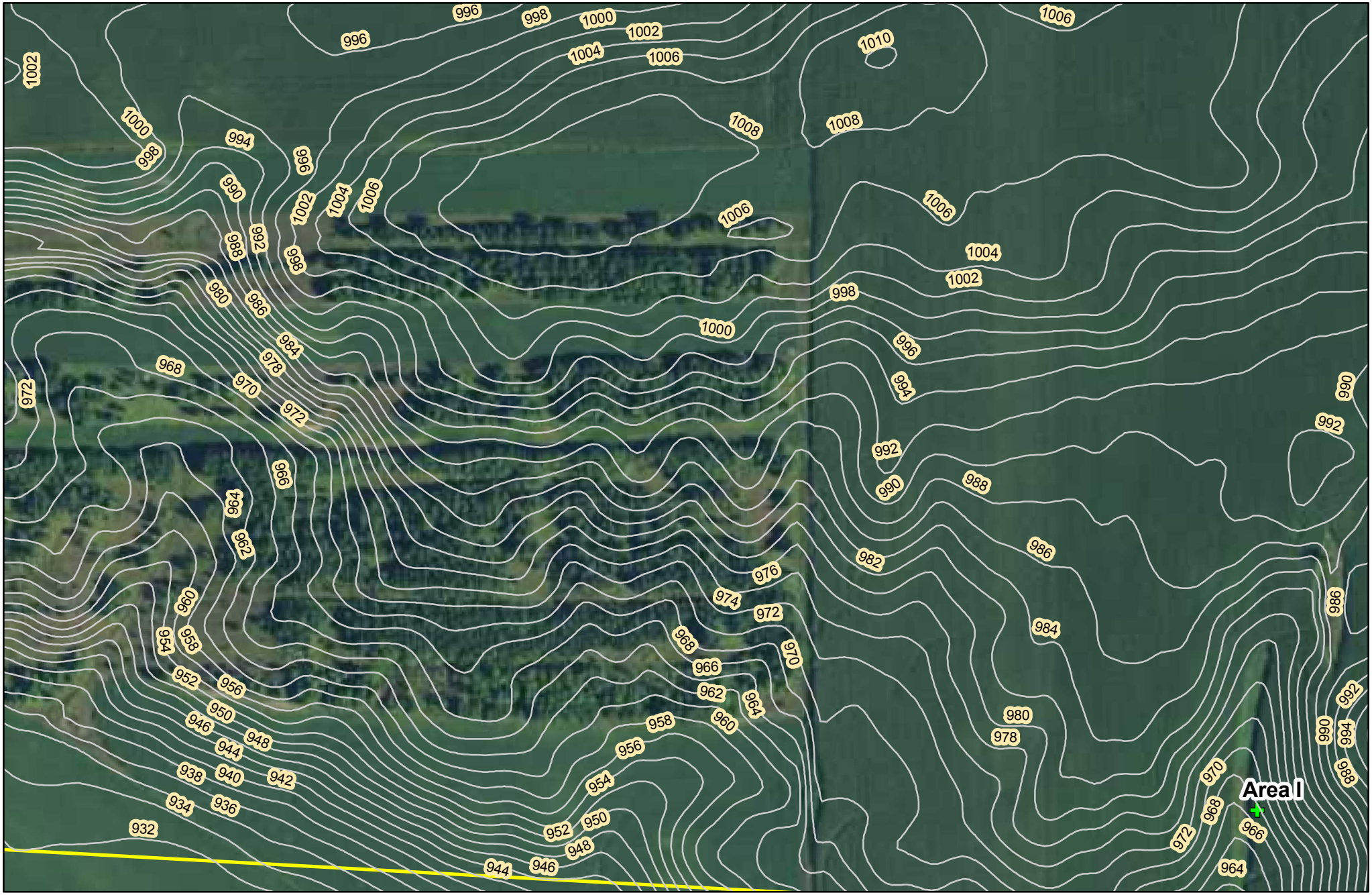
Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
- No access

Sources: MetroGIS, NRCS, LMIC



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Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*Proposed new alignment north of the shown Project Boundary

Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
- No access

Sources: MetroGIS, NRCS, LMIC



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N
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0 100 200
Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*Proposed new alignment north of the shown Project Boundary

Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
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Sources: MetroGIS, NRCS, LMIC



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N W E S

0 100 200

Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
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Sources: MetroGIS, NRCS, LMIC



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N W E S

0 100 200

Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*Proposed new alignment southeast of the shown Project Boundary

Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
- No access

Sources: MetroGIS, NRCS, LMIC



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N
W E
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0 100 200
Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*Proposed new alignment north of the shown Project Boundary

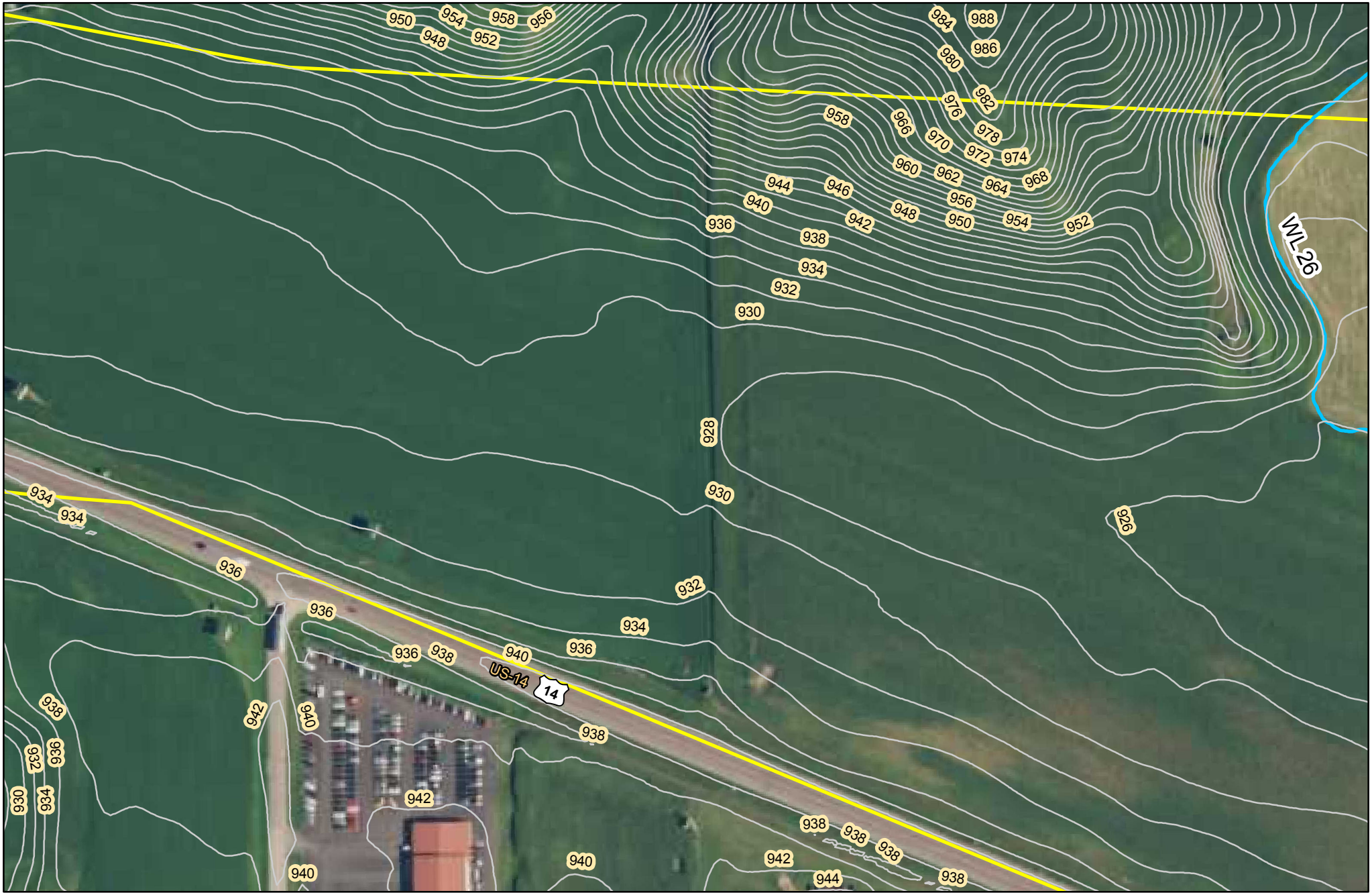
Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
- No access

Sources: MetroGIS, NRCS, LMIC



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N W E S

0 100 200

Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
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Sources: MetroGIS, NRCS, LMIC



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N W E S

0 100 200

Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

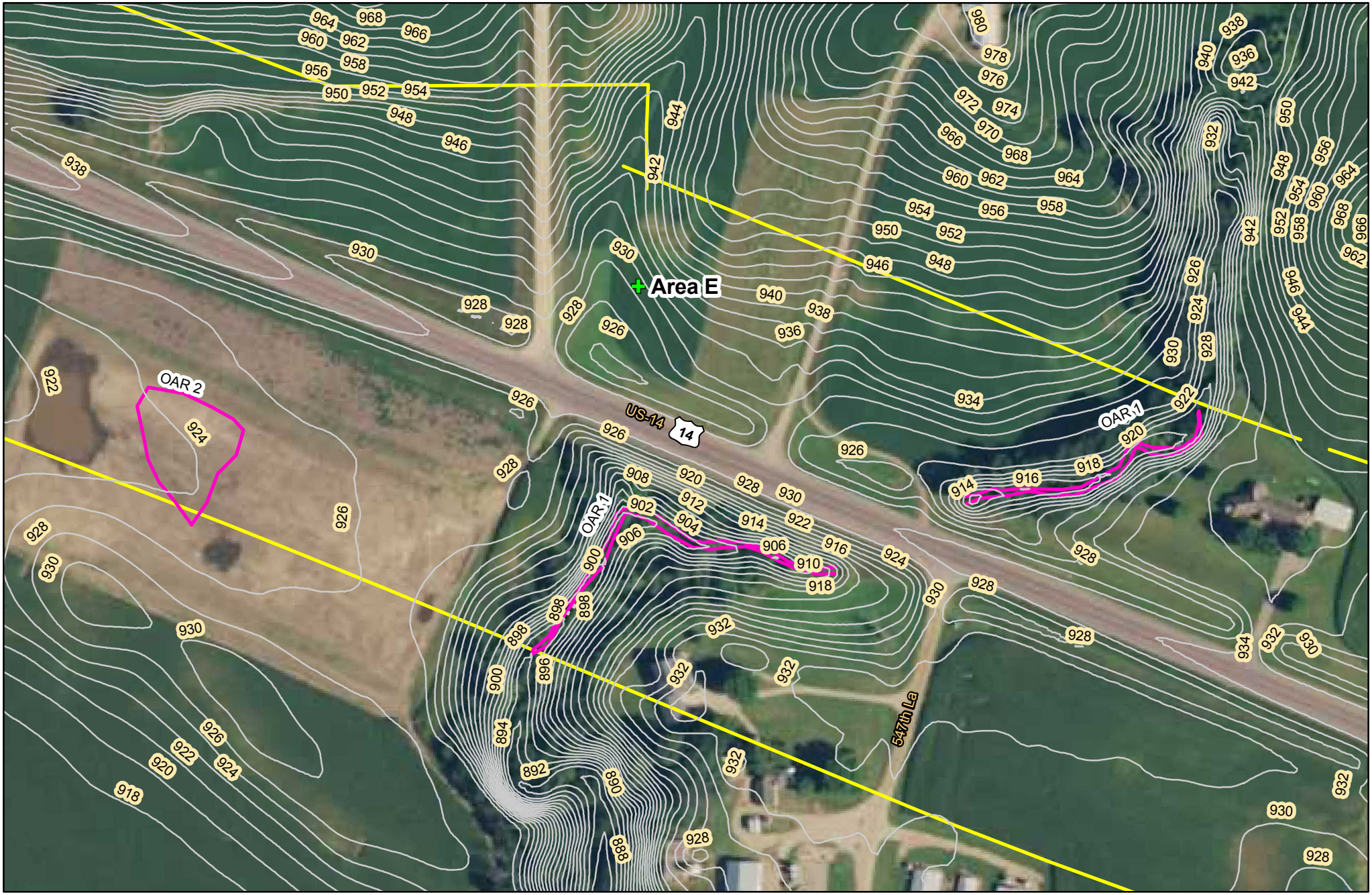
Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
- No access

Sources: MetroGIS, NRCS, LMIC



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N W E S

0 100 200

Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

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- Non Wet Areas
- SP 5202-58 OAR line
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Restricted Properties

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Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

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N
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0 100 200
Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

*Proposed new alignment north of the shown Project Boundary

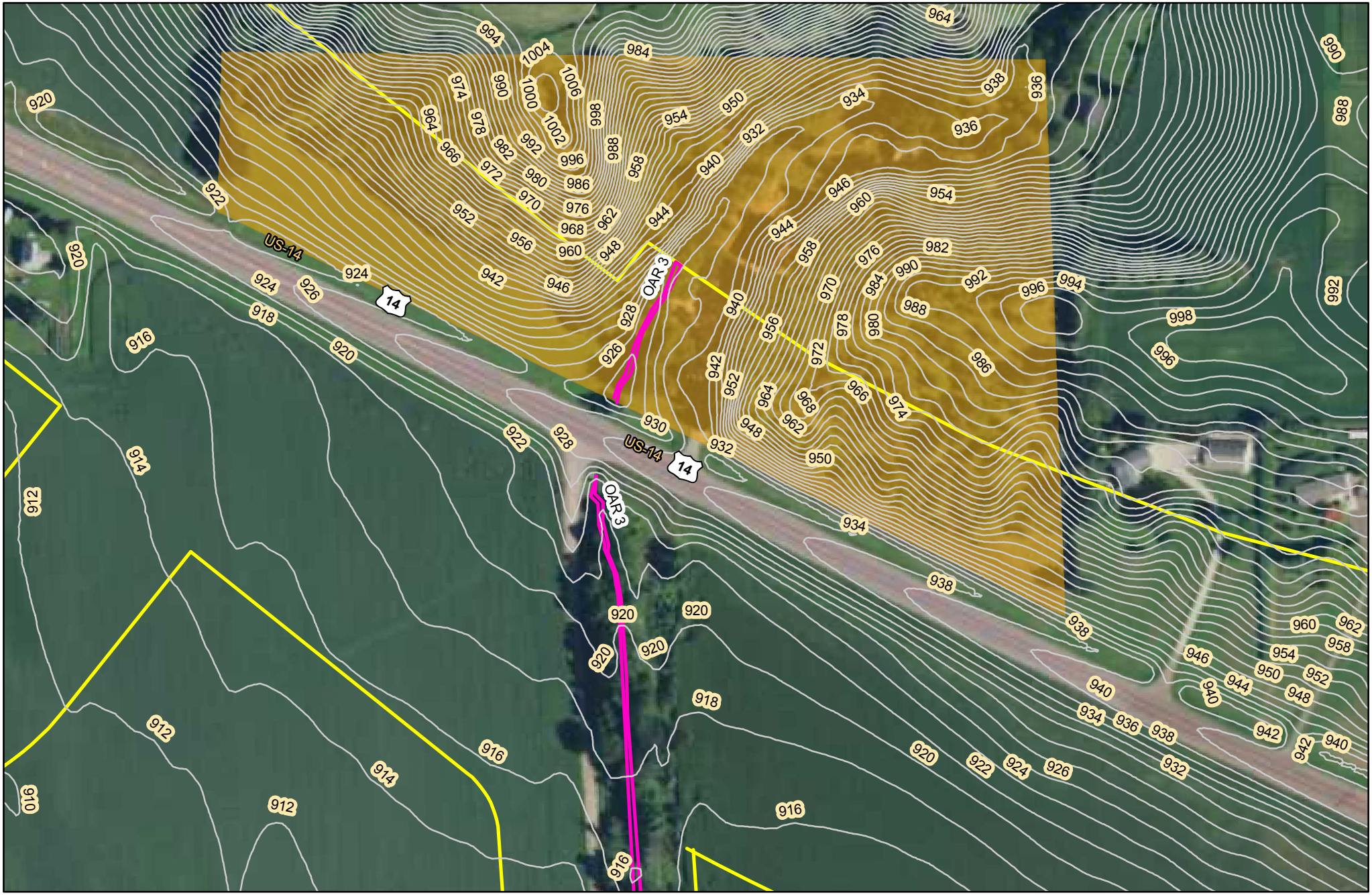
Legend

- 2 foot contour
- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

Restricted Properties

- Call first
- No access

Sources: MetroGIS, NRCS, LMIC



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Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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Nicollet County, Minnesota

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Nicollet County, Minnesota

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TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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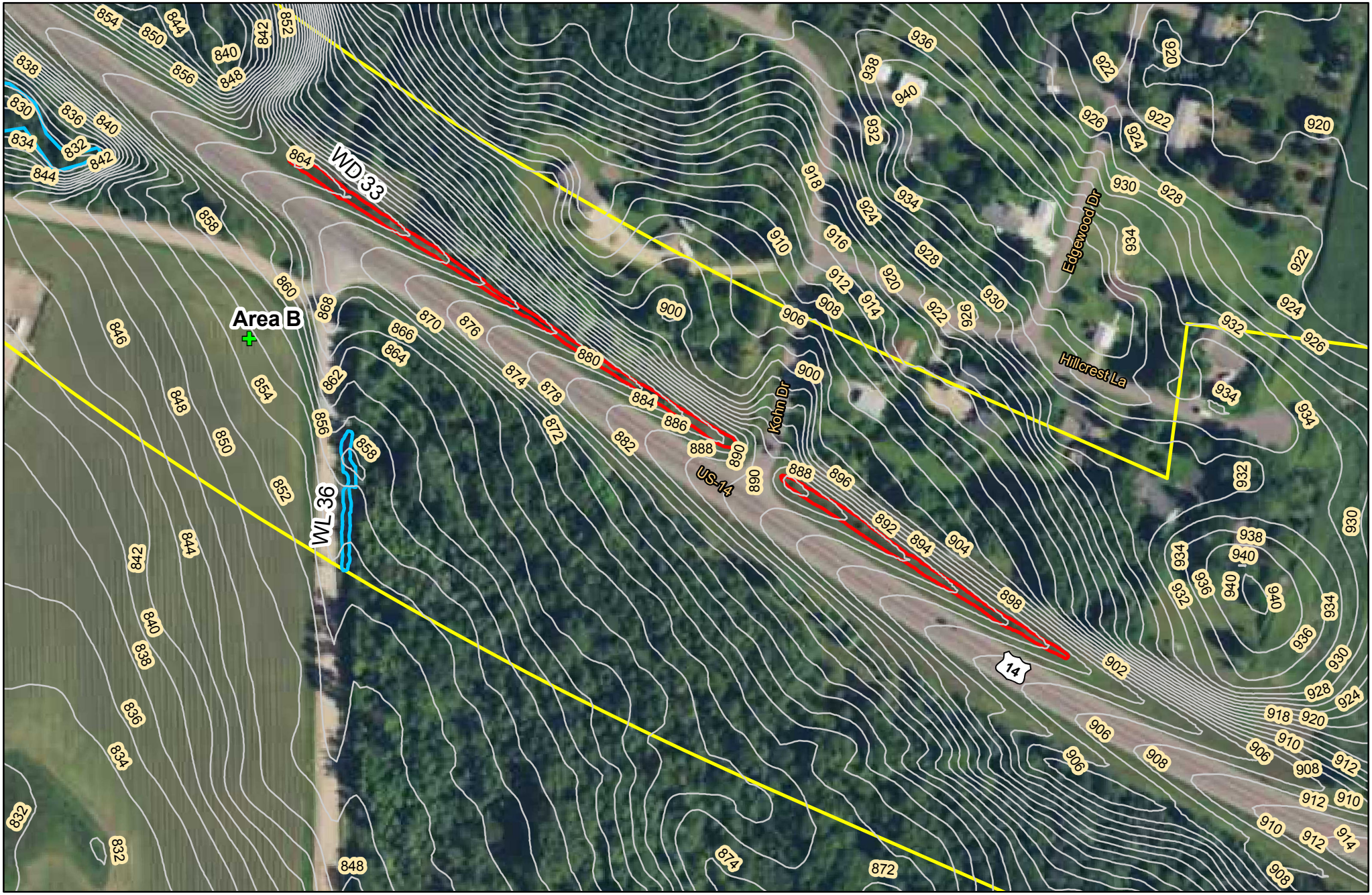
Sources: MetroGIS, NRCS, LMIC



