



Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Company
Subject: Item 5Ei – Order Feasibility Study for Bassett Creek Main Stem Restoration, Regent Ave to Golden Valley Rd
BCWMC August 18, 2022, Meeting
Date: August 10, 2022

Item 5Ei. Order Feasibility Study for Bassett Creek Main Stem Restoration, Regent Ave to Golden Valley Rd (2024 CR-M)

Recommendations:

1. Consider approving the scope of work and \$85,500 budget presented in this memorandum and direct the Engineer to complete the feasibility study for the restoration of the Bassett Creek Main Stem from Regent Ave to Golden Valley Rd (2024 CR-M), to be constructed in winter 2025-2026.
2. Direct the Engineer to consult with the U.S. Army Corps of Engineers (USACE) to determine whether the Resources Management Plan Pre-application Consultation Protocols may apply for this project.
3. Direct the Engineer to prepare a stream feasibility study that complies with the requirements of the USACE, MnDNR, and BCWMC criteria.

Background

The proposed Main Stem restoration project is in the Bassett Creek Watershed Management Commission's (BCWMC) current CIP (2024 CR-M) with a total budget of \$800,000. However, there is an opportunity to explore grants and partnerships between stakeholders further as part of this study. The project is located entirely within the City of Golden Valley and would address needed stabilization and restoration along approximately 7,000 feet of the Main Stem of Bassett Creek from Regent Ave to Golden Valley Rd (Figure 1). As outlined in the CIP, the project is scheduled to be constructed in winter 2024-2025. This reach is located on a combination of privately owned property and publicly owned properties, including portions of the creek on land owned by Golden Valley, and operated in partnership with Three Rivers Park (TRPD) through the Sochacki Park Joint Powers Agreement.

As is required for BCWMC CIP Projects, a feasibility study must be completed prior to BCWMC holding a hearing and ordering the project. The feasibility study would examine methods to stabilize and restore areas of erosion within this corridor.

The City of Golden Valley requested the project be completed in winter 2024-2025; the CIP project would address the issues identified during the City of Golden Valley's annual creek inventory, which identified significant erosion in this approximately 7,000-foot long reach of the creek. Continued erosion along the

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stream will result in increased sediment and pollutant loading downstream. Restoration and repair of the Main Stem in this area will reduce phosphorus loading, and the project is consistent with the goals (Section 4.1) and policies (Section 4.2.5) for stream restoration and protection in the 2015 – 2025 BCWMC Watershed Management Plan.

The BCWMC completed a Resource Management Plan (RMP) in 2009 through which the Corps of Engineers (USACE) and the BCWMC agreed on a series of steps, work items, deliverables (called “protocols”) that must be accomplished and submitted to complete the RMP process and USACE review/approval process. Although this reach of Bassett Creek was not included in the RMP, the USACE has allowed the RMP protocols to be applied to other projects not specifically included in the RMP. With the completion of the protocols, we expect the USACE application process to move more quickly than it would otherwise. Most of the protocols must be addressed as part of the feasibility study, in addition to the usual tasks that would be performed as part of a feasibility study under the criteria adopted by the BCWMC in October 2013. In general, the protocols require compliance with Section 106 of the National Historic Preservation Act, compliance with Section 404 of the Clean Water Act, and Clean Water Act Section 401 Water Quality Certification. Compliance with Section 106 typically requires a cultural resources inventory.

Content and Scope of Feasibility Study

The feasibility study will address and include the feasibility study criteria adopted by the BCWMC in October 2013:

- Analysis of multiple alternatives with the context of Commission objectives, including the following for each alternative:
 - Pros and cons analysis
 - Cost estimate for construction and a “30-year cost”
 - Analysis of life expectancy
 - Summary of each alternative for the Commission to judge its merits
 - Cost estimate for annualized cost per pound of pollutant removal
- Evaluation of new and/or innovative approaches
- Identification of permitting requirements

As noted earlier, most of the RMP protocols must be addressed as part of the feasibility study. In addition to the tasks above, the feasibility study will include the following items to meet the RMP pre-applications protocols:

- Review of cultural resources
- Identification of wetland impacts

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In addition to the RMP protocols and specific criteria adopted by the BCMWC, it is important to gather public input early and often in the process. The BCWMC Engineer will work with the BCWMC Administrator and staff from the City of Golden Valley and TRPD to identify the most-effective means to gather public input. Prior to completing the draft feasibility report, we will seek input from impacted landowners and users of adjacent public lands by discussing identified problems and the means under consideration to address the issues.

