



Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 6Di – Consider Approval of Proposal to Prepare Feasibility Study for the Medicine Lake Road and Winnetka Avenue Area Long Term Flood Mitigation Plan Implementation Phase I: DeCola Ponds B & C Improvement Project (2019 CIP Project BC-2, BC-3 & BC-8)
BCWMC September 21, 2017 Meeting Agenda
Date: September 13, 2017

6Di. Consider Approval of Proposal to Prepare Feasibility Study for the Medicine Lake Road and Winnetka Avenue Area Long Term Flood Mitigation Plan Implementation Phase I: DeCola Ponds B & C Improvement Project (2019 CIP Project BC-2, BC-3 & BC-8)

Recommendations:

1. Consider approving the scope of work and \$86,000 budget presented in this memorandum and direct the Engineer to complete the feasibility study for the DeCola Ponds B & C Improvement Project (2019 CIP Project BC-2, BC-3 & BC-8), scheduled for construction in 2019 and 2020.
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 feasibility study that complies with the requirements of the USACE and BCWMC criteria.

Background

The Medicine Lake Road and Winnetka Avenue Area Long Term Flood Mitigation (MLRWA) Plan, completed in partnership by the Cities of Golden Valley, New Hope, and Crystal, identified multiple projects estimated at more than \$22M that are needed to help alleviate flooding at the low point on Medicine Lake Road (and adjacent properties) just east of Winnetka Avenue, and downstream at DeCola Ponds. The implementation of projects identified in the MLRWA Plan is included in the BCWMC's current CIP as BC-2, BC-3, BC-8, and BC-10 in Table 5-3, as amended in July 2017. The proposed DeCola Ponds B & C Improvement Project was identified as a priority in the MLRWA Plan and is proposed as "Phase I" of this CIP project to mitigate flooding and improve water quality in the Medicine Lake Road and DeCola Ponds area. It would encompass CIP projects BC-2, BC-3 & BC-8 for implementation in 2019-2020 at a BCWMC cost of \$1,600,000. CIP project BC-10 would be a second phase in implementing the MLRWA Plan in 2022-2023 at a cost of \$1,300,000 and is not a part of this proposal.

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The City of Golden Valley implemented the first MLRWA project, which included the development of flood storage and conveyance on the Liberty Crossing development site on the west side of Rhode Island Avenue. The BCWMC's BC-2, BC-3 & BC-8 project builds on the Liberty Crossing project and includes the DeCola Ponds B & C and Pennsylvania Woods project identified in the MLRWA Plan. In addition to expanding flood storage volumes in the Pennsylvania Woods and around DeCola Ponds B & C (all within the City of Golden Valley), there is an opportunity for the BC-2, BC-3 & BC-8 project to improve water quality treatment by expanding water quality treatment volumes. DeCola Ponds B & C are Minnesota Department of Natural Resources (MnDNR) public waters (27-0647P). Although minimal impact to DeCola Pond A is expected during this project, this pond is also a MnDNR public water (27-0630P). Figure 1 shows the location of the ponds.

The proposed project will develop flood storage volumes within the project area, develop additional water quality treatment volume, and remove accumulated sediment that has collected in the north end of DeCola Pond B. The project will alleviate local flooding around Medicine Lake Road, and downstream at DeCola Ponds A and D, and will improve water quality downstream by trapping sediment in the ponds and expanded storage, thus minimizing sediment passing downstream to Bassett Creek. The proposed project will also improve ecology and wildlife habitat, enhance active and passive recreation opportunities, and provide educational opportunities.

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 will develop conceptual designs of the flood mitigation and water quality improvement project, estimate the amount of accumulated material to be dredged from DeCola Pond B along with methods and disposal requirements, review the permitting requirements, and develop concept plans and cost estimates for the project.

This project is consistent with the goals (Section 4.1) and policies (Sections 4.2.1, 4.2.2, and 4.2.10) in the 2015 – 2025 BCWMC Watershed Management Plan.

The BCWMC completed a Resource Management Plan (RMP) in 2009 through which the 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 project 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 BCWMC feasibility study. 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.

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As part of the Liberty Crossing project, the City of Golden Valley performed wetland delineations, Phase 1 and Phase 2 environmental site assessments, bathymetric surveys and sediment sampling, and reviews of threatened and endangered species databases completed. We intend to utilize as much of this data as applicable and will build on it as needed for the feasibility study for this project.

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
 - Summarize 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

The BCWMC developed the above criteria when the BCWMC’s CIP was limited to water quality improvement projects, so they do not specifically address flood mitigation aspects of CIP projects.

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 identification of wetland impacts to meet the RMP pre-application protocols.

In addition to the RMP protocols and specific criteria adopted by the BCMWC, it is important to gather stakeholder input. The BCWMC Engineer will work with the BCWMC Administrator, and City of Golden Valley staff to identify the most-effective means to gather input from the public and other affected stakeholders.

Figure 1 shows the project area covered by this feasibility study. As previously mentioned, the City of Golden Valley completed some of the work for this project area as part of the earlier flood mitigation work on the Liberty Crossing development site. This included the following tasks:

- Wetland delineation (2015) of the Pennsylvania Woods and DeCola Pond B
- Phase 1 Environmental Site Assessment and Phase 2 investigations and Response Action Plan (RAP) (2015)
- Bathymetric survey and sediment characterization of DeCola Ponds A, B, and C (2015)
- Threatened and endangered species database review (2016)

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For this project, we anticipated utilizing and amending the above information and other information available from the Liberty Crossing project and amending these documents as appropriate, based on further investigations that will be required as outlined below.

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

1) Project Meetings

- a) Project kick-off meeting with BCWMC staff, commissioners, and Golden Valley and preparation of meeting notes. New Hope and Crystal staff will also be invited to attend.
- b) Meeting with BCWMC staff, Golden Valley, New Hope, and Crystal staff, USACE, MnDNR, and MPCA to discuss concept alternatives and review permit requirements for project, and prepare meeting minutes to confirm regulatory agencies' discussion results.

2) Field Investigations

- a) Bathymetric surveys & sediment sampling – We will utilize the pond bathymetric survey and sediment characterization memo completed in 2015 for the City of Golden Valley's flood mitigation project on the Liberty Crossing development site. This investigation followed the Minnesota Pollution Control Agency's (MPCA) "Managing Stormwater Sediment Best Management Practice Guidance" (June 2015); we will use the investigation results to estimate the amount of sediment removal, methods, disposal requirements, and costs. No additional work is anticipated.
- b) Additional environmental investigations – We will utilize the Phase II environmental investigations and Response Action Plan/Construction Contingency Plan (RAP/CCC) developed in 2015 for the City of Golden Valley's flood mitigation project on the Liberty Crossing development site, which also included a test trench on the Dover Hills Apartment property and three push probes in the wooded area between DeCola Ponds B and C. The Phase II investigation indicated that the wooded area north of DeCola Pond B is likely filled with debris, and that a leaking underground storage tank (LUST) is located on the Dover Hills Apartment property. In addition, some unexpected low-level contamination was encountered on the Dover Hills property during the construction in 2017. We recommend additional investigation in the Pennsylvania Woods area on the Dover Hills property to delineate the extent of debris/fill and assess whether contamination associated with fill or the LUST site is present in the soils north of DeCola Pond B. This scope includes three additional test trenches within the area to be excavated north of DeCola Pond B (outside the existing wetland boundary), with up to two soils samples per trench analyzed for PAHs, RCRA metals and DRO with silica gel cleanup, and up to two soil samples analyzed for VOCs and GRO, if elevated headspace readings are observed. Peat, if encountered, will be sampled and analyzed for arsenic, based on elevated arsenic concentrations identified in peat samples in the Liberty Crossing project area. The additional test trench investigation report will be

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letter format and will include trench logs, data tables comparing results to MPCA Soil Reference Values, and sample location figures. Depending on the results of the additional investigation, the BCWMC may consider applying for a Hennepin County ERF grant during the fall of 2018 (as part of a future project effort). In addition, we assume that an amendment to the RAP/CCP, if needed, would be developed during project final design.