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Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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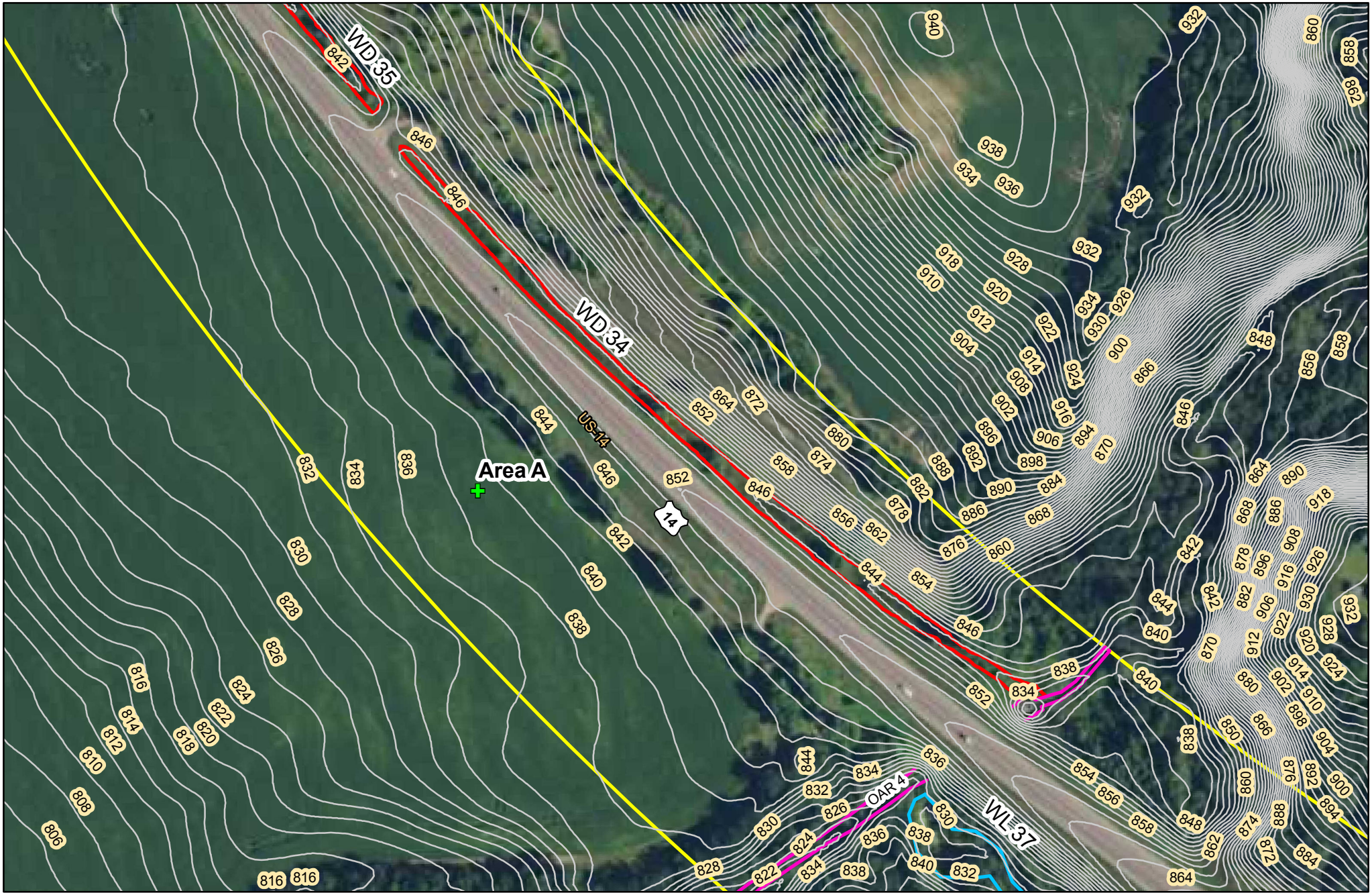

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LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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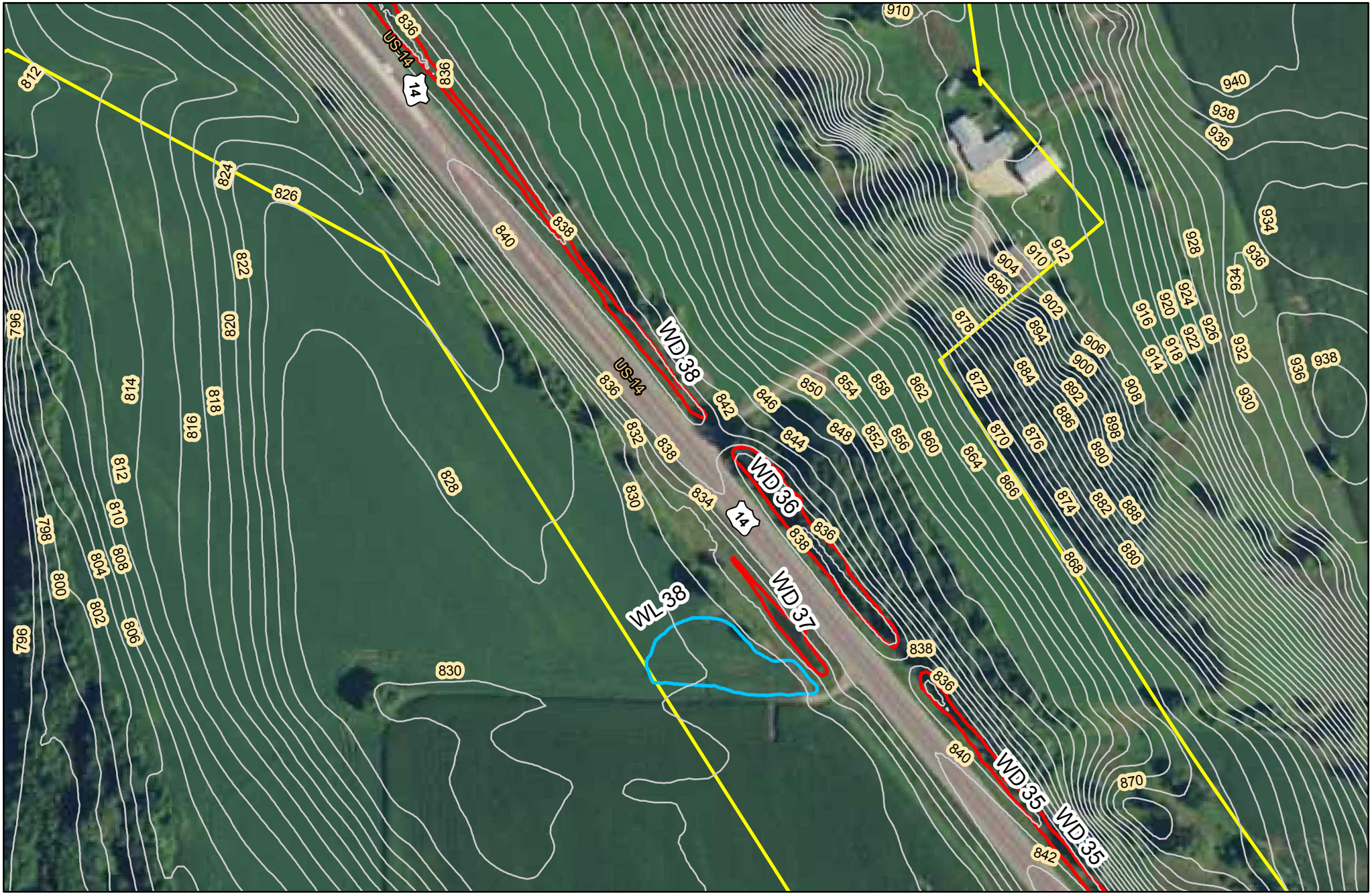

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Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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LiDAR Topography Map

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Nicollet County, Minnesota

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Mn/DOT

Nicollet County, Minnesota

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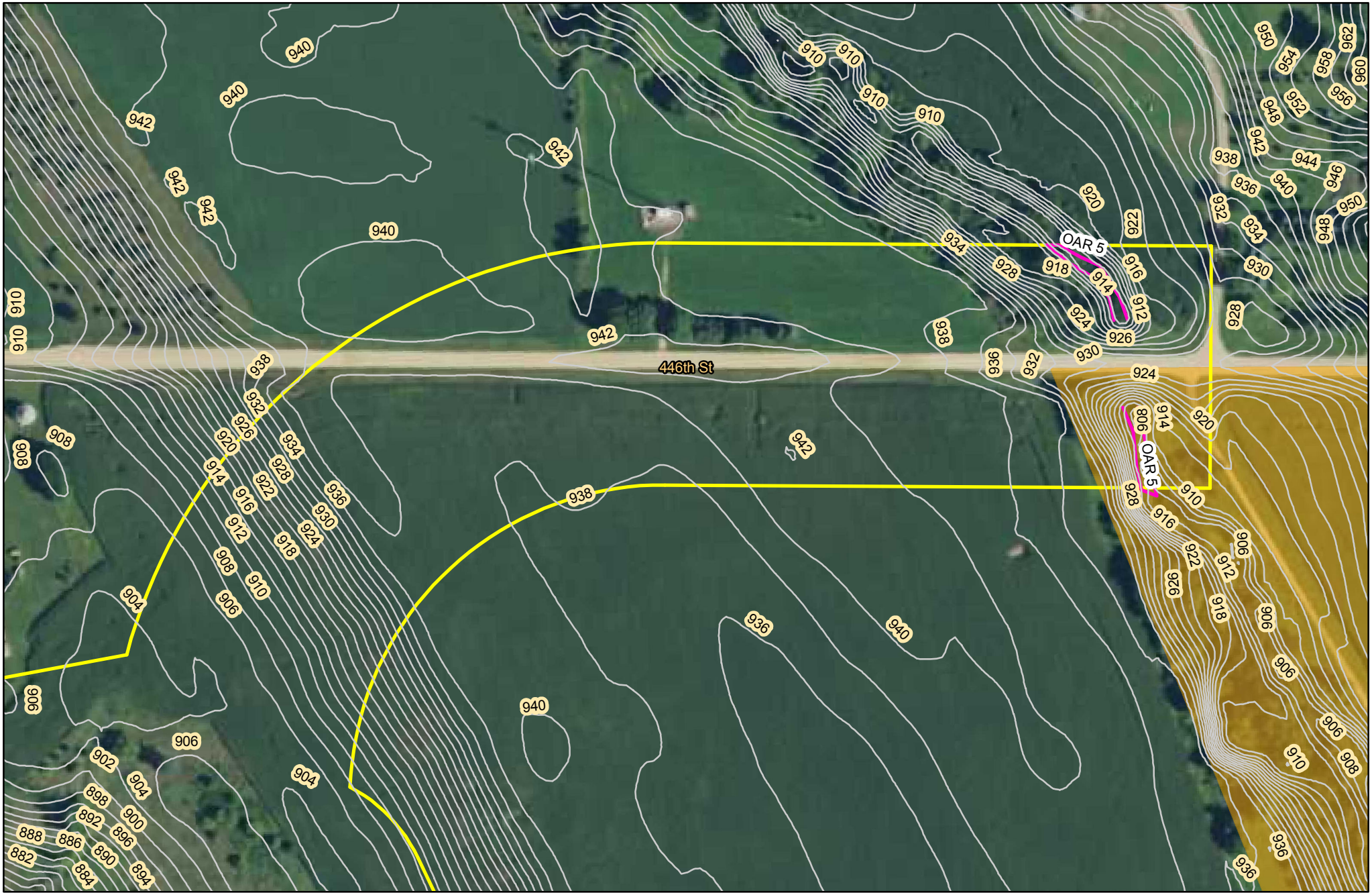

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LiDAR Topography Map

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Mn/DOT

Nicollet County, Minnesota

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LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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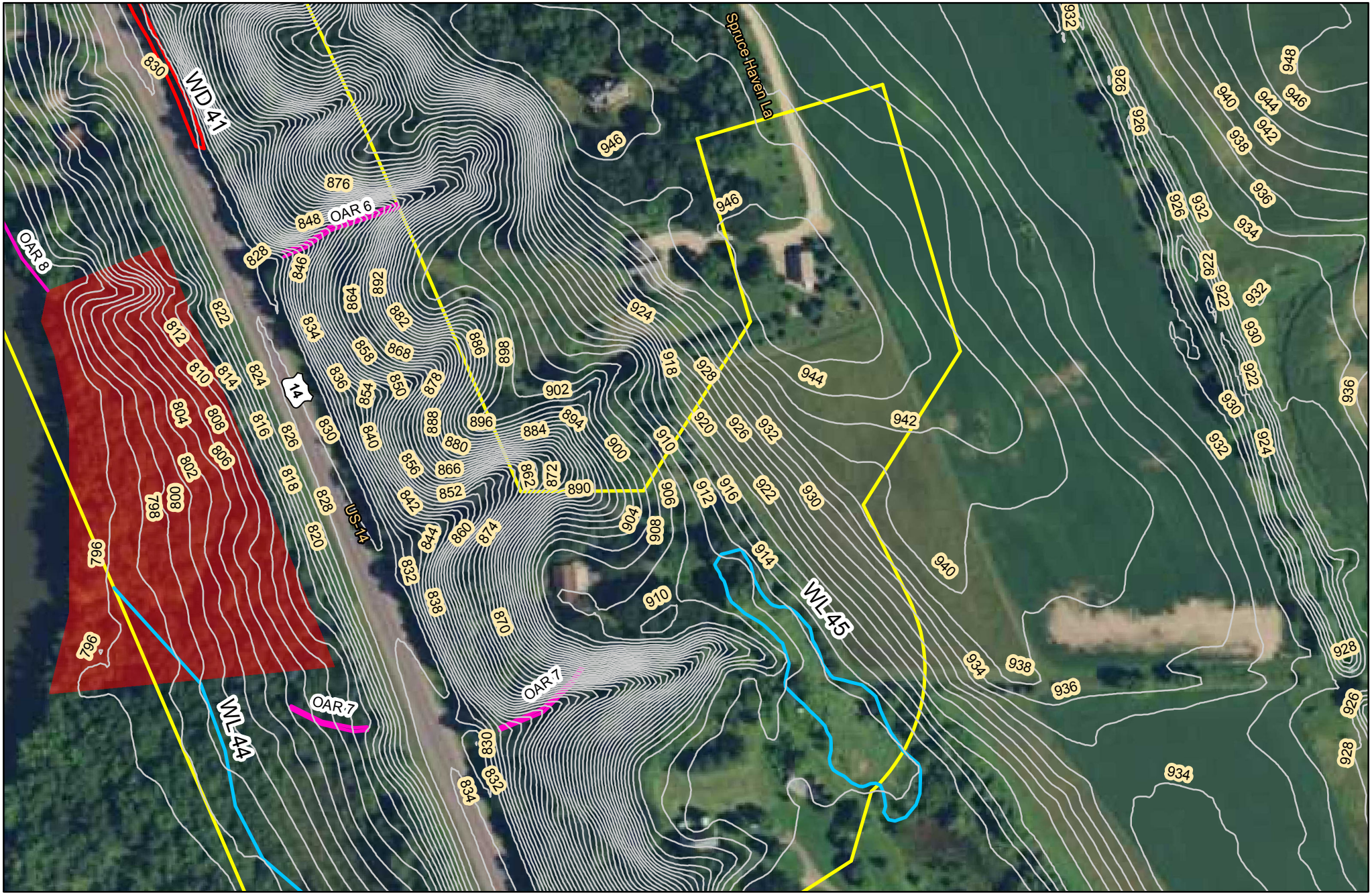

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N W E S

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Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

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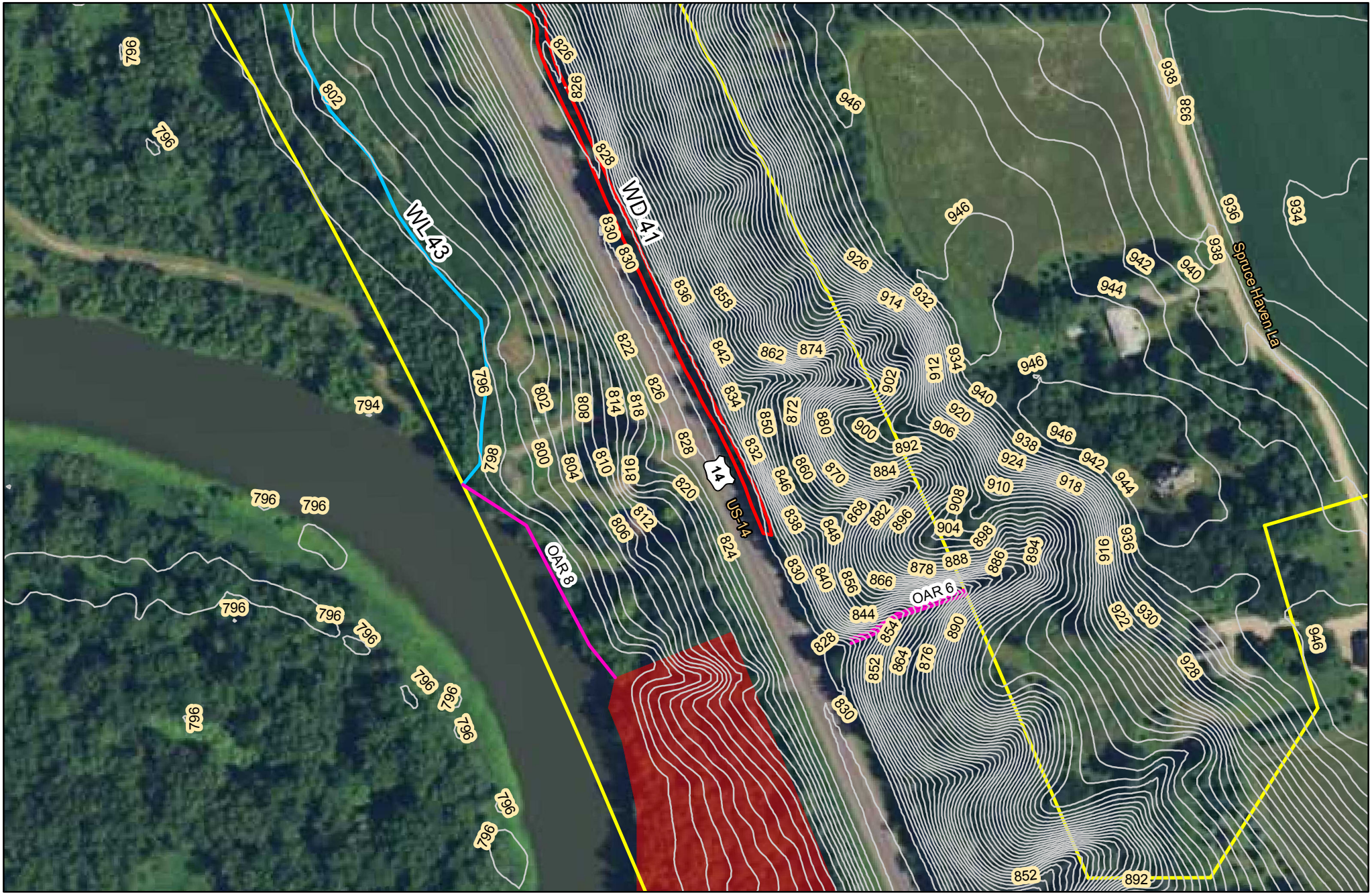