This feasibility study will address one 7,000-foot-long reach (Figure 1) from Regent Ave to Golden Valley Rd. This project will include bank stabilization measures and erosion repair methods. Consideration will be given to a variety of best management practices. Per BCWMC policy, the Commission will strive to utilize soft armoring techniques as much as possible and where feasible, including bio-logs, erosion control blanket, live stakes and fascines, slope shaping, and native vegetation buffers. However, we will also consider the value of existing trees and impacts of tree removal.

Below is a summary of the feasibility study work scope components for this project:

1) Project Meetings

- a) One (1) project kick-off meeting with BCWMC, Golden Valley and Three Rivers Park District (TRPD) staff.
- b) One (1) virtual meeting with BCWMC staff, Golden Valley staff, TRPD staff, Metropolitan Council Environmental Services (MCES), and agency staff (i.e., USACE, MnDNR, and MPCA), as needed, to discuss concept alternatives and review permit requirements for the project. A large MCES sanitary sewer gravity main runs through this area so we will need to consider potential impacts. This task will also include preparation of meeting minutes to confirm discussion results.
- c) Biweekly updates to the project team throughout the project to provide updates on work completed, upcoming work, and any outstanding data requests throughout the project.

2) Field Investigations

- a) Barr will review Golden Valley's annual erosion inventory data to help direct a site assessment. We will complete a site walk of the reach to evaluate the existing conditions of the reach; locate (via GPS) and identify potential project features and design approaches to address erosion, sedimentation, and/or obstruction concerns; and consider potential metrics for site prioritization. Barr will work with City staff to determine these prioritization metrics which could include (but are not limited to): severity of problem, access for construction, land ownership (public vs. private), protection of existing infrastructure (e.g., utilities, structures), visibility to public, potential for future erosion, opportunity for habitat restoration (in stream and/or riparian), exposure/potential exposure to sunlight for vegetation establishment. Following site visit, Barr will work with City staff on a site prioritization matrix to rank problem areas to focus the restoration concept

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development. We assume the City will send letters to all property owners notifying them in advance of the site visit.

- b) Desktop Wetland Assessment – Barr will perform a Level 1 desktop assessment for the project reach. A Level 1 review consists of reviewing soils, topography, National Wetland Inventory (NWI), and aerial photos to evaluate the potential presence of a wetland, identify its type, and/or estimate its approximate boundaries. We will complete the assessment for the project reach and within a 50-foot buffer on either side of the reach. Full wetland delineations as per the USACE 1987 Manual and regional supplements will need to occur during the project design phase (outside the scope of this project).
- c) Desktop environmental review – Barr will conduct a review of the Minnesota Pollution Control Agency's (MPCA) "What's in my Neighborhood?" database to assess the potential for prior contamination along the project reach. We will include a summary of this data review in the feasibility study. Considering historic land use in the project area is primarily residential and park, we assume we will not need to complete a Phase I environmental site assessment (ESA) for this project; however, should the desktop assessment suggest there is concern for contamination along the creek, a Phase I ESA could be completed as part of final design.
- d) Desktop topographic and utility location review – Barr will utilize the 2011 Minnesota Department of Natural Resources (MnDNR) LiDAR data for topographic information, in addition to any data collected during the site visit. We assume that Golden Valley staff will provide available utility data in GIS format. Full topographic and utility survey will need to occur during the project design phase (outside the scope of this project).
- e) Drone video and photos – Based on conversation with City staff, Barr will utilize an unmanned aircraft system (UAS) to collect video and photos of the project reach following leaf off to provide current detailed imagery of the reach that can also be used to help defined project components, visualize the concepts, and estimate quantities. Due to tree cover, we do not recommend use of the UAS to collect any topographic information. We assume city staff will send letters to all properties in advance of this UAS video and photo collection as well as notify city police prior to the effort as well.
- f) Tree location, diameter, species, and condition survey – Barr will also GPS survey all trees with a diameter of 4 inches or greater, recording the location, diameter, species, and condition (e.g. dead/live, shaggy/peeling/deeply furrowed bark) of the trees within a 40-ft buffer of the stream centerline. In addition to helping with estimated project costs for the various scenarios (if tree removal is required), the tree survey will help us evaluate if the trees within the project area could provide habitat for the northern long eared bat (endangered). We assume no tagging of trees will be required.

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- g) Desktop threatened and endangered species review – Barr will perform a desktop review of the available databases to assess the potential for adverse impacts to state and federally listed species.
- h) Desktop cultural resources review - In anticipation of future permitting for project development, Barr will request review of the existing database from the State Historic Preservation Office (SHPO) for information related to known historic and archaeological resources in the project vicinity and summarize any available information in the feasibility report. This work does not include a Phase I cultural resources review; if one is needed, it would be performed during final design.
- i) Project easements – The proposed project is located on a combination of private and public properties. For portions of the project on private property, permanent and/or temporary construction access easements would likely be required. We will identify any easement acquisition needs as part of the feasibility study; easement survey and acquisition will be completed during final design. We assume the City of Golden Valley can provide a GIS layer showing existing easement locations within the project area.

3) Evaluation and Concept Plans

- a) Develop concepts for the project, considering input from stakeholders. This includes developing two concepts for stream restoration, channel stabilization, and erosion repair, as well as exploring ways to improve in-stream habitat and improving public access to the creek where it runs through public property in Sochacki Park and other parkland. The concepts may include one alternative that focuses more on bioengineering (soft armoring) and another alternative that includes more hard armoring.
 - i) Analyze the alternatives for addressing identified issues within each reach.
 - ii) Develop draft concept plans for each alternative.
 - iii) Refine concept plans based on input from city, TRPD, and MCES staff and BCWMC.
- b) Use the most current BCWMC XP-SWMM model results to review flow information for the reach.
- c) Identify permitting requirements for the concepts, based on field and desktop data available, and the results of the agency meeting (see task 1b).
- d) Develop cost estimates for each concept, including a “30-year cost,” analysis of life expectancy, and annualized cost per pound of pollutant removal for water quality treatment portions of the project.
- e) Develop tree removal estimates for each concept, including removals needed to gain access to implement the concept as well as any estimated tree replacement.

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4) Public Engagement

- a) One (1) virtual meeting with residents along the project segment early on in the feasibility study (before concept development) to provide further background about the project and answer questions about the study. We assume BCWMC and City staff will coordinate this meeting, but Barr will attend and develop support materials.
- b) Coordinate with the BCWMC Administrator and City staff to determine the best means to gather public input, such as mailings, newspaper articles, open houses, etc. Primary group for public discussions will be the nearby residents, property owners and adjacent property owners, including TRPD park users for the creek segment passing through Sochacki Park. The budget for this task includes time to prepare for and attend one (1) public meeting early in the process, after the development of concept plans. Format of this meeting could be virtual or in-person. This task also includes assisting with the public involvement process as necessary – preparing handouts, boards, and/or presentations, and recording and compiling comments. We assume that meeting coordination, expenses, and set-up will be largely completed by the BCWMC Administrator, with assistance from the city.
- c) One (1) virtual meeting with representatives of the Dakota community regarding Bassett Creek (Haha Wakpadan), the significance of the creek in this area, and to learn if there are Native land or water care practices that could be incorporated into the work. We assume that meeting coordination, expenses, and set-up will be largely completed by the BCWMC Administrator, with assistance from the city, but Barr will attend and develop support materials.

5) Feasibility Report

- a) Draft report for review by City and BCWMC Administrator; revise report based upon review comments. We assume one set of comments will be provided by the City and BCWMC.
- b) Present draft feasibility study findings at BCWMC meeting.
- c) Prepare final report for approval at BCWMC meeting and use at future project hearing.
- d) Present final feasibility study findings at BCWMC meeting.

