Shorewood Development
Shorewood, MN
Wetland Delineation Report

Prepared for:
Chestnut Business Park, LLP
3740 N. Chesnut St.
Chaska, MN 55318

August 18, 2025

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MNR
MIDWEST NATURAL RESOURCES

Table of Contents

List of Tables

Appendices

INTRODUCTION

Midwest Natural Resources, Inc. (MNR) was contracted by Chestnut Business Park, LLP to provide wetland delineation services for the 4.7-acre Shorewood Development site in Shorewood, Hennepin County, Minnesota (**Appendix A, Figure 1**). On August 1, 2025 MNR conducted a routine wetland delineation within the site to determine any wetland boundaries. In all, the boundaries of three wetlands were delineated and the center line of two ephemeral, linear waterbodies were located. No other areas within the site were needed to be reviewed for the presence of wetland.

DESKTOP REVIEW

Prior to conducting the field surveys, MNR staff conducted a desktop review to evaluate the following data within the project area. Background data are illustrated in the figures in Appendix A.

- Minnesota's Public Waters Inventory (PWI)
- National Wetlands Inventory (NWI)
- National Hydrography Dataset (NHD)
- County Soil Surveys
- Aerial Imagery
- Precipitation Data

Review of the PWI (**Figure 2, Appendix A**) indicates one mapped public waters within the survey area where Wetland 1 was delineated (Unnamed public waters wetland 27090300). The NWI (**Figure 3, Appendix A**) indicates four different wetland communities within the site including PEM1C, PEM1F, PUBH, and PSS3/EM1Dg. According to the Hennepin County soil survey, Klossner, Okoboji, and Glencoe soils and Glencoe loam soils make up the hydric soils within the survey area, and Lester loam make up the non-hydric soils (**Figure 4, Appendix A**) within the survey area. Below is **Table 1** that lists all of the soils mapped within the survey area and includes their map unit symbol, map unit name, drainage class, and whether it is a hydric soil or not.

Table 1. Soils Mapped Within the Site

Map Unit Symbol	Map Unit Name	Drainage Class	Hydric/Non-Hydric Soil
L16A	Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes	Very poorly drained	Hydric
L22F	Lester loam, morainic, 25 to 35 percent slopes	Well drained	Non-Hydric
L24A	Glencoe loam, depressional, 0 to 1 percent slopes	Very poorly drained	Hydric

According to precipitation data reviewed at the time of the survey in August 2025, the project area received no precipitation during the first day of August. The months of May, June, and July indicate likely normal, wet, and normal conditions, respectively, resulting in an overall likely north multi-month precipitation score. Recent climate data is included in **Appendix B** to provide context for the wetland survey effort.

METHODS

The survey area was evaluated via pedestrian surveys to determine and document the presence of wetlands. All potential wetlands were evaluated utilizing the Routine "Onsite" Determination Method contained in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0 Aug. 2010 for the 1987 Wetlands Delineation Manual Technical Report Y-87-1. For each potential wetland within the survey area, the three wetland parameters (vegetation, hydrology, and soils) were examined to determine wetland status. If positive wetland status was determined, a sample transect was established along the wetland/upland transition. In each transect, the three parameters (vegetation, hydrology, and soils) were documented at a sample point within the wetland and in the adjacent upland.

Vegetation was assessed at each sample point by identifying the dominant species present and noting wetland indicator status. Hydrologic indicators were evaluated for characteristics including, but not limited to, the presence or absence of inundated or saturated soils, high water table, drift deposits, drainage patterns, and landscape position. The final parameter, soils, was assessed by digging a soil pit to at least 20 inches, where feasible, and examining the soil profile for indicators of hydric soils. All data and information pertaining to each wetland and upland sample point were collected using the applicable Corps wetland determination forms, and representative photos of each sample point were collected.

All spatial data was collected in WGS84 using ESRI ArcGIS online and ArcGIS Field Maps mobile application on mobile devices. Sub-meter satellite reception was achieved through the use of Trimble® DA2 receivers. The receivers are connected to the Trimble Catalyst service, using a real-time correction service.

RESULTS AND DISCUSSION

The site was surveyed for the presence of wetland and field efforts resulted in the delineation of three wetland boundaries (**Figure 5, Appendix A**). Below is **Table 2** that summarizes each of the delineated wetlands by feature number, feature ID, HGM Class, Cowardin/Type, Circular 39 type, Eggers and Reed Plant Community, and by size in acres. Wetland determination data forms for Wetland 1-3 are provided with representative photos in **Appendix C**.

Table 2. Delineated Wetland Features

Feature Name	Feature ID	HGM Class	Cowardin/Type	Circ. 39	Eggers & Reed	Area (acre)
Wetland 1	25256-w1	Depressional	PEMC	3	shallow marsh	0.69
Wetland 2	25256-w2	Depressional	PEMB/F	2/4	fresh wet meadow/deep marsh	0.70
Wetland 3	25256-w3	Depressional	PEMC	3	shallow marsh	0.22

[1]The Feature ID corresponds to the sampling point name on the Wetland Determination Data Forms and in the spatial data.

Wetlands

Wetland 1

Within the survey area, Wetland 1 is a depressional, Type 3 (PEMC; Shallow Marsh) wetland located within the southwestern part of the site and is 0.69 acres in size within the survey area. This wetland extends off-site to the south and west as a shallow marsh and hardwood swamp. At the wetland sample point, this wetland was dominated by reed canary grass (*Phalaris arundinacea*) and jewelweed (*Impatiens capensis*) with a fair amount of open water right to the edge of the wetland. Soils investigated met the F8 (Redox Depressions) indicator and are considered hydric. Wetland hydrology was met with one primary indicator including A1 (Standing Water) as well as two secondary indicators D2 (Geomorphic Position) and D5 (FAC-Neutral Test). National Wetlands Inventory maps PUBH and PSS3/EM1Dg communities where Wetland 1 is located. Wetland 1 is mapped as an MNDNR unnamed public water wetland (27090300).

Wetland 2

Wetland 2 is a depressional, Type 2/4 (PEMB/F; Fresh Wet Meadow/Deep Marsh) wetland located within the northern part of the survey area and is 0.70 acre in size within the site. This wetland extends off-site to the west as a similar type wetland. An excavated outlet channel drains this wetland at its southwestern extent to Wetland 1. At the time of the survey no water was observed within the outlet channel and no wetland fringe was present along its banks. The fresh wet meadow part of Wetland 2 is dominated primarily by reed canary grass (*Phalaris arundinacea*) with a mix of other native forbs and sedges including jewelweed (*Impatiens capensis*) and stinging nettle (*Urtica dioica*). The deep marsh part of Wetland 2 was mainly covered in lesser duckweed (*Lemna minor*) with scattered clumps of bristly sedge (*Carex comosa*) and areas open water. Soils were investigated to a depth of 24" and were assumed to be hydric based on landscape position and having a dominance of hydrophytic vegetation present throughout the entire basin. Wetland hydrology was met with two primary indicators including A2 (High Water Table) and A3 (Saturation) as well as two secondary indicators

D2 (Geomorphic Position) and D5 (FAC-Neutral Test). National Wetlands Inventory maps a PEM1F community where Wetland 2 is located. Wetland 2 is not mapped as a MNDNR public water.

Wetland 3

Wetland 3 is a depressional, Type 3 (PEMC; Shallow Marsh) wetland located along the eastern property line and is 0.22 acre in size within the property. This wetland extends just off-site to the east as a similar type wetland. Along the northern edge of this wetland is an excavated drainage channel that allows overflow from Wetland 3 to drain downslope to Wetland 2. At the time of the survey, no water was observed within the channel's banks. Vegetation recorded at the wetland sample point included mainly lesser duckweed (*Lemna minor*) with a minor amount of reed canary grass (*Phalaris arundinacea*) and mad-dog skullcap (*Scutellaria lateriflora*). Much of this wetland is open water covered in duckweed with scattered clumps of common hop sedge (*Carex lupulina*). Soils investigated met the A11 (Depleted Below Dark Surface) and A12 (Thick Dark Surface) indicators and are considered hydric. Wetland hydrology was met with one primary indicator including A1 (Standing Water) as well as two secondary indicators D2 (Geomorphic Position) and D5 (FAC-Neutral Test). National Wetlands Inventory maps a PEM1C community where Wetland 3 is located. Wetland 3 is not mapped as a MNDNR public water.

Other Aquatic Resources

Channel 1

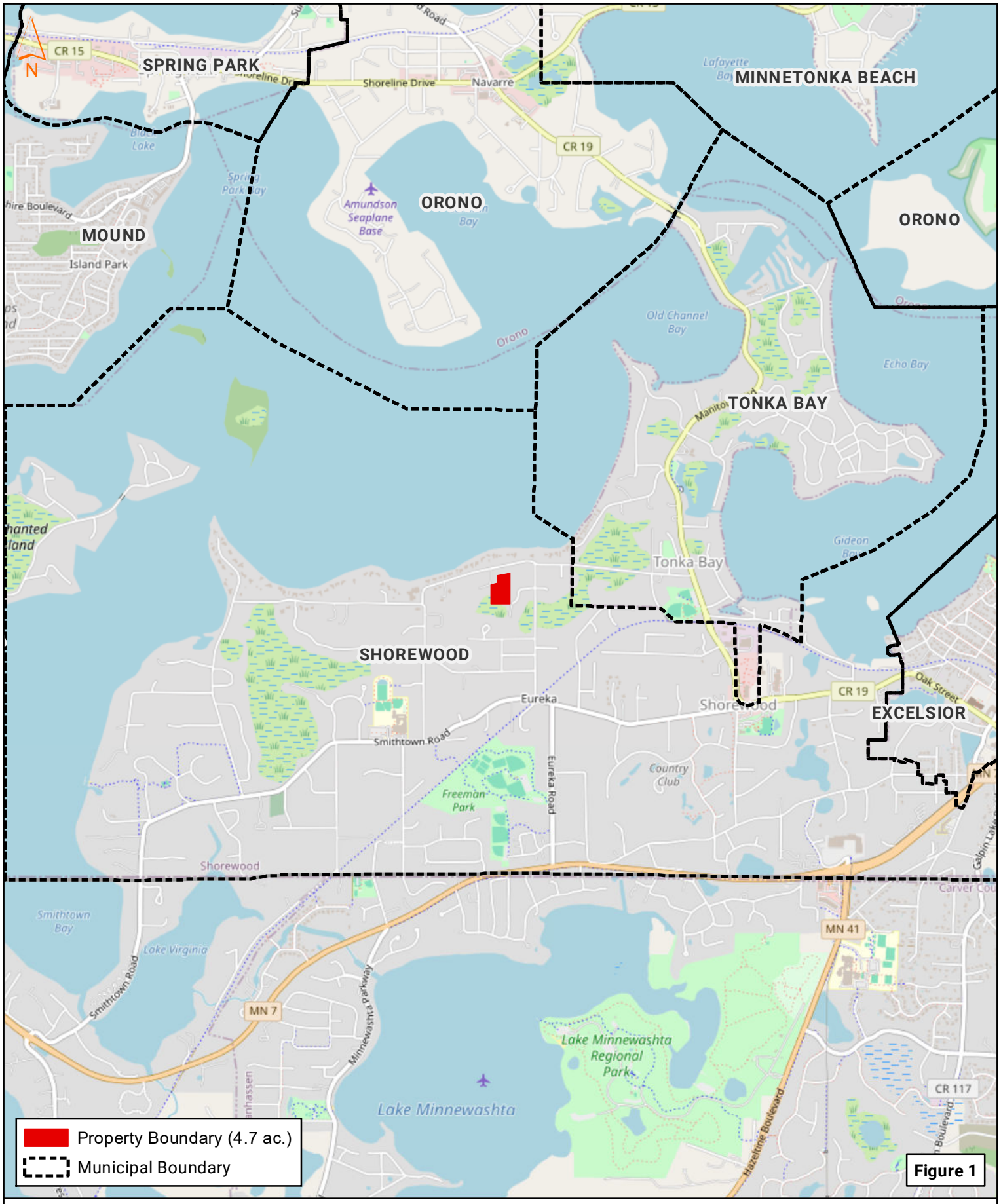
Between Wetlands 1 and 2, an excavated drainage channel was located and is approximately 130 LF in length within the survey area. This channel extends off-site to the west where it eventually connects to Wetland 1. This created feature would have an ephemeral water flow with no wetland fringe along its banks. Channel 1 conveys overflow water from Wetland 2 downslope and into Wetland 1. Below is a photo of Channel 1 facing northeast within the channel itself.

Channel 2

Between Wetlands 2 and 3, an excavated drainage channel was located and is approximately 105 LF in length. This channel's bed and bank is well defined along nearly all of its length but becomes less defined at the bottom of the slope just before the edge of Wetland 2. This created feature would have an ephemeral water flow with no wetland fringe along its banks. Channel 2 conveys overflow water from Wetland 3 and into Wetland 2. Below is a photo of Channel 2 facing north within the channel itself.

Appendix A

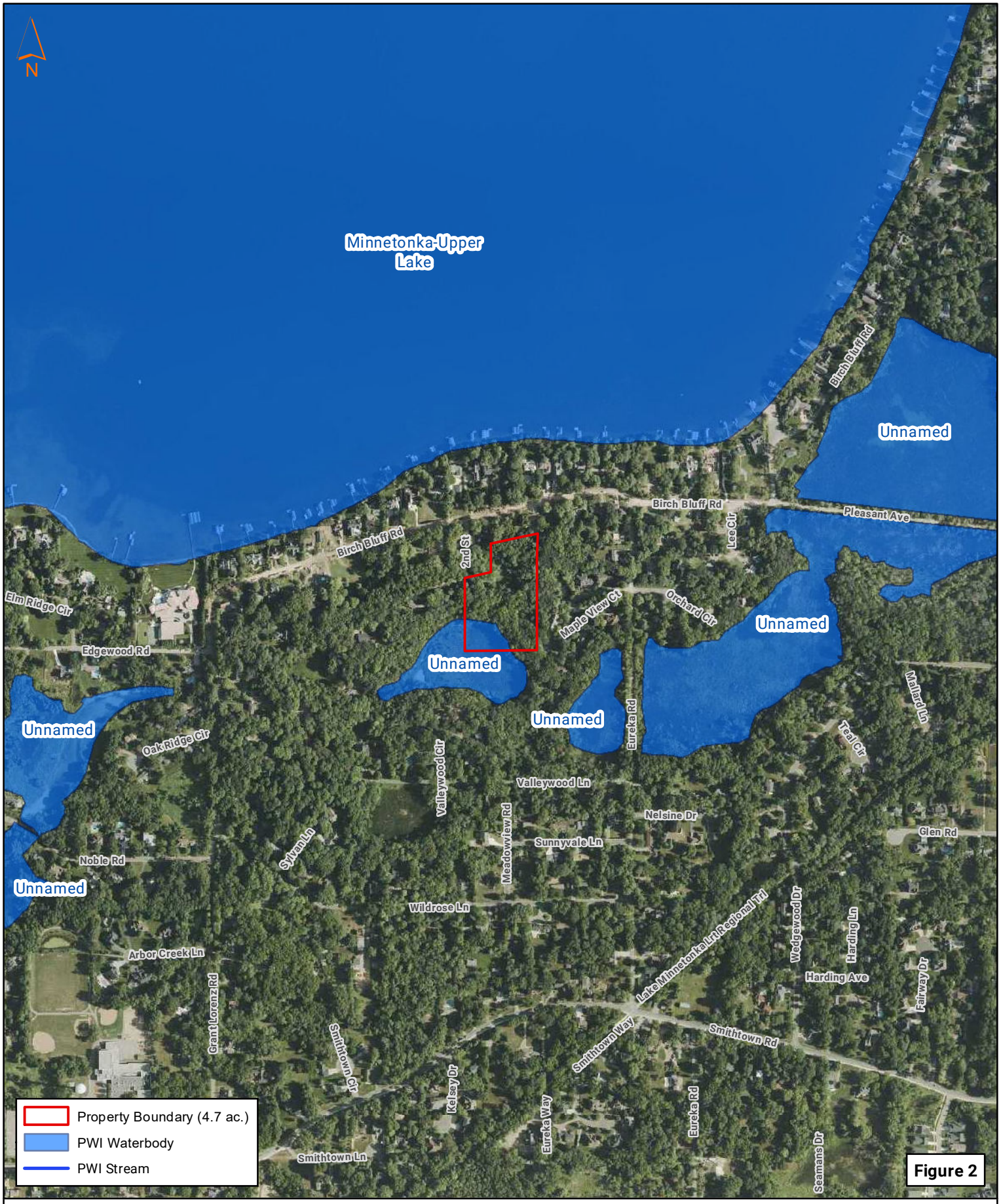
Site Figures



Sources: OpenStreetMap, US Census Bureau
US Census Bureau, Date: 8/16/2025

0 0.25 0.5 Miles

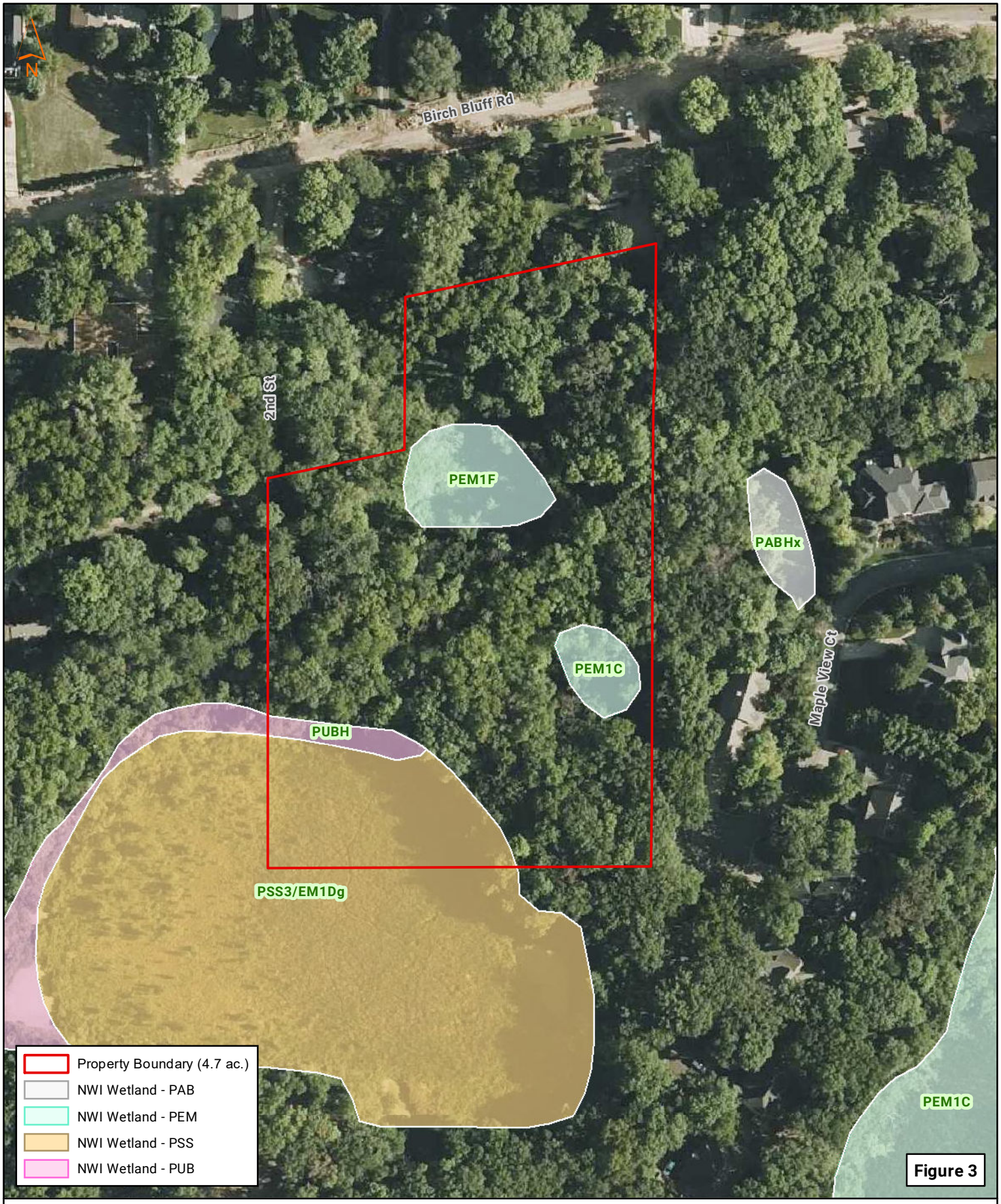
Site Location
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN



Sources: USDA Farm Service Agency NAIP Imagery, 2023, MnGeo, MN Department of Natural Resources, US Census Bureau, Date: 8/16/2025

0 500 1,000 Feet

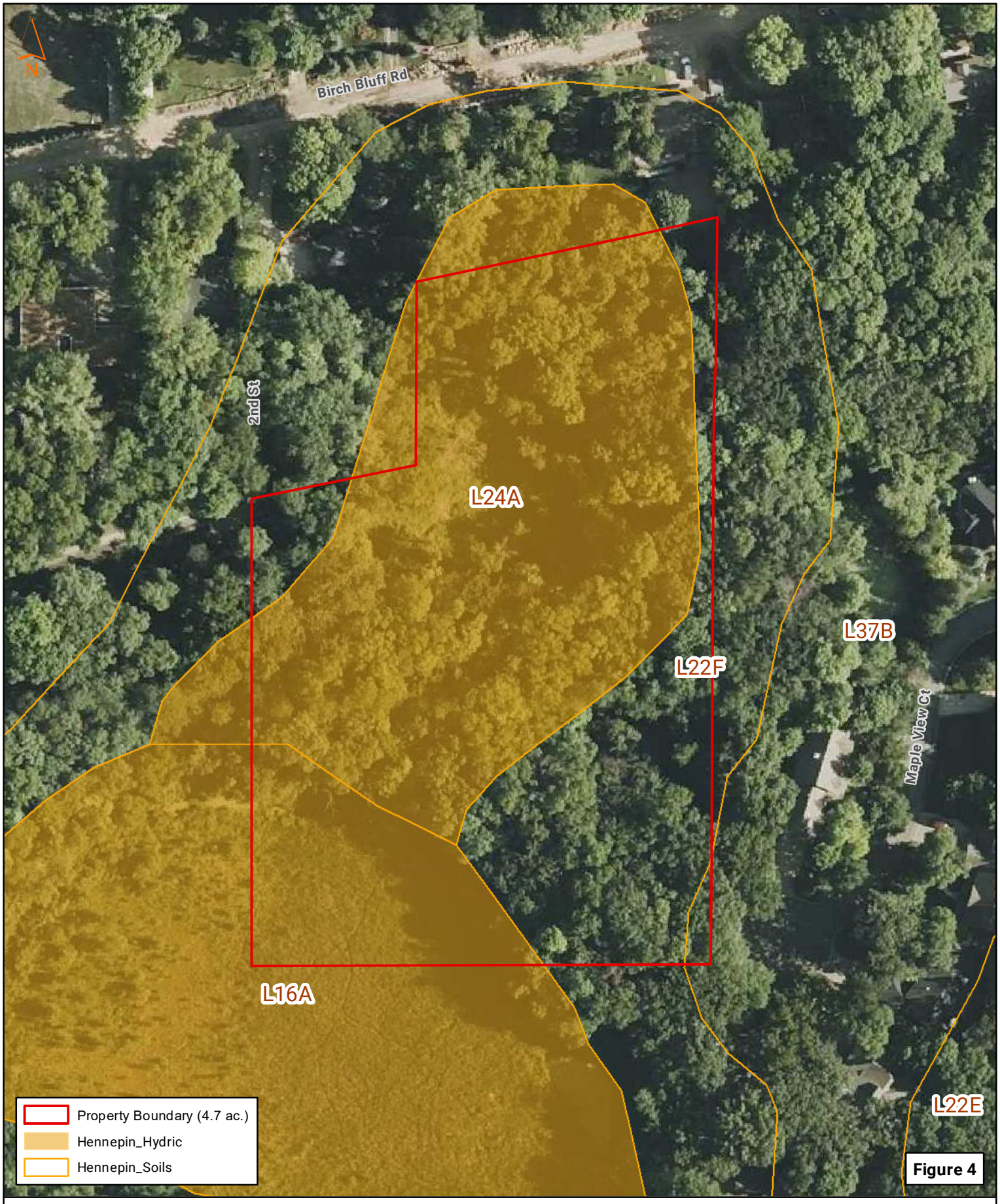
MN DNR Public Waters Inventory
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN



Sources: USDA Farm Service Agency NAIP Imagery, 2023,
MnGeo, MN Department of Natural Resources,
US Fish and Wildlife Service,
US Census Bureau, Date: 8/16/2025

0 100 200 Feet

US FWS National Wetlands Inventory
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN



Sources: USDA Farm Service Agency NAIP Imagery, 2023, MnGeo, MN Department of Natural Resources, USDA Natural Resources Conservation Service US Census Bureau, Date: 8/16/2025

0 50 100 Feet

County Soil Survey/SSurgo Soil Map Units
Chestnut Business Park, LLP
Shorewood Development
Shorewood, MN

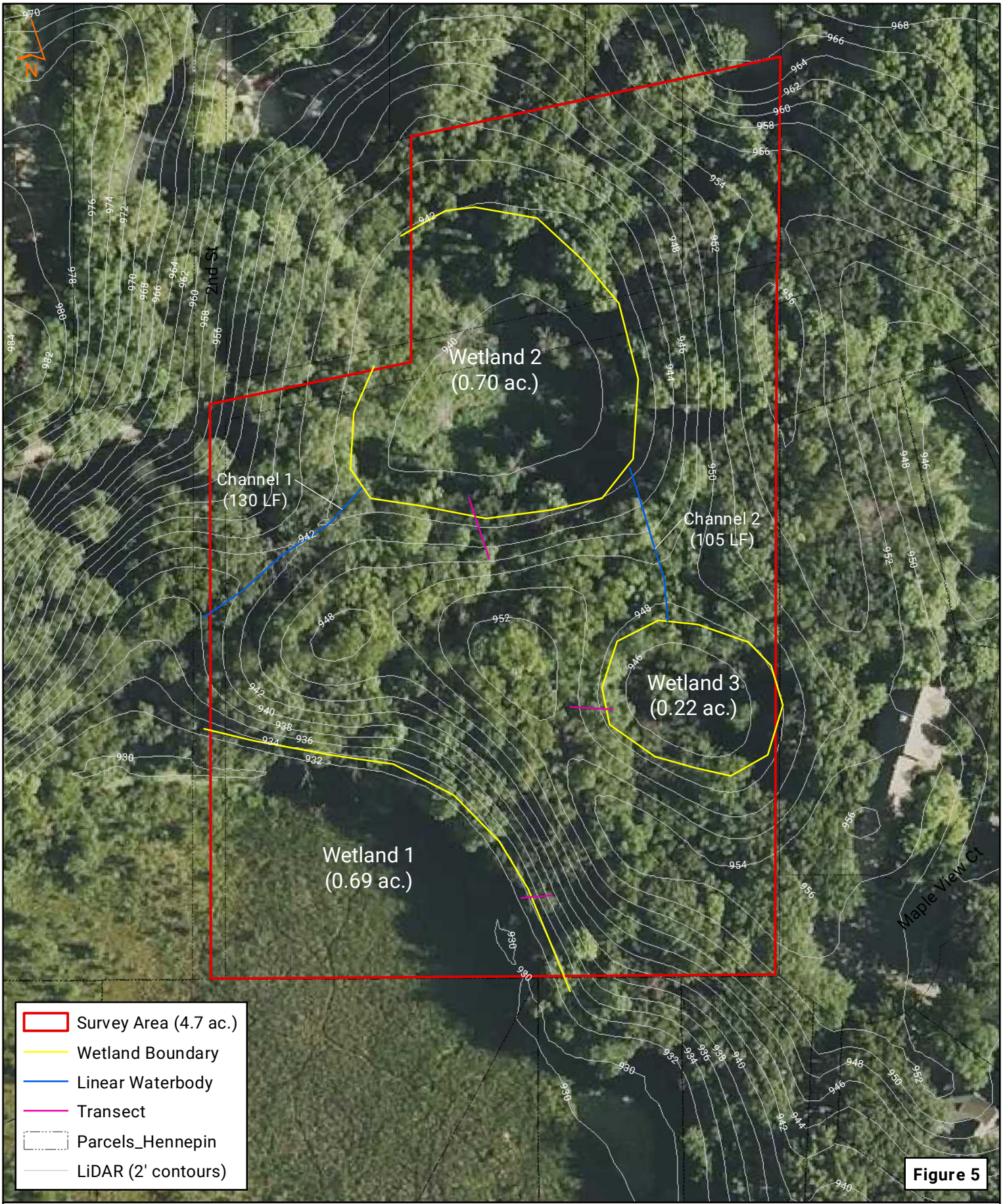


Figure 5

Sources: USDA Farm Service Agency NAIP Imagery, 2023, MnGeo, MN Department of Natural Resources, US Census Bureau, Date: 8/16/2025

0 75 150 Feet

Delineated Aquatic Resources
Chestnut Business Park, LLP
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Shorewood, MN

Appendix B

Recent Climate Data

Past Year's Precipitation Data from Gridded Database

Source: Minnesota State Climatology Office website:
https://climateapps.dnr.state.mn.us/gridded_data/precip/wetland/wetland.asp

Since the delineation of the Shorewood Development site was conducted on August 1, 2025 daily precipitation data from the months of May, June, and July were reviewed. Precipitation data for the three months prior to August were obtained from the Minnesota Climatology Working Group for the area of Hennepin County where the nearest precipitation data was collected. Precipitation data was obtained using the following as the target location:

County: Hennepin
Township Name: Excelsior
Nearest Community: Crescent Beach
Township Number: 117N
Range Number: 23W
Section Number: 29

Aerial photograph or site visit date: Friday, August 1, 2025

Table 1. Precipitation Worksheet Using Gridded Database (Score Using 1991-2020 Normal Period)

values are in inches	first prior month: **July 2025**	second prior month: **June 2025**	third prior month: **May 2025**
estimated precipitation total for this location:	**missing**	**missing**	**3.74R**
there is a 30% chance this location will have less than:	3.19	3.69	3.03
there is a 30% chance this location will have more than:	4.93	4.70	4.97
type of month: dry normal wet	**missing**	**missing**	**normal**
monthly score	**missing**	**missing**	**1 * 2 = 2**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**missing**		

Table 2. Recent Precipitation from Wayzata 2.5 E Weather Station

	May	June	July	1st day of August
Precipitation (in.)	2.44"	8.04"	3.97"	2.54"

Average Temperature Climate Data

Source: MN Department of Natural Resources Local Climatological Data:
https://www.dnr.state.mn.us/climate/historical/lcd.html?loc=msp

Average monthly high temperature for the three months preceding the month of the site visits as well as the two days of the field survey are recorded in Table 3 below. Temperature data were obtained from the MN Department of Natural Resources Local Climatological Data website and is based on weather measurements collected by the National Weather Service and the Federal Aviation Administration.

Table 3. Monthly Average High Temperature

	May	June	July	August 1, 2025
Temperature (°F)	70.8°	78.8°	84.9°	78°

Appendix C

Wetland Determination Data Forms

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)

Project/Site: Shorewood Development | City/County: Shorewood/Hennepin | Sampling Date: 2025-08-01
Applicant/Owner: Chestnut Business Park, LLP | State: Minnesota | Sampling Point: 25256-w1-w
Investigator(s): Ken Arndt | Section, Township, Range: sec 29 T117N R023W
Landform (hillside, terrace, etc.): Depression | Local relief (concave, convex, none): Concave
Slope (%): 0-2 | Lat: 44.906364 | Long: -93.607334 | Datum: WGS84
Soil Map Unit Name: Lester loam, morainic, 25 to 35 percent slopes | NWI classification: PSS3/EM1Dg
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** ____

Remarks:
Wetland 1 is a Type 3 shallow marsh dominated by narrowleaf cattail with a narrow fringe around the edge with reed canary grass and open water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Phalaris arundinacea	50	Y	FACW
2. Impatiens capensis	20	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		140.00 (B)

Prevalence Index = B/A = 2.0

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.

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

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation at the sample point is dominated by reed canary grass with jewel weed. A fair amount of open water is present.

SOIL

Sampling Point: 25256-w1-w

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	95	7.5YR 4/6	5	C	M	SICL	
2-18	10YR 4/2	100					CL	

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)

Indicators for Problematic Hydric Soils[3]:

- ___ 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:

Soils meet the F8 indicator.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 2
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? **Yes** ✓ **No** ___

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

Remarks:

Water levels in the wetland appear higher than normal.


25256-w1-w
2025-08-01
Lat/Long: 44.906603, -93.607517
Direction: s


25256-w1-w
2025-08-01
Lat/Long: 44.906606, -93.607677
Direction: e
Typical transition from upland slope to wetland edge.

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)

Project/Site: Shorewood Development City/County: Shorewood/Hennepin Sampling Date: 2025-08-01

Applicant/Owner: Chestnut Business Park, LLP State: Minnesota Sampling Point: 25256-w1-u

Investigator(s): Ken Arndt Section, Township, Range: sec 29 T117N R023W

Landform (hillside, terrace, etc.): Sideslope Local relief (concave, convex, none): Concave

Slope (%): 8-15 Lat: 44.906368 Long: -93.607254 Datum: WGS84

Soil Map Unit Name: Lester loam, morainic, 25 to 35 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 ✓	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
Sample point is within a deciduous forest dominated by sugar maple .

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus macrocarpa	50	Y	FAC
2. Acer saccharum	40	Y	FACU
3.			
4.			
5.			
	90.0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Carex pennsylvanica	70	Y	NI
2. Rhamnus cathartica	10	N	FAC
3. Acer saccharum	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	110 (A)		380.00 (B)

Prevalence Index = B/A = 3.45

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.

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

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

SOIL

Sampling Point: 25256-w1-u

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 2/1	100					SICL	
15-22	10YR 3/4	100						

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)

Indicators for Problematic Hydric Soils[3]:

- ___ 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:

Soils are non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

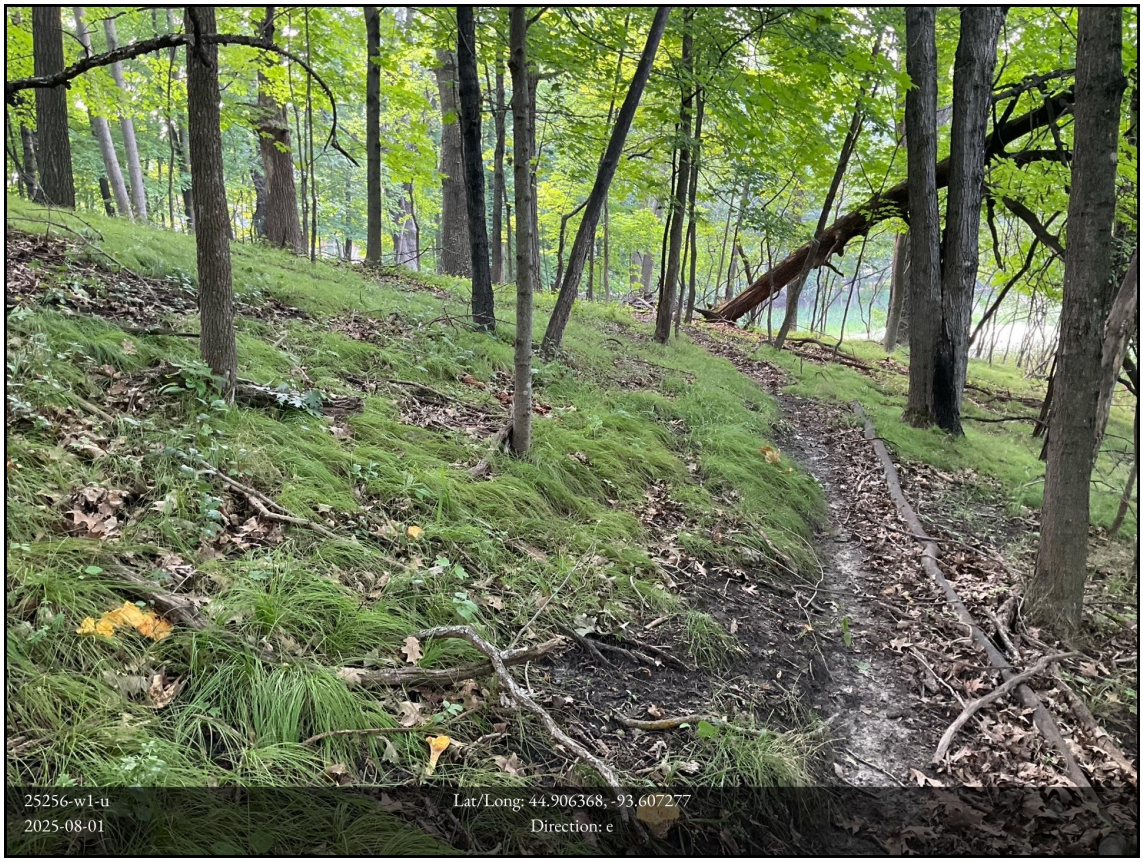
Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✓

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

Remarks:

No indicators of wetland hydrology present.


25256-w1-u
2025-08-01
Lat/Long: 44.906368, -93.607277
Direction: e

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)

Project/Site: Shorewood Development City/County: Shorewood/Hennepin Sampling Date: 2025-08-01

Applicant/Owner: Chestnut Business Park, LLP State: Minnesota Sampling Point: 25256-w2-w

Investigator(s): Ken Arndt Section, Township, Range: sec 29 T117N R023W

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 0-2 Lat: 44.907104 Long: -93.607468 Datum: WGS84

Soil Map Unit Name: Glencoe clay loam, 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 ✓	No ____	**Is the Sampled Area within a Wetland?** **Yes** ✓ **No** ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
Wetland 2 would be a type 2/4 fresh wet meadow/deep marsh wetland. The Type 4 part of the wetland is scattered Carex lupulina and the open water is covered in duck weed with occasional grouping of reed canary grass.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Phalaris arundinacea	80	Y	FACW
2. Impatiens capensis	15	N	FACW
3. Urtica dioica	5	N	FACW
4.			
5.			
	100.0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200.00 (B)

Prevalence Index = B/A = 2.0

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.

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

Remarks: (Include photo numbers here or on a separate sheet.)
The fringe of the wetland is dominated by reed canary grass with jewel weed and stinging nettle.

SOIL

Sampling Point: 25256-w2-w

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

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

Indicators for Problematic Hydric Soils[3]:

- ___ 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:

Soils are assumed hydric based on landscape position and the dominance of hydrophilic vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ✓	No ___	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 6

Wetland Hydrology Present? **Yes** ✓ **No** ___

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

Remarks:

30% of Wetland 2 is covered in open water with lesser duckweed.


25256-w2-w
2025-08-01
Lat/Long: 44.906969, -93.607430
Direction: n


25256-w2-w
2025-08-01
Lat/Long: 44.907091, -93.607499

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)

Project/Site: Shorewood Development | City/County: Shorewood/Hennepin | Sampling Date: 2025-08-01
Applicant/Owner: Chestnut Business Park, LLP | State: Minnesota | Sampling Point: 25256-w2-u
Investigator(s): Ken Arndt | Section, Township, Range: sec 29 T117N R023W
Landform (hillside, terrace, etc.): Sideslope | Local relief (concave, convex, none): Concave
Slope (%): 3-7 | Lat: 44.906992 | Long: -93.607416 | Datum: WGS84
Soil Map Unit Name: Glencoe clay loam, 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 ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
Sample point is within a deciduous forest area dominated by sugar maple with some black walnut and green ash.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharum	40	Y	FACU
2. Juglans nigra	40	Y	FACU
3. Fraxinus pennsylvanica	10	N	FACW
4.			
5.			
	90.0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Pilea pumila	50	Y	FACW
2. Ageratina altissima	20	Y	FACU
3. Leersia virginica	20	Y	FACW
4. Amphicarpaea bracteata	10	N	FAC
5. Hackelia virginiana	5	N	FACU
6.			
7.			
8.			
9.			
10.			
	105.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	10	x 3 =	30
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	195 (A)		610.00 (B)

Prevalence Index = B/A = 3.13

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.

Hydrophytic Vegetation Present? Yes ____ No ✓

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

SOIL

Sampling Point: 25256-w2-u

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/1	100					SIL	
11-20	10YR 4/2	100					SIL	

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)

Indicators for Problematic Hydric Soils[3]:

- ___ 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:

Soils are non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

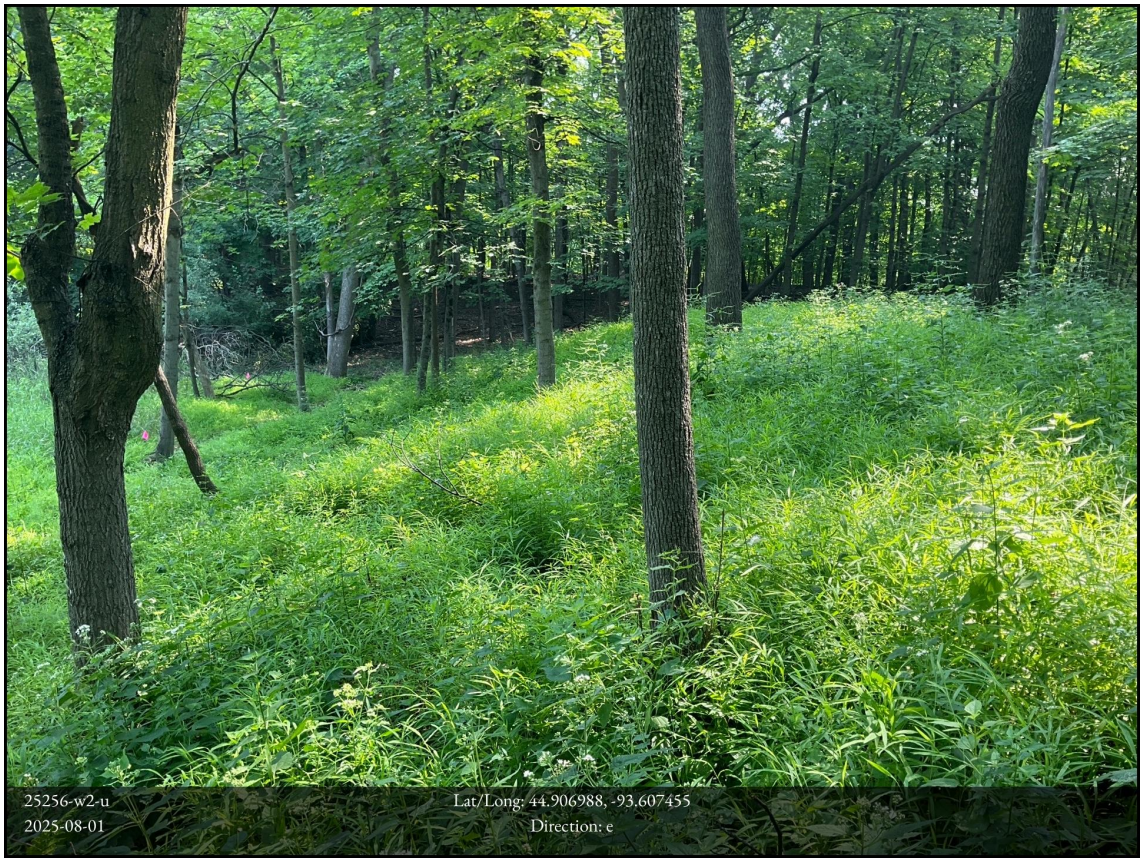
Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✓

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

Remarks:

No indicators of wetland hydrology present.



25256-w2-u
2025-08-01

Lat/Long: 44.906988, -93.607455
Direction: e

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)

Project/Site: Shorewood Development | City/County: Shorewood/Hennepin | Sampling Date: 2025-08-01
Applicant/Owner: Chestnut Business Park, LLP | State: Minnesota | Sampling Point: 25256-w3-w
Investigator(s): Ken Arndt | Section, Township, Range: sec 29 T117N R023W
Landform (hillside, terrace, etc.): Depression | Local relief (concave, convex, none): Concave
Slope (%): 0-2 | Lat: 44.906713 | Long: -93.607111 | Datum: WGS84
Soil Map Unit Name: Lester loam, morainic, 25 to 35 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** ____

Remarks:
Wetland 3 would be a Type 3 shallow marsh dominated by scattered clumps of common hop sedge and lake sedge and groupings of reed canary grass, 60 to 70% of the surface area of the water is covered in lesser duckweed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Lemna minor	60	Y	OBL
2. Scutellaria lateriflora	10	N	OBL
3. Phalaris arundinacea	10	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		90.00 (B)

Prevalence Index = B/A = 1.12

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.

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

Remarks: (Include photo numbers here or on a separate sheet.)
At the sample point, lesser duckweed is the dominant vegetation with scattered reed canary grass that is submerged under 4 to 6 inches of water.

SOIL

Sampling Point: 25256-w3-w

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	100					CL	
12-23	10YR 4/2	95	2.5YR 4/6	5	C	M	CL	

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)

Indicators for Problematic Hydric Soils[3]:

- ___ 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:

Soils meet the A11 and A12 indicators.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ___	Depth (inches): 5
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? **Yes** ✓ **No** ___

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

Remarks:

Water in the wetland appears higher than normal with standing water coming almost up to the edge of the wetland boundary within 2 to 3 feet.


25256-w3-w
2025-08-01
Lat/Long: 44.906690, -93.607122
Direction: ne


25256-w3-w
2025-08-01
Lat/Long: 44.906610, -93.607105
Direction: n

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)

Project/Site: Shorewood Development | City/County: Shorewood/Hennepin | Sampling Date: 2025-08-01
Applicant/Owner: Chestnut Business Park, LLP | State: Minnesota | Sampling Point: 25256-w3-u
Investigator(s): Ken Arndt | Section, Township, Range: sec 29 T117N R023W
Landform (hillside, terrace, etc.): Sideslope | Local relief (concave, convex, none): Concave
Slope (%): 3-7 | Lat: 44.906718 | Long: -93.607206 | Datum: WGS84
Soil Map Unit Name: Lester loam, morainic, 25 to 35 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 ✓

Remarks:
Sample point is within a deciduous forested area dominated by sugar maple with some ironwood and basswood.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharum	50	Y	FACU
2. Tilia americana	20	Y	FACU
3. Ostrya virginiana	10	N	FACU
4.			
5.			
	80.0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Carex pennsyvanica	50	Y	NI
2. Rhamnus cathartica	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60.0	=Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	90 (A)		350.00 (B)

Prevalence Index = B/A = 3.89

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

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

Hydrophytic Vegetation Present? Yes ____ No ✓

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

SOIL

Sampling Point: 25256-w3-u

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

Depth	Matrix			Redox Features					
(inches)	Color (moist)		%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR	2/2	100					SIL	
2-18	10YR	4/3	100					SIL	

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)

Indicators for Problematic Hydric Soils[3]:

- ___ 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:

Soils are non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** ___ **No** ✓

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

Remarks:

No indicators of wetland hydrology present.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