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N W E S

0 100 200

Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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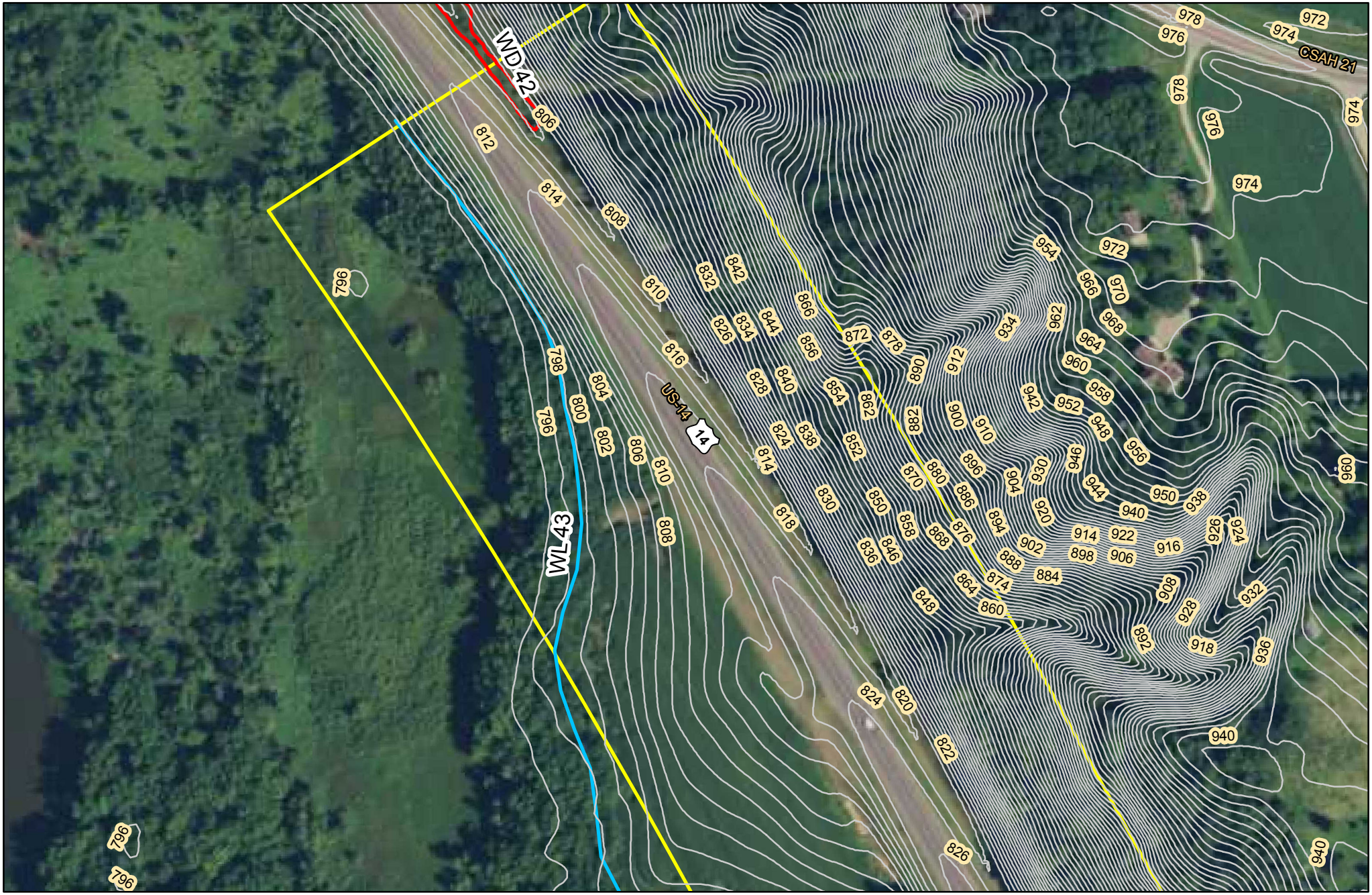

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N
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0 100 200
Scale In Feet

LiDAR Topography Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

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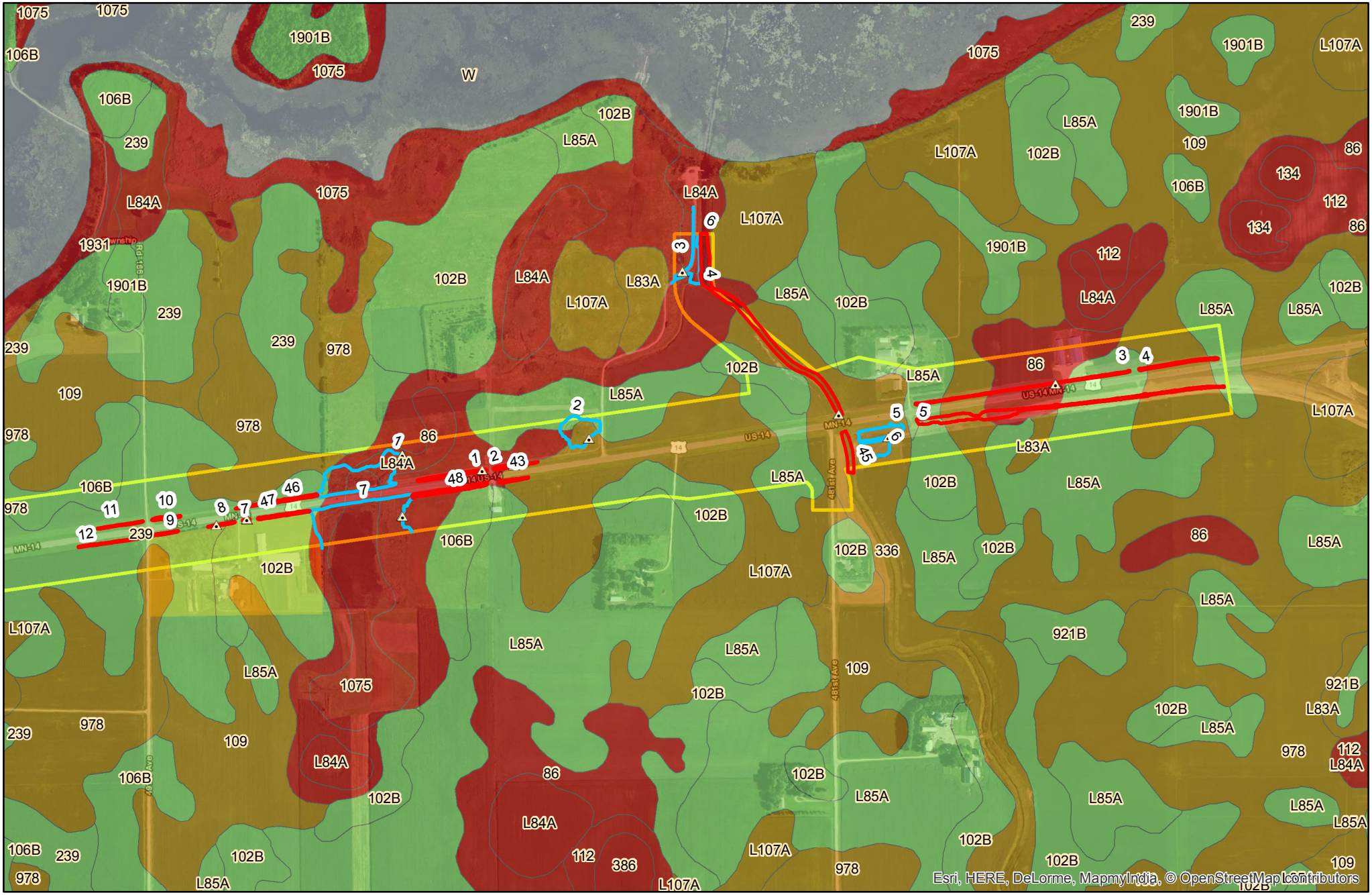

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N W E S

0 500 1,000
Feet

Nicollet County Soil Survey

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

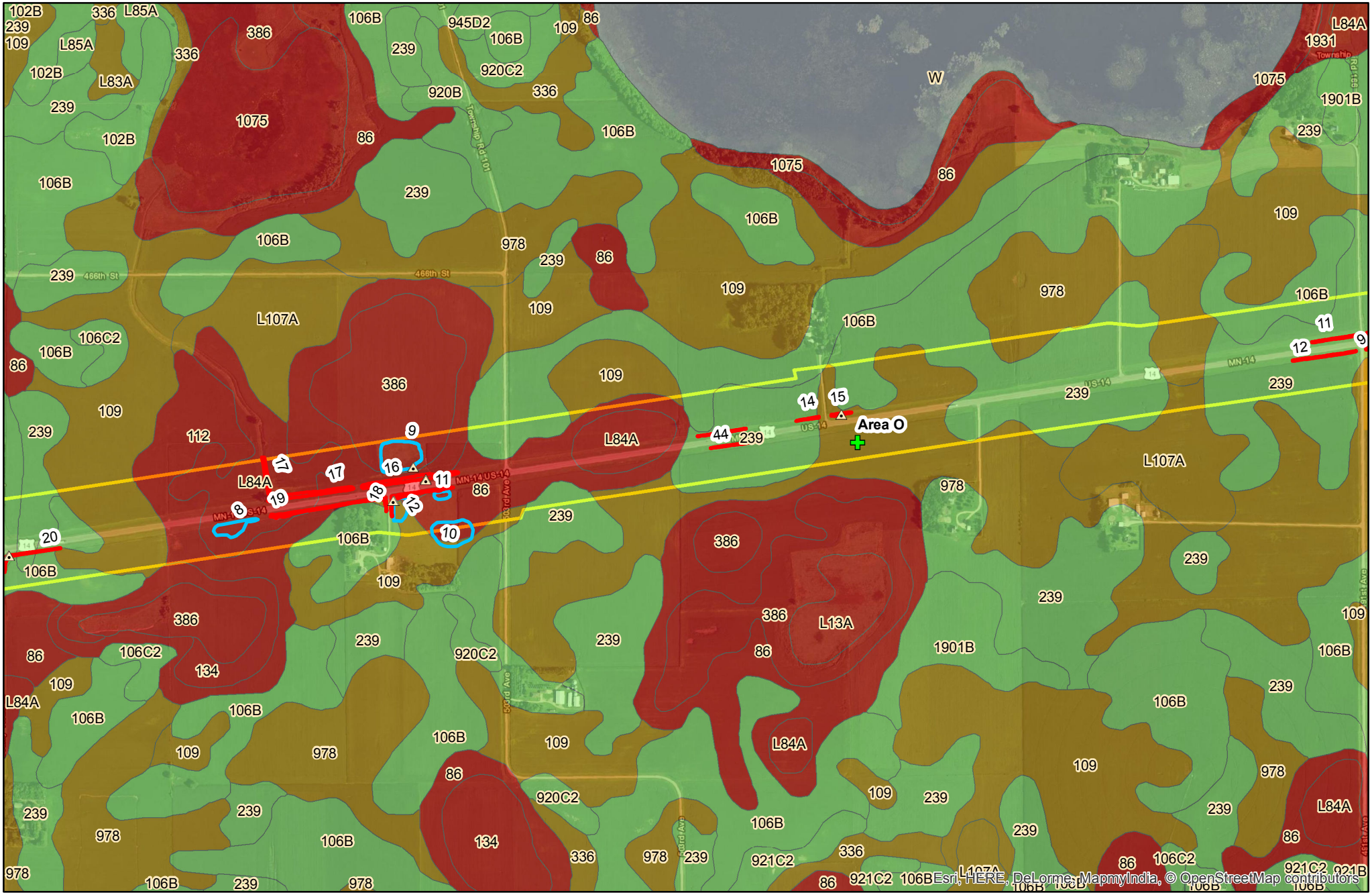
Legend

Non Wet Areas
SP 5202-58 OAR line
SP 5208-58 Wet Ditches
SP 5202-58 Wetlands
Project Boundary

Restricted Properties
Call first
No access

Soil Hydric Rating
0
1 - 32
33 - 65
66 - 99
100
Not Rated

Sources: MetroGIS, NRCS, LMIC



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N W E S

0 500 1,000
Feet

Nicollet County Soil Survey

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

- Non Wet Areas
- SP 5202-58 OAR line
- SP 5208-58 Wet Ditches
- SP 5202-58 Wetlands
- Project Boundary

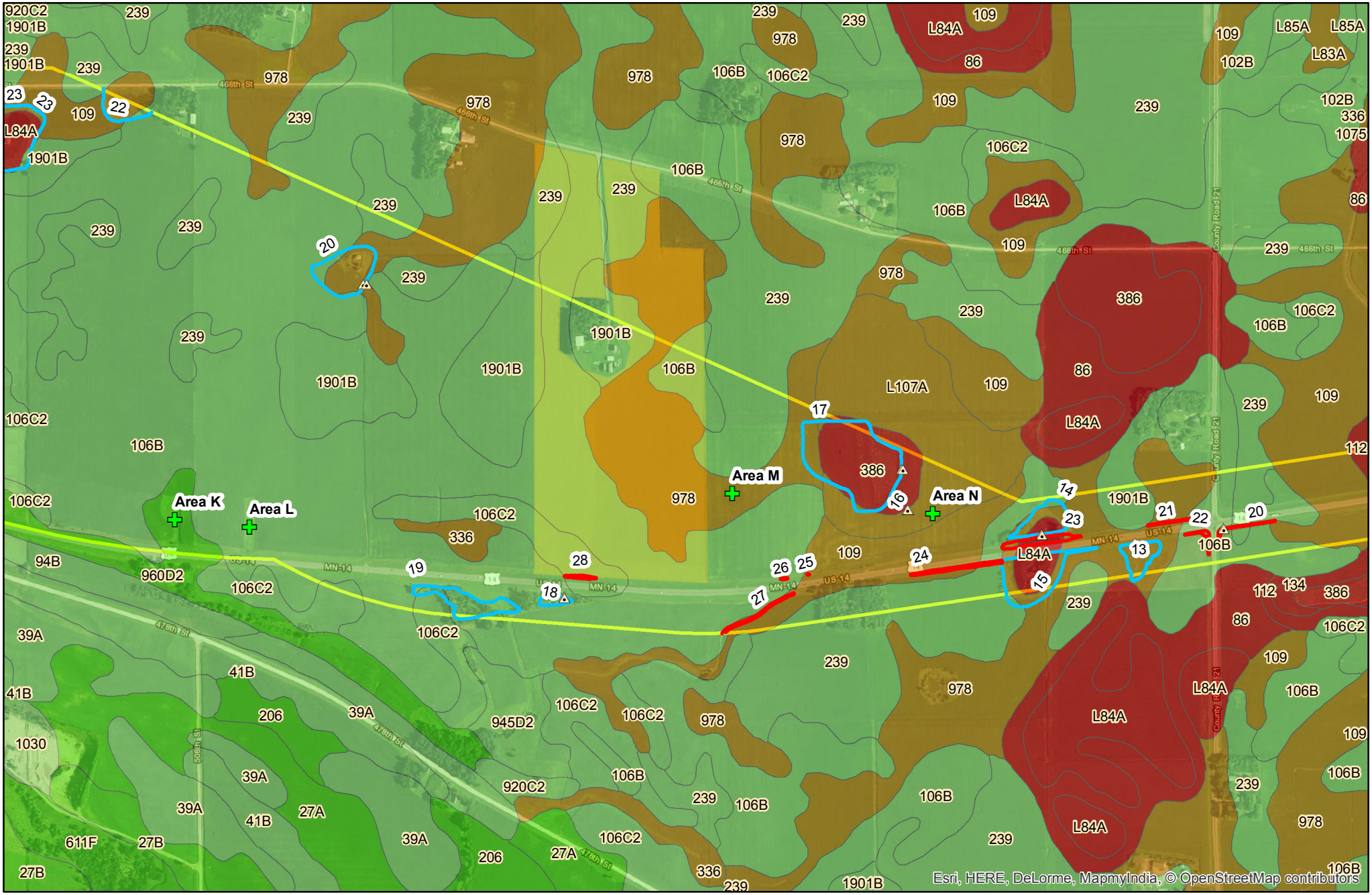
Restricted Properties

- Call first
- No access

Soil Hydric Rating

- 0
- 1 - 32
- 33 - 65
- 66 - 99
- 100
- Not Rated

Sources: MetroGIS, NRCS, LMIC



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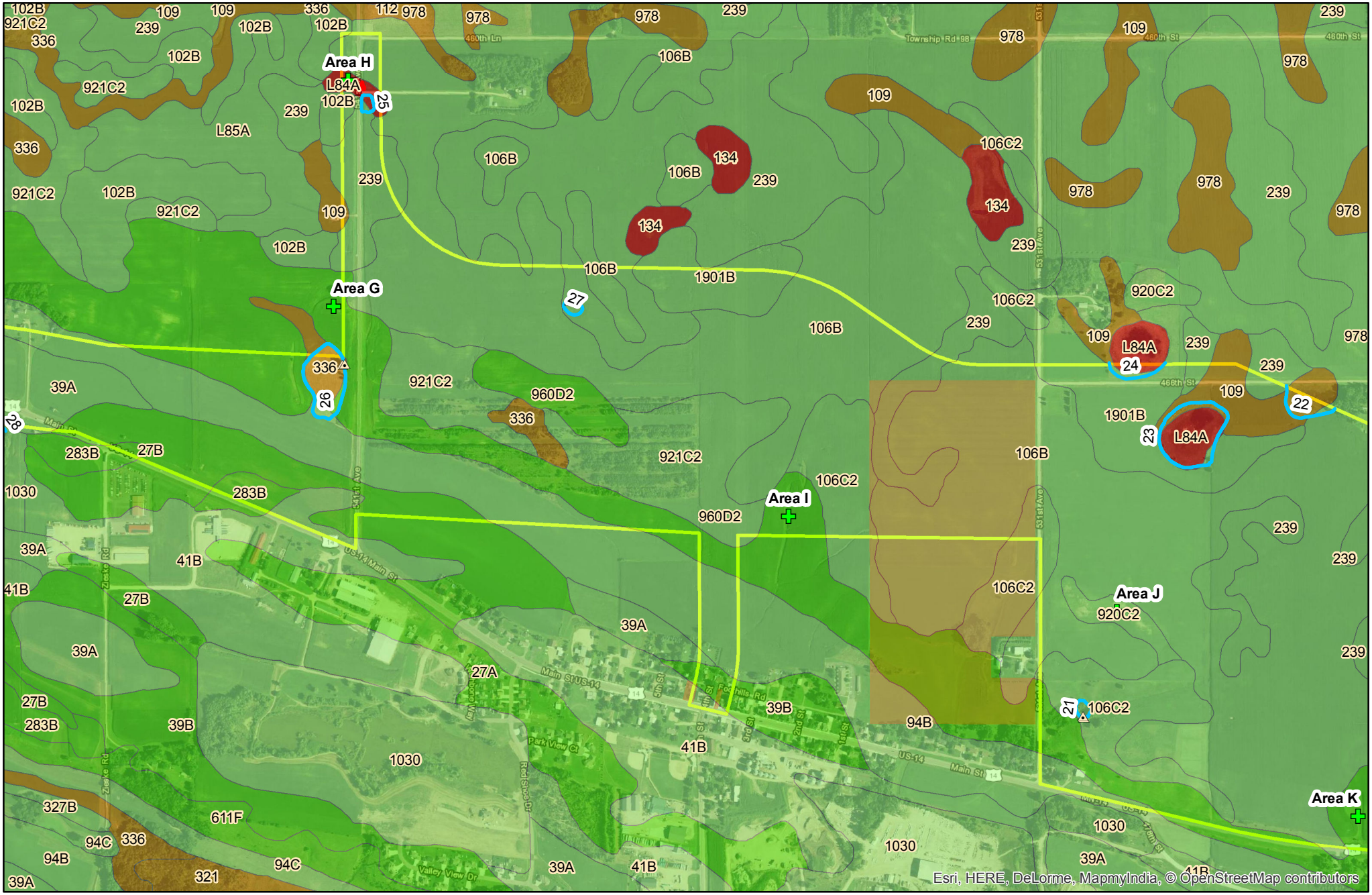

