



Memorandum

To: Bassett Creek Watershed Management Commission (BCWMC)
From: Barr Engineering Co. (Gabby Campagnola, Jim Herbert, P.E.)
Subject: Item 4D: Medicine Lake Lift Station Floodplain Mitigation – Medicine Lake, MN
BCWMC November 15, 2023, Meeting Agenda
Date: November 9, 2023
Project: 23270051 2023 2329

4D Medicine Lake Lift Station Floodplain Mitigation – Medicine Lake, MN BCWMC 2023-22

Summary:

Project Proposer: City of Medicine Lake

Proposed Work: Excavation, grading, and drainage improvements

Basis for Review at Commission Meeting: Proposed plan to fulfill requirements of a previously approved temporary variance request, work in the floodplain

Impervious Surface Area: No change

Project Construction Schedule: December 2023

Recommendation: Conditional approval

General Project Information

The City of Medicine Lake reconstructed a sanitary lift station on Kaiser Avenue that resulted in 81 cubic yards of fill below the Medicine Lake 100-year floodplain. The city initially intended to construct the lift station and provide compensatory storage as part of the BCWMC #2021-36 Peninsula Road Street and Utility Improvements project that the BCWMC reviewed and approved at the March 18, 2022 meeting, but the street project was delayed. According to the City, the sanitary lift station improvements were separated from the street project and the schedule was accelerated due to the poor condition of the existing lift station and concerns about failure. Therefore, the city completed the lift station reconstruction project during the summer of 2022 with no compensatory storage.

At the November 16, 2022, BCWMC meeting, the City of Medicine Lake requested “after-construction” approval of the lift station rehabilitation project (BCWMC #2022-17) and a temporary variance to BCWMC Rule 4.8 (Policy 38), which requires “that projects within the floodplain maintain no net loss in floodplain storage and no increase in flood level at any point along the trunk system.” The BCWMC conditionally approved the project and a temporary variance for floodplain fill without compensatory storage, valid until December 31, 2024. The floodplain mitigation project includes excavation of a series of ditches in Jevne Park to improve drainage and provide compensatory floodplain storage in the 100-year floodplain, as required by the temporary variance (see attached grading plan showing the ditches).

Floodplain

The project includes work in the BCWMC (Medicine Lake) 1% annual-chance (base flood elevation, 100-year) floodplain. The January 2023 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 lift station rehabilitation project resulted in 81 cubic yards of net fill below the 100-year floodplain. The proposed work in Jevne Park will provide a net gain of 67 cubic yards of floodplain storage, but 14 cubic yards short of the required 81 cubic yards of compensatory storage. The city will provide the remainder of the compensatory storage as part of the Peninsula Road Street and Utility Improvements project (BCWMC #2021-36), which the city expects to begin in April/May of 2024. Table 1 provides a summary of the compensatory storage by project and timeline for the three projects.

Table 1: Proposed Compensatory Storage and Timeline

Project	Floodplain Fill (cubic yards)	Compensatory Storage Provided (cubic yards)	Net Floodplain Impact	Completion Timeline
Medicine Lake Lift Station Rehabilitation (BCWMC #2022-17)	85	4	81 CY fill	Summer 2022
Medicine Lake Lift Station Floodplain Mitigation (BCWMC #2023-22)	2	69	67 CY cut	December 2023
Peninsula Road Street and Utility Improvements (BCWMC #2021-36)	22	38	16 CY cut	November 2024 ¹
TOTAL	109	111	2 CY cut	-

¹In the case of unforeseen circumstances and the street project is extended until 2025, the volume reduction work of the utility project will be completed to ensure compensatory storage is provided by December 31, 2024

The combination of the 3 projects (lift station rehabilitation, lift station floodplain mitigation, and street project) will result in a net increase of 2 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 is one wetland at the floodplain mitigation project site that will be temporarily impacted due to equipment access. The applicant has submitted a wetland permit application that is under review by Barr on behalf of the LGU.

Rate Control

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

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Water Quality

The floodplain mitigation project does not create one or more acres of net new impervious surfaces; therefore, BCWMC water quality review is not required.

