

17320 State Hwy No 55 Property

City of Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

Prepared for
Dantzinger

by

Kjolhaug Environmental Services Company, Inc.
(KES Project No. 2022-065)

August 11, 2022



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Providing Sound, Balanced, Comprehensive Natural Resource Solutions

17320 State Hwy No 55 Property

City of Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

TABLE OF CONTENTS

1. WETLAND DELINEATION SUMMARY	1
2. OVERVIEW	2
3. METHODS	2
3.1 Wetland Delineation.....	2
4. RESULTS	3
4.1 Review of NWI, Soils, Public Waters and NHD Information	3
4.2 Wetland Determinations and Delineations.....	4
4.3 Other Areas	4
4.4 Request for Wetland Boundary and Jurisdictional Determination	5
5. CERTIFICATION OF DELINEATION.....	6

FIGURES

1. Site Location
2. Existing Conditions
3. National Wetlands Inventory
4. Soil Survey
5. DNR Public Waters Inventory
6. National Hydrography Dataset

APPENDICES

- A. Joint Application Form for Activities Affecting Water Resources in Minnesota
- B. Wetland Delineation Data Forms
- C. Precipitation Information

17320 State Hwy No 55 Property

City of Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

1. WETLAND DELINEATION SUMMARY

- The 16.56-acre 17320 State Hwy No 55 property was inspected on May 4, 2022 and May 12, 2022, for the presence and extent of wetland.
- The National Wetlands Inventory (NWI) map showed a PEM1Ad/PEM1C/PFO1A/PABG/PEM1F wetland complex within the site boundaries.
- The Soil Survey (USDA NRCS 2015) showed Glencoe clay loam and Muskego and Houghton soils as the hydric soil types mapped on the property, and Hamel, overwash-Hamel, as the partially hydric soil type mapped on the property.
- The DNR Public Waters Inventory showed public wetland 27-601W (unnamed) and public watercourse M-057 (Bassett Creek) within the site boundaries, and public wetland 27-602W (unnamed) approximately 250 feet east of the site boundaries.
- The National Hydrography Dataset (U.S Geological Survey 2015) showed two Lake/Ponds, one artificial path and two hydro junctions within the site boundaries. It also showed a Stream/River passing through the site boundary from the north to the south.
- One wetland was delineated within the site boundary, and it is described in **Section 4.2**.

Table 1. Wetlands delineated on the 17320 State Hwy No 55 Property.

Wetland ID	Wetland Type			Dominant Vegetation	Onsite Area (ac)
	Circular 39	Cowardin	Eggers and Reed		
Wetland 1	Type 3/5	PEM1C/ PABG	Shallow Marsh and shallow open water	Reed canary grass, lake sedge, cattail	12.25

2. OVERVIEW

The 16.56-acre 17320 State Hwy No 55 property was inspected on May 4, 2022 and May 12, 2022, for the presence and extent of wetland. The property was located in Section 17, Township 118 North, Range 22 West, City of Plymouth, Hennepin County, Minnesota. The site was situated approximately 1000 feet southwest of the intersection of CR 101 and State Hwy No 55 (**Figure 1**). The site boundaries corresponded to Hennepin County PID#: 1711822320001 at address 17320 State Hwy No 55, Plymouth MN.

The site consisted of a wetland, and a transition to upland forest. The southwest portion of the site was separated from the rest by State Hwy No 55. The topography sloped from an elevation of 996 ft MSL down to a low of 980 ft MSL. Surrounding land use consisted of single-family residential to the east and commercial/industrial properties to the west.

One wetland was delineated within the site boundaries. The delineated wetland boundary and existing conditions are shown on **Figure 2**.

Appendix A of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for a wetland boundary and type determination from the city of Plymouth under the Minnesota Wetland Conservation Act (WCA).

3. METHODS

3.1 Wetland Delineation

Wetlands were identified using the Routine Determination method described in the [Corps of Engineers Wetlands Delineation Manual](#) (Waterways Experiment Station, 1987) and the [Regional Supplement to the Corps of Engineers Wetland Delineation Manual](#): Midwest region as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act.

Wetland boundaries were identified as the upper-most extent of wetland that met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. Wetland-upland boundaries were marked with pin flags that were located using Trimble R1 GNSS GPS Units.

Soils, vegetation, and hydrology were documented at a representative location along the wetland-upland boundary. Plant species dominance was estimated based on the percent aerial or basal coverage visually estimated within a 30-foot radius for trees and vines, a 15-foot radius for the shrub layer, and a 5-foot radius for the herbaceous layer within the community type sampled.

Soils were characterized to a minimum depth of 24 inches (unless otherwise noted) using a [Munsell Soil Color Book](#) and standard soil texturing methodology. Hydric soil indicators used are from [Field Indicators of Hydric Soils in the United States](#) (USDA Natural Resources

Conservation Service (NRCS) in cooperation with the National Technical Committee for Hydric Soils, Version 7, 2010).

Mapped soils are separated into five classes based on the composition of hydric components and the Hydric Rating by Map Unit color classes utilized on Web Soil Survey. The five classes include Hydric (100 percent hydric components), Predominantly Hydric (66 to 99 percent hydric components), Partially Hydric (33 to 65 percent hydric components), Predominantly Non-Hydric (1 to 32 percent hydric components), and Non-Hydric (less than one percent hydric components). Plants were identified using standard regional plant keys. Taxonomy and indicator status of plant species was taken from the [2017 National Wetland Plant List](#) (U.S. Army Corps of Engineers 2017. National Wetland Plant List, version 3.3, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH).

4. RESULTS

4.1 Review of NWI, Soils, Public Waters and NHD Information

The [National Wetlands Inventory \(NWI\)](#) (Minnesota Geospatial Commons 2009-2014 and [U.S. Fish and Wildlife Service](#)) showed a PEM1Ad/PEM1C/PFO1A/PABG/PEM1F wetland complex within the site boundaries (**Figure 3**).

The [Soil Survey](#) (USDA NRCS 2015) showed Glencoe clay loam and Muskego and Houghton soils as the hydric soil types mapped on the property. It also showed Hamel, overwash-Hamel, as the partially hydric soil type mapped on the property. All soil types mapped on the property are listed below in **Table 2**, and a map showing soil types is included in (**Figure 4**).

Table 2. Soil types mapped on the 17320 State Hwy No 55 property.

Symbol	Soil Name	Acres in AOI	% of AOI	% Hydric	Hydric Category
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	0.7	4.2%	2	Predominantly non-hydric
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	0.3	1.8%	0	Non-hydric
L24A	Glencoe clay loam, 0 to 1 percent slopes	3.1	18.8%	100	Hydric
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	0.5	3.0%	45	Partially hydric
L37B	Angus loam, 2 to 6 percent slopes	0.8	4.8%	5	Predominantly non-hydric
L50A	Muskego and Houghton soils, 0 to 1 percent slopes	11.1	67.3%	100	Hydric

The [Minnesota DNR Public Waters Inventory](#) (Minnesota Department of Natural Resources 2015) showed public wetland 27-601W (unnamed) and public watercourse M-057 (Bassett Creek) within the site boundaries, and public wetland 27-602W (unnamed) approximately 250 feet east of the site boundaries (**Figure 5**).

The [National Hydrography Dataset](#) (U.S. Geological Survey 2015) The National Hydrography Dataset (U.S Geological Survey 2015) showed two Lake/Ponds, one artificial path and two hydro junctions within the site boundaries. It also showed a Stream/River passing through the site boundary from the north to the south (**Figure 6**).

4.2 Wetland Determinations and Delineations

Potential wetlands were evaluated during field visits on May 4, 2022 and May 12, 2022. One wetland was identified and delineated on the property based on field observations and aerial photography (**Figure 2**). Corresponding data forms are included in **Appendix B**. The following descriptions of the wetland and adjacent upland reflect conditions observed at the time of the field visit. Herbaceous vegetation was emerging from the leaf litter at that time. Precipitation conditions were typical (normal) based on the Precipitation Worksheet Using Gridded Database method, and above the normal range based on available 30-day rolling total precipitation (**Appendix C**).

Wetland 1/1A was a Type 3/5 (PEM1C/PABG) shallow marsh and shallow open water wetland dominated by an open water center fringed by cattails, reed canary grass, purple loosestrife, and lake sedge. The wetland was inundated with more than two feet of water in the center.

Adjacent upland at the sample location consisted of a shrub layer that transitioned into an upland forest. Dominant upland plants included common buckthorn, boxelder, cottonwood, and American elm trees. No hydric soil indicators were observed in the upland, nor were primary or secondary hydrology indicators observed in the upland.

The delineated boundary followed changes in topography and changes in vegetation from a wetland plant community to an upland plant community. Wetland 1/1A extended south of Highway 55 and off-site along Bassett Creek.

4.3 Other Areas

No other areas with hydrophytic vegetation or wetland hydrology were observed on the site. No other areas were shown as hydric soil on the soil survey or as wetland on the NWI map.

4.4 Request for Wetland Boundary and Jurisdictional Determination

Appendix A of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for a wetland boundary and type determination under the Minnesota Wetland Conservation Act (WCA).

5. CERTIFICATION OF DELINEATION

The procedures utilized in the described delineation are based on the U.S. Army Corps of Engineers 1987 Wetlands Delineation Manual as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act. This wetland delineation and report were prepared in compliance with the regulatory standards in place at the time the work was performed.

Site boundaries indicated on figures within this report are approximate and do not constitute an official survey product.

Delineation Completed by:

Kyle Uhler, GIS Specialist
Certified MN Wetland Professional #1353

Report prepared by:

Marty Anderson, Project Assistant
Kyle Uhler, GIS Specialist

Report reviewed by:  _____ Date: August 11, 2022

Mark Kjolhaug, Professional Wetland Scientist No. 000845

17320 State Hwy No 55 Property

Wetland Delineation Report

FIGURES

1. Site Location
2. Existing Conditions
3. National Wetlands Inventory
4. Soil Survey
5. DNR Protected Waters Inventory
6. National Hydrography Dataset

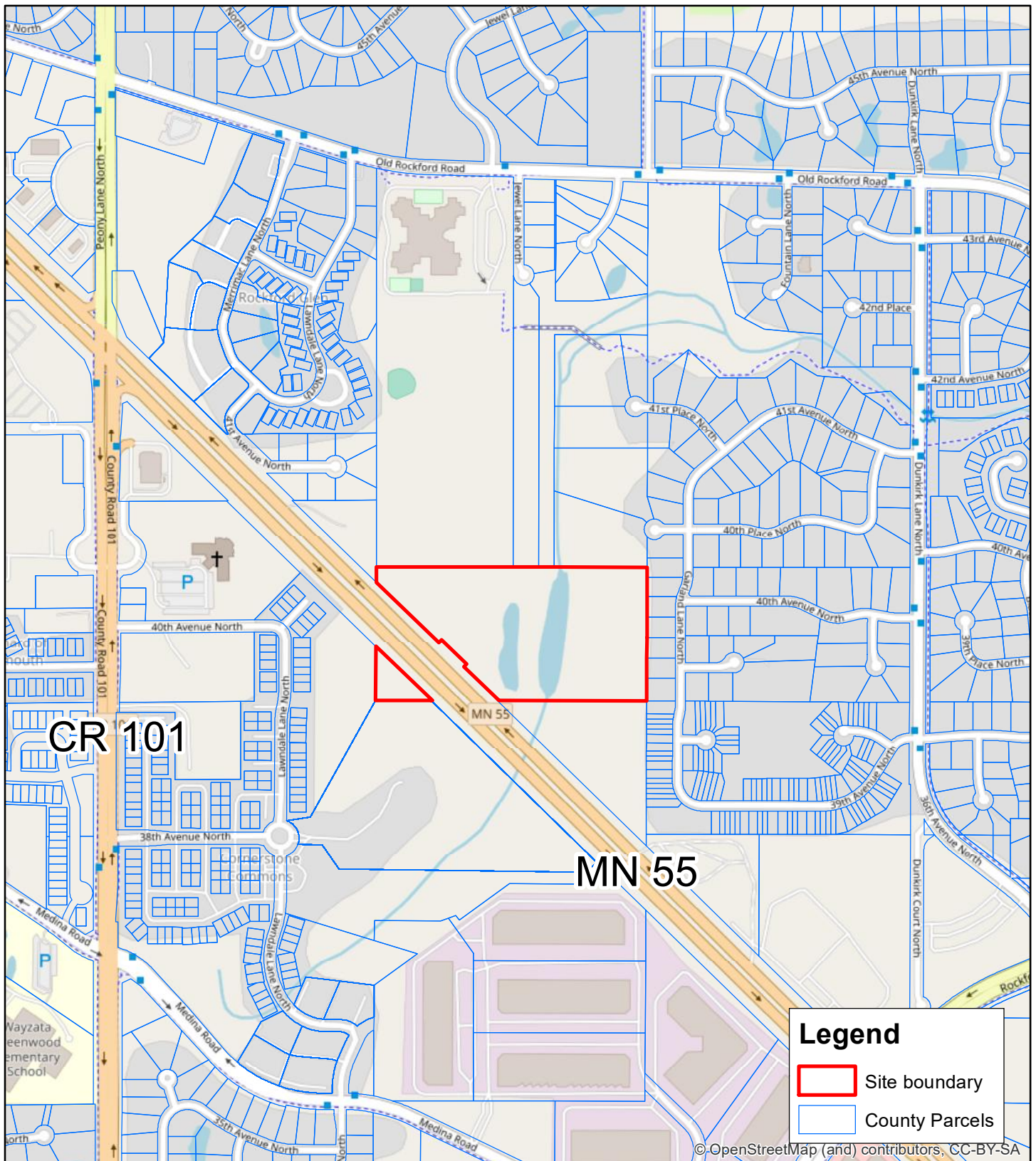
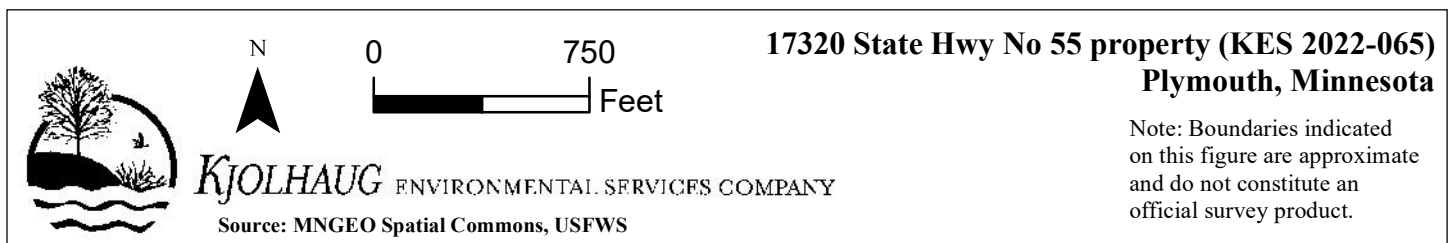


Figure 1 - Site Location



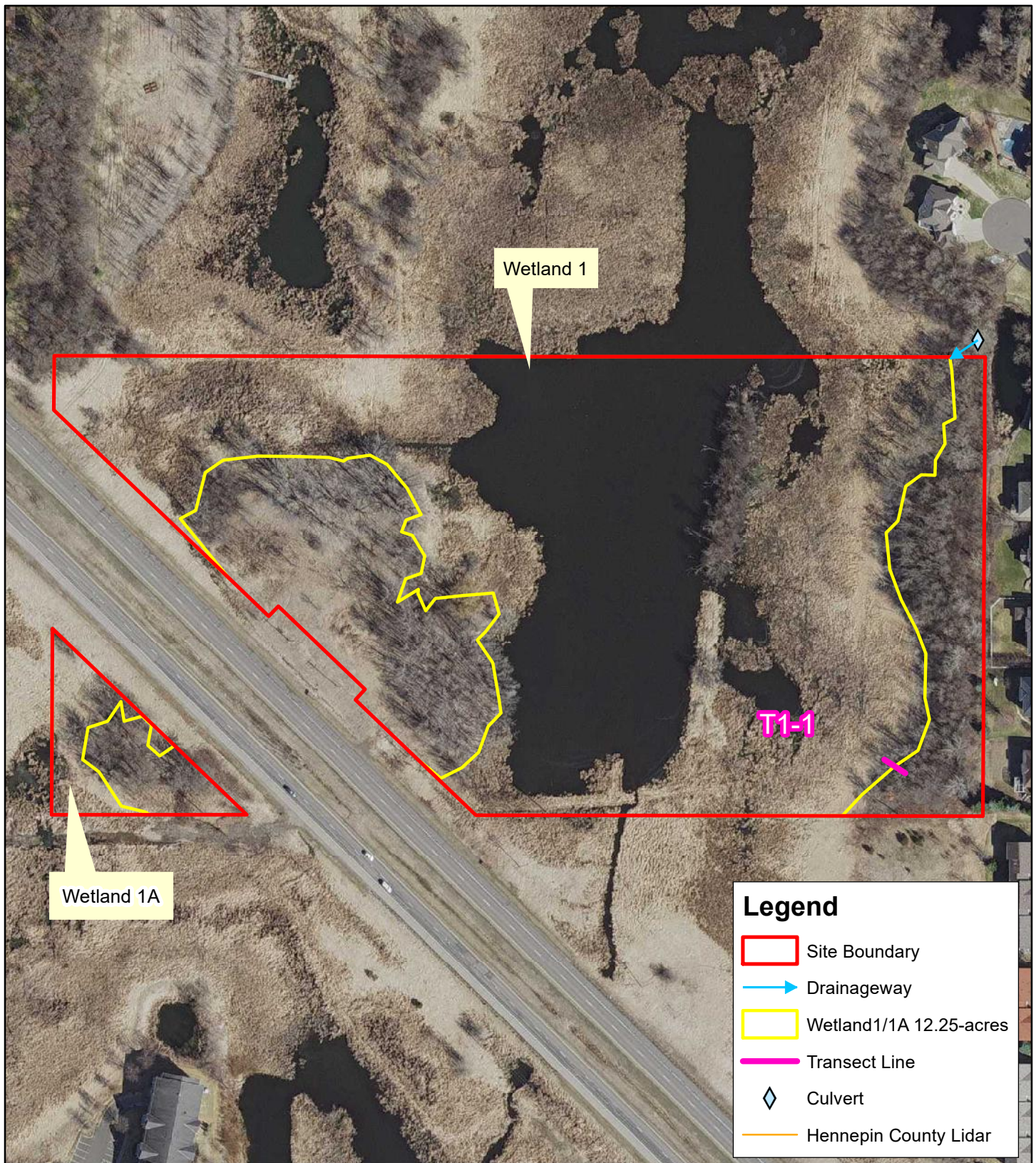


Figure 2 - Existing Conditions (2020 Metro Photo)



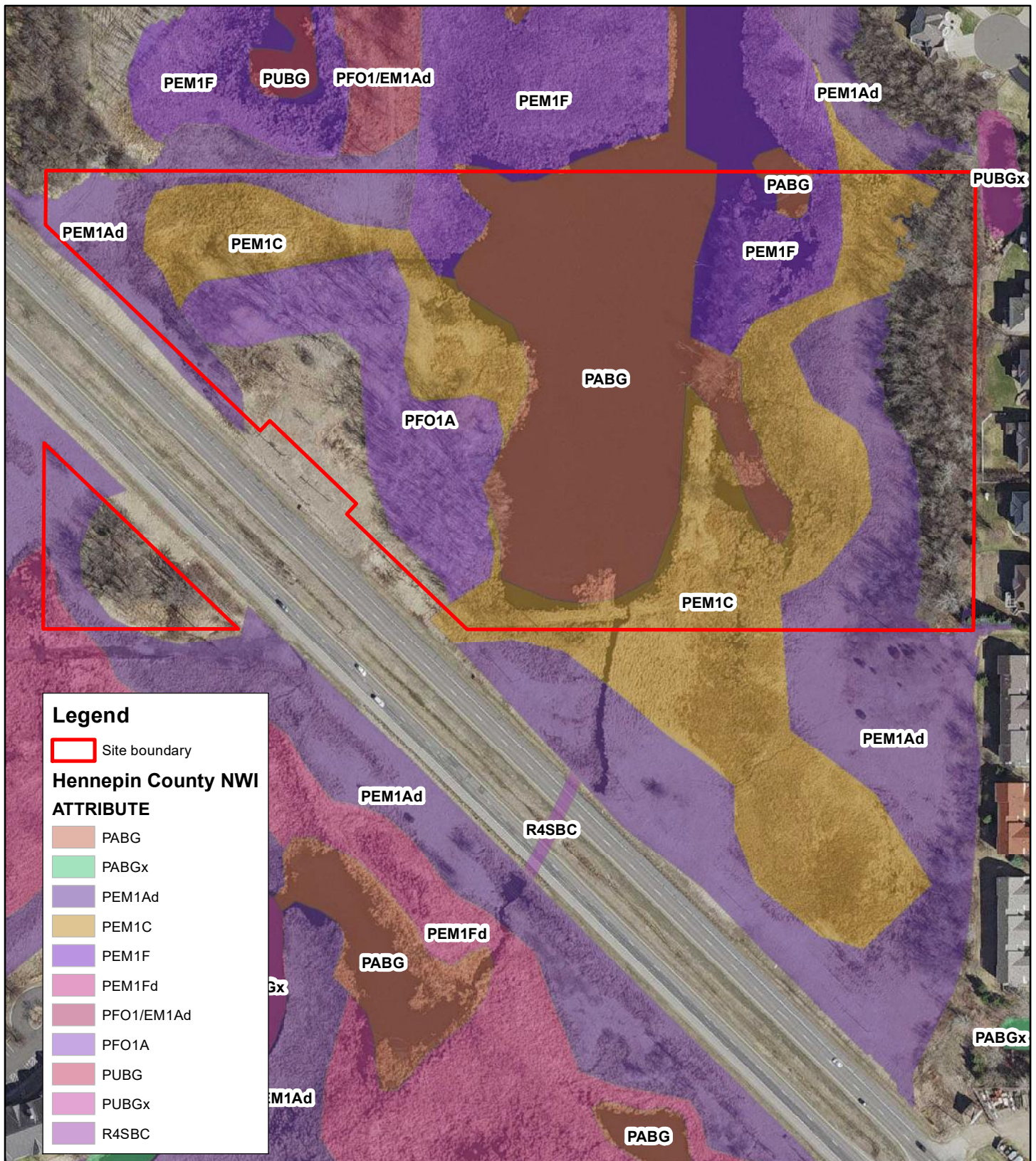


Figure 3 - National Wetlands Inventory

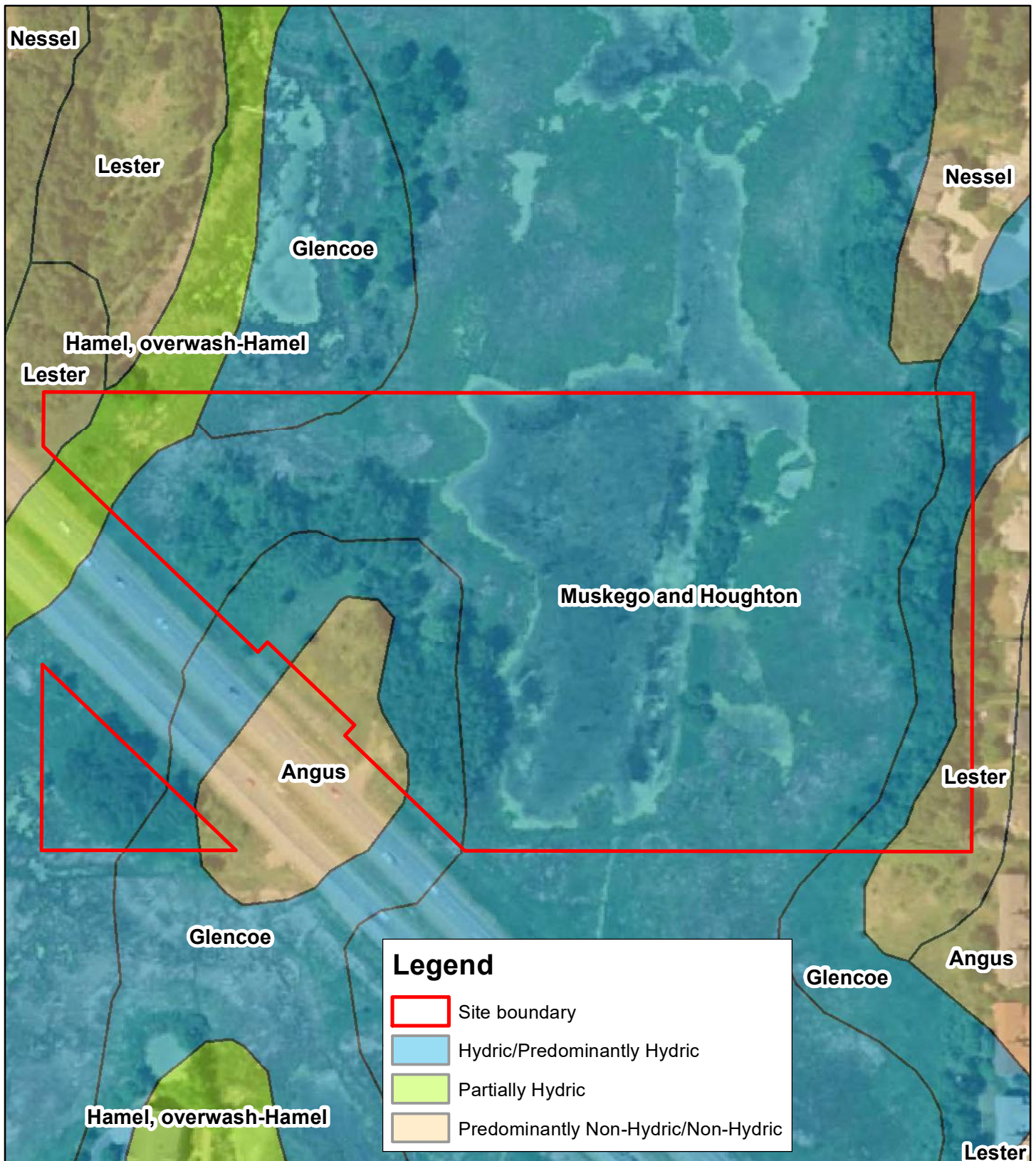


Figure 4 - Soil Survey

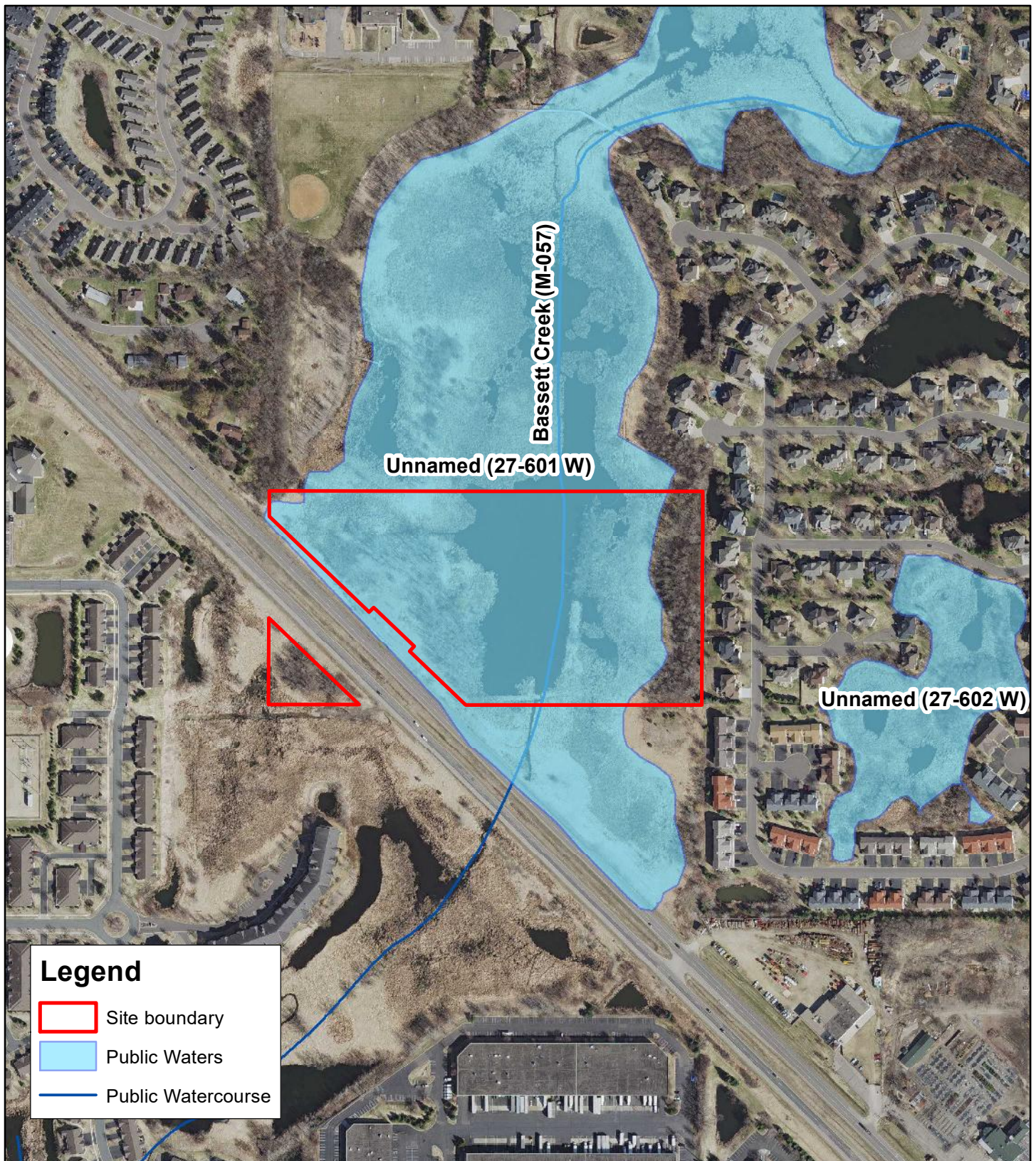
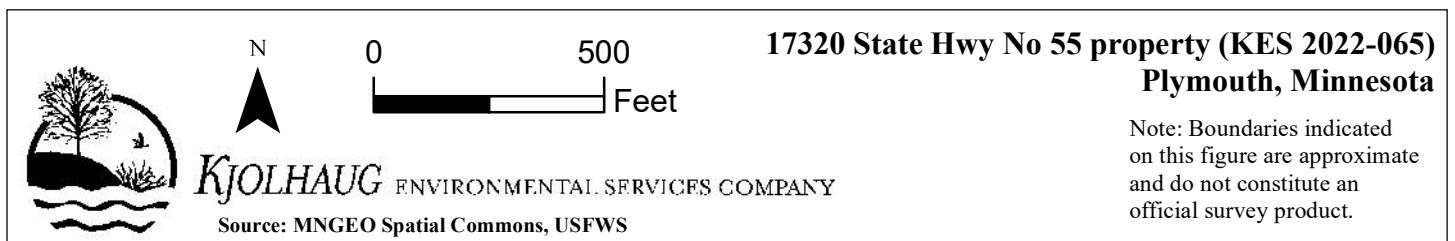


Figure 5 - DNR Public Waters Inventory



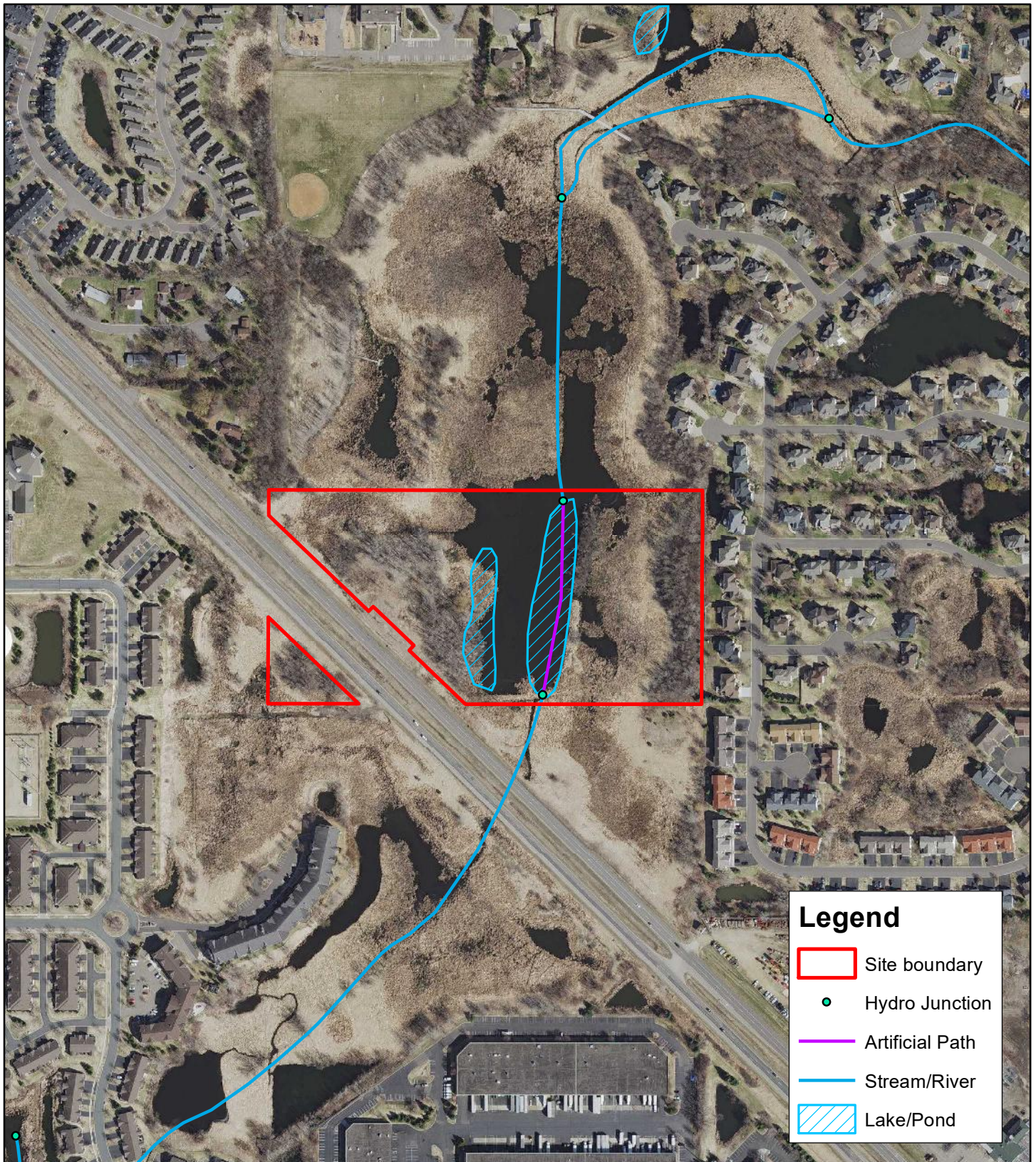


Figure 6 - National Hydrography Dataset

17320 State Hwy No 55 Property

Wetland Delineation Report

APPENDIX A

Joint Application Form for Activities Affecting Water Resources in Minnesota

Joint Application Form for Activities Affecting Water Resources in Minnesota

This joint application form is the accepted means for initiating review of proposals that may affect a water resource (wetland, tributary, lake, etc.) in the State of Minnesota under state and federal regulatory programs. Applicants for Minnesota Department of Natural Resources (DNR) Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. Applicants can use the information entered into MPARS to substitute for completing parts of this joint application form (see the paragraph on MPARS at the end of the joint application form instructions for additional information). This form is only applicable to the water resource aspects of proposed projects under state and federal regulatory programs; other local applications and approvals may be required. Depending on the nature of the project and the location and type of water resources impacted, multiple authorizations may be required as different regulatory programs have different types of jurisdiction over different types of resources.

Regulatory Review Structure

Federal

The St. Paul District of the U.S. Army Corps of Engineers (Corps) is the federal agency that regulates discharges of dredged or fill material into waters of the United States (wetlands, tributaries, lakes, etc.) under Section 404 of the Clean Water Act (CWA) and regulates work in navigable waters under Section 10 of the Rivers and Harbors Act. Applications are assigned to Corps project managers who are responsible for implementing the Corps regulatory program within a particular geographic area.

State

There are three state regulatory programs that regulate activities affecting water resources. The Wetland Conservation Act (WCA) regulates most activities affecting wetlands. It is administered by local government units (LGUs) which can be counties, townships, cities, watershed districts, watershed management organizations or state agencies (on state-owned land). The Minnesota DNR Division of Ecological and Water Resources issues permits for work in specially-designated public waters via the Public Waters Work Permit Program (DNR Public Waters Permits). The Minnesota Pollution Control Agency (MPCA) under Section 401 of the Clean Water Act certifies that discharges of dredged or fill material authorized by a federal permit or license comply with state water quality standards. One or more of these regulatory programs may be applicable to any one project.

Required Information

Prior to submitting an application, applicants are **strongly encouraged** to seek input from the Corps Project Manager and LGU staff to identify regulatory issues and required application materials for their proposed project. Project proponents can request a pre-application consultation with the Corps and LGU to discuss their proposed project by providing the information required in Sections 1 through 5 of this joint application form to facilitate a meaningful discussion about their project. Many LGUs provide a venue (such as regularly scheduled technical evaluation panel meetings) for potential applicants to discuss their projects with multiple agencies prior to submitting an application. Contact information is provided below.

The following bullets outline the information generally required for several common types of determinations/authorizations.

- For delineation approvals and/or jurisdictional determinations, submit Parts 1, 2 and 5, and Attachment A.
- For activities involving CWA/WCA exemptions, WCA no-loss determinations, and activities not requiring mitigation, submit Parts 1 through 5, and Attachment B.
- For activities requiring compensatory mitigation/replacement plan, submit Parts 1 thru 5, and Attachments C and D.
- For local road authority activities that qualify for the state's local road wetland replacement program, submit Parts 1 through 5, and Attachments C, D (if applicable), and E to both the Corps and the LGU.

Submission Instructions

Send the completed joint application form and all required attachments to:

U.S Army Corps of Engineers. Applications may be sent directly to the appropriate Corps Office. For a current listing of areas of responsibilities and contact information, visit the St. Paul District's website at:

<http://www.mvp.usace.army.mil/Missions/Regulatory.aspx> and select "Minnesota" from the contact Information box.

Alternatively, applications may be sent directly to the St. Paul District Headquarters and the Corps will forward them to the appropriate field office.

Section 401 Water Quality Certification: Applicants do not need to submit the joint application form to the MPCA unless specifically requested. The MPCA will request a copy of the completed joint application form directly from an applicant when they determine an individual 401 water quality certification is required for a proposed project.

Wetland Conservation Act Local Government Unit: Send to the appropriate Local Government Unit. If necessary, contact your county Soil and Water Conservation District (SWCD) office or visit the Board of Water and Soil Resources (BWSR) web site (www.bwsr.state.mn.us) to determine the appropriate LGU.

DNR Public Waters Permitting: In 2014 the DNR will begin using the Minnesota DNR Permitting and Reporting System (MPARS) for submission of Public Waters permit applications (<https://webapps11.dnr.state.mn.us/mpars/public/authentication/login>).

Applicants for Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. To avoid duplication and to streamline the application process among the various resource agencies, applicants can use the information entered into MPARS to substitute for completing parts of this joint application form. The MPARS print/save function will provide the applicant with a copy of the Public Waters permit application which, at a minimum, will satisfy Parts one and two of this joint application. For certain types of activities, the MPARS application may also provide all of the necessary information required under Parts three and four of the joint application. However, it is the responsibility of the Applicant to make sure that the joint application contains all of the required information, including identification of all aquatic resources impacted by the project (see Part four of the joint application). After confirming that the MPARS application contains all of the required information in Parts one and two the Applicant may attach a copy to the joint application and fill in any missing information in the remainder of the joint application.

PART ONE: Applicant Information

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

Applicant/Landowner Name: Joe Dantzinger
Mailing Address: 452 Corbel Dr, Naples, FL 34110
Phone: 612-237-7253
E-mail Address: dantzinger@gmail.com

Authorized Contact (do not complete if same as above): John Dobbs
Mailing Address: 2453 Skyline Dr, Bloomington, MN 55425
Phone: 612-747-1463
E-mail Address: Johnd.remax@gmail.com

Agent Name: Kyle Uhler, Kjolhaug Environmental Services
Mailing Address: 2500 Shadywood Road, Suite 130
Phone: 952-401-8575
E-mail Address: kyle@kjolhaugenv.com

PART TWO: Site Location Information

County: Hennepin **City/Township:** Plymouth
Parcel ID and/or Address: PID: 1711822320001
Legal Description (Section, Township, Range): S17, T:118N, R:22W
Lat/Long (decimal degrees): 45.02, -93.49
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): 16.56 acres

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

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

PART THREE: General Project/Site Information

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

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

Application is for delineation approval/concurrence.

PART FOUR: Aquatic Resource Impact¹ Summary

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

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

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

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

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

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

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

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

PART FIVE: Applicant Signature

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

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

Signature:



Date:

8/8/2022

I hereby authorize

to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

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

Attachment A

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

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

☒ **Wetland Type Confirmation**

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

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

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

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

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

17320 State Hwy No 55 Property

Wetland Delineation Report

APPENDIX B

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site 17320 State Hwy No 55 City/County: Plymouth Sampling Date: 05/04/2022
 Applicant/Owner: See joint application form State: MN Sampling Point: SP1-1Up
 Investigator(s): Kyle Uhler Section, Township, Range: S:17, T:118N, R:22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
 Slope (%): 3 to 5 Lat: --- Long: --- Datum: ---
 Soil Map Unit Name: Glencoe clay loam NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
 Are vegetation, soil, or hydrology significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation, soil, or hydrology naturally problematic? present? Yes
SUMMARY OF FINDINGS (If needed, explain any answers in remarks.)

Hydrophytic vegetation present? N	Is the sampled area within a wetland? N
Hydric soil present? Y	
Indicators of wetland hydrology present? Y	
If yes, optional wetland site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)
 Climate conditions were typical (normal) based on the gridded database.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: 2 (A) Total Number of Dominant Species Across all Strata: 4 (B) Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)
1	<i>Populus tremuloides</i>	50	Y	FAC	
2					
3					
4					
5					
		50	= Total Cover		
Sapling/Shrub stratum	(Plot size: 15)				Prevalence Index Worksheet Total % Cover of: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 115 x 3 = 345 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 135 (A) 425 (B) Prevalence Index = B/A = 3.15
1	<i>Rhamnus cathartica</i>	65	Y	FAC	
2					
3					
4					
5					
		65	= Total Cover		
Herb stratum	(Plot size: 5)				Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation Dominance test is >50% Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Allium tricoccum</i>	10	Y	FACU	
2	<i>Cirsium arvense</i>	10	Y	FACU	
3					
4					
5					
6					
7					
8					
9					
10					
		20	= Total Cover		
Woody vine stratum	(Plot size: 30)				Hydrophytic vegetation present? N
1					
2					
		0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)
 Prevalence index >3

SOIL

Sampling Point: SP1-1Up

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					Loam	
8-17	10YR 2/1	100					Clay loam	
17-24	10YR 2/1	85	10YR 4/2	10	C	M	Sand	
		5	2.5Y 5/3	5	D	M		

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

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

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

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? Y

Remarks:

Assumed A12

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (inches):	<u>6</u>
Saturation present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (inches):	<u>6</u>

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site 17320 State Hwy No 55 City/County: Plymouth Sampling Date: 05/04/2022
 Applicant/Owner: See joint application form State: MN Sampling Point: SP1-1Wet
 Investigator(s): Kyle Uhler Section, Township, Range: S:17, T:118N, R:22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 to 2 Lat: ---- Long: ---- Datum: ----
 Soil Map Unit Name: Glencoe clay loam NWI Classification: PEM1Ad

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: <u>Wetland 1</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	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)
1	<u>Populus tremuloides</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2					
3					
4					
5					
		<u>10</u>	<u>= Total Cover</u>		
Sapling/Shrub stratum (Plot size: <u>15</u>)					
1					Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>90</u> x 2 = <u>180</u> FAC species <u>10</u> x 3 = <u>30</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>210</u> (B) Prevalence Index = B/A = <u>2.10</u>
2					
3					
4					
5					
		<u>0</u>	<u>= Total Cover</u>		
Herb stratum (Plot size: <u>5</u>)					
1	<u>Phalaris arundinacea</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2					
3					
4					
5					
6					
7					
8					
9					
10					
		<u>90</u>	<u>= Total Cover</u>		
Woody vine stratum (Plot size: <u>30</u>)					
1					Hydrophytic vegetation present? <u>Y</u>
2					
		<u>0</u>	<u>= Total Cover</u>		

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

SOIL

Sampling Point: SP1-1Wet

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	10YR 2/1	100					Mucky loam	
2-24	10YR 2/1	100					Clay loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☒ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y

Remarks:

Assumed A12

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present? Yes No X Depth (inches): _____
 Water table present? Yes X No Depth (inches): 1
 Saturation present? Yes X No Depth (inches): 1
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

17320 State Hwy No 55 Property

Wetland Delineation Report

APPENDIX C

Precipitation Information

17320 State Hwy No 55 Property: Precipitation Summary

Source: Minnesota Climatology Working Group

Monthly Totals: 2022

Target: T118N R22W S17, Lat: 45.02 Lon: -93.49

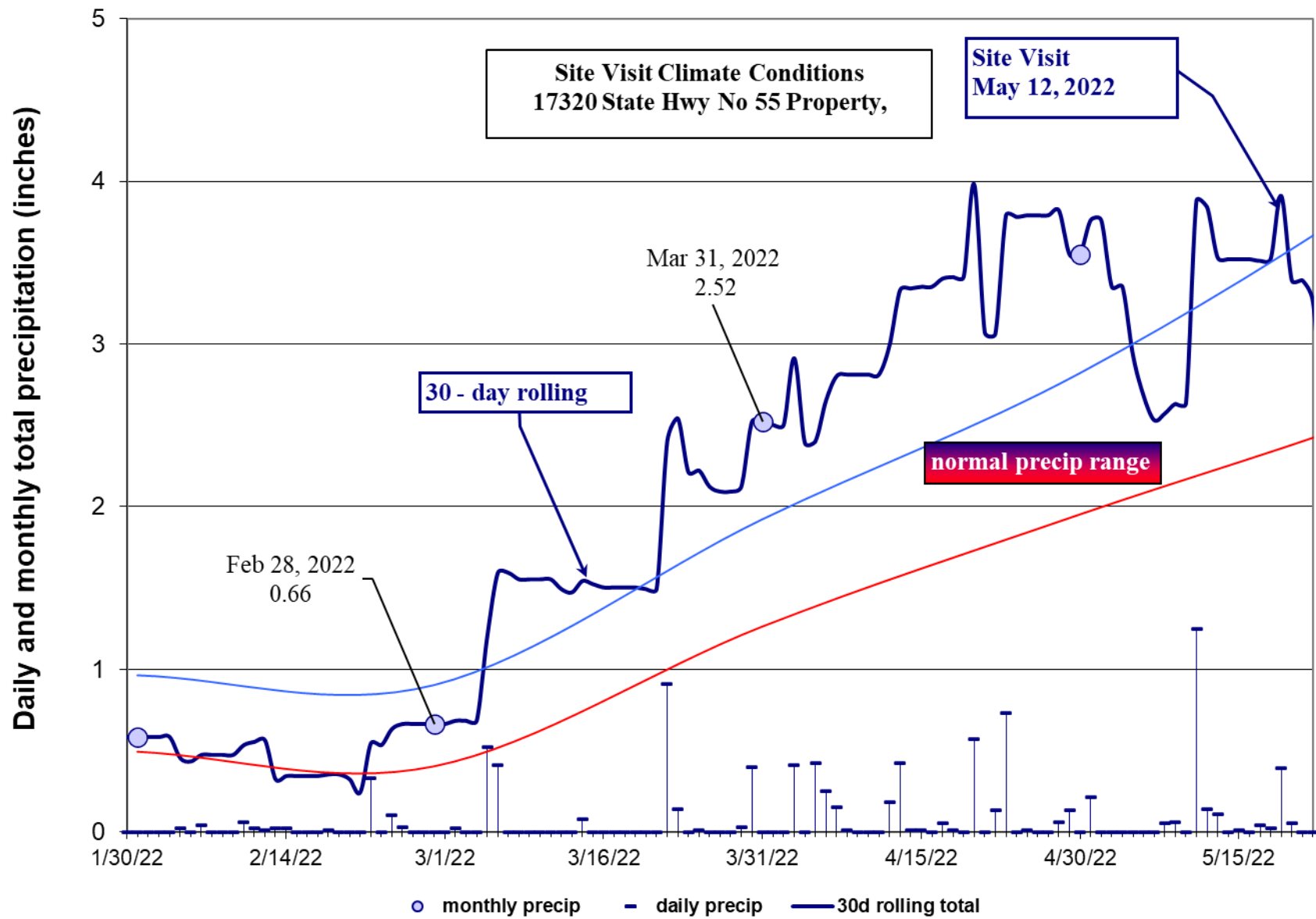
Mon	Year	CC	Tttn	rrw	ss	nnnn	oooooooo	pre
Feb	2022	27	118N	21W	20	NWS	NEW HOPE	0.66
Mar	2022	27	118N	21W	20	NWS	NEW HOPE	2.52
Apr	2022	27	118N	21W	20	NWS	NEW HOPE	3.55

February/March/April Daily Records

Date	Precip.	Date	Precip.	Date	Precip.
Feb 1, 2022	0	Mar 1, 2022	0	Apr 1, 2022	0
Feb 2, 2022	0	Mar 2, 2022	.02	Apr 2, 2022	0
Feb 3, 2022	0	Mar 3, 2022	0	Apr 3, 2022	.41
Feb 4, 2022	.02	Mar 4, 2022	0	Apr 4, 2022	0
Feb 5, 2022	0	Mar 5, 2022	.52	Apr 5, 2022	.42
Feb 6, 2022	.04	Mar 6, 2022	.41	Apr 6, 2022	.25
Feb 7, 2022	0	Mar 7, 2022	0	Apr 7, 2022	.15
Feb 8, 2022	0	Mar 8, 2022	0	Apr 8, 2022	.01
Feb 9, 2022	0	Mar 9, 2022	0	Apr 9, 2022	0
Feb 10, 2022	.06	Mar 10, 2022	0	Apr 10, 2022	0
Feb 11, 2022	.02	Mar 11, 2022	0	Apr 11, 2022	0
Feb 12, 2022	.01	Mar 12, 2022	0	Apr 12, 2022	.18
Feb 13, 2022	.02	Mar 13, 2022	0	Apr 13, 2022	.42
Feb 14, 2022	.02	Mar 14, 2022	.08	Apr 14, 2022	.01
Feb 15, 2022	0	Mar 15, 2022	0	Apr 15, 2022	.01
Feb 16, 2022	0	Mar 16, 2022	0	Apr 16, 2022	0
Feb 17, 2022	0	Mar 17, 2022	0	Apr 17, 2022	.05
Feb 18, 2022	.01	Mar 18, 2022	0	Apr 18, 2022	.01
Feb 19, 2022	0	Mar 19, 2022	0	Apr 19, 2022	0
Feb 20, 2022	0	Mar 20, 2022	0	Apr 20, 2022	.57
Feb 21, 2022	0	Mar 21, 2022	0	Apr 21, 2022	0
Feb 22, 2022	.33	Mar 22, 2022	.91	Apr 22, 2022	.13
Feb 23, 2022	0	Mar 23, 2022	.14	Apr 23, 2022	.73
Feb 24, 2022	.10	Mar 24, 2022	0	Apr 24, 2022	0
Feb 25, 2022	.03	Mar 25, 2022	.01	Apr 25, 2022	.01
Feb 26, 2022	0	Mar 26, 2022	0	Apr 26, 2022	0
Feb 27, 2022	0	Mar 27, 2022	0	Apr 27, 2022	0
Feb 28, 2022	0	Mar 28, 2022	0	Apr 28, 2022	.06
		Mar 29, 2022	.03	Apr 29, 2022	.13
		Mar 30, 2022	.40	Apr 30, 2022	0
		Mar 31, 2022	0		

1981-2010 Summary Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.49	0.40	1.26	1.95	2.63	3.46	2.50	3.19	2.13	1.29	1.06	0.67	16.67	27.59	26.68
70%	0.96	0.90	1.92	2.82	4.05	5.49	4.69	5.04	3.67	3.24	1.97	1.44	21.09	33.76	34.18
mean	0.80	0.78	1.75	2.63	3.51	4.39	4.09	4.13	3.35	2.43	1.67	1.14	19.47	30.66	30.46



Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

[home](#) | [current conditions](#) | [journal](#) | [past data](#) | [summaries](#) | [agriculture](#) | [other sites](#) | [about us](#)



Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **118N**
township name: **Plymouth** range number: **22W**
nearest community: **Ditter** section number: **17**

Aerial photograph or site visit date:

Thursday, May 12, 2022

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: April 2022	second prior month: March 2022	third prior month: February 2022
estimated precipitation total for this location:	3.19R	2.37R	0.66R
there is a 30% chance this location will have less than:	2.20	1.18	0.51
there is a 30% chance this location will have more than:	3.29	1.86	1.10
type of month: dry normal wet	normal	wet	normal
monthly score	3 * 2 = 6	2 * 3 = 6	1 * 2 = 2
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	14 (Normal)		

Other Resources:

- [retrieve daily precipitation data](#)
- [view radar-based precipitation estimates](#)
- [view weekly precipitation maps](#)
- [Evaluating Antecedent Precipitation Conditions](#) (BWSR)