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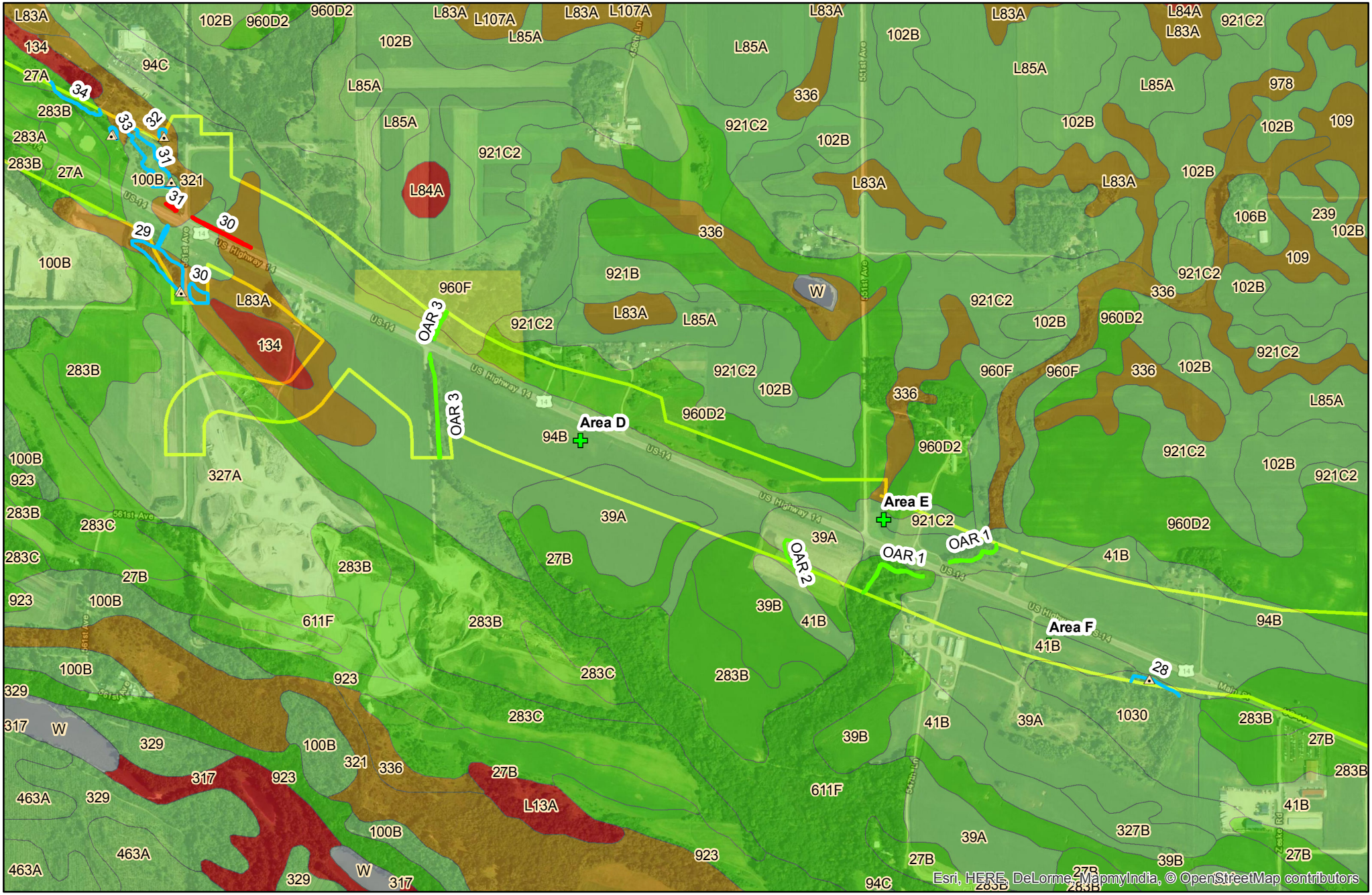

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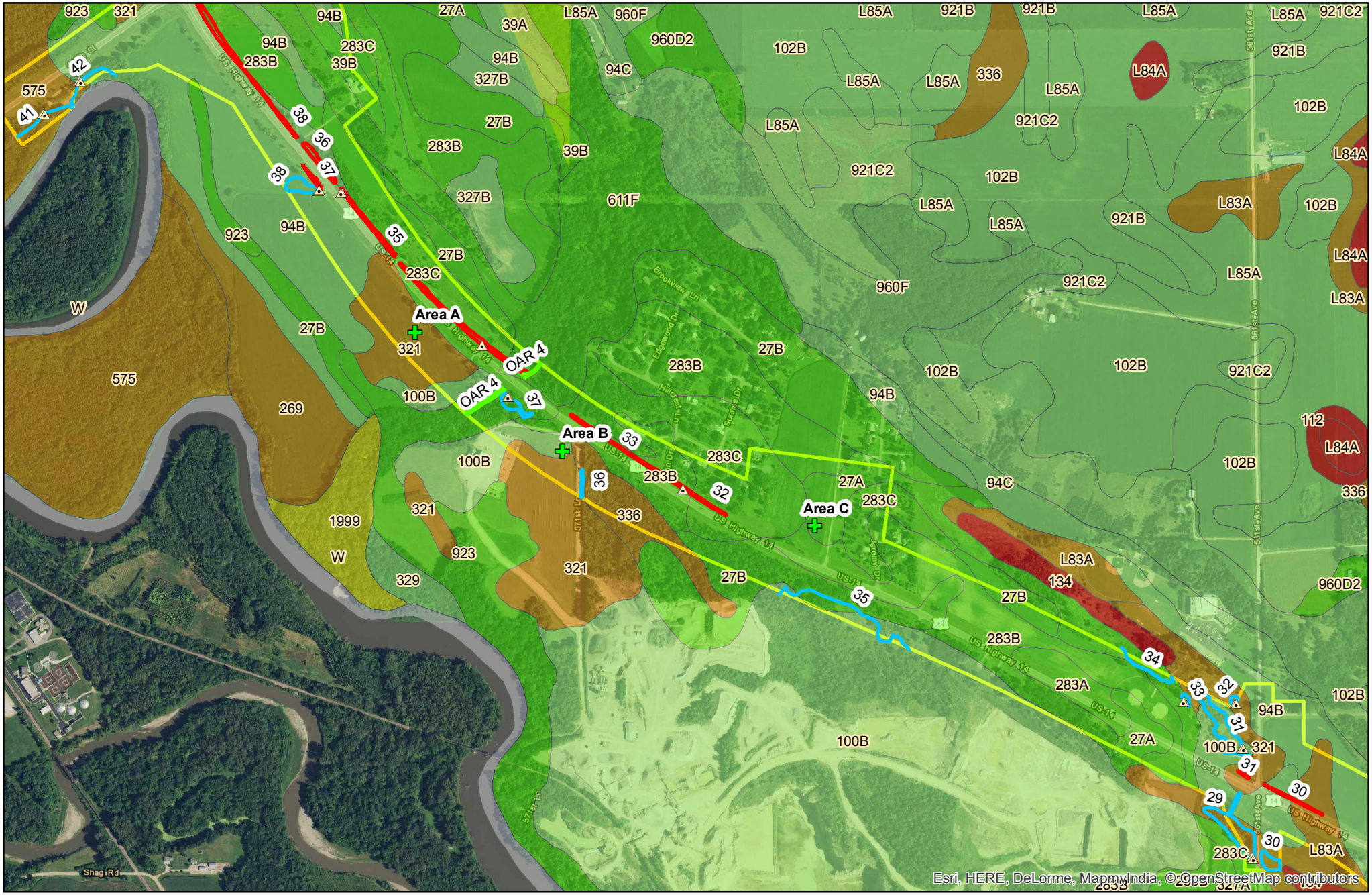

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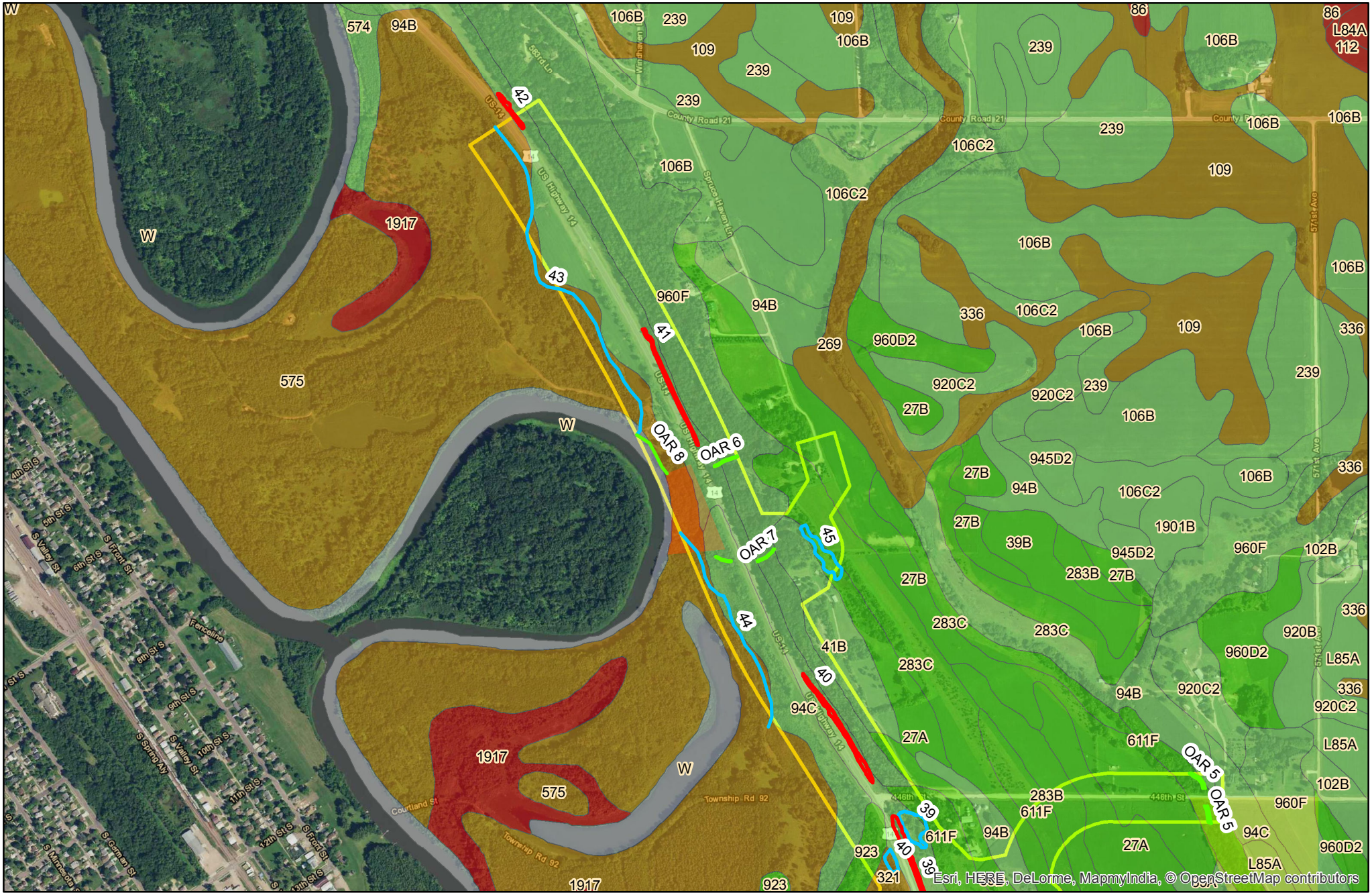

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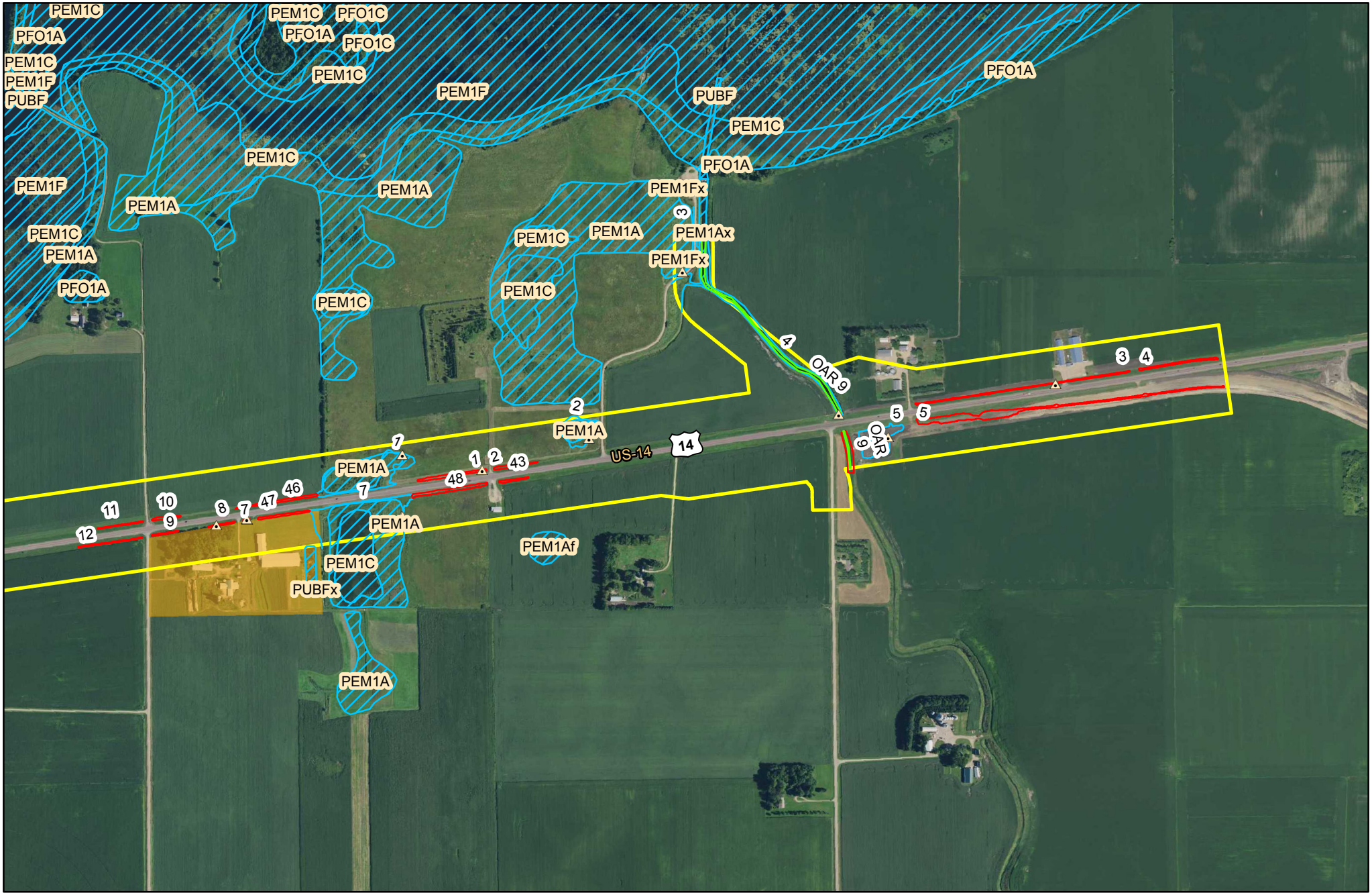

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NWI Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

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SP 5202-58 Wetlands

Project Boundary

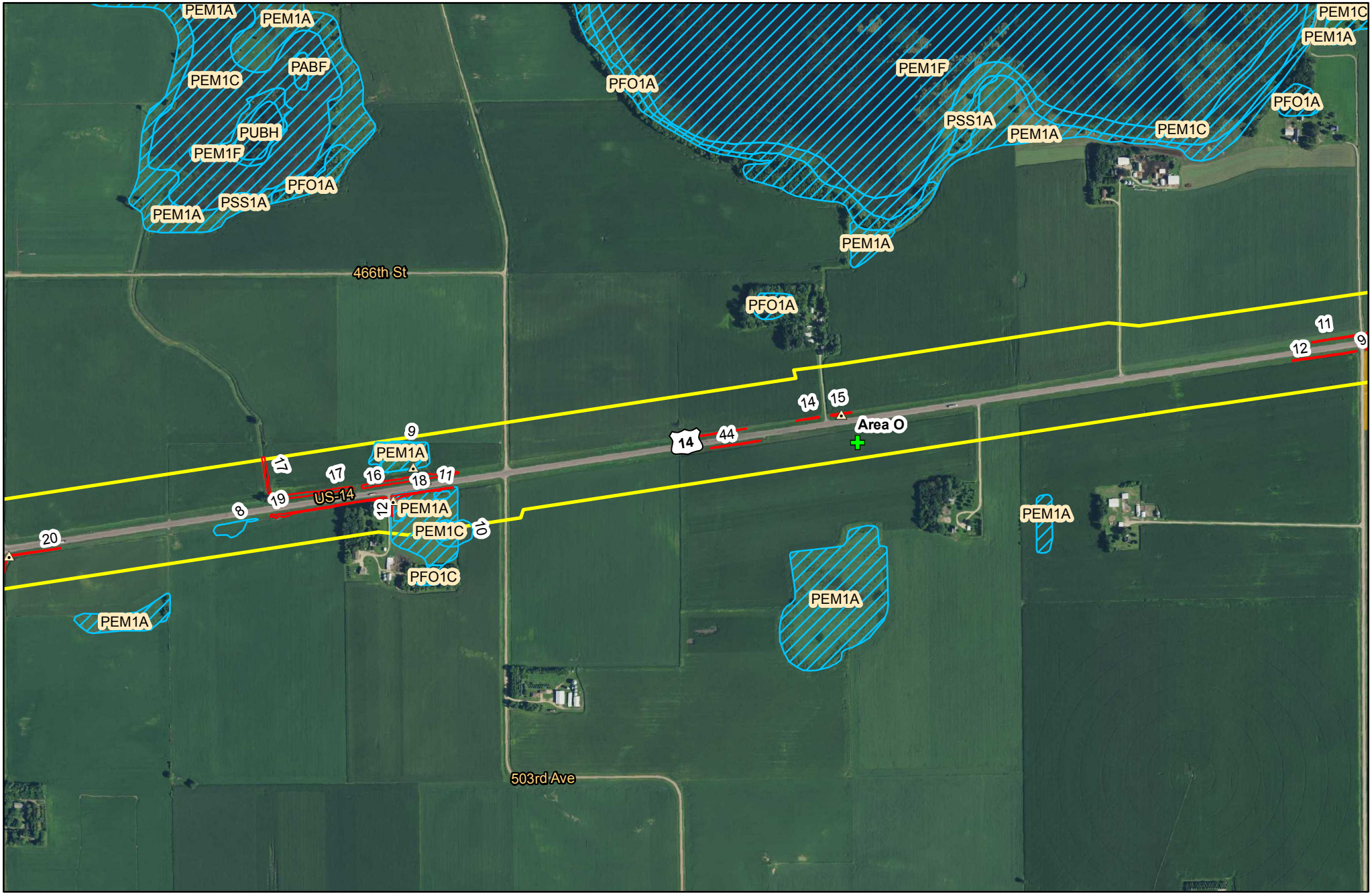
Restricted Properties

Call first

No access

Nicolet Co NWI

Sources: MetroGIS, NRCS, LMIC



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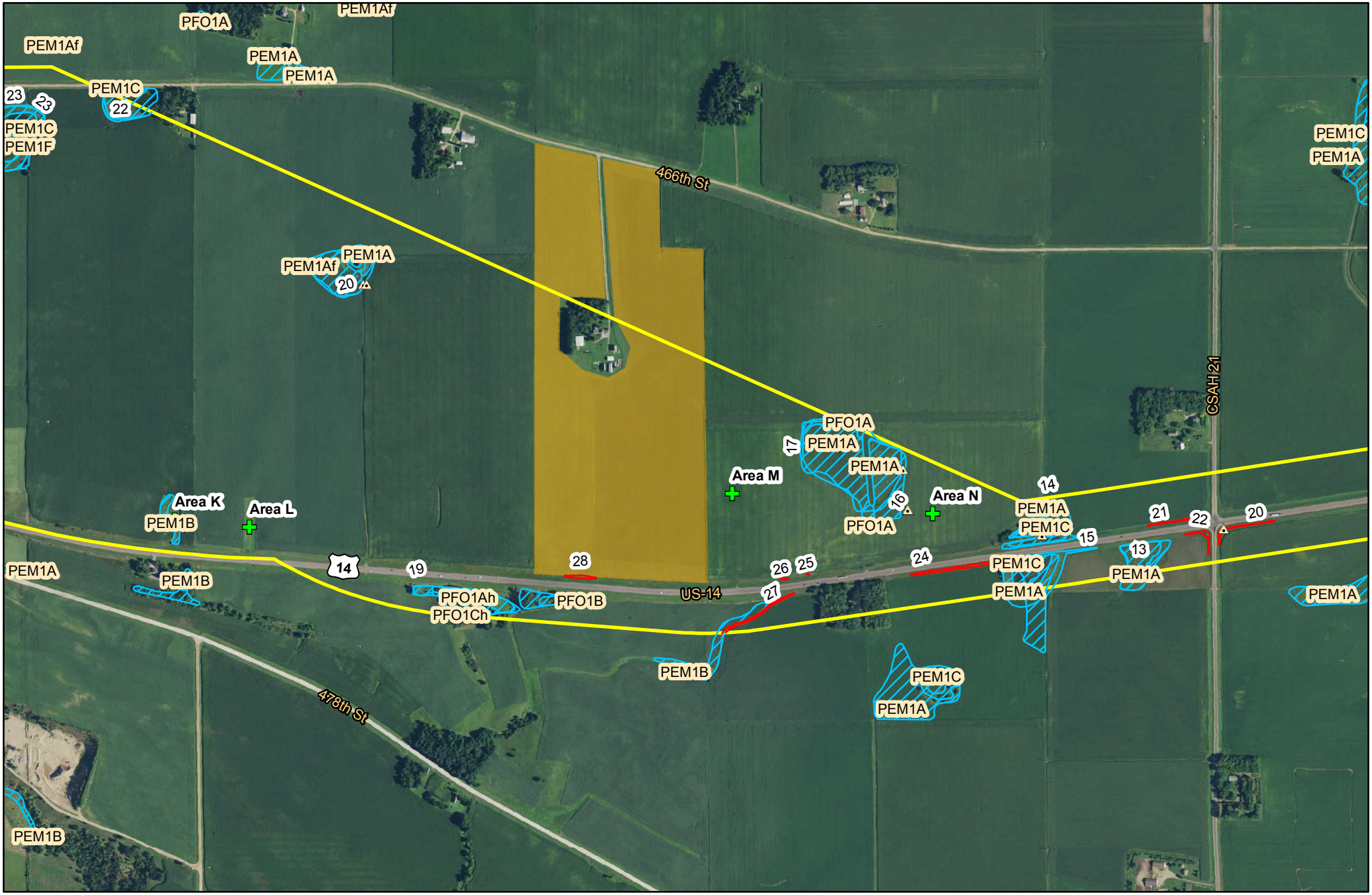

