



Memorandum

To: Bassett Creek Watershed Management Commission (BCWMC)
From: Barr Engineering Co. (Barr)
Subject: Item 4H: Peninsula Road Street and Utility Improvements – Medicine Lake, MN
BCWMC March 17, 2022 Meeting Agenda
Date: March 9, 2022
Project: 23270051 2022 2276

4H Peninsula Road Street and Utility Improvements – Medicine Lake, MN BCWMC 2021-36

Summary:

Project Proposer: City of Medicine Lake

Proposed Work: Street reconstruction, including roadway, driveway, and water mains

Basis for Review at Commission Meeting: Linear project with more than five acres of disturbance, fill in the floodplain

Impervious Surface Area: Decrease approximately 0.14 acres

Project Schedule: July 2022 Construction

Recommendation: Conditional Approval

General Project Information

The proposed linear project is in the City of Medicine Lake along Peninsula Road, Kaiser Avenue, Colonial Circle, South Shore Drive, and 15th Avenue North within the Medicine Lake direct subwatershed and Bassett Creek Main Stem subwatershed. The proposed linear project includes reconstruction of City of Medicine Lake streets and utility improvements, resulting in 7.11 acres of grading (disturbance). The proposed linear project creates 4.96 acres of fully reconstructed impervious surfaces and a decrease of 0.14 acres of impervious surfaces, from 5.10 acres (existing) to 4.96 acres (proposed).

The initial submittal was received on January 12, 2022. The BCWMC engineer reviewed the submittal and provided comments to the City on February 4, 2022. The applicant addressed the comments and submitted revised plans and documentation for review on February 25, 2022.

Floodplain

The proposed project includes work in the BCWMC (Medicine Lake) 1% annual-chance (base flood elevation, 100-year) floodplain. The February 2021 BCWMC Requirements for Improvements and Development Proposals (Requirements) document states that projects within the floodplain must maintain no net loss in floodplain storage and no increase in flood level at any point along the trunk system (managed to at least a precision of 0.00 feet). The 1% annual-chance (base flood elevation, 100-year) floodplain elevation of Medicine Lake is 890.4 feet NAVD88. The proposed project will result in 71

cubic yards of floodplain fill and 87 cubic yards of compensating storage, resulting in a net gain of 16 cubic yards of floodplain storage.

Wetlands

The BCWMC is the local government unit (LGU) responsible for administering the Wetland Conservation Act (WCA) in the City of Medicine Lake. There are nine wetlands adjacent to the proposed project. The applicant is in the process of working towards a wetland permit and has a tentative field delineation scheduled for this spring. Permit documentation and field delineation will be submitted to the BCWMC Engineer for review at a later date.

The BCWMC Engineer will also review the wetland impacts for the CenterPoint gas main project that will take place in the same project area.

Rate Control

The proposed linear project does not create one or more acres of net new impervious surfaces; therefore, BCWMC rate control review is not required.

Water Quality

The proposed linear project does not create one or more acres of net new impervious surfaces; therefore, BCWMC water quality review is not required. The applicant investigated potential water quality treatment projects and found them not to be feasible for this project. The applicant notes that the city council has been in communication with multiple residents regarding installing a BMP later, separate from this project. Following is a list of water quality treatment practices considered:

- The proposed project area does not have curbs, gutters, or manholes, which limits the use of sumps or manhole treatment devices.
- The applicant determined infiltration practices are not feasible in most locations due to high groundwater. The seasonally high groundwater for the project location is 889 feet NAVD88. For infiltration practices, the Minnesota Stormwater Manual requires 3 feet of separation from the bottom of the infiltration basin to the top of the seasonally high groundwater. To construct a 1-foot-deep infiltration basin would require a basin bottom elevation of 893 feet. The applicant submitted the attached Figure 1 to demonstrate most of the land in the proposed project area is below 893 feet, and therefore cannot be used as a location for a 1-foot-deep infiltration practice.
- The applicant determined that the inclusion of alternative stormwater treatment BMPs, such as manufactured treatment devices, was not feasible due to a limited right-of-way.
- The applicant reviewed altering the grading and bituminous surface east of Jevne Park, as suggested in the 2019 Jevne Park Feasibility Study. Altering the grading east of Jevne Park could result in more treatment of runoff before discharging to Medicine Lake. The applicant determined that there are constructability issues with this approach that are not compatible with the final design.

Erosion and Sediment Control

The proposed linear project results in one or more acres of land disturbance; therefore, the proposed project must meet the BCWMC erosion and sediment control requirements. Proposed temporary erosion

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and sediment control features include rock construction entrances, silt fence, and sediment control logs. Permanent erosion and sediment control features include riprap and stabilization by seeding and mulching.

Recommendation

We recommend that the Commission conditionally approve the project plans as submitted on February 25, 2022. Conditional approval is based on the following comment:

- Field delineation of wetlands and all required Wetland Conservation Act documents must be completed prior to the start of construction.



