

Minnesota Wetland Conservation Act Notice of Decision

Local Government Unit: Blue Earth County	County: Blue Earth
Applicant Name: James Zarn	Applicant Representative: Addeline Theis Paradis – Bolton and Menk
Project Name: Zarn Wetland Delineation	LGU Project No. (if any): PL2024057
Date Application Received by LGU: 5/14/24	
Date of LGU Decision: 7/25/2024	
Date this Notice was Sent: 7/30/24	

WCA Decision Type - check all that apply

☒ Wetland Boundary/Type ☐ Sequencing ☐ Replacement Plan ☐ Bank Plan (not credit purchase)	
☐ No-Loss (8420.0415) ☐ Exemption (8420.0420)	
Part: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H	Subpart: ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area:
Wetland Replacement Type: ☐ Project Specific Credits: ☐ Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

☒ Approve ☐ Approve w/Conditions ☐ Deny ☐ No TEP Recommendation
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LGU Decision

☒ Approved with Conditions (specify below) ¹ ☐ Approved ¹ ☐ Denied List Conditions: Wetland Violation on the site must be addressed with Blue Earth County and the Blue Earth County Soil and Water Conservation District by 12/31/2024.
Decision-Maker for this Application: ☒ Staff ☐ Governing Board/Council ☐ Other:
Decision is valid for: ☒ 5 years (default) ☐ Other (specify):

¹ Wetland Replacement Plan approval is not valid until BWSR confirms the withdrawal of any required wetland bank credits. For project-specific replacement a financial assurance per MN Rule 8420.0522, Subp. 9 and evidence that all required forms have been recorded on the title of the property on which the replacement wetland is located must be provided to the LGU for the approval to be valid.

LGU Findings – Attach document(s) and/or insert narrative providing the basis for the LGU decision¹.

☐ Attachment(s) (specify): ☒ Summary: The Blue Earth County Technical Evaluation Panel has been reviewing the submitted application since the May 15 th TEP meeting. On May 15 th the TEP met at the site to review the wetland boundary identified in the submitted wetland delineation report. The TEP reviewed the boundary in the agricultural field and found the boundary to be larger than what the TEP members determined it to be based off of the 3 parameters of a wetland. Addie collected the new wetland boundary. The TEP then went to evaluate 2 areas that had water seeping out of the hillside, these areas appeared to meet the standards to be wetland. The TEP performed soil borings in the southern area of interest and the soils had a mucky top layer before transitioning to a more rock substrate. The area is devoid of trees due to the ground being too saturated year-round to support trees. The TEP wanted this area to be further evaluated for wetland status. The TEP then moved to the northern hillside seep and began to evaluate it for wetland characteristics. The TEP observed

similar characteristics to the southern area and wanted the area to be further evaluated. This area appears to have been impacted by a recent project to expand an existing road up a bluff face. The existing portion of the road was there before the Wetland Conservation Act was passed in 1991 but the new work appears to be an impact to a wetland basin. Based on conditions observed at the site Addie was going to submit an updated report evaluating the two hill side seeps.

On May 17th Addie submitted an updated report identifying the side hill seeps as type 2 wetland and a revised boundary of the wetland in the agricultural field. This updated report was sent out to the TEP members. The revised report shows an area of unimpacted wetland and impacted wetland for the north side hill seep. The TEP needed to verify the potential wetland impacts and would discuss at the next TEP meeting. The next TEP meeting was June 21. For the June 21st TEP meeting the area was too wet to safely and accurately evaluate the area for wetland characteristics and the site visit was moved to the next TEP meeting once conditions had dried out. During the July 17th TEP meeting, the TEP met Addie at the site and verified the area of fill in the wetland and the wetland boundaries of the type 2 side hill seeps. The TEP is in concurrence with the boundaries of the May 17th wetland delineation report. The TEP discussed the wetland impacts and determined with soil borings where the existing road ended, and the new work started. The TEP discussed that the impacts must be addressed and that a notice of violation will be sent out to the property owner for unauthorized wetland impacts.

For more information regarding this application go to:

<https://cityview.blueearthcountymn.gov/cityviewportal/Planning/Status?planningId=15073>

¹ Findings must consider any TEP recommendations.

Attached Project Documents

☐ Site Location Map ☒ Project Plan(s)/Descriptions/Reports (specify): Jim Zarn Wetland Delineation

Appeals of LGU Decisions

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for \$500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator
Minnesota Board of Water & Soils Resources
520 Lafayette Road North
St. Paul, MN 55155
travis.germundson@state.mn.us

Does the LGU have a local appeal process applicable to this decision?

☒ Yes¹ ☐ No

¹If yes, all appeals must first be considered via the local appeals process.

Local Appeals Submittal Requirements (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

Appeal of an LGU staff decision. Send petition and \$700.00 fee to:
Blue Earth County Property and Environmental Resources
PO BOX 3566
Mankato, MN 56002

Notice Distribution (include name)

Required on all notices:

☒ SWCD TEP Member: Jake Fritz	☒ BWSR TEP Member: Alyssa Core
☐ LGU TEP Member (if different than LGU contact):	
☒ DNR Representative: Erynn Jenzen	
☐ Watershed District or Watershed Mgmt. Org.:	
☒ Applicant (notice only): Jim Zarn Bolton and Menk	☒ Agent/Consultant (notice only): Addeline Theis Paradis –

Optional or As Applicable:

☒ Corps of Engineers: Corps of Engineers General Notification	
☐ BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
☐ Members of the Public (notice only):	☒ Other: Molly Westman – City of Mankato

Signature: 	Date: 7/30/24
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This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.



Zarn Property

Joint Application

Jim Zarn
May 16, 2024

Submitted by:
Bolton & Menk, Inc.
1960 Premier Drive
Mankato, MN 56001
P: (507) 625-4171
F: (507) 625-4177



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WETLAND DELINEATION REPORT

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name:	Jim Zarn		
Mailing Address:	N/A		
Phone:	N/A		
E-mail Address:	echozarn@gmail.com		

Authorized Contact (do not complete if same as above):

Mailing Address:

Phone:

E-mail Address:

Agent Name:	Bolton & Menk, Inc. Addeline Theis Natural Resource Specialist		
Mailing Address:	1960 Premier Drive Mankato, MN 56001		
Phone:	507-625-4171 ext 3745		
E-mail Address:	Addeline.theis@bolton-menk.com		

PART TWO: Site Location Information

County: Blue Earth

City/Township: Mankato TWP

Parcel ID and/or Address: R430835452008 (Refer to Exhibit A: Location Map)

Legal Description (Section, Township, Range): 35, 108N, 27W

Lat/Long (decimal degrees):

Attach a map showing the location of the site in relation to local streets, roads, highways.

Approximate size of site (acres) or if a linear project, length (feet): 40.0 acres

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted **prior to** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

PART FOUR: Aquatic Resource Impact¹ Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	Type of Impact (fill, excavate, drain, or remove vegetation)	Duration of Impact Permanent (P) or Temporary (T) ¹	Size of Impact ²	Overall Size of Aquatic Resource ³	Existing Plant Community Type(s) in Impact Area ⁴	County, Major Watershed #, and Bank Service Area # of Impact Area ⁵

¹If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

N/A

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: James Zarn Digitally signed by James Zarn
Date: 2024.05.01 11:52:58 -05'00' Date:

I hereby authorize **Bolton & Menk, Inc** to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

¹ The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Attachment A

Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☒ **Wetland Type Confirmation**

☒ **Delineation Concurrence.** Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination.** A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination.** An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).

<http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx>

Appendix



Zarn Property

Wetland Delineation Report

Jim Zarn
May 16, 2024

Submitted by:
Bolton & Menk, Inc.
1960 Premier Drive
Mankato, MN 56001
P: (507) 625-4171
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- Exhibit A: Site Location Map
- Exhibit B: 2-Foot LiDAR Contours Map
- Exhibit C: National Wetlands Inventory Map
- Exhibit D: Public Waters Inventory Map
- Exhibit E: Blue Earth County Soil Survey Map
- Exhibit F: Delineated Wetlands Map
- Exhibit G: Delineation Data Sheets

I. INTRODUCTION

Jim Zarn, a private land owner, is proposing parceling and site improvements to their property located off Ivywood Lane found in Mankato Township, Blue Earth County, MN. This report details the findings of the field delineation completed on April 30, 2024. A TEP (Technical Evaluation Panel) met out on site on May 15, 2024. This updated report reflects the approved wetland boundaries.

The project is found in Section 35, in Township 108 North of Range 27 West.

II. WETLAND DELINEATION METHODOLOGY

The wetland boundaries were delineated and staked in the field in April 2024, using methods described in the “Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)”. Wetlands identified were classified using “Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al., 1979)”, “Wetlands of the United States (United States Fish and Wildlife Service Circular No. 39, 1971 edition)” and “Wetland Plants and Plant Communities of Minnesota and Wisconsin” (Eggers and Reed Third Edition). Subsequently, the three mandatory technical criteria for wetland determinations are as follows:

Hydrophytic Vegetation. A hydrophytic plant community is present when the dominant plant species present can endure prolonged inundation and/or soil saturation during the growing season. A plant’s Wetland Indicator Status is determined using the 2016 National Wetland Plant List for Minnesota, published by the Army Corp of Engineers.

Hydric Soils. A hydric soil is defined as a soil that is formed under conditions of saturation, flooding or ponding long enough during the growing season (the portion of the year when there is above ground growth and development of vascular plants and/or soil temperature at 12 inches below the soil surface is above 41 degrees Fahrenheit or higher) to develop anaerobic conditions in the upper part.

Wetland Hydrology. An area has wetland hydrology if it experiences 14 or more consecutive days of flooding, ponding or a water table within 12 inches of the surface during the growing season at a minimum frequency of five out of ten years. This is determined by using both primary and secondary Wetland Hydrology indicators.

III. BACKGROUND INFORMATION

Prior to conducting a field investigation of this site, Exhibits A through E were used to complete a preliminary evaluation. The data gathered during the preliminary investigation was used as described below:

Exhibit A is a location map of the study area.

Exhibits B is an aerial photo with topographic information overlaid on it. This provides information regarding topography of the site, helping to identify areas that may have wetland characteristics.

Exhibit C is the National Wetlands Inventory of the site and surrounding properties. This information is used to complete a preliminary investigation of the wetlands that may or may not exist on the site.

Exhibit D is used to identify waters that are regulated by the DNR. This exhibit shows where there are DNR public waters relative to the site.

Exhibit E is the Blue Earth County Soil Survey and is used to identify hydric soils that may lie within the study area.

Delineation Exhibits F and G were prepared from the information gathered at the site.

Exhibit F is the site map showing the delineated aquatic resources.

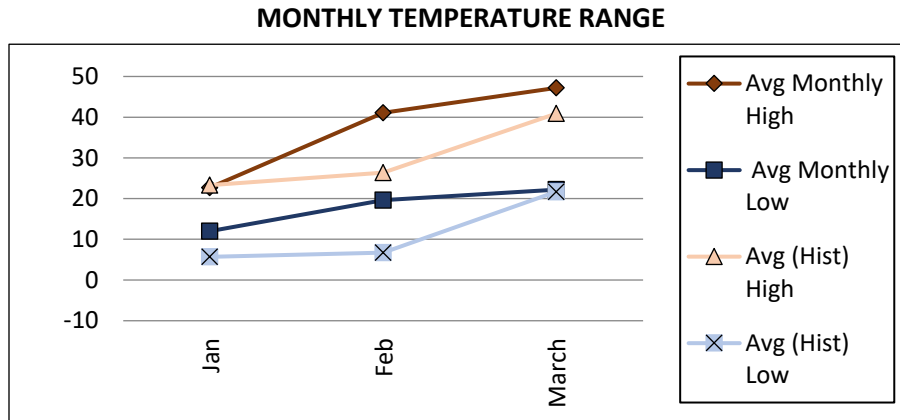
Exhibit G includes the wetland delineation data sheets.

Exhibit H is the off-site assessment datasheet used to determine farmed wetlands.

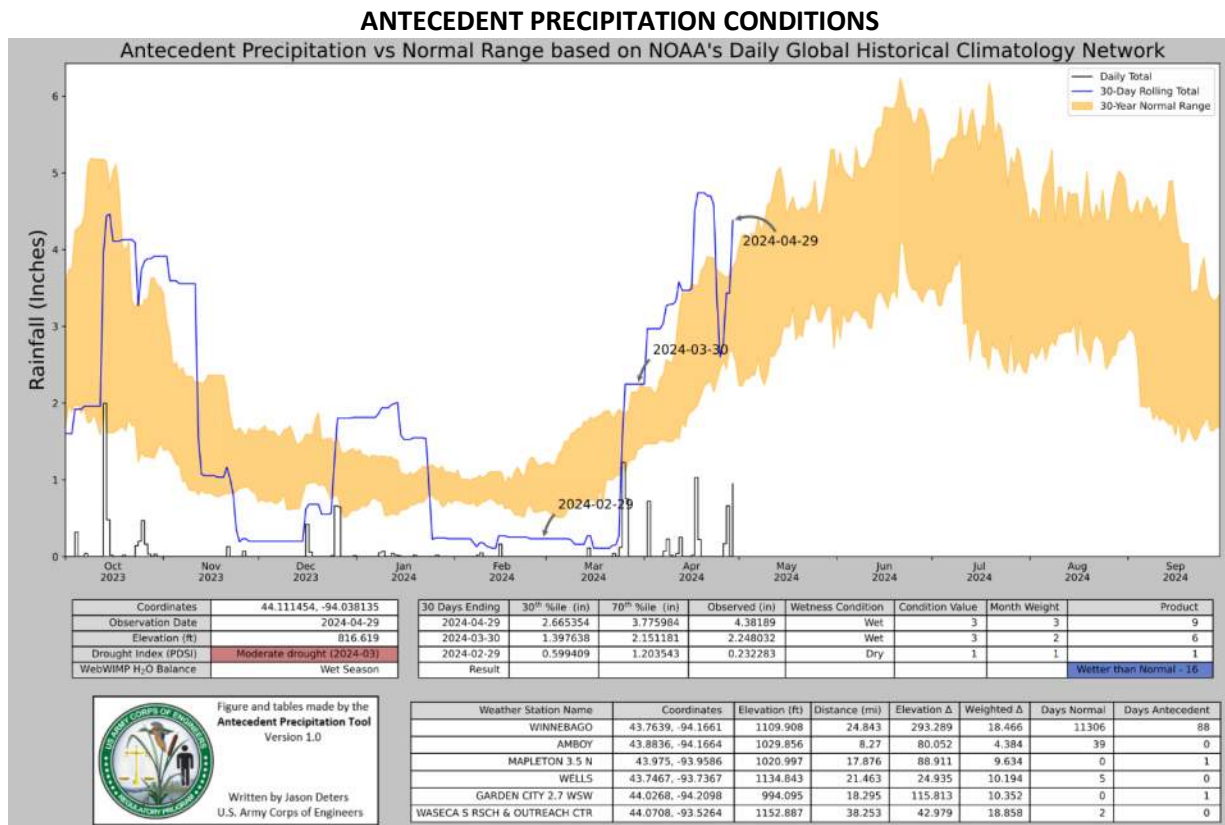
Exhibit I is the historical aerial imagery.

IV. CLIMATE DATA

The monthly temperature table below shows the average high and low temperatures for the three months prior to the field delineation, along with the historical averages for these months. The monthly low and high temperatures have been above normal ranges for this period.



Antecedent precipitation was evaluated using a combination of the NRCS Method and the Rolling Totals Method. The analysis found that precipitation was above normal over the past two months.



This climatic data was gathered using the Climatology Working Group Website, <http://climate.umn.edu/> and the National Weather Service Forecast Office, <http://w2.weather.gov/climate/>. The information for the investigation was retrieved from the WETS Station in St. Peter (ID: 217405)

V. FINDINGS

On April 28th, 2024 a field investigation was performed to evaluate and verify the existence and boundary of any aquatic resources located within the study area. On May 15, 2024, a TEP meeting met onsite to review limits. Three wetlands were found to exist within the study area. The following describes the aquatic resources identified, together with a brief description of wetland types and observations made during the field investigation.

Wetland 1 (W1-A & W1-B):

NWI Cowardin: None

PWI (Hydro) ID: None

Field Observation Circular 39: Type 1

Field Observation Eggers and Reed:

Seasonally Flooded Basin

Soil Mapping Unit(s): 106B: Lester Loam & 239: Le Sueur Loam

Wetland 1 consists of a small depression in an agricultural landscape. Hydrology sits here before draining into a drainage feature down the ravine and into the Le Sueur River. This wetland is a seasonally flooded basin.



Photo 1: View of the wetland 1 looking south.

The field investigation found that the site has met all three wetland indicators and this wetland complex should be considered a palustrine emergent persistent temporarily flooded (PEM1A) wetland. Two sample points were taken to determine the wetland boundary. The wetland boundary was largely drawn based on the changes in topography and slope in the depression.

At the W1-A wetland pit location and the W1-B upland pit location both had disturbed vegetation. Historically this area has been in row crop for the last two decades. At time of site visit, no vegetation was planted yet but small volunteers were growing. Only the wetland pit location met problematic hydrophytic vegetation due to the spraying and planted crops disturbing normal vegetation to grow. The W1-A wetland pit location met the hydric soil indicator F6-Redox Dark Surface. Soils in the W1-B upland pit location did not meet any of the hydric soil indicators. The W1-A wetland pit location met primary hydrology indicator of A3-Saturation, but due to the increased rainfall before site visit, two other secondary hydrology indicators were met, D2-Geomorphic Position & B10-Drainage Patterns. The W1-B upland pit location did not meet any of the hydrology indicators.

From these observations, it was determined that this depression meets the three parameters measured for a wetland system.



Photo 2: Looking into potential wetland 1, looking east.



Photo 3: Looking into potential wetland 3, looking east.



Photo 4: Looking into offsite NWI historic wetland, looking south.



Photo 5: Looking into ravine that wetland 1 drains into. Facing west.



Photo 6: Looking into flat upland forest area, facing south.



Photo 7: Looking to upland forest area slight sloped, facing north.



Photo 8: Looking into open canopy section of upland forest, facing west.



Photo 9: Existing road up bluff, facing east.



Photo 10: Rubus dominated understory in upland forest area, facing north.



Photo 11: Cedar trees dominating upland forest area, facing south.



Photo 12: New road up bluff.



Photo 13: Very steep slope of upland forest area, facing east.

Wetland 2 (W2-A & W2-B):

NWI Cowardin: None

PWI (Hydro) ID: None

Field Observation Circular 39: Type 2

Field Observation Eggers and Reed:

Hillside seep

Soil Mapping Unit(s): 106E-Lester loam
(Slope 10-22%)

Wetland 2 is a small depression found within a concave slope of the bluff. Hydrology is fed from ground water coming out at the base of the bluff through a series of springs.

The field investigation found that the site has met all three wetland indicators and this wetland complex should be considered a palustrine emergent persistent temporarily flooded (PEM1C) wetland. Two sample points were taken to determine the wetland boundary. The wetland boundary was largely drawn based on the changes in topography and slope in the depression.

At the W2-A wetland pit location, jewelweed dominated the herb stratum. W2-A met the indicator for hydrophytic vegetation. At the W2-B upland pit location, vegetation was dominated by Maple and Boxelder in the tree stratum, buckthorn and black raspberry in the shrub stratum, and Virginia waterleaf and white bear sedge dominate the herb stratum. W2-B did not meet indicator for hydrophytic vegetation. The W2-A wetland pit location met the hydric soil indicator other for problematic hydric soil due to the restriction layer of bedrock found 6 inches into the soil profile. W2-B upland pit location did not meet any indicator for hydric soil. W1-A wetland pit location met primary hydrology with surface water present. W1-B upland pit location did not meet any hydrology indicator.

From these observations, it was determined that this depression meets the three parameters measured for a wetland system.



Photo 14: Looking into wetland 2, hillside seep.

Wetland 3 (W3-A & W3-B):

NWI Cowardin: None

PWI (Hydro) ID: None

Field Observation Circular 39: Type 2

Field Observation Eggers and Reed:

Hillside seep

Soil Mapping Unit(s): 106E-Lester loam
(Slope 10-22%)

Wetland 2 is a small depression found within a concave slope of the bluff. Hydrology is fed from ground water coming out at the base of the bluff through a series of springs. Fill has been placed within the wetland, hindering the accuracy of wetland limits.

The field investigation found that the site has met all three wetland indicators and this wetland complex should be considered a palustrine emergent persistent temporarily flooded (PEM1C) wetland. Two sample points were taken to determine the wetland boundary. The wetland boundary was largely drawn based on the changes in topography and slope in the depression.

At the W3-A wetland pit location, red berried elder dominated the shrub layer, jewelweed dominated the herb stratum. W3-A met the indicator for hydrophytic vegetation. At the W3-B upland pit location, vegetation was dominated by Green Ash & Boxelder in the tree stratum, black raspberry in the shrub stratum, and wood nettle and hairy buttercup dominate the herb stratum. W3-B did not meet indicator for hydrophytic vegetation. The W3-A wetland pit location met the hydric soil indicator A10-2cm Muck. W2-B upland pit location did not meet any indicator for hydric soil. W1-A wetland pit location met primary hydrology with saturation present at 3inches. W1-B upland pit location did not meet any hydrology indicator.

From these observations, it was determined that this depression meets the three parameters measured for a wetland system.



Photo 15: Looking into wetland 3, hillside seep.



Photo 16: Looking into wetland 3, hillside seep.

VI. CONCLUSION

The delineation was performed on April 30, 2024. A TEP evaluated the site on May 15, 2024. The boundaries of the wetlands were staked in the field with three foot “Wetland Delineation” pin flags. The location of the pin flags were surveyed by Bolton & Menk, Inc. using a Juniper Geode Data Collector and tied to the Blue Earth County system. The delineated limits are believed to be the upper limits of where all three of the required wetland criteria were present.

Bolton & Menk, Inc., was asked to determine the boundaries of those jurisdictional wetlands that exist upon this property as defined by the Wetland Conservation Act.

Based upon all available information, the existing conditions that currently prevail, and the on-site investigation, evidence supports the presence of one wetland complex within the boundaries of the study area.

WETLAND SUMMARY

Id #	Wetland Type^	Size*
W1	Type 1 (Seasonally Flooded Basin)	260 sf
W2	Type 2 (Hillside Seep)	1864.1 sf
W3	Type 2 (Hillside Seep)	3382.5 sf
Total:		5,506.6 sf

**size measured within study area.*

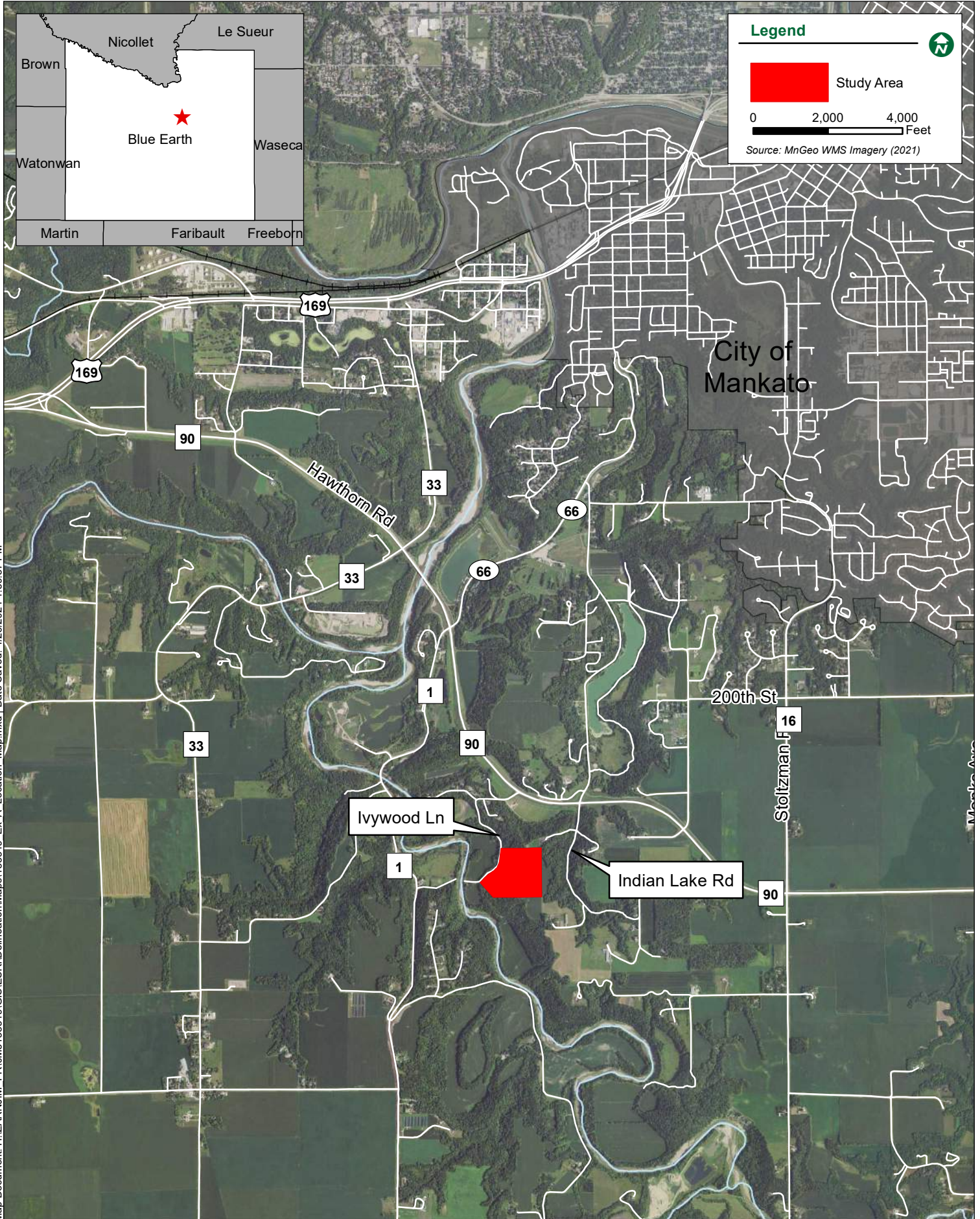
^wetland type within study area

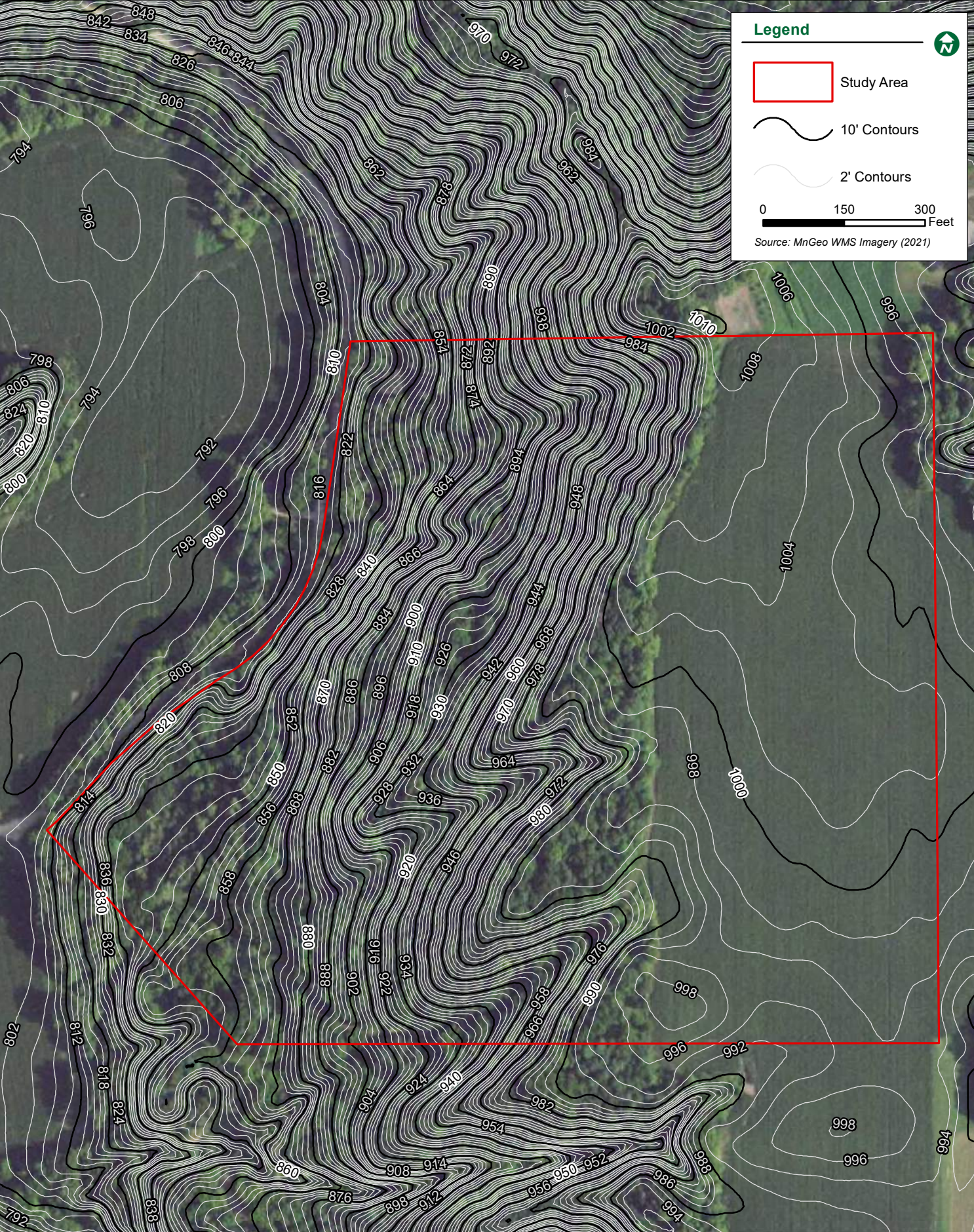
Sincerely,
BOLTON & MENK, INC.

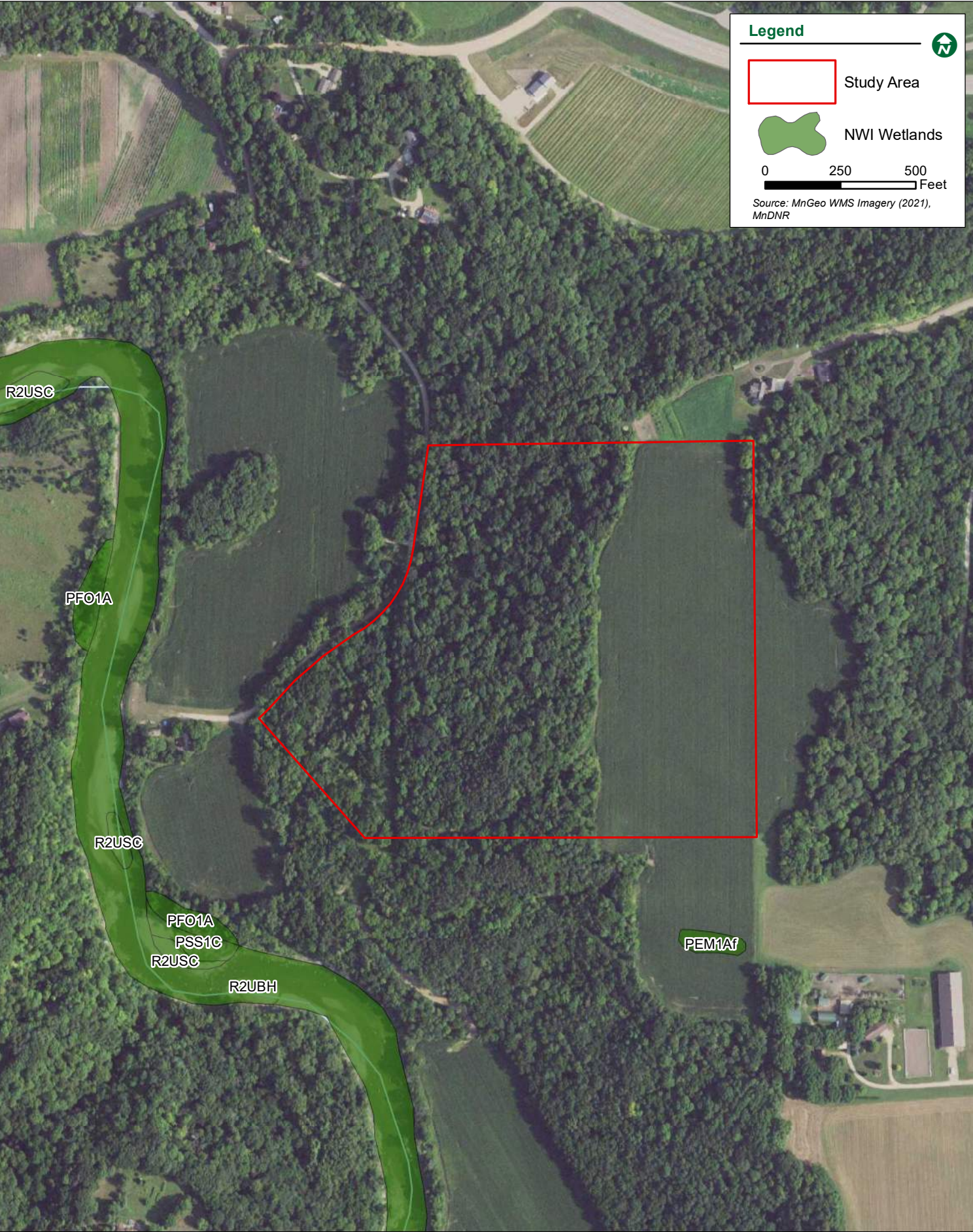


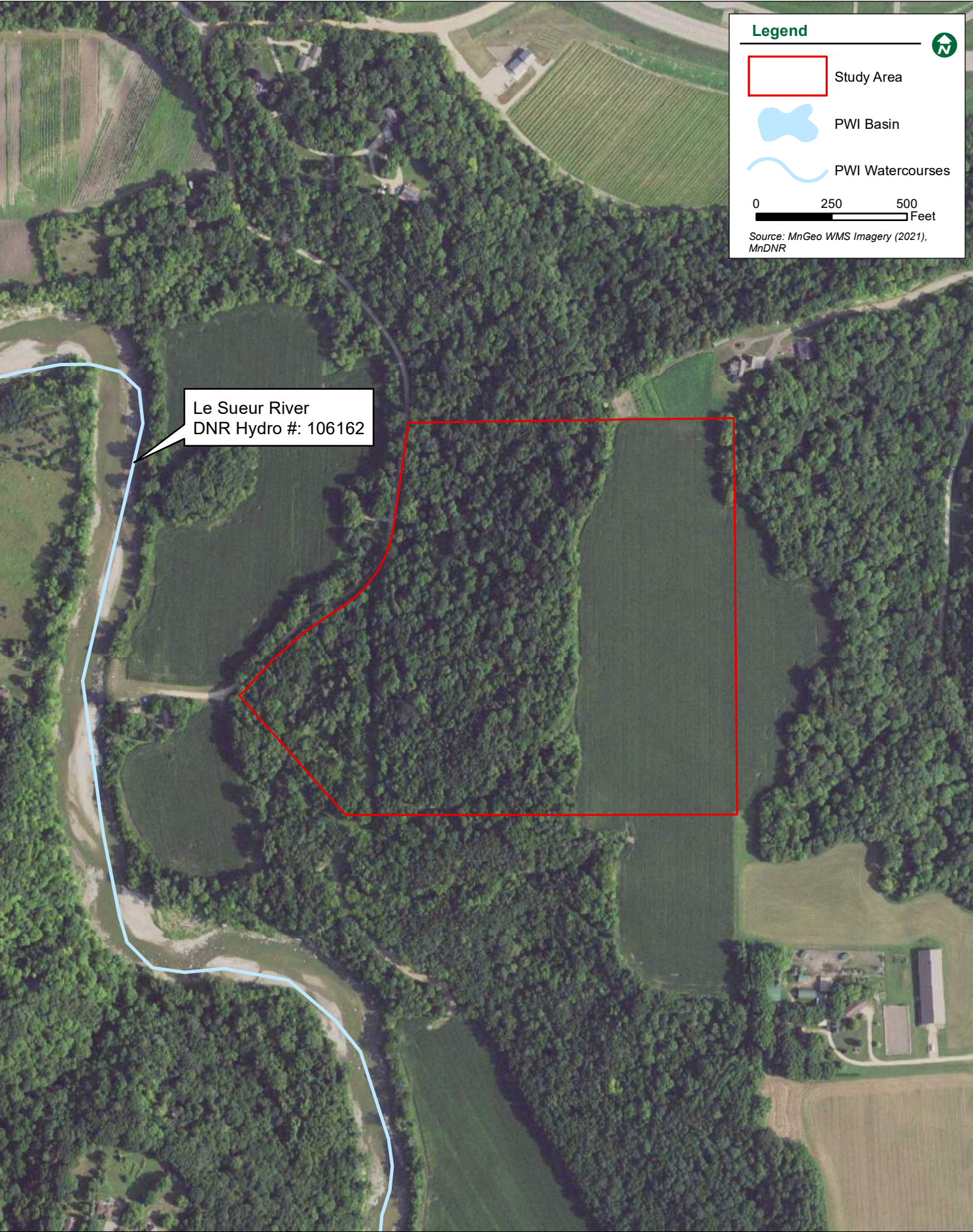
Addeline Theis
Certified Wetland Delineator, No. 1434

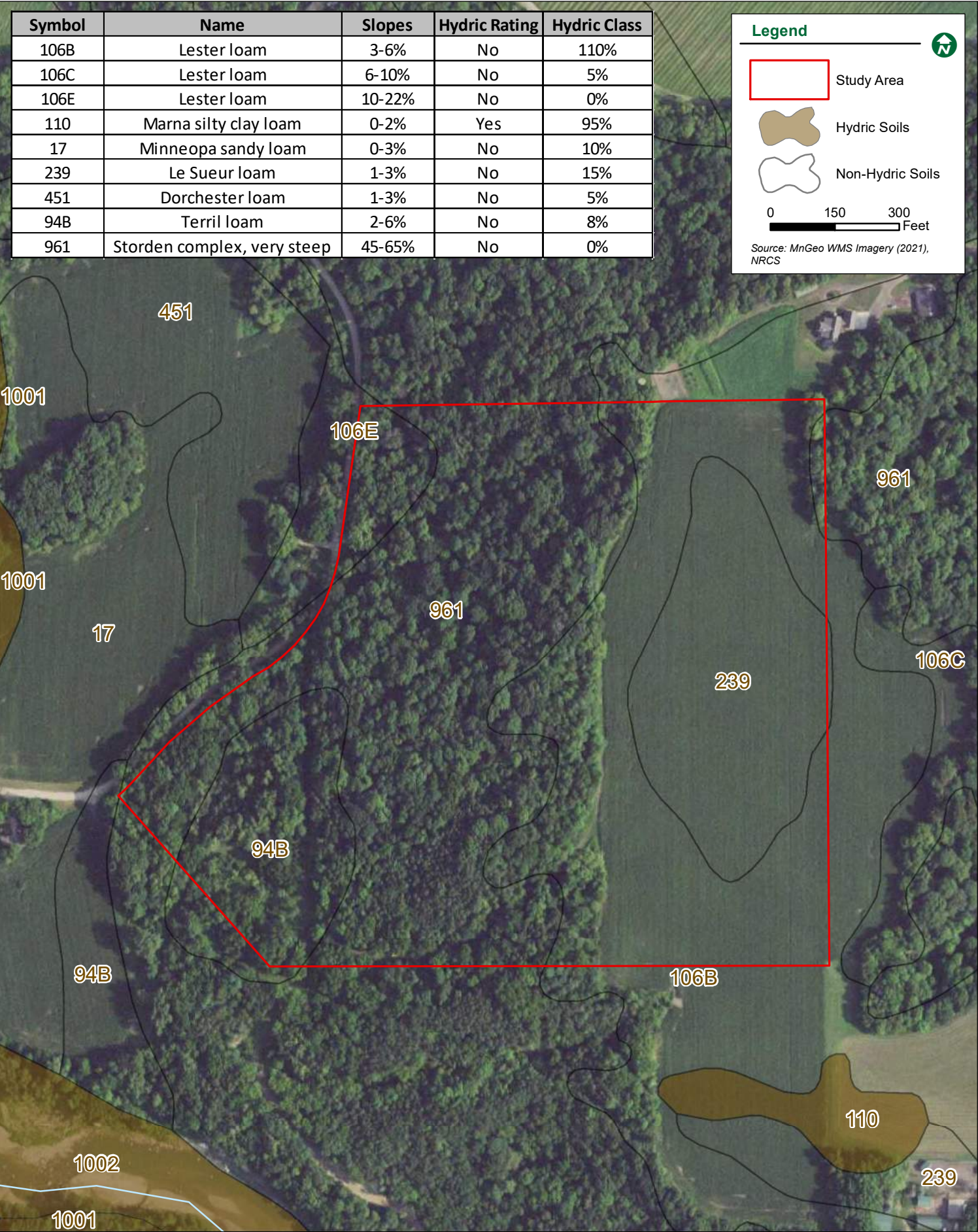
APPENDIX



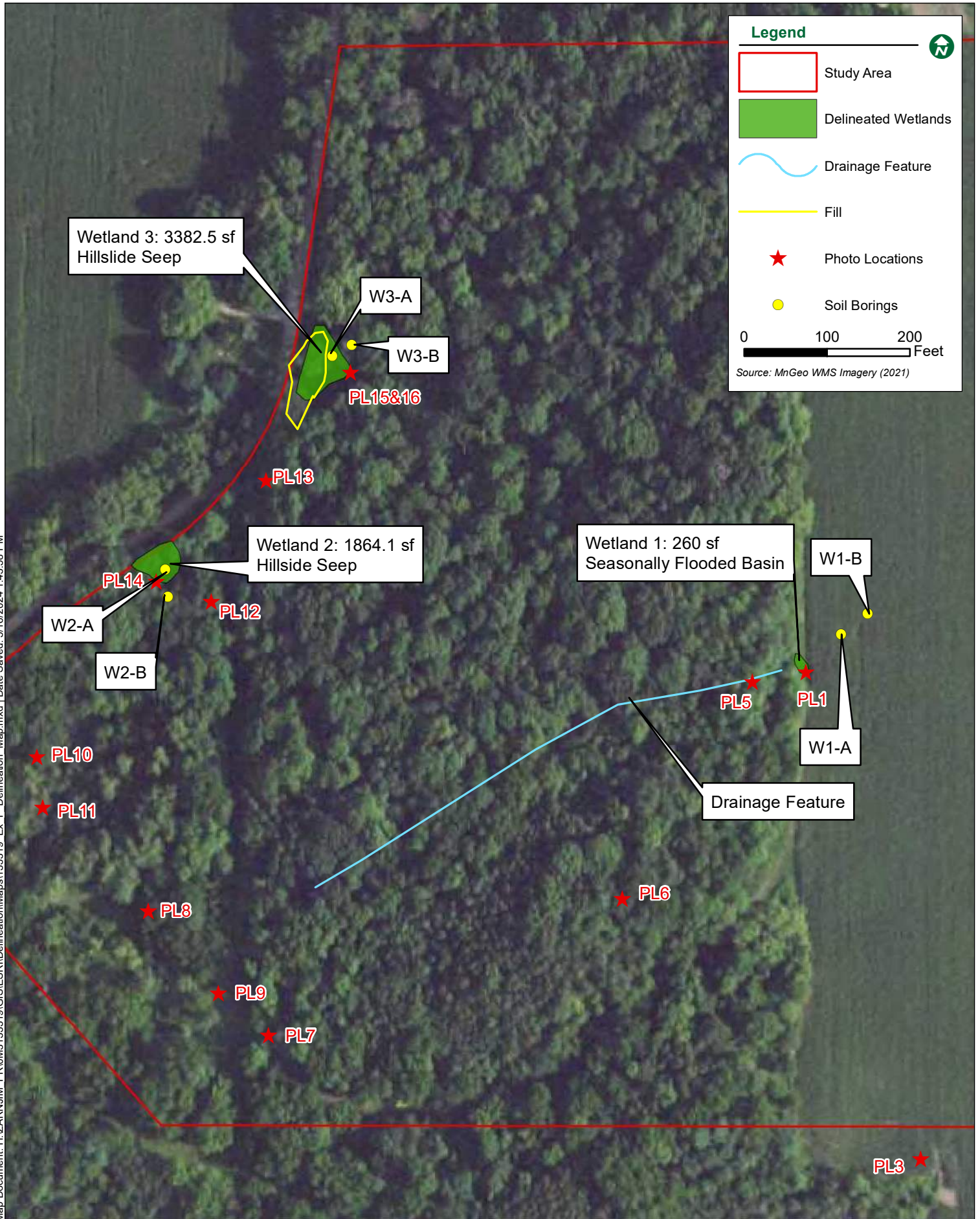








Map Document: H:\ZARN\JIM PROJ\03133319\GIS\ESRI\Delineation\Map.mxd | Date Saved: 5/16/2024 1:43:58 PM





Real People. Real Solutions.

EXHIBIT G: WETLAND DETERMINATION DATA FORM

(Midwest Region)

Project/Site:	<u>Zarn Property</u>	City/County:	<u>Mankato Twp/ Blue Earth County</u>	Sampling Date:	<u>4/30/2024</u>
Applicant/Owner:	<u>Jim Zarn</u>	State:	<u>Minnesota</u>	Sample Point:	<u>W1-A</u>
Investigator(s):	<u>Addeline Theis</u>	Section, Township, Range:	<u>Sec 35, T108N, R27W</u>		
Landforms (hillside, terrace, etc.):	<u>Deprerssion</u>	Local Relief (concave, convex, none):	<u>Concave</u>		
Slope (%):	<u>0-2%</u>	Latitude:	<u></u>	Longitude:	<u></u>
				Datum:	<u>Blue Earth</u>
Soil Map Unit Name:	<u>106B-Lester Loam</u>	NWI Classification:	<u>None</u>		
Are climatic/hydrologic conditions of the site typical for this time of year?		<u>No</u>	(If no, explain in remarks)		
Are vegetation	<u>X</u>	, soils	<u></u>	, or hydrology	<u></u> significantly disturbed?
Are vegetation	<u></u>	, soils	<u></u>	, or hydrology	<u></u> naturally problematic?
Are normal circumstances present? <u>No</u>					
(If needed, explain any answers in Remarks)					

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Yes</u>	Is the sampled area within a wetland?	<u>Yes</u>
Hydric soils present?	<u>Yes</u>		
Wetland hydrology present?	<u>Yes</u>		
Remarks: <u>Antecedent precipittion conditions were above norrmal at time of site visit. High and low temperatures have been above historic ranges at time of site visit .</u>			

VEGETATION - Use scientific names of plants

Tree Stratum	(Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet	
1	<u></u>	<u></u>	<u></u>	<u></u>	Number of dominant species that are OBL, FACW, or FAC: <u></u> (A)	
2	<u></u>	<u></u>	<u></u>	<u></u>	Total number of dominant species across all strata: <u></u> (B)	
3	<u></u>	<u></u>	<u></u>	<u></u>	Percent of dominant species that are OBL, FACW or FAC: <u></u> (A/B)	
4	<u></u>	<u></u>	<u></u>	<u></u>		
5	<u></u>	<u></u>	<u></u>	<u></u>		
				=Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				Prevalence Index Worksheet	
1	<u></u>	<u></u>	<u></u>	<u></u>	Total % cover of:	
2	<u></u>	<u></u>	<u></u>	<u></u>	OBL Species: <u></u> x 1 = <u></u>	
3	<u></u>	<u></u>	<u></u>	<u></u>	FACW Species: <u></u> x 2 = <u></u>	
4	<u></u>	<u></u>	<u></u>	<u></u>	FAC Species: <u></u> x 3 = <u></u>	
5	<u></u>	<u></u>	<u></u>	<u></u>	FACU species: <u></u> x 4 = <u></u>	
				=Total Cover	UPL Species: <u></u> x 5 = <u></u>	
					Totals: <u></u> (A) <u></u> (B)	
					Prevalence Index (B/A): <u></u>	
Herb stratum:	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators	
1	<u></u>	<u></u>	<u></u>	<u></u>	Rapid test for hydrophytic vegetation	
2	<u></u>	<u></u>	<u></u>	<u></u>	Dominance test >50%	
3	<u></u>	<u></u>	<u></u>	<u></u>	Prevalence index is ≤3.0*	
4	<u></u>	<u></u>	<u></u>	<u></u>	Morphological adaptations* (Provide supporting data in remarks)	
5	<u></u>	<u></u>	<u></u>	<u></u>	Problematic hydrophytic vegetation*	
6	<u></u>	<u></u>	<u></u>	<u></u>	<u>X</u> (Explain in remarks)	
7	<u></u>	<u></u>	<u></u>	<u></u>		
8	<u></u>	<u></u>	<u></u>	<u></u>		
9	<u></u>	<u></u>	<u></u>	<u></u>		
10	<u></u>	<u></u>	<u></u>	<u></u>		
				=Total Cover		
Woody vine stratum:	(Plot size: <u>15 feet</u>)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1	<u></u>	<u></u>	<u></u>	<u></u>		
2	<u></u>	<u></u>	<u></u>	<u></u>		
				=Total Cover	Hydrophytic vegetation present? <u>Yes</u>	

Remarks: Agricultural field with no seed planted yet for the season. Random volunteers have started to grow.



