Item 7I.
BCWMC
11-20-19

Minnesota Wetland Conservation Act
Notice of Application

Local Government Unit (LGU)	Address
City of Plymouth	**3400 Plymouth Blvd** **Plymouth, MN 55447**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Kjolhaug Environmental Services Company, Inc. for Cushman Wakefield	**Plymouth Business Center**	**10/2/2019**	

Type of Application (check all that apply):

☒ Wetland Boundary or Type Sequencing ☐ No-Loss ☐ Exemption ☐

☐ Replacement Plan ☐ Banking Plan

Summary and description of proposed project (attach additional sheets as necessary):

The Plymouth Business Center site is located at 3850 Annapolis Lane North in Plymouth, MN. The 8.27 acre site was inspected on August 29th, 2019 for the presence and extent of wetlands. The property is located in Section 15, Township 118 North, Range 22 West, City of Plymouth, Hennepin County. The site is situated to the west of Interstate Highway 494 and south of Rockford Road.

One wetland was delineated within the site boundaries, the delineated boundary. Wetland 1 was a Type 2/3 (EM1B/BEM1C) wetland with shallow marsh in the center dominated by cattail, with a fringe of wet meadow dominated by reed canary grass with a lesser amount of giant goldenrod. The wetland was saturated at the surface in the center, and dry along the wetland fringe with secondary indicators of wetland hydrology observed including Geomorphic Position and the FAC-Neutral test observed. The wetland boundary corresponded to a topographic rise along steep sideslopes and a transition from wet meadow plant species to upland meadow.

The comment period closes on October 31, 2019.

2. APPLICATION REVIEW AND DECISION

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 3 provides notice that an application was made to the LGU under the Wetland Conservation Act as specified above. A copy of the application is attached. Comments can be submitted to:

Name and Title of LGU Contact Person	Comments must be received by (minimum 15 business-day comment period):
Ben Scharenbroich **Interim Water Resources Manager**	**October 31, 2019**
Address (if different than LGU) **3400 Plymouth Blvd** **Plymouth, MN 55447**	Date, time, and location of decision: **November 1, 2019** **9:00am** **3400 Plymouth Blvd**
Phone Number and E-mail Address **763-509-5527** **bscharenbroich@plymouthmn.gov**	Decision-maker for this application: ☒ Staff ☐ Governing Board or Council

Signature: _____ Date: 10/10/2019

3. LIST OF ADDRESSEES

☒ SWCD TEP member: **Ms. Stacey Lijewski, HCD, 701 Fourth Avenue South, Suite 700, Minneapolis, MN 55415-1600 (sent electronically)**

☒ BWSR TEP member: **Ben Carlson, BWSR 520 Lafayette Road North, St. Paul, MN 55401 (sent electronically)**
☒ LGU TEP member (if different than LGU Contact): **Ben Scharenbroich, City of Plymouth, 3400 Plymouth Blvd, Plymouth, MN 55447 (sent electronically)**
☒ DNR TEP member: **Leslie Parris, MnDNR, 1200 Warner Road, St. Paul, MN 55106 (sent electronically)**
☐ DNR Regional Office (if different than DNR TEP member)
☒ WD or WMO (if applicable): **BCWMC, c/o Laura Jester, 16145 Hillcrest Lane, Eden Prairie, MN 55346 (sent electronically)**
☒ Applicant (notice only) and Landowner (if different)
☒ Members of the public who requested notice (notice only):
Wayne Stark, Stark Engineering, 320 2nd Avenue North, Sauk Rapids, MN 55379 (sent electronically)
Joan Firnhaber, Cushman Wakefield, 3500 American Blvd W, Suite 200, Bloomington, MN 55431 (sent electronically)
Jan Murphy, Cushman Wakefield, 3500 American Blvd W, Suite 200, Bloomington, MN 55431 (sent electronically)
Adam Cameron, Kjolhaug Environmental Services Company, Inc. 2500 Shadywood Roadm Suite 130, Orono, MN 55331

☐ Corps of Engineers Project Manager (notice only)
☐ BWSR Wetland Bank Coordinator (wetland bank plan applications only)

4. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/contact/WCA_areas.pdf

➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➢Department of Natural Resources Regional Offices:

NW Region:	NE Region:	Central Region:	Southern Region:
Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073

For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

➢For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687
or send to:

➢

US Army Corps of Engineers
St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

➢For Wetland Bank Plan applications, also send a copy of the application to:
Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator

520 Lafayette Road North
St. Paul, MN 55155

5. ATTACHMENTS

In addition to the application, list any other attachments:

- ☒ **Plymouth Business Center Wetland Delineation Report**
- ☐
- ☐
- ☐
- ☐

Plymouth Business Center

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

Prepared for

Cushman Wakefield

by

Kjolhaug Environmental Services Company, Inc.
(KES Project No. 2019-119)

October 1, 2019

Plymouth Business Center

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

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Plymouth Business Center

Plymouth, Hennepin County, Minnesota

Wetland Delineation Report

1. WETLAND DELINEATION SUMMARY

- The 8.27-acre Plymouth Business Center site was inspected on August 29, 2019 for the presence and extent of wetland.
- The National Wetlands Inventory (NWI) map showed one PEM1A wetland within the site boundaries.
- The soil survey showed Cordova Loam (Predominantly Hydric) as the hydric soil type mapped within the site boundaries.
- The DNR Public Waters Inventory did not show any DNR Public Waters, Wetlands or Waterways within 1000 feet of the site boundaries.
- The National Hydrography Dataset showed one Stream/River on the western portion of the site corresponding to a parking lot.
- One Type 2/3 PEM1B/PEM1C wet meadow and shallow marsh wetland was delineated within site boundaries.

2. OVERVIEW

The 8.27-acre Plymouth Business Center Site was inspected on August 29, 2019 for the presence and extent of wetland. The property was located in Section 15, Township 118 North, Range 22 West, City of Plymouth, Hennepin County, Minnesota. The site was situated west of Interstate Highway 94, south of Rockford Road (**Figure 1**). The property corresponded to Hennepin County PID#'s: 1511822310007 and 1511822340003.

The Plymouth Business Center site consisted of buildings and parking lots, with meadow and wetland on the eastern portion adjacent to Interstate Highway 94. Topography of the site sloped from 972 ft MSL on the central portion of the site down to 966 ft MSL within the wetland on the eastern portion. Surrounding land use consisted of single-family residential housing, office buildings and commercial.

One wetland was delineated within the site boundaries. The delineated wetland boundaries 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: (1) a wetland boundary and type determination under the Minnesota Wetland Conservation Act (WCA), and (2) delineation concurrence under Section 404 of the Federal Clean Water Act.

3. METHODS

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 (Version 2.0) 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 a Trimble Juno T41 GPS Unit.

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 8.1, 2017).

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 2016 National Wetland Plant List (U.S. Army Corps of Engineers 2016. 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 one PEM1A wetland within the site boundaries (**Figure 3**).

The Soil Survey (USDA NRCS 2015) showed Cordova Loam (Predominantly Hydric) as the hydric soil type mapped within the site boundaries. Soil types mapped on the property are listed in **Table 1** and a map showing soil types is included in **Figure 4**.

Table 1. Soil types mapped on Plymouth Business Center

Symbol	Soil Name	Acres	% of Area	% Hydric	Hydric Category
L22C2	Lester loam	5.985	72.37	2	Predominantly Non-Hydric
L23A	Cordova loam	0.821	9.93	95	Predominantly Hydric
U1A	Urban land-Udorthents	0.714	8.64	0	Non-Hydric
L45A	Dundas-Cordova complex	0.414	5.01	30	Predominantly Non-Hydric
L37B	Angus loam, 2 to 6 percent slopes	0.190	2.29	5	Predominantly Non-Hydric
L37B	Angus loam, 2 to 6 percent slopes	0.144	1.74	5	Predominantly Non-Hydric
L25A	Le Sueur loam, 1 to 3 percent slopes	0.034	0.41	15	Predominantly Non-Hydric
L44A	Nessel loam	0.002	0.03	10	Predominantly Non-Hydric

The Minnesota DNR Public Waters Inventory (Minnesota Department of Natural Resources 2015) did not show any DNR Public Waters, Wetlands or Waterways within 1000 feet of the site boundaries (**Figure 5**).

The National Hydrography Dataset (U.S. Geological Survey 2015) showed one Stream/River on the western portion of the site corresponding with a parking lot (**Figure 6**).

4.2 Wetland Determinations and Delineations

Potential wetlands were evaluated during field observations on August 29, 2019. One wetland was identified and delineated on the property (**Figure 2**). Corresponding data forms are included in **Appendix B**. The following descriptions of the wetland and adjacent upland reflects conditions observed at the time of the field visit. Herbaceous vegetation was actively growing at the time of the wetland delineation. Precipitation conditions were wetter than the normal range based on available 30-day rolling total precipitation and normal based on the three-month antecedent precipitation data (**Appendix C**).

Wetland 1 was a Type 2/3 (PEM1B/PEM1C) wetland with shallow marsh in the center dominated by cattail, with a fringe of wet meadow dominated by reed canary grass with a lesser amount of giant goldenrod. The wetland was saturated at the surface in the center, and dry along the wetland fringe with secondary indicators of wetland hydrology observed including Geomorphic Position and the FAC-Neutral test observed.

Adjacent upland consisted of meadow dominated by staghorn sumac, smooth brome, Canada goldenrod, common burdock, ground ivy, stickseed, common raspberry, common buckthorn and Canada thistle. Primary and secondary hydrology indicators were not observed on the upland.

The wetland boundary corresponded to a topographic rise along steep sideslopes and a transition from wet meadow plant species to upland meadow. The wetland was shown as a PEM1A wetland on the NWI map, and fell in an area mapped as Cordova Loam (Predominantly Hydric) on the soil survey. Wetland 1 extended offsite to the east into the adjacent road ditch adjacent to Interstate 94.

4.3 Other Areas

Other areas were investigated because they were: (1) observed to support a hydrophytic plant community, (2) had visible wetland hydrology indicators, (3) were shown as wetland on the NWI map, or (4) were depressional and mapped as hydric soil. Field investigation led to the conclusion that these areas were not wetland.

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: (1) a wetland boundary and type determination under the Minnesota Wetland Conservation Act (WCA), and (2) delineation concurrence under Section 404 of the Federal Clean Water Act.

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: Adam Cameron, Wetland Ecologist/GIS Specialist
Minnesota Certified Wetland Delineator No. 1321

Report prepared by: Adam Cameron, Wetland Ecologist/GIS Specialist
Minnesota Certified Wetland Delineator No. 1321

Report reviewed by: _____ Date: October 1, 2019
Mark Kjolhaug, Professional Wetland Scientist No. 000845

Plymouth Business Center

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

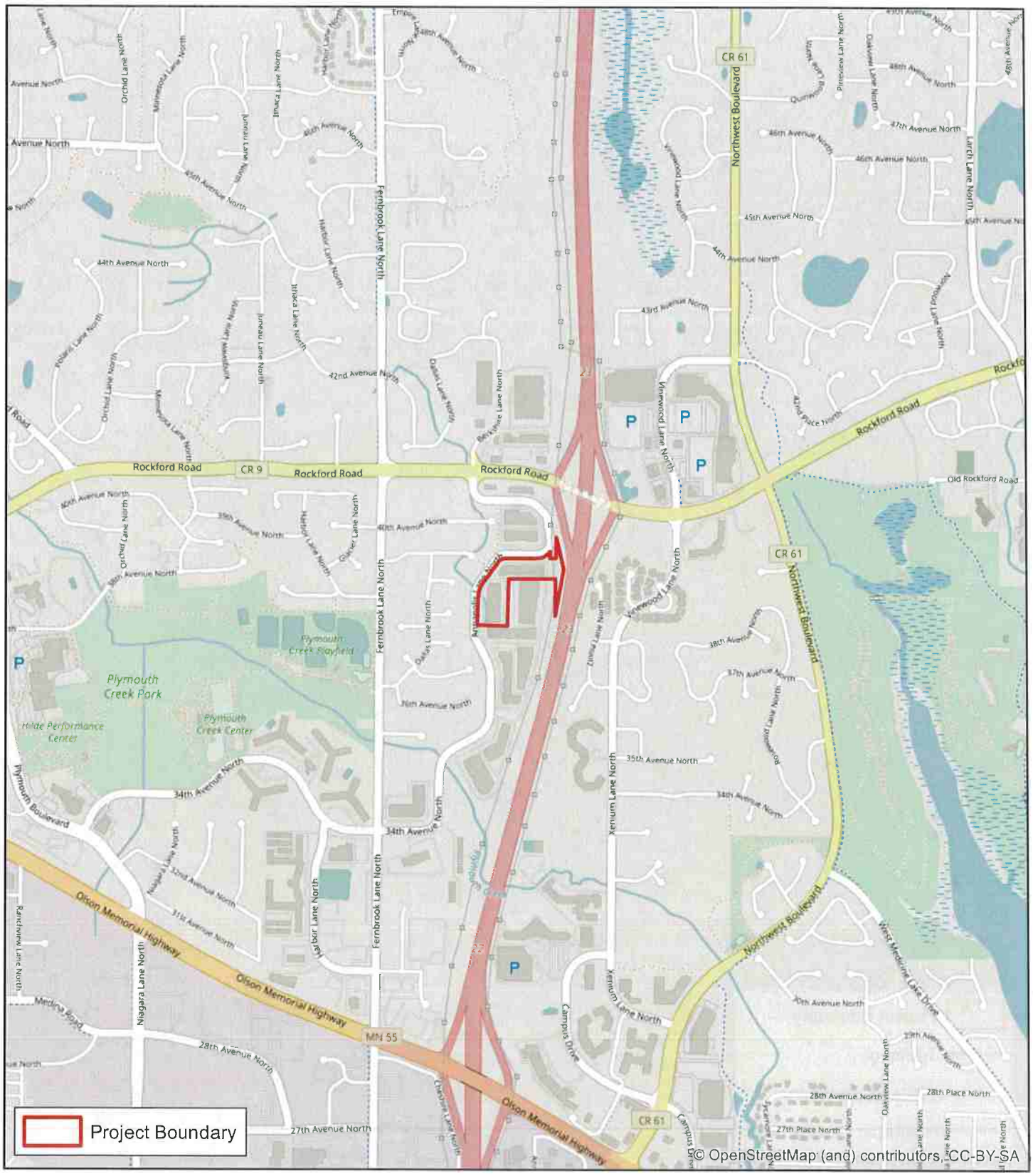


Figure 1 - Site Location Map

N

0 1,500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

Plymouth Business Center (KES 2019-119)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

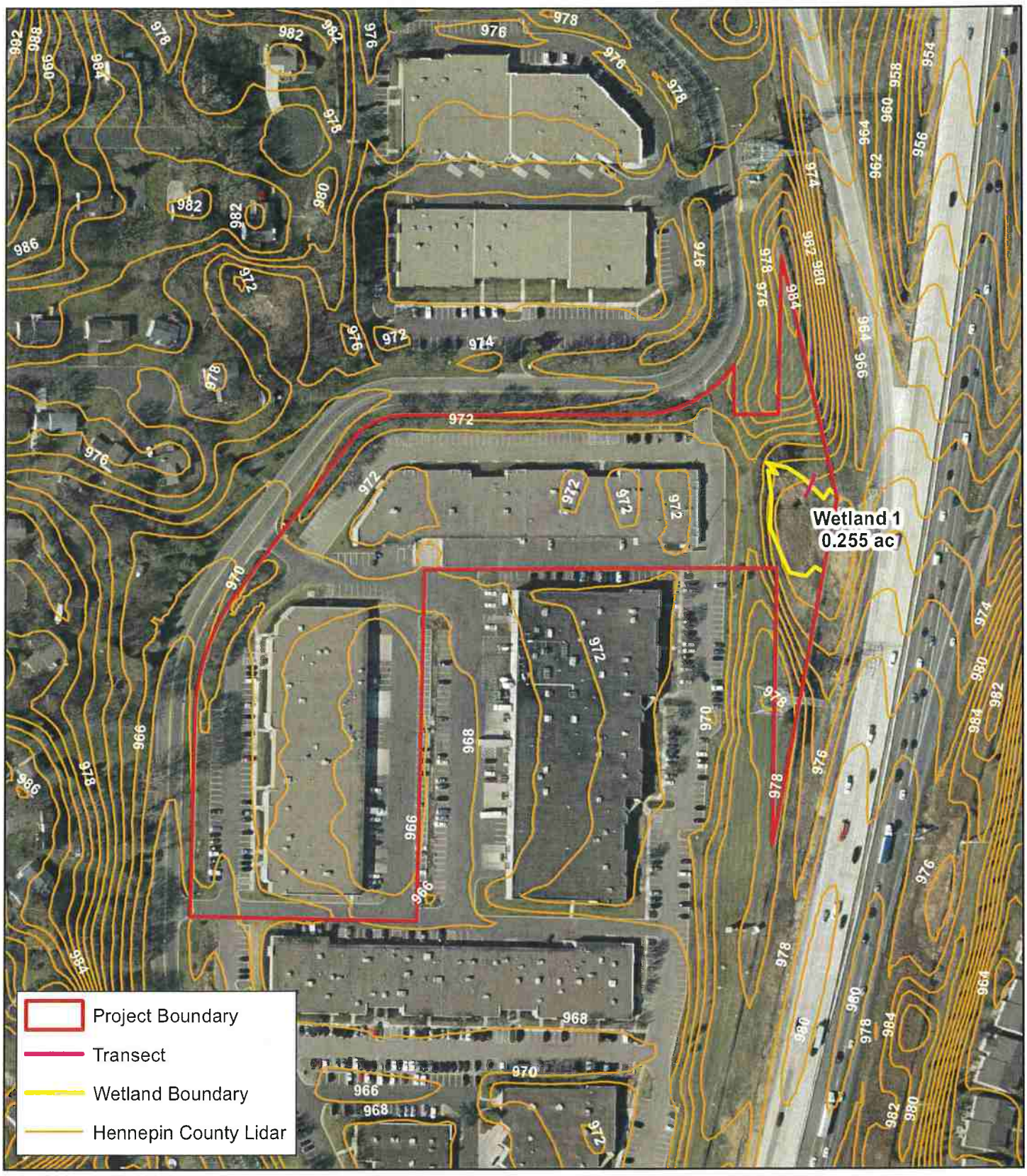


Figure 2 - Existing Conditions

N

0 200 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Plymouth Business Center (KES 2019-119)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

Figure 3 - National Wetlands Inventory

N

0 300 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

Plymouth Business Center (KES 2019-119)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

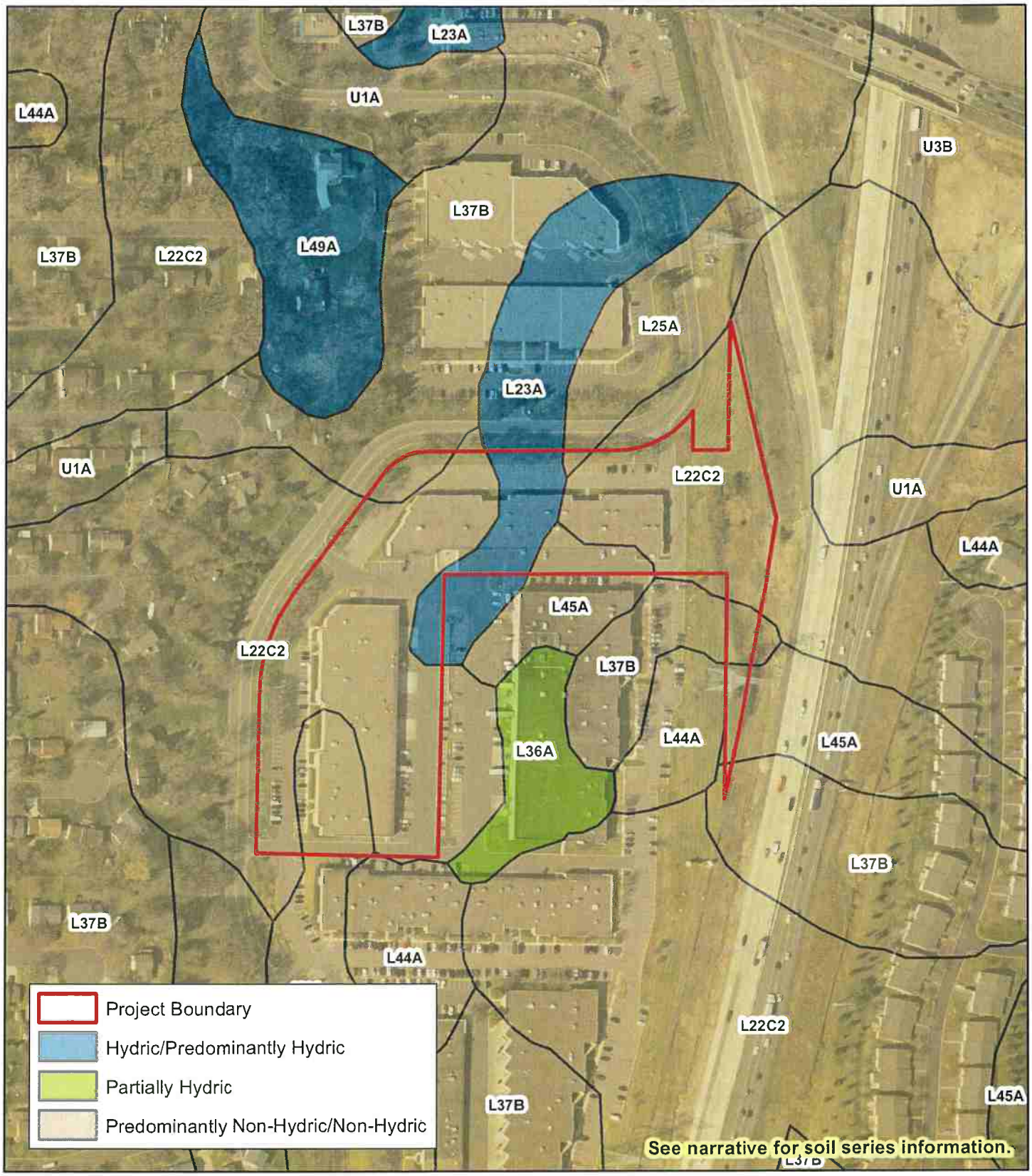


Figure 4 - Soil Survey

N

0 250 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USDA, NRCS

Plymouth Business Center (KES 2019-119)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

Figure 5 - DNR Public Waters Inventory

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, MN DNR

Plymouth Business Center (KES 2019-119)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

Figure 6 - National Hydrography Dataset

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

Plymouth Business Center (KES 2019-119)
Plymouth, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

Plymouth Business Center

Wetland Delineation Report

APPENDIX A

Joint Application Form for Activities Affecting Water Resources in Minnesota

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: Jan Murpy of Cushman & Wakefield U.S. as managing agent for St. Paul Fire & Marine Insurance Company
Mailing Address: 3500 American Blvd. W, suite 200 Bloomington MN 55431
Phone: 952-837-8510
E-mail Address: Joan.firnhaber@cushwake.com

Authorized Contact (do not complete if same as above): Joan Firnhaber-construction manager
Mailing Address: Cushman & Wakefield U.S. 3500 American Blvd. W, suite 200 Bloomington MN 55431
Phone: 952-837-8510
E-mail Address: Joan.firnhaber@cushwake.com

Agent Name: Adam Cameron
Mailing Address: 2500 Shadywood Road #130, Orono MN 55331
Phone: 952-401-8757 Ext. #106
E-mail Address: Adam@kjolhaugenv.com

PART TWO: Site Location Information

County: **Hennepin** **City/Township:** **Plymouth**
Parcel ID and/or Address: **1511822310007, 1511822340003**
Legal Description (Section, Township, Range): **S:15 T:118N R:22W**
Lat/Long (decimal degrees): -
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): **8.27 acres**

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

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

PART THREE: General Project/Site Information

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

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

PART FOUR: Aquatic Resource Impact[1] 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]

[1]If 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)".
[2]Impacts 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).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer 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: 10/1/19

I hereby authorize Kjolhaug Environmental 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

Plymouth Business Center

Wetland Delineation Report

APPENDIX B

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Plymouth Business Center | City/County: Plymouth/Hennepin | Sampling Date: 8/29/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP1-1W

Investigator(s): A. Cameron, W. Effertz | Section, Township, Range: S:15 T:118N R:22W

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

Slope (%): 0 - 2 | Lat: - | Long: - | Datum: -

Soil Map Unit Name: Lester | NWI Classification: PEM1A

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? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

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

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

Precipitation from Gridded Database Method Typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft Radius)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0 = Total Cover		
Sapling/Shrub stratur (Plot size: 15 ft Radius)			
1			
2			
3			
4			
5			
	0 = Total Cover		
Herb stratum (Plot size: 5 ft Radius)			
1 *Typha angustifolia*	40	Y	OBL
2 *Phalaris arundinacea*	30	Y	FACW
3 *Persicaria pensylvanica*	10	N	FACW
4			
5			
6			
7			
8			
9			
10			
	80 = Total Cover		
Woody vine stratum (Plot size: 30 ft 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:

OBL species	40	x 1 =	40
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	80 (A)		120 (B)

Prevalence Index = B/A = 1.50

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Morphogical 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

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: SP1-1W

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*	Loc**	Texture	Remarks
0-1	10YR 2/1	100					Mucky Loam	
1-8	10YR 2/1	90	10YR 4/6	5	C	M	Sandy Loam	
			10YR 4/1	5	D	M	Sandy Loam	
8-24	10YR 2/1	80	10YR 4/6	10	C	M	Sandy Clay Loam	
			10YR 4/1	10	D	M	Sandy Clay Loam	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils:

- ___ 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 weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	X	No	___	Depth (inches):	12
Saturation present? (includes capillary fringe)	Yes	X	No	___	Depth (inches):	4

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: Plymouth Business Center | City/County: Plymouth/Hennepin | Sampling Date: 8/29/2019

Applicant/Owner: See Joint Application Form | State: MN | Sampling Point: SP1-1U

Investigator(s): A. Cameron, W. Effertz | Section, Township, Range: S:15 T:118N R:22W

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear

Slope (%): 3 - 5 | Lat: - | Long: - | Datum: -

Soil Map Unit Name: Lester Loam | NWI Classification: PEM1A

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? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

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

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

Precipitation from Gridded Database Method Typical.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft Radius)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0 = Total Cover		
Sapling/Shrub stratur (Plot size: 15 ft Radius)			
1 *Rhus typhina*	10	Y	UPL
2			
3			
4			
5			
	10 = Total Cover		
Herb stratum (Plot size: 5 ft Radius)			
1 *Solidago canadensis*	65	Y	FACU
2 *Arctium minus*	10	N	FACU
3 *Glechoma hederacea*	10	N	FACU
4			
5			
6			
7			
8			
9			
10			
	85 = Total Cover		
Woody vine stratum (Plot size: 30 ft 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: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	10	x 5 =	50
Column totals	95 (A)		390 (B)

Prevalence Index = B/A = 4.11

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

___ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Morphogical 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

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: SP1-1U

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*	Loc**	Texture	Remarks
0-10	10YR 2/2	100					Loam	
10-14	10YR 2/2	98	10YR 4/6	2	C	M	Loam	
14-24	N2.5/	100					Clay Loam	

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

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky 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 weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Indicators of wetland hydrology present? N

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

Remarks:

Plymouth Business Center

Wetland Delineation Report

APPENDIX C

Precipitation Data

Plymouth, MN: Precipitation Summary
Source: Minnesota Climatology Working Group

Monthly Totals: 2019

Target: T118 R22 S15 (latitude: 45.02923 longitude: 93.45113)

mon	year	cc	tttN	rrW	ss	nnnn	oooooooo	pre (inches)
Jan	2019	27	118N	21W	20	NWS	NEW HOPE	.46
Feb	2019	27	118N	21W	20	NWS	NEW HOPE	2.39
Mar	2019	27	118N	21W	20	NWS	NEW HOPE	2.42
Apr	2019	27	118N	21W	20	NWS	NEW HOPE	4.07
May	2019	27	118N	22W	12	BYRG		7.52
Jun	2019	27	118N	21W	20	NWS	NEW HOPE	2.71
Jul	2019	27	118N	21W	20	NWS	NEW HOPE	6.24
Aug	2019	27	118N	21W	20	NWS	NEW HOPE	6.48

June/July/August Daily Records

Date	Precip.
Jun 1, 2019	.04
Jun 2, 2019	0
Jun 3, 2019	0
Jun 4, 2019	.41
Jun 5, 2019	0
Jun 6, 2019	0
Jun 7, 2019	0
Jun 8, 2019	0
Jun 9, 2019	T
Jun 10, 2019	0
Jun 11, 2019	.09
Jun 12, 2019	.10
Jun 13, 2019	0
Jun 14, 2019	0
Jun 15, 2019	.04
Jun 16, 2019	0
Jun 17, 2019	T
Jun 18, 2019	0
Jun 19, 2019	0
Jun 20, 2019	.27
Jun 21, 2019	0
Jun 22, 2019	T
Jun 23, 2019	.42
Jun 24, 2019	.51
Jun 25, 2019	.02
Jun 26, 2019	0
Jun 27, 2019	.40
Jun 28, 2019	0
Jun 29, 2019	0
Jun 30, 2019	.41

Date	Precip.
Jul 1, 2019	1.18
Jul 2, 2019	.25
Jul 3, 2019	0
Jul 4, 2019	.20
Jul 5, 2019	.14
Jul 6, 2019	0
Jul 7, 2019	0
Jul 8, 2019	0
Jul 9, 2019	.47
Jul 10, 2019	.02
Jul 11, 2019	0
Jul 12, 2019	0
Jul 13, 2019	0
Jul 14, 2019	0
Jul 15, 2019	2.48
Jul 16, 2019	.16
Jul 17, 2019	0
Jul 18, 2019	0
Jul 19, 2019	0
Jul 20, 2019	.59
Jul 21, 2019	0
Jul 22, 2019	0
Jul 23, 2019	0
Jul 24, 2019	0
Jul 25, 2019	0
Jul 26, 2019	.10
Jul 27, 2019	0
Jul 28, 2019	.65
Jul 29, 2019	0
Jul 30, 2019	0
Jul 31, 2019	0

Date	Precip.
Aug 1, 2019	0
Aug 2, 2019	0
Aug 3, 2019	0
Aug 4, 2019	0
Aug 5, 2019	.68
Aug 6, 2019	0
Aug 7, 2019	0
Aug 8, 2019	0
Aug 9, 2019	0
Aug 10, 2019	.72
Aug 11, 2019	0
Aug 12, 2019	T
Aug 13, 2019	.94
Aug 14, 2019	0
Aug 15, 2019	0
Aug 16, 2019	.41
Aug 17, 2019	0
Aug 18, 2019	2.00
Aug 19, 2019	0
Aug 20, 2019	.68
Aug 21, 2019	0
Aug 22, 2019	0
Aug 23, 2019	0
Aug 24, 2019	0
Aug 25, 2019	.06
Aug 26, 2019	.99
Aug 27, 2019	T
Aug 28, 2019	T
Aug 29, 2019	0
Aug 30, 2019	0
Aug 31, 2019	0

1981-2010 Summary Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.53	0.41	1.29	2.02	2.78	3.42	2.55	3.26	2.20	1.29	1.06	0.67	17.41	28.55	27.63
70%	1.07	0.93	1.98	2.96	4.27	5.64	4.52	5.12	3.74	3.40	2.07	1.42	21.70	34.10	34.58
mean	0.82	0.78	1.82	2.73	3.62	4.51	4.16	4.17	3.39	2.48	1.72	1.17	19.85	31.39	31.19

Minnesota State Climatology Office

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **118N**
township name: **Plymouth** range number: **22W**
nearest community: **Plymouth** section number: **15**

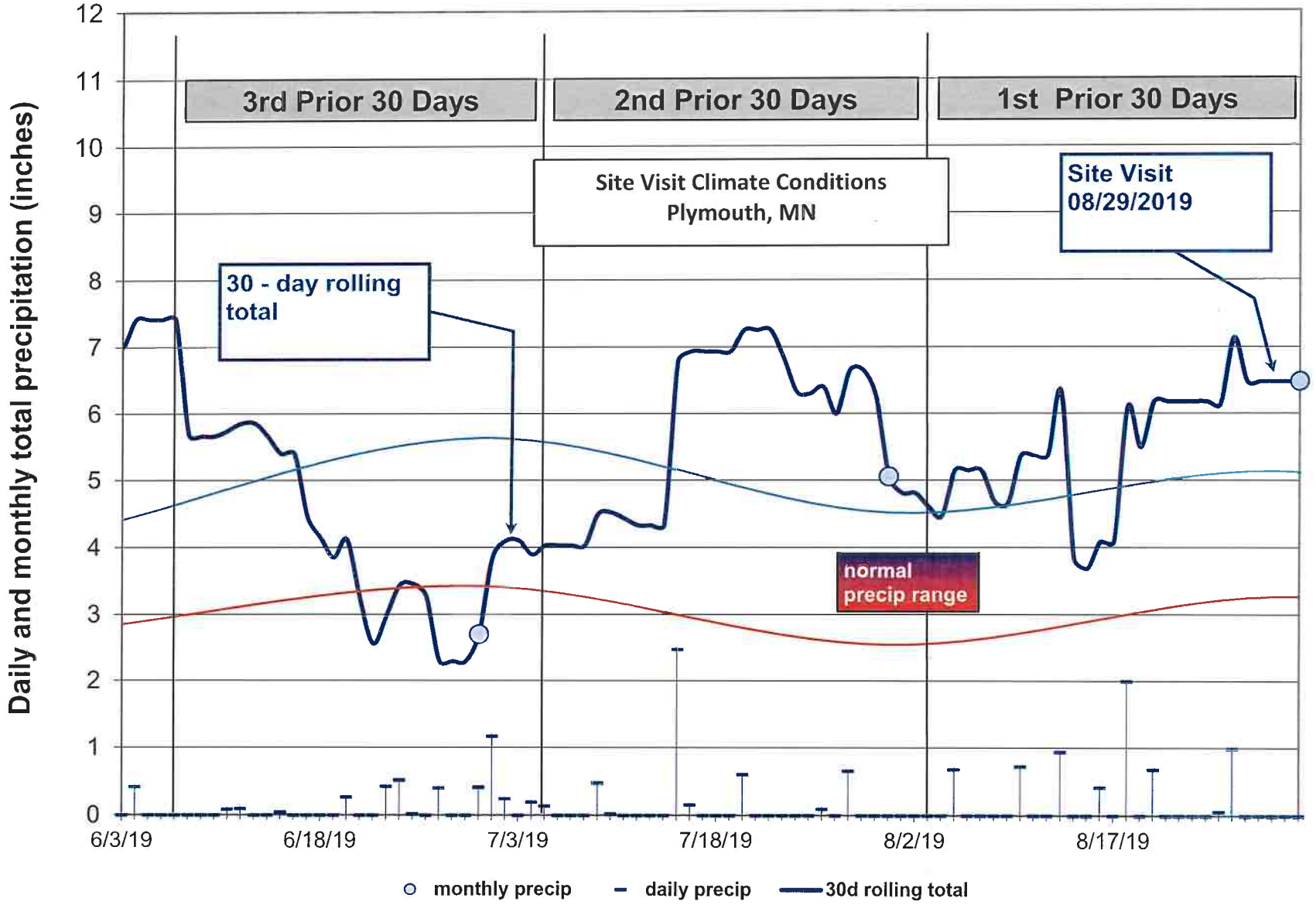
Aerial photograph or site visit date:
Thursday, August 29, 2019

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **July 2019**	second prior month: **June 2019**	third prior month: **May 2019**
estimated precipitation total for this location:	**7.68R**	**2.66R**	**7.53R**
there is a 30% chance this location will have less than:	2.55	3.42	2.78
there is a 30% chance this location will have more than:	4.52	5.64	4.27
type of month: dry normal wet	wet	dry	wet
monthly score	3 * 3 = 9	2 * 1 = 2	1 * 3 = 3
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)


Daily and monthly total precipitation (inches)
12
11
10
9
8
7
6
5
4
3
2
1
0
3rd Prior 30 Days
2nd Prior 30 Days
1st Prior 30 Days
Site Visit Climate Conditions
Plymouth, MN
Site Visit
08/29/2019
30 - day rolling
total
normal
precip range
6/3/19
6/18/19
7/3/19
7/18/19
8/2/19
8/17/19
monthly precip
daily precip
30d rolling total