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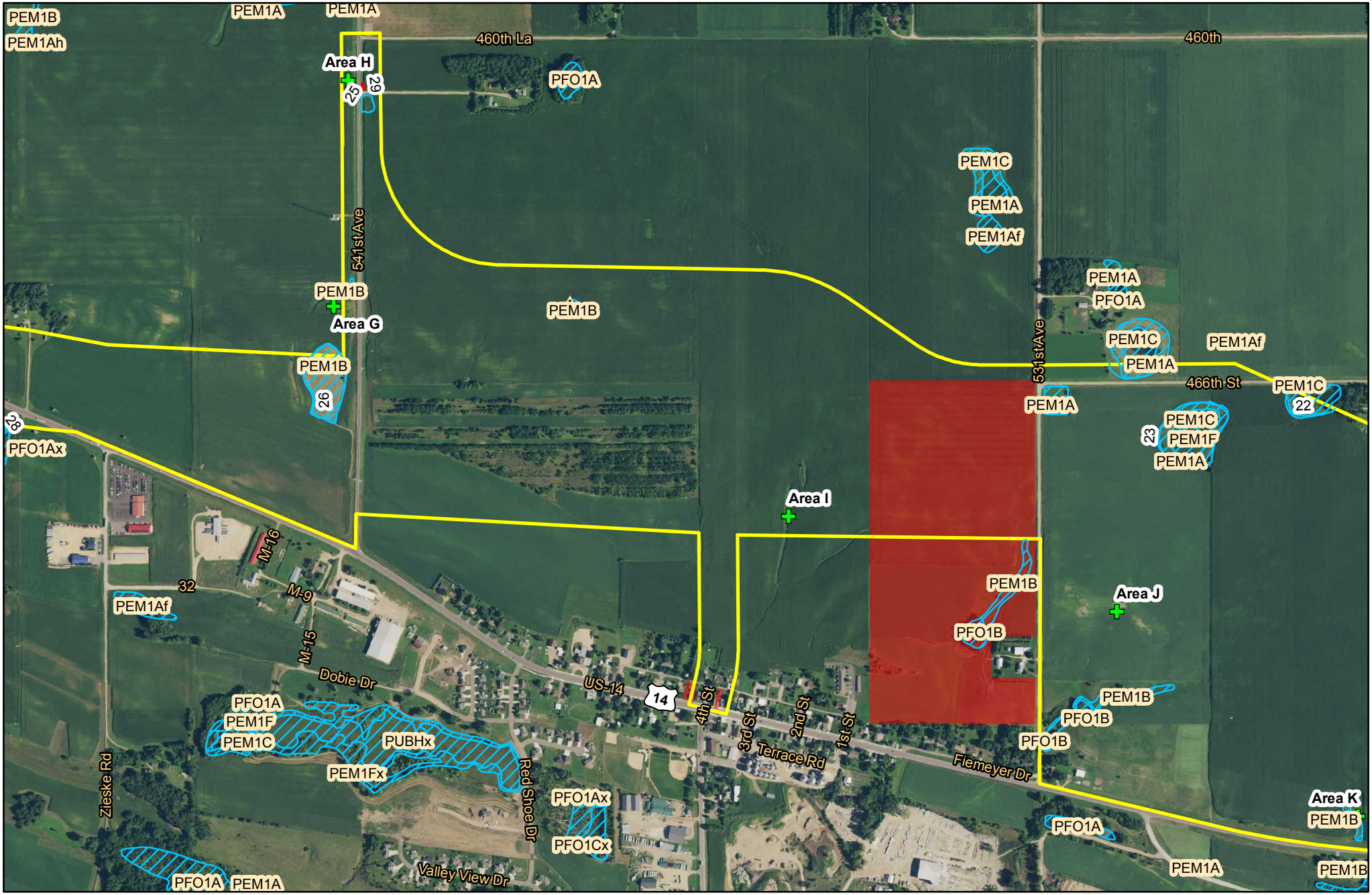

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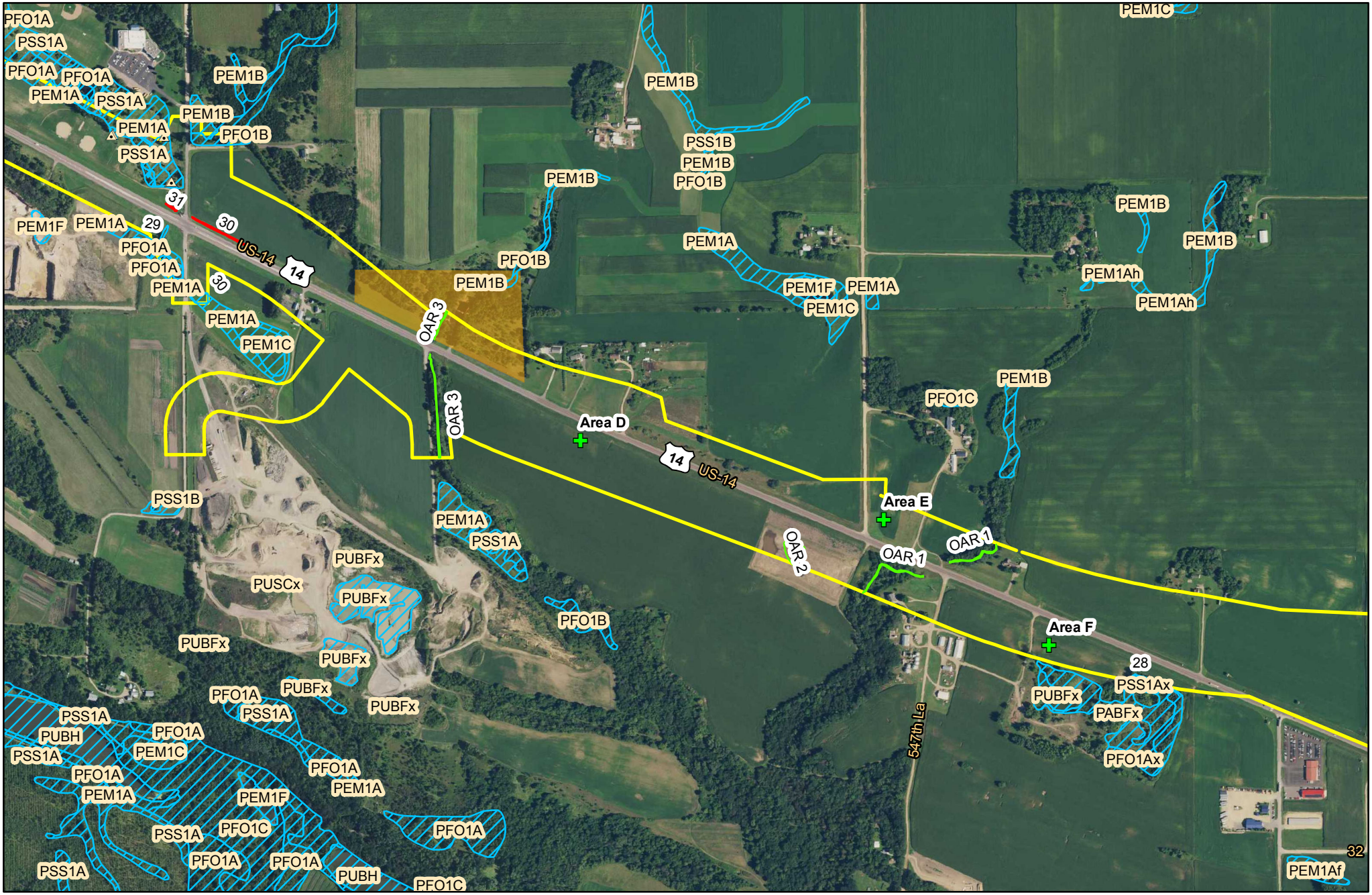

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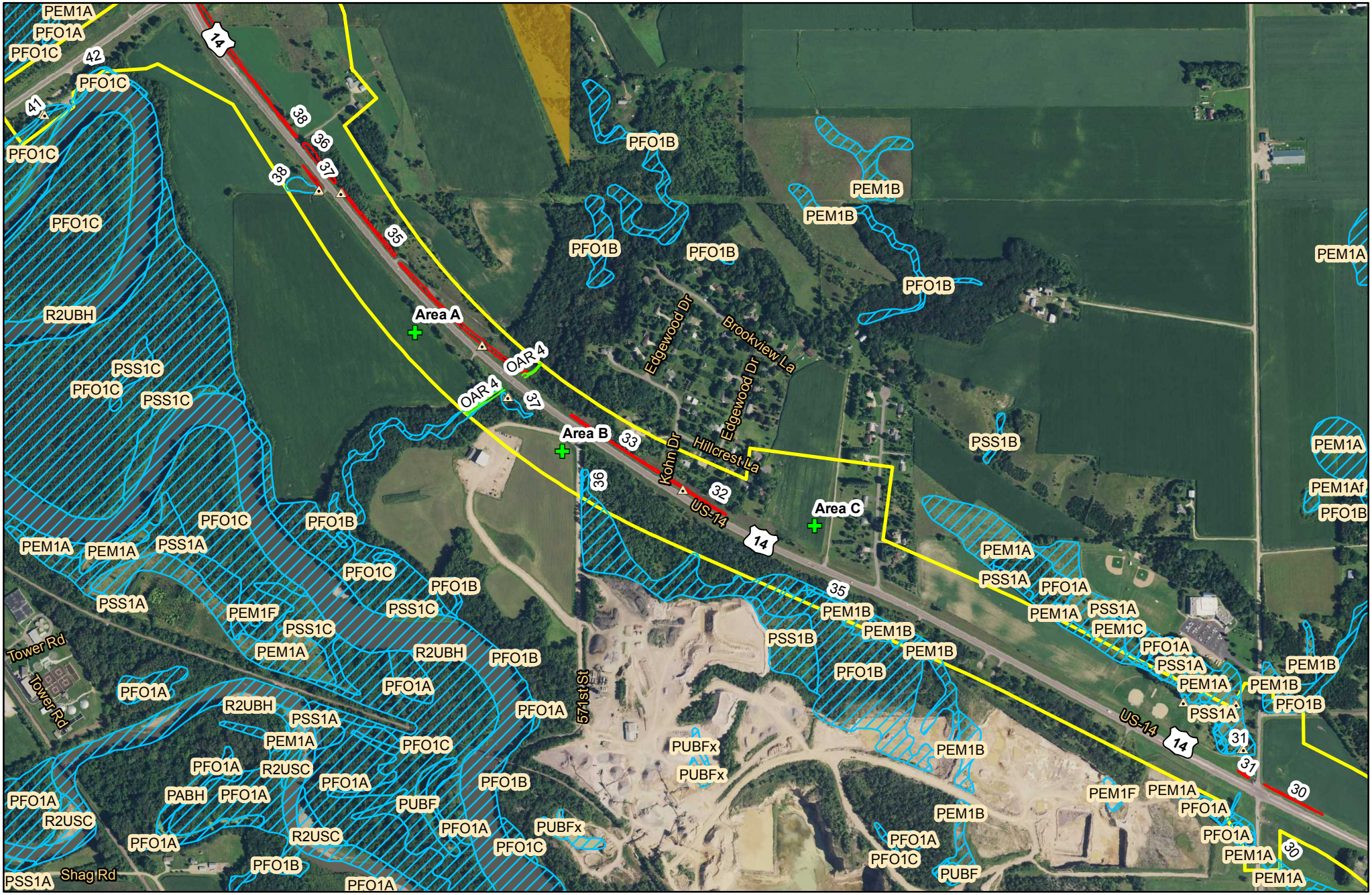

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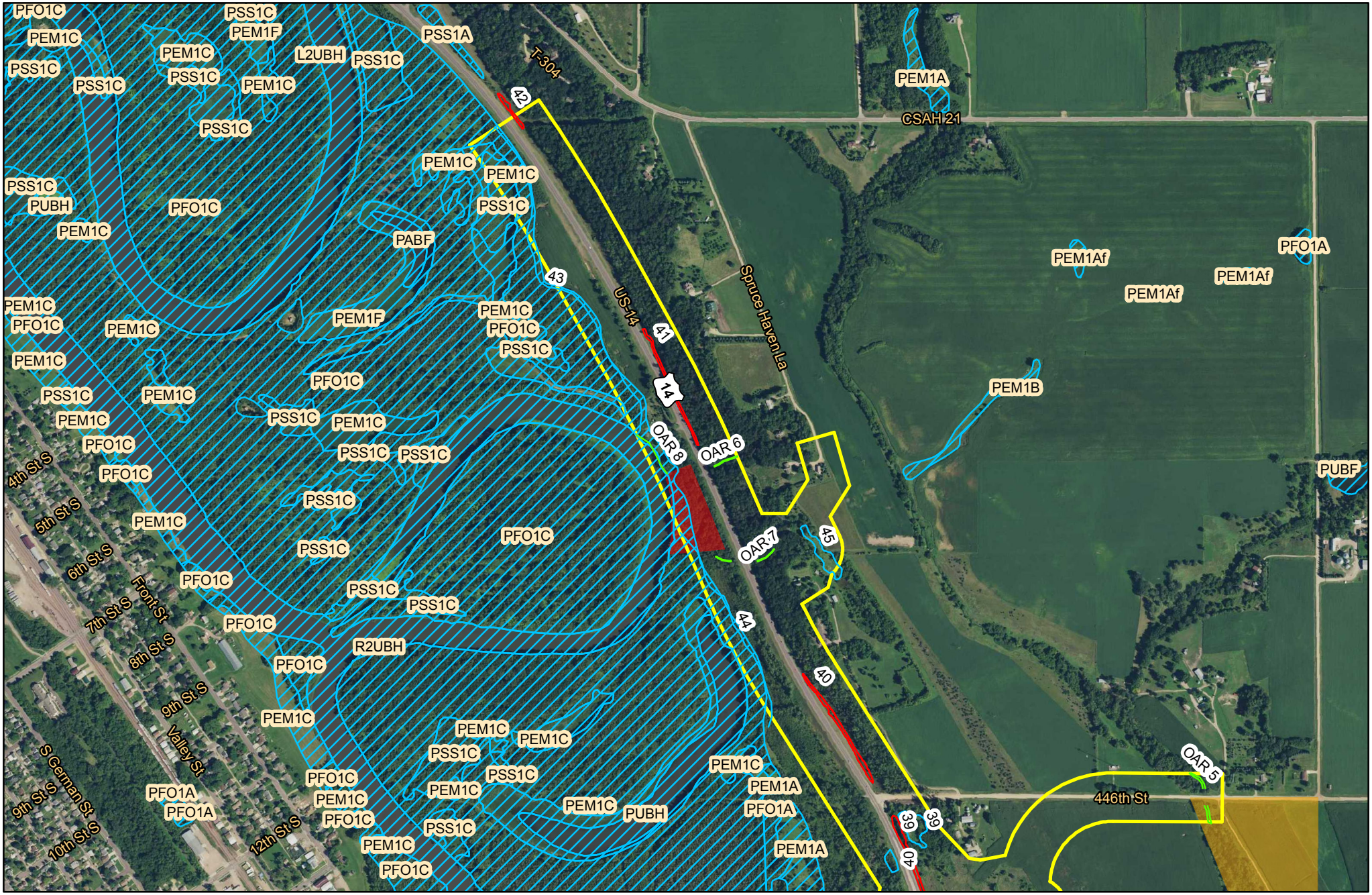

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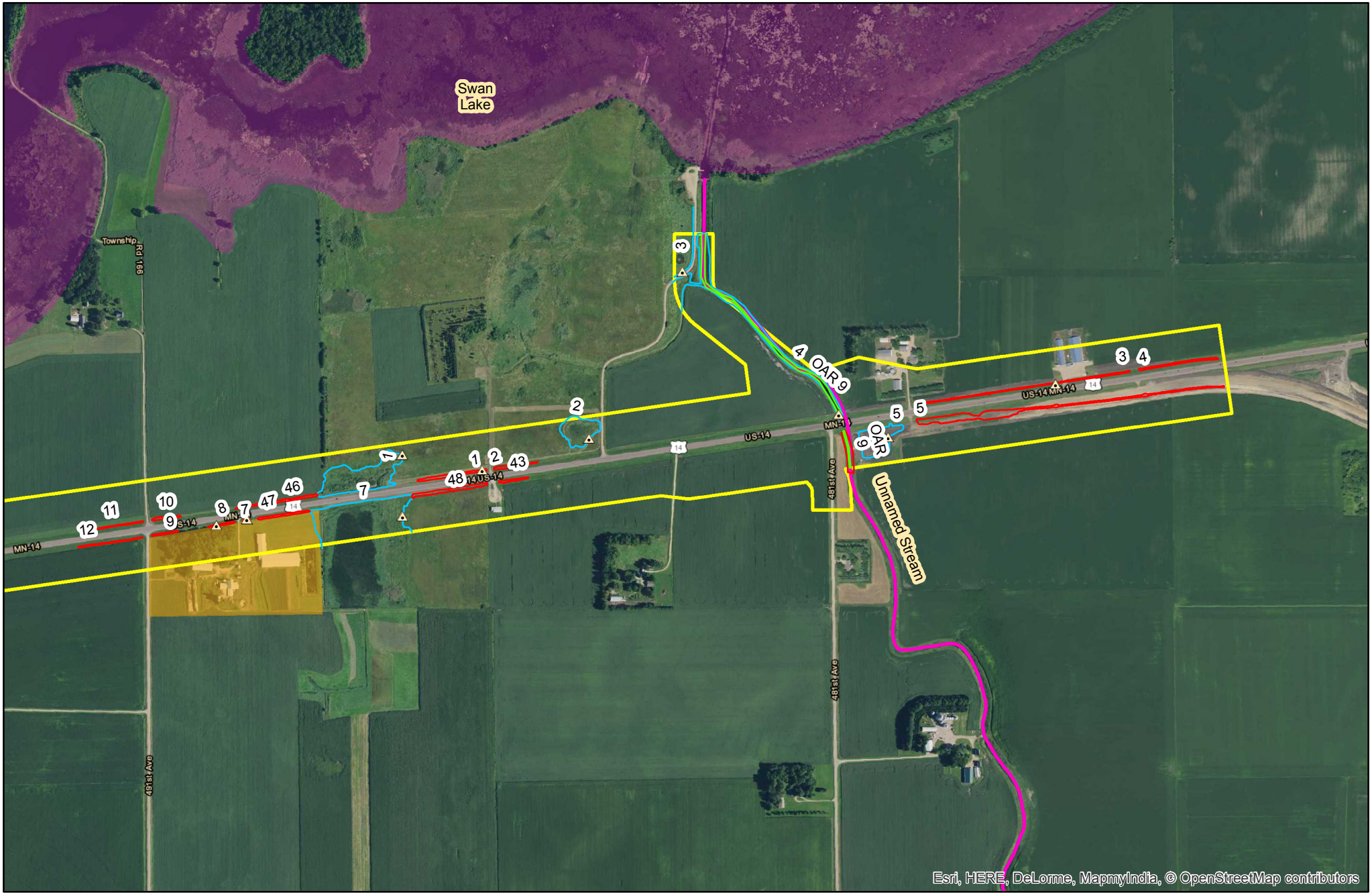

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N W E S

0 500 1,000

Feet

PWI Map

TH 14 (SP 5202-58)