Project Location

Medicine Lake

Medicine Lake Dr W

12th Ave

Kaiser Ave

Colonial Cir






Cleveland Ave

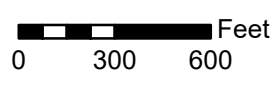
15th Ave

Peninsula Rd

South Shore Dr

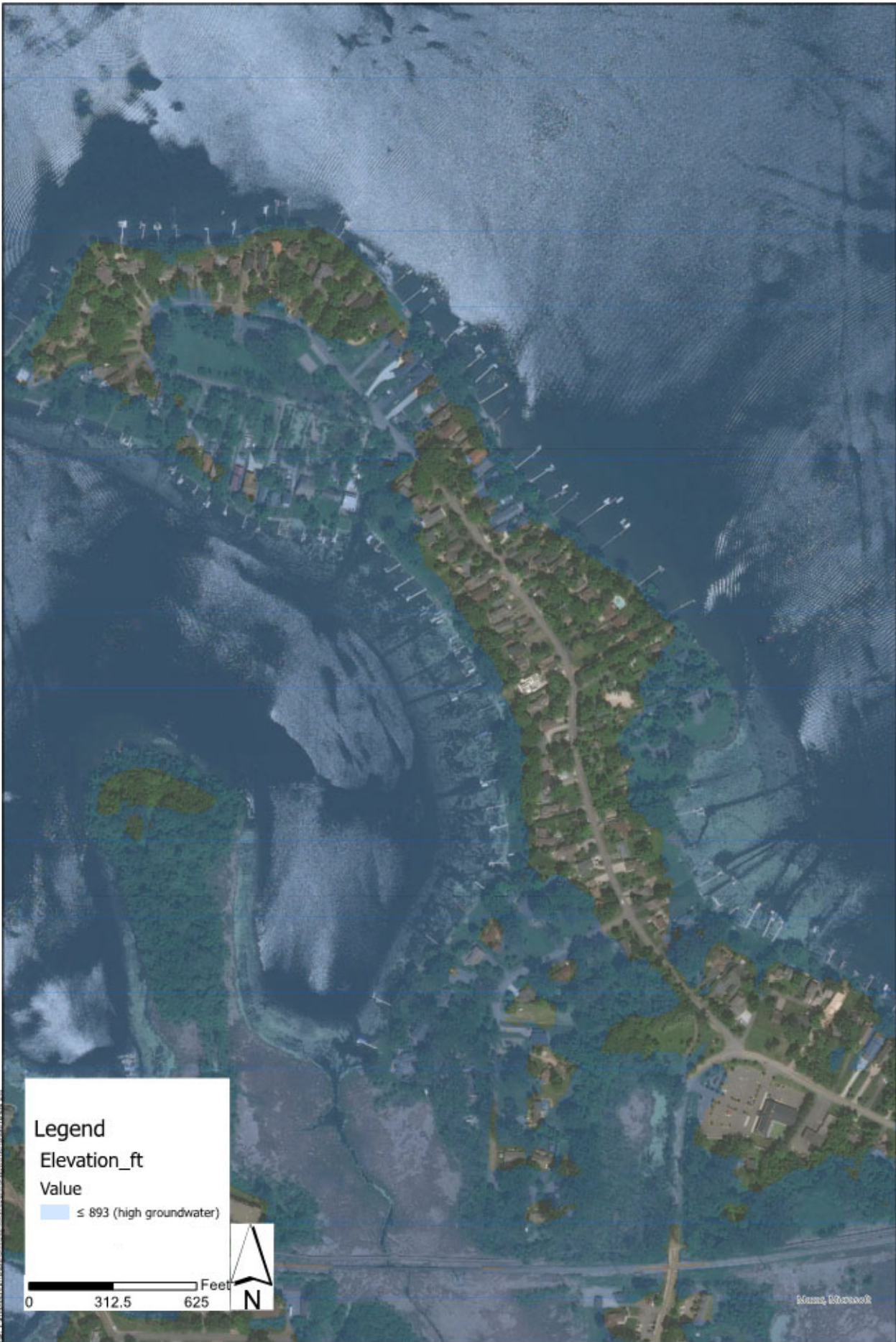
Plymouth

-  Project Location
-  Municipality
-  BCWMC Legal Boundary
-  Major Subwatershed
-  BCWMC Hydrologic Boundary

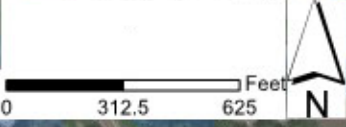


BCWMC #2021-36
 PENINSULA ROAD STREET
 & UTILITY IMPROVEMENTS
 Medicine Lake, MN

LOCATION MAP



Legend
 Elevation_ft
 Value
 ≤ 893 (high groundwater)



	9535 VADNAIS CENTER DR ST. PAUL, MN 55110 PHONE: (651) 455-2300 FAX: (651) 938-8160 TOLL FREE: (800) 325-2055 www.sehinc.com
	Project: MEDLK 160464 Print Date: 2/22/2022 Map by: rlynn Project/Draw: 02/22/2022

High Groundwater Areas
 Peninsula Rd.
 Medicine Lake, MN

Figure
 1

This data is neither a legally recorded map of a survey nor intended to be used as one. This map is a compilation of aerial, satellite, and other geospatial data sources used on this map and is to be used for information purposes only. SEH does not warrant the accuracy of the information shown on this map and does not accept any liability for any damages which arise out of the use of this product. The use of this map acknowledges that SEH shall not be liable for any damages which arise out of the use of this product.