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Cost Estimates

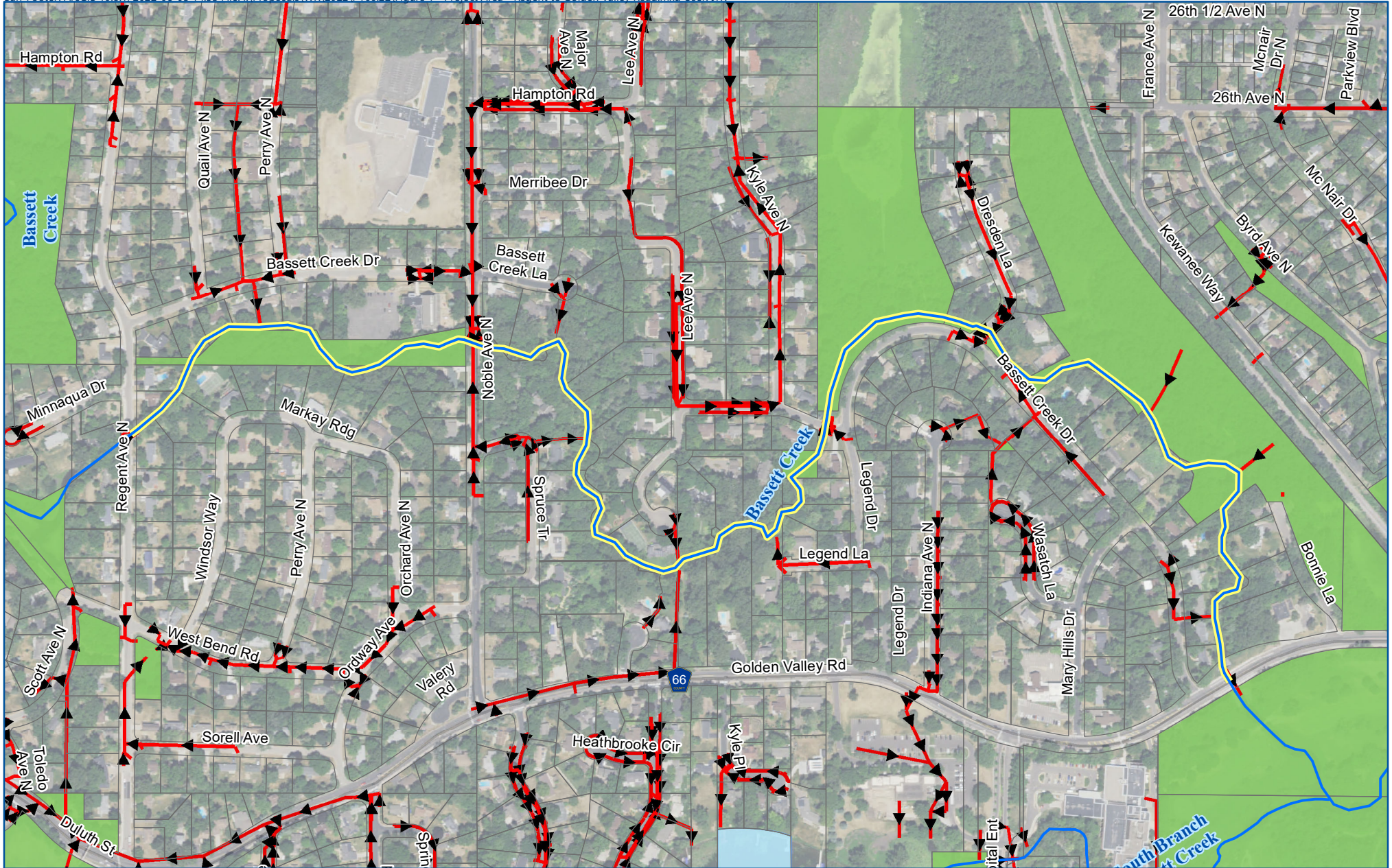
Our cost estimate for the scope of work outlined above is summarized in the table below.

| Tasks | Estimated Total |
|--|------------------------|
| 1) Project Meetings | \$ 8,500 |
| 2) Field Investigations | \$ 29,900 |
| 3) Evaluation and Concept Plans | \$ 19,600 |
| 4) Public Engagement | \$ 8,600 |
| 5) Feasibility Report | \$ 18,900 |
| Total | \$85,500 |

Schedule

We will complete the tasks and milestones outlined in the scope of work on the following schedule.

| Tasks and milestones | Estimated Schedule |
|---|-----------------------------|
| Kick-off meeting with BCWMC, City of Golden Valley, and TRPD staff | September 2022 |
| Site visit | September 2022 |
| Desktop topographic and utility review | Early September 2022 |
| Desktop wetland review | Early September 2022 |
| Resident engagement meeting | October 2022 |
| UAS photos/videos of Main Stem alignment | October/November 2022 |
| Desktop environmental review (“What’s in My Neighborhood?”) | September/October 2022 |
| Desktop review – threatened and endangered species, cultural resources | September/October 2022 |
| Meeting with BCWMC, city, and agency staff | October/November 2022 |
| Engagement meeting with Dakota Community | October/November 2022 |
| Develop concept alternatives and cost estimates | October 2022 – January 2023 |
| Public meeting | January/February 2023 |
| Submit draft feasibility report for city and BCWMC staff review | March 24, 2023 |
| City and BCWMC staff complete review | March 31, 2023 |
| Submit draft feasibility report for BCWMC review at Commission meeting | April 12, 2023 |
| BCWMC completes review at Commission meeting | April 20, 2023 |
| Submit final feasibility report for BCWMC review at Commission meeting | May 10, 2023 |
| Final feasibility report – BCWMC approval at Commission meeting | May 18, 2023 |



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|--|--|--------------|--|-------------------------|
| | | Creeks | | Parks and Natural Areas |
| | | Project Area | | Open Water |
| | | Parcels | | |
| | | Storm Pipe | | |

250 0 250
Feet

**BASSETT CREEK MAINSTEM
REGENT AVE TO
GOLDEN VALLEY RD
PROJECT AREA**

FIGURE 1