Mn/DOT

Nicollet County, Minnesota

Legend

- Non Wet Areas
- SP 5202-58 OAR line
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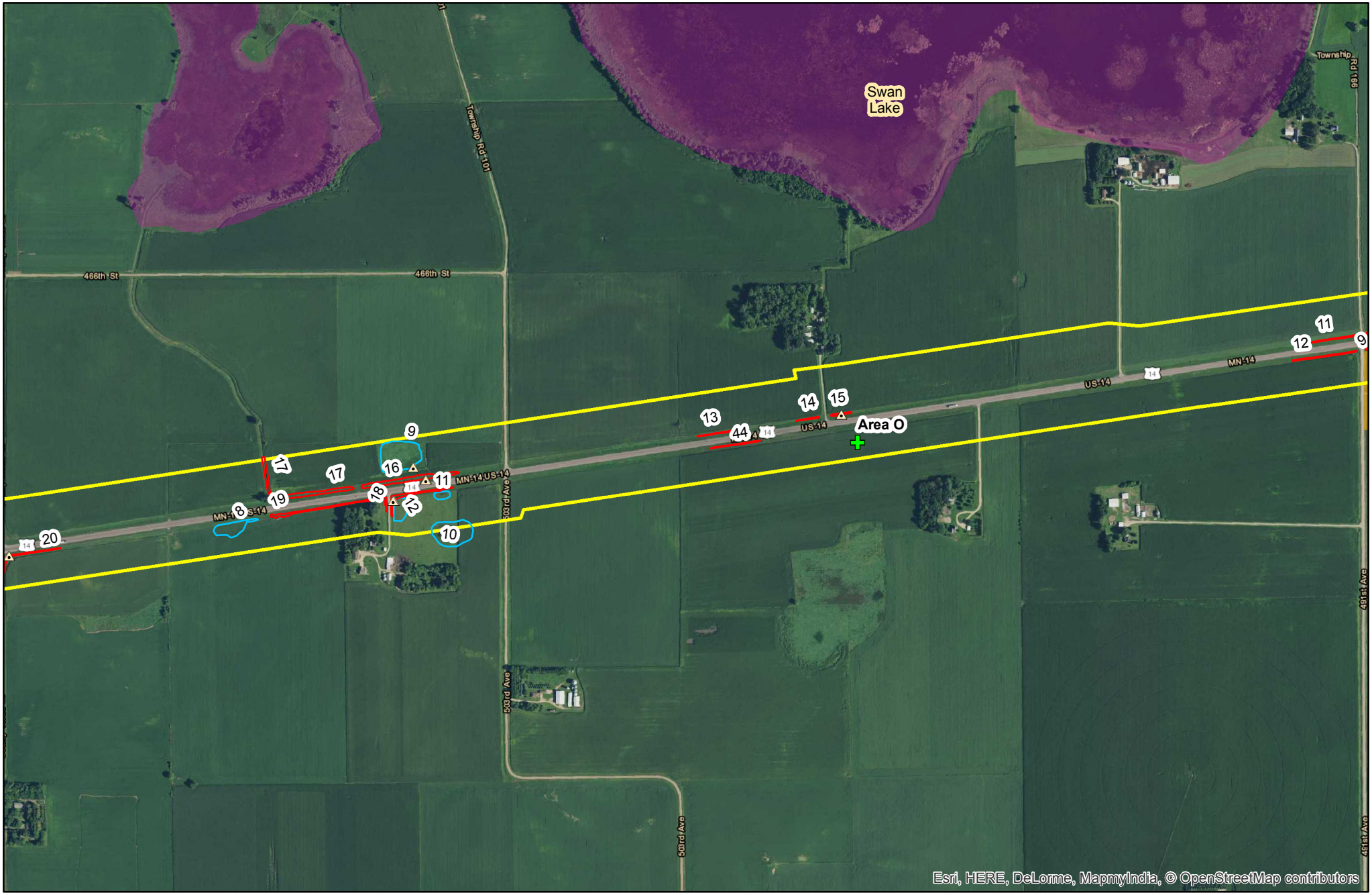
- Project Boundary

Restricted Properties

- Call first
- No access
- Nicollet County_PWI Watercourses
- Nicollet County PWI Basins

Sources: MetroGIS, NRCS, LMIC



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Feet

PWI Map

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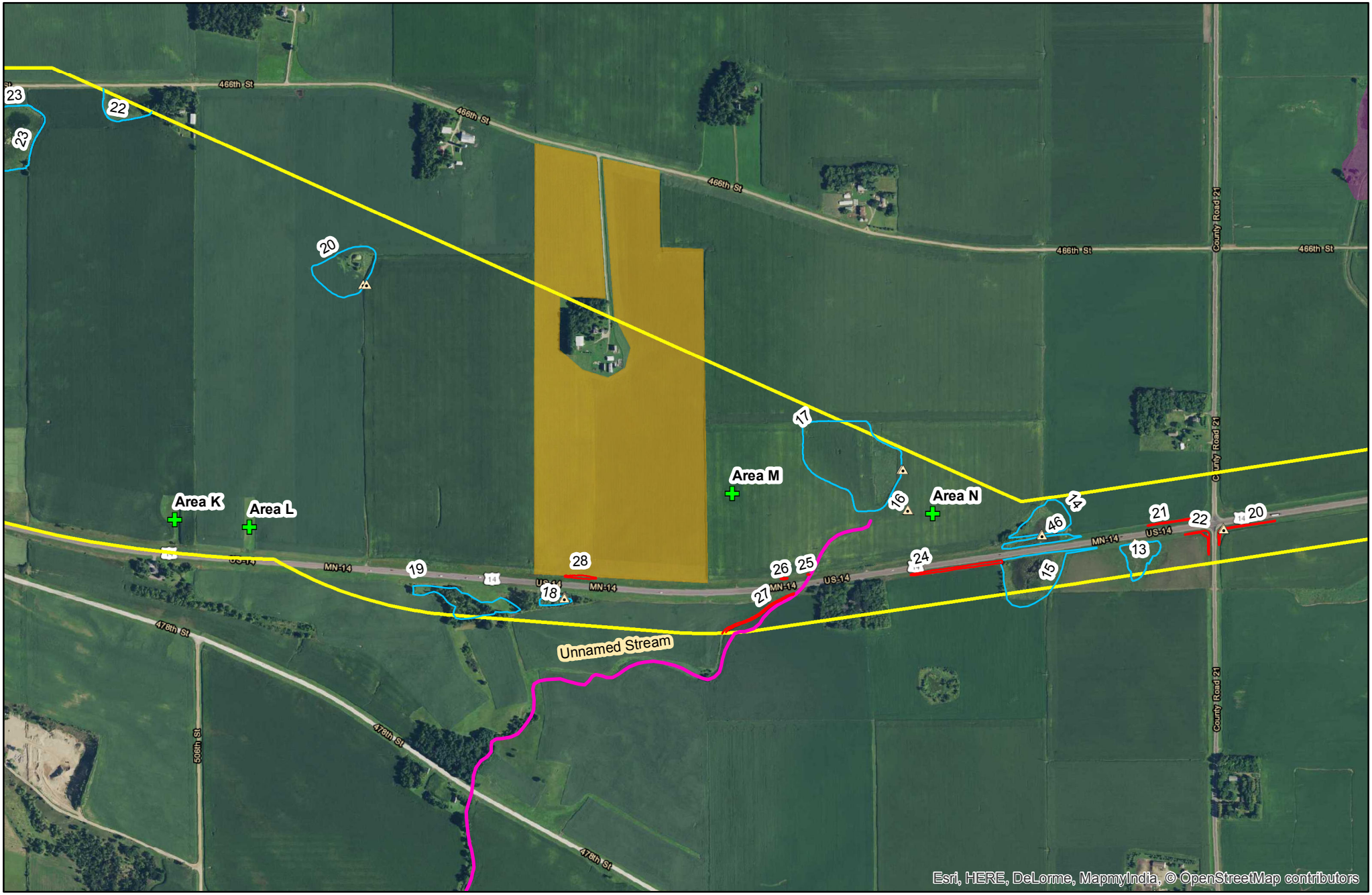

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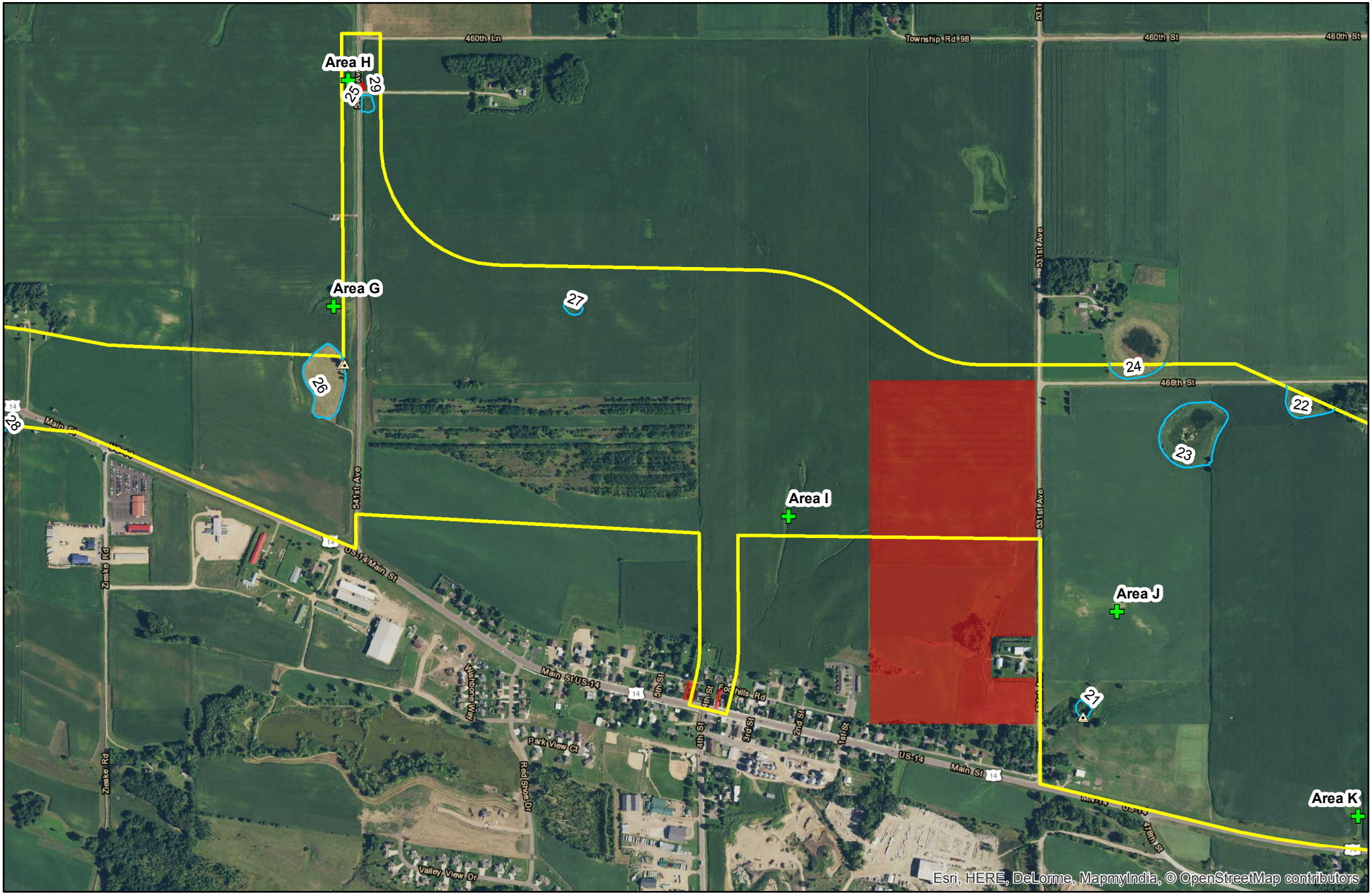

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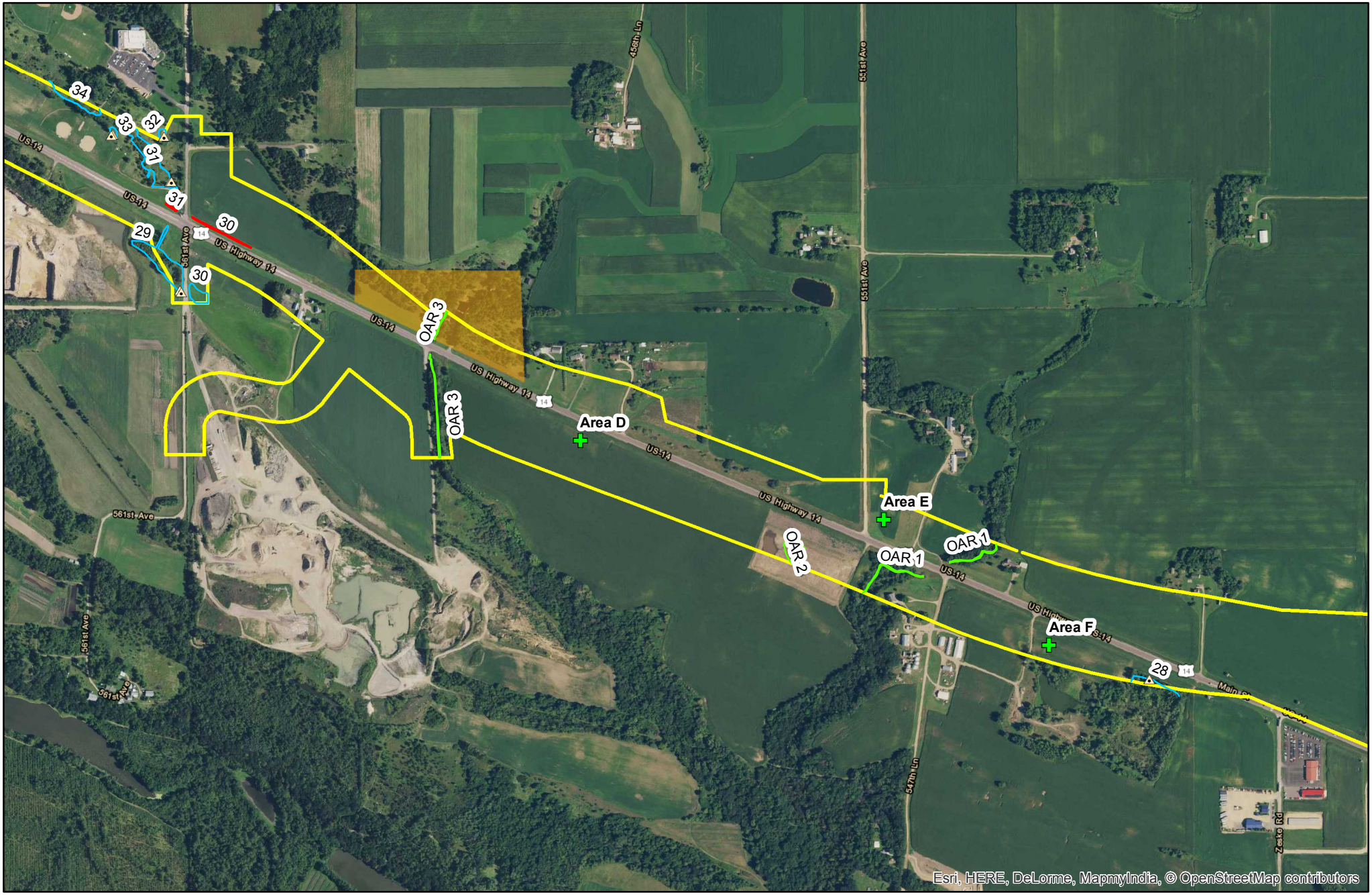

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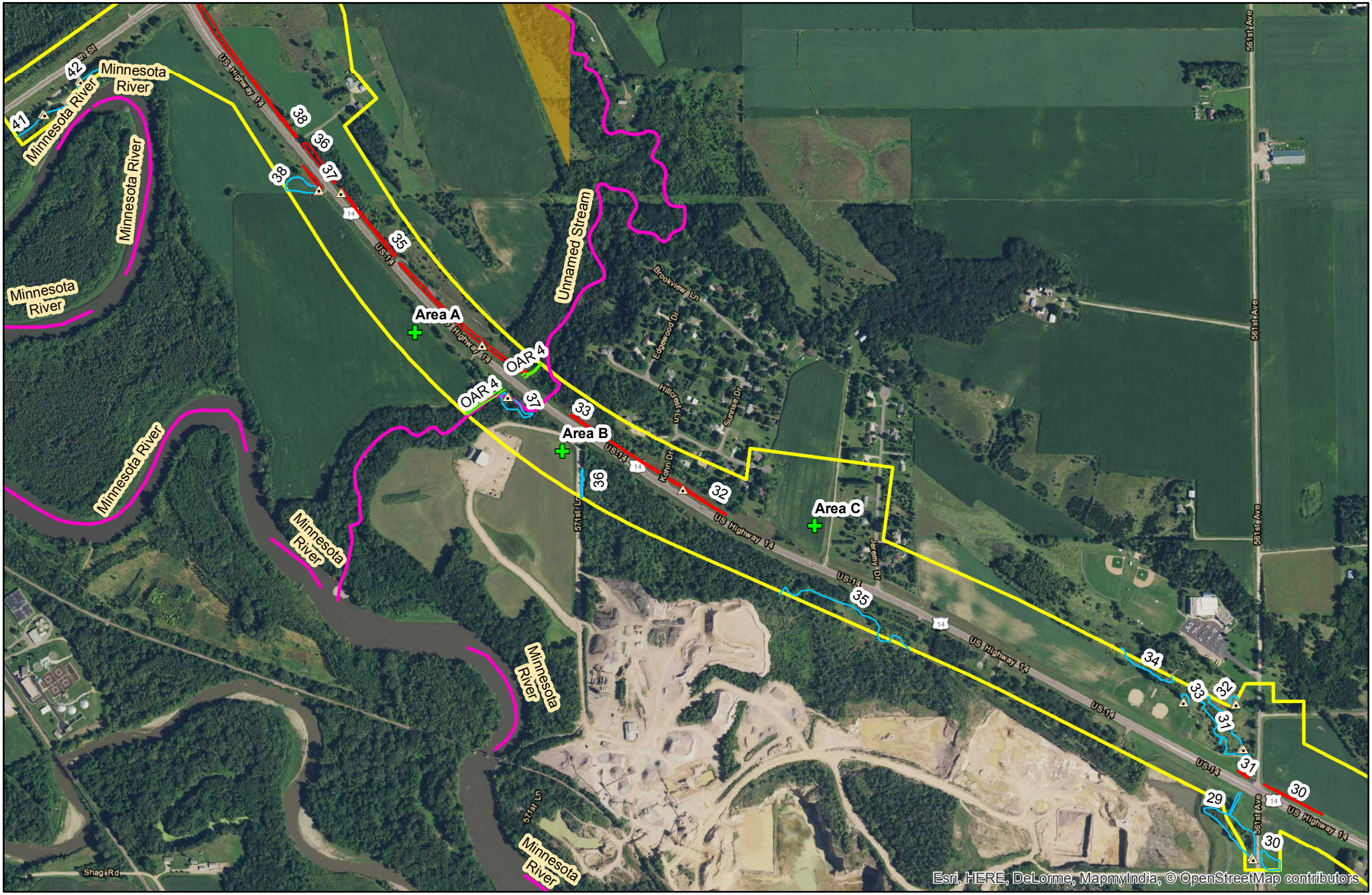

