

Memorandum

To: Bassett Creek Watershed Management Commission (BCWMC)
From: Barr Engineering Co. (Patrick Brockamp, P.E., Stephanie Johnson, Ph.D., P.E.)
Subject: Item 5D– Consider Approval of Revision to Scope and Budget for Phase II Lagoon Dredging CIP Project (BC-7) Feasibility Study
BCWMC March 19, 2026 Meeting Agenda
Date: March 12, 2026

5D. Consider Approval of Revision to Scope and Budget for Phase II Lagoon Dredging CIP Project (BC-7) Feasibility Study

Recommendations:

1. Consider amending the August 14, 2025 engineering services scope to include the development of a wetland restoration concept for Lagoon G as part of the Phase II Lagoon Dredging CIP Project feasibility study and to increase the approved study budget by \$20,000 to \$106,100.

Background

At their August 2025 meeting, the Commission approved a scope of work and \$86,100 budget for the Commission Engineer to develop a CIP project feasibility study for Phase II of the Main Stem Lagoon Dredging Project, Wirth Park (2027, CIP Project BC-7). The approved scope of work includes the evaluation of performing additional dredging within the Theodore Wirth Park lagoons, based on recommendations from the BCWMC TAC following completion of an initial phase of lagoon dredging over the winter of 2022/2023 and direction provided to the Commission Engineer by the Commission at their October 2023 meeting. The feasibility study will evaluate concepts for performing additional dredging within Lagoons D, E, and F and the dredging of Lagoon G.

Since August 2025, the BCWMC has received input from project stakeholders related to the Lagoon Dredging project, including a request for the Commission to consider the potential benefits of restoring existing wetland areas within Lagoon G as part of the project feasibility study. Although Lagoon G was constructed as an open water lagoon in the 1930's, the lagoon has largely filled in, creating a wetland fringe with the stream having reclaimed a channel through the area (Figure 1). The BCWMC, MPRB, and City of Golden Valley hosted a public stakeholder meeting on the Phase II Lagoon Dredging Project on February 19, 2026. Feedback received from the public during that meeting indicated an interest in understanding what the potential might be for wetland restoration within Lagoon G, the likelihood that a restoration in this area could be successful over the long-term, and the potential ecological benefits that wetland restoration would bring as opposed to dredging. As a result of this feedback, the project partners have requested that the development of a wetland restoration concept for Lagoon G be included as a part of the Phase II Lagoon Dredging CIP Project feasibility study.

Figure 1: Lagoon G (relative wetland areas shaded in green)



The remainder of this memo describes the scope and budget for the development of a wetland restoration concept for Lagoon G as part of the feasibility study, including the estimation of ecological benefits associated with a restoration.

Task 1 – Desktop review & stakeholder coordination

Barr will conduct a desktop analysis of current conditions within the Lagoon G area and review existing information and data already collected as part of the Phase II Lagoon Dredging Project feasibility study related to hydrology, soils, plant communities, adjacent land uses, community, public and landowner input, and regulatory considerations. Barr will also review BCWMC goals related to assessing the ecological benefits of wetland restoration. Barr will reach out to MPRB staff associated with Theodore Wirth Golf Course to discuss the restoration concept, receive input, and determine the allowable restoration limits to inform concept design. Barr will also selectively reach out to permitting agency staff with questions related to regulatory requirements associated with a restoration, if needed.

Task 2 – Site Visit & Wetland / Habitat Assessment

Barr will conduct a site visit and evaluate existing site conditions early in the growing season (May 2026) to further assess quality of the existing wetland and habitat in and around Lagoon G. This scope includes two assessment methods as follows:

1. Wetland Functional Assessment (MN – WI Wetland Rapid Assessment Method and Floristic Quality Assessment (FQA)) – This assessment evaluates wetland water quality, hydrologic, ecological, climate, and anthropogenic functional groups and ranks the wetland's effectiveness to perform and maintain functions. Each metric associated with a function is used to determine a functional ranking of lower, moderate, or higher. This assessment can provide information to determine which functions a particular wetland restoration project will enhance or improve.
2. Habitat Equivalency Analysis (HEA) - is a method developed by the National Oceanographic and Atmospheric Administration (NOAA) that can be used to evaluate current ecological function,

typically at a contaminated site, and estimate future ecological function following the clean-up and/or restoration of the site. HEA is a flexible, adaptable approach to estimating environmental benefits. The mathematical model is straightforward and can be scaled to address the scope and complexity of the evaluation. The inputs of a HEA model include spatial extent, time, and percent ecological services of the site. The types of data that are used to characterize percent ecological service are wide ranging and depend on the site and project to be evaluated. Examples of relevant data are native vegetation cover, water quality monitoring data, extent of open water habitat, and quality of sediment (i.e., presence or absence of contamination, grain size, etc.).

Task 3 – Wetland Restoration Conceptual Plan

Using the BCWMC's goals and MPRB input from Task 1 as a foundation, Barr will develop a conceptual wetland restoration plan for Lagoon G. The plan will include proposed extents of restored and new wetland areas, proposed vegetation types/species to use for the restoration, and discussion of vegetation management needs. We will also consider the options for managing contaminated sediments within Lagoon G in conjunction with the wetland restoration concept (both full and partial removal of the contaminated sediments prior to wetland restoration).

The recommended conceptual wetland restoration plan will be supported by a summary of initial site analysis, design rationale, and a planning-level cost estimate. These materials will be incorporated into the overall feasibility study to provide clear recommendations on the steps needed to advance a restoration project to full design and construction.

Task 4 – Existing and Proposed Conditions Comparison

Barr will compare the data from the existing conditions assessments conducted in Task 2 with the wetland restoration concept developed in Task 3 to evaluate the proposed wetland functional and/or habitat improvements that could result from implementation of the wetland restoration concept. These assessments will include considering the effects for options of both partial and full removal of the contaminated sediment.

Deliverables

Barr will incorporate the recommended wetland restoration concept plan into the Bassett Creek Main Stem Lagoon Dredging Phase II Feasibility report.

Estimated Cost: The estimated cost for completing these tasks is: \$20,000

Recommendation: The Commission Engineer recommends amending the August 2025 engineering services scope to include the additional scope items described above and to increase the budget by \$20,000 to \$106,100 to include a wetland restoration concept as part of the Phase II Lagoon Dredging CIP Project feasibility study.