

Eagle Bluff

Wetland Delineation Report

Lime Township, Blue Earth County, Minnesota
Jim Hilgers
August 6, 2025



Real People. Real Solutions.

Prepared by:

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BMI Project No. 25X.137409.000

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Appendix: Exhibits

I. Introduction

Jim Hilgers is proposing site improvements to his property located South of Highway 26 in Lime Township, Minnesota. This report details the findings of the field delineation completed on July 30th, 2025.

The project is found in Section 36, in Township 109 North of Range 26 West.

II. Wetland Delineation Methodology

The wetland boundaries were delineated and staked in the field in July 2025, 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.

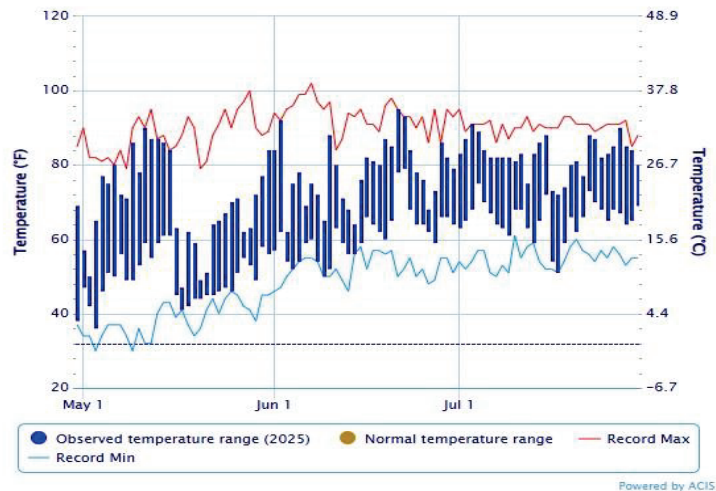
Exhibit G includes the wetland delineation data sheets.

IV. Climate Data

The table below shows the average temperature range for the three months before the field delineation, along with the daily maximums and minimums. While there were some notable cold periods in May. A majority of days in June and July exceeded the normal temperature range.

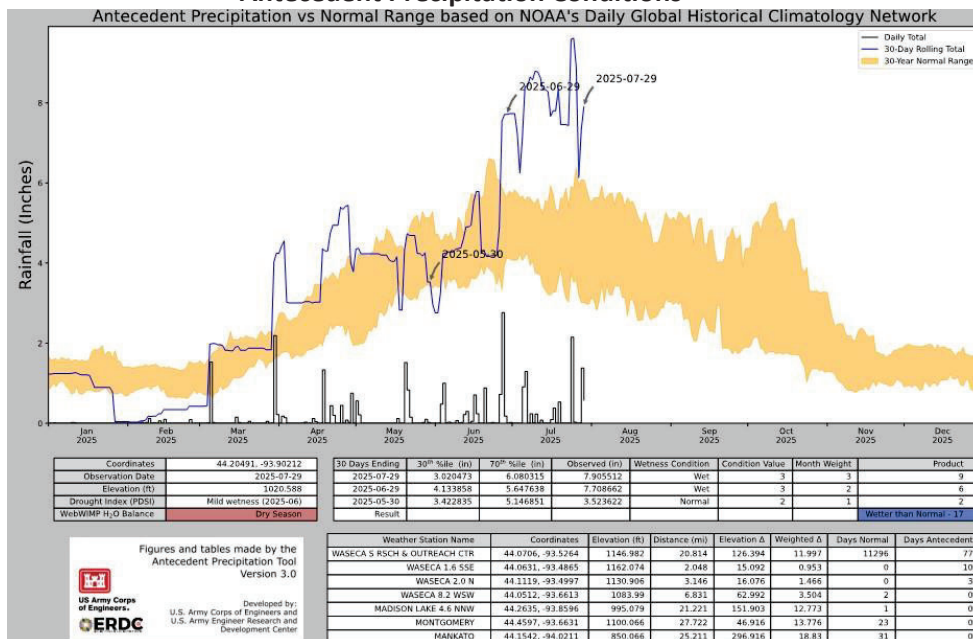
Temperature Range

Daily Temperature Data – MANKATO MUNICIPAL AP, MN



Antecedent precipitation was evaluated using a combination of the NRCS Method and the Rolling Totals Method. The analysis found that precipitation was well above normal over the past three months, prior to the site visit.

Antecedent Precipitation Conditions



This climatic data was gathered using the National Weather Service (Climate (weather.gov)), Minnesota State Climatology Office, Nearest Station Precipitation Data Retrieval (High DENSITY radius retrieval 071210 (state.mn.us), and Precipitation Data Retrieved from a Gridded Database (Precipitation Data Retrieval (state.mn.us). As well as the ACIS NOAA Regional Climate Centers

Website (AgACIS (rcc-acis.org). The information was retrieved from the WETS station, Mankato.