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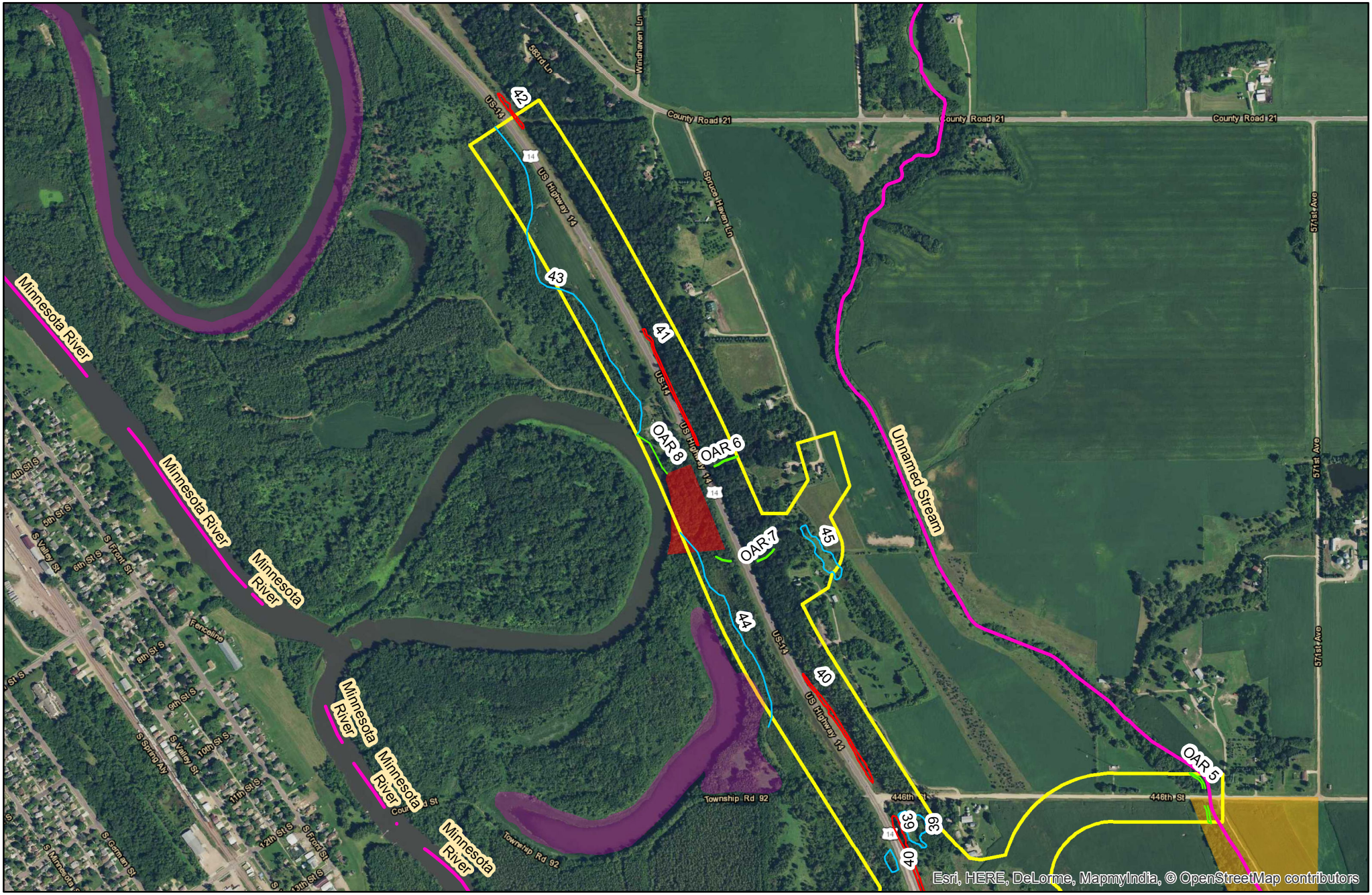

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Level 1/Level 2 Comparison Flowchart

Level 1	Level 2
Area 1	Wetland 45
Area 2	Wet Ditch 39
Area 3	Wet Ditch 38
Area 4	WD 37/WL 38
Area 5	Non Wet
Area 6	Non Wet
Area 7	Non Wet
Area 8	Wetland 29
Area 9	Wet Ditch 30
Area 10	Non Wet
Area 11	Non Wet
Area 12	Non Wet
Area 13	Non Wet
Area 14	Non Wet
Area 15	Non Wet
Area 16	Wetland 26
Area 17	Non Wet
Area 18	Non Wet
Area 19	Wet Ditch 29
Area 20	Wetland 25
Area 21	Wetland 27
Area 22	Non Wet
Area 23	Non Wet
Area 24	Wetland 46
Area 25	Wetland 22
Area 26	Non Wet
Area 27	Wetland 20
Area 28	Non Wet
Area 29	Non Wet
Area 30	Non Wet
Area 31	Non Wet
Area 32	Wetland 17
Area 33	Non Wet
Area 34	Wet Ditch 27
Area 35	WD 23/WL 14
Area 36	Wetland 15
Area 37	Wetland 13
Area 38	Wet Ditch 17
Area 39	Wetland 8
Area 40	Wetland 10
Area 41	Wetland 9
Area 42	Non Wet
Area 43	Non Wet
Area 44	Wetland 1

Level 1	Level 2
Area 45	Wetland 7
Area 46	Wetland 2
Area 47	Wet Ditch 4
Area 48	Wet Ditch 45
Area 49	Wetland 3
N/A	Wet Ditch 1
N/A	Wet Ditch 2
N/A	Wet Ditch 3
N/A	Wet Ditch 4
N/A	Wet Ditch 5
N/A	Wet Ditch 7
N/A	Wet Ditch 8
N/A	Wet Ditch 9
N/A	Wet Ditch 10
N/A	Wet Ditch 11
N/A	Wet Ditch 12
N/A	Wet Ditch 13
N/A	Wet Ditch 14
N/A	Wet Ditch 15
N/A	Wet Ditch 16
N/A	Wet Ditch 17
N/A	Wet Ditch 18
N/A	Wet Ditch 19
N/A	Wet Ditch 20
N/A	Wet Ditch 21
N/A	Wet Ditch 22
N/A	Wet Ditch 24
N/A	Wet Ditch 25
N/A	Wet Ditch 26
N/A	Wet Ditch 28
N/A	Wet Ditch 30
N/A	Wet Ditch 31
N/A	Wet Ditch 32
N/A	Wet Ditch 33
N/A	Wet Ditch 34
N/A	Wet Ditch 35
N/A	Wet Ditch 36
N/A	Wet Ditch 40
N/A	Wet Ditch 41
N/A	Wet Ditch 42
N/A	Wet Ditch 43
N/A	Wet Ditch 44
N/A	Wet Ditch 45
N/A	Wet Ditch 46

Level 1	Level 2
N/A	Wet Ditch 47
N/A	Wet Ditch 48
N/A	Wet Ditch 49
N/A	Wetland 4
N/A	Wetland 5
N/A	Wetland 6
N/A	Wetland 11
N/A	Wetland 12
N/A	Wetland 16
N/A	Wetland 18
N/A	Wetland 19
N/A	Wetland 21
N/A	Wetland 24
N/A	Wetland 28
N/A	Wetland 30
N/A	Wetland 31
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N/A	Wetland 42
N/A	Wetland 43
N/A	Wetland 44
N/A	Wetland 45

N/A-area did not show wet signatures on Level 1 review

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL1-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Depressions Local relief (concave, convex, none): Concave

Slope (%): 0-1% slopes Lat: Long: Datum:

Soil Map Unit Name: L84A – Glencoe clay loam, 0-1% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	30	Y	FACW
2. *Sorghastrum nutans* (Indiangrass)	30	Y	FACU
3. *Andropogon gerardii* (Big Bluestem)	20	Y	FAC
4. *Elymus canadensis* (Canada Wild Rye)	20	Y	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL1-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-15	10YR 2/1	100					Loam	
15-24	10YR 2/1	98	7.5YR 4/4	2	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL1-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Depressions Local relief (concave, convex, none): Concave

Slope (%): 0-1% slopes Lat: Long: Datum:

Soil Map Unit Name: L84A – Glencoe clay loam, 0-1% slopes NWI Classification: PEM1A

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- 3 - Prevalence Test is ≤ 3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No**

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

SOIL

Sampling Point: WL1-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-3	10YR 2/1	100					Loam	
3-24	10YR 2/1	98	7.5YR 4/4	2	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes X** **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes X** **No** ___

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

Remarks:

Wetland 1 is located in a slight depression. Some of the vegetation is bent over from where water has run toward Wetland 1.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 17, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL2-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): None

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: L107A – Canisteo-Glencoe complex, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	40	Y	FACW
2. *Sorghastrum nutans* (Indiangrass)	40	Y	FACU
3. *Cirsium arvense* (Canada Thistle)	20	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL2-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-16	10YR 2/1	100					Loam	
16-24	10YR 4/2	98	7.5YR 5/6	2	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 17, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL2-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: L107A – Canisteo-Glencoe complex, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL2-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-18	10YR 2/1	100					Loam	
18-24	10YR 4/2	98	7.5YR 5/6	2	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** **X** **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 24

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 18

Wetland Hydrology Present? **Yes** **X** **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 17, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL3-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): Slope

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 86 – Canisteo clay loam, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	90	Y	FACU
2. *Plantago major* (Great Plantain)	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL3-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-24	2.5YR 4/3	100					Sandy Loam	Possible fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 17, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL3-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 86 – Canisteo clay loam, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL3-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-3	10YR 2/1	100					Loam	Some gravel, possible fill
3-15	2.5YR 4/1	98	5YR 4/4	2	C	M	Loam	Possible fill
15-24	10YR 2/1	100					Loamy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 15

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 7

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL5-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 5, T109N, R28W

Landform (hillslope, terrace, etc.) Swales on ground moraines Local relief (concave, convex, none): None

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 336 – Delft clay loam, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Medicago sativa* (Alfalfa)	90	Y	FACU
2. *Elymus trachycaulus* (Slender Wild Rye)	10	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL5-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-24	10YR 2/1	98	7.5YR 4/4	2	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL5-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 5, T109N, R28W

Landform (hillslope, terrace, etc.) Swales on ground moraines Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 336 – Delft clay loam, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Typha species* (Cattail)	95	Y	OBL
2. *Symphyotrichum lanceolatum* (White Panicled American-Aster)	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ___ 3 - Prevalence Test is ≤ 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No**

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

SOIL

Sampling Point: WL5-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-15	10YR 2/1	100					Loam	
15-24	10YR 6/1	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 24

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 12, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL7-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Depressions Local relief (concave, convex, none): None

Slope (%): 0-1% slopes Lat: Long: Datum:

Soil Map Unit Name: 86 – Canisteo clay loam, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	60	Y	FACU
2. *Poa pratensis* (Kentucky Blue Grass)	20	Y	FAC
3. *Solidago canadensis* (Canada Goldenrod)	10	N	FACU
4. *Cirsium arvense* (Canada Thistle)	10	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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	x 1 =
FACW species	X 2 =
FAC species	X 3 =
FACU species	X 4 =
UPL species	X 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL7-1 UP

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 24

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 17

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 12, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL7-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Depressions Local relief (concave, convex, none): Concave

Slope (%): 0-1% slopes Lat: Long: Datum:

Soil Map Unit Name: 86 – Canisteo clay loam, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	80	Y	FACW
2. *Solidago gigantea* (Giant Goldenrod)	20	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL7-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24	10YR 2/1	98	7.5YR 4/4	2	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** **X** **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 16

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** **X** **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 3, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL9-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 11, T109N, R29W

Landform (hillslope, terrace, etc.) Depressions Local relief (concave, convex, none): None

Slope (%): 0-1% slopes Lat: Long: Datum:

Soil Map Unit Name: 386 – Okoboji mucky silty clay loam NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Zea mays* (Corn)	100	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL9-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Loam	
6-12	10YR 2/2	100					Clay loam	
12-30	10YR 2/1	100					Clay loam	
30-36	10YR 4/2	90	10YR 4/4	10	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: ___
Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 3, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL9-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 11, T109N, R29W

Landform (hillslope, terrace, etc.) Depressions Local relief (concave, convex, none): Concave

Slope (%): 0-1% slopes Lat: Long: Datum:

Soil Map Unit Name: 386 – Okoboji mucky silty clay loam NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	50	Y	FACW
2. *Poa pratensis* (Kentucky Blue Grass)	30	Y	FAC
3. *Spartina pectinata* (Prairie Cordgrass)	20	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL9-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					Silt loam	
10-24	10YR 2/1	100					Clay loam	
24-30	10YR 4/1	80	10YR 4/4	20	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 20

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 3, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL12-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): None

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 109 – Cordova clay loam, 0-2% slopes NWI Classification: PEM1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	60	Y	FACU
2. *Trifolium pretense* (Red Clover)	20	Y	FACU
3. *Taraxacum officinale* (Common Dandelion)	10	N	FACU
4. *Cirsium arvense* (Canada Thistle)	10	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL12-1 UP

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 15

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 3, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL12-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 109 – Cordova clay loam, 0-2% slopes NWI Classification: PEM1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL12-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/1	100					Clay Loam	
18-24	10YR 4/1	95	10YR 4/4	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** **X** **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** **X** **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 4, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL13-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 978 – Cordova-Rolfe complex, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	60	Y	FACU
2. *Trifolium pretense* (Red Clover)	20	Y	FACU
3. *Taraxacum officinale* (Common Dandelion)	10	N	FACU
4. *Cirsium arvense* (Canada Thistle)	10	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL13-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/2	100					Clay Loam	
14-24	10YR 4/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 4, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL13-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 978 – Cordova-Rolfe complex, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	75	Y	FACW
2. *Carex lacustris* (Lakebank Sedge)	20	Y	OBL
3. *Scirpus atrovirens* (Green Bulrush)	5	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL14-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/1	100					Silt Clay Loam	
11-24	2.5Y 4/2	95	10YR 4/4	5	C	M	Silt Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 12

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Standing water is present at the lowest points of the ditch.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 4, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL14-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Depressions Local relief (concave, convex, none): Slope

Slope (%): 0-1% slopes Lat: Long: Datum:

Soil Map Unit Name: L84A – Glencoe clay loam, 0-1% slopes NWI Classification: PEM1C

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	75	Y	FACU
2. *Phalaris arundinacea* (Reed Canary Grass)	20	Y	FACW
3. *Persicaria pensylvanica* (Pinkweed)	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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	x 1 =
FACW species	X 2 =
FAC species	X 3 =
FACU species	X 4 =
UPL species	X 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL14-1 UP

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 4, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL14-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Depressions Local relief (concave, convex, none): Concave

Slope (%): 0-1% slopes Lat: Long: Datum:

Soil Map Unit Name: L84A – Glencoe clay loam, 0-1% slopes NWI Classification: PEM1C

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Typha species* (Cattail)	70	Y	OBL
2. *Phalaris arundinacea* (Reed Canary Grass)	20	Y	FACW
3. *Schoenoplectus fluviatilis* (River Bulrush)	10	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL14-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/1	100					Loam	
18-24	10YR 4/1	90	10YR 4/6	10	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 6, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL16-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Depressions on moraines Local relief (concave, convex, none): None

Slope (%): Lat: Long: Datum:

Soil Map Unit Name: L107A – Canisteo-Glencoe complex, 0-2% slopes NWI Classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Zea mays* (Corn)	100	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is > 50%
- ___ 3 - Prevalence Test is ≤ 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL16-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	100					Clay Loam	
12-24	10YR 3/1	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 6, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL16-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Depressions on moraines Local relief (concave, convex, none): Concave

Slope (%): Lat: Long: Datum:

Soil Map Unit Name: L107A – Canisteo-Glenco complex, 0-2% slopes NWI Classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1 Zea mays (Corn)	80	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is > 50%
- 3 - Prevalence Test is ≤ 3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No**

Remarks: (Include photo numbers here or on a separate sheet.) Approximately 20% of the ground is bare.

SOIL

Sampling Point: WL16-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					Silt Clay Loam	
10-20	2.5Y 5/2	97	10YR 4/6	3	C	M	Silt Clay Loam	
20-30	2.5Y 5/2	85	10YR 4/6	15	C	M	Silt Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- X Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

Portions of Wetland 16 lack corn stalks indicating that the crop may have drowned out early in the season.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 6, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL17-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Depressions on moraines Local relief (concave, convex, none): Slope

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 386 – Okoboji mucky silty clay loam NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Zea mays* (Corn)	80	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	= Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is > 50%

___ 3 - Prevalence Test is ≤ 3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

Remarks: (Include photo numbers here or on a separate sheet.) Approximately 20% of the ground is bare

SOIL

Sampling Point: WD17-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	100					Clay Loam	
12-24	10YR 3/1	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 6, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL17-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Depressions on moraines Local relief (concave, convex, none): Concave

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 386 – Okoboji mucky silty clay loam NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	75	Y	FACW
2. *Persicaria amphibian* (Water Smartweed)	20	Y	OBL
3. *Asclepias incarnata* (Swamp Milkweed)	5	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL17-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	100					Silt Loam	
12-24	5Y 4/1	90	10YR 4/6	10	C	M	Silt Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 7, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL18-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Slope

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 106B – Lester loam, 2-6% slopes NWI Classification: PFO1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Rhus glabra* (Smooth Sumac)	25	Y	UPL
2.			
3.			
4.			
5.			
	25 = Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	75	Y	FACU
2. *Sorghastrum nutans* (Indiangrass)	20	Y	FACU
3. *Cirsium arvense* (Canada Thistle)	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL18-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/2	100					Loam	
7-16	10YR 3/2	100					Clay Loam	
16-24	10YR 2/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 7, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL18-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 10, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Concave

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 106B – Lester loam, 2-6% slopes NWI Classification: PFO1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra* (Black Willow)	25	Y	OBL
2. *Populus deltoides* (Eastern Cottonwood)	25	Y	FAC
3.			
4.			
5.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Cornus alba* (Redosier Dogwood)	20	Y	FACW
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	85	Y	FACW
2. *Persicaria amphibian* (Water Smartweed)	5	N	OBL
3. *Schoenoplectus fluviatilis* (River Bulrush)	5	N	OBL
4. *Solidago gigantea* (Giant Goldenrod)	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL19-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/2	100					Loam	
11-18	10YR 4/1	90	10YR 4/4	10	C	M	Clay Loam	
18-24	2.5Y 5/2	80	10YR 4/4	20	C	M	Sand Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes X No ___ Depth (inches): 19

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 7, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL20-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 9, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Slope

Slope (%): 6-10% slopes Lat: Long: Datum:

Soil Map Unit Name: 978 – Cordova-Rolfe complex, 2-6% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	70	Y	FACU
2. *Asclepias syriaca* (Common Milkweed)	20	Y	FACU
3. *Spartina pectinata* (Prairie Cordgrass)	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL20-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/2	100					Loam	
18-24	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 7, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL21-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 9, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Concave

Slope (%): 6-10% slopes Lat: Long: Datum:

Soil Map Unit Name: 978 – Cordova-Rolfe complex, 2-6% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	75	Y	FACW
2. *Urtica dioica* (Stinging Nettle)	10	N	FACW
3. *Cirsium arvense* (Canada Thistle)	5	N	FACU
4. *Solidago gigantea* (Giant Goldenrod)	5	N	FACW
5. *Rumex crispus* (Curly Dock)	5	N	FACW
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL20-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/2	100					Clay Loam	
9-19	10YR 4/1	95	10YR 4/4	5	C	M	Loam	
19-24	10YR 3/2	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 8, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL21-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 4, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): None

Slope (%): 6-10% slopes Lat: Long: Datum:

Soil Map Unit Name: 106C2 – Lester loam, 6-10% slopes, moderately eroded NWI Classification: PFO1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo* (Boxelder)	50	Y	FAC
2.			
3.			
4.			
5.			
	50	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 5')			
1 *Urtica dioica* (Stinging Nettle)	25	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

Remarks: (Include photo numbers here or on a separate sheet.)75% of the gournis bare.

SOIL

Sampling Point: WL21-1 UP

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 8, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL21-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 4, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Concave

Slope (%): 6-10% slopes Lat: Long: Datum:

Soil Map Unit Name: 106C2 – Lester loam, 6-10% slopes, moderately eroded NWI Classification: PFO1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo* (Boxelder)	50	Y	FAC
2.			
3.			
4.			
5.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Salix interior* (Sandbar Willow)	20	Y	FACW
2. *Sambucus racemosa* (Red Elderberry)	20	Y	FACU
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	60	Y	FACW
2. *Urtica dioica* (Stinging Nettle)	35	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

Remarks: (Include photo numbers here or on a separate sheet.)75% of the gournis bare.

SOIL

Sampling Point: WL21-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/2	100					Silt Loam	
7-17	10YR 4/1	90	10YR 4/6	10	C	M	Silt Loam	
17-24	10YR 4/1	60	10YR 4/6	40	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: ___
Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 20

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 9

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 9, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL26-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R29W

Landform (hillslope, terrace, etc.) Swales on ground moraines Local relief (concave, convex, none): None

Slope (%): 1-3% slopes Lat: Long: Datum:

Soil Map Unit Name: 336 – Delft clay loam, 0-2% NWI Classification: PEM1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	80	Y	FACU
2. *Cirsium arvense* (Canada Thistle)	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL26-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 3/3	100					Loam	
13-24	10YR 3 / 4	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 9, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL26-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R29W

Landform (hillslope, terrace, etc.) Swales on ground moraines Local relief (concave, convex, none): Concave

Slope (%): 1-3% slopes Lat: Long: Datum:

Soil Map Unit Name: 336 – Delft clay loam, 0-2% slopes NWI Classification: PEM1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra* (Black Willow)	10	Y	OBL
2.			
3.			
4.			
5.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	85	Y	FACW
2. *Solidago gigantea* (Giant Goldenrod)	5	N	FACW
3. *Urtica dioica* (Stinging Nettle)	5	N	FACW
4. *Persicaria amphibian* (Water Smartweed)	5	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL26-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	100					Clay Loam	
14-20	10YR 4/2	90	10YR 4/4	10	C	M	Clay Loam	
20-26	10YR 4/2	70	10YR 4/4	30	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 24

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 9, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL27-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 5, T109N, R29W

Landform (hillslope, terrace, etc.) Stream terraces, moraines Local relief (concave, convex, none): None

Slope (%): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: 239 – Delft clay loam, 0-2% slopes NWI Classification: PEM1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 Zea mays (Corn)	20	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

Remarks: (Include photo numbers here or on a separate sheet.) 80% of the gournd is bare.

SOIL

Sampling Point: WL27-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Loam	
16-24	10YR 3/1	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 9, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL27-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 5, T109N, R29W

Landform (hillslope, terrace, etc.) Stream terraces, moraines Local relief (concave, convex, none): Concave

Slope (%): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: 239 – Delft clay loam, 0-2% slopes NWI Classification: PEM1B

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Schoenoplectus fluviatilis* (River Bulrush)	60	Y	OBL
2. *Phalaris arundinacea* (Reed Canary Grass)	40	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL28-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 2/1	100					Silt Loam	
17-24	10YR 4/1	90	10YR 4/6	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 14

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 10, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL28-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 6, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Concave

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 1030 – Udorthents-Pits, gravel complex NWI Classification: PFO1Ax

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Rhus glabra* (Smooth Sumac)	50	Y	UPL
2.			
3.			
4.			
5.			
	50 = Total Cover		
Herb Stratum (Plot size: 5')			
1 *Equisetum hyemale* (Tall Scouring-Rush)	40	Y	FACW
2. *Solidago canadensis* (Canadian Goldenrod)	40	Y	FACU
3. *Asclepias syriaca* (Common Milkweed)	10	N	FACU
4. *Phalaris arundinacea* (Reed Canary Grass)	10	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is > 50%

___ 3 - Prevalence Test is ≤ 3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL28-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					Sand Loam	
12-24	10YR 3/2	100					Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 14

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 10, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL28-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Concave

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 1030 – Udorthents-Pits, gravel complex NWI Classification: PFO1Ax

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra* (Black Willow)	50	Y	OBL
2. *Populus deltoides* (Eastern Cottonwood)	50	Y	FAC
3.			
4.			
5.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Cornus alba* (Redosier Dogwood)	20	Y	FACW
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5')			
1 *Equisetum hyemale* (Tall Scouring-Rush)	85	Y	FACW
2. *Phalaris arundinacea* (Reed Canary Grass)	10	N	FACW
3. *Persicaria pensylvanica* (Pinkweed)	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL29-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/1	100					Sand Loam	
18-24	2.5Y 4/1	75	10YR 4/6	25	C	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 14

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 10, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL29-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): none

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: L83A – Webster clay loam, 0-2% slopes NWI Classification: PFO1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	70	Y	FACU
2. *Solidago canadensis* (Canadian Goldenrod)	20	Y	FACU
3. *Cirsium arvense* (Canada Thistle)	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL29-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	100					Loam	
14-24	10YR 2/2	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 10, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL29-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Concave

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: L83A – Webster clay loam, 0-2% slopes NWI Classification: PFO1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra* (Black Willow)	50	Y	OBL
2.			
3.			
4.			
5.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	75	Y	FACW
2. *Schoenoplectus fluviatilis* (River Bulrush)	20	Y	OBL
3. *Verbena hastata* (Blue Vervain)	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL29-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 2/1	100					Silt Loam	
17-24	10YR 4/1	90	10YR 4/6	10	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 16

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 8

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 14, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL31-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Swales and Flats on stream terraces Local relief (concave, convex, none): None

Slope (%): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: 100B – Copaston loam, 0-6% slopes NWI Classification: PEM1A and PSS1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	90	Y	FACU
2. *Setaria pumila* (Yellow Foxtail)	5	N	FACW
3. *Andropogon gerardii* (Big Bluestem)	5	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL32-1 UP

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 14, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL31-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Swales and flats on stream terraces Local relief (concave, convex, none): Concave

Slope (%): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: 100B – Copaston loam, 0-6% slopes NWI Classification: PEM1A and PSS1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	75	Y	FACW
2. *Carex lacustris* (Lakebank Sedge)	20	Y	OBL
3. *Verbena hastata* (Blue Vervain)	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

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

SOIL

Sampling Point: WL32-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-22	10YR 2/1	100					Silt Loam	
22-30	2.5Y 4/1	96	10YR 4/4	4	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes X No ___ Depth (inches): 24

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 14, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL32-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Flats on stream terraces Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 321 – Copaston loam, 0-6% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	90	Y	FACU
2. *Verbascum thapsus* (Common Mullein)	5	N	UPL
3. *Cirsium arvense* (Canada Thistle)	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL32-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Silt Loam	
16-24	10YR 2/1	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:
Gravel and sand was observed below 24 inches.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 14, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL32-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Flats on stream terraces Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 321 – Copaston loam, 0-6% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL32-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 2/1	100					Silt Loam	
18-26	10YR 2/1	100					Clay Loam	
26-36	10YR 4/2	98	10YR 4/4	2	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 14, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL33-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Flats on stream terraces Local relief (concave, convex, none): None

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 27A – Dickenson loam, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	90	Y	FACU
2. *Verbascum thapsus* (Common Mullein)	10	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL33-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/2	100					Loam	
14-24	10YR 2/1	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 14, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL33-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Flats on stream terraces Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 27A – Dickenson loam, 0-2% slopes NWI Classification: PEM1A

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL33-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Loam	
16-22	10YR 2/1	100					Clay Loam	
22-28	10YR 4/2	97	10YR 4/4	3	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes X No ___ Depth (inches): 21

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 15, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL37-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 34, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): None

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 923 – Copaston-Rock outcrop complex NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana* (Eastern Red Cedar)	30	Y	FACU
2.			
3.			
4.			
5.			
	30	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. *Lonicera canadensis* (American Fly Honeysuckle)	50	Y	FACU
2.			
3.			
4.			
5.			
	50	= Total Cover	

Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	85	Y	FACU
2. *Cirsium arvense* (Canada Thistle)	10	N	FACU
3. *Taraxacum officinale* (Common Dandelion)	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL38-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					Loam	
8-15	10YR 2/2	100					Clay Loam	
15-24	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 15, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL37-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 27, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Concave

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 923 – Copaston-Rock outcrop complex NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Rhamnus cathartica* (Common Buckthorn)	75	Y	FAC
2.			
3.			
4.			
5.			
	75 = Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL37-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Loam	
6-12	2.5Y 5/1	100					Clay Loam	
12-24	2.5Y 5/1	60	7.5YR 4/3	40	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes X No ___ Depth (inches): 24

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 15, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL38-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 27, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): None

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 94B – Terril loam, 2-6% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	65	Y	FACU
2. *Cirsium arvense* (Canada Thistle)	25	Y	FACU
3. *Spartina pectinata* (Prairie Cordgrass)	10	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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	x 1 =
FACW species	X 2 =
FAC species	X 3 =
FACU species	X 4 =
UPL species	X 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL38-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					Loam	
12-18	10YR 3/2	100					Loam	
18-24	10YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 15, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL38-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 27, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): None

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 94B – Terril loam, 2-6% slopes NWI Classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Setaria pumila* (Yellow Foxtail)	40	Y	FAC
2. *Phalaris arundinacea* (Reed Canary Grass)	30	Y	FACW
3. *Spartina pectinata* (Prairie Cordgrass)	20	Y	FACW
4. *Rumex crispus* (Curly Dock)	10	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is > 50%
- 3 - Prevalence Test is ≤ 3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No**

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

SOIL

Sampling Point: WL38-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	100					Loam	
20-26	10YR 4/1	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 17

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 10

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 22, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL41-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 27, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Slope

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 575 – Nishna silty clay loam NWI Classification: PFO1C

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccarinum* (Silver Maple)	50	Y	FACW
2.			
3.			
4.			
5.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Lonicera canadensis* (American Fly Honeysuckle)	25	Y	FACU
2.			
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 5')			
1			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= 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	x 1 =
FACW species	X 2 =
FAC species	X 3 =
FACU species	X 4 =
UPL species	X 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is > 50%

___ 3 - Prevalence Test is ≤ 3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WL41-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/2	100					Silt Loam	
7-16	10YR 3/2	100					Silt Loam	
16-24	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 22, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL41-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 27, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Concave

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 575 – Nishna silty clay loam NWI Classification: PFO1C

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccarinum* (Silver Maple)	100	Y	FACW
2.			
3.			
4.			
5.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	50	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

50% Bare ground

SOIL

Sampling Point: WL41-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Silt Loam	
4-24	2.5Y 4/1	90	10YR 4/6	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 24

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 22, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL42-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 27, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Slope

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 94B – Terril loam, 2-6% NWI Classification: PFO1C

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccarinum* (Silver Maple)	50	Y	FACW
2. *Acer negundo* (Boxelder)	50	Y	FAC
3.			
4.			
5.			
	100	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	50	Y	FACW
2. *Bromus inermis* (Smooth Brome)	30	Y	FACU
3. *Solidago canadensis* (Canada Goldenrod)	20	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No ____**

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

SOIL

Sampling Point: WL42-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	100					Silt Loam	
10-18	10YR 3/2	100					Loam	
18-24	10YR 3/3	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 22, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WL42-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 27, T110N, R30W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Concave

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 94B – Terril loam, 2-6% NWI Classification: PFO1C

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccarinum* (Silver Maple)	80	Y	FACW
2. *Fraxinus pennsylvanica* (Green Ash)	20	Y	FACW
3.			
4.			
5.			
	100	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	50	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WL42-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Silt Loam	
6-18	2.5YR 4/2	95	10YR 4/6	5	C	M	Silt Loam	
18-24	10YR 2/1	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** **X** **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 8

Wetland Hydrology Present? **Yes** **X** **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD1-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): Slope

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 86 – Canisteo clay loam, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Poa pratensis* (Kentucky Bluegrass)	70	Y	FAC
2. *Bromus inermis* (Smooth Brome)	30	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD1-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-10	10YR 2/1	98	7.5YR 4/4	2	C	M	Loam	
10-24	10YR 6/1	90	7.5YR 5/8	10	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD1-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 86 – Canisteo clay loam, 0-2% slopes NWI Classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	60	Y	FACW
2. *Carex lasiocarpa* (Wire Sedge)	30	Y	OBL
3. *Poa pratensis* (Kentucky Bluegrass)	10	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- 3 - Prevalence Test is ≤ 3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

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

SOIL

Sampling Point: WD1-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-6	10YR 4/2	98	7.5YR 5/6	2	C	M	Loam	
6-24	10YR 6/1	90	7.5YR 5/8	2	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: ___
Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 26

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD2-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): Slope

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: L107A – Canisteo-Glencoe complex, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Poa pratensis* (Kentucky Bluegrass)	80	Y	FAC
2. *Cirsium arvense* (Canada Thistle)	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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	x 1 =
FACW species	X 2 =
FAC species	X 3 =
FACU species	X 4 =
UPL species	X 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD2-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-11	10YR 2/1	100					Loam	
11-20	10YR 4/2	95	7.5YR 4/4	5	C	M	Loam	
20-24	10YR 6/1	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** **X** **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD2-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: L107A – Canisteo-Glencoe complex, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Carex lacustris* (Lakebank Sedge)	60	Y	OBL
2. *Poa pratensis* (Kentucky Bluegrass)	30	Y	FAC
3. *Phalaris arundinacea* (Reed Canary Grass)	10	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WD2-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-6	10YR 3/1	98	7.5YR 5/6	2	C	M	Loam	
6-24	10YR 6/1	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

*Surface water (3 inches deep) observed approximately 3 feet from sample location

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD3-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 5, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): Slope

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 86 – Canisteo clay loam, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Trifolium pretense* (Red Clover)	100	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD3-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-13	10YR 2/1	100					Loam	
13-24	10YR 6/1	85	7.5YR 4/4	15	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 11, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD3-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 5, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, rims on depressions Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 86 – Canisteo clay loam, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Echinochloa crus-galli* (Barnyard Grass)	80	Y	FACW
2. *Trifolium pretense* (Red Clover)	10	N	FACU
3. *Rumex crispus* (Curly Dock)	5	N	FACW
4. *Carex alopecoidea* (Fox-Tail Sedge)	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WD3-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-2	10YR 2/1	100					Loam	
2-24	10YR 5/1	80	7.5YR 4/4	20	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 0.5

Water Table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 12, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD7-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Slope

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 102B – Clarion loam, 2-6% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	70	Y	FACU
2. *Cirsium arvense* (Canadian Thistle)	20	Y	FACU
3. *Trifolium pretense* (Red Clover)	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD7-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/2	100					Loam	
14-24	10YR 5/1	90	7.5YR 5/8	10	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 12, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD7-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Concave

Slope (%): 2-6% Lat: Long: Datum:

Soil Map Unit Name: 102B – Clarion loam, 2-6% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WD7-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-9	10YR 3/2	100					Loam	
9-24	10YR 5/1	90	7.5YR 5/8	10	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 28

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

There is approximately 1 inch of standing water at the center of the ditch which is approximately 3 feet from the sample point.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 12, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD8-1 UP

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Slope

Slope (%): 1-3% slopes Lat: Long: Datum:

Soil Map Unit Name: 239 – Le Sueur loam, 1-3% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	75	Y	FACU
2. *Taraxacum officinale* (Common Dandelion)	25	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD8-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Loam	
16-24	10YR 4/2	95	7.5YR 5/8	5	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: October 12, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD8-1 WET

Investigator(s): Sambatek – Jessica Abernathy Section, Township, Range: Section 6, T109N, R28W

Landform (hillslope, terrace, etc.) Ground moraines, hilltops Local relief (concave, convex, none): Concave

Slope (%): 1-3% slopes Lat: Long: Datum:

Soil Map Unit Name: 239 – Le Sueur loam, 1-3% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WD8-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remark
0-11	10YR 2/1	100					Clay Loam	
11-24	10YR 4/2	95	7.5YR 5/8	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** **X** **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** **X** **No** _____

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

Remarks:

All of the Reed Canary Grass within Wet Ditch 8 is bent over due to water flowing into the Wet Ditch.
Approximately 0.5 inches of standing water was observed at the east end of the ditch.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 3, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD15-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 1, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 978 – Cordova-Rolfe complex, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	60	Y	FACU
2. *Trifolium pretense* (Red Clover)	30	Y	FACU
3. *Cirsium arvense* (Canadian Thistle)	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD15-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					Clay Loam	
8-24	2.5Y 3/3	97	10YR 4/4	3	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 3, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD15-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 1, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 978 – Cordova-Rolfe complex, 0-2% slopes NWI Classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	70	Y	FACW
2. *Poa pratensis* (Kentucky Blue Grass)	30	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- 3 - Prevalence Test is ≤ 3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No**

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

SOIL

Sampling Point: WD15-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	100					Clay Loam	
10-17	2.5Y 5/1	85	10YR 4/4	15	C	M	Clay Loam	
17-24	2.5Y 5/1	60	10YR 4/4	40	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: ___
Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
The vegetation within Wet Ditch 15 is bent over due to water draining into the center of the wet ditch.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 3, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD16-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 11, T109N, R29W

Landform (hillslope, terrace, etc.) Rims on depressions Local relief (concave, convex, none): Slope

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 112 – Harps clay loam, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	60	Y	FACU
2. *Trifolium repens* (White Clover)	20	Y	FACU
3. *Taraxacum officinale* (Common Dandelion)	20	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD16-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 2/2	100					Clay Loam	
17-24	10YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 3, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD16-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 11, T109N, R29W

Landform (hillslope, terrace, etc.) Rims on depressions Local relief (concave, convex, none): Concave

Slope (%): 0-2% slopes Lat: Long: Datum:

Soil Map Unit Name: 112 – Harps clay loam, 0-2% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Salix interior* (Sandbar Willow)	10	Y	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	90	Y	FACW
2. *Verbena hastata* (Blue Vervain)	5	Y	FACW
3. *Typha species* (Cattail)	5	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WD16-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					Loam	
8-24	10YR 2/1	100					Clay Loam	
24-30	10YR 4/1	90	10YR 4/6	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 24

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 4, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD20-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 11, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Slope

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 106B – Lester loam, 2-6% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____	No X		
Wetland Hydrology Present?	Yes ____	No X		

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	50	Y	FACU
2. *Phalaris arundinacea* (Reed Canary Grass)	20	Y	FACW
3. *Taraxacum officinale* (Common Dandelion)	20	N	FACU
4. *Poa pratensis* (Kentucky Blue Grass)	10	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD20-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/2	100					Clay Loam	
14-24	10YR 4/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 4, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD20-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 11, T109N, R29W

Landform (hillslope, terrace, etc.) Ground moraines, hillslopes Local relief (concave, convex, none): Concave

Slope (%): 2-6% slopes Lat: Long: Datum:

Soil Map Unit Name: 106B – Lester loam, 2-6% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Phalaris arundinacea* (Reed Canary Grass)	98	Y	FACW
2. *Scirpus atrovirens* (Green Bulrush)	2	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WD20-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 2/1	100					Clay Loam	
15-24	10YR 5/1	80	10YR 4/6	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

The vegetation on the north and south ends of this wet ditch is flattened due to water flowing toward Wet Ditch 20.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 15, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD32-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Hills on stream terraces Local relief (concave, convex, none): Slope

Slope (%): 6-15% slopes Lat: Long: Datum:

Soil Map Unit Name: 283B – Plainfield loamy sand, 2-6% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	60	Y	FACU
2. *Andropogon gerardii* (Big Bluestem)	35	Y	FAC
3. *Cirsium arvense* (Canada Thistle)	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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	x 1 =
FACW species	X 2 =
FAC species	X 3 =
FACU species	X 4 =
UPL species	X 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD32-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/1	100					Loam	
9-24	10YR 3/3	100					Fine Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 15, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD32-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 35, T110N, R30W

Landform (hillslope, terrace, etc.) Hills on stream terraces Local relief (concave, convex, none): Concave

Slope (%): 6-15% slopes Lat: Long: Datum:

Soil Map Unit Name: 283B – Plainfield loamy sand, 2-6% slopes NWI Classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Typha species* (Cattail sp.)	85	Y	OBL
2. *Phalaris arundinacea* (Reed Canary Grass)	10	N	FACW
3. *Verbena hastata* (Blue Vervain)	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- 3 - Prevalence Test is ≤ 3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

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

SOIL

Sampling Point: WD32-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Loam	
6-16	2.5Y 4/2	98	10YR 4/4	2	C	M	Fine Sand Loam	
16-24	2.5Y 4/2	85	10YR 4/4	15	C	M	Fine Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 15, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD34-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 34, T110N, R30W

Landform (hillslope, terrace, etc.) Hills on stream terraces Local relief (concave, convex, none): none

Slope (%): 6-15% slopes Lat: Long: Datum:

Soil Map Unit Name: 283C – Plainfield loamy sand, 6-15% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	70	Y	FACU
2. *Sorghastrum nutans* (Indiangrass)	30	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD34-1 UP

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 15, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD34-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 34, T110N, R30W

Landform (hillslope, terrace, etc.) Hills on stream terraces Local relief (concave, convex, none): Concave

Slope (%): 6-15% slopes Lat: Long: Datum:

Soil Map Unit Name: 283C – Plainfield loamy sand, 6-15% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Typha species* (Cattail)	100	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is > 50%
- ____ 3 - Prevalence Test is ≤ 3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No** ____

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

SOIL

Sampling Point: WD34-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					Fine Sand Loam	
8-24	2.5Y 4/2	95	10YR 4/4	5	C	M	Fine Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: ___
Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 17

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 21, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD35-1 UP

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 34, T110N, R30W

Landform (hillslope, terrace, etc.) Hills on stream terraces Local relief (concave, convex, none): Slope

Slope (%): 6-15% slopes Lat: Long: Datum:

Soil Map Unit Name: 94B – Terril loam, 2-6% slopes NWI Classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1 *Bromus inermis* (Smooth Brome)	80	Y	FACU
2. *Cirsium arvense* (Canada Thistle)	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: WD35-1 UP

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					Loam	
12-19	10YR 3/3	100					Loam	
19-24	10YR 5/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: SP 5202-58 (TH 14) City/County: Nicollet County Sampling Date: November 21, 2017

Applicant/Owner: Minnesota Department of Transportation State: Minnesota Sampling Point: WD35-1 WET

Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 34, T110N, R30W

Landform (hillslope, terrace, etc.) Hills on stream terraces Local relief (concave, convex, none): Concave

Slope (%): 6-15% slopes Lat: Long: Datum:

Soil Map Unit Name: 94B – Terril loam, 2-6% slopes NWI Classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Salix interior* (Sandbar Willow)	10	Y	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 5')			
1 *Typha species* (Cattail)	60	Y	OBL
2. *Phalaris arundinacea* (Reed Canary Grass)	40	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is > 50%
- 3 - Prevalence Test is ≤ 3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

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

SOIL

Sampling Point: WD35-1 WET

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 2/1	100					Loam	
17-24	10YR 5/1	96	10YR 4/6	4	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes X No ___ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 11

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks: