Minnesota Wetland Conservation Act **Notice of Application**

Item 7E. BCWMC 7-18-19

Local Government Unit (LGU)		Address			
City of Plymouth		3400 Plymouth Blvd. Plymouth, MN 55447			
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1.	PROJECT INFOI	RMATION			
Applicant Name City of Plymouth	Project Name Plymouth Creek C Expansion		Date of Application 7/8/2019	Application Number N /A	
Type of Application (check all that a	pply):				
Wetland Boundary or Type	☐ No-Loss	☐ Exem	ption	Sequencing	
Replacement	Plan	Bankin	g Plan		
Jacobson Environmental Consultants 17 th and 21 st , 2019. During the deline within the property. Plymouth Creek Wetland 1 is a Type 3, PEM1C shalle Pennsylvania Buttercup. Wetland 3 is marsh/shrub-carr dominated by Narro a type 3, PEM1C, shallow marsh dom The comment period closes on July 2	ration, three wetland by a DNR Public Water ow marsh dominated by a type 1/3/6, PEM1/2 owleaf Cattail, Reed Coninated by Narrowlea	asins and one s was also deline by Rice Cutgras A/C/S/S1A seas Canary Grass ar	tormwater pond eated on the prop ss, Bottlebrush S conally flooded b	were delineated perty. edge, and asin/shallow	
2. APPLI	CATION REVIEV	V AND DECI	SION		
Signing and mailing of this complet Subp. 3 provides notice that an appli specified above. A copy of the appli-	cation was made to th	e LGU under t	he Wetland Con		
Name and Title of LGU Contact Pers Michael Thompson City of Plymouth	b		t be received by mment period):	y (minimum 15	
Address (if different than LGU) 3400 Plymouth Blvd, Plymouth, MN 55447		Date, time, and 1 uly 29, 2019	location of decis	ion:	
Phone Number and E-mail Address 763-509-5501 Decision-maker for this application:			ion:		
mthompson@plymouth.gov			Board or Council		
Signature:	3. LIST OF ADDR		07/08/201	9	

BWSR Forms 7-1-10

Page 1 of 2

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: Becky Horton, 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, Keystone Waters, LLC, 16145 Hillcrest
Lane, Eden Prairie, MN 55346 (sent electronically)
Applicant (notice only) and Landowner (if different) Chris Fleck, City of Plymouth, 3400 Plymouth
Blvd, Plymouth, MN 55447 (sent electronically)
Kari Hemp, City of Plymouth, 3400 Plymouth Blvd, Plymouth, MN 55447 (sent electronically)
Diane Evans, City of Plymouth, 3400 Plymouth Blvd, Plymouth, MN 55447 (sent electronically)
Members of the public who requested notice (notice only): Ashley Mack, Jacobson Environmental,
5821 Humboldt Avenue N, Brooklyn Center, MN 55430 (sent electronically)
Wayne Jacobson, Jacobson Environmental, 5821 Humboldt Avenue N, Brooklyn Center, MN 55430 (sent
electronically)
Corps of Engineers Project Manager (notice only) Melissa Jenny USACE, 180 5th Street East, Suite
700, St. Paul, MN 55101 (sent electronically)
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.	Reg. Env. Assess. Ecol.		Reg. Env. Assess. Ecol.
Div. Ecol. Resources	Div. Ecol. Resources	Div. Ecol. Resources	Div. Ecol. Resources
2115 Birchmont Beach Rd. NE	1201 E. Hwy. 2	1200 Warner Road	261 Hwy. 15 South
Bemidji, MN 56601		St. Paul, MN 55106	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 Creek Center – Wetland Delineation Report	
☐ Plymouth Creek Center – US Army Corps Joint Application Form	

Page 2 of 2 BWSR Forms 7-1-10

WETLAND DELINEATION REPORT

06/25/2019

2019-177 Plymouth Creek 14800 34th Avenue North, Plymouth, MN 55447

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1.0 SUMMARY	2
2.0 METHODS	
2.1 EXISTING INFORMATION REVIEW	
2.1.1 Antecedent Precipitation	
2.1.2 National Wetlands Inventory	3
2.1.3 Web Soil Survey	
2.1.4 Public Waters Inventory	
2.1.5 Topographic Map	4
2.2 FIELD DELINEATION	
2.2.1 Vegetation	
2.2.2 Hydric Soils	
2.2.3 Cautions Used in Applying the Field Indicators of Hydric Soils	
3.0 RESULTS	
3.1 WETLAND BASIN DESCRIPTIONS	
4.0 CONFIRMATION OF JURISDICTIONAL STATUS	
	4

Appendices

Appendix A Antecedent Precipitation Data

Appendix B Sample Data Sheets

Appendix C Site Photographs

Appendix D Wetland Type and Boundary Approval Forms

Figures

Figure 1 Site Location Map

Figure 2 National Wetland Inventory Map

Figure 3 Soils Map

Figure 4 Public Waters Inventory Map

Figure 5 Delineation Map

Figure 6 Topographic Map

Figure 7 Hydric rating Map

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1.0 SUMMARY

Jacobson Environmental, PLLC (JE) visited the project site at 14800 34th Avenue North, Plymouth, Minnesota 55447 on June 17 and 21, 2019. The site was approximately 26 acres in size, and was located at Sec. 21, T118N, R22W, Plymouth, Minnesota. See Figure 1 for a Site Location Map.

The purpose of the investigation was to identify areas within the project boundary meeting the technical criteria for wetlands, delineate the jurisdictional extent of the wetland basins, and classify the wetland habitat according to the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation: Midwest Region.

Wetlands are areas that are saturated or inundated with surface and or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in hydric soil conditions. Examples of wetlands include seasonally flooded basins, floodplain forests, wet meadows, shallow and deep marshes, shrub swamps, wooded swamps, fens, and bogs.

Wetland boundaries were determined through a routine analysis of the vegetation, soils and hydrology which must all show wetland characteristics for an area to be delineated as a wetland.

Three basins were delineated within the project area, which are summarized below and shown on Figure 5.

Basin ID	Circular 39	Cowardin	Eggers & Reed	Dominant Vegetation	Size (acres)
1	Type 3	PEM1C	Shallow marsh	Rice Cutgrass, Bottlebrush Sedge, Pennsylvania Buttercup	0.048
3	Type 1/3/6	PEM1A/C/S S1A	Seasonally flooded basin/shallow marsh/shrub- carr	Narrowleaf Cattail, Reed Canary Grass, Slender Willow	2.71
4	Type 3	PEM1C	Shallow marsh	Narrowleaf Cattail	0.012

All figures and appendices referenced by this report are presented at the end of the text.

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This wetland delineation was performed by Jacobson Environmental, PLLC under the direction of Wayne Jacobson, Minnesota Professional Soil Scientist #30611, Society of Wetland Scientists – Professional Wetland Scientist #1000, University of Minnesota / BWSR Wetland Delineator, Certified #1019, American Fisheries Society – Associate Fisheries Scientist #A-171.

2.0 METHODS

2.1 EXISTING INFORMATION REVIEW

Prior to field delineation, Jacobson Environmental reviewed the following information:

2.1.1 Antecedent Precipitation

The previous three month's precipitation data obtained from the Minnesota State Climatology Office suggest that the sampling period occurred under wetter than normal conditions. Antecedent precipitation data can be found in Appendix A. The growing season in this area is approximately from mid-April to mid-October, when the air temperature averages above 28 degrees F. This delineation was completed during the growing season.

2.1.2 National Wetlands Inventory

The National Wetlands Inventory (NWI) identified three wetlands within the property boundary (Figure 2).

2.1.3 Web Soil Survey

The National Resource Conservation Service Web Soil Survey (Figure 7) identified the following soils:

Soil	Hydric Rating
Lester loam	2
Glencoe clay loam	100
Hamel, overwash-Hamel complex	45
Angus Ioam	5
Nessel loam	10
Muskego and Houghton soils	100
Lester-Malardi complex	3

2.1.4 Public Waters Inventory

The Minnesota Department of Natural Resources Public Waters Inventory shows that one public water (Plymouth Creek) exists on the property (Figure 4).

Wetland Delineation-Mitigation-Permitting-Monitoring-Banking-Functional Analysis-T & E Surveys Phase I Environmental Assessments-EAW's-Soil ID-Soil Analysis & Delineation-Environmental Referrals Pond & Lake Weed Control & Fish Stocking-Tree Surveys-Natural Resource Management Plans

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2.1.5 Topographic Map

A LiDAR topographic map with aerial photo overlay was obtained from MnTOPO (Figure 6). This map was reviewed for suspected wetland areas based on topography and vegetative cover.

2.2 FIELD DELINEATION

The wetlands on the subject property were delineated using the routine determination methodology set forth in the 1987 U.S. Army Corps of Engineers *Wetlands Delineation Manual* and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation: Midwest Region as follows:

- 1) The vegetative community was sampled in all present strata to determine whether 50% of the dominant plant species were hydrophytic using the 50/20 method.
- 2) Soil pits were dug using a Dutch auger to depths of 16"-35", noting soil profiles and any hydric soil characteristics.
- 3) Signs of wetland hydrology were noted and were compared to field criteria such as depth to shallow water table and depth of soil saturation found in the soil pits.

Transects were established in representative areas of each wetland. Each transect consisted of one sample point within the wetland and one sample point in upland. Other areas which have one or more of the wetland vegetation, soils, or hydrologic characteristics present, or where questionable conditions exist may also have been sampled. Data sheets for each sample point are available in Appendix B.

Wetland classifications discussed in the text are set forth in *Wetlands and Deepwater Habitats of the United States* (FWS/OBS Publication 79/31, Cowardin et al. 1979) and *Wetlands of the United States* (USFWS Circular 39, Shaw and Fredine, 1971.) Additionally, plant community types as named by Eggers and Reed (1998) are given.

Wetland edges were marked with orange numbered pin flags or pink "wetland boundary" flagging tape tied on vegetation as site conditions warrant. Sample points are marked with orange numbered pin flags.

Any wetlands or sample points were mapped using GPS.

2.2.1 Vegetation

The plant species within the parcel were cataloged and assigned a wetland indicator status according to: Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin, 2016. *The National Wetland Plant List:* 2016 Wetland Ratings, Phytoneuron 2016-30: 1-17.

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In the text of this report and on the enclosed data forms, the plant indicator status follows the plant's scientific name unless a status has not been assigned. The hydrophytic plant criterion is met when more than 50 percent of the dominant species by the 50/20 rule for each stratum (herb, shrub/sapling, tree, and woody vine) were assigned an obligate (OBL)¹, facultative wet (FACW), and/or facultative (FAC) wetland status.

With the 50/20 rule, dominants are generally measured by absolute % cover in each stratum which individually or collectively account for more than 50% of total vegetative cover in the stratum, plus any other species which itself accounts for at least 20% of the total vegetative cover.

2.2.2 Hydric Soils

A hydric soil is a soil formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. If a soil exhibits the indicators of a hydric soil or is identified as a hydric soil the hydric soil criterion is met.

The break between hydric and non-hydric soils was determined by excavating soil pits along transects crossing the wetland/upland eco-tone and evaluating the soil colors, textures, and presence or absence of redoximorphic indicators (i.e., mottles, gley or oxidized rhizospheres). Hydric Soil Indicators for the Midwest Region were noted as presented in the National Technical Committee for Hydric Soils *Field Indicators of Hydric Soils in the United States version 8.1* (USDA NRCS 2017) if present at each sample point. Upper soil profiles were also compared to the mapped or inclusionary soil series found in the sample area for soil identification purposes.

2.2.3 Cautions Used in Applying the Field Indicators of Hydric Soils

There are hydric soils with morphologies that are difficult to interpret. These include soils with black, gray, or red parent material; soils with high pH; soils high or low in content of organic matter; recently developed hydric soils, and soils high in iron inputs. In some cases, we do not currently have indicators to assist in the identification of hydric soils in these situations. If the soil meets the definition of a hydric soil, the lack of an indicator does not preclude the soil from being hydric. The indicators were developed mostly to identify the boundary of hydric soil areas and generally work best on the margins. Not all the obviously wetter hydric soils will be identified by the indicators. Redoximorphic features are most likely to occur in soils that cycle between anaerobic (reduced) and aerobic (oxidized) conditions.

Morphological features of hydric soils indicate that saturation and anaerobic conditions have existed under either contemporary or former hydrologic regimes. Where soil morphology seems inconsistent with the landscape, vegetation, or observable hydrology, it may be necessary to obtain the assistance of an experienced soil or wetland scientist to determine whether the soil is hydric.

OBL=Obligate Wetland, occurs an estimated 99% in wetlands. FACW=Facultative Wetland, has an estimated 67%-99% probability of occurrence in wetlands. FAC=Facultative, is equally likely to occur in wetlands and non-wetlands, 34%-66% probability. FACU=Facultative Upland, occurs in wetlands only occasionally, 1%-23% probability. UPL=Upland, almost never occurs in wetlands, <1% probability. NI= No Indicator, insufficient information available to determine an indicator status. Positive or negative sign previously indicated a frequency toward higher (+) or lower (-) frequency of occurrence within a category.

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To clarify, when investigating hydric soils in this area, one must consider the following:

- Many of these soils have black or gray parent materials.
- Many of the soils have a high organic matter content.
- The hydric soil margin is typically higher than the wetland boundary margin on the site.
- Not all the obviously wetter soils will be identified by the indicators.
- Many of the hydric soils are Mollisols which are classic problem hydric soils in many cases.

3.0 RESULTS

3.1 WETLAND BASIN DESCRIPTIONS

Basin 1

Basin 1 was an approximately 0.048-acre, type 3, PEM1C, shallow marsh wetland along the banks of Plymouth Creek. The basin was dominated by Rice Cutgrass (OBL), Bottlebrush Sedge (OBL), and Pennsylvania Buttercup (OBL).

Hydrology indicators included A2 (high water table), A3 (saturation), D2 (geomorphic position), and D5 (FAC neutral test).

Wetland soils met indicators F1 (loamy mucky mineral).

Adjacent upland was typically dominated by Sugar Maple (FACU), Common Burdock (FACU), and Green Ash (FACW). Primary hydrology indicators were not observed at the upland sample point, and no hydric soil indicators were found in the upland sample point soil.

The wetland boundary followed a change in vegetation from wetland to upland plant communities, as well as a gradual change in topography. The basin was not shown as a wetland on the NWI map (Figure 2) and was located within an area mapped as Lester loam (RATING=2) by the Web Soil Survey (Figure 7).

Sample data sheets 1-UP and 1-WET in Appendix B correspond to this basin.

Basin 3

Basin 3 was an approximately 2.71-acre, type 1/3/6, PEM1A/C/SS1A, seasonally flooded basin/shallow marsh/shrub-carr wetland. The basin was dominated by Reed Canary Grass (FACW), Slender Willow (OBL), and Narrowleaf Cattail (OBL).

Hydrology indicators included A2 (high water table), A3 (saturation), D2 (geomorphic position), and D5 (FAC neutral test).

Wetland Delineation-Mitigation-Permitting-Monitoring-Banking-Functional Analysis-T & E Surveys Phase I Environmental Assessments-EAW's-Soil ID-Soil Analysis & Delineation-Environmental Referrals Pond & Lake Weed Control & Fish Stocking-Tree Surveys-Natural Resource Management Plans

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Wetland soils met indicators A1 (histisol), A11 (depleted below dark surface), F3 (depleted matrix), and F6 (redox dark surface).

Adjacent upland was typically dominated by Reed Canary Grass (FACW), Virginia Creeper (FACU), Box Elder (FAC), Common Buckthorn (FAC), and Red Osier Dogwood (FACW). Primary hydrology indicators were not observed at the upland sample point. Hydric soil indicators A11 and F3 were found at upland sample point 3-3-UP.

The wetland boundary followed a change in vegetation from wetland to upland plant communities, as well as a distinct change in topography. The basin was shown as a PSS/EM1A/Cd/PUBG/ABG wetland on the NWI map (Figure 2) and was located within an area mapped as Glencoe clay loam (RATING=100) and Muskego and Houghton soils (RATING=100) by the Web Soil Survey (Figure 7).

Sample data sheets 3-1-UP/WET through 3-3-UP/WET in Appendix B correspond to this basin.

Basin 4

Basin 4 was an approximately 0.012-acre, type 3, PEM1C, shallow marsh wetland. The basin was dominated by Narrowleaf Cattail (OBL).

Hydrology indicators included A3 (saturation), D2 (geomorphic position), and D5 (FAC neutral test).

Wetland soils met indicators A11 (depleted below dark surface) and F3 (depleted matrix).

Adjacent upland was typically dominated by Common Buckthorn (FAC), Box Elder (FAC), and Virginia Creeper (FACU). Primary hydrology indicators were not observed at the upland sample point, and no hydric soil indicators were found in the upland sample point soil.

The wetland boundary followed a change in vegetation from wetland to upland plant communities, as well as a gradual change in topography. The basin was shown as a PEM1C wetland on the NWI map (Figure 2) and was located within an area mapped as Hamel, overwash-Hamel complex (RATING=45) by the Web Soil Survey (Figure 7).

Sample data sheets 4-UP and 4-WET in Appendix B correspond to this basin.

Additional Points

A sample point (SP-1) was placed on a terrace along Plymouth Creek. The point contained hydrophytic vegetation, but no hydric soils or primary hydrology indicators.

A constructed storm pond was located within a managed garden area east of basin 3.

4.0 CONFIRMATION OF JURISDICTIONAL STATUS

Wetland Delineation-Mitigation-Permitting-Monitoring-Banking-Functional Analysis-T & E Surveys Phase I Environmental Assessments-EAW's-Soil ID-Soil Analysis & Delineation-Environmental Referrals Pond & Lake Weed Control & Fish Stocking-Tree Surveys-Natural Resource Management Plans

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Jacobson Environmental is submitting this report to the client and regulatory agencies to request a wetland boundary and type determination. We have enclosed an official WCA Approval of Wetland Type and Boundary form in Appendix D along with a USCOE wetland delineation concurrence request.

5.0 CERTIFICATION

I certify that this wetland delineation meets the standards and criteria described in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation: Midwest Region. This was a Routine On-Site Determination and the results reflect the conditions present at the time of the delineation.

I certify that this report has been prepared in accordance with regulatory standards. Thank you for the opportunity to provide wetland services on this important project.

If any wetland impacts are planned for this project, permits would be necessary from the LGU and other agencies.

Wayne E. Jacobson

06/25/2019

Date

Professional Soil Scientist #30611

Professional Wetland Scientist #1000 Wetland Delineator, Certified #1019

Associate Fisheries Scientist #A-171

Jacobson Environmental, PLLC.

Figures

Google Maps

Plymouth Creek Center

Figure 1 Site Map

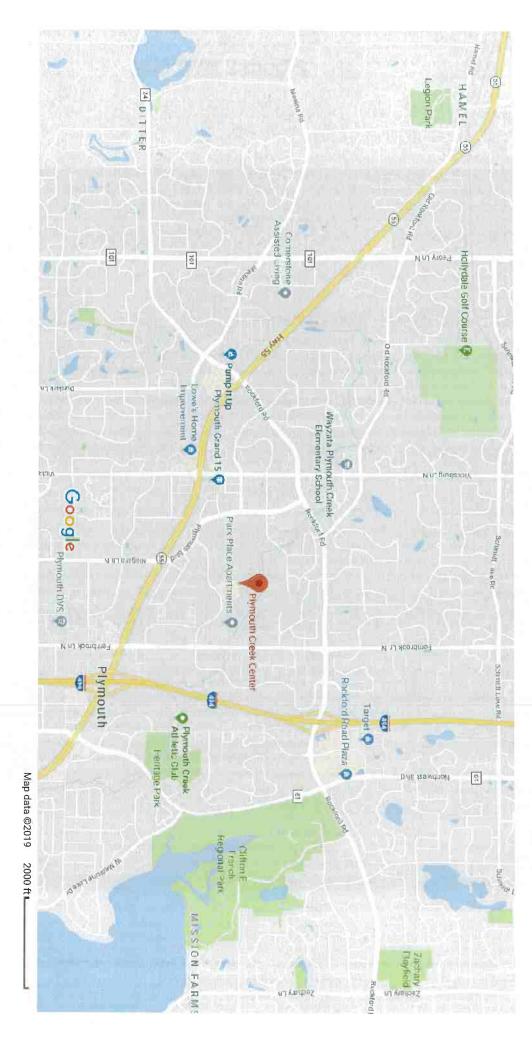
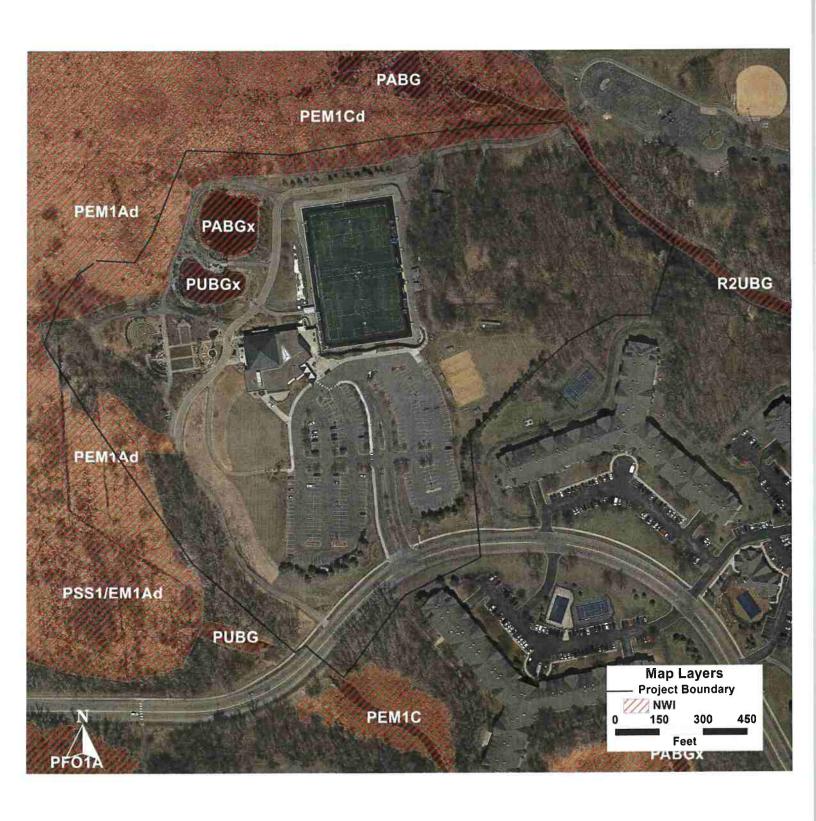


Figure 2 NWI Map





Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	3.3	13.2%
L24A	Glencoe clay loam, 0 to 1 percent slopes	2.7	10.8%
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	0.8	3.1%
L37B	Angus loam, 2 to 6 percent slopes	3.9	15.6%
L44A	Nessel loam, 1 to 3 percent slopes	3.7	14.8%
L50A	Muskego and Houghton soils, 0 to 1 percent slopes	1.4	5.8%
L70C2	Lester-Malardi complex, 6 to 12 percent slopes, eroded	9.1	36.7%
Totals for Area of Interest	Ti-	24.8	100.0%

Figure 4 PWI Map



Figure 5 Delination Map



Figure 6 LIDAR Topographic Map

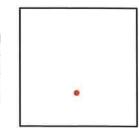


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Extreme care was used during the compilation of this product. However, due to changes in ownership and the need to rely on outside information, errors or omissions may exist. If you should discover an oversight, we encourage you to let us know by calling the DNR at 1-888-646-6367 or by e-mail at info.dnr@state.mn.us.

Note: Elevation images and contours were generated from LiDAR derived elevation surfaces acquired 2007-2012.



Created on 6/18/2019

USDA

MAP LEGEND

Area of Interest (AOI) Soil Rating Polygons Hydric (100%) Not rated or not available Not Hydric (0%) Hydric (1 to 32%) Hydric (66 to 99%) Area of Interest (AOI) Hydric (33 to 65%) Background **Transportation** Aerial Photography Local Roads Major Roads **US** Routes Interstate Highways

Not Hydric (0%) Hydric (1 to 32%) Hydric (66 to 99%) Hydric (33 to 65%) Hydric (100%)

Soil Rating Lines

Soil Rating Points

Not rated or not available

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Water Features

Streams and Canals

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

contrasting soils that could have been shown at a more detailed line placement. The maps do not show the small areas of Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil

measurements. Please rely on the bar scale on each map sheet for map

Web Soil Survey URL: Source of Map: Natural Resources Conservation Service

Coordinate System: Web Mercator (EPSG:3857)

accurate calculations of distance or area are required Albers equal-area conic projection, should be used if more distance and area. A projection that preserves area, such as the projection, which preserves direction and shape but distorts Maps from the Web Soil Survey are based on the Web Mercator

of the version date(s) listed below. This product is generated from the USDA-NRCS certified data as

Soil Survey Area: Hernnepin County, Minnesota Survey Area Data: Version 14, Sep 12, 2018

1:50,000 or larger. Soil map units are labeled (as space allows) for map scales

Date(s) aerial images were photographed: Aug 26, 2014—Sep

shifting of map unit boundaries may be evident compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor The orthophoto or other base map on which the soil lines were

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	2 ,	3.3	13.2%
L24A	Glencoe clay loam, 0 to 1 percent slopes	100	2.7	10.8%
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	45	0.8	3.1%
L37B	Angus loam, 2 to 6 percent slopes	5	3.9	15.6%
L44A	Nessel loam, 1 to 3 percent slopes	10	3.7	14.8%
L50A	Muskego and Houghton soils, 0 to 1 percent slopes	100	1.4	5.8%
L70C2	Lester-Malardi complex, 6 to 12 percent slopes, eroded	3	9.1	36.7%
Totals for Area of Inter	est		24.8	100.0%

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Appendices

Appendix A

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

University of Minnesota

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: Plymouth section number: 21

Aerial photograph or site visit date:

Monday, June 17, 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: May 2019	second prior month: April 2019	third prior month: March 2019
estimated precipitation total for this location:	7.52	3.44R	2.18R
there is a 30% chance this location will have less than:	2.70	2.03	1.27
there is a 30% chance this location will have more than:	4.08	2.84	1.96
type of month: dry normal wet	wet	wet	wet
monthly score	3 * 3 = 9	2 * 3 = 6	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)		18 (wet)	

Other Resources:

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

Appendix B

- 1

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Plymouth Creek	City/	County:	Plymouth/Hei	nnepin Sampling Date: 6/17/1	9
Applicant/Owner: Chris Fleck		State:	Minnes	ota Sampling Point: 1-UP	
Investigator(s): ACM		Sec	tion, Townshi	o, Range: Sec. 21, T118N, R22V	
Landform (hillslope, terrace, etc.): slop	e e			re, convex, none): linear	
Slope (%): 4 Lat:		Long:	<i>y</i>	Datum:	
Soil Map Unit Name Lester loam			VIVA/1 /	Classification:	
Are climatic/hydrologic conditions of the site typical for	thic time o	of the year?			
		-		f no, explain in remarks)	
Are vegetation soil , or hydrold			tly disturbed?	Are "normal circumstances"	
Are vegetation , soil , or hydrolo	ogy	naturally p	problematic?	present?	
SUMMARY OF FINDINGS				(If needed, explain any answers in rem	arks.)
Hydrophytic vegetation present?	8				
Hydric soil present?	8	Is the	sampled are	a within a wetland?	
Indicators of wetland hydrology present? N		f yes, c	ptional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a	separate re	eport.)			
Antecedent precipitation data	indicate	wetter tha	n normal co	nditions. See Appendix A.	
VECETATION Line exicutifications of all and					
VEGETATION Use scientific names of plant)/č -		Device T (W)	
<u>Tree Stratum</u> (Plot size: 30' radius)	Absolute % Cover	Dominan	Indicator Staus	Dominance Test Worksheet	
1 Acer saccharum	7 Cover	t Species Y	FACU	Number of Dominant Species that are OBL, FACW, or FAC: 3	(4)
2 Fraxinus pennsylvanica		- Y	FACW		_(A)
3 Acer negundo	$\frac{3}{3}$	- Y	FAC	Total Number of Dominant Species Across all Strata: 6	(B)
4	<u> </u>	Vi -			— (B)
5		(()		Percent of Dominant Species that are OBL, FACW, or FAC: 50.00%	(A/B)
	15	= Total Cov	er		— (* dB)
Sapling/Shrub stratum (Plot size: 15' radius)				Prevalence Index Worksheet	
1 Acer saccharum	5	Υ	FACU	Total % Cover of:	
2		0),		OBL species 0 x1 = 0	
3				FACW species 32 x 2 = 64	_
4		W		FAC species 16 x 3 = 48	=:
5				FACU species 56x 4 = 224	
	5	= Total Cov	er	UPL species 0 x 5 = 0	
Herb stratum (Plot size: 5' radius)				Column totals 104 (A) 336	(B)
1 Arctium minus	30	Y	FACU	Prevalence Index = B/A = 3.23	
2 Fraxinus pennsylvanica	15	Y	FACW		
3 Viola sororia	10	N	FAC	Hydrophytic Vegetation Indicators:	
4 Solidago gigantea	7	N	FACW	Rapid test for hydrophytic vegetati	on
5 Cirsium arvense 6 Urtica dioica	5	N	FACU	Dominance test is >50%	
7 Zanthoxylum americanum	5 3	N	FACU	Prevalence index is ≤3.0*	
8 Poa pratensis	$\frac{3}{3}$	N	FACU	Morphogical adaptations* (provide	
9 Sanguinaria canadensis	3	N	FACU FACU	supporting data in Remarks or on separate sheet)	а
10 Galium triflorum	3	-N	FACU		-*
	84	= Total Cov		Problematic hydrophytic vegetation (explain)	n"
Woody vine stratum (Plot size: 30' radius)		Total GOV	0,		
1				*Indicators of hydric soil and wetland hydrolog present, unless disturbed or problema	
2		-		Hydrophytic	ilio
		= Total Cov	er	vegetation	
	-			present? N	
Remarks: (Include photo numbers here or on a separa	te sheet)				
	,				
				9	