V. Findings

On July 30, 2025, a field investigation was performed to evaluate and verify the existence and boundary of any aquatic resources located within the study area. Two 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:

NWI Cowardin: None

PWI (Hydro) ID: None

HGM: Lacustrine

Field Observation Circular 39: Type 2

Field Observation Eggers and Reed:

Fresh Wet Meadow

Soil Mapping Unit(s): 94B-Terril loam, 238B-Kilkenny clay loam, 211-Lura silty clay

Wetland 1 is located along the Southern border of study area block 1. It lies just to the north of NWI POF1A.

The field investigation found that the site has met all three wetland indicators, and this wetland complex should be considered a combination of a HGM Classification Lacustrine, palustrine emergent nonpersistent seasonally saturated (PEM2B). Two sample points were taken to determine the wetland boundary. The wetland boundary was largely drawn based on the changes in topography.

At the W1-A wetland pit location, the plant community was dominated by Reed canary grass. The W1-B upland pit location was also Reed canary grass with some Stinging nettle. Both locations met hydrophytic vegetation.

Soils in the W1-A wetland pit location met the hydric soil indicator A12-Thick Dark Surface. Soils in the W1-B upland pit location met the hydric soil indicator A12-Thick Dark Surface. Depletion below 34 inches of both pits is assumed to be present.

The W1-A wetland location met the hydrology indicators A3-Saturation, D5-FAC-Neutral Test, and D2-Geomorphic Position. The W1-B upland pit location met D5-FAC-neutral Test. W1-B did not meet hydrology.



Photo 1: View of the W1-A & W1-B sample points looking into the wetland (West).



Photo 2: View of the Fresh Wet Meadow, facing West

Wetland 2:

NWI Cowardin: None

PWI (Hydro) ID: None

HGM: Depression

Field Observation Circular 39: Type 2&3

Field Observation Eggers and Reed: Fresh
Wet Meadow, Shallow Marsh

Soil Mapping Unit(s): 238B-Kilkenny clay
loam, 211-Lura silty clay, 239-Le Sueur
loam

Wetland 2 is located along the Western edge of study block 2. It is a constructed drainage pond that sits between two properties.

The field investigation found that the site has met all three wetland indicators, and this wetland complex should be considered a combination of a HGM Classification Depression, palustrine emergent nonpersistent seasonally saturated (PEM2B) and palustrine emergent persistent semi permanently flooded (PEM1F). Two sample points were taken to determine the wetland boundary. The wetland boundary was largely drawn based on the changes in topography and vegetation.

At the W2-A wetland pit location, the plant community was dominated by Narrow-leaf cattails and Spotted touch-me-not. W2-A met hydrophytic vegetation. The W2-B upland pit location was a mixture of Perennial sow thistle, Canadian thistle, Kentucky bluegrass, Timothy, and Smooth brome. W2-B did not meet hydrophytic vegetation.

Soils in the W2-A wetland pit location met the hydric soil indicator A12-Thick Dark Surface. Soil in the W2-B upland pit location did not meet the hydric soil indicators.

The W2-A wetland location met A2-High water Table and A3-Saturation, the secondary hydrology indicator D5- FAC-Neutral Test. The W2-B upland pit location did not meet hydrology.



Photo 3: View of the W2-A & W2-B sample points



Photo 3: View of the Wetland 2, facing North.

VI. Conclusion

The delineation was performed on July 30, 2025. 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 coordinate 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 two wetlands within the boundaries of the study area.

Wetland Summary		
Id #	Wetland Type ^	Size*
W1	Type 2	0.06 ac
W2	Type 2, 3	0.44 ac
Total:		0.5 ac

**size measured within study area*

^wetland type within study area

Sincerely,

Bolton & Menk, Inc.



