LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting
Wednesday, February 20, 2019

Agenda Item
Item 6. F. LMRWD Projects

Prepared By
Linda Loomis, Administrator

Summary

i. **Eden Prairie Area #3 Stabilization**
No new information to report since last update

ii. **Riley Creek Cooperative project - Hennepin County Flying Cloud Drive/CSAH 61 reconstruction project**
No new information to report since last update

iii. **Seminary Fen ravine stabilization project**
No new information to report since last update

iv. **East Chaska Creek (Carver County - Watershed Based Funding)**
At the January Board of Managers meeting staff provided a re-evaluation of the 2016 feasibility study for East Chaska Creek. Since that time LMRWD staff was able to get input from the City of Chaska. The City's comments have been incorporated into the report and the final report is attached. The Board authorized staff to begin work on the design of the project and asked for a more definite estimate of the cost of the project. A more detailed task order is being prepared and will be provided to the Board when complete.

v. **Schroeder Acres Park (Scott County Watershed Based Funding)**
Staff is working with the city of Chaska to prepare a cooperative agreement before beginning work on this project.

vi. **Shakopee Downtown BMP Retrofit (Scott County Watershed Based Funding)**
The city of Shakopee is planning to begin work on this spring 2019. The LMRWD is working to prepare a cooperative agreement between the LMRWD and the City.

vii. **PLOC (Prior Lake Outlet Channel) Restoration (Scott County Watershed Based Funding)**
The City is working out details for the scope of this project in order to retain an architect/engineer for the project. The LMRWD and City are working to prepare a cooperative agreement.

viii. **Dakota County Fen Gap Analysis and Conceptual Model (Dakota County Watershed Based Funding)**
The LMRWD is working with the Dakota SWCD to prepare a cooperative agreement between the SWCD and the LMRWD before beginning work on this project.

ix. Hennepin County Chloride Project (Hennepin County Watershed Based Funding)
The Countywide portion of this project will be facilitated by the Freshwater Society. The grant agreement has been executed.

x. Vegetation Management Plan
A vegetation management plan has been a goal for the LMRWD for a number of years. The need for a Vegetation Management Plan became more apparent after many residents testified during the plan amendment process that they were interested in removing invasive species. Staff noted that many of those wanting to manage invasive were working on steep slopes that are highly susceptible for erosion. A Vegetation Management Plan will be a resource for residents who wish to manage invasive species on steep slopes to do so in a manner that will not encourage erosion.

A draft Vegetation Management Plan has been prepared and is under staff review. A link to the draft plan is included under the attachments

xi. Sustainable Lake Management Plan - Trout Lakes
No new information to report since last update

xii. Geomorphic Assessment of Trout Streams
This project is progressing. Staff is looking for interns to conduct field work this summer.

xiii. Spring Creek Cost Share
In addition to the previous project, the Carver SWCD identified additional areas that would benefit from bank stabilization. The City of Carver has been contacted to discuss stabilizing this reach of Spring Creek. Plans and cost estimates are attached. LMRWD staff will be meeting with the City to discuss stabilizing bank of Spring Creek.

xiv. West Chaska Creek Re-meander
Carver Water Management Organization requested the LMRWD partnership in a project they have submitted for funding under the Metro-area Watershed Based Funding Pilot Program. This project is outside the boundaries of the LMRWD. The area is in the city of Chaska and is under redevelopment. The project was included in the LMRWD Capital Improvement Program for 2019.

West Chaska Creek is impaired for Fecal Coliform and aquatic life. This reach of the creek was channelized to promote agricultural drainage. Surrounding area is now changing from Agricultural to commercial. The city recently upgraded a road crossing at the downstream end of the project area. The project will be done in two phases as development occurs. The first area to be developed in the south side of the Creek and will attempt to re-establish meanders. This will slow down the movement of water and reconnect the Creek to its floodplain. A buffer will be established to filter stormwater reaching the Creek. Ponds will be constructed to capture stormwater from the proposed development. Phase 2 plans for buffers along the north side of the Creek

The District received plans and cost estimates and has reviewed the documentation received. Staff recommendations are attached.

Attachments
East Chaska Creek Memorandum prepared by Barr Engineering
Permitting, Design and Construction Administration Task Order—East Chaska Creek Channel Stabilization Project
Draft LMRWD Vegetation Management Plan
112 5th Street Plan Set & Cost Estimate
Spring Creek Plan set & Cost Estimate
West Chaska Creek staff review

Recommended Action
Authorize execution of Permitting, Design and Construction Administration Task Order

Memorandum

Young Environmental Consulting Group, LLC

Date: February 16, 2019 *(Email transmittal)*

To: Linda Loomis, Administrator

From: Della Schall Young, PMP, CPESC

Subject: Permitting, Design, and Construction Administration Task Order—East Chaska Creek Channel Stabilization Project

The Lower Minnesota River Watershed District (District) has identified the East Chaska Creek as a source of sediment entering the Minnesota River. In 2012, the District completed a Strategic Resources Evaluation (HDR, Inc., 2015), in which several streams, including the East Chaska Creek, were assessed for current and ongoing erosion and maintenance issues. A detailed assessment of the East Chaska Creek was completed by Burns & McDonnell in 2016 and updated by Barr Engineering Company (Barr) in 2018. In the assessment, a creek restoration project was defined. At the District's January 2019 meeting, the managers authorized the Young Environmental Consulting Group, LLC, team, which includes Barr, to move forward with the creek restoration design. Below is the detailed scope of work in support of the approved design effort.

Scope of Work

Task 1: Permitting

Task 1.1: Wetland Delineation

The US Army Corps of Engineers (USACE) counts stream channels as wetlands. Therefore, qualified Young Environmental and Barr staff will complete a wetland delineation within the potential project extent and generate a delineation report. The delineation will be used to determine the potential impact for permitting.

Deliverable: Wetland delineation report

Cost estimate: $4,750

Task 1.2: Phase I Archeological Assessment

An archeological assessment is required for permitting, and Barr recommends completion of a desktop archeological assessment early in the project development to determine whether there is a reasonable probability of encountering archeological artifacts within the project site. The results of this assessment will determine whether additional archeological work is necessary and will help generate more accurate cost estimates for later stages of the project.

Deliverable: Archeological assessment memorandum

Cost estimate: $2,190

Task 1.3: Permitting

Our team will work to complete the Minnesota Department of Natural Resources work in public waters permit, USACE Section 404 permit, and the City of Chaska (City) grading permit for the project. Draft permit applications will be submitted to the District for review before submission to regulators. The permit fees are not included in our cost estimate.

Deliverables: Draft and final permit applications

Cost estimate: $5,350

Task 2: Engineering Design

Task 2.1: Topographic Survey

Barr will complete a detailed topographic survey of the areas to be stabilized. The survey is necessary to complete the project design and to develop quantities for the construction cost estimates.

Deliverable: Electronic file of the survey

Cost estimate: $6,820

Task 2.2: 60 Percent Design

Barr will develop 60 percent of the design plans and the associated construction cost estimate to be reviewed by Young Environmental, the District, and the City. This task includes a project meeting with the District and the City to discuss the design.

Deliverable: 60 percent design plans and cost estimate

Cost estimate: $12,550

Task 2.3: 90 Percent Design

Barr will incorporate comments from the 60 percent design meeting and continue to develop the construction documents in preparation for bidding and construction. At the 90 percent completion stage, we will provide the plan sheets to Young Environmental for review and discussion. Barr will provide an updated engineer's opinion of probable cost and draft the technical specifications for review.

Deliverables: 90 percent plans, cost estimate, and technical specifications

Cost estimate: $7,160

Task 2.4: Final Design

Barr will incorporate comments from the 90 percent design and complete the final plans and construction documents for bidding. Barr will complete a final engineer's opinion of probable cost.

Deliverables: Final plans, cost estimate, and technical specifications

Cost estimate: $4,130

Task 3: Construction

Task 3.1: Bidding

Our team will finalize the necessary tasks to complete the bid process, including advertising the project for bid, responding to inquiries with bidders, issuing addenda (if necessary), and conducting the bid opening. We assume that advertising for the bids will occur in the District's official newspapers and online on QuestCDN.

Deliverable: Affidavit of advertisement

Cost estimate: $2,700

Task 3.2: Construction Observation

We will provide construction planning and coordination with contractor(s) and act as a general liaison between contractor(s) and the District during the construction process to provide construction oversight as necessary and to confirm that all work adheres to the approved plan. We will schedule site visits by design team members, review work progress, and document quality and compliance through ground photos and field notes during construction. Barr will review pay requests and change orders as needed. Our team assumes that the total construction time will be approximately two weeks, and we will be on site four of those days to provide oversight and guidance.

Deliverables: Construction photos, field notes, pay applications, and change orders (if necessary)

Cost estimate: $6,200

Cost Estimate

Task Description	Estimate
Task 1: Permitting	-
Task 1.1: Wetland Delineation	$4,750
Task 1.2: Phase I Archeological Assessment	$2,190
Task 1.3: Permitting	$5,350
Task 2: Engineering Design	-
Task 2.1: Topographic Survey	$6,820
Task 2.2: 60 Percent Design	$12,550
Task 2.3: 90 Percent Design	$7,160
Task 2.4: Final Design	$4,130
Task 3: Construction	-

Task Description	Estimate
Bidding	$2,700
Construction Observation	$6,200
Total:	**$51,850**

Assumptions

- The potential for the presence of environmental contamination within the project area is low, and a Phase I Environmental Assessment to determine the potential for contamination is not necessary.
- Soil borings or geotechnical investigations will not be required.
- A field investigation to determine the presence of cultural or historical artifacts will not be necessary.
- Comments on the 90 percent complete design will be completed electronically and will not require an in-person meeting.
- Construction documents will utilize Barr's standard formatting.
- An on-site meeting with regulators (MN DNR and USACE) will not be necessary.
- Young Environmental will coordinate the acquisition of temporary easements with the impacted landowners.
- The proposed budget includes the costs for mileage reimbursement for site visits as part of construction observation.
- Permit fees will be paid directly by the District.
- The preparation of an Environmental Assessment Worksheet or Environmental Impact Statement will not be required.

If you find this scope and cost estimate to be acceptable, please complete the signature block below and return the executed copy of this proposal to the Consultant as notice to proceed.

Accepted and agreed to: Design, permitting, and construction assistance task order for the East Chaska Creek project

CLIENT
Lower Minnesota River Watershed District

By: _____

Name: _____

Title: _____

CONSULTANT
Young Environmental Consulting Group, LLC

By: _____

Name: Della Nyondi Schall Young

Title: Owner and Principal

Young Environmental Consulting Group, LLC

Technical Memorandum

To: Linda Loomis, Lower Minnesota River Watershed District Administrator

From: Tusha Devjani Barman, Staff Environmental Engineer
Della Schall Young, PMP, CPESC

Date: February 10, 2019

Re: West Chaska Creek Project – Funding Review Request

The Carver County Watershed Management Organization (CCWMO) has requested $50,000 from the Lower Minnesota River Watershed District (District) for the West Chaska Creek Project (Project). A summary of the Project and Young Environmental Consulting Group's recommendation is presented below.

Project information was pulled from the U.S. Army Corps of Engineers Joint Application Form for Activities Affecting Water Resources in Minnesota, the Minnesota Department of Natural Resources Public Waters Work Permit, and the Chaska Creek Corporate Park Environmental Assessment Worksheet and is presented below.

The purpose of the Project is to stabilize the eroding section of West Chaska Creek between County Road - Creek Boulevard and Engler Boulevard in the City of Chaska. Downstream of the Project area, Chaska Creek is impaired for aquatic life, and the Minnesota River is impaired for turbidity. By stabilizing this reach, the total amount of sediment transported to the Minnesota River would be reduced by 4,400 pounds per year. The restoration will also improve the habitat for aquatic life. The reach downstream of West Chaska Creek is impaired for degraded aquatic life and is nearing the threshold for a turbidity impairment. By stabilizing the highly eroded areas, turbidity will decrease, and the habitat will improve for macroinvertebrates and fish species. The riparian zone will also be rehabilitated as part of the restoration. Currently, the riparian vegetation is dominated by reed canary grass. Following restoration, native grasses and floodplain vegetation will be established.

The Project will be completed in two phases. Phase I will create meanders on the south side of the creek, and Phase II will continue the meanders and connect the channel to the new route. The proposed restoration will add approximately 190 feet of additional stream length to the creek.

The total cost of the Project is $352,230, which represents $208,954 for Phase I and $143,276 for Phase II. CCWMO, the City of Chaska, and the District successfully applied for and were

awarded a grant from the Board of Water and Soil Resources Watershed-Based Funding Pilot Program Policy.

The Project as proposed is in the District's watershed management plan and addresses the following water resources issues and goals:

- Issue 3: Water Quality
- Issue 5: Erosion and Sediment Control
- Issue 7: Commercial and Recreational Navigation
- Goal 2: Surface Water Management—to protect, preserve, and restore surface water quality
- Goal 4: Unique Natural Resources Management—to protect and manage unique resources
- Goal 6: Floodplain and Flood Management—to manage floodplains and mitigate flooding
- Goal 7: Erosion and Sediment Control—to control sediment discharge
- Goal 8: Commercial and Recreational Navigation—to maintain and improve the Lower Minnesota River's navigation and recreational uses

Conclusion

Based on the how the Project goals align with the District's, we recommend approving the CCWMO's request for $50,000. The District should consider including the following requirements:

- provide a copy of the Project's maintenance and easement agreement;
- share final design plan sheets and water quality model results with the District;
- notify the District 48 hours before the start of construction; and
- provide before, during, and after construction photos of the Project area.

The Project is representative of the District's strategy to partner with local government to leverage resources to protect, preserve, and manage water and natural resources within the District.