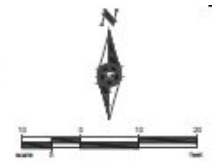
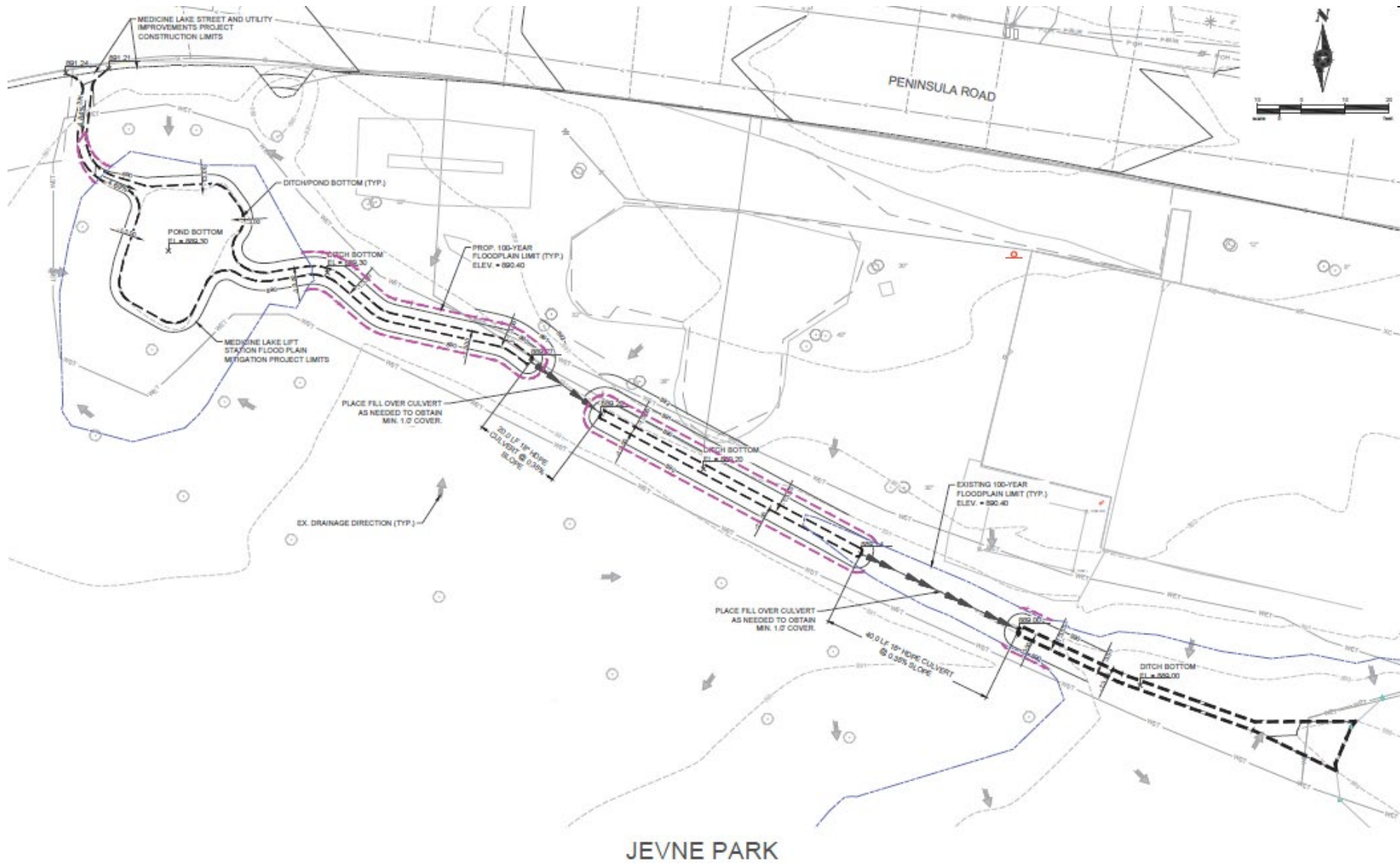
Erosion and Sediment Control

Although an erosion and sediment control plan was prepared, the floodplain mitigation project does not result in more than 10,000 square feet of land disturbance or 200 cubic yards of cut and fill; therefore, BCWMC erosion and sediment control plan review is not required.

Recommendation

Conditional approval based on the following comment:







- Final WCA documents must be approved by Barr on behalf of the LGU prior to the start of construction.

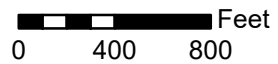


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Project Location

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



BCWMC 2023-22
 MEDICINE LAKE LIFT STATION
 FLOODPLAIN MITIGATION
 Medicine Lake, MN

LOCATION MAP