Cortiney Galuska

Certified Wetland Delineator (Wetland Delineator In-Training), No. 5499

Appendix: Exhibits



Map Document: H:\Hill GER\JL PR25\137409000\GIS\Natural Resources\Proj137409 Wetland Delineation.aprx | Exhibit F: Wetland Delineation Map | Username: noah.wilmes | Date Saved: 8/6/2025 9:20 AM



Map Document: H:\HILGER\J\PR25X137409000\GIS\Natural Resources\Exhibit B: Wetland Delineation Map | Date Saved: 8/6/2025 9:20 AM | Username: noah.willmes





Map Document: H:\HILGER\JL_PR25X137409000\GIS\Natural Resources\Pro\137409_Wetland_Delineation.aprx | Exhibit E: Wetland Delineation Map | Username: noah.willmes | Date Saved: 8/6/2025 9:20 AM



Name	Slope	Hydric Rating	Hydric Class
94B-Terril loam	2-6%	8	No
211-Lura silty clay	0-1%	100	Yes
238B-Kilkenny clay loam	2-6%	0	No
239-Le Sueur loam	1-3%	15	No

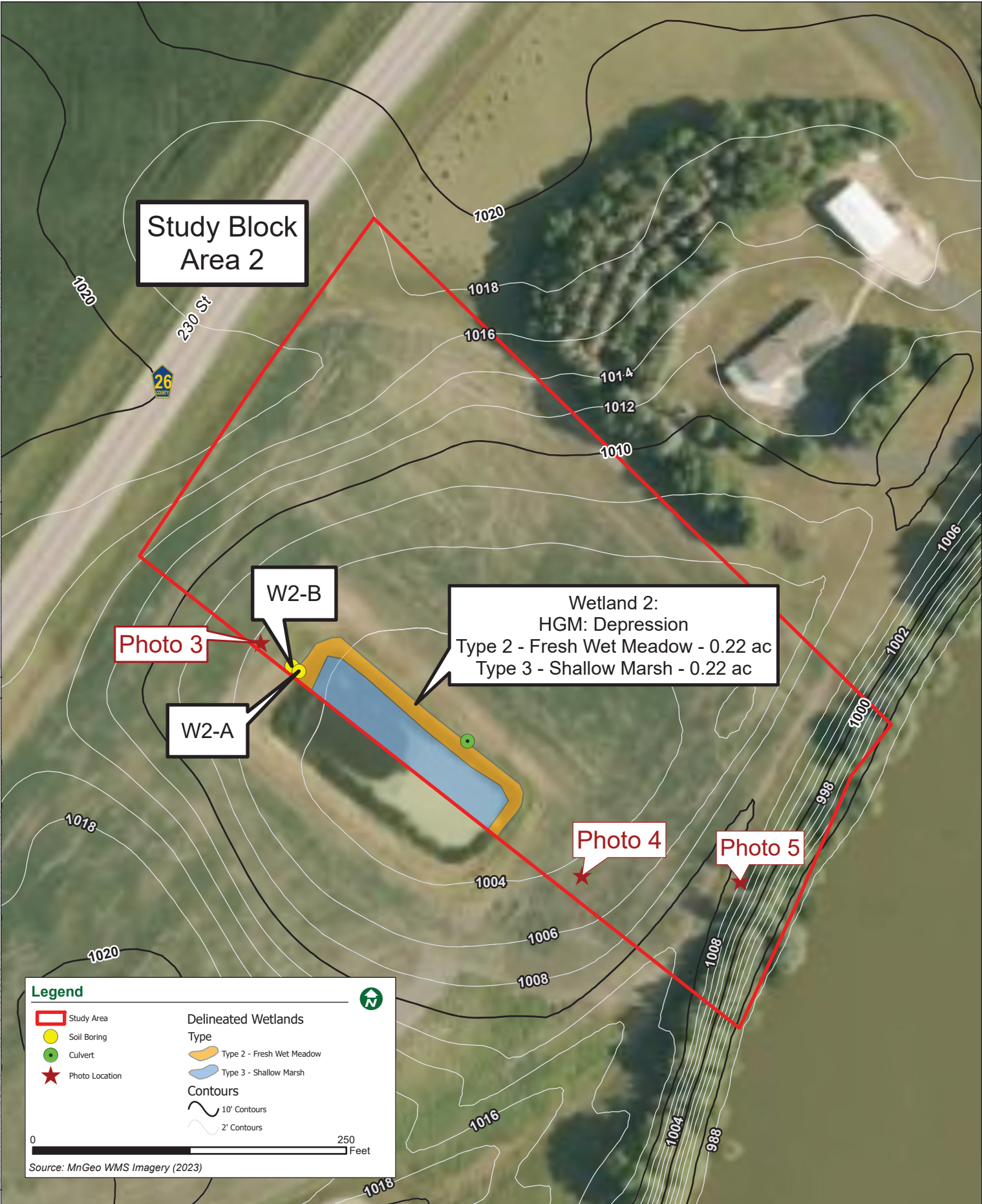


Map Document: H:\HILGER\JL PR25X137409000\GIS\Natural Resources\Pro\137409_Wetland_Delineation.aprx | Exhibit E: Wetland Delineation Map | Date Saved: 8/6/2025 9:20 AM | Username: noah.willmes

Map Document: H:\HILGER\J\PR25X137409000\GIS\Natural Resources\Pro\137409 Wetland Delineation.aprx | Exhibit F-1: Wetland Delineation Map | Date Saved: 8/6/2025 10:34 AM



Map Document: H:\HILGER\JL_P\25X137409000\GIS\Natural Resources\Pro\137409 Wetland Delineation.aprx | Exhibit F: Wetland Delineation Map | Date Saved: 8/6/2025 10:34 AM | Username: noah.wilmes



U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Midwest Region See ERDC/EL TR-10-16; the proponent agency is CECW-COR	OMB Control #: 0710-0024, Exp: 09/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Eagle Bluff City/County: Blue Earth County Sampling Date: 2025-07-30
Applicant/Owner: Jim Hilger State: Minnesota Sampling Point: W1-A
Investigator(s): Noah Wilmes, Cortiney Galuska Section, Township, Range: sec 36 T109N R026W
Landform (hillside, terrace, etc.): Toeslope Local relief (concave, convex, none): None
Slope (%): 0-2 Lat: 44.199171 Long: -93.907628 Datum: WGS84
Soil Map Unit Name: Muskego soils, 0 to 1 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
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Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' radius</u>) 1. <u>Fraxinus pennsylvanica</u> Absolute % Cover: <u>20</u> Dominant Species? <u>Y</u> Indicator Status: <u>FACW</u> 2. _____ 3. _____ 4. _____ 5. _____ <u>20.0</u> =Total Cover	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)																	
Sapling/Shrub Stratum (Plot size: <u>15' radius</u>) 1. <u>Phalaris arundinacea</u> Absolute % Cover: <u>95</u> Dominant Species? <u>Y</u> Indicator Status: <u>FACW</u> 2. <u>Urtica dioica</u> Absolute % Cover: <u>5</u> Dominant Species? <u>N</u> Indicator Status: <u>FACW</u> 3. _____ 4. _____ 5. _____ <u>100.0</u> =Total Cover		Prevalence Index worksheet: <table><tr><td>Total % Cover of:</td><td>Multiply by:</td></tr><tr><td>OBL species <u>0</u></td><td>x 1 = <u>0</u></td></tr><tr><td>FACW species <u>120</u></td><td>x 2 = <u>240</u></td></tr><tr><td>FAC species <u>0</u></td><td>x 3 = <u>0</u></td></tr><tr><td>FACU species <u>0</u></td><td>x 4 = <u>0</u></td></tr><tr><td>UPL species <u>0</u></td><td>x 5 = <u>0</u></td></tr><tr><td>Column Totals: <u>120</u> (A)</td><td><u>240.00</u> (B)</td></tr><tr><td colspan="2">Prevalence Index = B/A = <u>2.0</u></td></tr></table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>120</u>	x 2 = <u>240</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>120</u> (A)	<u>240.00</u> (B)	Prevalence Index = B/A = <u>2.0</u>	
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Herb Stratum (Plot size: <u>5' radius</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ <u>0</u> =Total Cover																		
Woody Vine Stratum (Plot size: <u>30' radius</u>) 1. _____ 2. _____ <u>0</u> =Total Cover	Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																	

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

SOIL

Sampling Point: W1-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-34	10YR	2/1	100				SIL	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Iron-Manganese Masses (F12)
☐ Histic Epipedon (A2)	☐ Red Parent Material (F21) Very
☐ Black Histic (A3)	☐ Shallow Dark Surface (F22)
☐ Hydrogen Sulfide (A4)	☐ Other (Explain in Remarks)
☐ Stratified Layers (A5)	
☐ 2 cm Muck (A10)	
☐ Depleted Below Dark Surface (A11)	
☒ Thick Dark Surface (A12)	
☐ Iron Monosulfide (A18)	
☐ Sandy Mucky Mineral (S1)	
☐ 5 cm Mucky Peat or Peat (S3)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
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Remarks:
Assuming depletion below

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one is required; check all that apply)</u> ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9) ☐ High Water Table (A2) ☐ Aquatic Fauna (B13) ☒ Saturation (A3) ☐ True Aquatic Plants (B14) ☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1) ☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres on Living Roots (C3) ☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4) ☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Gauge or Well Data (D9) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> ☐ 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 ☒ Depth (inches): _____ Water Table Present? Yes ☒ No ☐ Depth (inches): 24 Saturation Present? Yes ☒ No ☐ Depth (inches): 3 (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Midwest Region See ERDC/EL TR-10-16; the proponent agency is CECW-COR	OMB Control #: 0710-0024, Exp: 09/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Eagle Bluff City/County: Blue Earth County Sampling Date: 2025-07-30
Applicant/Owner: Jim Hilger State: Minnesota Sampling Point: W1-B
Investigator(s): Noah Wilmes, Cortiney Galuska Section, Township, Range: sec 36 T109N R026W
Landform (hillside, terrace, etc.): Footslope Local relief (concave, convex, none): None
Slope (%): 3-7 Lat: 44.203461 Long: -93.903768 Datum: WGS84
Soil Map Unit Name: Lura silty clay, 0 to 1 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>✓</u> No <u> </u> Hydric Soil Present? Yes <u>✓</u> No <u> </u> Wetland Hydrology Present? Yes <u> </u> No <u>✓</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>✓</u>
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Remarks:

VEGETATION – Use scientific names of plants.