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EXHIBIT G:
WETLAND DETERMINATION DATA FORM

Sample Point: W1-A

(Midwest Region)

SOILS

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-3	10YR 2/1	100					Clay Loam	
3 to 11	10YR 2/1	90	10YR 4/6	10	C	M	Clay Loam	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils*:	
☐ Histisol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ Coast Prairie Redox (A16)(LRR K,L,R)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	☐ Dark Surface (S7)(LRR K, L)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)	☐ Iron-Manganese Masses (F12)(LRR K, L, R)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Material (F1)	☐ Very Shallow Dark Surface (TF12)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ Other (Explain in remarks)
☐ 2 cm Muck (A10)	☐ Depleted Matrix (F3)	
☐ Depleted Below Dark Surface (A11)	☒ Redox Dark Surface (F6)	
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)	
☐ Sandy Mucky Material (S1)	☐ Redox Depressions (F8)	
☐ 5 cm Mucky Peat or Peat (S3)		

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):	Hydric Soils Present?
Type: _____	<u>Yes</u>
Depth (inches): _____	

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:		
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Crack (B6)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☒ Drainage Patterns (B10)
☒ Saturation (A3)	☐ True Aquatic Plants (B14)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Crayfish Burrows (C8)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Drift Deposits (B3)	☐ Presence or Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☒ Geomorphic Position (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ FAC-Neutral Test (D5)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (C7)	
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)	

Field Observations:	Indicators of Wetland Hydrology Present?
Surface Water Present? <u>No</u>	<u>Yes</u>
Water Table Present? <u>Yes</u>	
Saturation Present? <u>Yes</u>	
Depth (inches): _____	
Depth (inches): <u>13</u>	
Depth (inches): <u>3</u>	

Remarks: _____



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EXHIBIT G: WETLAND DETERMINATION DATA FORM

(Midwest Region)

Project/Site: Zarn Property City/County: Mankato Twp/ Blue Earth County Sampling Date: 4/30/2024
Applicant/Owner: Jim Zarn State: Minnesota Sample Point: W1-B
Investigator(s): Addeline Theis Section, Township, Range: Sec 35, T108N, R27W
Landforms (hillside, terrace, etc.): Toeslope Local Relief (concave, convex, none): Linear
Slope (%): 2-5% Latitude: _____ Longitude: _____ Datum: Blue Earth
Soil Map Unit Name: 106B-Lester Loam NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of year? No (If no, explain in remarks)
Are vegetation X, soils _____, or hydrology _____ significantly disturbed? Are normal circumstances present? No
Are vegetation _____, soils _____, or hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soils present?	<u>No</u>	
Wetland hydrology present?	<u>No</u>	
Remarks: <u>Antecedent precipitation conditions were above normal at time of site visit. High and low temperatures have been above historic ranges at time of site visit .</u>		

VEGETATION - Use scientific names of plants

Tree Stratum	(Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species	Indicator Status	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)
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
				=Total Cover	
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)				Prevalence Index Worksheet Total % cover of: OBL Species: _____ x 1 = _____ FACW Species: _____ x 2 = _____ FAC Species: _____ x 3 = _____ FACU species: _____ x 4 = _____ UPL Species: _____ x 5 = _____ Totals: _____ (A) _____ (B) Prevalence Index (B/A): _____
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
				=Total Cover	
Herb stratum:	(Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators _____ Rapid test for hydrophytic vegetation _____ Dominance test >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (Provide supporting data in remarks) _____ Problematic hydrophytic vegetation* (Explain in remarks) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
3	_____	_____	_____	_____	
4	_____	_____	_____	_____	
5	_____	_____	_____	_____	
6	_____	_____	_____	_____	
7	_____	_____	_____	_____	
8	_____	_____	_____	_____	
9	_____	_____	_____	_____	
10	_____	_____	_____	_____	
				=Total Cover	Hydrophytic vegetation present? <u>No</u>
Woody vine stratum:	(Plot size: <u>15 feet</u>)				
1	_____	_____	_____	_____	
2	_____	_____	_____	_____	
				=Total Cover	

Remarks: Agricultural field with no seed planted yet for the season. Random volunteers have started to grow.



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EXHIBIT G:
WETLAND DETERMINATION DATA FORM

Sample Point: W1-B

(Midwest Region)

SOILS

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 2/1	100					Clay Loam	
15 to 19	10YR 3/1	100					Clay Loam	

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils*:	
☐ Histisol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ Coast Prairie Redox (A16)(LRR K,L,R)	
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	☐ Dark Surface (S7)(LRR K, L)	
☐ Black Histic (A3)	☐ Stripped Matrix (S6)	☐ Iron-Manganese Masses (F12)(LRR K, L, R)	
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Material (F1)	☐ Very Shallow Dark Surface (TF12)	
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ Other (Explain in remarks)	
☐ 2 cm Muck (A10)	☐ Depleted Matrix (F3)		
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)		
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)		
☐ Sandy Mucky Material (S1)	☐ Redox Depressions (F8)		
☐ 5 cm Mucky Peat or Peat (S3)			

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):	Hydric Soils Present?
Type: _____ Depth (inches): _____	<u>No</u>

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	☐ Surface Soil Crack (B6)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)	☐ Drainage Patterns (B10)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	☐ Crayfish Burrows (C8)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Drift Deposits (B3)	☐ Presence or Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Geomorphic Position (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ FAC-Neutral Test (D5)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (C7)	
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)	

Field Observations:		Indicators of Wetland Hydrology Present? <u>No</u>
Surface Water Present?	<u>No</u> Depth (inches): _____	
Water Table Present?	<u>No</u> Depth (inches): _____	
Saturation Present?	<u>No</u> Depth (inches): _____	

Remarks: _____



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**EXHIBIT G:
WETLAND DETERMINATION DATA FORM**

(Midwest Region)

Project/Site: Zarn Property City/County: Mankato Twp/ Blue Earth County Sampling Date: 5/15/2024
Applicant/Owner: Jim Zarn State: Minnesota Sample Point: W2-A
Investigator(s): Addeline Theis Section, Township, Range: Sec 35, T108N, R27W
Landforms (hillside, terrace, etc.): Hillside with small basin Local Relief (concave, convex, none): Concave
Slope (%): 3-4% Latitude: _____ Longitude: _____ Datum: Blue Earth
Soil Map Unit Name: 961-Storden complex, very steep NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of year? No (If no, explain in remarks)
Are vegetation _____, soils _____, or hydrology _____ significantly disturbed? Are normal circumstances present? No
Are vegetation _____, soils X, or hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soils present?	<u>Yes</u>	
Wetland hydrology present?	<u>Yes</u>	
Remarks:	Antecedent precipitation conditions were above normal at time of site visit. High and low temperatures have been above historic ranges at time of site visit. Soils are naturally problematic due to bedrock close to surface.	

VEGETATION - Use scientific names of plants

Tree Stratum	(Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species	Indicator Status
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____
4	_____	_____	_____	_____
5	_____	_____	_____	_____
		=Total Cover		
Sapling/Shrub stratum	(Plot size: <u>15 feet</u>)			
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____
4	_____	_____	_____	_____
5	_____	_____	_____	_____
		=Total Cover		
Herb stratum:	(Plot size: <u>5 feet</u>)			
1 <u>Impatiens pallida</u>		<u>85%</u>	<u>Yes</u>	<u>FACW</u>
2 <u>Urtica dioica</u>		<u>10%</u>	<u>No</u>	<u>FACW</u>
3	_____	_____	_____	_____
4	_____	_____	_____	_____
5	_____	_____	_____	_____
6	_____	_____	_____	_____
7	_____	_____	_____	_____
8	_____	_____	_____	_____
9	_____	_____	_____	_____
10	_____	_____	_____	_____
		=Total Cover		
Woody vine stratum:	(Plot size: <u>15 feet</u>)			
1	_____	_____	_____	_____
2	_____	_____	_____	_____
		=Total Cover		

Dominance Test Worksheet	
Number of dominant species that are OBL, FACW, or FAC:	<u>1</u> (A)
Total number of dominant species across all strata:	<u>1</u> (B)
Percent of dominant species that are OBL, FACW or FAC:	<u>100%</u> (A/B)
Prevalence Index Worksheet	
Total % cover of:	
OBL Species:	<u>0</u> x 1 = <u>0</u>
FACW Species:	<u>95</u> x 2 = <u>190</u>
FAC Species:	<u>0</u> x 3 = <u>0</u>
FACU species:	<u>0</u> x 4 = <u>0</u>
UPL Species:	<u>0</u> x 5 = <u>0</u>
Totals:	<u>95</u> (A) <u>190</u> (B)
Prevalence Index (B/A): <u>2.00</u>	
Hydrophytic Vegetation Indicators	
<u>X</u>	Rapid test for hydrophytic vegetation
<u>X</u>	Dominance test >50%
<u>X</u>	Prevalence index is ≤3.0*
Morphological adaptations* (Provide supporting data in remarks)	
Problematic hydrophytic vegetation* (Explain in remarks)	
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
Hydrophytic vegetation present?	<u>Yes</u>

Remarks: No trees growing within the wetland



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EXHIBIT G:
WETLAND DETERMINATION DATA FORM

(Midwest Region)

Sample Point: W2-A

SOILS

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	100					Silty Clay Loam	

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

Hydric Soil Indicators:

Histisol (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 Material (S1)

5 cm Mucky Peat or Peat (S3)

Sandy Gleyed Matrix (S4)

Sandy Redox (S5)

Stripped Matrix (S6)

Loamy Mucky Material (F1)

Loamy Gleyed Matrix (F2)

Depleted Matrix (F3)

Redox Dark Surface (F6)

Depleted Dark Surface (F7)

Redox Depressions (F8)

Indicators for Problematic Hydric Soils*:

Coast Prairie Redox (A16)(LRR K,L,R)

Dark Surface (S7)(LRR K, L)

Iron-Manganese Masses (F12)(LRR K, L, R)

Very Shallow Dark Surface (TF12)

X

Other (Explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Bedrock

Depth (inches):

6 inches

Hydric Soils Present?

Yes

Remarks:

Problematic hydric soil due to groundwater coming out at the base of the bluff. Bedrock is close to the surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

X

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 or Reduced Iron (C4)

Recent Iron Reduction in Tilled Soils (C6)

Thin Muck Surface (C7)

Gauge or Well Data (C7)

Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

Surface Soil Crack (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

Water Table Present?

Yes

Saturation Present?

Yes

Depth (inches):

0

Depth (inches):

5

Depth (inches):

0

Indicators of Wetland Hydrology Present?

Yes

Remarks:



EXHIBIT G:
WETLAND DETERMINATION DATA FORM

Project/Site:	Zarn Property	City/County:	Mankato Twp/ Blue Earth County	Sampling Date:	4/30/2024
Applicant/Owner:	Jim Zarn	State:	Minnesota	Sample Point:	W2-B
Investigator(s):	Addeline Theis	Section, Township, Range:	Sec 35, T108N, R27W		
Landforms (hillside, terrace, etc.):	Hillside	Local Relief (concave, convex, none):	Linear		
Slope (%):	6-10%	Latitude:	Longitude:	Datum:	Blue Earth
Soil Map Unit Name:	106B-Lester Loam	NWI Classification:	None		
Are climatic/hydrologic conditions of the site typical for this time of year?	No	(If no, explain in remarks)			
Are vegetation _____, soils _____, or hydrology _____	significantly disturbed?	Are normal circumstances present? No			
Are vegetation _____, soils _____, or hydrology _____	naturally problematic?	(If needed, explain any answers in Remarks)			

Hydrophytic vegetation present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soils present?	<u>No</u>	
Wetland hydrology present?	<u>No</u>	
Remarks:	Antecedent precipitation conditions were above normal at time of site visit. High and low temperatures have been above historic ranges at time of site visit .	

Tree Stratum (Plot size: <u>30 feet</u>)				Absolute % Cover		Dominant Species		Indicator Status		Dominance Test Worksheet			
1 Acer saccharum				30		Yes		FACU		Number of dominant species that are OBL, FACW, or FAC: 4 (A)			
2 Acer negundo				15		Yes		FAC		Total number of dominant species across all strata: 5 (B)			
3										Percent of dominant species that are OBL, FACW or FAC: 80% (A/B)			
4													
5													
				45		=Total Cover							
Sapling/Shrub stratum (Plot size: <u>15 feet</u>)				Absolute % Cover		Dominant Species		Indicator Status		Prevalence Index Worksheet			
1 Rhamnus cathartica				35		Yes		FAC		Total % cover of:			
2 ribes cynosbati				10		Yes		FAC		OBL Species: 0 x 1 = 0			
3										FACW Species: 0 x 2 = 0			
4										FAC Species: 95 x 3 = 285			
5										FACU species: 45 x 4 = 180			
				45		=Total Cover				UPL Species: 30 x 5 = 150			
										Totals: 170 (A) 615 (B)			
										Prevalence Index (B/A): 3.62			
Herb stratum: (Plot size: <u>5 feet</u>)				Absolute % Cover		Dominant Species		Indicator Status		Hydrophytic Vegetation Indicators			
1 Hydrophyllum virginianum				35		Yes		FAC		Rapid test for hydrophytic vegetation			
2 Carex albursina				25		Yes		UPL		Dominance test >50%			
3 Erythronium albidum				15		No		FACU		Prevalence index is ≤3.0*			
4 Cystopteris tenuis				5		No		UPL		Morphological adaptations* (Provide supporting data in remarks)			
5										Problematic hydrophytic vegetation* (Explain in remarks)			
6													
7													
8													
9													
10													
				80		=Total Cover				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
Woody vine stratum: (Plot size: <u>15 feet</u>)				Absolute % Cover		Dominant Species		Indicator Status		Hydrophytic vegetation present? No			
1													
2													
						=Total Cover							
Remarks:													



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EXHIBIT G:
WETLAND DETERMINATION DATA FORM

(Midwest Region)

Sample Point: W2-B

SOILS

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR 2/1	100					Sandy Clay Loam	

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

Hydric Soil Indicators:

Histisol (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 Material (S1)

5 cm Mucky Peat or Peat (S3)

Sandy Gleyed Matrix (S4)

Sandy Redox (S5)

Stripped Matrix (S6)

Loamy Mucky Material (F1)

Loamy Gleyed Matrix (F2)

Depleted Matrix (F3)

Redox Dark Surface (F6)

Depleted Dark Surface (F7)

Redox Depressions (F8)

Indicators for Problematic Hydric Soils*:

Coast Prairie Redox (A16)(LRR K,L,R)

Dark Surface (S7)(LRR K, L)

Iron-Manganese Masses (F12)(LRR K, L, R)

Very Shallow Dark Surface (TF12)

Other (Explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soils Present?

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 or Reduced Iron (C4)

Recent Iron Reduction in Tilled Soils (C6)

Thin Muck Surface (C7)

Gauge or Well Data (C7)

Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

Surface Soil Crack (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?

No

Water Table Present?

No

Saturation Present?

No

Depth (inches):

Depth (inches):

Depth (inches):

Indicators of Wetland Hydrology Present?

No

Remarks:



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**EXHIBIT G:
WETLAND DETERMINATION DATA FORM**

(Midwest Region)

Project/Site:	<u>Zarn Property</u>	City/County:	<u>Mankato Twp/ Blue Earth County</u>	Sampling Date:	<u>5/15/2024</u>
Applicant/Owner:	<u>Jim Zarn</u>	State:	<u>Minnesota</u>	Sample Point:	<u>W3-A</u>
Investigator(s):	<u>Addeline Theis</u>	Section, Township, Range:	<u>Sec 35, T108N, R27W</u>		
Landforms (hillside, terrace, etc.):	<u>Hillside with small basin</u>	Local Relief (concave, convex, none):	<u>Concave</u>		
Slope (%):	<u>3-4%</u>	Latitude:		Longitude:	
				Datum:	<u>Blue Earth</u>
Soil Map Unit Name:	<u>961-Storden complex, very steep</u>	NWI Classification:	<u>None</u>		
Are climatic/hydrologic conditions of the site typical for this time of year?		<u>No</u>	(If no, explain in remarks)		
Are vegetation _____, soils _____, or hydrology _____ significantly disturbed?		Are normal circumstances present? <u>No</u>			
Are vegetation _____, soils _____, or hydrology _____ naturally problematic?		(If needed, explain any answers in Remarks)			

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Yes</u>	Is the sampled area within a wetland?	<u>Yes</u>	
Hydric soils present?	<u>Yes</u>			
Wetland hydrology present?	<u>Yes</u>			
Remarks:	<u>Antecedent precipitation conditions were above normal at time of site visit. High and low temperatures have been above historic ranges at time of site visit.</u>			

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: <u>30 feet</u>)				Dominance Test Worksheet	
1		Absolute % Cover	Dominant Species	Indicator Status	Number of dominant species that are OBL, FACW, or FAC: <u>1</u> (A)
2					Total number of dominant species across all strata: <u>2</u> (B)
3					Percent of dominant species that are OBL, FACW or FAC: <u>100%</u> (A/B)
4					
5					
				=Total Cover	
Sapling/Shrub stratum (Plot size: <u>15 feet</u>)				Prevalence Index Worksheet	
1	<u>Sambucus racemosa</u>	<u>15%</u>	<u>Yes</u>	<u>FACU</u>	Total % cover of:
2					OBL Species: <u>0</u> x 1 = <u>0</u>
3					FACW Species: <u>90</u> x 2 = <u>180</u>
4					FAC Species: <u>10</u> x 3 = <u>30</u>
5					FACU species: <u>15</u> x 4 = <u>60</u>
				=Total Cover	UPL Species: <u>0</u> x 5 = <u>0</u>
				<u>15%</u>	Totals: <u>115</u> (A) <u>270</u> (B)
Herb stratum: (Plot size: <u>5 feet</u>)				Prevalence Index (B/A): <u>2.35</u>	
1	<u>Impatiens pallida</u>	<u>75%</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators Rapid test for hydrophytic vegetation Dominance test >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (Provide supporting data in remarks) Problematic hydrophytic vegetation* (Explain in remarks) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2	<u>Ranunculus recurvatus</u>	<u>15%</u>	<u>No</u>	<u>FACW</u>	
3	<u>Galium boreale</u>	<u>10%</u>	<u>No</u>	<u>FAC</u>	
4					
5					
6					
7					
8					
9					
10					
				=Total Cover	
Woody vine stratum: (Plot size: <u>15 feet</u>)				Hydrophytic vegetation present? <u>Yes</u>	
1					
2					
				=Total Cover	
Remarks: <u>No trees growing within the wetland</u>					



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EXHIBIT G:
WETLAND DETERMINATION DATA FORM

(Midwest Region)

Sample Point: W3-A

SOILS

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	10YR 2/1	100					Muck	
2 to 20	10YR 2/1	100					Clay Loam	
20-26	10YR 2/1	90	10YR 4/6	10	C	M	Clay Loam	

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

Hydric Soil Indicators:

Histisol (A1)

Histic Epipedon (A2)

Black Histic (A3)

Hydrogen Sulfide (A4)

Stratified Layers (A5)

X

2 cm Muck (A10)

Depleted Below Dark Surface (A11)

Thick Dark Surface (A12)

Sandy Mucky Material (S1)

5 cm Mucky Peat or Peat (S3)

Sandy Gleyed Matrix (S4)

Sandy Redox (S5)

Stripped Matrix (S6)

Loamy Mucky Material (F1)

Loamy Gleyed Matrix (F2)

Depleted Matrix (F3)

Redox Dark Surface (F6)

Depleted Dark Surface (F7)

Redox Depressions (F8)

Indicators for Problematic Hydric Soils*:

Coast Prairie Redox (A16)(LRR K,L,R)

Dark Surface (S7)(LRR K, L)

Iron-Manganese Masses (F12)(LRR K, L, R)

Very Shallow Dark Surface (TF12)

Other (Explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soils Present?

Yes

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 or Reduced Iron (C4)

Recent Iron Reduction in Tilled Soils (C6)

Thin Muck Surface (C7)

Gauge or Well Data (C7)

Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

Surface Soil Crack (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?

No

Water Table Present?

Yes

Saturation Present?

Yes

Depth (inches):

Depth (inches):

15

Depth (inches):

3

Indicators of Wetland Hydrology Present?

Yes

Remarks:



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**EXHIBIT G:
WETLAND DETERMINATION DATA FORM**

(Midwest Region)

Project/Site:	<u>Zarn Property</u>	City/County:	<u>Mankato Twp/ Blue Earth County</u>	Sampling Date:	<u>4/30/2024</u>
Applicant/Owner:	<u>Jim Zarn</u>	State:	<u>Minnesota</u>	Sample Point:	<u>W3-B</u>
Investigator(s):	<u>Addeline Theis</u>	Section, Township, Range:	<u>Sec 35, T108N, R27W</u>		
Landforms (hillside, terrace, etc.):	<u>Hillside</u>	Local Relief (concave, convex, none):	<u>Linear</u>		
Slope (%):	<u>6-10%</u>	Latitude:		Longitude:	
				Datum:	<u>Blue Earth</u>
Soil Map Unit Name:	<u>106B-Lester Loam</u>	NWI Classification:	<u>None</u>		
Are climatic/hydrologic conditions of the site typical for this time of year?		<u>No</u>	(If no, explain in remarks)		
Are vegetation _____, soils _____, or hydrology _____ significantly disturbed?		Are normal circumstances present? <u>No</u>			
Are vegetation _____, soils _____, or hydrology _____ naturally problematic?		(If needed, explain any answers in Remarks)			

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>No</u>	Is the sampled area within a wetland?	<u>No</u>	
Hydric soils present?	<u>No</u>			
Wetland hydrology present?	<u>No</u>			
Remarks:	<u>Antecedent precipitation conditions were above normal at time of site visit. High and low temperatures have been above historic ranges at time of site visit .</u>			

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: <u>30 feet</u>)				Dominance Test Worksheet	
1	<u>Fraxinus pennsylvanica</u>	<u>35</u>	<u>Yes</u>	<u>FACW</u>	Number of dominant species that are OBL, FACW, or FAC: <u>4</u> (A)
2	<u>Acer negundo</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>	Total number of dominant species across all strata: <u>5</u> (B)
3					Percent of dominant species that are OBL, FACW or FAC: <u>80%</u> (A/B)
4					
5					
		<u>60</u>	=Total Cover		
Sapling/Shrub stratum (Plot size: <u>15 feet</u>)				Prevalence Index Worksheet	
1	<u>Rubus occidentalis</u>	<u>25</u>	<u>Yes</u>	<u>UPL</u>	Total % cover of:
2					OBL Species: <u>0</u> x 1 = <u>0</u>
3					FACW Species: <u>74</u> x 2 = <u>150</u>
4					FAC Species: <u>60</u> x 3 = <u>180</u>
5					FACU species: <u>34</u> x 4 = <u>136</u>
		<u>25</u>	=Total Cover		UPL Species: <u>25</u> x 5 = <u>125</u>
					Totals: <u>193</u> (A) <u>591</u> (B)
					Prevalence Index (B/A): <u>3.06</u>
Herb stratum: (Plot size: <u>5 feet</u>)				Hydrophytic Vegetation Indicators	
1	<u>Laportea canadensis</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>	Rapid test for hydrophytic vegetation
2	<u>Alliaria petiolata</u>	<u>35</u>	<u>Yes</u>	<u>FAC</u>	Dominance test >50%
3	<u>Osmorhizia claytonii</u>	<u>20</u>	<u>No</u>	<u>FACU</u>	Prevalence index is ≤3.0*
4	<u>Aquilegia canadensis</u>	<u>7</u>	<u>No</u>	<u>FACU</u>	Morphological adaptations* (Provide supporting data in remarks)
5	<u>Germanium maculatum</u>	<u>7</u>	<u>No</u>	<u>FACU</u>	Problematic hydrophytic vegetation* (Explain in remarks)
6					
7					
8					
9					
10					
		<u>109</u>	=Total Cover		
Woody vine stratum: (Plot size: <u>15 feet</u>)				Hydrophytic vegetation present? <u>No</u>	
1					
2					
			=Total Cover		
Remarks: _____					



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EXHIBIT G:
WETLAND DETERMINATION DATA FORM

(Midwest Region)

Sample Point: W3-B

SOILS

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-19	10YR 2/1	100					Sandy Clay Loam	

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

Hydric Soil Indicators:

Histisol (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 Material (S1)

5 cm Mucky Peat or Peat (S3)

Sandy Gleyed Matrix (S4)

Sandy Redox (S5)

Stripped Matrix (S6)

Loamy Mucky Material (F1)

Loamy Gleyed Matrix (F2)

Depleted Matrix (F3)

Redox Dark Surface (F6)

Depleted Dark Surface (F7)

Redox Depressions (F8)

Indicators for Problematic Hydric Soils*:

Coast Prairie Redox (A16)(LRR K,L,R)

Dark Surface (S7)(LRR K, L)

Iron-Manganese Masses (F12)(LRR K, L, R)

Very Shallow Dark Surface (TF12)

Other (Explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soils Present?

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 or Reduced Iron (C4)

Recent Iron Reduction in Tilled Soils (C6)

Thin Muck Surface (C7)

Gauge or Well Data (C7)

Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

Surface Soil Crack (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?

No

Water Table Present?

No

Saturation Present?

No

Depth (inches):

Depth (inches):

Depth (inches):

Indicators of Wetland Hydrology Present?

No

Remarks:

EXHIBIT H:
OFF-SITE HYDROLOGY ASSESSMENT
RECORDING FORM

Project/Site:

Jim Zarn Sec 35-108-27

Applicant/Owner:

Jim Zarn

Investigator(s):

Cortiney Galuska & Addie Theis

WETS Station ID:

Gridded Database

City/County:

Blue Earth County

State:

Minnesota

Sec, Twp, Ran:

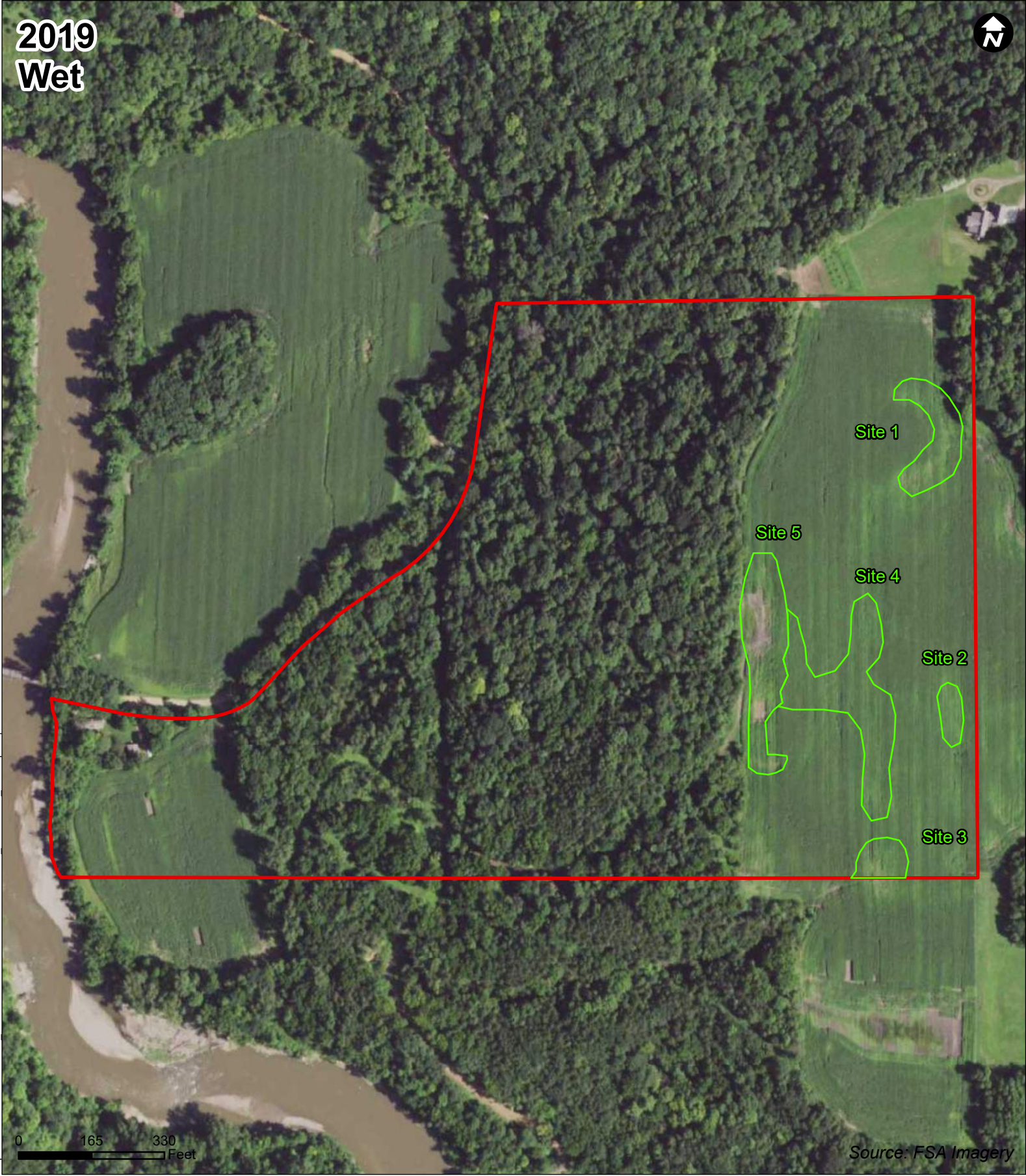
35, 108, 27

Date:

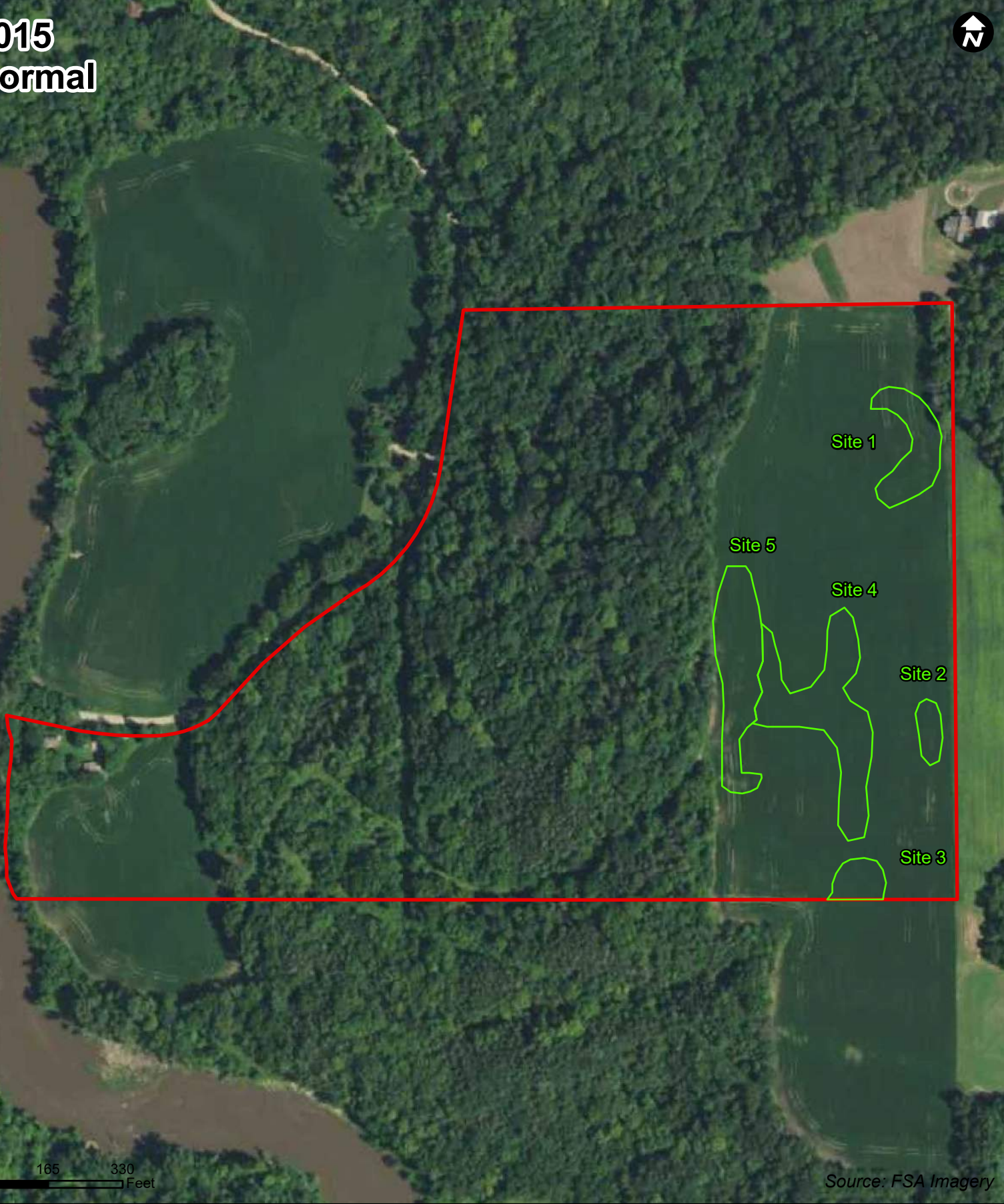
4/2/2024

Date:	Source:	Assumed Month:	Climatic Condition:	Image Interpretations					
				Site 1	Site 2	Site 3	Site 4	Site 5	Notes
2019	MnGeo WMS	May	Wet	CS	CS	CS	NV	DO	
2017	MnGeo WMS	May	Normal	DO	DO	DO	CS	DO	Wet Winter
2015	MnGeo WMS	June	Normal	NV	NV	NV	NV	CS	
2013	MnGeo WMS	July	Normal	SS		SS			Field Recently Mowed
2010	MnGeo WMS	September	Normal	CS	NV	NV	NV	CS	
2009	MnGeo WMS	July	Dry	NV	NV	NV	NV	NV	
2008	MnGeo WMS	July	Dry	SS					Field Recently Mowed
2003	MnGeo WMS	June	Normal	NV	NV	NV	NV	NV	
Hydric Soil				No	No	No	No	No	
NWI				No	No	No	No	No	
Normal Years				5	5	5	5	5	
Wet Signatures				3	1	2	1	3	
Percent Wet Signatures				60%	20%	40%	20%	60%	
NV - Normal Vegetation, WS - Wetland Signature, CS - Crop Stress, DO - Drown Out, SW - Standing Water, AP - Altered Pattern, NC - Not Cropped, SS-Soil Wetness									