1-UP

Profile Desc		ibe to tri				maioatt	or committee		Timaroutoro.;
Depth	Matrix			dox Feat					D 1
(Inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type*	Loc**	Texture		Remarks
0-30	10YR2/1	100					sandy clay loam	n	
30-35	10YR3/2	100					sand		
Type: C = 0	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **	*Location: F	PL = Pore Lining, M = Matrix
	il Indicators:		,				Indicators fo		atic Hydric Soils:
-	isol (A1)		Sar	ndv Glev	ed Matrix	(\$4)			(A16) (LRR K, L, R)
	ic Epipedon (A2)			ndy Redo		,	Dark Sur	face (S7) (L	RR K, L)
	ck Histic (A3)				trix (S6)		Iron-Man	iganese Ma	sses (F12) (LRR K, L, R)
	rogen Sulfide (A	4)			ky Minera	al (F1)	Very Sha	allow Dark S	Surface (TF12)
	tified Layers (A5	*		-	ed Matrix			xplain in ren	
	n Muck (A10)	,			atrix (F3)			•	,
	leted Below Dark	Surface			Surface				
	k Dark Surface (, ,		ark Surfa	,	*Indicators	of hydroph	ytic vegetation and weltand
	dy Mucky Minera	,			essions				resent, unless disturbed or
	n Mucky Peat or					· - /	, 9,		blematic
			<u>, </u>						
	Layer (if observ	ea):					Hydric soil	nrocent?	N
Type: Depth (inche	2011						nyune son	present	
Jenin Hacar					-				
	so).								
Remarks:	3 S				-				
Remarks:	OGY								
Remarks:	3 S	ors:							
Remarks: HYDROLO Wetland Hy	OGY		required; check	all that a	pply)		Secon	dary Indica	tors (minimum of two require
Remarks: HYDROLO Wetland Hy Primary India	DGY drology Indicate		required; check		pply) Fauna (B	113)		Surface Soil	Cracks (B6)
Remarks: HYDROLO Wetland Hy Primary India Surface	OGY drology Indicato cators (minimum		required; check	Aquatic				Surface Soil	
Remarks: HYDROLO Wetland Hy Primary India Surface	DGY drology Indicato cators (minimum Water (A1) ter Table (A2)		required; check	Aquatic True Aq	Fauna (B uatic Plar			Surface Soil Drainage Pa Dry-Season	Cracks (B6) atterns (B10) Water Table (C2)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M	DGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1)		required; check	Aquatic True Aq Hydroge Oxidized	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C1) Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Bur	Cracks (B6) atterns (B10) Water Table (C2) rrows (C8)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer	DGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2)		required; check	Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C1 heres on) Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V	Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Imagery (C9)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep	DGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B2) osits (B3)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Presence	Fauna (B uatic Plar en Sulfide d Rhizosp ce of Red	nts (B14) Odor (C1 heres on uced Iron	Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S	Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) risible on Aerial Imagery (C9) Stressed Plants (D1)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep	DGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) t or Crust (B4)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Present	Fauna (B uatic Plar en Sulfide d Rhizosp ce of Red	nts (B14) Odor (C1 heres on uced Iron	Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S Geomorphic	Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) //isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	DGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)	of one is		Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6)	Fauna (B uatic Plan en Sulfide d Rhizosp de of Redi Iron Redu	nts (B14) Odor (C1 heres on uced Iron uction in T	Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S	Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) //isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2)
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HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S	DGY drology Indicate eators (minimum) Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) rosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9)	of one is al Imager ave Surfa	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (C3)	Fauna (Buatic Planen Sulfide Rhizospore of Reduler Reduct Surfacer Well Da	nts (B14) Odor (C1 wheres on uced Iron uction in T) Living Roots (C4) iilled Soils	Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S Geomorphic	Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) //isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2)
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HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S Field Obser	drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B3) tor Crust (B4) osits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9 vations: er present?	of one is al Imager ave Surfa) Yes Yes	y (B7) No No	Aquatic True Aq Hydroge Oxidizer (C3) Presenc Recent (C6) Thin Mu Gauge c Other (E	Fauna (Buatic Planen Sulfider Berner Reduced Surfacer Well Date Depth (in Depth (in Depth (in Pauser Per Berner Be	nts (B14) Odor (C1 wheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches):) Living Roots (C4) illed Soils (C4) (C4) (C4) (C4) (C4) (C4) (C4) (C4)	Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutra	Cracks (B6) atterns (B10) Water Table (C2) crows (C8) (isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S Field Obser Surface wate Water table Saturation po	DGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9 vations: er present? present?	of one is al Imager ave Surfa)	y (B7)	Aquatic True Aq Hydroge Oxidizer (C3) Presenc Recent (C6) Thin Mu Gauge C Other (E	Fauna (Buatic Planen Sulfider Berner Reduced Surfacer Well Date Depth (in Depth (in Depth (in Pauser Per Berner Be	nts (B14) Odor (C1 wheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches):) Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutra	Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) risible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5)
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HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S Field Obser Surface wate Vater table Saturation princludes cal	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B3) tor Crust (B4) osits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9) vations: er present? present?	al Imager ave Surfa) Yes Yes Yes	v (B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent (C6) Thin Mu Gauge c Other (E	Fauna (Buatic Planen Sulfider Berner	nts (B14) Odor (C1 wheres on uced Iron uction in T ce (C7) eata (D9) Remarks inches): inches):) Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Bui Saturation V Stunted or S Geomorphic FAC-Neutra	Cracks (B6) atterns (B10) Water Table (C2) crows (C8) (isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S Field Obser Surface wate Water table Saturation princludes car	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B3) tor Crust (B4) osits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9) vations: er present? present?	al Imager ave Surfa) Yes Yes Yes	v (B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent (C6) Thin Mu Gauge c Other (E	Fauna (Buatic Planen Sulfider Berner	nts (B14) Odor (C1 wheres on uced Iron uction in T ce (C7) eata (D9) Remarks inches): inches):) Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Bui Saturation V Stunted or S Geomorphic FAC-Neutra	Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) risible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5)
HYDROLO Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S Field Obser Surface wate Vater table Saturation princludes cal	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B3) tor Crust (B4) osits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9) vations: er present? present?	al Imager ave Surfa) Yes Yes Yes	v (B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent (C6) Thin Mu Gauge c Other (E	Fauna (Buatic Planen Sulfider Berner	nts (B14) Odor (C1 wheres on uced Iron uction in T ce (C7) eata (D9) Remarks inches): inches):) Living Roots	Surface Soil Drainage Pa Dry-Season Crayfish Bui Saturation V Stunted or S Geomorphic FAC-Neutra	Cracks (B6) atterns (B10) Water Table (C2) crows (C8) (isible on Aerial Imagery (C9) Stressed Plants (D1) Position (D2) I Test (D5)

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Plymouth Creek	City/County:	Plymouth/Her	nnepin Sampling Date:	6/17/19		
Applicant/Owner: Chris Fleck	Stat	e: Minnes	ota Sampling Point	: 1-WET		
Investigator(s): ACM	S	Section, Township, Range: Sec. 21, T118N, R2.				
Landform (hillslope, terrace, etc.): toeslope	Loc	cal relief (concav	re, convex, none):	concave		
Slope (%): 1 Lat:	Long:		Datum:	*		
Soil Map Unit Name Lester Ioam		VWI (Classification:			
Are climatic/hydrologic conditions of the site typical for this t	ime of the vear		f no, explain in remarks)			
Are vegetation , soil , or hydrology	•	antly disturbed?	·	ou manda de de de la		
Are vegetation , soil , or hydrology		y problematic?	Are "normal cir	present? Yes		
SUMMARY OF FINDINGS		, , , , , , , , , , , , , , , , , , , ,	(If needed, explain any			
Hydrophytic vegetation present? Y			(iii troodod) orpidiit diry	anowere in remainer,		
Hydric soil present?	ls th	ne sampled are	a within a wetland?	Y		
Indicators of wetland hydrology present?		s, optional wetlar				
		, optional trottal	10 010 12			
Remarks: (Explain alternative procedures here or in a separ	ate report.)					
Antecedent precipitation data indic	ate wetter th	nan normal co	nditions. See Appendi	ix A.		
VEGETATION Use scientific names of plants.			<u>, </u>			
Abso			Dominance Test Worl			
Tree Stratum (Plot size: 30' radius) % C	over t Specie	es Staus	Number of Dominant Spe	and the second second		
2			that are OBL, FACW, or	`		
3			Total Number of Dom Species Across all S			
4			Percent of Dominant Sp	`		
5			that are OBL, FACW, or			
	= Total C	over		, ,		
Sapling/Shrub stratum (Plot size: 15' radius)			Prevalence Index Wo	rksheet		
1			Total % Cover of:			
2			OBL species 68	_x1=68		
3			FACW species 0	_ x 2 =0		
5			FAC species 10 FACU species 0	$- \frac{x}{3} = \frac{30}{0}$		
	= Total C	OVer -	UPL species 0	-		
Herb stratum (Plot size: 5' radius)	- 1000	0.00	Column totals 78	(A) 98 (B)		
	5 Y	OBL	Prevalence Index = B/A	-		
	0 Y	OBL	Trevalence index = D/A	1.20		
	0 Y	FAC	Hydrophytic Vegetation	on Indicators:		
4 Bidens cernua 1	0 Y	OBL	Rapid test for hydro			
5 Carex comosa	5 N	OBL	X Dominance test is	>50%		
	5 N	OBL	X Prevalence index is	s ≤3.0*		
	3 N	OBL	Morphogical adapt	ations* (provide		
8			supporting data in	Remarks or on a		
9			separate sheet)			
	8 = Total C	OVOE	Problematic hydrog (explain)	phytic vegetation*		
Woody vine stratum (Plot size: 30' radius)		over				
1				nd wetland hydrology must be sturbed or problematic		
2		_	Hydrophytic	and the problem and		
	Total C	over	vegetation			
			present?	<u>Y</u>		
Remarks: (Include photo numbers here or on a separate sho	eet)		W			
I						

1-WET

Profile Desc Depth	Matrix		D,	edox Feat	lires				
(Inches)	Color (moist)	%	Color (moist)	% %	Type*	Loc**	Texture	,	Remarks
			Color (moist)	70	Туре	1			romans
0-32	10YR2/1	100		-			mucky loam		
				+					
	Concentration, D =	Depleti	on, RM = Reduc	ed Matrix	I, MS = N	lasked S			PL = Pore Lining, M = Matrix
Hydric So	il Indicators:								natic Hydric Soils:
Hist	isol (A1)		Sa	indy Gley	ed Matrix	(S4)	Coast F	Prairie Redo	ox (A16) (LRR K, L, R)
Hist	ic Epipedon (A2)			indy Redo	ox (S5)				(LRR K, L)
Blac	ck Histic (A3)		St	ripped Ma	trix (S6)		Iron-Ma	anganese M	lasses (F12) (LRR K, L, R)
— Hyd	rogen Sulfide (A4	4)	X Lo	amy Muc	ky Minera	al (F1)	— Very Sh	nallow Dark	Surface (TF12)
Stra	tified Layers (A5)		Lo	amy Gley	ed Matrix	(F2)	Other (explain in re	emarks)
	n Muck (A10)			pleted Ma			`		
	leted Below Dark	Surface		edox Dark	, ,				
— Thic	k Dark Surface (A12)	`De	epleted Da	ark Surfa	ce (F7)	*Indicato	rs of hydro	phytic vegetation and weltand
	dy Mucky Minera			dox Depr				,	present, unless disturbed or
	n Mucky Peat or I					` '	,		roblematic
	Layer (if observe	•	<u>, </u>						
eau ictive									
	Layer (II observe	.uj.					Hydric so	il present?	? Y
ype:		.u,.			-		Hydric so	oil present?	? <u> </u>
ype: epth (inche					•! •!		Hydric so	oil present?	? <u> </u>
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ype: epth (inche emarks: YDROLO	DGY				-		Hydric so	oil present?	? <u> </u>
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WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Plymouth Creek	City/County	: Plym	nouth/Hen	nepin Sampling Date: 6/17/19
Applicant/Owner: Chris Fleck	Sf	tate:	Minneso	ota Sampling Point: 3-1-UP
Investigator(s): ACM		Section,	Township	, Range: Sec. 21, T118N, R22W
Landform (hillslope, terrace, etc.): slope	L	Local relie	f (concave	e, convex, none): linear
Slope (%): 7 Lat:	Long	g:		Datum:
Soil Map Unit Name Glencoe clay loam		U:	AMI C	lassification:
Are climatic/hydrologic conditions of the site typical for this	time of the ye	ear?	N (If	no, explain in remarks)
Are vegetation , soil , or hydrology		ficantly dis	sturbed?	Are "normal circumstances"
Are vegetation , soil , or hydrology		rally proble		present? Yes
SUMMARY OF FINDINGS		ž.		(If needed, explain any answers in remarks.)
Hydrophytic vegetation present?				
Hydric soil present?	Is	s the sam	pled area	within a wetland?
Indicators of wetland hydrology present?			nal wetland	
Remarks: (Explain alternative procedures here or in a sepa	orate report \			
Remarks. (Explain alternative procedures here or in a sepa	arate report.)			
Antecedent precipitation data ind	licate wetter	than no	rmai cor	ditions. See Appendix A.
VEGETATION Use scientific names of plants.				
2	solute Dom Cover t Spe		dicator	Dominance Test Worksheet
1 (Plot size. 30 fadius)	Cover t Spe	ecies s	Staus	Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
				Total Number of Dominant
3				Species Across all Strata: 2 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
	0 = Total	l Cover		
Sapling/Shrub stratum (Plot size: 15' radius)			[Prevalence Index Worksheet
1 Cornus alba	5 Y	<u> </u>	ACW	Total % Cover of:
3				OBL species 0 x 1 = 0
4				FACW species $103 \times 2 = 206$ FAC species $0 \times 3 = 0$
5				FACU species 0 x 4 = 0
	5 = Total	I Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size: 5' radius)				Column totals 103 (A) 206 (B)
1 Phalaris arundinacea	90 Y	Y F	FACW	Prevalence Index = B/A = 2.00
2 Echinocystis lobata	5 N		ACW	
3 Urtica dioica	3 N	N F	ACW	Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5				X Dominance test is >50%
6				X Prevalence index is ≤3.0*
8				Morphogical adaptations* (provide
9				supporting data in Remarks or on a separate sheet)
10				Problematic hydrophytic vegetation*
•	98 = Total	l Cover		(explain)
Woody vine stratum (Plot size: 30' radius)				
1				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2				Hydrophytic
	0 = Total	l Cover		vegetation
				present? Y
Remarks: (Include photo numbers here or on a separate s	heet)			