<table><tr><td><u>Tree Stratum</u></td><td>(Plot size: <u>30' radius</u>)</td><td>Absolute % Cover</td><td>Dominant Species?</td><td>Indicator Status</td></tr><tr><td>1.</td><td></td><td></td><td></td><td></td></tr><tr><td>2.</td><td></td><td></td><td></td><td></td></tr><tr><td>3.</td><td></td><td></td><td></td><td></td></tr><tr><td>4.</td><td></td><td></td><td></td><td></td></tr><tr><td>5.</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2"></td><td><u>0</u></td><td>=Total Cover</td><td></td></tr><tr><td><u>Sapling/Shrub Stratum</u></td><td>(Plot size: <u>15' radius</u>)</td><td></td><td></td><td></td></tr><tr><td>1.</td><td></td><td></td><td></td><td></td></tr><tr><td>2.</td><td></td><td></td><td></td><td></td></tr><tr><td>3.</td><td></td><td></td><td></td><td></td></tr><tr><td>4.</td><td></td><td></td><td></td><td></td></tr><tr><td>5.</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2"></td><td><u>0</u></td><td>=Total Cover</td><td></td></tr><tr><td><u>Herb Stratum</u></td><td>(Plot size: <u>5' radius</u>)</td><td></td><td></td><td></td></tr><tr><td>1.</td><td><u>Phalaris arundinacea</u></td><td><u>100</u></td><td><u>Y</u></td><td><u>FACW</u></td></tr><tr><td>2.</td><td></td><td></td><td></td><td></td></tr><tr><td>3.</td><td></td><td></td><td></td><td></td></tr><tr><td>4.</td><td></td><td></td><td></td><td></td></tr><tr><td>5.</td><td></td><td></td><td></td><td></td></tr><tr><td>6.</td><td></td><td></td><td></td><td></td></tr><tr><td>7.</td><td></td><td></td><td></td><td></td></tr><tr><td>8.</td><td></td><td></td><td></td><td></td></tr><tr><td>9.</td><td></td><td></td><td></td><td></td></tr><tr><td>10.</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2"></td><td><u>100.0</u></td><td>=Total Cover</td><td></td></tr><tr><td><u>Woody Vine Stratum</u></td><td>(Plot size: <u>30' radius</u>)</td><td></td><td></td><td></td></tr><tr><td>1.</td><td></td><td></td><td></td><td></td></tr><tr><td>2.</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2"></td><td><u>0</u></td><td>=Total Cover</td><td></td></tr></table>	<u>Tree Stratum</u>	(Plot size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	1.					2.					3.					4.					5.							<u>0</u>	=Total Cover		<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15' radius</u>)				1.					2.					3.					4.					5.							<u>0</u>	=Total Cover		<u>Herb Stratum</u>	(Plot size: <u>5' radius</u>)				1.	<u>Phalaris arundinacea</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	2.					3.					4.					5.					6.					7.					8.					9.					10.							<u>100.0</u>	=Total Cover		<u>Woody Vine Stratum</u>	(Plot size: <u>30' radius</u>)				1.					2.							<u>0</u>	=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>100.00</u> (A/B) Prevalence Index worksheet: <table><tr><td>Total % Cover of:</td><td>Multiply by:</td></tr><tr><td>OBL species <u>0</u></td><td>x 1 = <u>0</u></td></tr><tr><td>FACW species <u>100</u></td><td>x 2 = <u>200</u></td></tr><tr><td>FAC species <u>0</u></td><td>x 3 = <u>0</u></td></tr><tr><td>FACU species <u>0</u></td><td>x 4 = <u>0</u></td></tr><tr><td>UPL species <u>0</u></td><td>x 5 = <u>0</u></td></tr><tr><td>Column Totals: <u>100</u> (A)</td><td><u>200.00</u> (B)</td></tr><tr><td colspan="2">Prevalence Index = B/A = <u>2.0</u></td></tr></table> Hydrophytic Vegetation Indicators: <u>✓</u> 1 - Rapid Test for Hydrophytic Vegetation <u>✓</u> 2 - Dominance Test is >50% <u>✓</u> 3 - Prevalence Index is ≤3.0¹ <u> </u> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u>✓</u> No <u> </u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>200.00</u> (B)	Prevalence Index = B/A = <u>2.0</u>	
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Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type ¹	Loc ²		
0-14	10YR	2/2	100					SIL	
14-34	10YR	2/1	100					SICL	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix.									
Hydric Soil Indicators:									
☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)									
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)									
☐ Black Histic (A3) ☐ Stripped Matrix (S6)									
☐ Hydrogen Sulfide (A4) ☐ Dark Surface (S7)									
☐ Stratified Layers (A5) ☐ Loamy Mucky Mineral (F1)									
☐ 2 cm Muck (A10) ☐ Loamy Gleyed Matrix (F2)									
☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3)									
☒ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6)									
☐ Iron Monosulfide (A18) ☐ Depleted Dark Surface (F7)									
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)									
☐ 5 cm Mucky Peat or Peat (S3)									
Indicators for Problematic Hydric Soils³:									
☐ Iron-Manganese Masses (F12)									
☐ Red Parent Material (F21) Very									
☐ Shallow Dark Surface (F22)									
☐ Other (Explain in Remarks)									
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.									
Restrictive Layer (if observed):									
Type: _____									
Depth (inches): _____									
								Hydric Soil Present? Yes ☒ No ☐	
Remarks: Went down 34" assumed depleted matrix below									

