

July 6, 2023

Commissioners **and**  
Technical Advisory Committee Members  
Shingle Creek and West Mississippi  
Watershed Management Commissions  
Hennepin County, Minnesota

*The agenda and meeting packets are available on  
the Commission's web site.*

<http://www.shinglecreek.org/minutes--meeting-packets.html> **and**

<http://www.shinglecreek.org/tac-meetings.html>

Dear Commissioners and Members:

Regular meetings of the Shingle Creek and West Mississippi Watershed Management Commissions will be held Thursday, July 13, 2023, in the Aspen Room at Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN.

Lunch will be served at 12:00 noon and the meetings will convene concurrently at 12:45.

**The Technical Advisory Committee (TAC) will meet at 11:00, prior to the regular meeting.**

Please make your meal choice from all of the items below and email me at [judie@jass.biz](mailto:judie@jass.biz) to confirm your attendance and your meal selection by **noon, Tuesday, July 11, 2023.** Thank you.

Regards,

Judie A. Anderson  
Administrator

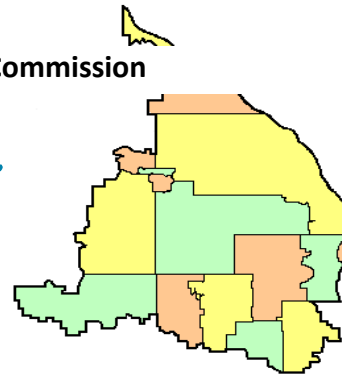
cc: Alternate Commissioners      Member Cites      Troy Gilchrist      TAC Members  
Stantec Consulting Services      BWSR      MPCA      HCEE

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**Order your deli sandwich box lunch. Sandwiches come with lettuce, tomato and mayo. As an alternative you may specify your sandwich with **wheat bread** or as an **unwich** (lettuce wrapped).**

- |  |                                |
|--|--------------------------------|
| <b>1</b> Pepe – Ham and cheese   | <b>2</b> Big John – Roast beef |
| <b>3</b> Totally Tuna – Tuna salad and cucumber  | <b>4</b> Turkey Tom – Turkey   |
| <b>5</b> Vito – salami, capocollo, cheese, onion, oil and vinegar, oregano-basil (no mayo) |                                |
| <b>6</b> The Veggie – double cheese, avocado spread, cucumber                              |                                |
| <b>14</b> Bootlegger Club – Roast beef and turkey  |                                |

**Please also indicate: your cookie preference: Chocolate Chip or Oatmeal Raisin  
and your beverage preference: (W) Water (C) Coke (DC) Diet Coke (S) Sprite (N) None**

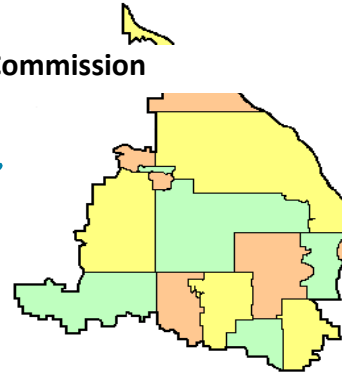


A meeting of the joint Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions is scheduled for **11:00 a.m., Thursday, July 13, 2023**, at the Plymouth Community Center.

## AGENDA

1. Call to Order.
  - a. Roll Call.
  - b. Approve Agenda.\*
  - c. Approve Minutes of Last Meeting.\*
2. Staff presentations:
  - a. Brookdale Park Remeander.\*
  - b. Fishing Pier Project.\*
3. Grant Opportunities.
  - a. Clean Water Fund Grant Solicitations.\*
4. Other Business.
5. Next TAC meeting is scheduled for \_\_\_\_\_.
6. Adjournment.

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**Technical Advisory Committee  
MINUTES | May 11, 2023**

A meeting of the Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions was called to order by Chairman Richard McCoy at 11:02 a.m., Thursday, May 11, 2023, at the Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN.

Present: James Soltis, Brooklyn Center; Mitchell Robinson, Brooklyn Park; Heather Nelson, Champlin; Mark Ray, Crystal; Nick Macklem, New Hope; Ben Scharenbroich, Plymouth; Richard McCoy, Robbinsdale; Diane Spector, Todd Shoemaker, Katie Kemmitt, and Katy Thompson, Stantec; and Judie Anderson, JASS.

Not represented: Maple Grove and Osseo.

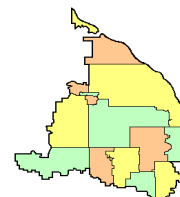
Also present: Burt Orred, Jr., Crystal, and Andy Polzin, Plymouth.

- I. Motion by Ray, second by Scharenbroich to **approve the agenda.\*** *Motion carried unanimously.*
- II. Motion by Ray, second by Robinson to **approve the minutes\*** of the April 13, 2023, meeting. *Motion carried unanimously.*
- III. **Proposed 2024 Operating Budgets.\***

**A.** The Joint Powers Agreements (JPAs) governing operations of the Commissions require a budget and the resulting proposed city assessments for the coming year to be reported to the member cities by July 1. The proposed operating budget covers the core of Commissions' activities, including administration, engineering, legal, technical services, monitoring, education/outreach programs and basic operations of the Commission. Capital and cost-share projects are handled separately from the operating budget.

**B. Revenue Sources.** The primary source of funds for operations is from assessments on the cities having land in the watershed. The cities share proportionally in that cost based 50% on their area within the watershed and 50% on their net tax capacity in the watershed. Tax capacity serves as a proxy for level and density of development. Most, but not all, of the cities fund these assessments from their storm utility funds. The Shingle Creek Commission has not increased assessment every year and had a minimal increase between 2020 and 2023. However, the *ability* to increase continues to accumulate with inflation. The proposed 2024 budget assumes an assessment of \$370,000, which is no increase over 2023. West Mississippi assumes an assessment of \$160,000, which is a 2.4% increase following several years of no or minimal change in the assessment. As with Shingle Creek, the proposed allocations to each city shown in Staff's May 5, 2023, memo\* are based on the areas and valuations using the current boundaries and will be updated if the valuations using the new watershed boundaries are received timely.

Other sources of funding are project review fees and interest. The Commissions' interest earnings in 2022 were quite sizable and interest earnings in 2023 are also on track to be significant. While Staff assume an increase in interest, they have kept that expectation moderate for 2024 and consider those earnings to be a windfall rather than something that will continue.



**C. Proposed budgets.** Motion by Ray, second by Scharenbroich to recommend approval of the proposed budgets to the full Commissions *Motion carried unanimously*. The proposed operating budget for Shingle Creek is \$405,000, with assessments to the membership totaling \$370,000. The proposed operating budget for West Mississippi is \$193,000, with assessments totaling \$160,000.

Itemized budgets for each Commission are included in the May 13, 2023, regular meeting minutes. (Both budgets were approved without adjustments at those meetings.)

#### IV. Capital Improvement Program (CIP).

The Commissions each revised their Capital Improvement Programs (CIP) as part of the Fourth Generation Watershed Management Plan. The CIP typically is reviewed annually and amended as necessary to add, delete, or amend projects as opportunities arise, priorities change, or costs are reevaluated.

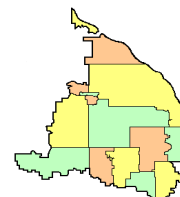
The TAC members reviewed the preliminary CIP at its April 13, 2023, meeting and suggested some revisions. They recommended to the Shingle Creek Commission to levy half of the Brooklyn Park Natural Channel project in 2023 and the remaining half in 2024. In addition, in Shingle Creek, the Maple Grove Stormwater BMP projects were re-ordered to better match their anticipated construction dates.

Since no new projects are proposed to be added to the 2023 CIP there will be no need to undertake a Minor Plan amendment this year. The full CIP as proposed is shown below:

2023 CIP Projects (2024 levy)				
Project	Total Est Cost	City/Private	Grant	Comm Share
<b>SHINGLE CREEK</b>				
Cost share (city projects)	\$200,000	\$100,000	0	\$100,000
Partnership cost share (private projects)	50,000	0	0	50,000
Maintenance fund	50,000	0	0	50,000
Pike Creek Stabilization	395,000	290,000	0	105,000
Brookdale Park Natural Channel phase 1	625,000	0	0	625,000
<b>Subtotal</b>	<b>\$1,320,000</b>	<b>\$390,000</b>	<b>\$0</b>	<b>\$930,000</b>
<b>5% additional for legal/admin costs</b>				<b>46,500</b>
<b>TOTAL LEVY (101% for uncollectable)</b>				<b>\$986,265</b>
<b>WEST MISSISSIPPI</b>				
Cost share (city projects)	\$100,000	\$50,000	0	\$50,000
Partnership cost share (private projects)	100,000	0	0	100,000
<b>Subtotal</b>	<b>\$200,000</b>	<b>\$50,000</b>	<b>\$0</b>	<b>\$150,000</b>
<b>5% additional for legal/admin costs</b>				<b>7,500</b>
<b>TOTAL LEVY (101% for uncollectable)</b>				<b>\$159,075</b>

#### V. Cost Share Policy.

**A.** Both WMOs established City **Cost Share Programs** in 2013 as part of the Third Generation Plan. Each is funded with an annual \$50,000 levy. In 2015 Shingle Creek increased that annual levy to \$100,000, with a cap of \$50,000 per project. Since 2014 Shingle Creek has shared in the cost of 12 small projects, totaling just over \$405,000 from levy and \$68,000 from Watershed-based Implementation Funding (WBIF). West Mississippi has not funded any cost-share projects from levy but contributed \$35,442 from WBIF to a project in Brooklyn Park.



Half of the funded projects received the maximum cost share of \$50,000. In most cases, the total cost of the BMP exceeded \$100,000, so the cities' share was more than \$50,000. The Commissions encourage cities to submit projects greater than \$100,000 to the CIP, but one of the advantages of the Cost Share program is that it is much nimbler than the CIP. Sometimes the ability to incorporate a voluntary BMP isn't evident or can't be determined to be feasible until well into the design process.

In addition, there is a "penalty range" for small projects on the CIP. The CIP funding policy limits the Commissions' cost share to 25% of the total project cost. For projects that cost between \$100,000 and \$200,000, it is more financially advantageous to pursue Cost Share funding rather than CIP funding. A \$160,000 project would be limited to \$40,000 Commission funding on the CIP, but eligible for \$50,000 funding from the Cost Share program.

While the Shingle Creek Commission has been funding one or two projects per year, it has continued to levy \$100,000 annually and has accumulated a balance estimated at \$350,000. West Mississippi continues to levy \$50,000 per year and has accumulated a similar balance.

If there is still a desire to operate such a city cost-share program, there is enough balance to support increasing the participation cap from \$50,000 to some larger amount. This is offered at today's regular meetings for discussion and direction. The program guidelines were included in Staff's April 6, 2023, memo.

**B.** The City of Crystal is requesting \$50,000 from the Commission City Cost Share Fund to expand an underground infiltration system at the **Crystal Community Center**.\* The underground infiltration system is being installed per Commission stormwater management requirements due to the total reconstruction of the south parking lot. If approved, the \$50,000 will allow the City to further expand the underground system to capture storm water runoff in excess of the minimum requirements. The existing proposed infiltration system has a design volume of 17,451 CF (130,542 gallons). The expansion would increase the volume by 15% to 20,137 CF (150,625 gallons). The catchment area that drains to this system is only the 1.96-acre parking lot. No additional storm pipes connect to this system as it is basically the headwaters for the storm pipe network leaving this area.

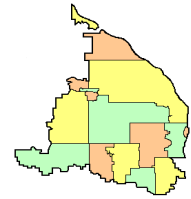
Stantec reviewed the proposal with Mark Ray, City of Crystal, and the City's design consultant (SRF Consulting), and noted the following:

1. Increasing the volume of runoff captured from the equivalent to 1.39-inches over the impervious surfaces within the construction limits to 1.57-inches (an increase of 0.18-inches).
2. Increasing total phosphorus removal by 0.02 lb./yr.
3. Negligible additional maintenance cost because it's an addition to the required system.
4. Runoff from this site drains to Twin Lake and then to Ryan Lake. Therefore, maximizing infiltration in this watershed reduces runoff and potential flooding on Ryan Lake.