3-1-UP

Profile Desc	cription: (Descr	ibe to th	e depth needed	to docu	ment the		of of oomining the		
Depth	<u>Matrix</u>		Rec	dox Feat					
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture		Remarks
0-10	10YR3/2	100					loam		
10-14	10YR2/1	100					loam		
14-24	10YR4/2	97	7.5YR4/6	3	С	PL	clay loam		
							,		
		= Depleti	on, RM = Reduce	ed Matrix	, MS = N	1asked S			L = Pore Lining, M = Matrix
Hydric So	il Indicators:								tic Hydric Soils:
	isol (A1)				ed Matrix	(S4)			(A16) (LRR K, L, R)
	ic Epipedon (A2)			ndy Redo				ace (S7) (L	
	ck Histic (A3)			pped Ma				-	ses (F12) (LRR K, L, R)
	rogen Sulfide (A4				ky Minera				urface (TF12)
	tified Layers (A5))			ed Matrix		Other (ex	plain in rem	arks)
	n Muck (A10) leted Below Dark	Curfos			atrix (F3) Surface				
	ek Dark Surface (,		Surface ark Surface	` '	*	af budwambu	tic vegetation and weltand
	dy Mucky Minera				essions (, ,	cic vegetation and weitand
	n Mucky Peat or			ox pebi	62210112 ((10)	nyurology		olematic
		•	,					P10,	STOTTIGUE .
	Layer (if observe	ed):				l	17		A1
								mmanamt?	
	va):				8		Hydric soil	present?	N
Depth (inche	es):	_			•: •:		Hydric soil	present?	N N
Depth (inche					•		Hydric soil	present?	N
Depth (inche	OGY						Hydric soil	present?	N
•	OGY drology Indicate								
Depth (inche Remarks: HYDROLO Vetland Hyd	OGY drology Indicato cators (minimum		required; check				Second	dary Indicato	ors (minimum of two require
Pepth (inche Remarks: HYDROLO Vetland Hyd Primary India Surface N	OGY drology Indicato cators (minimum Water (A1)		required; check	Aquatic	Fauna (B		<u>Second</u> S	dary Indicato Surface Soil	ors (minimum of two require Cracks (B6)
Pepth (inche Remarks: Surface Vetland Hydrimary India Surface Vetland Hydrimary India	DGY drology Indicato cators (minimum Water (A1) ter Table (A2)		required; check	Aquatic True Aq	Fauna (B uatic Plar	nts (B14)	Second S	dary Indicato Surface Soil Drainage Pat	ors (minimum of two require Cracks (B6) tems (B10)
AYDROLO Vetland Hydrimary India Surface V High War Saturatio	DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3)		required; check	Aquatic True Aq Hydroge	Fauna (B uatic Plar n Sulfide	nts (B14) Odor (C1	Second S	dary Indicato Surface Soil Drainage Pat Dry-Season \	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2)
IYDROLO Jetland Hydrimary India Surface V High War Saturatio Water Ma	DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1)		required; check	Aquatic True Aq Hydroge Oxidized	Fauna (B uatic Plar n Sulfide	nts (B14) Odor (C1	Second S C D Living RootsC	dary Indicato Surface Soil Orainage Pat Ory-Season \ Crayfish Burr	ors (minimum of two require Cracks (B6) tems (B10) Water Table (C2) ows (C8)
IYDROLO IYDROLO Iemarks: IYDROLO Ietland Hydrimary India Surface V High Wa Saturatio Water Mi Sedimen	DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)		required; check	Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plar n Sulfide I Rhizosp	nts (B14) Odor (C1 heres on	Second S	dary Indicato Surface Soil Orainage Pat Ory-Season V Crayfish Burr Saturation Vi	ors (minimum of two require Cracks (B6) tems (B10) Water Table (C2) ows (C8) sible on Aerial Imagery (C9)
AYDROLO Surface V High Wa Saturatio Water Ma Sedimen Drift Dep	DGY drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Presence	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu	nts (B14) Odor (C1 heres on uced Iron	Second S C D Living Roots C S (C4) S	dary Indicato Surface Soil Orainage Pat Ory-Season V Crayfish Burr Saturation Vi Stunted or St	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1)
IYDROLC IYDROLC IYDROLC Interpretation of the property of t	DGY drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Presenc	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu	nts (B14) Odor (C1 heres on uced Iron	Second	dary Indicato Surface Soil Orainage Pat Ory-Season V Crayfish Burr Saturation Vi Stunted or St	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
AYDROLO Vetland Hyd Surface V High War Saturatio Water Ma Sedimen Drift Dep Algal Mar Iron Dep	DGY drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)	of one is		Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6)	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu	ots (B14) Odor (C1) heres on uced Iron uction in T	Second	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
AYDROLO Vetland Hyd Surface V High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo	DGY drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	of one is	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu	Fauna (B uatic Plar In Sulfide I Rhizosp e of Redu ron Redu	nts (B14) Odor (C1 heres on uced Iron action in T	Second	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
AYDROLO Vetland Hyd Timary India Surface V High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep- Inundatio	DGY drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria	of one is	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac	nts (B14) Odor (C1) heres on uced Iron uction in T ee (C7) ata (D9)	Second S S S S S S S S S	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
HYDROLO Vetland Hyd Surface V High Wa Saturatio Water M: Sedimen Drift Dep Algal Ma Iron Depo	drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria Vegetated Conca	of one is	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C	Fauna (B uatic Plar In Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da	nts (B14) Odor (C1) heres on uced Iron uction in T ee (C7) ata (D9)	Second S S S S S S S S S	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2)
Aydracy Inches Semarks: HYDROLO Vetland Hydro Surface Verliand High Water Miller Sedimen Drift Dep Algal Mariller Iron Depo Inundation Sparsely Water-St Gurface water	drology Indicators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Concarained Leaves (B9 vations:	of one is	(B7) ce (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	Fauna (Buatic Plans Sulfide I Rhizospe of Reduck Surfacer Well Daixplain in Depth (i	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches):	Second S	dary Indicate Surface Soil Orainage Pat Ory-Season V Crayfish Burr Saturation Vi Stunted or St Geomorphic FAC-Neutral	ors (minimum of two require Cracks (B6) tems (B10) Water Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Test (D5)
HYDROLO Vetland Hyd Surface V High Wa Saturatio Water Mi Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-St Gurface water Vater table p	DGY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present? oresent?	I Imagery ve Surface) Yes Yes	(B7) ce (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge of Other (E	Fauna (Buatic Plans Sulfide I Rhizospe of Reduck Surface Well Daixplain in Depth (i	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Second S	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic FAC-Neutral	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Test (D5)
Primary Indication Depth (inches Remarks: HYDROLO Vetland Hyde Surface Vater Missedimen Drift Dep Algal Marlron Depe Inundation Sparsely Water-St Gurface water Vater table posturation prise	drology Indicators (minimum) Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Concarained Leaves (B9 vations: er present? oresent?	I Imagery ve Surface	(B7) ce (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge C Other (E	Fauna (Buatic Plans Sulfide I Rhizospe of Reduck Surfacer Well Daixplain in Depth (i	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Second S	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic FAC-Neutral	ors (minimum of two require Cracks (B6) tems (B10) Water Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Test (D5)
AYDROLO Vetland Hyde Primary India Surface V High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depi Inundatio Sparsely Water-St Vater table posturation princludes cap	pogy drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present? present? present? present?	I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge d Other (E	Fauna (Buatic Plar an Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da explain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Second S	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic FAC-Neutral Indicat hydro	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Test (D5)
AYDROLO Vetland Hyde Primary India Surface V High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depi Inundatio Sparsely Water-St Vater table posturation princludes cap	pogy drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca cained Leaves (B9 vations: er present? present? present? present?	I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge d Other (E	Fauna (Buatic Plar an Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da explain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Second S	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic FAC-Neutral Indicat hydro	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Test (D5)
AYDROLO Vetland Hyde Primary India Surface V High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depi Inundatio Sparsely Water-St Vater table position princludes cap	parks (B1) to Crust (B2) osits (B3) to Crust (B4) osits (B5) on Visible on Aeria vegetated Conca cained Leaves (B9 vations: er present? oresent? ositator (B4) oresent? oresent?	I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge d Other (E	Fauna (Buatic Plar an Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da explain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Second S	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic FAC-Neutral Indicat hydro	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Test (D5)
AYDROLO Vetland Hyde Primary India Surface V High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depi Inundatio Sparsely Water-St Vater table pa Staturation princludes cap	parks (B1) to Crust (B2) osits (B3) to Crust (B4) osits (B5) on Visible on Aeria vegetated Conca cained Leaves (B9 vations: er present? oresent? ositator (B4) oresent? oresent?	I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge d Other (E	Fauna (Buatic Plar an Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da explain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Second S	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic FAC-Neutral Indicat hydro	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Test (D5)
AYDROLO Vetland Hyderimary Indio Surface Vetland High Water Manager Mater Manager Mater Depter Mater Sparsely Water-Stried Observer urface water table paturation princludes capescribe rec	parks (B1) to Crust (B2) osits (B3) to Crust (B4) osits (B5) on Visible on Aeria vegetated Conca cained Leaves (B9 vations: er present? oresent? ositator (B4) oresent? oresent?	I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent I (C6) Thin Mu Gauge d Other (E	Fauna (Buatic Plar an Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da explain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Second S	dary Indicate Surface Soil Orainage Pat Ory-Season \ Crayfish Burr Saturation Vi Stunted or St Geomorphic FAC-Neutral Indicat hydro	ors (minimum of two require Cracks (B6) tems (B10) Nater Table (C2) ows (C8) sible on Aerial Imagery (C9) ressed Plants (D1) Position (D2) Test (D5)

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Plymouth Creek	City/0	County:	Plymouth/Hei	nnepin Sa	mpling Date:	6/17/19
Applicant/Owner: Chris Fleck		State: Minnesota			mpling Point:	3-1-WET
Investigator(s): ACM		Sect	tion, Townshi	p, Range:	Sec. 21, T	118N, R22W
Landform (hillslope, terrace, etc.): toeslop	эе	Local	relief (concav	ve, convex, no	ne):	concave
Slope (%): 1 Lat:		Long:			tum:	-
Soil Map Unit Name Glencoe clay loam	77		NWI (Classification:	F	PEM1Ad
Are climatic/hydrologic conditions of the site typical for t	this time of	f the year?	N ()	lf no, explain i	n remarks)	
Are vegetation , soil , or hydrolo			ly disturbed?		e "normal circun	retance"
Are vegetation , soil , or hydrological , or hydrological , soil			roblematic?	Aic	o Hormai Circuit	present? Yes
SUMMARY OF FINDINGS				(If needed,	explain any ans	wers in remarks.)
Hydrophytic vegetation present? Y					•	1
Hydric soil present?		Is the	sampled are	a within a we	etland?	Υ
Indicators of wetland hydrology present?			ptional wetlar		_	
Remarks: (Explain alternative procedures here or in a s	oparata ra			-		
Internative procedures here of in a s	eparate re	port.)				
Antecedent precipitation data i	ndicate v	vetter than	n normal co	nditions. Se	ee Appendix A	١.
VEGETATION						
VEGETATION Use scientific names of plants						
l	Absolute	Dominan	Indicator		e Test Worksh	
Tree Stratum (Plot size: 30' radius)	% Cover	t Species	Staus		Dominant Specie _, FACW, or FAC	
2		-			mber of Domina	``
3					Across all Strata	
4					Dominant Specie	
5					_, FACW, or FAC	
	0 :	Total Cove	er			
Sapling/Shrub stratum (Plot size: 15' radius)					e Index Worksl	neet
1 Cornus racemosa	5	Y	FAC	Total % Co		
2 Acer negundo 3 Cornus alba	<u>5</u>		FACW	OBL specie		1 = 7
4			FACV	FACW species		2 = <u>180</u> 3 = <u>30</u>
5				FACU spec		4 = 0
	13 :	Total Cov	er	UPL specie		5 = 0
Herb stratum (Plot size: 5' radius)				Column tot	als 107 (A	217 (B)
1 Phalaris arundinacea	80	Y	FACW	Prevalence	e Index = B/A =	2.03
2 Typha angustifolia	7	N	OBL			*
3 Urtica dioica	5	N	FACW	Hydrophyt	tic Vegetation	Indicators:
4 Impatiens capensis	2	N	_FACW_		test for hydroph	
5					ance test is >50	
7					ence index is ≤	
8			-		ogical adaptatio ting data in Rer	
9					ing data in Rei ite sheet)	Harks or on a
10				-	matic hydrophy	tic vegetation*
	94 :	Total Cov	er	(explai		9 - 100.0
Woody vine stratum (Plot size: 30' radius)				*Indicators	of hydric soil and w	etland hydrology must be
1				pres	sent, unless disturb	
2				-	phytic	
	0	= Total Cov	er	vegeta presei		
Pemarke: (Include photo numbers here or on a second	o oboot\			proser		-
Remarks: (Include photo numbers here or on a separate	e siieel)					

3-1-WET

Profile Des	cription: (Descr	be to th	e depth needed	to docu	ment the	indicate	or or confirm th	e absence o	f indicators.)
Depth	Matrix		Re	dox Feat	ures				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture)	Remarks
0-16	10YR2/1	100					muck		
				<u> </u>	 				
				-					
		_		-	-				
*Type: C = C	Concentration, D	= Depleti	on, RM = Reduc	ed Matrix	, MS = N	lasked S	and Grains.	**Location: P	L = Pore Lining, M = Matrix
Hydric So	il Indicators:						Indicators	for Problema	atic Hydric Soils:
	isol (A1)		Sa	ndv Glev	ed Matrix	(S4)	Coast F	Prairie Redox	(A16) (LRR K, L, R)
	ic Epipedon (A2)			ndy Redo		,		urface (S7) (L	
	ck Histic (A3)			ipped Ma					sses (F12) (LRR K, L, R)
	lrogen Sulfide (A4	11			ky Minera	al (F1)		*	urface (TF12)
	itified Layers (A5			-	ed Matrix			explain in rem	
		,			atrix (F3)			CAPICITI III TOIL	iarko)
	n Muck (A10)	Curtos		•	Surface				
	leted Below Dark		` '				*1 - 1 1 -		
	ck Dark Surface (ark Surfa				ytic vegetation and weltand
	dy Mucky Minera			dox Depr	ressions ((F8)	hydrolo		esent, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3	5)					pro	blematic
Restrictive	Layer (if observe	ed):					Α.		
Type:							Hydric so	oil present?	Υ
Depth (inche	es):				-		-		
Remarks:					-				
								<u>, </u>	
HYDROLO									
_	drology Indicato								
Primary Indi	cators (minimum	of one is	required; check	all that a	(ylqqı		Seco		ors (minimum of two require
Surface	Water (A1)				Fauna (B			_Surface Soil	• •
X High Wa	ter Table (A2)			True Aq	uatic Plar	nts (B14)	_	_ Drainage Pa	
X Saturation	on (A3)			- Hydroge	en Sulfide	Odor (C1)	Dry-Season	Water Table (C2)
Water M	arks (B1)			Oxidize	d Rhizosp	heres on	Living Roots	Crayfish Bur	rows (C8)
Sedimer	t Deposits (B2)			(C3)				_	isible on Aerial Imagery (C9)
Drift Dep	osits (B3)			Present	ce of Redu	uced Iron			tressed Plants (D1)
Algal Ma	t or Crust (B4)			Recent	Iron Redu	uction in T	illed Soils X	Geomorphic	Position (D2)
Iron Dep	osits (B5)			(C6)			X	FAC-Neutral	Test (D5)
Inundatio	on Visible on Aeria	I Imager	y (B7)	Thin Mu	ick Surfac	ce (C7)		_	
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge	or Well Da	ata (D9)			
Water-S	tained Leaves (B9)		Other (E	Explain in	Remarks)		
Field Obser	vations:								
Surface water		Yes	No	Χ	Depth (i	inches):	-		
Water table	•	Yes	X No		_	inches):	10	Indica	tors of wetland
Saturation p		Yes	X No	(4)		inches):	0	hydro	ology present? Y
	oillary fringe)			-		,			· · · · · · · · · · · · · · · · · · ·
	orded data (strea	m dalida	e monitoring we	ll aerial r	photos n	revious ir	spections) if av	ailable	
Describe rec	orded data (Stree	iiii gauge	s, monitoring we	ir, acriai p	onotos, pi	i C vious ii	ispections), it uv	anabio.	
Remarks:									

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Plymouth Creek	City/	County:	Plymouth/Hei	nnepin S	Sampling Date:	6/17/19
Applicant/Owner: Chris Fleck	7	State:	Minnes	sota S	Sampling Point:	SP-1
Investigator(s): ACM		Sec	tion, Townshi	p, Range:	Sec. 21, T	118N, R22W
Landform (hillslope, terrace, etc.): terra	се	Local	relief (concav	/e, convex,	none):	linear
Slope (%): Lat:		Long:			Datum:	
Soil Map Unit Name Lester loam		-	1WI	Classification	on:	
Are climatic/hydrologic conditions of the site typical for	this time o	of the year?	N (1	lf no, explai	n in remarks)	
Are vegetation , soil , or hydrolo	ogy	significant	tly disturbed?	L	Are "normal circur	nstances"
Are vegetation , soil , or hydrolo	ogy ——	naturally p	oroblematic?	,	" o Horman on our	present? Yes
SUMMARY OF FINDINGS				(If neede	d, explain any an	swers in remarks.)
Hydrophytic vegetation present? Y						
Hydric soil present?	<i>y</i>	Is the	sampled area	a within a v	wetland?	N
Indicators of wetland hydrology present?		f yes, o	ptional wetlar	nd site ID:		
Remarks: (Explain alternative procedures here or in a	separate re	eport)				
(= p.s area area processes role of area	ooparato re	эрога,				
Antecedent precipitation data	indicate	wetter thai	n normal co	nditions. S	See Appendix /	٩.
VEGETATION Use scientific names of plant						
- Ose scientific flames of plant	Absolute	Dominan	Indicator	Domina	nce Test Worksh	oot
Tree Stratum (Plot size: 30' radius)	% Cover	t Species	Staus		of Dominant Specie	
1 Tilia americana	7	Υ	FACU		BL, FACW, or FA	
2 Acer saccharum	7	Y	FACU		Number of Domina	`
3 Acer negundo	5	N	FAC		es Across all Strat	
4 Fraxinus pennsylvanica	5	N	FACW		of Dominant Specie	
5 Quercus rubra	3	N	FACU	that are O	BL, FACW, or FA	C: <u>33.33%</u> (A/B)
Sapling/Shrub stratum (Plot size: 15' radius)	27	= Total Cov	er	Dravalar	nce Index Works	h a a 4
1				Total %		neet
2		::		OBL spe		1 = 55
3		-		FACW s		2 = 10
4				FAC spe		3 = 30
5				FACU sp		4 = 88
	0	=Total Cov	er	UPL spe		5 = 0
Herb stratum (Plot size: 5' radius)				Column		A) <u>183</u> (B)
1 Leersia oryzoides	40	· — Y	OBL	Prevalen	ce Index = B/A =	1.99
2 Carex comosa 3 Trifolium pratense	10	N	OBL	I la color con la		
3 Trifolium pratense 4 Plantago major	5 5	N	FACU FAC		nytic Vegetation d test for hydroph	
5 Ranunculus pensylvanicus	5	- N	OBL		inance test is >50	
6		× 			alence index is ≤	
7				Morr	phogical adaptation	ons* (provide
8					orting data in Re	
9				sepa	rate sheet)	
10		=			lematic hydrophy	tic vegetation*
Woody vine stratum (Blot size: 30' radius)	65	= Total Cov	er	— (exp	lain)	
Woody vine stratum (Plot size: 30' radius)					rs of hydric soil and w resent, unless disturt	vetland hydrology must be
2			-		rophytic	ed or problematic
· · · · · · · · · · · · · · · · · · ·	0	= Total Cov	er		etation	
				pres	sent? Y	
Remarks: (Include photo numbers here or on a separa	te sheet)			41		