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 Cracks (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 of Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Geomorphic Position (D2)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☒ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)		
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)		
Field Observations:			
Surface Water Present?	Yes ☐ No ☒	Depth (inches):	
Water Table Present?	Yes ☐ No ☒	Depth (inches):	
Saturation Present?	Yes ☒ No ☐	Depth (inches):	34
(includes capillary fringe)			
Wetland Hydrology Present? Yes ☐ No ☒			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Midwest Region See ERDC/EL TR-10-16; the proponent agency is CECW-COR	OMB Control #: 0710-0024, Exp: 09/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Eagle Bluff City/County: Blue Earth County Sampling Date: 2025-07-30
Applicant/Owner: Jim Hilger State: Minnesota Sampling Point: W2-A
Investigator(s): Noah Wilmes, Cortiney Galuska Section, Township, Range: sec 36 T109N R026W
Landform (hillside, terrace, etc.): Toeslope Local relief (concave, convex, none): None
Slope (%): 0-2 Lat: 44.205060 Long: -93.901272 Datum: WGS84
Soil Map Unit Name: Le Sueur loam, 1 to 3 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	Is the Sampled Area within a Wetland? Yes ☒ No ☐
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Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' radius</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 0 =Total Cover	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)																
Sapling/Shrub Stratum (Plot size: <u>15' radius</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 0 =Total Cover	Prevalence Index worksheet: <table><tr><td>Total % Cover of:</td><td>Multiply by:</td></tr><tr><td>OBL species <u>90</u></td><td>x 1 = <u>90</u></td></tr><tr><td>FACW species <u>30</u></td><td>x 2 = <u>60</u></td></tr><tr><td>FAC species <u>0</u></td><td>x 3 = <u>0</u></td></tr><tr><td>FACU species <u>3</u></td><td>x 4 = <u>12</u></td></tr><tr><td>UPL species <u>0</u></td><td>x 5 = <u>0</u></td></tr><tr><td>Column Totals: <u>123</u> (A)</td><td><u>162.00</u> (B)</td></tr><tr><td colspan="2">Prevalence Index = B/A = <u>1.32</u></td></tr></table>	Total % Cover of:	Multiply by:	OBL species <u>90</u>	x 1 = <u>90</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>3</u>	x 4 = <u>12</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>123</u> (A)	<u>162.00</u> (B)	Prevalence Index = B/A = <u>1.32</u>	
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Column Totals: <u>123</u> (A)	<u>162.00</u> (B)																
Prevalence Index = B/A = <u>1.32</u>																	
Herb Stratum (Plot size: <u>5' radius</u>) 1. <u>Typha angustifolia</u> <u>90</u> <u>Y</u> <u>OBL</u> 2. <u>Impatiens capensis</u> <u>30</u> <u>Y</u> <u>FACW</u> 3. <u>Sonchus arvensis</u> <u>3</u> <u>N</u> <u>FACU</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ <u>123.0</u> =Total Cover	Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Woody Vine Stratum (Plot size: <u>30' radius</u>) 1. _____ 2. _____ 0 =Total Cover	Hydrophytic Vegetation Present? Yes ☒ No ☐																