**Water quality benefits of the proposed project:**

	Additional Volume Reduction (cf)	Volume Reduction (\$/cf)	TP Reduction (lb/yr)	30-Year Normalized
Additional Storage	2,686	\$18.61	0.02	\$83,333

The City Cost Share Fund has a balance of approximately \$330,000, not including the \$100,000 levy it will receive this year.



Motion by Scharenbroich, second by Robinson to recommend this project to the Shingle Creek Commission for approval at the proposed cost of \$50,000. *Motion carried unanimously.*

**VI. Other Business.**

**A. Gaulke Pond Subwatershed Assessment (SWA).** This SWA will identify and prioritize potential stormwater volume reduction practices in the Gaulke Pond Watershed. Staff held a field visit with Crystal and New Hope staff on April 21 to review potential BMP locations and identify any site constraints. Stantec is refining the opportunity sites and developing generalized volume reduction and cost estimates to aid in prioritizing the opportunities within the subwatershed. Staff presented their findings, answered questions, and discussed next steps. The presentation will be repeated at the Commissions' June meeting

**B.** The **next TAC meeting** is scheduled for Thursday, June 8, 2023, at 11:00.

There being no further business, the TAC meeting was adjourned at 11:59 a.m.

Respectfully submitted,

A handwritten signature in black ink, reading "Judie A. Anderson".

Judie A. Anderson  
Recording Secretary  
JAA:tim

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To: Shingle Creek Watershed Management Commission  
From: Sarah Harding, PLA, ASLA  
Ed Matthiesen, PE  
Technical Advisory Committee  
Rob Monk, PE

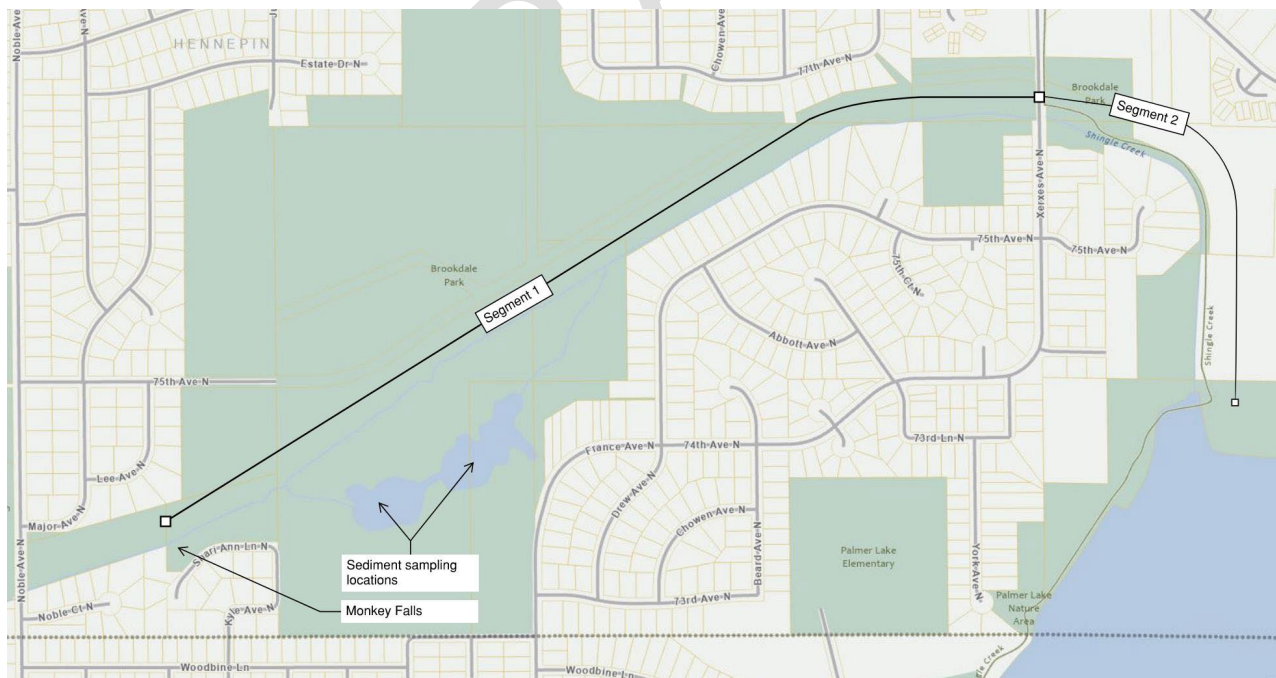
Project/File: 227705747 and 227705748 Date: July 6, 2023

**Reference: Brookdale Park Shingle Creek Remeander and Regional Trail Bank Stabilization & Fish Access Improvements**  
**DRAFT Basis of Design Memo**

## Background and Objectives

Stantec analyzed two segments of Shingle Creek within the City of Brooklyn Park, upstream and downstream of Xerxes Avenue for stream restoration purposes. See Figure 1 below for a project area map with these two segments depicted. Segment 1 runs 700-ft downstream of Noble Avenue to Xerxes Avenue whereas Segment 2 runs from Xerxes Avenue to the pedestrian bridge north of Palmer Lake.

**Figure 1: Project Area**



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**Reference: Brookdale Park Shingle Creek Remeander and Regional Trail Bank Stabilization & Fish Access Improvements**

The primary project objectives for Segment 1 are to remeander a previously straightened segment of the creek using natural channel design techniques, reduce soil loss to improve water quality and fish and wildlife habitat through biological enhancements, and integrate proposed improvements within the park for user educational and recreational opportunities. The primary project objectives for Segment 2 are to develop feasible solutions for bank stabilization and fishing access improvements within this reach.

Restoration of these channel segments were an implementation action in the Shingle Creek Biotic and DO TMDL and the Fourth Generation Plan.

The project area for both segments is within a Minnesota Pollution Control Agency (MPCA) environmental justice area of concern based on US Census Bureau's survey data (census tract #268.11) for both proportion of low-income residents and people of color. This furthers the need for incorporation of an inclusive and equitable engagement process early and throughout this project's design.

## **Analysis**

Stantec staff performed a desktop analysis of wetlands and existing utilities and infrastructure. Staff also visited the site to perform a topographic survey, collect sediment samples for lab analysis, and perform field assessments. Stantec along with staff from the SCWMC, City of Brooklyn Park, Minnesota Department of Natural Resources (MnDNR), and Three Rivers Park District attended the initial site visit.

### ***Topographic Survey and Site Investigation***

Stantec performed a topographic survey to collect information about the existing channel corridor's topography as well as other relevant information, such as utilities, culverts, trails, crossings and bridges, tree locations, and infrastructure.

Surrounding the current creek channel are wetlands categorized as seasonally flooded basins or shallow marshes, shallow open water, and riverine systems per the National Wetlands Inventory (NWI). Wetland delineation was not completed as part of this scope; however, we recommend that this be completed during detailed design.

### ***Sediment Sampling Summary***

Four sediment samples were collected from the stormwater ponds (Figure 1) south of Shingle Creek in Brookdale Park, to assess potential sediment disposal requirements after dredging. Selection of this sampling area was based on aerial imagery of the historical creek route prior to straightening. Samples were analyzed for carcinogenic polycyclic aromatic hydrocarbons (cPAHs), arsenic, and copper, following the recommended sample parameters from MPCA for stormwater pond dredging. cPAH concentrations are converted to BaP equivalents using potency equivalents factors to adjust for carcinogenicity.

A summary of laboratory results is provided in the table 1 below and compared to the State's residential and industrial soil reference values (SRVs). The sampling results are compared to established MPCA soil leaching values (SLV) or soil reference values (SRV). SLVs are calculated for specific compounds and are developed based on risk posed to groundwater by soil leaching (MPCA, 2013). Soil reference values (SRV)

**Reference:** Brookdale Park Shingle Creek Remeander and Regional Trail Bank Stabilization & Fish Access Improvements

examine the risk to human health at reasonable maximum exposure scenarios (MPCA, 2016). SRVs are used by MPCA to regulate contaminated soils. If tested compounds exceed the SRV, special disposal or remediation efforts may be necessary.

**Table 1. Sediment Sampling Results Summary**

	MPCA SLV	Residential SRV	Industrial SRV	SP-1	SP-2	SP-3	SP-4
Arsenic (mg/kg)	5.8	9	20	ND	<b>16.2</b>	<b>16.2</b>	<b>15.9</b>
Copper (mg/kg)	700	100	9,000	3.3	83.8	49.5	56.9
cPAHs [BaP Equivalent] (ug/kg)	1.4	2	23	<b>3.31</b>	<b>4.90</b>	<b>8.76</b>	<b>6.45</b>

Sediment results indicate the residential SRV for arsenic is exceeded at sites SP-2, SP-3, and SP-4. All sites exceeded the residential SRV for BaP Equivalents. Copper was not exceeded at any site. Dredged material removed from the creek/stormwater pond is suitable for industrial use or will need to be disposed of at a landfill that accepts hazardous waste.

### **Hydraulics**

The project is in a Federal Emergency Management Agency (FEMA) Zone AE floodplain and is within the regulated floodway. Thus, detailed hydraulic modeling will be required to determine the proposed restoration design impacts on the base flood (100-year) water surface elevation.

Per discussions with MnDNR, the FEMA effective hydraulic model should be used for all detailed modeling activities in Zone AE areas. The current FEMA effective model for the project area was completed using a combination of HEC-2 and HEC-RAS modeling software. All project detailed modeling shall be completed using HEC-RAS to ensure regulatory compliance.

Detailed hydraulic modeling achieving 0.00 feet of base flood elevation increase (proposed vs existing condition) will be required to avoid a Conditional Letter of Map Revision (CLOMR) through FEMA. The CLOMR approval process must occur before construction begins and is generally expected to take upwards of one year, which could potentially delay project construction. With no increase in the base flood elevation, a no-rise certification (<0.07-foot decrease) or no-fee LOMR (>0.07-foot decrease) will need to be submitted to MnDNR and FEMA. Either process can be completed post-construction pending MnDNR review, which is generally expected to take approximately one month. The no-fee LOMR process is generally expected to take upwards of one year but would not delay project construction.

Based on existing channel conditions and flexibility in floodplain design, preliminary modeling indicates that a no-rise certification or no-fee LOMR should be achievable for either alternative, including the removal of Monkey Falls.

Per discussions with Shingle Creek Watershed Management Commission, there is a completed PCSWMM hydrologic and hydraulic model (Commission Model) developed by Stantec Consulting Services Inc. (Stantec) in 2021 that will be part of a Metro-wide HUC8 study effort. The Commission Model represents the best available information for the project area but is not currently the FEMA effective model. If the

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**Reference:** Brookdale Park Shingle Creek Remeander and Regional Trail Bank Stabilization & Fish Access Improvements

Commission Model becomes the FEMA effective model prior to final design, all post-project FEMA submittals may need to be completed using that model, potentially requiring remodeling efforts for the stream restoration project.

### **Pollutant Reduction Estimate**

Stantec calculated the Expected Lateral Recession (ELR) of the stream banks due to erosion. Using lateral recession rates from Wisconsin's Natural Resource Conservation Services (NRCS) Field Office Technical Guide for Streambank Erosion, we estimated the streambank had a lateral recession rate of 0.01-0.5 ft/yr. Table 2 lists this expected lateral recession rates.

**Table 2. Lateral Recession Rates**

Lateral Recession Rate (ft/yr)	Category	Description
0.01-0.05	Slight	Some bare bank but active erosion not readily apparent. Some rills but no vegetative overhang. No exposed tree roots.
0.06-0.2	Moderate	Bank is predominantly bare with some rills and vegetative overhang. Some exposed tree roots but no slumps or slips.
0.3-0.5	Severe	Bank is bare with rills and severe vegetative overhang. Many exposed tree roots and some fallen trees and slumps or slips. Some changes in cultural features such as fence corners missing and realignment of roads or trails. Channel cross section becomes U-shaped as opposed to V-shaped.
0.5+	Very Severe	Bank is bare with gullies and severe vegetative overhang. Many fallen trees, drains and culverts eroding out and changes in cultural features as above. Massive slips or washouts common. Channel cross section is U-shaped and stream course may be meandering.

Source: WI NRCS Field Office Technical Guide, "Streambank Erosion," 2003.