Profile Desc	cription: (Descr	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm the absence	ce of indicators.)
Depth	Matrix			dox Feat				
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-12	2.5Y2/1	100					sandy loam	mixed with woodchips
12-24	5Y4/1	100					sand	
								-
*Tuno: C = C	Concentration, D :	- Doploti	on PM = Boduse	d Matrix	MS - N	lacked S	and Grains **Locatio	n: PL = Pore Lining, M = Matrix
	il Indicators:	- Depleti	on, Rivi – Reduce	eu Manix	., 1013 - 10	iaskeu S		ematic Hydric Soils:
	isol (A1)		Sar	ndy Gleve	ed Matrix	(S4)		dox (A16) (LRR K, L, R)
	ic Epipedon (A2)			ndy Redo		(0.)	Dark Surface (S	
	ck Histic (A3)			pped Ma				Masses (F12) (LRR K, L, R)
	rogen Sulfide (A	1)			ky Minera	al (F1)	Very Shallow Da	rk Surface (TF12)
	tified Layers (A5)		Loa	my Gley	ed Matrix	k (F2)	Other (explain in	remarks)
2 cr	n Muck (A10)		Der	oleted Ma	atrix (F3)			
	leted Below Dark		` <u> </u>		Surface			
	ck Dark Surface (ark Surfa			rophytic vegetation and weltand
	dy Mucky Minera			dox Depr	essions ((F8)	hydrology must b	pe present, unless disturbed or
5 cr	n Mucky Peat or	Peat (S3)					problematic
	Layer (if observ	ed):				1.5		_
Туре:							Hydric soil preser	nt?N
Depth (inche	es):							
Remarks:								
								2
HYDROLO	ngv.							
	drology Indicate	re.		_				
	cators (minimum		required; check	all that a	nnlv)		Sacandani Inc	dicators (minimum of two required)
	Water (A1)	or one is	required, crieck		рргу) Fauna (В	13)		Soil Cracks (B6)
	ter Table (A2)		_			nts (B14)		e Patterns (B10)
Saturation						Odor (C		son Water Table (C2)
Water M	, ,		-,					Burrows (C8)
Sedimen	it Deposits (B2)			(C3)				on Visible on Aerial Imagery (C9)
	osits (B3)		_			uced Iron	· · · —	or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	iction in T		phic Position (D2)
	osits (B5)	llmogom	. (P7)	(C6)	ck Surfac	o (C7)	FAC-Ne	utral Test (D5)
	on Visible on Aeria Vegetated Conca			_	or Well Da	, ,		
	tained Leaves (B9					Remarks)	
Field Obser	· ·	<u></u>		-	-			
Surface water		Yes	No	X	Depth (i	inches):	2	
Water table	*	Yes	—— No	X	Depth (i		>24 Inc	dicators of wetland
Saturation pr	resent?	Yes	No	X	Depth (i	inches):	>24 h	ydrology present? N
(includes car	oillary fringe)							
Describe rec	orded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pi	revious ir	nspections), if available:	
Remarks:								
. tomanto.								

Project/Site Plymouth Creek	City/	County: F	Plymouth/Hei	nnepin S	ampling Date:	6/21/19
Applicant/Owner: Chris Fleck		State:	Minnes		ampling Point:	3-2-UP
Investigator(s): ACM			on, Townshi	p, Range:	Sec. 21, T1	18N, R22W
Landform (hillslope, terrace, etc.): foots	lope	Local r	relief (concav	/e, convex, r	none):	linear
Slope (%): 5 Lat:		Long:		D	atum:	-
Soil Map Unit Name Hamel, overwash-Hamel		· ·	/WI	——— Classificatio	n:	
Are climatic/hydrologic conditions of the site typical fo	r this time o	of the year?	N (I	lf no, explain	in remarks)	
	logy		y disturbed?		re "normal circums	stancos"
Are vegetation , soil , or hydro	logy	95	roblematic?	^		present? Yes
SUMMARY OF FINDINGS		21		(If needed	l, explain any ansv	h
Hydrophytic vegetation present? Y				,		'
Hydric soil present?	-0.	Is the s	sampled are	a within a w	etland?	N
Indicators of wetland hydrology present?	-	f yes, or	otional wetlar	nd site ID:		
Remarks: (Explain alternative procedures here or in a	- congrato r			-		
Themains. (Explain alternative procedures here of in a	separate re	eport.)				
Antecedent precipitation data	indicate	wetter than	normal co	nditions. S	See Appendix A.	
VECETATION Has a single control of						
VEGETATION Use scientific names of plan				Daminan	T4 M/!	-4
Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominan t Species	Indicator Staus		ce Test Workshe	
1 Acer negundo	20	Y	FAC		Dominant Species SL, FACW, or FAC:	
2 Populus deltoides	15	· - '	FAC		umber of Dominant	 `'
3					es Across all Strata:	
4		()) 			f Dominant Species	
5		······································			BL, FACW, or FAC:	
	35	= Total Cove	er			
Sapling/Shrub stratum (Plot size: 15' radius)				ce Index Worksh	eet
1 Acer negundo	7	. Y	FAC	Total % C		0
2 3		··		OBL spec		
3		×		FACW spec		
5	-	\$7 		FACU spec		
·	7	= Total Cove	er er	UPL spec		(A-0)0701
Herb stratum (Plot size: 5' radius	,=====	20		Column to		385 (B)
1 Rhamnus cathartica	30	Υ	FAC	Prevalence	ce Index = B/A =	3.21
2 Glechoma hederacea	20	Y	FACU			0
3 Vitis riparia	10	N	FACW	Hydroph	ytic Vegetation Ir	ndicators:
4 Parthenocissus quinquefolia	7	N	FACU	Rapid	test for hydrophy	tic vegetation
5 Galium aparine	5	N	FACU_		nance test is >50%	
6 Solanum dulcamara	3	N	FAC		alence index is ≤3.	
7 Hesperis matronalis	3	N	FACU		hogical adaptation	
9	**	S1			orting data in Rem rate sheet)	arks or on a
10					ematic hydrophyti	c vegetation*
	78	= Total Cove	er	(expla		c vegetation
Woody vine stratum (Plot size: 30' radius)	2		·	,	tland hydrology must be
1					esent, unless disturbe	
2				1 *	ophytic	
	0	= Total Cove	er		tation	
				prese	ent? Y	-
Remarks: (Include photo numbers here or on a separa	ate sheet)					

3-2-UP

Profile Des	Matrix			dox Feat		, marour	or or committee		· · · · · · · · · · · · · · · · · · ·
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Textur	e	Remarks
0-5	10YR3/2	100					sandy loam		
5-24	10YR5/3	100					loamy sand		
0 24	10111070	100					loanly sand		
vne: C = 0	Concentration, D :	= Depleti	on RM = Reduce	ed Matrix	MS = M	lasked S	and Grains.	**Locatio	n: PL = Pore Lining, M = Matrix
	il Indicators:	Dopica	OH, INVITATION	Sa Maan	1, 1110 11	idollod O			ematic Hydric Soils:
•	tisol (A1)		Sar	ndv Glev	ed Matrix	(S4)			dox (A16) (LRR K, L, R)
	tic Epipedon (A2)			ndy Redo		. (• .)			7) (LRR K, L)
	ck Histic (A3)			pped Ma					Masses (F12) (LRR K, L, R)
	Irogen Sulfide (A4	1)			ky Minera	al (F1)		-	rk Surface (TF12)
	atified Layers (A5)	,		•	ed Matrix			(explain in	
	n Muck (A10)	/			atrix (F3)				
	leted Below Dark	Surface			Surface				
	ck Dark Surface (ark Surfa		*Indicate	ors of hydr	ophytic vegetation and weltand
	dy Mucky Minera				essions (,	e present, unless disturbed or
	n Mucky Peat or					(/	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3,	problematic
	Layer (if observe	ر مط)،	<u> </u>						
ype:	Layer (II observe	eu).					Hydric s	oil presen	t? N
ype.									
	oc).				7.5		,	от р. ост.	
epth (inche	es):								
epth (inche	-				-		.,,		
epth (inche emarks:	DGY						.,,		
epth (inche emarks: YDROLO /etland Hy	DGY drology Indicate				-				
epth (inche emarks: YDROLO /etland Hy rimary Indi	DGY drology Indicato cators (minimum		required; check					ondary Ind	icators (minimum of two require
epth (inche emarks: YDROLO /etland Hy rimary India	DGY drology Indicate		required; check		pply) Fauna (B	13)		ondary Ind Surface	icators (minimum of two require Soil Cracks (B6)
YDROLO /etland Hy rimary India Surface High Wa	DGY drology Indicato cators (minimum Water (A1) iter Table (A2)		required; check	Aquatic True Aq	Fauna (B uatic Plar	nts (B14)	Sec	ondary Ind Surface	icators (minimum of two require Soil Cracks (B6) Patterns (B10)
YDROLO Yetland Hy rimary Indi Surface High Wa Saturatio	DGY drology Indicate cators (minimum Water (A1) iter Table (A2) on (A3)		required; check	Aquatic True Aq Hydroge	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C1	<u>Sec</u>	ondary Ind Surface : Drainage Dry-Seas	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2)
YDROLO YDROLO Yetland Hy rimary Indi Surface High Wa Saturatio Water M	DGY drology Indicate cators (minimum Water (A1) iter Table (A2) on (A3) arks (B1)		required; check	Aquatic True Aq Hydroge Oxidized	Fauna (B uatic Plar en Sulfide	nts (B14) Odor (C1	Sec	ondary Ind Surface Drainage Dry-Seas Crayfish	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8)
YDROLO Yetland Hy rimary Indi Surface High Wa Saturatic Water M Sedimer	DGY drology Indicate cators (minimum Water (A1) iter Table (A2) on (A3) arks (B1) it Deposits (B2)		required; check	Aquatic True Aq Hydroge Oxidized (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp	nts (B14) Odor (C1 heres on	Second Se	ondary Ind Surface S Drainage Dry-Seas Crayfish Saturatic	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9)
YDROLO Yetland Hyrimary India Surface High Wa Saturatic Water M Sedimer Drift Dep	drology Indicators (minimum) Water (A1) ther Table (A2) on (A3) tarks (B1) on Deposits (B2) posits (B3)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Presend	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu	nts (B14) Odor (C1 heres on uced Iron	Secondary Second	ondary Ind Surface of Drainage Dry-Sease Crayfish Saturation	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1)
YDROLO Yetland Hyrimary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	drology Indicated cators (minimum) Water (A1) Iter Table (A2) Ion (A3) Iarks (B1) Int Deposits (B2) Into Deposits (B3) Into To Crust (B4)		required; check	Aquatic True Aq Hydroge Oxidized (C3) Present	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu	nts (B14) Odor (C1 heres on uced Iron	Second Se	ondary Ind Surface of Drainage Dry-Seas Crayfish Saturatic Stunted of Geomory	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1)
YDROLO Yetland Hyrimary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep	drology Indicated cators (minimum Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B2) Inter Table (B2) Inter Table (B3) Inter Table (B4) Inter Table	of one is		Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6)	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu Iron Redu	ots (B14) Odor (C1) heres on uced Iron uction in T	Secondary Second	ondary Ind Surface of Drainage Dry-Seas Crayfish Saturatic Stunted of Geomory	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1)
YDROLO YDROLO Yetland Hyrimary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio	drology Indicators (minimum) Water (A1) Inter Table (A2) Inter (A3) Inter (B1) Inter (B2) Inter (B2) Inter (B3) Inter (B3) Inter (B4) Inter (B4) Inter (B5)	of one is	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu Iron Redu ck Surfac	nts (B14) Odor (C1 heres on uced Iron uction in T	Secondary Second	ondary Ind Surface of Drainage Dry-Seas Crayfish Saturatic Stunted of Geomory	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2)
Pydrologo (inches) emarks: Py	drology Indicators (minimum) Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B2) Inter Table (B3) Inter Table (B4)	of one is al Imager ave Surfa	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu fron Redu ck Surfac or Well Da	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9)	Secondary Living Roots (C4) illed Soils	ondary Ind Surface of Drainage Dry-Seas Crayfish Saturatic Stunted of Geomory	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2)
IYDROLO Iemarks: IYDROLO Ietland Hy rimary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S	drology Indicators (minimum) Water (A1) Inter Table (A2) Inter (A3) Inter (B4) Inter (B4) Inter (B4) Inter (B4) Inter (B4) Inter (B5) Inter (B6) Inter (B6	of one is al Imager ave Surfa	(B7)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu fron Redu ck Surfac or Well Da	nts (B14) Odor (C1 heres on uced Iron uction in T	Secondary Living Roots (C4) illed Soils	ondary Ind Surface of Drainage Dry-Seas Crayfish Saturatic Stunted of Geomory	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2)
IYDROLO Iemarks: IYDROLO Ietland Hy rimary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S ield Obser	drology Indicators (minimum) Water (A1) Inter Table (A2) Inter (A3) Inter (B4) Inter (B4) Inter (B4) Inter (B4) Inter (B5) Inter (B6) Inter (B6	of one is al Imager ave Surfa	y (B7) ce (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C Other (E	Fauna (Buatic Plaren Sulfided Rhizospee of Reduler Reduler Well Das Explain in	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks	Secondary Living Roots (C4) illed Soils	ondary Ind Surface of Drainage Dry-Seas Crayfish Saturatic Stunted of Geomory	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2)
emarks: IYDROLO /etland Hy rimary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Depi Inundatic Sparsely Water-S ield Obser urface water	or Vegetated Concaters (B4) on Vegetated Concaters (B4) on Vegetated Concaters (B9) vations: er present?	al Imager ive Surfa)	y (B7) ce (B8)	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge (C3)	Fauna (B uatic Plar en Sulfide d Rhizosp ee of Redu fron Redu ck Surfac or Well Da	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches):	Secondary Living Roots (C4) illed Soils	ondary Ind Surface Drainage Dry-Seas Crayfish Saturatic Stunted Geomory FAC-Neu	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) phic Position (D2)
emarks: IYDROLO /etland Hy rimary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S ield Obser urface water /ater table	or Vegetated Concators (B4) or (A3) farks (B1) or (B3) or (B3) or (B3) or (B4) or (B5)	of one is al Imager ave Surfa	y (B7) ce (B8)	Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent (C6) Thin Mu Gauge c Other (E	Fauna (Buatic Plaren Sulfided Rhizospee of Reduction Reduction Well Das Explain in	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Secondary Second	ondary Ind Surface Drainage Dry-Seas Crayfish Saturatic Stunted Geomory FAC-Neu	icators (minimum of two require Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
IYDROLO Vetland Hy rimary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-S ield Obser urface wate /ater table aturation p	or Vegetated Concators (B4) or (A3) farks (B1) or (B3) or (B3) or (B3) or (B4) or (B5)	al Imager ave Surface Yes Yes	y (B7) ce (B8) No	Aquatic True Aq Hydroge Oxidizer (C3) Presenc Recent (C6) Thin Mu Gauge c Other (E	Fauna (Buatic Plaren Sulfided Rhizospee of Reduler Reduction Reduction Well Das Explain in Depth (in Depth (in Plant Reduction	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Secondary Second	ondary Ind Surface Drainage Dry-Seas Crayfish Saturatic Stunted Geomory FAC-Neu	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
IYDROLO Vetland Hy rimary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S ield Obser vater table aturation pincludes ca	drology Indicators (minimum) Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B2) Inter Table (B2) Inter Table (B2) Inter Table (B2) Inter Table (B3) Inter Table (B4)	of one is Il Imager, ive Surface Yes Yes Yes	y (B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C Other (E	Fauna (Buatic Plaren Sulfide di Rhizospete of Reduck Surface or Well Data Explain in Depth (in Surface)))	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Sec.	ondary Ind Surface: Drainage Dry-Seas Crayfish Saturatic Stunted Geomory FAC-Neu	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
IYDROLO Vetland Hy rimary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S ield Obser vater table aturation pincludes ca	drology Indicated cators (minimum) Water (A1) on (A3)	of one is Il Imager, ive Surface Yes Yes Yes	y (B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C Other (E	Fauna (Buatic Plaren Sulfide di Rhizospete of Reduck Surface or Well Data Explain in Depth (in Surface)))	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Sec.	ondary Ind Surface: Drainage Dry-Seas Crayfish Saturatic Stunted Geomory FAC-Neu	icators (minimum of two require Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
IYDROLO Vetland Hy rimary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S ield Obser vater table aturation pincludes ca	drology Indicators (minimum) Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B2) Inter Table (B2) Inter Table (B2) Inter Table (B2) Inter Table (B3) Inter Table (B4)	of one is Il Imager, ive Surface Yes Yes Yes	y (B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C Other (E	Fauna (Buatic Plaren Sulfide di Rhizospete of Reduck Surface or Well Data Explain in Depth (in Surface)))	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Sec.	ondary Ind Surface: Drainage Dry-Seas Crayfish Saturatic Stunted Geomory FAC-Neu	icators (minimum of two require Soil Cracks (B6) Patterns (B10) Son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)
emarks: IYDROLO /etland Hy rimary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S ield Obser urface water /ater table aturation pincludes ca	drology Indicators (minimum) Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B2) Inter Table (B2) Inter Table (B2) Inter Table (B2) Inter Table (B3) Inter Table (B4)	of one is Il Imager, ive Surface Yes Yes Yes	y (B7) ce (B8) No No No	Aquatic True Aq Hydroge Oxidized (C3) Presend Recent (C6) Thin Mu Gauge C Other (E	Fauna (Buatic Plaren Sulfide di Rhizospete of Reduck Surface or Well Data Explain in Depth (in Surface)))	nts (B14) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks nches): nches):	Sec.	ondary Ind Surface: Drainage Dry-Seas Crayfish Saturatic Stunted Geomory FAC-Neu	icators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5)

Project/Site Plymouth Creek	City/County:	Plymouth/He	ennepin Sampling Date:	6/21/19
Applicant/Owner: Chris Fleck	St	ate: Minne	sota Sampling Point:	3-2-WET
Investigator(s): ACM	8	Section, Townsh	ip, Range: Sec. 21,	T118N, R22W
Landform (hillslope, terrace, etc.): toeslope	L		ve, convex, none):	
Slope (%): 1 Lat:	Long:		Datum:	
Soil Map Unit Name Hamel, overwash-Hamel				SS1/EM1Ad
Are climatic/hydrologic conditions of the site typical for this	time of the ve		If no, explain in remarks)	<u> </u>
Are vegetation , soil , or hydrology		cantly disturbed?		ımatanaca"
Are vegetation , soil , or hydrology		ally problematic?	Are normal circu	present? Yes
SUMMARY OF FINDINGS	Troctor	any problemation	(If needed, explain any a	-
Hydrophytic vegetation present?			(ii iioodaa, oxpiaiii aii) a	noworo in romanto.)
Hydric soil present?	Is	the sampled are	ea within a wetland?	Υ
Indicators of wetland hydrology present?		es, optional wetla	-	
		es, optional wetta	ind site ib.	
Remarks: (Explain alternative procedures here or in a sep-	arate report.)			
Antecedent precipitation data ind	licate wetter	than normal co	anditions See Annendiv	Δ
, interest precipitation data inte	modio Wottor	than normal co	Transcord Appendix	Λ.
VEGETATION Use scientific names of plants.				
	solute Domi		Dominance Test Works	heet
Tree Stratum (Plot size: 30' radius) %	Cover t Spec	cies Staus	Number of Dominant Spec	
			that are OBL, FACW, or FA	AC:(A)
			Total Number of Domin	
3			Species Across all Stra	· · · · · ·
5			Percent of Dominant Specthat are OBL, FACW, or FA	
	0 = Total	Cover	That are OBE, I AOW, OF I	AC. 100.00 % (A/B)
Sapling/Shrub stratum (Plot size: 15' radius)		00101	Prevalence Index Work	sheet
1			Total % Cover of:	
2			OBL species 0	x 1 = 0
3			FACW species 73	x 2 = 146
4				x 3 = 36
5				x 4 = <u>36</u>
Harb stratum (Distains, Stradius	0 = Total	Cover		x 5 = 0
Herb stratum (Plot size: 5' radius)				(A) <u>218</u> (B)
1 Phalaris arundinacea	55 Y		Prevalence Index = B/A	= 2.32
2 Solidago gigantea 3 Solanum dulcamara	15 N		Hardman hadda Mariadadda	
4 Glechoma hederacea	7 N		Hydrophytic Vegetation Rapid test for hydrop	
5 Calystegia sepium	5 N		X Dominance test is >	
6 Impatiens capensis	3 N		X Prevalence index is	
7 Hesperis matronalis	2 N		Morphogical adaptat	
8 Cirsium arvense	2 N		supporting data in R	
9			separate sheet)	
10			Problematic hydroph	ytic vegetation*
· · · · · · · · · · · · · · · · · · ·	94 = Total	Cover	(explain)	
Woody vine stratum (Plot size: 30' radius)			*Indicators of hydric soil and present, unless distu	
2			Hydrophytic	
	0 = Total	Cover	vegetation	,
			present?	<u> </u>
Remarks: (Include photo numbers here or on a separate s	heet)			

3-2-WET

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the abs	ence of indicators.)
Depth	Matrix		Red	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-18	10YR2/2	98	10YR5/4	2	С	PL	clay loam	
18-24	10YR2/1	100					peat	
•					-			
		-			-			
							<u> </u>	
*Type: C = 0	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	/lasked S	and Grains. **Loca	ation: PL = Pore Lining, M = Matrix
Hydric Sc	il Indicators:	· ·					Indicators for Pro	oblematic Hydric Soils:
His	tisol (A1)		Sar	ndy Gley	ed Matrix	(S4)	Coast Prairie	Redox (A16) (LRR K, L, R)
His	tic Epipedon (A2)		— Sar	ndy Redo	ox (S5)		Dark Surface	(S7) (LRR K, L)
Bla	ck Histic (A3)		— Stri	pped Ma	atrix (S6)		Iron-Mangane	ese Masses (F12) (LRR K, L, R)
Hyc	lrogen Sulfide (A4	1)	Loa	my Muc	ky Minera	al (F1)	Very Shallow	Dark Surface (TF12)
Stra	atified Layers (A5)	Loa	my Gley	ed Matrix	x (F2)	Other (explain	n in remarks)
2 cr	m Muck (A10)		<u> —</u> _{Dep}	oleted Ma	atrix (F3)			
— Dep	oleted Below Dark	Surface	(A11) X Red	dox Dark	Surface	(F6)		
Thic	ck Dark Surface (A12)	— Der	oleted Da	ark Surfa	ce (F7)	*Indicators of h	ydrophytic vegetation and weltand
Sar	ndy Mucky Minera	ıl (S1)	Red	dox Depr	essions ((F8)	hydrology mus	st be present, unless disturbed or
5 cr	m Mucky Peat or	Peat (S3)					problematic
Restrictive	Layer (if observe	ed);						
Type:		,-					Hydric soil pres	sent? Y
Depth (inche	es):				•2			
Remarks:	(f				1/			
Nomains.								,
HYDROLO	OGY							
	drology Indicate	rs:						
	cators (minimum		required: check	all that a	(vlag		Secondary	Indicators (minimum of two required
	Water (A1)	01 0110 10	roquirou, oricon		Fauna (B	313)		ce Soil Cracks (B6)
	iter Table (A2)		-		uatic Plar			age Patterns (B10)
Saturation				-		Odor (C		Season Water Table (C2)
	larks (B1)					•		ish Burrows (C8)
	nt Deposits (B2)			(C3)				ation Visible on Aerial Imagery (C9)
	oosits (B3)			Presenc	e of Redu	uced Iron	(C4) Stunt	ed or Stressed Plants (D1)
— Algal Ma	it or Crust (B4)			Recent	iron Redu	action in T	illed Soils X Geon	norphic Position (D2)
Iron Dep	osits (B5)			(C6)			X FAC-	Neutral Test (D5)
Inundation	on Visible on Aeria	ıl Imager	/ (B7)	Thin Mu	ick Surfac	ce (C7)		
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge	or Well Da	ata (D9)		
Water-S	tained Leaves (B9)		Other (E	Explain in	Remarks)	
Field Obser	vations:						T	
Surface water	er present?	Yes	No	X	Depth (i	inches):	- 12 H	
Water table	present?	Yes	No	X	Depth (i		>24	Indicators of wetland
Saturation p		Yes	No	Х	Depth (i	inches):	>24	hydrology present? Y
(includes ca	pillary fringe)							
Describe red	corded data (strea	m gauge	e, monitoring well	, aerial p	hotos, pi	revious ir	nspections), if available	t c
Remarks:								

Project/Site Plymouth Creek	City/0	County:	Plymouth/Her	nnepin	Sampling Date:	6/21/19	
Applicant/Owner: Chris Fleck	ner: Chris Fleck State: Minr		Minnes	sota	Sampling Point:	3-3-UP	
Investigator(s): ACM		Section, Township, Range: Sec. 21, T118N, R22W					
Landform (hillslope, terrace, etc.): slope	e					linear	
Slope (%): 7 Lat:		Long:	(Datum:		
Soil Map Unit Name Nessel loam			JW/1 (Classificat			
Are climatic/hydrologic conditions of the site typical for	this time o	of the year?			ain in remarks)		
Are vegetation , soil , or hydrolo		-	ly disturbed?	-	•		
			roblematic?		Are "normal circumst		
Are vegetation , soil , or hydrolo SUMMARY OF FINDINGS		naturally p	i oblematic :	/If nood		resent? Yes	
				(ii need	led, explain any answ	ers in remarks.)	
Hydrophytic vegetation present? Hydric soil present? Y	5	1-0-		***			
	ì		sampled are		-	N	
Indicators of wetland hydrology present? N		f yes, o	ptional wetlar	nd site ID:			
Remarks: (Explain alternative procedures here or in a s	separate re	eport.)					
Antopodent precipitation data	indianta :	ماله مالا مالامان			C = = A = = = ====1' = A		
Antecedent precipitation data	indicate v	wetter thar	n normai co	naitions.	See Appendix A.		
VEGETATION Use scientific names of plants	S.						
	Absolute	Dominan	Indicator	Domina	ance Test Workshee	t	
<u>Tree Stratum</u> (Plot size:30' radius)	% Cover	t Species	Staus	Number	of Dominant Species		
1 Picea pungens	7	Y	UPL		OBL, FACW, or FAC:	4 (A)	
2 Acer negundo	3	Y	FAC	Total	Number of Dominant	-	
3				Spe	cies Across all Strata:	6 (B)	
4					of Dominant Species		
5	- 10			that are	OBL, FACW, or FAC:	66.67% (A/B)	
Sonling/Shrub stratum (Blat sing) 451 andius V	10	= Total Cove	er	D			
Sapling/Shrub stratum (Plot size: 15' radius) 1 Cornus racemosa	7	V	FAC		ence Index Workshe	et	
2 Acer negundo	5	$\frac{Y}{Y}$	FAC	OBL sp	Cover of: pecies 1 x 1 :	- 4	
3 Fraxinus pennsylvanica	3		FACW		species 43 x 2		
4 Rhamnus cathartica	1	N N	FAC	FAC sp			
5 Salix petiolaris	1	N	OBL	FACU			
-	17	= Total Cove	er	UPL sp			
Herb stratum (Plot size: 5' radius)				Column		350 (B)	
1 Anemone canadensis	40	Υ	FACW	Prevale	ence Index = B/A =	3.10	
2 Parthenocissus quinquefolia	15	Y	FACU			***************************************	
3 Glechoma hederacea	10	N	FACU	Hydrop	ohytic Vegetation Inc	dicators:	
4 Solidago canadensis	7	N	FACU	Ra	pid test for hydrophyti	c vegetation	
5 Zizia aurea	7	N	FAC		minance test is >50%		
6 Euphorbia esula	3	N	UPL	—Pre	evalence index is ≤3.0	*	
7 Hesperis matronalis	2	N	FACU		rphogical adaptations		
8 Cirsium arvense	2	N	_FACU_		porting data in Rema	irks or on a	
9					parate sheet)		
10	86	= Total Cove			blematic hydrophytic	vegetation*	
Woody vine stratum (Plot size: 30' radius)		- Total Cove	31	5 = 0	plain)		
1				*Indicat	tors of hydric soil and wetla present, unless disturbed		
2			-	Hv	drophytic	or problematic	
	0	= Total Cove		-	getation		
		rotal cort	J	pre	esent? Y		
Remarks: (Include photo numbers here or on a separat	e sheet)						
	,						

3-3-UP

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	indicat	or or confirm the abse	nce of indicators.)
Depth	Matrix		Red	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-2	10YR3/2	100		e.			sandy loam	
2-14	10YR4/2	97	10YR6/6	3	С	PL	sandy loam	
14-24	10YR3/2	100					sandy clay loam	
1 64	101110/2	100		-	-	-	darray diay rouri	
					-			
							i e	
				Ÿ.				
).				
*Type: C = 0	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	fasked S		ion: PL = Pore Lining, M = Matrix
Hydric Sc	oil Indicators:						Indicators for Pro	blematic Hydric Soils:
His	tisol (A1)				ed Matrix	(S4)		Redox (A16) (LRR K, L, R)
	tic Epipedon (A2)			ndy Redo			Dark Surface (
Bla	ck Histic (A3)				trix (S6)			se Masses (F12) (LRR K, L, R)
	drogen Sulfide (A4	•			ky Minera			Park Surface (TF12)
	atified Layers (A5)			ed Matrix		Other (explain	in remarks)
	m Muck (A10)		'		atrix (F3)			
	oleted Below Dark		· · ·		Surface			
	ck Dark Surface (ark Surfa			drophytic vegetation and weltand
	ndy Mucky Minera			dox Depr	essions ((F8)	hydrology must	be present, unless disturbed or
5 cr	m Mucky Peat or	Peat (S3)					problematic
	Layer (if observe	ed):						
Type:					2		Hydric soil pres	ent? Y
Depth (inche	es):				2) 2)			
Remarks:								
HYDROLO	nev							
	drology Indicato		and an internal control of the	- 11 414 -			0	
	cators (minimum	of one is	requirea; check			40)		ndicators (minimum of two required
	Water (A1)				Fauna (B			e Soil Cracks (B6) ge Pattems (B10)
— Saturatio	ater Table (A2)				uatic Plar en Sulfide			eason Water Table (C2)
	larks (B1)		-					sh Burrows (C8)
	nt Deposits (B2)			(C3)	ι Μπευσρ	ileles oli		tion Visible on Aerial Imagery (C9)
	posits (B3)				e of Redu	uced Iron		d or Stressed Plants (D1)
	it or Crust (B4)							orphic Position (D2)
Iron Dep	osits (B5)			(C6)			FAC-N	leutral Test (D5)
Inundation	on Visible on Aeria	ıl Imager	/ (B7)	Thin Mu	ck Surfac	e (C7)	_	
Sparsely	Vegetated Conca	ve Surfa	ce (B8)	Gauge	or Well Da	ata (D9)		
Water-S	tained Leaves (B9)		Other (E	Explain in	Remarks)	
Field Obser								
Surface water	•	Yes	No	X	Depth (i			A
Water table	•	Yes	No No	X	Depth (i			ndicators of wetland
Saturation p		Yes	No	X	Depth (i	nches):	>24	hydrology present? N
	pillary fringe)							
Describe red	corded data (strea	am gauge	e, monitoring well	, aerial p	hotos, pr	evious ir	nspections), if available:	
Domester								
Remarks:								

Project/Site Plymouth Creek	City/	County: {	Plymouth/Her	nnepin Sampling Date:	6/21/19
Applicant/Owner: Chris Fleck		State:	Minnes		3-3-WET
Investigator(s): ACM		Sect	ion, Township	p, Range: Sec. 21	T118N, R22W
Landform (hillslope, terrace, etc.): tosel	ope	Local i	relief (concav	re, convex, none):	concave
Slope (%): 2 Lat:		Long:		Datum:	
Soil Map Unit Name Nessel Ioam		-	/WI	Classification:	PEM1Cd
Are climatic/hydrologic conditions of the site typical fo	r this time o	f the year?	N (I	f no, explain in remarks)	
	logy		y disturbed?	Are "normal circ	umstances"
Are vegetation , soil , or hydro			roblematic?	7 TO HOTHAT ON O	present? Yes
SUMMARY OF FINDINGS				(If needed, explain any a	inswers in remarks.)
Hydrophytic vegetation present?					
Hydric soil present?	-	Is the s	sampled area	a within a wetland?	Υ
Indicators of wetland hydrology present?	-	f yes, o	ptional wetlar	nd site ID:	
Remarks: (Explain alternative procedures here or in a	senarate re	enort)			
Community procedures note of the	ooparato re	γροιτ.)			
Antecedent precipitation data	indicate v	wetter thar	normal co	nditions. See Appendix	(A.
VEGETATION Use scientific names of plan	te				
Plant Ose scientific names of plant	Absolute	Dominan	Indicator	Dominance Test Works	sheet
Tree Stratum (Plot size: 30' radius)	% Cover	t Species	Staus	Number of Dominant Spe	
1 Acer negundo	15	Y	FAC	that are OBL, FACW, or F	
2 Salix bebbiana	5	Y	FACW	Total Number of Domin	
3 Populus deltoides	3	N	FAC	Species Across all Str	ata: (B)
4				Percent of Dominant Spe	
5		- Total Cove		that are OBL, FACW, or F	AC:100.00%_ (A/B)
Sapling/Shrub stratum (Plot size: 15' radius	\ 	= Total Cove	2 1	Prevalence Index World	reheat
1 Acer negundo	15	Υ	FAC	Total % Cover of:	Sileet
2 Cornus racemosa	10		FAC	OBL species 5	x 1 = 5
3	-			FACW species 30	x 2 = 60
4				FAC species 58	x 3 = 174
5				FACU species 5	x 4 =20
Harb strature /Dist size. Size dive	25	= Total Cove	er	UPL species 0	x5= 0
Herb stratum (Plot size: 5' radius).		=	Column totals 98	(A) <u>259</u> (B)
1 Impatiens capensis 2 Rhamnus cathartica	15		FACW	Prevalence Index = B/A	= 2.64
3 Ribes americanum	10	- Y	FACW	Hydrophytic Vegetatio	n Indicators:
4 Parthenocissus quinquefolia	5		FACU	Rapid test for hydro	
5 Cornus racemosa	5	N	FAC	X Dominance test is >	
6 Lycopus americanus	5		OBL	X Prevalence index is	≤3.0*
7				Morphogical adapta	tions* (provide
8				supporting data in F	Remarks or on a
9				separate sheet)	
10		- Tatal Cava		Problematic hydrop	hytic vegetation*
Woody vine stratum (Plot size: 30' radius	50	= Total Cove) r	— (explain)	
1	,				d wetland hydrology must be urbed or problematic
2				Hydrophytic	arbod or problematio
	0	= Total Cove		vegetation	
				present?	<u>Y</u>
Remarks: (Include photo numbers here or on a separa	ate sheet)				

3-3-WET

Depth		120 60 611	c acptil liceaca	LO GOCG	ment the	marcat	or or confirm the a	
	<u>Matrix</u>		Red	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR3/2	100					sandy clay loam	
4-16	10YR4/2	95	7.5YR4/6	5	С	PL	sandy clay loam	
16-24	10YR4/1	95	7.5YR4/6	5	С	PL	sandy clay loam	
							-	
*Type: C = C	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **I	ocation: PL = Pore Lining, M = Matrix
	il Indicators:				,			Problematic Hydric Soils:
•	isol (A1)		Sar	dy Gleye	ed Matrix	(S4)		irie Redox (A16) (LRR K, L, R)
	ic Epipedon (A2)			dy Redo		,		ace (S7) (LRR K, L)
	ck Histic (A3)			pped Ma				anese Masses (F12) (LRR K, L, R)
	rogen Sulfide (A	4)			ky Minera	al (F1)	Very Shall	low Dark Surface (TF12)
	tified Layers (A5				ed Matrix			plain in remarks)
	n Muck (A10)	•		oleted Ma		. ,		•
	leted Below Dark	Surface			Surface	(F6)		
	k Dark Surface (` ′		rk Surfa	. ,	*Indicators	of hydrophytic vegetation and weltand
	dy Mucky Minera				essions (, ,		must be present, unless disturbed or
	n Mucky Peat or			•		,	,	problematic
	Layer (if observe		,					
	Layer (II observ	eu):					Hydric soil	present? V
Type: Depth (inche)a).				6		Hydric son p	present? Y
Deptil (iliche					ŝ			
	OGY drology Indicate	ors:						
Wetland Hy	drology Indicato		required; check :	all that a	oply)		Second	ary Indicators (minimum of two required
Wetland Hyd Primary Indic Surface V	drology Indicato cators (minimum Water (A1)			Aquatic	Fauna (B	,	S	urface Soil Cracks (B6)
Wetland Hyd Primary Indic Surface V	drology Indicato cators (minimum			Aquatic True Aq	Fauna (B uatic Plar	nts (B14)	s	urface Soil Cracks (B6) rainage Patterns (B10)
Wetland Hyd Primary Indic Surface V High Wa Saturatio	drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3)			Aquatic True Aqu Hydroge	Fauna (B uatic Plar n Sulfide	nts (B14) Odor (C1	s b	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2)
Wetland Hyd Primary Indic Surface V High Wa Saturatio Water M:	drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1)			Aquatic True Aqu Hydroge Oxidized	Fauna (B uatic Plar n Sulfide	nts (B14) Odor (C1	S S D D D C C	rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8)
Wetland Hyd Primary Indic Surface N High Wa Saturatio Water Ma Sedimen	drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)			Aquatic True Aqu Hydroge Oxidized (C3)	Fauna (B uatic Plar n Sulfide l Rhizosp	nts (B14) Odor (C1 heres on	S S D D C C S	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9)
Wetland Hyd Primary Indic Surface V High Wa Saturatio Water M: Sedimen Drift Dep	drology Indicate cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)			Aquatic True Aqu Hydroge Oxidized (C3) Presenc	Fauna (B uatic Plar n Sulfide l Rhizosp e of Redu	nts (B14) Odor (C1 heres on	S D D D D D D D D D D D D D D D D D D D	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1)
Wetland Hyd Primary Indic Surface V High Wa Saturatio Water Mater	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4)			Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I	Fauna (B uatic Plar n Sulfide l Rhizosp e of Redu	nts (B14) Odor (C1 heres on	S	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) reomorphic Position (D2)
Wetland Hydeliand Hydeliand Surface Manager Mater Mate	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5)	of one is		Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6)	Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu	nts (B14) Odor (C1 heres on uced Iron ction in T	S	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1)
Wetland Hydeliand Hydeliand High Water Marker Marke	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria	<u>of one is</u> Il Imagery	(B7)	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud	Fauna (Buatic Plar n Sulfide I Rhizospee of Reduron Reduck ron Reduck Surfac	ots (B14) Odor (C1) heres on uced Iron ction in T	S	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) reomorphic Position (D2)
Wetland Hydeliand Hydeliand Surface North High Was Saturation Water Missed Sedimen Drift Dep Algal Malron Dep Inundatic Sparsely	drology Indicated cators (minimum) Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Conca	of one is Il Imagery Ive Surfac	(B7)	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of	Fauna (Buatic Plar n Sulfide I Rhizospee of Reduron Reduck Surfac	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9)	S D D C C C C C C C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) reomorphic Position (D2)
Wetland Hydeliand Hydeliand Surface Naturation Water Mark Sedimen Drift Dep Algal Malron Depo Inundation Sparsely Water-St	drology Indicated cators (minimum) Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Vegetated Conca	of one is Il Imagery Ive Surfac	(B7)	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of	Fauna (Buatic Plar n Sulfide I Rhizospee of Reduron Reduck Surfac	ots (B14) Odor (C1) heres on uced Iron ction in T	S D D C C C C C C C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) reomorphic Position (D2)
Primary Indic Surface N High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depi Inundatio Sparsely Water-St Field Observa	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B3) tor Crust (B4) cosits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9)	of one is Il Imagery Ive Surfac)	/ (B7)	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E	Fauna (Buatic Plar n Sulfide I Rhizosp e of Reduron Reduck Surfact Well Da xplain in	nts (B14) Odor (C1 heres on uced Iron uction in T e (C7) ata (D9) Remarks	S D D C C C C C C C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) reomorphic Position (D2)
Primary Indic Surface N High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Water-St Field Obsers	drology Indicated cators (minimum) Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9) vations: er present?	of one is I Imagery ive Surface)	(B7)	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of Other (E	Fauna (Buatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in	nts (B14) Odor (C1 heres on uced Iron uction in T e (C7) ata (D9) Remarks nches):	S D D D C C S S C C S S C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) reomorphic Position (D2) AC-Neutral Test (D5)
Wetland Hyden Primary Indice Surface Mater	drology Indicated cators (minimum) Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9) vations: er present? present?	of one is I Imagery ive Surface) Yes Yes	(B7) ce (B8) No	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Muc Gauge o Other (E	Fauna (Buatic Plar n Sulfide I Rhizospee of Redu ron Reduck Surfac r Well Daxplain in Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks; nches):	S D D C S S C S S S S S S	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) reomorphic Position (D2) AC-Neutral Test (D5)
Wetland Hyden Primary Indice Surface Mater	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) cosits (B3) t or Crust (B4) cosits (B5) on Visible on Aeria Vegetated Concatained Leaves (B9 vations: er present? present?	of one is I Imagery ive Surface)	(B7)	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of Other (E	Fauna (Buatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks; nches):	S D D D C C S S C C S S C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) reomorphic Position (D2) AC-Neutral Test (D5)
Wetland Hyden Primary Indice Surface Mater	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B2) arks (B3) tor Crust (B4) arks (B5) ar Visible on Aeria Vegetated Concatained Leaves (B9) ar present? are present?	of one is I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of Other (E X X	Fauna (Buatic Plarn Sulfide I Rhizospe of Reduck Surfacer Well Daxplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches):	S D D C S C C S C C S C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) recomorphic Position (D2) AC-Neutral Test (D5) Indicators of wetland hydrology present?
Wetland Hyden Primary Indice Surface Mater	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B2) arks (B3) tor Crust (B4) arks (B5) ar Visible on Aeria Vegetated Concatained Leaves (B9) ar present? are present?	of one is I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of Other (E X X	Fauna (Buatic Plarn Sulfide I Rhizospe of Reduck Surfacer Well Daxplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches):	S D D C S S C S S S S S S	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) recomorphic Position (D2) AC-Neutral Test (D5) Indicators of wetland hydrology present?
Primary Indic Surface N High Wa Saturatio Water M: Sedimen Drift Dep Algal Ma Iron Depo Inundatio Sparsely Water-St Field Obsert Surface wate Water table p Saturation pr (includes cap	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B2) arks (B3) tor Crust (B4) arks (B5) ar Visible on Aeria Vegetated Concatained Leaves (B9) ar present? are present?	of one is I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of Other (E X X	Fauna (Buatic Plarn Sulfide I Rhizospe of Reduck Surfacer Well Daxplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches):	S D D C S C C S C C S C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) recomorphic Position (D2) AC-Neutral Test (D5) Indicators of wetland hydrology present?
Wetland Hydeliand Hydeliand Hydeliand Hydeliand High Water Mark Mark Mark Mark Mark Mark Mark Mar	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B2) arks (B3) tor Crust (B4) arks (B5) ar Visible on Aeria Vegetated Concatained Leaves (B9) ar present? are present?	of one is I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of Other (E X X	Fauna (Buatic Plarn Sulfide I Rhizospe of Reduck Surfacer Well Daxplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches):	S D D C S C C S C C S C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) recomorphic Position (D2) AC-Neutral Test (D5) Indicators of wetland hydrology present?
Wetland Hydesin Primary Indices of Surface of High Was Saturation Water March	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B2) arks (B3) tor Crust (B4) arks (B5) ar Visible on Aeria Vegetated Concatained Leaves (B9) ar present? are present?	of one is I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of Other (E X X	Fauna (Buatic Plarn Sulfide I Rhizospe of Reduck Surfacer Well Daxplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches):	S D D C S C C S C C S C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) recomorphic Position (D2) AC-Neutral Test (D5) Indicators of wetland hydrology present?
Primary Indic Surface N High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatio Sparsely Water-St Field Observ Surface water Vater table p Saturation pr Includes cap Describe rec	drology Indicated cators (minimum Water (A1) ter Table (A2) on (A3) arks (B1) arks (B2) arks (B3) tor Crust (B4) arks (B5) on Visible on Aeria Vegetated Concatained Leaves (B9) ar present? are present?	of one is I Imagery ve Surface) Yes Yes Yes	(B7) ce (B8) No No No	Aquatic True Aqu Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mud Gauge of Other (E X X	Fauna (Buatic Plarn Sulfide I Rhizospe of Reduck Surfacer Well Daxplain in Depth (i Depth (i	nts (B14) Odor (C1 heres on uced Iron ction in T e (C7) ata (D9) Remarks nches): nches):	S D D C S C C S C C S C C	urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) recomorphic Position (D2) AC-Neutral Test (D5) Indicators of wetland hydrology present?

Project/Site Plymouth Creek	City/	County: F	Plymouth/Her	nnepin	Sampling Date:	6/21/19
Applicant/Owner: Chris Fleck		State:	Minnes		Sampling Point:	4-UP
Investigator(s): ACM			on, Townshij		_	118N, R22W
Landform (hillslope, terrace, etc.): slo	ре		elief (concav	-		linear
Slope (%): 7 Lat:		Long:	,		Datum:	
Soil Map Unit Name Hamel, overwash-Hamel			4WI	Classificati	on:	
Are climatic/hydrologic conditions of the site typical fo	r this time o	of the year?			in in remarks)	
	ogy	•	y disturbed?	•	Are "normal circur	netanooo"
Are vegetation , soil , or hydrol			oblematic?	ı	Ale normal circui	present? Yes
SUMMARY OF FINDINGS				(If neede	ed. explain any an	swers in remarks.)
Hydrophytic vegetation present? Y					,,	
Hydric soil present?	-	Is the s	ampled area	a within a	wetland?	N
Indicators of wetland hydrology present?	-:		tional wetlar		_	
	•		Tional Troud	id ollo ib.		
Remarks: (Explain alternative procedures here or in a	separate re	eport.)				
Antecedent precipitation data	indicate	wetter than	normal co	nditions.	See Appendix A	Α.
VEGETATION Use scientific names of plan	t <u>s.</u>	×				
7-0-1	Absolute	Dominan	Indicator	Domina	nce Test Worksh	eet
Tree Stratum (Plot size: 30' radius)	% Cover	t Species	Staus		of Dominant Specie	
1 Acer negundo 2 Salix nigra		- Y	FAC		DBL, FACW, or FAC	``
3 Populus deltoides	5	- Y	FAC		Number of Domina les Across all Strat	
4						`
5			•		of Dominant Specie DBL, FACW, or FA	
-	40	= Total Cove	r	linat are c	552,17.011,0117	O(A/B)
Sapling/Shrub stratum (Plot size: 15' radius				Prevale	nce Index Works	heet
1 Rhamnus cathartica	15	Υ	FAC		Cover of:	
2				OBL spe	ecies 10 x	1 = 10
3				FACW s		2 = 14
4				FAC spe		3 = 195
5				FACU s		4 = 40
Harb stratum (Diet size, 51 andius	15	= Total Cove	r	UPL spe		5 = 0
Herb stratum (Plot size: 5' radius)	221	65		Column		A) <u>259</u> (B)
1 Rhamnus cathartica	20	- Y	FAC	Prevaler	nce Index = B/A =	2.82
2 Parthenocissus quinquefolia 3 Impatiens capensis		- Y N	FACU	Mandagas		
4			FACW		hytic Vegetation oid test for hydroph	
5	-				ninance test is >5(
6					valence index is ≤	
7		10.		· — ·	phogical adaptation	
8	-				porting data in Re	
9					arate sheet)	
10				Prol	blematic hydrophy	tic vegetation*
	37	= Total Cove	r	(exp	olain)	
Woody vine stratum (Plot size: 30' radius) 1					ors of hydric soil and wo	vetland hydrology must be
2					Irophytic	
	0	= Total Cove	r	_	etation	
				pre	sent? Y	
Remarks: (Include photo numbers here or on a separa	ate sheet)					

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	e indicat	or or confirm the ab	sence of indicators.)
Depth	Matrix		Red	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR3/2	100					sandy loam	
6-24	10YR5/3	100					sandy loam	
							·	
				-				
*Type: C = 0	Concentration, D :	- Denleti	on RM = Reduce	ed Matrix	MS = N	Jasked S	and Grains **Lo	ocation: PL = Pore Lining, M = Matrix
	il Indicators:	Depica	OH, TAVI – TAGAGO	Ja Matily	, 1010 11	naskou o		Problematic Hydric Soils:
	tisol (A1)		Sar	dy Glev	ed Matrix	(S4)		ie Redox (A16) (LRR K, L, R)
	ic Epipedon (A2)			ndy Redo		((01)		ce (S7) (LRR K, L)
	ck Histic (A3)			-	atrix (S6)			nese Masses (F12) (LRR K, L, R)
	lrogen Sulfide (A	1)			ky Miner	al (F1)		w Dark Surface (TF12)
	atified Layers (A5	•			ed Matri			ain in remarks)
	n Muck (A10)	,			atrix (F3)			an m remarke,
	eleted Below Dark	Surface			Surface			
	ck Dark Surface (· · ·		ark Surfa		*Indicators of	f hydrophytic vegetation and weltand
	idy Mucky Minera	_			essions			nust be present, unless disturbed or
	n Mucky Peat or			ол Ворг	00010110	(1 0)	nydrology n	problematic
			<i>'</i>					
	Layer (if observe	ed):				1	Marabala a a 11 an	N N
Type:					-	1	Hydric soil p	resent? N
Depth (inche	es):							
HYDROLO	OGY							
Wetland Hy	drology Indicate	rs:						
Primary Indi	cators (minimum	of one is	required; check	all that a	(ylag		Seconda	ry Indicators (minimum of two required
	Water (A1)				Fauna (E	313)		rface Soil Cracks (B6)
	ter Table (A2)		40		uatic Plai			ainage Patterns (B10)
— Saturatio	on (A3)			Hydroge	en Sulfide	Odor (C		y-Season Water Table (C2)
- 7	arks (B1)			Oxidized	d Rhizosp	heres on	Living Roots Cra	ayfish Burrows (C8)
Sedimer	t Deposits (B2)			(C3)				turation Visible on Aerial Imagery (C9)
	osits (B3)					uced Iron	· · · —	unted or Stressed Plants (D1)
	t or Crust (B4)				Iron Redu	uction in T		omorphic Position (D2)
	osits (B5)		(5-1)	(C6)		(07)	FA	C-Neutral Test (D5)
-	on Visible on Aeria				ick Surfac			
	Vegetated Conca		ce (B8)	_	or Well D		,	
	tained Leaves (B9)		Other (E	explain in	Remarks)	
Field Obser		.,		V	D #1 /	l		
Surface wate		Yes	No No	X	Depth (,	- >24	Indicators of wetland
Water table		Yes	No No	X		inches): inches):	>24	hydrology present?
Saturation p	pillary fringe)	Yes	No		- Debiii (inches).		mydrology present:
			n manufacture II	nord-1	hotos =	rovious !	nspections), if availat	ale:
Describe red	orded data (strea	ım gauge	e, monitoring wei	, aenar p	motos, p	revious ii	ispections), it availat	oie.
Remarks:		_						

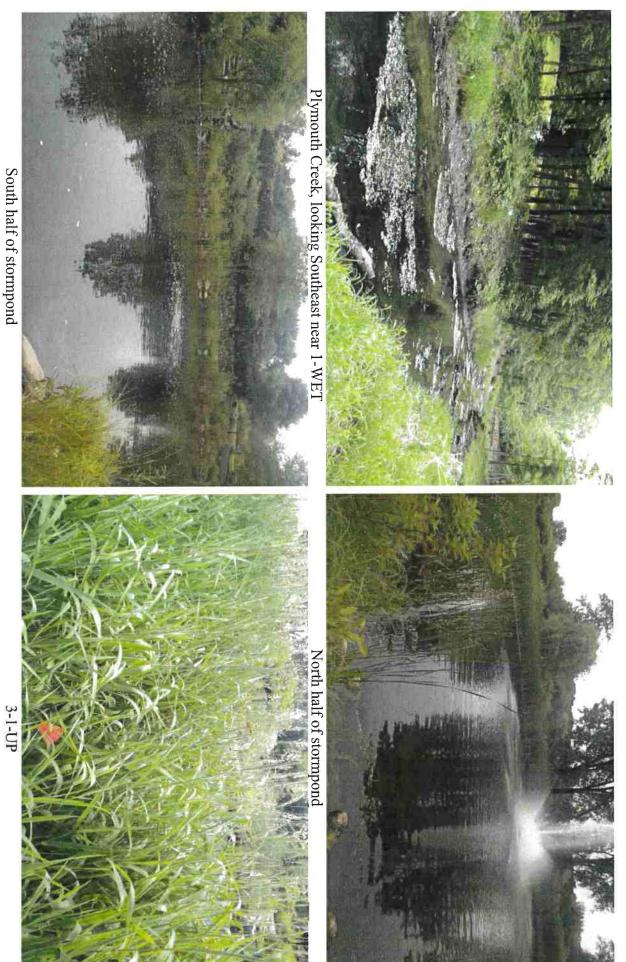
Project/Site Plymouth Creek	City/County:	Plymouth/Hei	nnepin Sampling Date:	6/21/19
Applicant/Owner: Chris Fleck	Sta	ate: Minnes	sota Sampling Point:	4-WET
Investigator(s): ACM	· ·	Section, Townshi	p, Range: Sec. 21	, T118N, R22W
Landform (hillslope, terrace, etc.): toeslope	Lo	ocal relief (concav	ve, convex, none):	concave
Slope (%): 2 Lat:	Long:		Datum:	
Soil Map Unit Name Hamel, overwash-Hamel			Classification:	PEM1C
Are climatic/hydrologic conditions of the site typical for this	s time of the yea	ar? N (If no, explain in remarks)	
Are vegetation , soil , or hydrology		cantly disturbed?	Are "normal circ	umatanaca"
Are vegetation , soil , or hydrology		illy problematic?	Are normal circ	present? Yes
SUMMARY OF FINDINGS		7 ((If needed, explain any a	
Hydrophytic vegetation present?			(are remained.
Hydric soil present?	ls i	the sampled are	a within a wetland?	Y
Indicators of wetland hydrology present?		es, optional wetlar		
		o, optional wetta	id site ib.	
Remarks: (Explain alternative procedures here or in a sep	arate report.)			
Antecedent precipitation data inc	licate wetter t	than normal co	nditions See Appendix	. Δ
		and normal oc	mangono. Goo / tpponal/	
VEGETATION Use scientific names of plants.				
	solute Domin		Dominance Test Works	sheet
	Cover t Spec		Number of Dominant Spe	
1 Salix nigra	5 Y	OBL	that are OBL, FACW, or F	
3			Total Number of Domir	
4			Species Across all Str	0.
5		10	Percent of Dominant Spe that are OBL, FACW, or F	
	5 = Total (Cover		(, (,)
Sapling/Shrub stratum (Plot size: 15' radius)	•		Prevalence Index Work	sheet
1 Cornus racemosa	10 Y	FAC	Total % Cover of:	
2 Lonicera tatarica	7 Y	FACU	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	x 1 = 20
3 Frangula alnus	3 N	FACW		x 2 = 126
4				x 3 = 90
5	20 = Total (Caver		x 4 =36
Herb stratum (Plot size: 5' radius)		Cover		x = 0 (A) 272 (B)
1 Phalaris arundinacea	30 Y	EAC)A/	10210	· S
2 Cornus racemosa	30 Y 20 Y	FACW_FAC	Prevalence Index = B/A	=2.23
3 Impatiens capensis	20 Y	FACW	Hydrophytic Vegetatio	n Indicators:
4 Typha angustifolia	15 N	OBL	Rapid test for hydro	
5 Vitis riparia	5 N	FACW	X Dominance test is >	
6 Cirsium arvense	2 N	FACU	X Prevalence index is	≤3.0*
7			Morphogical adapta	tions* (provide
8			supporting data in R	Remarks or on a
9			separate sheet)	
10	00 7 ()		Problematic hydropl	hytic vegetation*
Woody vine stratum (Diet size) 20' radius	92 = Total (Cover	(explain)	
Woody vine stratum (Plot size: 30' radius)	<i>5</i> V	EA 014/		wetland hydrology must be
1 Vitis riparia 2	5 Y	FACW_	Hydrophytic	urbed or problematic
	5 = Total (Cover	vegetation	
	o - rotal	00101		Υ
Remarks: (include photo numbers here or on a separate s	heet)			
	,			

4-WET

Profile Des	cription: (Descr	ibe to th	e depth needed	to docu	ment the	indicate	or or confirm the abser	nce of indicators.)
Depth	Matrix		Re	dox Feat	ures			
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
0-5	10YR3/2	100					silty loam	
5-12	10YR5/2	98	7.5YR4/4	2	С	PL	silty clay loam	
12-24	10YR5/2	80	7.5YR4/4	20	С	PL	sandy clay loam	
12-27	10111072		7.011(11)				Sarray Stay 15 att	
						-		
						_		
*Type: C = 0	Concentration, D	= Depleti	on, RM = Reduce	ed Matrix	, MS = N	lasked S	and Grains. **Locat	ion: PL = Pore Lining, M = Matrix
	il Indicators:							olematic Hydric Soils:
_	isol (A1)		Sar	ndy Gleye	ed Matrix	(S4)	Coast Prairie R	edox (A16) (LRR K, L, R)
	ic Epipedon (A2)			ndy Redo		,	Dark Surface (S	67) (LRR K, L)
	ck Histic (A3)			pped Ma			Iron-Manganes	e Masses (F12) (LRR K, L, R)
	lrogen Sulfide (A4	4)			ky Minera	al (F1)	Very Shallow D	ark Surface (TF12)
	atified Layers (A5	*		-	ed Matrix		Other (explain i	n remarks)
	m Muck (A10)	•			atrix (F3)			·
	leted Below Dark	Surface			Surface			
	k Dark Surface (oleted Da	rk Surfa	ce (F7)	*Indicators of hyd	drophytic vegetation and weltand
	dy Mucky Minera		— Red	dox Depre	essions ((F8)		be present, unless disturbed or
	n Mucky Peat or							problematic
Postrictivo	Layer (if observe	od):						
Type:	Layer (II observe	eu).					Hydric soil prese	ent? Y
Depth (inche	26).				ğ		riyano son prose	
Remarks:	.5).				•			
HYDROL	OGY							
Wetland Hy	drology Indicate	rs:						
Primary Indi	cators (minimum	of one is	required; check	all that a	pply)		Secondary Ir	ndicators (minimum of two required
Surface	Water (A1)			Aquatic	Fauna (B	13)	Surface	e Soil Cracks (B6)
	ter Table (A2)			True Aq	uatic Plar	nts (B14)		ge Patterns (B10)
X Saturation	on (A3)			Hydroge	n Sulfide	Odor (C*	1) — Dry-Se	ason Water Table (C2)
Water M	arks (B1)			Oxidized	Rhizosp	heres on		h Burrows (C8)
	t Deposits (B2)			(C3)				tion Visible on Aerial Imagery (C9)
	osits (B3)			-		uced Iron		d or Stressed Plants (D1)
	t or Crust (B4)				ron Redu	iction in T		orphic Position (D2)
	osits (B5)		(5-2)	(C6)		(07)	X FAC-N	eutral Test (D5)
	on Visible on Aeria			_	ck Surfac			
	Vegetated Conca		ce (B8)		or Well Da	,	1	
	tained Leaves (B9)		Other (E	хріані ін	Remarks)	
Field Obser					D 4 0			
Surface water		Yes	No No	X	Depth (i		- 10	adioatora of watland
Water table		Yes	X No		Depth (i			ndicators of wetland hydrology present?
Saturation p	oillary fringe)	Yes	X No		Depth (i	nches).		hydrology present?Y
			'4		t			
Describe rec	orded data (strea	ım gaug	e, monitoring wei	, aenai p	notos, pi	revious ir	nspections), if available:	
Remarks:	··							
Notifial No.								

Appendix C











Project Name and/or Number: 2019-177

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: Chris Fleck, Plymouth Creek Center Manager Mailing Address: 14800 34th Avenue North, Plymouth, Minnesota 55447

Phone: 763-509-5281

E-mail Address: cfleck@plymouthmn.gov

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

Mailing Address:

Phone:

E-mail Address:

Agent Name: Wayne Jacobson

Mailing Address: 5821 Humboldt Avenue North, Brooklyn Center, Minnesota 55430

Phone: (612)802-6619

E-mail Address: jacobsonenv@msn.com

PART TWO: Site Location Information

County: Hennepin

City/Township: Plymouth

Parcel ID and/or Address: 14800 34th Ave N, Plymouth, MN 55447 Legal Description (Section, Township, Range): Sec. 21, T118N, R22W

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): 26 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/Regulatory/Docs/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.

Project Name and/or Number: 2019-177

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	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)".

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 <u>pre-application</u> 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: 6/28/19

I hereby authorize Jacobson 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.

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.

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).

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".

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

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

Project Name and/or Number: 2019-177

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 LGL 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