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

SOIL

Sampling Point: W2-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix		Redox Features				Texture	Remarks	
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²			
0-28	10YR 2/1	100					SICL		
28-35	10YR 4/1	70	7.5YR 5/8	30	D	M	SCL		

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Iron-Manganese Masses (F12)
☐ Histic Epipedon (A2)	☐ Red Parent Material (F21) Very
☐ Black Histic (A3)	☐ Shallow Dark Surface (F22)
☐ Hydrogen Sulfide (A4)	☐ Other (Explain in Remarks)
☐ Stratified Layers (A5)	
☐ 2 cm Muck (A10)	
☐ Depleted Below Dark Surface (A11)	
☒ Thick Dark Surface (A12)	
☐ Iron Monosulfide (A18)	
☐ Sandy Mucky Mineral (S1)	
☐ 5 cm Mucky Peat or Peat (S3)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☒ No ☐
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Remarks:
Depletion at 30 inches

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)
☒ High Water Table (A2)	☐ Surface Soil Cracks (B6)
☒ Saturation (A3)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Dry-Season Water Table (C2)
☐ Sediment Deposits (B2)	☐ Crayfish Burrows (C8)
☐ Drift Deposits (B3)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4)	☐ Stunted or Stressed Plants (D1)
☐ Iron Deposits (B5)	☐ Geomorphic Position (D2)
☐ Inundation Visible on Aerial Imagery (B7)	☒ FAC-Neutral Test (D5)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☒ No ☐ Depth (inches): 14 Saturation Present? Yes ☒ No ☐ Depth (inches): 8 (includes capillary fringe)	Wetland Hydrology Present? Yes ☒ No ☐
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Midwest Region See ERDC/EL TR-10-16; the proponent agency is CECW-COR	OMB Control #: 0710-0024, Exp: 09/30/2027 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Eagle Bluff City/County: Blue Earth County Sampling Date: 2025-07-30
Applicant/Owner: Jim Hilger State: Minnesota Sampling Point: W2-B
Investigator(s): Noah Wilmes, Cortiney Galuska Section, Township, Range: sec 25 T109N R026W
Landform (hillside, terrace, etc.): Footslope Local relief (concave, convex, none): None
Slope (%): 3-7 Lat: 44.213906 Long: -93.898614 Datum: WGS84
Soil Map Unit Name: Hamel loam, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No ✓ (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u> </u> No <u>✓</u> Hydric Soil Present? Yes <u> </u> No <u>✓</u> Wetland Hydrology Present? Yes <u> </u> No <u>✓</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>✓</u>
Remarks:	

VEGETATION – Use scientific names of plants.