The total bank length of each Lateral Recession Category is shown in Table 3. The majority of stream bank was conservatively classified as 'slight' with several 'moderate' outside bend sections and one 'severe' section just downstream of Monkey Falls.

**Table 3. Total Streambank Length for Each Lateral Recession Category**

Shingle Creek Segment	Slight	Moderate	Severe	Total
Segment 1: upstream of Xerxes	9,462	633	84	10,179
Segment 2: downstream of Xerxes	3,300	509	0	3,809

These recession rates can be used to calculate the average soil loss per year (TSS, tons per year) based on eroded bank height. The average soil loss per year can then be used to estimate the total phosphorus (TP) load. The phosphorus load is calculated based on a 0.002 pounds of TP per 1.0 pounds of TSS

**Reference:** Brookdale Park Shingle Creek Remeander and Regional Trail Bank Stabilization & Fish Access Improvements

conversion based on data ascribing phosphorus concentration to soil particles from Geoderma (January 1995). Table 4 estimates project reductions to both TSS and TP on a yearly basis.

**Table 4. Estimated Project TSS and TP Reductions**

Shingle Creek Segment	TSS Reduction (tons/yr)	TP Reduction (lbs/yr)
Segment 1: upstream of Xerxes	18	3.7
Segment 2: downstream of Xerxes	7	1.4

## Design Concept Alternatives

### *Preliminary Channel Geometry*

Stantec used field and desktop base data and field survey information to develop channel design iterations in AutoCAD. The proposed low flow channel is a trapezoidal channel with 5-ft bottom width and 1-ft channel depth based on survey data and the bankfull channel width and cross-sectional areas are based on regional curve data obtained from Nick Proulx at the MnDNR. The preliminary channel cross section has an overall width of 36-feet, which is narrower than the existing channel condition.

Banks of the existing and proposed channel are proposed to be regraded and stabilized with deep rooted vegetation and wood toe wherever possible. In areas where sloping is not feasible, hard armoring practices may be utilized.

Based on initial evaluation and analysis, Stantec developed the following design alternatives for consideration. Refer to the below summary of these alternatives' components as well as the concept plans attached.

### ***Segment 1 (Upstream of Xerxes): Concept A – Creek Remeander and Wetland Park***

- Reconfigure 'Monkey Falls' into a natural channel with a series of boulder riffle structures for improved fish passage and habitat and biotic function.
- Remeander creek through existing wetlands, aligning with historical creek route where feasible.
- Provide small open water pools along creek for improved habitat and fishing opportunities.
- Install two (2) riffles and cover boulders upstream of pedestrian crossings.
- Separate stormwater BMPs from flow-through creek system to improve treatment prior to creek.
  - Enhance dog park stormwater pond BMP for pretreatment of nutrients and bacteria.
  - Disconnect one (1) existing stormwater pond BMP from flow-through creek system to improve treatment efficiency.
  - Create one (1) stormwater BMP for two (2) existing stormwater pipes within closed creek channel.
  - Stabilize two (2) existing ditch connections to creek.
  - Enhance naturalized forms of open water and BMPs to visually connect all systems into one natural area and park.

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**Reference:** Brookdale Park Shingle Creek Remeander and Regional Trail Bank Stabilization & Fish Access Improvements

- Incorporate a boardwalk network through wetland areas for improved user access and wildlife and habitat education.
- Opportunity for wetland restoration within existing channel fill areas.
- Provide two (2) new pedestrian creek crossings and reconfigure trails to maintain user connectivity throughout the corridor.

***Segment 1 (Upstream of Xerxes): Concept B – Lake Complex***

- Reconfigure 'Monkey Falls' into a natural channel with a series of boulder riffle structures for improved fish passage and habitat and biotic function.
- Remeander creek through existing wetlands, aligning with historical creek route where feasible.
- Provide one (1) small open water pool along creek for improved habitat and fishing opportunities.
- Install two (2) riffles and cover boulders upstream of pedestrian crossings.
- Connect series of existing pools and stormwater ponds with creek for a combined and enlarged open water amenity.
  - In creation of the large open water lake, there may be opportunity for soil mining and sale to offset some of the construction costs. Further soils investigation is necessary to determine the extent and feasibility of this option.
  - This does not apply to areas where cPAHs or other contaminants are found.
- Separate stormwater BMPs from flow-through creek/lake system where feasible
  - Enhance dog park stormwater pond BMP for pretreatment of nutrients and bacteria.
  - Modify existing stormwater outlet and create new stormwater BMP near France Ave N for improved treatment efficiency prior to entering the creek system.
  - Create one (1) stormwater BMP for two (2) existing stormwater pipes within closed creek channel.
  - Stabilize two (2) existing ditch connections to creek.
  - Enhance naturalized forms of open water and BMPs to visually connect all systems into one natural area and park.
- Incorporate a boardwalk trail through wetland area along north side of lake to maintain floodplain connectivity. The existing paved bituminous trail along the south side of the lake would remain in-place.
- Wetland restoration opportunity within existing channel fill areas
- Provide two (2) new pedestrian creek crossings and reconfigure trails to maintain user connectivity throughout the corridor.

***Segment 2 (Downstream of Xerxes): Concept***

- Remeander opportunity with an enlarged fishing pond area to create a variety of fishing access improvements for areas both off and near the main multiuse trail.
- Deepen existing small pond near Xerxes Avenue North.
- Wetland restoration opportunity within existing channel fill area to tie into existing wetland.
- Incorporate outside bend stabilization with wood toe.
- Install two (2) riffles; one upstream and one downstream of the fishing pond.
- Stabilize stormwater pipe ends.

**Reference:** Brookdale Park Shingle Creek Remeander and Regional Trail Bank Stabilization & Fish Access Improvements

## Permitting Considerations

The proposed stream restoration projects may require the following federal, state, and local permitting and compliance:

- Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (USACE), or Letter of Permission under the General Permit, and Section 401 certification from the Minnesota Pollution Control Agency (MPCA)
- No-Rise Certification or No-fee Letter of Map Revision (LOMR) submittal to the Minnesota Department of Natural Resources (MnDNR) and Federal Emergency Management Agency (FEMA)
- MnDNR Public Waters Work Permit
- MPCA National Pollutant Discharge Elimination System (NPDES) General Construction Stormwater Permit
- Compliance with the Minnesota Environmental Review Program
- Compliance with the Minnesota Wetland Conservation Act
- Compliance with Shingle Creek Watershed Management Commission Rules and Standards
- Compliance with City of Brooklyn Park Ordinances

## Project Schedule Considerations

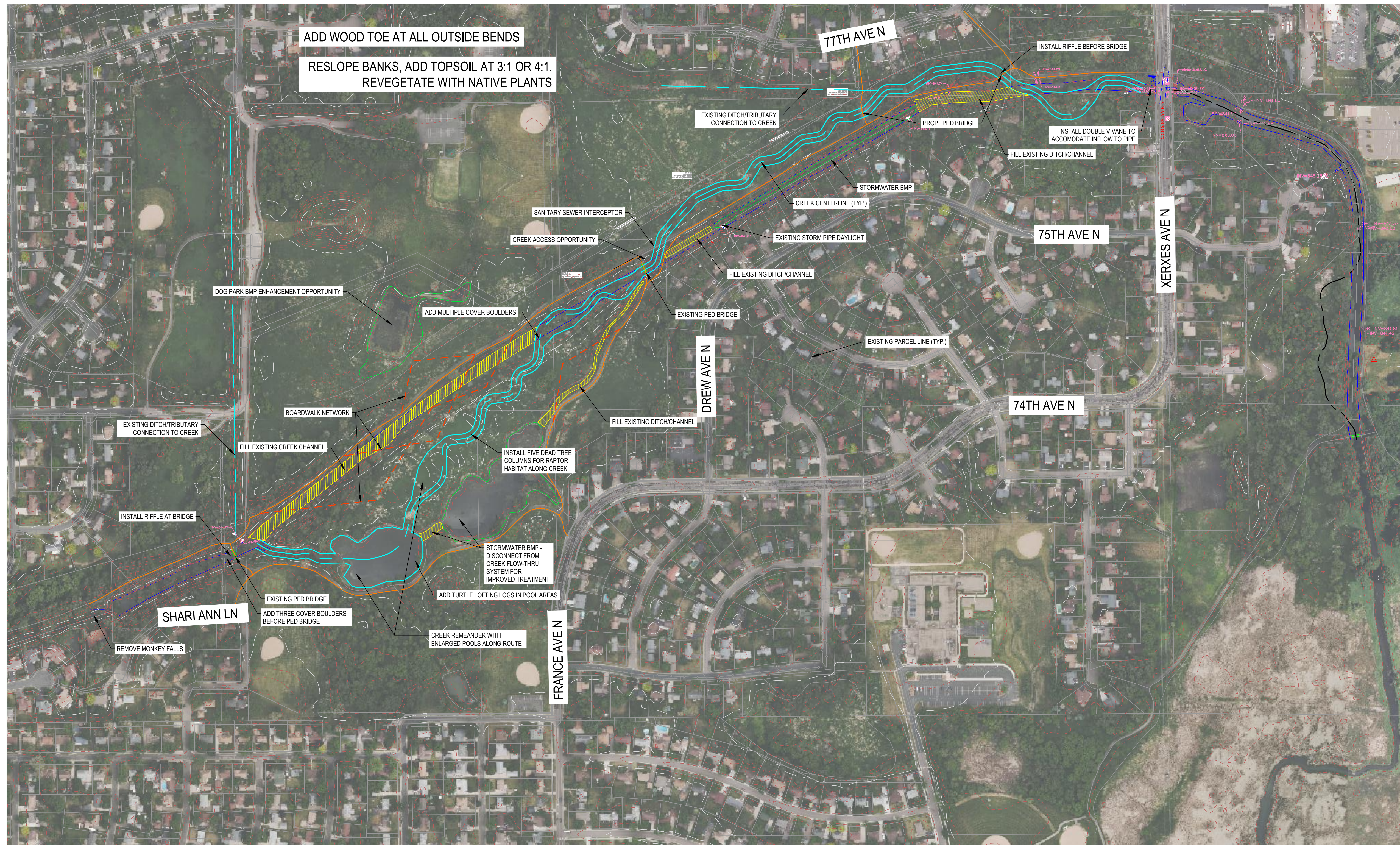
Stantec envisions this to be a collaborative design process with input from city residents and various City offices including parks, engineering, and public works as well as Three Rivers Park District and the Minnesota Department of Natural Resources. Since this work aims to achieve positive outcomes on ecological, recreational, environmental justice, and aesthetic levels, we recommend a deliberate, inclusive, and robust outreach and engagement process for feedback during design. Ample time for public outreach efforts is necessary.

Other considerations:

- The MnDNR public waters work exclusion dates for Shingle Creek are from March 15 to June 15 when in-water work is prohibited.
- Agency permitting activities have been taking longer than usual, so communications with regulatory agencies should begin as soon as possible to maintain the project timeline.
- Winter construction and phasing of work for stabilization prior to bringing creek remeander segments online will be considered.

Attachment: [Concept Plans]

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WWW.STANTEC.COM

CLIENT:

# SHINGLE CREEK IMPROVEMENTS (NOBLE TO XERXES)

PROJECT TITLE:

ISSUE NO.:

**DESCRIPTION:**

DATE: \_\_\_\_\_

CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

LICENSE NO.:

DATE \_\_\_\_\_

PROJECT NO.: 227705747

DWN BY: MDH	CHK'D BY: SH	APP'D BY: SH
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ISSUE DATE: 05/19/2023

ISSUE NO.: 1

SHEET TITLE

SHEET NO.:

## Segment 1: Concept A

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CALL BEFORE YOU DIG

GOPHER STATE ONE CALL

TWIN CITY AREA: 651-454-0002  
TOLL FREE 1-800-252-1166



**WARNING:**

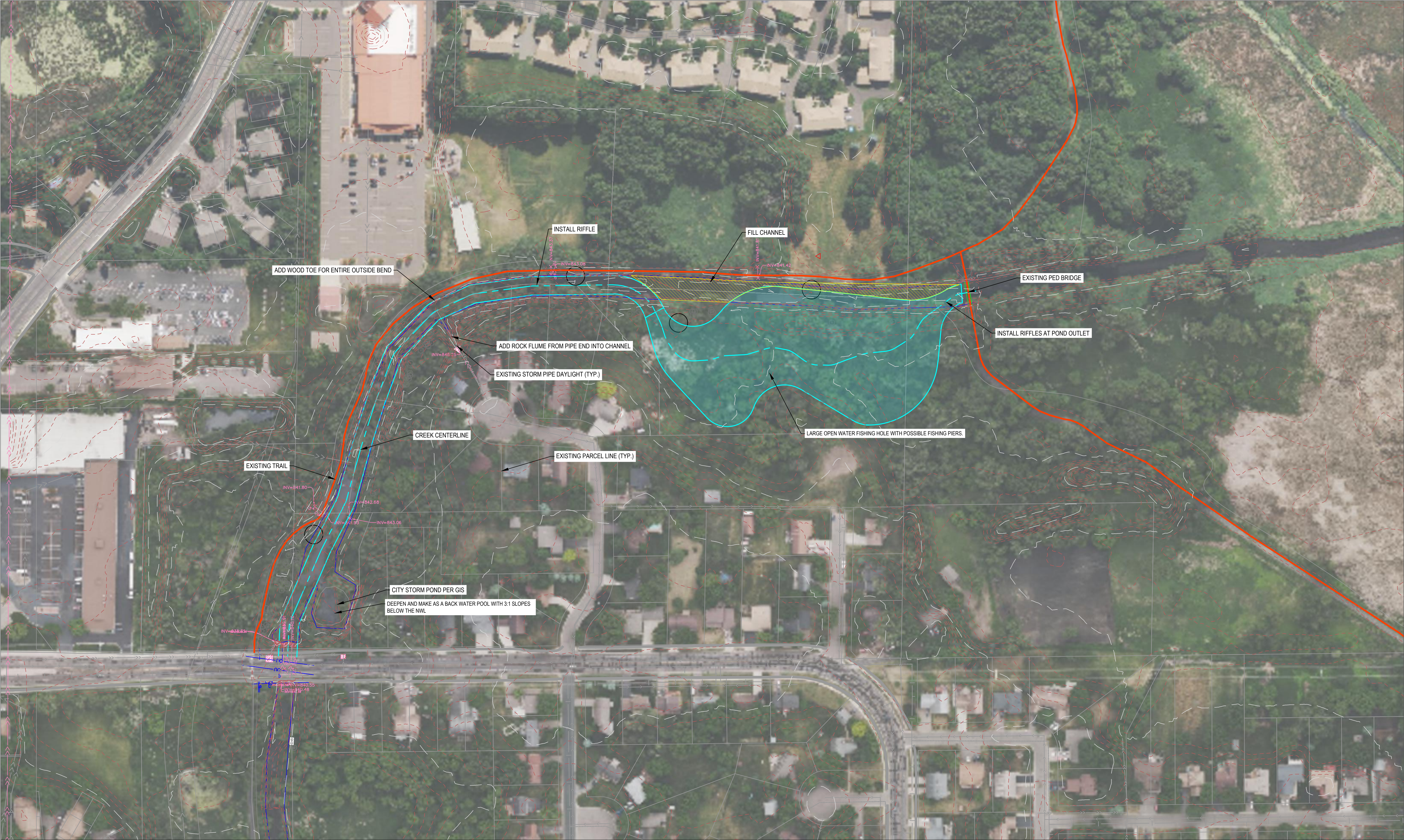
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CALL BEFORE YOU DIG

**GOPHER STATE ONE CALL**

TWIN CITY AREA: 651-454-0002  
TOLL FREE 1-800-252-1166



Segment 2: Concept

CLIENT:

SHINGLE CREEK  
IMPROVEMENTS  
(XERXES TO PALMER)

PROJECT TITLE:

ISSUE NO.:	DESCRIPTION:	DATE:

CERTIFICATION:  
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

LIC. NO.:  
DATE:

PROJECT NO.: 227705748

DWN BY: MDH	CHKD BY: SH	APPD BY: SH
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ISSUE DATE: 05/19/2023

ISSUE NO.: 1

SHEET TITLE:

SHEET NO.:

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CALL BEFORE YOU DIG

**GOPHER STATE ONE CALL**  
TWIN CITY AREA: 651-454-0002  
TOLL FREE 1-800-252-1166

**To:** Shingle Creek and West Mississippi WMO Commissioners  
Shingle Creek and West Mississippi TAC

**From:** Diane Spector  
Katie Kemmitt

**Date:** July 5, 2023

**Subject:** 2023 Clean Water Fund (CWF) Grant Solicitation

**Recommended  
Commission Action**

For discussion and staff direction.

The Board of Water and Soil Resources (BWSR) opened the annual solicitation for Clean Water Fund Grants on June 29, 2023. Grant applications are due by August 24. The program is similar to the grant solicitation in past years with a few exceptions.

This \$8.5 million is funding from the ongoing Legacy Amendment and is one of the primary funding sources for surface water improvements in Minnesota. Up to 20% of that amount may be reserved by BWSR for focus on projects that protect or improve drinking water sources.

Projects must be identified in a watershed management plan that has been state approved and locally adopted or an approved total maximum daily load study (TMDL), Watershed Restoration and Protection Strategy (WRAPS), Groundwater Restoration and Protection Strategy (GRAPS), surface water intake plan, or well head protection plan. Unlike previous years, the required match has been reduced from **25%** to **10%**.

These are very competitive funds, so well thought out, targeted projects with local consensus and significant cost-effective removals will complete best. The Commission does have a few projects on its CIP for the next few years that cities might consider for application (see attached Table 1), but again, the funds are extremely competitive, and the pool of available funds is growing smaller each year.

More information can be found here:

[Apply for BWSR Grants | MN Board of Water, Soil Resources \(state.mn.us\)](https://state.mn.us/bwsr/grants)

The 2024 Shingle Creek and West Mississippi CIP in the Fourth Generation Watershed Plan contains a lake internal load improvement project for Eagle and Pike Lakes in Maple Grove. The project would be a good fit for Clean Water Funds and would be a holistic lake management project involving internal load treatment, aquatic vegetation management, and potential fisheries monitoring and/or management. Stantec recommends submitting a proposal to BWSR for CWF.

Table **Error! No text of specified style in document..1**. Shingle Creek Fourth Generation Plan Implementation Plan.

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<b>Watershed-wide Programs</b>										
<i>City Cost Share Program</i>	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Commission Contribution	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Local Contribution	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
<i>Partnership Cost Share Program</i>	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Commission Contribution	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Local Contribution	0	0	0	0	0	0	0	0	0	0
<i>Project Maintenance Fund</i>	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Commission Contribution	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Local Contribution	0	0	0	0	0	0	0	0	0	0
<b>Stream Projects</b>										
<i>Bass Creek TH 169 to 63rd Avenue</i>	500,000									
Commission Contribution	500,000									
Local Contribution	0									
<i>Shingle Creek Brookdale Park Natural Channel</i>	1,250,000									
Commission Contribution	1,250,000									
Local Contribution	0									
<i>Minneapolis Shingle Creek Stream Restoration</i>		400,000			300,000					
Commission Contribution		400,000			300,000					
Local Contribution		0			0					
<i>Shingle Creek or Bass Creek Restoration Project</i>								400,000		
Commission Contribution								400,000		
Local Contribution								0		
<b>Eagle, Pike, and Cedar Island Lakes</b>										
<b>Capital Projects</b>										
<i>Lake Internal Load Project-Eagle/Pike</i>	30,000	170,000								
Commission Contribution	30,000	170,000								
Local Contribution	0	0								
<i>Lake Internal Load Project-Cedar Island</i>						30,000	170,000			
Commission Contribution						30,000	170,000			
Local Contribution						0	0			
<i>Pike Creek Stabilization</i>	395,000									
Commission Contribution	105,000									
Local Contribution	290,000									

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<b>Maintenance Projects</b>										
Aquatic Vegetation Mgmt										
Commission Contribution			15,000	15,000					15,000	15,000
Local Contribution										
<b>Special Studies</b>										
Subwatershed Assessment and Internal Load Feasibility- Eagle/Pike Lake	50,000									
Commission Contribution	20,000									
WBIF Contribution	30,000									
<b>Twin and Ryan Lakes</b>										
<b>Capital Projects</b>										
Wetland 639W Weir Wall Enhancement			100,000							
Commission Contribution			100,000							
Local Contribution			0							
Lake Internal Load Project						200,000				
Commission Contribution						200,000				
Local Contribution						0				
<b>Maintenance Projects</b>										
Modify France Ave Fish Barrier										
Commission Contribution	8,000									20,000
Local Contribution										
<b>Carp Management</b>										
Commission Contribution	30,000	30,000			25,000		25,000		25,000	
Local Contribution										
Aquatic Vegetation Mgmt										
Commission Contribution						15,000				
Local Contribution										
<b>Special Studies</b>										
Gaulke Pond Subwatershed Assessment	30,000									
Commission Contribution	0									
WBIF Contribution	30,000									
<b>Bass, Schmidt, and Pomerleau Lakes</b>										
<b>Capital Projects</b>										
New Project										
Commission Contribution										
Local Contribution										

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<b>Maintenance Projects</b>										
<i>Aquatic Vegetation Mgmt</i>										
Commission Contribution	12,000	10,000		10,000		10,000		10,000		10,000
Local Contribution										
<b>Crystal Lake</b>										
<b>Capital Projects</b>										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<b>Maintenance Projects</b>										
<i>Aquatic Vegetation Mgmt</i>										
Commission Contribution			10,000	10,000	10,000			10,000	10,000	
Local Contribution										
<i>Rough Fish Mgmt</i>										
Commission Contribution			25,000		25,000		25,000	25,000		
Local Contribution										
<b>Meadow, Magda, and Success Lakes</b>										
<b>Capital Projects</b>										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<b>Maintenance Projects</b>										
<i>Aquatic Vegetation Mgmt</i>										
Commission Contribution			10,000			25,000				
Local Contribution			0			0				
<i>Rough Fish Mgmt</i>										
Commission Contribution										
Local Contribution										

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<b>Special Study-Magda Subwatershed Assess</b>									30,000	
Commission Contribution									30,000	
Local Contribution									0	
<b>Stormwater BMP Projects</b>										
<b>Capital Projects</b>										
<b>Maple Grove Pond P57</b>		648,000								
Commission Contribution		162,000								
Local Contribution		486,000								
<b>Maple Grove Pond P33</b>				574,000						
Commission Contribution				143,500						
Local Contribution				430,500						
<b>Minneapolis Flood Area 5 Water Quality Projects</b>			6,000,000							
Commission Contribution			250,000							
Local Contribution			5,750,000							
<b>Maple Grove Pond P55</b>										855,000
Commission Contribution										213,800
Local Contribution										641,200
<b>New Project</b>										
Commission Contribution										
Local Contribution										
<b>Other</b>										
<b>Special Study-Flood Resiliency Modeling</b>	30,000									
Commission Contribution	30,000									
Local Contribution	0									
<b>5th Generation Plan</b>	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Commission Contribution	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Local Contribution	0	0	0	0	0	0	0	0	0	0
<b>TOTAL IMPLEMENTATION PLAN</b>	<b>2,505,000</b>	<b>1,528,000</b>	<b>6,410,000</b>	<b>884,000</b>	<b>610,000</b>	<b>940,000</b>	<b>480,000</b>	<b>710,000</b>	<b>340,000</b>	<b>1,165,000</b>

Table **Error! No text of specified style in document.**2. West Mississippi Fourth Generation Plan Implementation Plan

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<i>City Cost Share Program</i>	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Commission Contribution	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Local Contribution	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
<i>Partnership Cost-Share BMP Projects</i>	100,000	100,000	100,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Commission Contribution	100,000	100,000	100,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Local Contribution	0	0	0	0	0	0	0	0	0	0
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>Champlin Woods Trail Rain Gardens</i>	180,000									
Commission Contribution	45,000									
Local Contribution	135,000									
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>Special Study-Flood Resiliency Modeling</i>	30,000									
Commission Contribution	30,000									
Local Contribution	0									
<b>TOTAL IMPLEMENTATION PLAN</b>	<b>410,000</b>	<b>200,000</b>	<b>200,000</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>