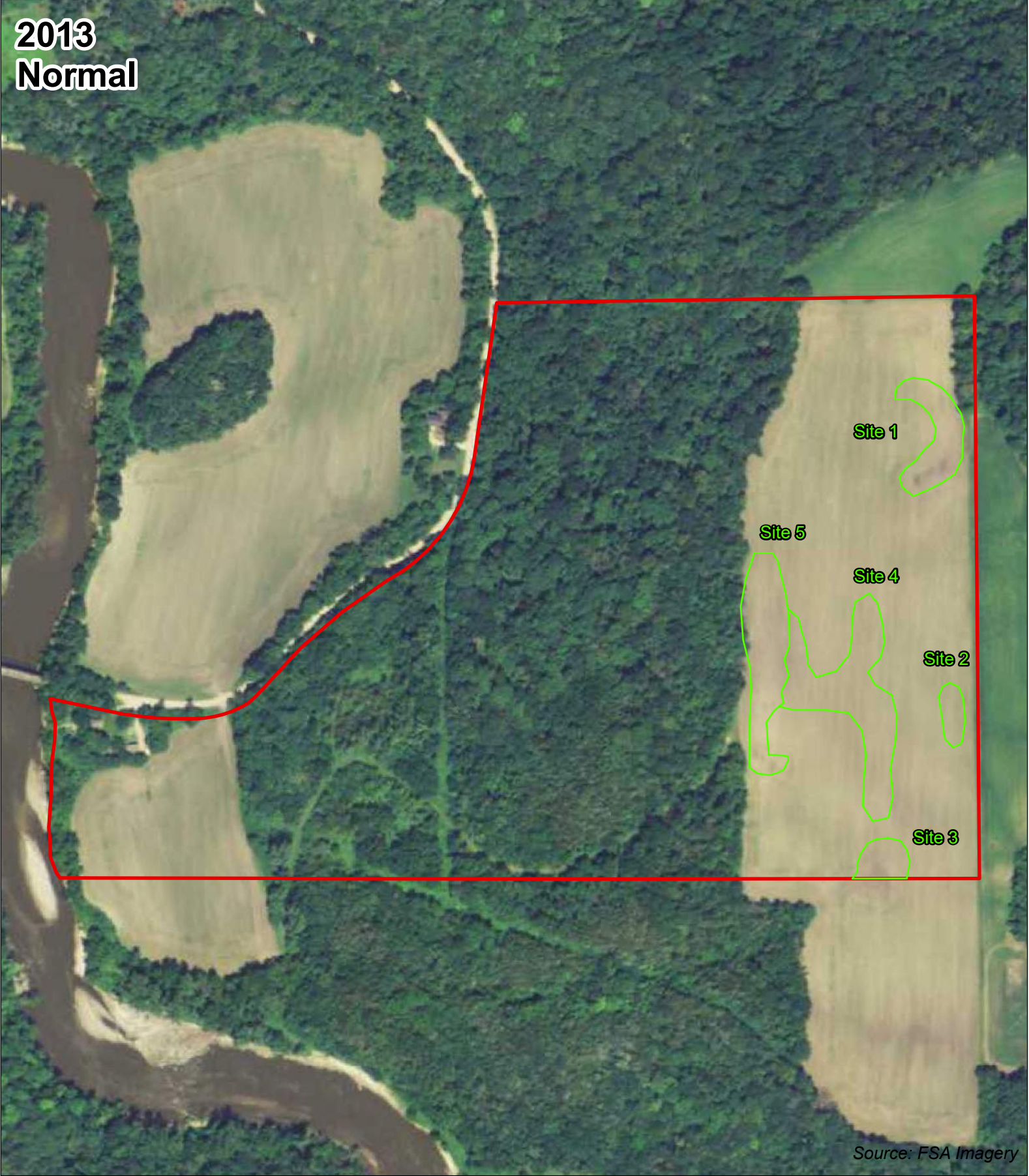
Decision Matrix						Results
Hydric Soil	NWI	% Wet	% Wet	Field visit?	Wetland?	
Yes	Yes	>50%	>50%	No	Yes	
Yes	Yes	30-50%	30-50%	No	Yes	
Yes	Yes	<30%	<30%	Yes	Yes, w/field hydro	
Yes	No	>50%	>50%	No	Yes	
Yes	No	30-50%	30-50%	Yes	Yes, w/field hydro	
Yes	No	<30%	<30%	No	No	
No	Yes	>50%	>50%	No	Yes	
No	Yes	30-50%	30-50%	No	Yes	
No	Yes	<30%	<30%	No	No	
No	No	>50%	>50%	Yes	Yes, w/field hydro	Sites 1 & 5
No	No	30-50%	30-50%	Yes	Yes, w/field hydro	Site 3
No	No	<30%	<30%	No	No	Sites 2 & 4



2015
Normal



2013
Normal



2010
Normal

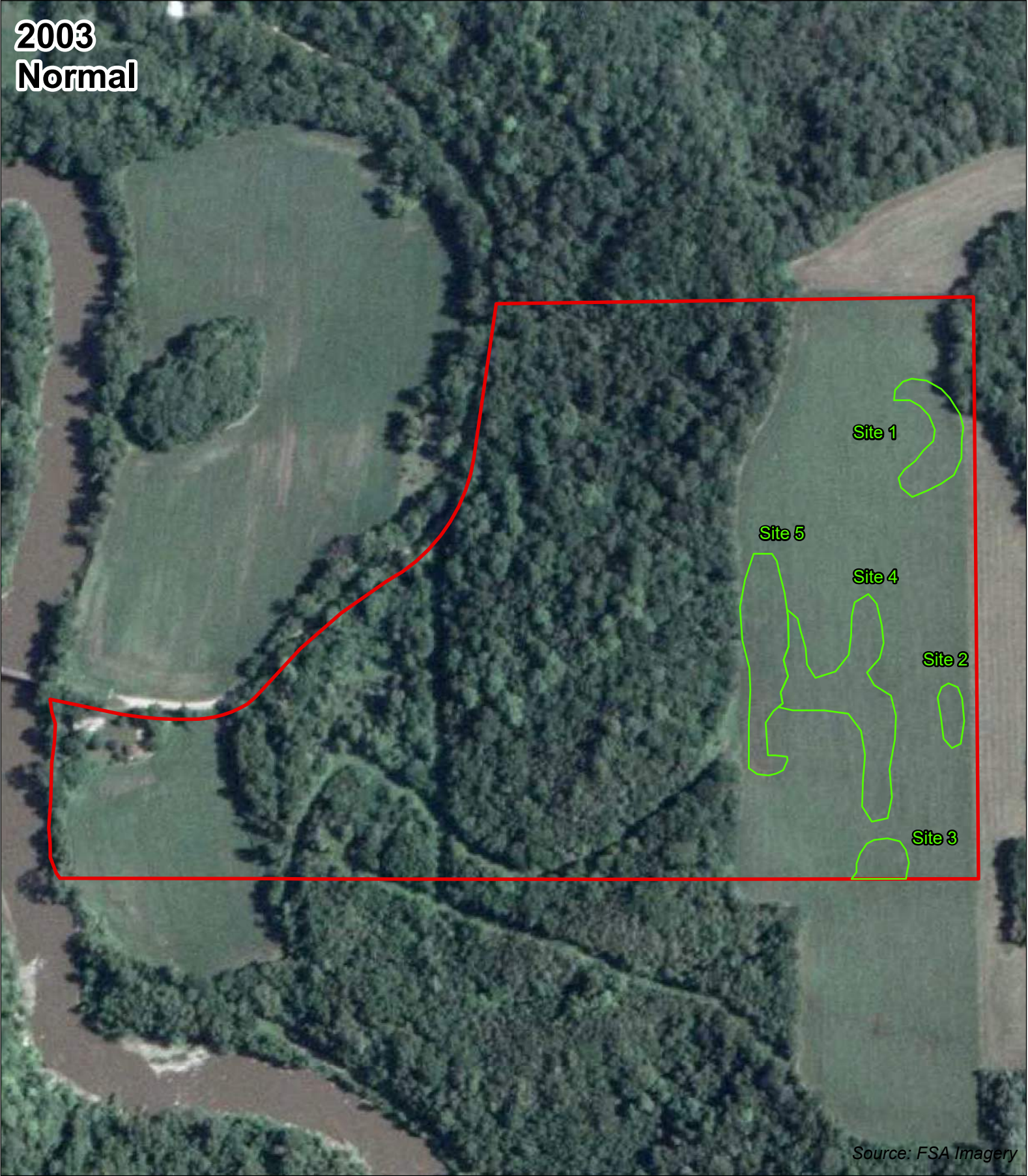
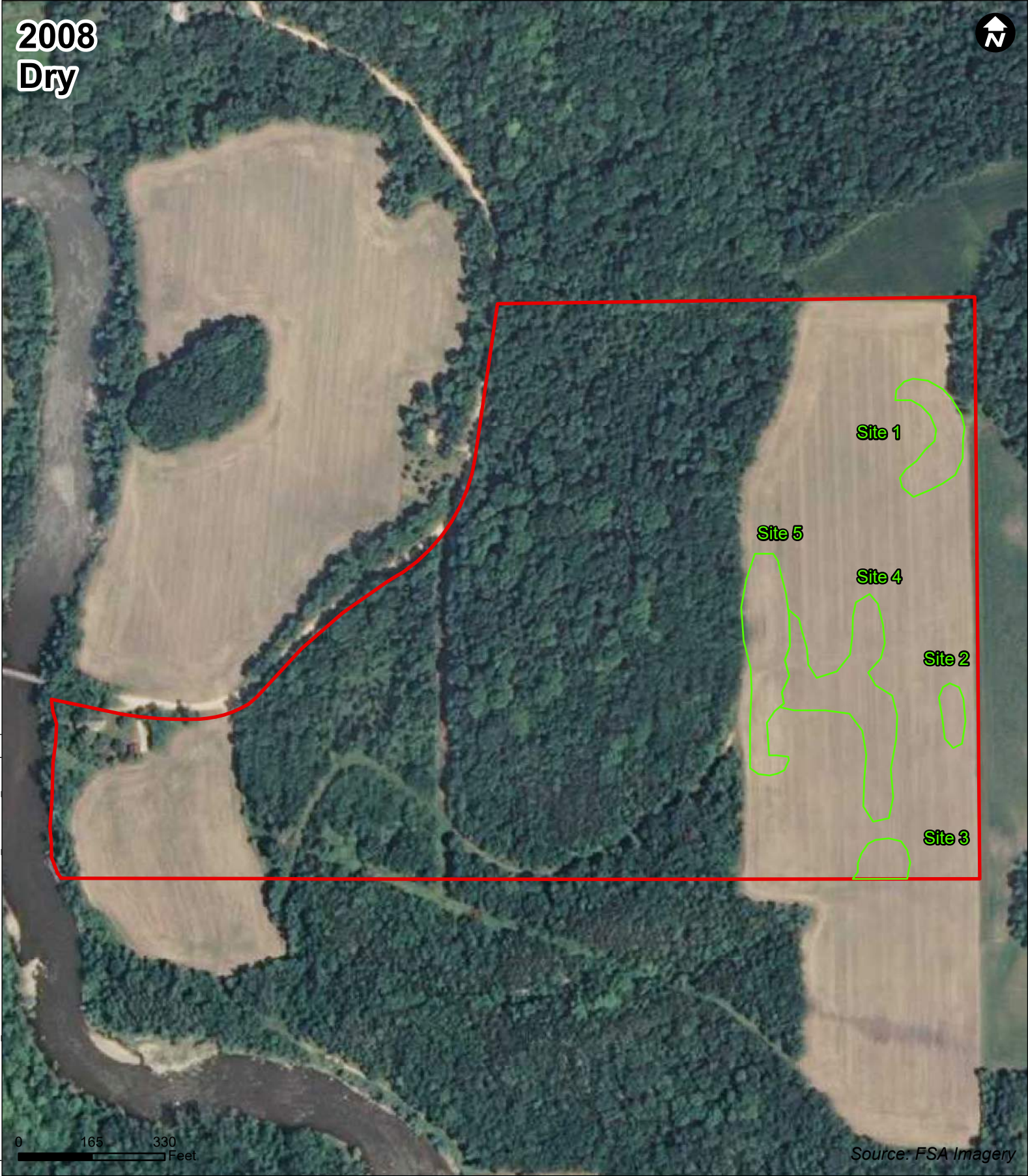


Source: FSA Imagery

2009
Dry



Source: FSA Imagery



Map Document: H:\ZARN\JIM_PROM\3133319\GIS\ESRI\Pro\Wetland_Delineation_Base.aprx | Date Saved: 4/2/2024 11:21 AM