- c) Wetland delineations – We will amend the wetland delineation and determination from 2015 to include a delineation around the perimeter of DeCola Pond C and along the north edge of DeCola Pond A. Barr will perform the field wetland delineation in accordance with the Routine Level 2 procedures specified in the USACE’s 1987 Wetland Delineation Manual (“1987 Manual”, USACE, 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (USACE, 2010), and the 2013 Guidance for Submittal of Wetland Delineation Reports to the USACE and WCA LGUs in MN. We will identify/flag and record wetland boundaries using a GPS unit with sub-meter accuracy. We will amend the existing wetland delineation report that includes the wetland type classifications and descriptions of the delineated wetlands, a brief description of the proposed project, general environmental information, and a discussion of regulations and the administering authorities. The report will also include wetland data forms, precipitation analysis, and site photographs. Barr also will obtain a Wetland Type and Boundary Approval from the Local Government Unit (LGU). Our cost estimate includes a wetland functions and values assessment (i.e., a Minnesota Rapid Assessment Method, or MNRAM, analysis) of DeCola Ponds A, B, and C.
- d) Wetland bank scoping – We will complete the USACOE/BWSR wetland mitigation proposal draft prospectus scoping document which is the first step in the wetland banking process. This document provides an opportunity for the applicant to obtain agency comments regarding the potential suitability for establishing the site as a wetland bank site. This includes preparation of several figures, knowledge of past history of the site, an aerial imagery review, a description of activities that have drained or altered the wetlands, identification of drainage easements or agreements, a description of activities that would be implemented to improve wetland functions, and potential problems or concerns with implementing the proposed restoration activities. After submittal of this scoping document, an agency site review will likely be conducted and the applicant will receive findings and recommendations to assist the applicant in the decision regarding pursuit of the site as a wetland bank.
- e) Topographic and utility location survey – We will complete a topographic and utility location survey for the project area, including the area within Pennsylvania Woods and around DeCola Ponds B & C, including detailed survey of the outlet structure and overflow at DeCola Pond C. Underground utilities will be located based on the location of manhole structures in the field, as-built/construction plan drawings from the City, and utilization of a Gopher State One Call utility

locate. We will conduct the survey in NAVD88 and use available City of Golden Valley benchmarks.

- f) Tree location, diameter, species, and condition survey – As part of the topographic survey, we will also survey all trees with a diameter of 4 inches or greater, recording the diameter, species, and condition (e.g. dead/live, shaggy/peeling/deeply furrowed bark) of the trees working closely with the City of Golden Valley foresters. In addition to helping with estimated project costs, the tree survey will help determine if the trees within the project area could provide habitat for the northern long eared bat (endangered). Consideration will be given to replace trees along portions of the project area where feasible.
- g) Threatened and endangered species desktop review – The City of Golden Valley’s flood mitigation project on the Liberty Crossing development site included a desktop review of the available databases to determine the potential for adverse impacts to state and federally listed species. In anticipation of a future environmental review, we will expand the desktop review (as part of this feasibility study) to include review of the potential locations of the rusty patched bumblebee and we will update and revise the previous memo to reflect the current project area and footprint.
- h) Cultural resources desktop review - In anticipation of a future environmental review, 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 will summarize any available information in the feasibility report.
- i) Project easements – The proposed project is located on both public and private property; Dover Hills Apartments, LLC, owns the private land. As part of the City of Golden Valley’s flood mitigation project on the Liberty Crossing development site, city staff engaged the owners of Dover Hills Apartments. The property owners supported the project and the city secured a drainage and utility easement over the Pennsylvania Woods area of the property at that time. No additional easement acquisition is anticipated.

3) Evaluation and Concept Plans

- a) Development of up to 3 concepts for the expansion of flood mitigation volume and water quality treatment around DeCola Ponds B & C and in the Pennsylvania Woods.
- b) Use of the BCWMC Phase 2 XP-SWMM and P8 model to estimate impacts to peak flood elevations and pollutant removals, respectively, as a result of the project concepts.
- c) Estimation of the extent and volume of accumulated sediment in DeCola Ponds A, B, & C, based on review of the bathymetric surveys and sediment probe/core information; and develop concept plans for accumulated sediment removal, including alternate methods for removing and dewatering the material, as appropriate.

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- d) Identify permitting requirements for the concepts, based on wetland delineations and other compiled data, and one (1) meeting with USACE, MnDNR and MPCA staff (see task 1b).
- e) Develop cost estimates for the project, including a “30-year cost,” analysis of life expectancy, and annualized cost per pound of pollutant removal for the water quality treatment portion of the project.
- f) Evaluate the flood reduction benefits of the project, including acre-feet of additional flood storage provided, lowering of flood elevations at key locations, and impact on homes in the floodplain (e.g., are any homes removed from the floodplain, inundation depth at adjacent roadways).
- g) Develop tree removal estimates for each concept, including removals needed to gain access to implement each concept.

4) Public Engagement

- a) Coordinate with BCWMC Administrator and City staff to determine best means to gather public input, such as mailings, newspaper articles, open houses, etc. Primary group for public discussions will be the nearby residents and property owners, including residents living around the DeCola Ponds and in Rosalyn Court (in New Hope) as well as adjacent property owners including representatives of Dover Hill Apartments and the Liberty Crossing development, and park users. The budget for this task includes time to prepare for and attend two public meetings, one early in the process, prior to development of concept plans, and another later in the process, after completion of concept plans, and up to 2 small group/neighborhood meetings, as needed. We assume that meeting coordination, expenses, and set-up will be largely completed by the BCWMC Administrator in close collaboration with the City.
- b) Assist with public involvement process as necessary – prepare handouts, boards, and/or presentation, and record and compile comments.

5) Feasibility Report

- a) Prepare draft report for review by City staff and BCWMC staff/interested commissioners; revise report based upon review comments.
- 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 Estimate

Table 1 summarizes our cost estimate for the scope of work outlined above.

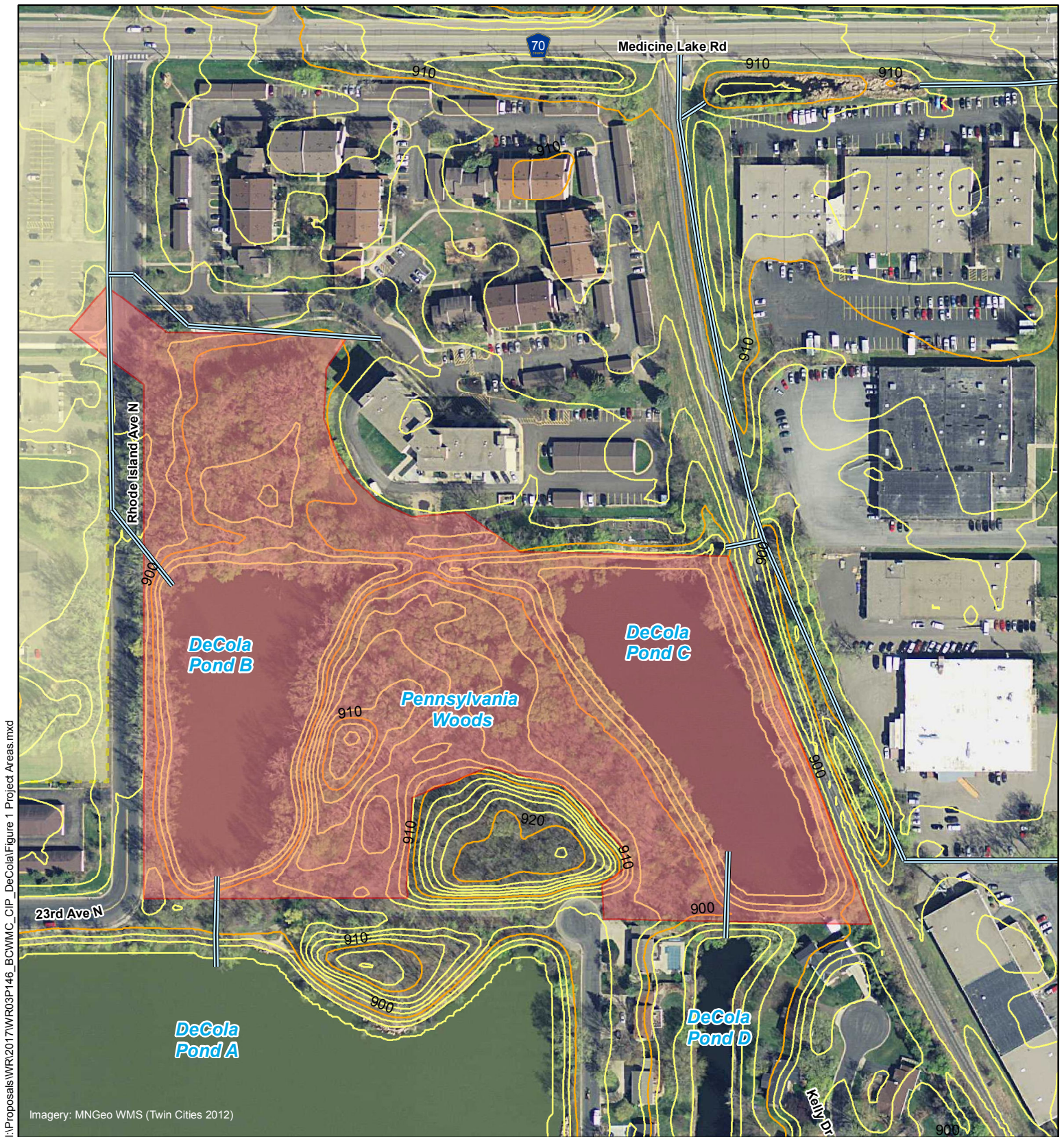
Table 1. DeCola Ponds B & C Improvement Project Feasibility Study Costs

| Tasks | Estimated Total |
|---|------------------------|
| 1) Project Meetings | \$5,100 |
| 2) Field Investigations | \$45,500 |
| 3) Evaluation and Concept Plans | \$15,500 |
| 4) Discuss project impacts with public | \$7,300 |
| 5) Feasibility Report | \$12,600 |
| Total | \$86,000 |

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 and City of Golden Valley, New Hope and Crystal staff | September/October 2017 |
| Wetland delineations | September 2017 |
| Wetland bank scoping & combined agency field review/TEP review | October 2017 |
| Topographic, utility, and tree survey | September/October 2017 |
| Public meeting #1 | October/November 2017 |
| Desktop Review – threatened and endangered species, cultural resources | October 2017 |
| Meeting with BCWMC, City, USACE, MN DNR and MPCA | November 2017 |
| Small group/neighborhood meetings (up to 2) | November 2017 – January 2018 |
| Develop concept alternatives and cost estimates | January/February 2018 |
| Public meeting #2 | March 2018 |
| Submit draft feasibility report for City and BCWMC staff review | April 6, 2018 |
| City and BCWMC staff complete review | April 20, 2018 |
| Submit draft feasibility report for BCWMC review at Commission meeting | May 9, 2018 |
| BCWMC completes review at Commission meeting | May 17, 2018 |
| Submit final feasibility report for BCWMC review at Commission meeting | Summer 2018 |
| Final Feasibility Report – BCWMC approval at Commission meeting | Summer 2018 |



I:\Proposals\WR\2017\WR03P146_BCWMC_CIP_DeCola\Figure 1 Project Areas.mxd

Imagery: MNGeo WMS (Twin Cities 2012)

- Liberty Crossing Development & Flood Mitigation Project (2016/2017)
- BCWMC CIP: DeCola Ponds B & C Improvement Project



Feet
0 200 400



Figure 1

PROPOSED PROJECT AREA
 BCWMC CIP: DeCola Ponds B & C Improvement Project
 Golden Valley, MN