<table><tr><td><u>Tree Stratum</u></td><td>(Plot size: <u>30' radius</u>)</td><td>Absolute % Cover</td><td>Dominant Species?</td><td>Indicator Status</td></tr><tr><td>1.</td><td></td><td></td><td></td><td></td></tr><tr><td>2.</td><td></td><td></td><td></td><td></td></tr><tr><td>3.</td><td></td><td></td><td></td><td></td></tr><tr><td>4.</td><td></td><td></td><td></td><td></td></tr><tr><td>5.</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2"></td><td><u>0</u></td><td>=Total Cover</td><td></td></tr><tr><td><u>Sapling/Shrub Stratum</u></td><td>(Plot size: <u>15' radius</u>)</td><td></td><td></td><td></td></tr><tr><td>1.</td><td></td><td></td><td></td><td></td></tr><tr><td>2.</td><td></td><td></td><td></td><td></td></tr><tr><td>3.</td><td></td><td></td><td></td><td></td></tr><tr><td>4.</td><td></td><td></td><td></td><td></td></tr><tr><td>5.</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2"></td><td><u>0</u></td><td>=Total Cover</td><td></td></tr><tr><td><u>Herb Stratum</u></td><td>(Plot size: <u>5' radius</u>)</td><td></td><td></td><td></td></tr><tr><td>1.</td><td><u>Sonchus arvensis</u></td><td><u>65</u></td><td><u>Y</u></td><td><u>FACU</u></td></tr><tr><td>2.</td><td><u>Cirsium arvense</u></td><td><u>45</u></td><td><u>Y</u></td><td><u>FACU</u></td></tr><tr><td>3.</td><td><u>Poa pratensis</u></td><td><u>20</u></td><td><u>N</u></td><td><u>FAC</u></td></tr><tr><td>4.</td><td><u>Phleum pratense</u></td><td><u>15</u></td><td><u>N</u></td><td><u>FACU</u></td></tr><tr><td>5.</td><td><u>Bromus inermis</u></td><td><u>10</u></td><td><u>N</u></td><td><u>FACU</u></td></tr><tr><td>6.</td><td></td><td></td><td></td><td></td></tr><tr><td>7.</td><td></td><td></td><td></td><td></td></tr><tr><td>8.</td><td></td><td></td><td></td><td></td></tr><tr><td>9.</td><td></td><td></td><td></td><td></td></tr><tr><td>10.</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2"></td><td><u>155.0</u></td><td>=Total Cover</td><td></td></tr><tr><td><u>Woody Vine Stratum</u></td><td>(Plot size: <u>30' radius</u>)</td><td></td><td></td><td></td></tr><tr><td>1.</td><td></td><td></td><td></td><td></td></tr><tr><td>2.</td><td></td><td></td><td></td><td></td></tr><tr><td colspan="2"></td><td><u>0</u></td><td>=Total Cover</td><td></td></tr></table>	<u>Tree Stratum</u>	(Plot size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	1.					2.					3.					4.					5.							<u>0</u>	=Total Cover		<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15' radius</u>)				1.					2.					3.					4.					5.							<u>0</u>	=Total Cover		<u>Herb Stratum</u>	(Plot size: <u>5' radius</u>)				1.	<u>Sonchus arvensis</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>	2.	<u>Cirsium arvense</u>	<u>45</u>	<u>Y</u>	<u>FACU</u>	3.	<u>Poa pratensis</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	4.	<u>Phleum pratense</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	5.	<u>Bromus inermis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	6.					7.					8.					9.					10.							<u>155.0</u>	=Total Cover		<u>Woody Vine Stratum</u>	(Plot size: <u>30' radius</u>)				1.					2.							<u>0</u>	=Total Cover		Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00</u> (A/B) Prevalence Index worksheet: <table><tr><td>Total % Cover of:</td><td>Multiply by:</td></tr><tr><td>OBL species <u>0</u></td><td>x 1 = <u>0</u></td></tr><tr><td>FACW species <u>0</u></td><td>x 2 = <u>0</u></td></tr><tr><td>FAC species <u>20</u></td><td>x 3 = <u>60</u></td></tr><tr><td>FACU species <u>135</u></td><td>x 4 = <u>540</u></td></tr><tr><td>UPL species <u>0</u></td><td>x 5 = <u>0</u></td></tr><tr><td>Column Totals: <u>155</u> (A)</td><td><u>600.00</u> (B)</td></tr><tr><td colspan="2">Prevalence Index = B/A = <u>3.87</u></td></tr></table> Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0¹ <u> </u> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <u> </u> No <u>✓</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>135</u>	x 4 = <u>540</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>600.00</u> (B)	Prevalence Index = B/A = <u>3.87</u>	
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SOIL

Sampling Point: W2-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-36	10YR	2/1	100				SICL	

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

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	☐ Iron-Manganese Masses (F12)
☐ Histic Epipedon (A2)	☐ Red Parent Material (F21) Very
☐ Black Histic (A3)	☐ Shallow Dark Surface (F22)
☐ Hydrogen Sulfide (A4)	☐ Other (Explain in Remarks)
☐ Stratified Layers (A5)	
☐ 2 cm Muck (A10)	
☐ Depleted Below Dark Surface (A11)	
☐ Thick Dark Surface (A12)	
☐ Iron Monosulfide (A18)	
☐ Sandy Mucky Mineral (S1)	
☐ 5 cm Mucky Peat or Peat (S3)	
☐ Sandy Gleyed Matrix (S4)	
☐ Sandy Redox (S5)	
☐ Stripped Matrix (S6)	
☐ Dark Surface (S7)	
☐ Loamy Mucky Mineral (F1)	
☐ Loamy Gleyed Matrix (F2)	
☐ Depleted Matrix (F3)	
☐ Redox Dark Surface (F6)	
☐ Depleted Dark Surface (F7)	
☐ Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):	Hydric Soil Present?
Type: _____	Yes _____ No ☒
Depth (inches): _____	

Remarks:
Soils most likely disturbed during the construction of retention pond. Soils show upland characteristics below 34". Soils were dryer and more compacted.

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 Cracks (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 of Reduced Iron (C4)	☐ Stunted or Stressed Plants (D1)	
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Geomorphic Position (D2)	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ FAC-Neutral Test (D5)	
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)		
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)		

Field Observations:				Wetland Hydrology Present? Yes _____ No ☒
Surface Water Present?	Yes _____ No ☒	Depth (inches): _____		
Water Table Present?	Yes _____ No ☒	Depth (inches): _____		
Saturation Present?	Yes ☒ No _____	Depth (inches): 24		
(includes capillary fringe)				

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

Remarks: