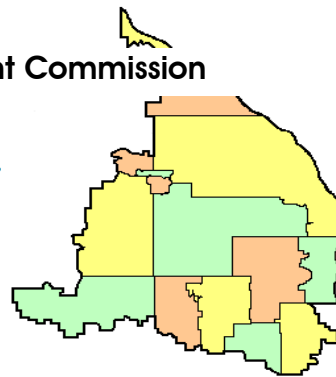


Shingle Creek Watershed Management Commission



3235 Fernbrook Lane N • Plymouth, MN 55447
 Tel: 763.553.1144 • Fax: 763.553.9326
 Email: judie@jass.biz • Website: www.shinglecreek.org

December 3, 2020

Commissioners
 Shingle Creek and West Mississippi
 Watershed Management Commissions
 Hennepin County, Minnesota

The agenda and meeting packet are available to all interested parties on the Commission's web site. The direct path is
<http://www.shinglecreek.org/minutes--meeting-packets.html>

Dear Commissioners:

Regular meetings of the Shingle Creek and West Mississippi Watershed Management Commissions will be held **Thursday, December 10, 2020, at 12:45 p.m. This will be a virtual meeting.**

Until further notice, all meetings will be held online to reduce the spread of COVID-19. **To join a meeting**, click <https://us02web.zoom.us/j/834887565?pwd=N3MvZThacmNRVDFrOWM3cU1KRU5qQT09>, which takes you directly to the meeting.

OR, go to www.zoom.us and click **Join A Meeting**. The meeting ID is **834-887-565**. The passcode for this meeting is **water**.

If your computer is not equipped with audio capability, you need to dial into one of these numbers:

+1 929 205 6099 US (New York)	+1 312 626 6799 US (Chicago)	+1 669 900 6833 US (San Jose)
+1 346 248 7799 US (Houston)	+1 253 215 8782 US	+1 301 715 8592 US

Meetings remain open to the public via the instructions above.

Please email me at judie@jass.biz to confirm whether you or your Alternate will be attending the regular meeting. Thank you.

Regards,

Judie A. Anderson
 Administrator

cc: Alternate Commissioners Member Cites Troy Gilchrist TAC Members
 Metropolitan Council Wenck Associates

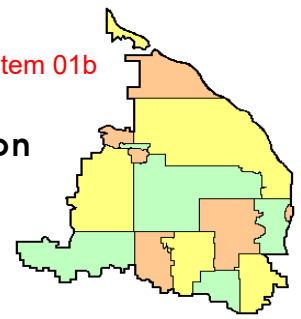
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Watershed Management Commission



item 01b



3235 Fernbrook Lane N • Plymouth, MN 55447
Tel: 763.553.1144 • Fax: 763.553.9326
Email: judie@jass.biz • Website: www.shinglecreek.org

A combined regular meeting of the Shingle Creek (SC) and West Mississippi (WM) Watershed Management Commissions will be convened Thursday, December 10, 2020, at 12:45 p.m. Agenda items are available at <http://www.shinglecreek.org/minutes--meeting-packets.html>. *Black typeface denotes SCWM items, blue denotes SC items, green denotes WM items.*

To join the meeting, click <https://zoom.us/j/834887565> or go to www.zoom.us and click Join A Meeting. The meeting ID is **834-887-565**. The passcode for this meeting is **water**.

If your computer is not equipped with audio capability, dial into one of these numbers: +1 929 205 6099 US (New York) | +1 312 626 6799 US (Chicago) | +1 253 215 8782 US | +1 669 900 6833 US (San Jose) | +1 346 248 7799 US (Houston) | +1 301 715 8592 US

1. Call to Order.
 - SCWM a. Roll Call.
 - ✓ SCWM b. Approve Agenda.*
 - ✓ SCWM c. Approve Minutes of Last Meeting.*
2. Reports.
 - ✓ SC a. Treasurer’s Report and Claims** - voice vote.
 - ✓ WM b. Treasurer’s Report and Claims** - voice vote.
 - WM 1) Memo - approve MWMO Invoice for 65th Avenue Monitoring.*
 - ✓ WM 2) Invoice.*
3. Open forum.
4. Project Reviews.
 - ✓ SC a. SC2020-010 Hartkopf Park, Brooklyn Park.*
 - ✓ SC b. SC2020-011 Lakeland Park, Brooklyn Park.*
 - ✓ SC c. SC2020-012 Norwood Park, Brooklyn Park.*
5. Watershed Management Plan.
 - SCWM a. Assessment of Progress.*
 - ✓ SCWM 1) 2020 Progress Report.*
6. Water Quality.
 - SC a. Crystal Lake 2020 Monitoring Data Review - presentation.
7. Grant Opportunities.
 - SC a. Bass and Pomerleau Lakes Grant Extension- verbal update.
 - SC b. Opportunity Grants.*
 - SC 1) SRP Outlet Channel Application.*
 - SC 2) Ryan Lake Shoreline Stabilization Application.*
 - SC 3) Grant selection process.*
 - SC c. Clean Water Fund Grant Results – verbal update.
8. Education and Public Outreach.
 - SCWM a. Hennepin County Chloride Initiative Update.*
 - SCWM b. WMWA Update.
 - SCWM c. Next WMWA meeting – 8:30 a.m., Tuesday, January 12, 2021. *Virtual meeting at <https://us02web.zoom.us/j/922390839?pwd=RU95T2ttL3FzQmxHcU9jcFhDdng1QT09> Meeting ID: 922 390 839 | Passcode: water | or by phone: +1 301 715 8592.*
- SCWM 9. Staff Report – no report this month.
10. Communications.
 - SCWM a. Communications Log.*
11. Other Business.
12. Adjournment.

Z:\Shingle Creek\Meetings\Meetings 2020\12 Agenda Regular meeting .docx

* In meeting packet or emailed ** Supplemental email / Available at meeting

Previously transmitted * Available on website ✓ Item requires action



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REGULAR MEETING MINUTES

November 12, 2020

(Action by the SCWMC appears in blue, by the WMWMC in green and shared information in black.)

*indicates items included in the meeting packet.)

I. A joint virtual meeting of the Shingle Creek Watershed Management Commission and the West Mississippi Watershed Management Commission was called to order by Shingle Creek Chairman Andy Polzin at 12:50 p.m. on Thursday, November 12, 2020.

Present for Shingle Creek were: David Mulla, Brooklyn Center; Adam Quinn, Brooklyn Park; Burton Orred, Jr., Crystal; Karen Jaeger, Maple Grove; Ray Schoch, Minneapolis; Bill Wills, New Hope; John Roach, Osseo; Andy Polzin, Plymouth; Wayne Sicora, Robbinsdale; Ed Matthiesen and Diane Spector, Wenck Associates, Inc.; Troy Gilchrist, Kennedy & Graven; and Judie Anderson and Amy Juntunen, JASS.

Present for West Mississippi were: David Mulla, Brooklyn Center, Alex Prash, Brooklyn Park; Gerry Butcher, Champlin; Karen Jaeger, Maple Grove; Harold E. Johnson, Osseo; Ed Matthiesen, Wenck Associates, Inc.; Troy Gilchrist, Kennedy & Graven; and Judie Anderson and Amy Juntunen, JASS.

Also present were: Andrew Hogg, Brooklyn Center; Mitch Robinson, Brooklyn Park; Mark Ray, Crystal; Derek Asche, Maple Grove; Bob Grant and Megan Hedstrom, New Hope; Leah Gifford, Ben Scharenbroich and Amy Riegel, Plymouth; Richard McCoy and Marta Roser, Robbinsdale; Brian Kallio and Todd Shoemaker, Wenck Associates; and Laura Scholl and Jennifer Ehlert, Metro Blooms.

II. Agendas and Minutes.

Motion by Schoch, second by Jaeger to approve the **Shingle Creek agenda**.** Motion carried unanimously.*

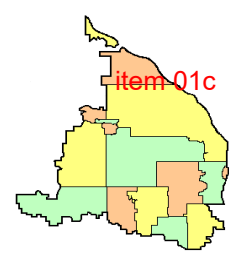
Motion by Butcher, second by Johnson to approve the **West Mississippi agenda**.** Motion carried unanimously.*

Motion by Schoch, second by Jaeger to approve the **minutes of the October 8, 2020 regular meeting**.** Motion carried unanimously.*

Motion by Johnson, second by Jaeger to approve the **minutes of the October 8, 2020 regular meeting**.** Motion carried unanimously.*

III. Finances and Reports.

A. Motion by Schoch, second by Roach to approve the Shingle Creek **November Treasurer's Report* and claims** totaling \$42,398.32. Voting aye: Mulla, Quinn, Jaeger, Schoch, Wills, Roach, Polzin, and Sicora; voting nay – none; absent: Crystal.



B. Motion by Jaeger, second by Butcher to approve the **West Mississippi November Treasurer's Report* and claims** totaling \$8,979.94. Voting aye: Mulla, Prasch, Butcher, Jaeger, and Johnson; voting nay – none.

[Orred arrived 1:05 pm.]

IV. Open Forum.

Brooks Landing is a senior affordable housing community located on 74th Avenue in Brooklyn Park. Scholl and Ehlert presented an update on this \$80,000 project for which the Shingle Creek Commission contributed \$30,000 of Cost Share funds. The site is 1.87 acres in size, 53% impervious. The community is comprised of 110 units. Other partners include the City of Brooklyn Park, Helping Hand Companies, African Career Education and Resource, Inc., Metro Blooms, Board of Water and Soil Resources Lawns to Legumes program, and Boisclair Corporation, owners of this affordable housing community.

The project began in 2019 when, after many discussions with the residents, Metro Blooms developed a landscape retrofit plan for the site. The plan includes stormwater improvements to reduce runoff and improve water quality, as well as livable, improved outdoor spaces with access to gardening areas, flowering trees and shrubs, and improved gathering areas.

On-site work commenced in 2020. Raingardens were created/retrofitted and landscaping was undertaken to create habitat along the Single Creek corridor while also addressing the creek's impairments for aquatic life (chlorides) and aquatic recreation (bacteria) through runoff reduction and smart salting training for the community's maintenance staff and resident caretakers. Funding for additional native plantings, shrubs and trees was provided by the Lawn to Legumes demonstration neighborhoods grant program. The plantings were completed last month and a sustainable tree canopy will be planted in Spring 2021 with a Hennepin County Healthy Tree Canopy grant.

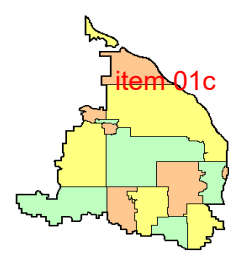
V. Project Reviews.

VI. Watershed Management Plan.

VII. Water Quality.

A. One of the West Mississippi Commission's pieces of monitoring equipment is no longer functional and Staff is recommending that it be replaced. The equipment is an **In-Situ AquaTroll data logger** which is used to continuously monitor temperature and conductivity in streams. This unit has been deployed in the channel flowing out of the Brooklyn Park Environmental Preserve and into the Coon Rapids Dam Regional Park to the Mississippi River. Staff uses conductivity to estimate chloride concentrations in streamflow. The Preserve is one of the Commission's ongoing monitoring stations in the watershed and there is a large area upstream that has developed over the last 20 years. The base price of this equipment is \$1,695. With shipping the estimated cost for replacement is \$1,750. The unit that is being replaced lasted for six years in harsh conditions; Staff expects similar longevity for the replacement unit. Staff recommends funding this equipment replacement from cash reserves. Motion by Jaeger, second by Butcher to purchase the data logger per Staff's recommendations. *Motion carried unanimously.*

B. McCoy presented on the topic of **Ryan Lake and Supplemental Pumping from Crystal Lake**. He related the needs for remedial action to reduce/better control high water levels in Crystal Lake. Crystal Lake has no natural outlet and increasing pumping into Minneapolis using the existing discharge pipe is limited by downstream capacity. During extended periods of very high water in Crystal Lake groundwater/lake water inundates the low-lying areas and infiltrates residents' basements.



McCoy identified the two apparent options: 1) reduce the water coming into the lake and/or 2) increase the water going out of the lake. In addressing the first option, the City of Robbinsdale has been building raingardens and underground storage as opportunities arise and is looking to the City of Minneapolis to assist with infrastructure in their jurisdiction, although this involves a long lead time for discussion and construction. With the second option, the City cannot increase pumping using the existing discharge point. The Twin Lake/Ryan Lake system is the only viable short-term option.

McCoy's presentation showed the "temporary" route used in 2019 to re-direct the water into Twin Lake, avoiding disruption to local traffic. It also showed the "permanent" route employed in 2020. With the more direct route, this alternative reduced the high water issues on Twin Lake by discharging the water to Ryan Lake directly. It is the intention to maintain this route for 2021 and beyond.

He also listed the requirements of the DNR: a) that the Operational Plan does not cause problems to Ryan Lake; b) that the addition of water will not exceed the capacity of the downstream infrastructure; c) that the water quality will not be adversely impacted; and d) that the Ryan Lake riparian land owners have been consulted.

C. Shoemaker's presentation described the significant flood mitigation benefits realized from the **Becker Park and Kentucky Avenue underground infiltration projects** undertaken in the City of Crystal. The analysis used a two-dimensional computer model to predict street flooding depth surrounding the Bass Lake Road and Broadway Ave intersection. The model was calibrated to monitoring data recorded in the Becker Park system. Improving water quality within Twin Lake was the primary motivation for both projects, but modeling shows the two projects also reduce street flooding. For example, the depth of street flooding is reduced by up to three inches during a one-hour, 1.8-inch rainfall.

D. Spector provided an update regarding the **Meadow Lake drawdown**. Because the DNR application was unable to be submitted on time, the drawdown will not occur this fall. Staff has received feedback that there are turtles in the lake that are concerning the residents. A spring drawdown will allow time for Staff to do a wildlife assessment prior to commencing.

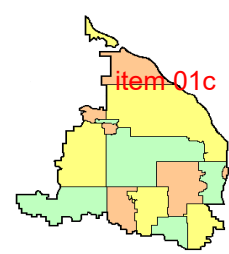
VIII. Grant Opportunities.

A. Hennepin County has announced another round of applications for its **Opportunity Grants*** for projects that protect and restore habitat, improve stormwater management, and reduce erosion and sedimentation. The deadline for this solicitation is December 2, 2020.

Last June the Commission authorized submitting an Opportunity Grant application for the **Channel Modification to Enhance the SRP Removal project**, requesting \$100,000 to be matched by \$10,000 from SRP project funds. The grant would be used to partially fund the project to line the outlet channel with two of the media tested in the SRP Reduction project. That application was not funded, primarily because it did not leverage enough match and because it was very early in the design phase.

Staff recommends that the project be resubmitted, this time for \$75,000 with a \$50,000 match, with the match coming from either the Closed Projects account or the Cost Share account. There are still some match funds available in the SRP Reduction budget that could be used to fund eight hours of design time to bring the plans from 30% to 60%. These monies would fund the first phase of the project, about half the channel. The results of the project would determine whether to proceed with the second phase.

Motion by Roach, second by Schoch to authorize Staff to submit an application for this project, using matching funds from the Cost Share account. *Motion carried unanimously.*



B. Roser inquired whether a contemplated project in the City of Robbinsdale would be eligible for an Opportunity Grant. It involves shoreline restoration on private property on the south shore of Ryan Lake. There is no public access on the lake and minimal boat traffic. Staff responded that this project may be eligible for a partnership Cost Share Grant and would likely require an easement-type agreement.

IX. Education and Public Outreach.

The **West Metro Water Alliance (WMWA)** will meet on Tuesday, December 8, 2020. The WMWA Zoom number is <https://us02web.zoom.us/j/922390839> or call in at any of these numbers using meeting ID **922 390 839**: (1) +1 301 715 8592 US (Germantown); (2) +1 312 626 6799 US (Chicago); (3) +1 929 205 6099 US (New York); or (4) +1 253 215 8782 US (Tacoma) The passcode is **water**. The members will be discussing the education components of the revised NPDES permit.

Final proofs of the native plant roots sign are attached to the Staff Report (item X., below). The sign makers will begin fabricating the tabletop versions with pull-out roots

X. Staff Report.*

A. Crystal Lake Management Plan. Staff are currently processing data acquired this year and will present a full status report at the December Commission meeting.

B. Bass and Pomerleau Lakes. The second alum treatment was applied. The BWSR grant expires at the end of 2020; Staff are working with BWSR to extend the expiration date by a year. Next spring, Staff will take final sediment cores to determine if they have successfully reduced sediment release to the goal rate. They will also survey the curly-leaf pondweed and complete a third treatment.

C. Education and Outreach. Mary Amsden, one of the two WMWA educators, announced her retirement in October, so the members will be looking for another contracted educator. Amsden worked primarily with schools in the southern part of the WMWA area, while Sharon Meister continues to focus on the northern part. Since there are limited in-classroom opportunities at this time, Meister's focus has been on online resources available both to teachers and families looking for content or enrichment as they learn from home.

XI. Communications.

October Communications Log.* No items required action.

XII. Other Business.

XIII. Adjournment. There being no further business before the Commissions, the joint meeting was adjourned at 3:28 p.m.

Respectfully submitted,

Judie A. Anderson
Recording Secretary
JAA:tim

Technical Memo



Responsive partner.
Exceptional outcomes.

To: West Mississippi WMO Commissioners

From: Ed Matthiesen, P.E.
Katie Kemmitt

Date: December 4, 2020

Subject: Approve MWMO Invoice for 65th Avenue Monitoring

**Recommended
Commission Action**

Approve payment of the invoice.

Attached is a partial invoice from the Mississippi WMO (MWMO) for providing contracted flow and water quality monitoring at the 65th Avenue outlet in Brooklyn Center. The Commission will remember that early this year you contracted with MWMO when we needed to move the monitoring site from the growing more unsafe outfall into the river to an upstream manhole. MWMO is very experienced at setting up equipment for and monitoring at deep manholes, so it made more sense and was more cost effective to simply contract with them.

Most of the work has been completed for the year, and the MWMO has submitted a partial invoice for \$10,996.76. the contract is for a maximum of \$12,449.00. The balance of the work to be completed is some final equipment maintenance for the winter, QA/QC of the data, and transmitting the data to us. When that work is complete, MWMO will submit a final invoice, likely after January 1.

Staff recommends payment of the invoice.

Z:\WestMiss\Water Quality\m-pay mwmo 2020 monitoring.docx



2522 Marshall Street NE
Minneapolis, Minnesota 55418-3329

612-465-8780
contacts@mwmo.org

mwmo.org

**MISSISSIPPI
WATERSHED
MANAGEMENT
ORGANIZATION**

Invoice

Date: 12/1/2020
Invoice Number: 1
Amount Due: \$10,996.76
From: 11/15/2019 to 11/30/2020

Bill To:

Name of Organization: West Mississippi Watershed Management Commission

Address: 7500 Olson Memorial Highway, Suite 300, Golden Valley, MN 55427

Primary Phone: 1.866.601.9636

Primary Contact: Ed Matthiesen

Title: Principal Engineer

Phone: 763.252.6851

E-mail: ematthiesen@wenck.com

Expense Information

Quantity	Description	Unit Price	Amount
31 hours	Field season Preparation		\$1087.50
56.25 hours	Install equipment		\$1868.63
2	Level Velocity sensor	\$1350	\$2700
4.5 hours	Data Management		\$176.00
29.25 hours	Collect samples		\$848.63
52.5	Equipment Maintenance		\$1853.25
930	Mileage – Expense	\$.575	\$534.75
18	Analytical lab cost	\$87.00	\$1566.00
1	Equipment Rental	\$108.00	\$108.00
0	Remove Equipment	\$0	\$0
6.75 hours	Admin		\$254.00
Total			\$10,996.76

Make All Checks Payable To:

MWMO

Attn: Accounts Payable

2522 Marshall Street NE

Minneapolis, MN 55418

SHINGLE CREEK WATERSHED MANAGEMENT COMMISSION

PROJECT REVIEW SC2020-010: Hartkopf Park

Owner: City of Brooklyn Park Recreation and Parks Department
Address: 5600 85th Ave N, Brooklyn Park, MN 55443

Engineer: Melissa White
Company: LHB, Inc.
Address: 701 Washington Ave N, Suite 200, Minneapolis, MN 55401

Phone: 612-752-6931
Fax: 612-338-2088
Email: Melissa.white@lhbcorp.com

Purpose: Park improvements, including new trails, athletic fields, and restrooms on a 25.3-acre City park parcel.

Location: 7300 Florida Ave N, Brooklyn Park, MN 55428 (Figure 1).

- Exhibits:**
1. Project review application, dated 11/10/2020, received 11/20/2020. Project review fee of \$2,200 has been delayed due to the COVID-19 pandemic but is being sent to the Commission by the City of Brooklyn Park.
 2. Site plan, preliminary plat, grading (Figure 2), utility, erosion control, and landscaping plans dated 11/20/2020, received 11/20/2020.
 3. Hydrologic calculations by LHB, Inc., dated 11/20/2020, received 11/20/2020.

- Findings:**
1. The proposed project is park improvements including parking lot replacement, the addition of prefabricated restrooms, a large, multi-purpose grass field area, and new trails. The park site is 25.3 acres and 8.7 of them will be disturbed. There is no increase in impervious surface proposed.
 2. The complete project application was received on 11/20/2020. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 1/14/2020 meeting. Sixty calendar-days expires on 1/19/2021.
 3. To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 85% TSS removal and 60% TP removal. Infiltrating 1.3-inches of runoff, for example, is considered sufficient to provide a similar level of treatment. If a sump is used the MnDOT Road Sand particle size distribution is acceptable for 80% capture.

Runoff from the parking lot is routed to two catch basins that will be outfitted with 4-foot sumps to treat runoff before it is discharged to the City storm sewer. A filtration basin on the east side of the new basketball courts will filter runoff from the courts before it is discharged to City storm sewer. A shallow infiltration basin on the east side of the park will infiltrate runoff from the sports field and existing trail. It will be outfitted with an overflow structure that flows to City storm sewer

SC2020-010:

during the 10 and 100-year events. Grassed areas adjacent to paved trails provide additional infiltration and water quality treatment. The grassed trail areas, infiltration basin, and filtration basin have the capacity to infiltrate 1.3 inches of runoff from the impervious area within the disturbed project area. The applicant meets Commission water quality treatment requirements.

4. Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year storm events. Runoff from the site routed to a filtration basin, and infiltration basin, and to vegetated buffers to reduce peak runoff. The applicant meets Commission rate control requirements (Table 1).

Table 1. Runoff from site (cfs).

Drainage Area	2-year event		10-year event		100-year event	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
C Entire site	5.6	5.1	17.3	15.7	51.9	50.9

5. Commission rules require the site to infiltrate 1.0 inch of runoff from new impervious area within 48 hours, but the applicant proposes to infiltrate 1.3 inches of runoff to meet the water quality requirements. The new and reconstructed impervious area on this site is 1.19 acres, requiring infiltration of 5,601 cubic feet within 48 hours. The applicant proposes that the filtration basin, infiltration basin, and grassed trail areas have the capacity to infiltrate 6,505 cubic feet within 48 hours. The applicant meets Commission volume control requirements.
6. The erosion control plan includes rock construction entrances, perimeter fabric fence and bioroll, silt fence surrounding infiltration and filtration basins, inlet protection, and native seed specified in the filtration basin. The erosion control plan meets Commission requirements.
7. The National Wetlands Inventory does not identify any wetlands on site. The applicant meets Commission wetland requirements.
8. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.
9. There is no FEMA-regulated floodplain on this site. The applicant meets Commission floodplain requirements.
10. The site eastern side of the site is located in a Drinking Water Management Area (DWSMA) but it is outside of the Emergency Response Area. The applicant proposes to infiltrate runoff through a vegetated filtration basin and a vegetated infiltration basin containing 18 inches of MNDOT biofiltration soil and seed and 6 inches of drainage. The applicant meets Commission drinking water protection requirements.
11. Door knocking, in-person public engagement events, and surveys were conducted between January-February 2020 for the project. Mailers were sent out to the park's surrounding neighborhoods. The applicant meets Commission public notice requirements.

SC2020-010:

12. An Operations & Maintenance (O&M) agreement for stormwater BMP maintenance is not needed since the project is owned by the City.
13. A Project Review Fee of \$2,200 is being sent to the Commission.

Recommendation: Recommend approval subject to the following conditions:

1. Demonstrate by double ring infiltrometer or witness test that the filtration and infiltration basins can meet the design infiltration rate of 0.80 inches/hour.

Wenck Associates, Inc.
Engineers for the Commission

Ed Matthiesen, P.E.

Date

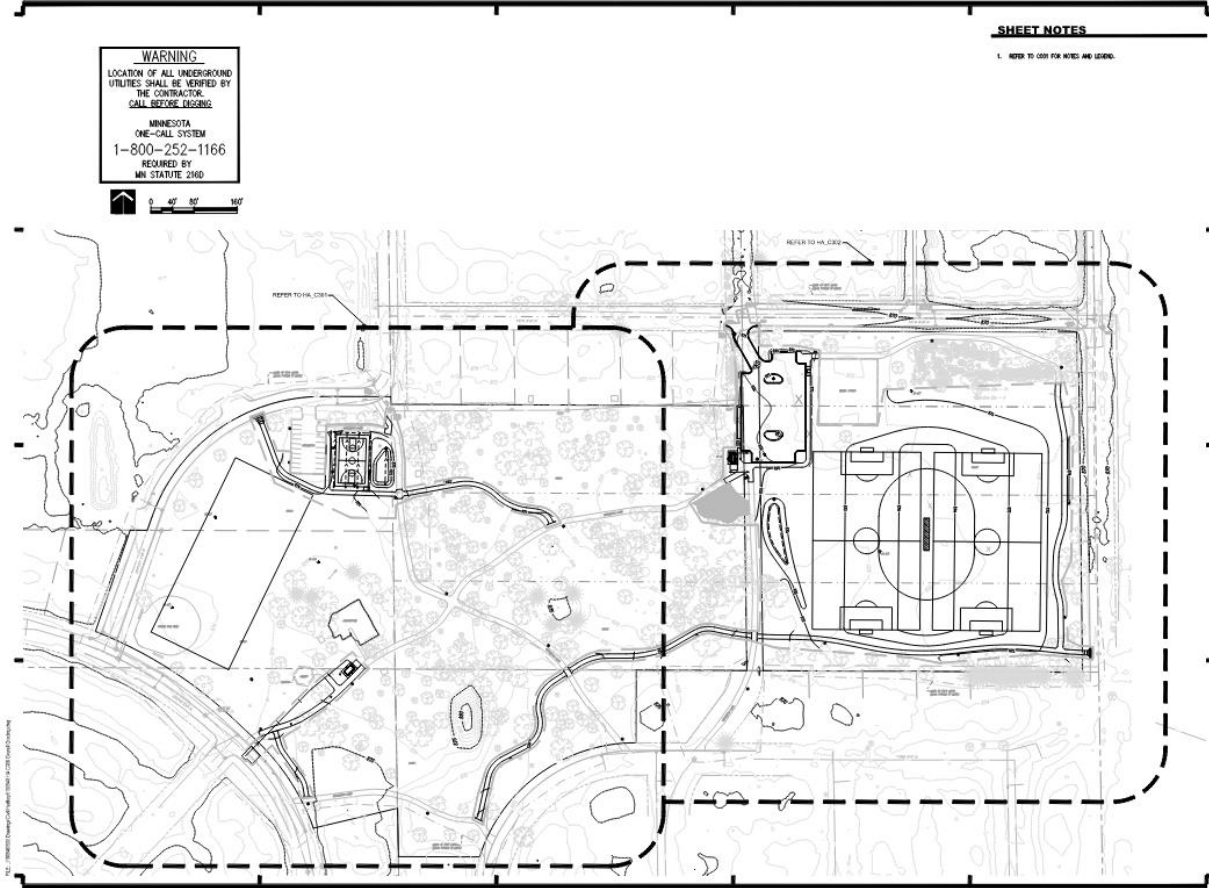
SC2020-010:

Figure 1. Site location.



SC2020-010:

Figure 2. Overall site grading plan.



SHINGLE CREEK WATERSHED MANAGEMENT COMMISSION

PROJECT REVIEW SC2020-011: Lakeland Park

Owner: City of Brooklyn Park Recreation and Parks Department
Address: 5600 85th Ave N, Brooklyn Park, MN 55443

Engineer: Melissa White
Company: LHB, Inc.
Address: 701 Washington Ave N, Suite 200, Minneapolis, MN 55401

Phone: 612-752-6931
Fax: 612-338-2088
Email: Melissa.white@lhbcorp.com

Purpose: Park improvements including parking lot mill and overlay, new trails and athletic fields/courts on 10.0-acre City park parcel.

Location: 6901 66th Avenue N, Brooklyn Park, MN 55428 (Figure 1).

- Exhibits:**
1. Project review application, dated 11/10/2020, received 11/20/2020. Project review fee of \$2,200 has been delayed due to the COVID-19 pandemic but is being sent to the Commission by the City of Brooklyn Park.
 2. Site plan, preliminary plat, grading (Figure 2), utility, erosion control, and landscaping plans dated 11/20/2020, received 11/20/2020.
 3. Hydrologic calculations by LHB, Inc., dated 11/20/2020, received 11/20/2020.

- Findings:**
1. The proposed project is park improvements including parking lot mill and overlay, replacement of a concrete picnic pad, two new basketball courts, a new paved trail loop, and regrading to create a new grass field area. The site is 10.03 acres. The project will disturb 7 acres and result in a 0.48-acre increase to the impervious area.
 2. The complete project application was received on 11/20/2020. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 1/14/2021 meeting. Sixty calendar-days expires on 1/19/2021.
 3. To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 85% TSS removal and 60% TP removal. Infiltrating 1.3 inches of runoff, for example, is considered sufficient to provide a similar level of treatment. If a sump is used the MnDOT Road Sand particle size distribution is acceptable for 80% capture.

Runoff from the site is proposed to be routed to a 1-foot deep infiltration ditch surrounding the newly constructed multi-use fields and an infiltration basin north of the building and existing playground outfitted with an overflow structure that flows to City storm sewer during the 2, 10, and 100-year events. Parking lot runoff drains directly to City storm sewer. Grassed areas adjacent to the new trails provide additional infiltration. The grassed trail areas, infiltration basin, and infiltration

SC2020-011:

ditch have the capacity to infiltrate 1.3 inches of runoff from the impervious area within the disturbed project area. The applicant meets Commission water quality treatment requirements.

4. Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year storm events. Runoff from the site is infiltrated on site by an infiltration basin, infiltration ditch, and vegetated buffers. Site runoff for the 2-year event exceeds the pre-existing rate due to the additional impervious area that drains to the existing parking lot. The applicant meets Commission rate control requirements (Table 1).

Table 1. Runoff from site (cfs).

Drainage Area	2-year event		10-year event		100-year event	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
Entire site	1.8	1.84	4.3	4.2	12.3	10.6

5. Commission rules require the site to infiltrate 1.0 inch of runoff from new impervious area within 48 hours, but the applicant proposes to infiltrate 1.3 inches of runoff to meet the water quality requirements. The new impervious area on this site is 1.52 acres, requiring infiltration of 7,170 cubic feet within 48 hours. The applicant proposes an infiltration ditch and basin that have the capacity to infiltrate 7,170 cubic feet within 48 hours. The applicant meets Commission volume control requirements.
6. The erosion control plan includes rock construction entrances, perimeter silt fence and bioroll, silt fence surrounding the infiltration pond and bordering the infiltration basin, and inlet protection. The erosion control plan meets Commission requirements.
7. The National Wetlands Inventory identified an emergent wetland on site; however, a field wetland delineation determined that there are no wetlands on-site. The applicant meets Commission wetland requirements.
8. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.
9. There is no FEMA-regulated floodplain on this site. The applicant meets Commission floodplain requirements.
10. The site is not located in a Drinking Water Management Area (DWSMA). The applicant meets Commission drinking water protection requirements.
11. Door knocking, in-person public engagement events, and surveys were conducted between January-February 2020 for the project. Mailers were sent out to the park's surrounding neighborhoods. The applicant meets Commission public notice requirements.
12. An Operations & Maintenance (O&M) agreement for stormwater BMP maintenance is not needed because the project is owned by the City.

SC2020-011:

13. A Project Review Fee of \$2,200 is being sent to the Commission.

Recommendation: Recommend approval subject to the following condition:

1. Demonstrate by double ring infiltrometer or witness test that the infiltration basin can meet the design infiltration rate of 0.45 inches/hour.

Wenck Associates, Inc.
Engineers for the Commission

Ed Matthiesen, P.E.

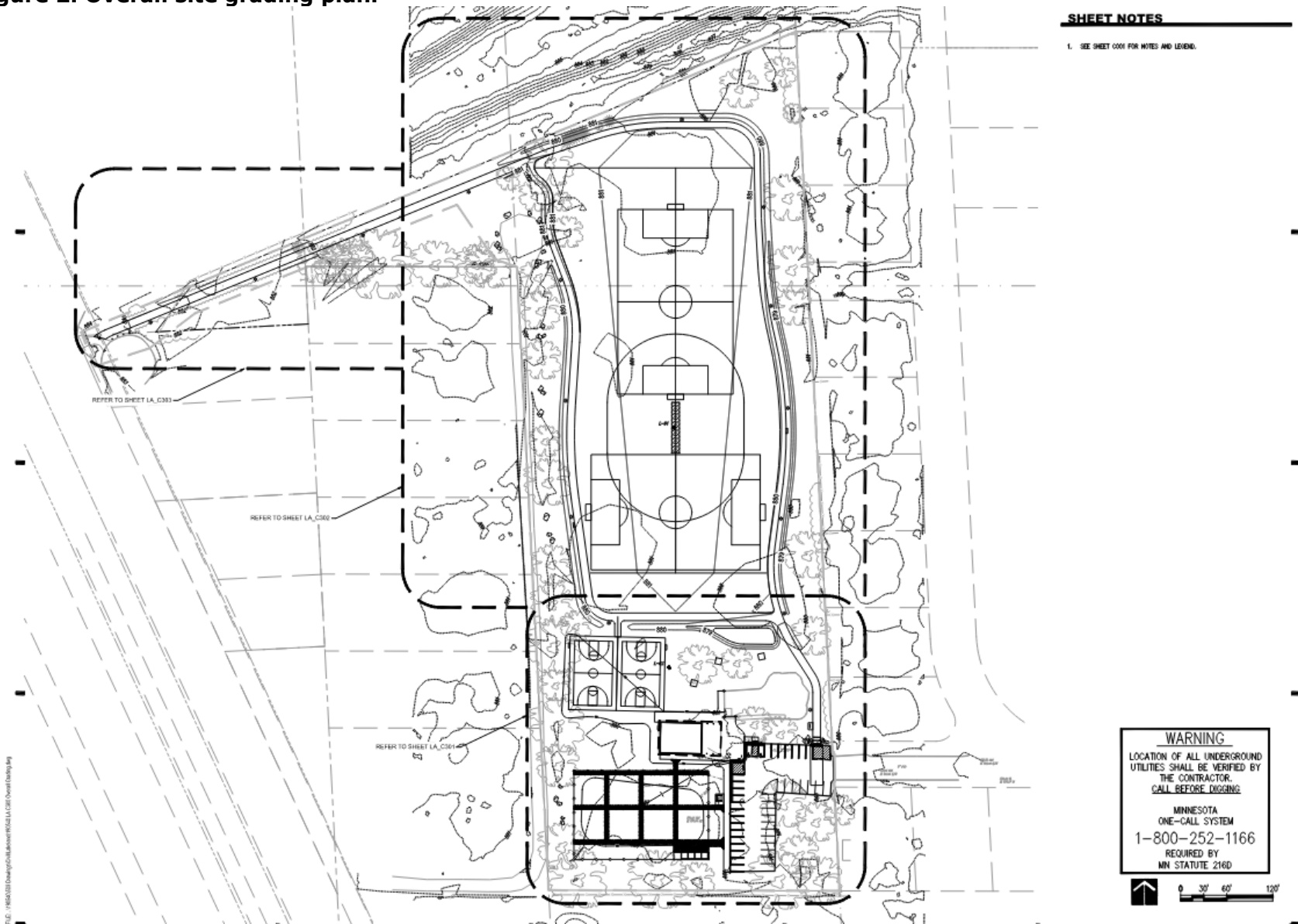
Date

SC2020-011:

Figure 1. Site location.



Figure 2. Overall site grading plan.



SHINGLE CREEK WATERSHED MANAGEMENT COMMISSION

PROJECT REVIEW SC2020-012: Norwood Park

Owner: City of Brooklyn Park Recreation and Parks Department
Address: 5600 85th Ave N, Brooklyn Park, MN 55443

Engineer: Melissa White
Company: LHB, Inc.
Address: 701 Washington Ave N, Suite 200, Minneapolis, MN 55401

Phone: 612-752-6931
Fax: 612-338-2088
Email: Melissa.white@lhbcorp.com

Purpose: Park improvements including a new park building, parking lot replacement, and new trails and athletic fields on a 32-acre City park parcel.

Location: 8100 Newton Avenue N, Brooklyn Park, MN 554444 (Figure 1).

- Exhibits:**
1. Project review application, dated 11/10/2020, received 11/20/2020. Project review fee of \$2,200 has been delayed due to the COVID-19 pandemic but is being sent to the Commission by the City of Brooklyn Park.
 2. Site plan, preliminary plat, grading (Figure 2), utility, erosion control, and landscaping plans dated 11/20/2020, received 11/20/2020.
 3. Hydrologic calculations by LHB, Inc., dated 11/20/2020, received 11/20/2020.

- Findings:**
1. The proposed project is park improvements including a new park building, reconstructed parking lot, a new basketball court, a small concrete pad, and new trails. The site is 32.0 acres and 8.3 acres will be disturbed. There will be no net increase in impervious area.
 2. The complete project application was received on 11/20/2020. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 1/14/2020 meeting. Sixty calendar-days expires on 1/19/2021.
 3. To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 85% TSS removal and 60% TP removal. Infiltrating 1.3 inches of runoff, for example, is considered sufficient to provide a similar level of treatment. If a sump is used the MnDOT Road Sand particle size distribution is acceptable for 80% capture.

Runoff from the north side of the parking lot is routed to a catch basin that will be outfitted with 4-foot sump to treat runoff before it is discharged to the City storm sewer. The south portion of the parking lot, a portion of the building roof, and the existing pickleball courts drain to a proposed infiltration basin that overflows to City storm sewer during the 10 and 100-year events. Vegetated areas adjacent to the newly constructed trails will provide further infiltration. The grassed trail areas, and infiltration basin have the capacity to infiltrate 1.3 inches of runoff

SC2020-012:

from the impervious area within the disturbed project area. The applicant meets Commission water quality treatment requirements.

4. Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year storm events. Runoff from the site is infiltrated on site by an infiltration basin and vegetated trail buffer. The applicant meets Commission rate control requirements (Table 1).

Table 1. Runoff from site (cfs).

Drainage Area	2-year event		10-year event		100-year event	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
Entire site	4.6	3.9	15.0	14.6	47.4	46.3

5. Commission rules require the site to infiltrate 1.0 inch of runoff from new impervious area within 48 hours, but the applicant proposes to infiltrate 1.3 inches of runoff to meet the water quality requirements. The disturbed impervious area on this site is 1.1 acres, requiring infiltration of 5,209 cubic feet within 48 hours. The applicant proposes an infiltration ditch and basin that have the capacity to infiltrate 5,326 cubic feet within 48 hours. The applicant meets Commission volume control requirements.
6. The erosion control plan includes rock construction entrances, perimeter silt fence and bioroll, silt fence surrounding the infiltration basin, native seed in the infiltration basin, inlet protection, and turf transition mat at the trench drain inlet to the infiltration basin. The erosion control plan meets Commission requirements.
7. The National Wetlands Inventory identified potential wetlands on site; however, a field wetland delineation determined that there are no wetlands on site. The applicant meets Commission wetland requirements.
8. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.
9. There is no FEMA-regulated floodplain on this site. The applicant meets Commission floodplain requirements.
10. The site is not located in a Drinking Water Management Area (DWSMA). The applicant meets Commission drinking water protection requirements.
11. Door knocking, in-person public engagement events, and surveys were conducted between January-February 2020 for the project. Mailers were sent out to the park's surrounding neighborhoods. The applicant meets Commission public notice requirements.
12. An Operations & Maintenance (O&M) agreement for stormwater BMP maintenance is not needed because the project is owned by the City.
13. A Project Review Fee of \$2,200 is being sent to the Commission.

Recommendation: Recommend approval subject to the following condition:

SC2020-012:

1. Demonstrate by double ring infiltrometer or witness test that the infiltration ditch and infiltration basin can meet the design infiltration rate of 0.45 inches/hour.

Wenck Associates, Inc.
Engineers for the Commission

Ed Matthiesen, P.E.

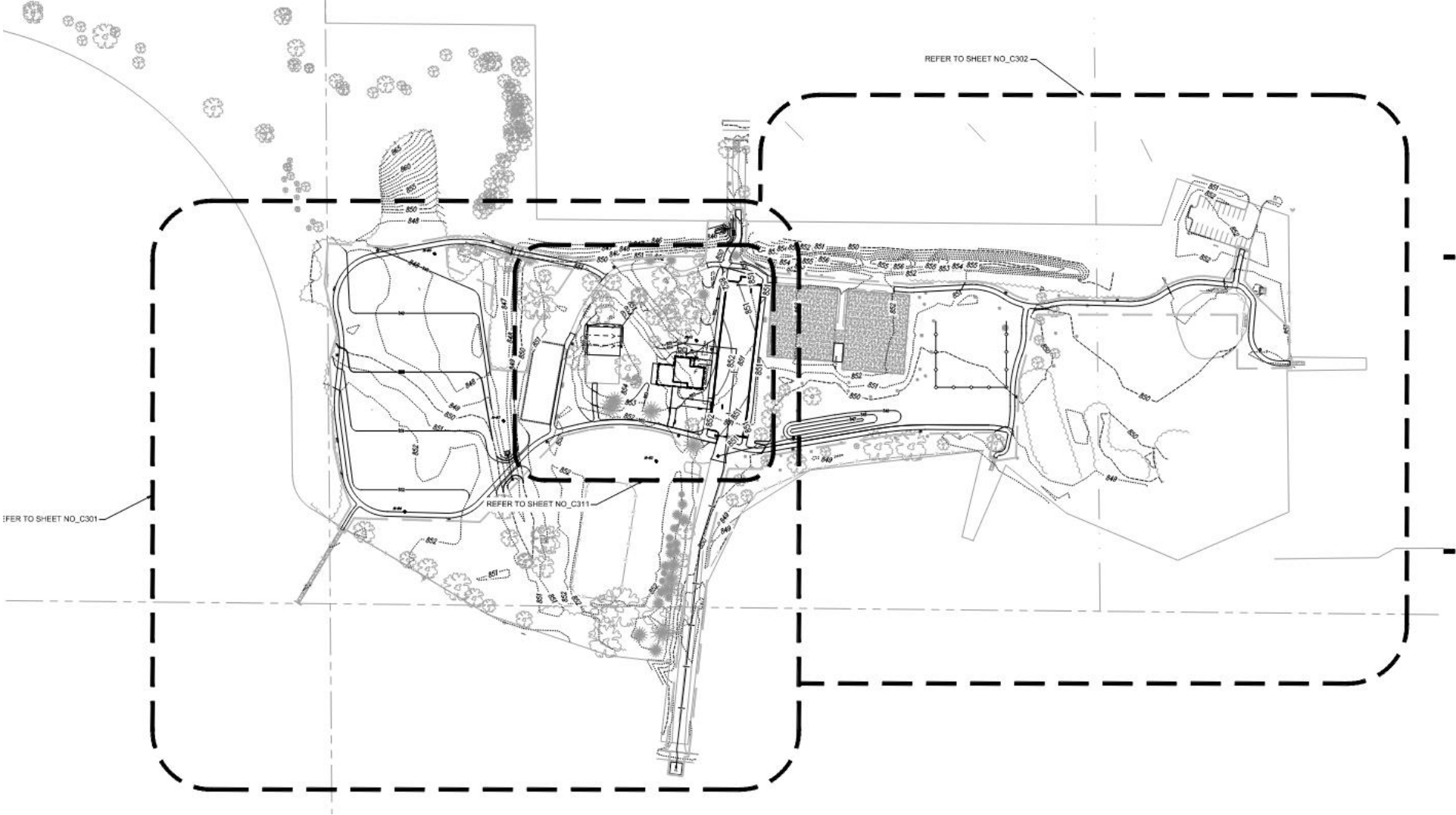
Date

SC2020-012:

Figure 1. Site location.



Figure 2. Overall site grading plan.



Technical Memo



Responsive partner.
Exceptional outcomes.

To: Shingle Creek/West Mississippi WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: December 4, 2020

Subject: Third Generation Watershed Management Plan Assessment of Progress

**Recommended
Commission Action**

Review, discuss, and adopt.

The Third Generation Watershed Management Plan states that the Commissions will annually review progress toward Third Generation goals, and that this evaluation will become part of the Annual Report. There is no specific format for such an annual review. Since the Third Generation Plan was adopted, the Board of Water and Soil Resources (BWSR) adopted revised Minnesota Rules 8410 that requires WMOs to review progress every two years.

The purpose of the annual review is first to determine progress towards the goals, and second to be sure the Commissions stay on track to reach them. The annual review is also an opportunity to discuss whether the goals and actions in the Plan still make sense or if they should be considered for modification or enhancement, perhaps to add in new priorities. Ideally, this annual review is also an opportunity to start thinking about your next year's work plan. Some highlights of the past year include:

ROUTINE BUSINESS

- Shingle Creek completed 12 reviews of development/redevelopment projects. The Commission acted as the WCA LGU for three wetland delineation/wetland type reviews; one no or incidental loss determination; and one exemption.
- West Mississippi completed seven reviews of development/redevelopment projects. The Commission acted as the WCA LGU for one wetland delineation/wetland type review; and two no or incidental loss determinations.
- Completed routine flow and water quality monitoring on Shingle and Bass Creeks at three locations, the Environmental Preserve (WM), contracted with MWMMO at the 65th Avenue outfall (WM) and partnered with the USGS to maintain the USGS Shingle Creek real-time site.
- Undertook water quality monitoring on Eagle and Pike Lakes; Bass and Pomerleau Lakes; and Crystal Lake.
- Performed aquatic vegetation surveys and sampled zooplankton and phytoplankton on Crystal, Eagle, Pike, and Meadow Lakes, and curly-leaf pondweed delineations on Bass, Pomerleau, and Upper Twin Lakes.
- Completed a carp survey on Crystal Lake and a turtle survey on Meadow Lake.
- Watershed PREP classroom lessons were on hold due to COVID.

STUDIES

- The Shingle Creek Commission continued to work with the DNR to update the Special Flood Hazard Areas in the watershed (“the HUC8 Study”).
- Compiled data and completed two DO longitudinal surveys on Bass and Shingle Creeks for the Biotic and DO TMDL 5 year review.
- Worked with the City of New Hope and Meadow Lake Watershed Association to prepare and submit a Clean Water Fund grant application and to prepare a water appropriation permit to draw down Meadow Lake
- Completed work on a subwatershed assessment for that part of Minneapolis that is within the Shingle Creek watershed.

PROJECTS

- Undertook year two of the SRP Reduction Project treatment system and monitored effectiveness.
- Worked with the City of Plymouth to undertake alum treatments on Bass and Pomerleau Lakes.
- Prepared and submitted Clean Water Fund grant application for the Shingle Creek Connections II and Bass Creek stream restoration projects.
- The Shingle Creek Commission received \$110,000 Watershed-Based Implementation Funding for the Meadow Lake and Connections II projects.

The attached tables show each Third Generation Plan goal, noting progress to date and expected completion. Each of the strategic actions identified for the goal areas are also shown, noting work completed in 2020 and to date, as well as expected completion as general status. For the most part the Commissions are on track to meet goals, with the following exceptions:

- Work has not yet begun on the “sustainable water budget” project. We have had some discussions with USGS staff about this but have not yet identified a funding source for this project.
- While Lower Twin, Ryan, and Schmidt Lakes have been delisted from the draft Impaired Waters list, you have a stretch goal of achieving delisting for Bass, Eagle, Crystal, and Middle Twin Lakes. The alum treatments on Bass and Pomerleau Lakes have already significantly improved water quality in those lakes and we hope will have a similar result in Crystal Lake. However we will not have accumulated data for a long enough period to be delisted prior to the expiration of the Third Generation Plan.
- You have a goal to have completed subwatershed assessments for at least 25% of that part of the watersheds that developed prior to Commission rules in 1984. You are on track to complete this for West Mississippi but will have completed only 14% of pre-1984 development Shingle Creek when the Minneapolis Subwatershed Assessment is completed. A more achievable goal would be 15%.
- You have a goal of maintaining the functions and values of priority wetlands but have not established a process by which that would be evaluated.

Shingle Creek and West Mississippi Watershed Management Commissions
2013-2022 Third Generation Watershed Management Plan 2020 Progress Review

Water Quantity

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
A.1 Maintain the existing 100-year flood profile throughout the watersheds.	Ongoing.	Ongoing.	On track
A.2 Determine ecological low flows for Shingle and Bass Creeks	Not yet completed.	Will be completed in the 2020-2022 time period	Needs work

Water Quantity Actions:

Third Generation Actions	Completed in 2020	Completed to Date	Expected Completion	Status
a. Maintain and update as necessary a calibrated hydraulic model of Shingle Creek and its tributaries	Continued work on the HUC8* study. Submitted to the DNR for review and comment.	Update as necessary.	Will complete in 2021.	On track
b. Maintain rules and standards requiring new development and redevelopment to control the rate and volume of runoff discharged from their sites and update those standards as necessary.	None.	Keep abreast of requirements of other WMOs and agencies.	Will continue to monitor industry developments and regulations and revise rules and standards as necessary.	On track
c. Develop a sustainable water budget for each watershed and an action plan for management activities necessary for its achievement	None.	None.	Will be completed in the 2020-2022 time period.	Needs work

*HUC = Hydrologic Unit Code

Shingle Creek and West Mississippi Watershed Management Commissions
2013-2022 Third Generation Watershed Management Plan 2020 Progress Review

Water Quality

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
B.1 As lake water quality improves and lakes are removed from the State's Impaired Waters list, implement management strategies to protect lake water quality. It is anticipated that Schmidt, Lower Twin, and Ryan Lakes will be removed in 2014.	Schmidt, Lower Twin, and Ryan are removed from the 303(d) list. The curly-leaf pondweed on Upper Twin has been monitored and treated for 3 years. About 40% of the target biomass of carp have been removed.	Will continue to implement protection strategies as funding and opportunities are available.	On track
B.2 Implement phosphorus and sediment load reduction actions sufficient to achieve de-listing from the Impaired Waters list for Bass, Eagle, Crystal, and Middle Twin Lakes.	Alum treatments for Bass Lake were completed in 2019 and 2020. Alum treatments for Crystal Lake will be completed in 2021 and 2022.	Projects have been completed or are scheduled for Crystal and Bass, not clear at this time whether additional actions will be necessary to meet the state standards goal.	On track Work needed
B.3 Improve water clarity in the balance of the lakes by 10% over the average of the previous ten years.	Need more data to evaluate progress. Alum treatments for Pomerleau completed in 2019 and 2020.	Will continue to implement load-reduction projects as funding and opportunities are available.	On track
B.4 Improve at least 30% of the length of Shingle Creek to meet Corridor Study and TMDL design standards.	As of 2020, 3.09 miles, or 27% of the 11.15 miles have been restored. Applied for a Clean Water fund grant to complete an additional 1,750 feet to achieve 3.42 miles or 30.6%.	On track to meet this goal prior to 2022. Will continue to pursue grant funds and implement projects as funding is available.	On track
B.5 Maintain nondegradation of all waterbodies compared to 1985 conditions.	Review of water quality data at the Shingle Creek outlet site shows TSS concentrations have decreased 25% since 2000 and TP by 35%. Need more data to evaluate lake progress.	Will continue to implement load-reduction projects as funding and opportunities are available.	On track

Shingle Creek and West Mississippi Watershed Management Commissions
2013-2022 Third Generation Watershed Management Plan 2020 Progress Review

Water Quality Actions:

Third Generation Actions	Completed in 2020	Completed to Date	Expected Completion	Status
a. Maintain and update as necessary calibrated P8 models for each lakeshed in Shingle Creek and the major drainage areas of West Mississippi.	None.	P8 models for each lakeshed, calibrated to XPSWMM. Models updated as necessary for TMDL reviews.	Will make updates to lakeshed models as necessary as next round of the TMDL 5 Year Reviews.	On track Work needed
b. Maintain rules and standards requiring new development and redevelopment to control the total phosphorus and total suspended solids discharged from their sites, and update those standards as necessary.	Ongoing monitoring.	New requirements incorporated into Third Gen Plan and enforced for ongoing development.	Will continue to monitor regulatory needs and trends and consider rules and standards revisions as necessary.	On track
c. Conduct an intensive BMP assessment for at least 25% of that part of the watershed that developed prior to Commission rules in 1984, and achieve 25% of the recommended load reduction within 10 years of the analysis.	<i>Shingle:</i> Completed an assessment of that part of Minneapolis in Shingle Creek (2,046 acres). <i>West Miss:</i> None.	<i>Shingle:</i> Completed assessments on 1,341 acres of 23,497 acres developed prior to 1984, or 5.7%. With Mpls area will be 3,387 acres or 14% <i>West Miss:</i> Completed assessments on 1,495 acres of 7,023 acres developed prior to 1984, or 21%.	<i>Shingle:</i> Goal of evaluating 5,874 acres by 2022 difficult; most interest is in doing compact 100-200 acre areas. More achievable goal is 15%, or 3,525 acres. <i>West Miss:</i> It is likely that the 25% goal will be exceeded by 2022.	<i>Shingle:</i> On track <i>West Miss:</i> On track
d. Contribute 25% of the cost of TMDL capital implementation projects (up to \$250,000).	<i>Shingle:</i> Contributing \$304,440 to six 2020 projects. <i>West Miss:</i> Contributing \$271,250 to three 2020 projects.	<i>Shingle:</i> Contributed \$3,169,450 to 25 projects since 2013. <i>West Miss:</i> Contributed \$831,050 to 11 projects since 2013.	Will continue to contribute to projects submitted to the Commissions' CIP.	On track
e. Pursue grant and other funding to implement improvement projects and feasibility studies.	Received \$110,000 Watershed Based Implementation Funding from BWSR. Three CWF applications pending.	Since 2013 received 15 grants totaling \$2,524,972.	Will continue to seek grant funding for projects and special studies.	On track

Shingle Creek and West Mississippi Watershed Management Commissions
2013-2022 Third Generation Watershed Management Plan 2020 Progress Review

Third Generation Actions	Completed in 2020	Completed to Date	Expected Completion	Status
f. Prepare and implement an Annual Monitoring Plan and conduct monitoring necessary to evaluate water quality conditions and trends in the lakes and streams in the two watersheds.	Completed and approved by the Commissions in February 2020.	Completed annually.	Will continue to complete annually.	On track
g. Evaluate progress toward achieving TMDL goals every five years following adoption of the respective Implementation Plans.	Shingle Creek DO and Biotic Review underway.	Have completed review of Chloride, all the lakes.	Shingle Creek DO and Biotic Review will be completed in 2021. All 5 Year Reviews of all TMDLs are expected to be completed by 2022.	On track Work needed

Groundwater

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
C.1 Infiltrate stormwater runoff from new impervious surface.	New requirements incorporated into Third Gen Plan and enforced for ongoing development.	Will continue to enforce and to urge voluntary compliance where infiltration is not required.	On track
C.2 Identify opportunities for and implement projects to infiltrate runoff from existing impervious surface.	Have completed five subwatershed assessments that have identified infiltration BMPs. Worked with Crystal on Becker Park Infiltration Project.	Will continue to implement volume reduction projects as funding and opportunities are available.	On track
C.3 Work with the appropriate state agencies to incorporate groundwater assessment into the sustainable water budget analysis for each watershed	Not yet completed.	Will be completed in the 2020-2022 time period.	Work needed

Shingle Creek and West Mississippi Watershed Management Commissions
 2013-2022 Third Generation Watershed Management Plan 2020 Progress Review

12/4/20

Groundwater Actions:

Third Generation Actions	Completed in 2020	Completed to Date	Expected Completion	Status
a. Maintain rules and standards requiring new development and redevelopment to abstract or infiltrate stormwater runoff from new impervious surface, and update those standards as necessary.	None.	New requirements incorporated into Third Gen Plan and enforced for ongoing development.	Will continue to monitor regulatory needs and trends and consider rules and standards revisions as necessary.	On track
b. Conduct an intensive BMP assessment for at least 25% of that part of the watershed that developed prior to Commission rules in 1984, and achieve 25% of the recommended volume reduction within 10 years of the analysis.	<p><i>Shingle:</i> Completing an assessment of that part of Minneapolis in Shingle Creek (2,046 acres).</p> <p><i>West Miss:</i> None.</p>	<p><i>Shingle:</i> Completed assessments on 1,341 acres of 23,497 acres developed prior to 1984, or 5.7%. With Mpls area will be 3,387 acres or 14%</p> <p><i>West Miss:</i> Completed assessments on 1,495 acres of 7,023 acres developed prior to 1984, or 21%.</p>	<p><i>Shingle:</i> Goal of evaluating 5,874 acres by 2022 difficult; most interest is in doing compact 100-200 acre areas. More achievable goal is 15%, or 3,525 acres.</p> <p><i>West Miss:</i> It is likely that the 25% goal will be exceeded by 2022.</p>	<p><i>Shingle:</i> On track</p> <p><i>West Miss:</i> On track</p>
c. Coordinate with the Minnesota DNR and other agencies to develop an action plan addressing surficial groundwater elevation issues in northern Brooklyn Park and the associated impacts on wetlands and Lake Success	None.	Preliminary conversations.	Will be completed in the 2020-2022 time period.	Work needed

Shingle Creek and West Mississippi Watershed Management Commissions
2013-2022 Third Generation Watershed Management Plan 2020 Progress Review

Wetlands

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
D.1 Maintain the existing functions and values of wetlands identified in the Commissions' Water Quality Plan as high priority.	For WCA projects where the Commissions are the LGU, are noting where the wetland is a priority wetland. Have not yet set up a process for evaluating this.	Not clear.	Work needed
D.2 Informed by the sustainable water budget study, improve functions and values of wetlands.	Not yet completed.	Will be completed in the 2020-2022 time period.	Work needed

Wetland Actions:

Third Generation Actions	Completed in 2020	Completed to Date	Expected Completion	Status
a. Adopt a wetland replacement sequencing policy.	None.	Rules and Standards include a sequencing policy.	Will continue to monitor regulatory needs and trends and consider rules and standards revisions as necessary.	On track
b. Identify wetland restoration opportunities and implement projects to restore wetland functions and values or to create new wetland acreage.	None.	Minor vegetation enhancement on Wetland 639W project.	Will continue to pursue grant funds and implement projects as funding is available.	On track

Drainage Systems

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
E.1 Continue current Hennepin County jurisdiction over County Ditch #13	Continue current jurisdiction.	Will continue current jurisdiction unless otherwise agreed to.	On track

Drainage System Actions:

Third Generation Actions	Completed in 2020	Completed to Date	Expected Completion	Status
a. Periodically reconsider the appropriate jurisdiction over County Ditch #13.	None.	Considered during development of the Third Gen Plan, no change.	Will reconsider as requested.	On track

Shingle Creek and West Mississippi Watershed Management Commissions
2013-2022 Third Generation Watershed Management Plan 2020 Progress Review

Commission Operations and Programming

Third Generation Goals	Progress Toward Goals	Expected Completion	Status
F.1 Identify and operate within a sustainable funding level that is affordable to member cities.	Commissions continue to operate within the Assessment Cap specified in the JPA.	Ongoing.	On track
F.2 Foster implementation of TMDL and other implementation projects by sharing in their cost and proactively seeking grant funds.	Contributed \$3,169,450 to 25 Shingle projects and \$831,050 to 11 West Miss projects since 2013. Established a City BMP Cost Share program and contributed to 10 BMP retrofits in SC and 1 in WM. Received 15 grants totaling \$2,524,972.	Will continue to cost-share through the county levy and to pursue grant funds and implement projects as funding is available.	On track
F.3 Operate a public education and outreach program that meets the NPDES Phase II education requirements for the member cities.	Shingle Creek and West Mississippi partner with Bassett Creek and Elm Creek and other agencies and nonprofits to provide education and outreach through the West Metro Water Alliance (WMWA). An annual report is provided to the member cities for the NPDES annual report.	Ongoing, in partnership with WMWA and other organizations.	On track
F.4 Operate a monitoring program sufficient to characterize water quantity, water quality, and biotic integrity in the watersheds and to evaluate progress toward meeting TMDL goals.	The commissions operate ongoing lake, stream, and wetland monitoring programs using both commission technical staff and volunteers.	Ongoing annually.	On track
F.5 Maintain rules and standards for development and redevelopment that are consistent with local and regional TMDLs, federal guidelines, source water and well head protection requirements, sustainable water yields, nondegradation, and ecosystem management goals.	Requirements consistent with the NPDES General Stormwater Permit and MIDS were incorporated into Third Gen Plan and enforced for ongoing development. The MN NPDES General Permit was reissued and is under review to assess potential for rules modification.	Will complete review as necessary.	On track
F.6 Serve as a technical resource for member cities.	The Commissions maintain an ongoing Technical Advisory Committee.	Ongoing.	On track

Shingle Creek and West Mississippi Watershed Management Commissions
2013-2022 Third Generation Watershed Management Plan 2020 Progress Review

Commission Operations and Programming Actions:

Third Generation Actions	Completed in 2020	Completed to Date	Expected Completion	Status
a. Annually review the budget and Capital Improvement Program.	Reviewed the budget and CIP, prepared a plan amendment to revise the CIP.	Established a process and schedule for annual review and modification of the CIP.	Ongoing annually.	On track
b. Maintain an Education and Public Outreach Committee (EPOC) that is charged with developing and implementing an annual education and outreach plan.	Most of the EPOC business is done in conjunction with WMWA. Continually updated website and registered nearly 7,300 unique page views January-November. Posted to social media and achieved 205 Facebook followers	Most of the EPOC business is done in conjunction with WMWA.	Ongoing.	On track
c. Prepare and implement an annual monitoring plan and summarize the results in an annual water quality report.	Monitoring plan approved by the Commissions in February 2020 and Annual Water Quality Report approved in April 2020.	Completed annually.	Ongoing annually.	On track
d. According to the schedules set forth in TMDL Implementation Plans, every five years evaluate progress toward meeting TMDL water quality goals, and adjust the Implementation Plans as necessary to achieve progress.	Shingle Creek DO and Biotic Review underway.	Have completed review of Chloride and all lake TMDLs.	Shingle Creek DO and Biotic Review will be completed in 2021. All 5 Year Reviews of all TMDLs are expected to be completed by 2022.	On track Work needed
e. Every five years or as necessary review the development rules and standards for adequacy and make revisions as necessary.	No action taken. The recently reissued MN NPDES General Permit is under review to assess potential for rules modification.	Minor amendment to incorporate Atlas 14.	Will complete review in 2021 or as necessary.	On track

Shingle Creek and West Mississippi Watershed Management Commissions
2013-2022 Third Generation Watershed Management Plan 2020 Progress Review

Third Generation Actions	Completed in 2020	Completed to Date	Expected Completion	Status
f. Continue research projects on innovative and cost-effective stormwater management practices and technologies.	Winding down a Section 319 grant to undertake the SRP Reduction Project.	Received Section 319 grant funding for and completed the Modular Green roof study, the Paired Intersection Study, and the Biochar- and Iron-Enhanced Sand Filters Project.	Will continue to seek grant resources and partnerships to conduct BMP research.	On track
g. Coordinate water resources management between the Commissions and the member cities.	Maintained an ongoing Technical Advisory Committee.	Maintained an ongoing Technical Advisory Committee.	Ongoing.	On track

Technical Memo



Responsive partner.
Exceptional outcomes.

To: Shingle Creek WMC Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: December 4, 2020

Subject: Hennepin County Opportunity Grant Applications

Attached for your information are the final versions of the two Hennepin County Opportunity Grant applications for the SRP Channel Extension and Ryan Lake Shoreline Stabilization projects.

SRP Channel Extension

This \$125,000 project would fill approximately 400 linear feet of the channel downstream of the Wetland 639W overflow weir with “cells” of iron-enhanced sand (IES). The cells are separated by a short clay berm that allows the flow to pool and filter through the IES to a drain tile at the bottom of the channel. It is estimated that this project will remove about 50 pounds of soluble reactive phosphorus (SRP) from the outflow discharging directly to Upper Twin Lake. SRP is the form of phosphorus that is most readily taken up by plants, and fuels algae blooms. The grant request is for \$75,000, with \$50,000 in match proposed from the Closed Projects Account.

Ryan Lake Shoreline Stabilization

Advanced by the City of Robbinsdale, this resiliency project would target ten private properties on the lake that currently are experiencing erosion and instability due to changed precipitation patterns, and would protect them from any further damage that might occur when emergency overflow pumping from Crystal Lake occurs. This grant request is for \$50,000, matched \$50,000 from the Partnership Cost Share program. Participants will be required to agree to maintain the buffers for at least ten years.

Hennepin County Decision Schedule

Activity	Description	Date(s)
Grant Committee Initial Meeting	Committee members receive applications and instructions	Dec 14 th (2020)
Grant Committee Review	Committee members given time to complete review and score applications	Dec. 15 th to Jan. 4 th (2021)
Grant Committee 2 nd Meeting	Committee meeting to discuss preliminary application score	Jan. 6 th
Applicant Follow-up	Should committee members have questions, applicants will be solicited and provided a week to answer	Jan. 7 th to Jan 14 th
Grant Committee 3 rd Meeting	Committee meets to review applicant answers (if any) and provide recommendation for funding	Jan. 11 th to 15 th (to be scheduled)
Applicants Alerted of Recommendation	Applicants emailed and provided notification on whether the committee is recommending their grant be funded	Likely by/around Jan. 15 th

Part 1

Natural Resources “Opportunity” Grant Application



Application No. _____

Place the cursor in the gray box at question 1, fill in the answer, and then use the F11 function key to navigate through the remaining questions in the application.

1. PROJECT TITLE:

Channel Modification to Enhance SRP Removal

2. APPLICANT NAME:

Shingle Creek Watershed Management Commission

3. APPLICANT SIGNATORY: *(The person whose name is listed here must sign Part 1 -Box 7 of this application)*

Name: Judie Anderson

Title: Administrator

Telephone Number: 763-553-1144

E-Mail Address: judie@jass.biz

Mailing Address

Agency: Shingle Creek Watershed Management Commission

Address: 3235 Fernbrook Ln N

City: Plymouth State: MN Zip Code: 55447

4. PROJECT DURATION:

Estimated Start Date: 1/1/2021

Estimated Completion Date: 6/30/2021


Anticipated PROJECT Length: 6 months, 1 of active construction

Part 1

Natural Resources “Opportunity” Grant Application

5. PROJECT TYPE:
<input checked="" type="checkbox"/> 1. Water Quality Project <input type="checkbox"/> 2. Wetland Restoration <input type="checkbox"/> 3. Habitat Restoration/Protection <input type="checkbox"/> 4. Assessment Identifying Future Projects <input type="checkbox"/> 5. Other:

6. FUNDING REQUEST: (Provide the amount of funding requested to complete your project.)	
Check for consistency with costs provided in Part 2, Question 2.	Project Amount:
Total PROJECT Cost This amount represents the full cost of the PROJECT.	\$ <u>125,000</u>
Natural Resources “Opportunity” Grant Request	\$ <u>75,000</u>
Other Match Funds in PROJECT Identify secured source(s) of funds: Funding Source <u>Shingle Creek WMC</u> Funding Source _____ Funding Source _____ Funding Source _____	\$ <u>50,000</u> \$ _____ \$ _____ \$ _____
Describe the status of the matching funds: Secured, in budget	

7. APPLICATION CERTIFICATION:	
I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM THE LEGALLY AUTHORIZED SIGNATORY OR DESIGNEE FOR THE SUBMITTAL OF THIS INFORMATION ON BEHALF OF THE APPLICANT.	
Judie Anderson	
Printed Name	Signature
Administrator	12/2/2020
Title	Date

Part 1
Natural Resources “Opportunity” Grant Application

THIS CONCLUDES PART 1

Part 2

Natural Resources “Opportunity” Grant Program

This is the rated portion of the application with a total of 200 possible points.

Each question identifies the proportion of available points. Applicants should provide clear and concise answers. The Scoring Guide, shown below each scored question, provides information on what reviewers will look for in a successful application.

EXECUTIVE SUMMARY (0 points)

Summarize the overall project and associated water quality problem and how the project will address or solve the problem. (limit your answer to 250 words or less).

Wetlands that have received many decades of nutrient and sediment-rich runoff from agricultural and developed land uses are at risk of transforming from nutrient sinks to nutrient sources. The discharge from these altered wetlands is often high in soluble reactive phosphorus (SRP) and low in dissolved oxygen. SRP is easily taken up by algae and fuels algal blooms. In the Shingle Creek watershed nearly all the remaining wetlands are highly disturbed. The Channel Modification to Enhance SRP Removal project is the installation of a media filter in a channel conveying high SRP outflow from a wetland in the City of Crystal to Upper Twin Lake, which is an Impaired Water for excess nutrients. The Commission had previously undertaken the SRP Reduction Project, a pilot field trial to evaluate the effectiveness of several types of media in reducing SRP. That trial modified the outlet structure of Wetland 639W and measured the effectiveness of iron-enhanced sand and two proprietary media to reduce SRP in a limited amount of wetland outflow. This proposed project would increase the project scale to treat all the outflow from the wetland by lining approximately 400 feet of the outlet channel with interconnected cells of the most cost effective medium, iron-enhanced sand, which consistently reduced 70-90% of SRP. It is estimated that the project will reduce SRP to Upper Twin by about 50 pounds per year, or about 25% of the remaining phosphorus load reduction. See 2019 project results at: <http://www.shinglecreek.org/srp-reduction-project.html>.

1. SCOPE OF WORK (up to 30 points)

Scoring Guide	Total 30 points
Clear and concise project description	Up to 5 points
Clear description of project tasks	Up to 5 points
Project deliverables are clearly defined	Up to 10 points
Clearly defined timeline for the project	Up to 5 points
The purpose meets defined shared goals	Up to 5 points

Reviewers award points for a clear, complete and thorough scope that directly addresses the natural resource management problem/need. The scope demonstrates an understanding of the work required to fully implement and complete the project.

Using the area below, please provide:

- A detailed scope of work for the project that includes clearly defined tasks, deliverables, timelines and purpose.
 - Describe the intended results (what is the benefit?).
 - Be specific, clear and concise.
 - Describe the project area and provide supporting map(s) and relevant diagrams and/or pictures.

Part 2

Natural Resources “Opportunity” Grant Program

Wetland 27-639W is in the cities of Crystal and Brooklyn Center, and is immediately east of the MAC Crystal Airport. Several hundred acres of developed lands in Crystal, Brooklyn Park, and Brooklyn Center drain to the wetland, which is partially ditched. The wetland discharges through a channel into Upper Twin Lake, which is an Impaired Water for excess nutrients. Years of study and monitoring have concluded that the wetland has transformed from a nutrient sink into a nutrient source, and outflow was the largest single source of phosphorus to Upper Twin Lake. Over the past 10 years a series of projects have been identified and constructed by the Shingle Creek Watershed Management Commission and the City of Crystal to reduce this pollutant discharge (see answer #2).

The original Wetland 639W Outlet Modification Project installed a new weir at the outlet of the wetland, and an overflow weir higher up in the wetland to provide an outlet for higher flows. The outlet structure is a three-sided weir box filled with limestone, which outlets into a new channel that was constructed in the upland adjacent to the wetland. That channel, too, was lined with limestone. The limestone was intended to provide some SRP reduction, however, the actual reduction has been negligible. In the pilot SRP Reduction Project, the outlet structure (see <http://www.shinglecreek.org/srp-reduction-project.html>) was modified to evaluate three different filter media – iron-enhanced sand (IES) and two proprietary media – at effectiveness in reducing SRP. The pilot study documented a consistent 70-90% reduction in SRP by one of the proprietary products and by IES. The IES findings were surprising as research at the St. Anthony Falls Lab and elsewhere had concluded the IES works best when allowed to dry out between events and did not work as well in low-oxygen environments. The third proprietary product did not perform as well as the other two and was discontinued from further consideration.

The load reduction achieved by the pilot field test was small since the fraction of water volume treated was small. The proposed Channel Modification to Enhance SRP Removal project would scale up the pilot to provide treatment in the discharge channel. The project would construct within the channel a series of cells lined with filter media underlain with drain tile assuring that each cell can draw down to allow the media to dry out. The proprietary medium, called Alcan, had the best removal rate but was several times more expensive than IES. This Phase 1 of the project would use only IES. Phase 2 later may include an Alcan cell depending on the monitoring results.

The Commission maintains a level logger in the pool upstream of the overflow weir to estimate the total volume discharged from the wetland. Regular grab samples are taken from that pool and in the downstream channel. These are used to estimate the annual water volume and pollutant load discharged from the wetland to the lake.

Upstream and downstream grab samples will be analyzed for TP, SRP, and TSS, and flow, DO and pH will be measured. The Commission has a rating curve based on limited flow data at the downstream end of the channel. A continuous flow meter will be installed to improve that rating curve and more precisely measure the volume being treated by the filter channel. Based on the ratio of filter area to load reduction from the pilot study, it is estimated that the in-channel filter can achieve an SRP load reduction of 50 pounds annually. The Commission will undertake this monitoring as part of its match to the grant.

Task 1: Final design and construction documents. The 60% design will be finalized, construction documents prepared, and quotes solicited from qualified contractors. The Commission and City are working with MAC staff to obtain permission to make modifications to the existing channel and expect to have that in hand prior to commencing the project. No other permits, agreements, or easements will be required. The Commission’s Engineer will work with the City of Crystal to complete this task. Deliverable = construction documents.

Task 2: Installation. The Commission and City will engage a qualified contractor to obtain the filter material and to install the filter cells and drain tile. The Commission’s engineer will be responsible for inspecting the work to assure it is completed according to specifications. The project is best suited for winter construction and could be completed within about one month.

Task 3: Monitoring. The Commission currently monitors outflow into the overflow weir for volume and water quality as well as discharge into the overflow channel. In this task, data will be routinely collected for two years to calculate removal effectiveness. Deliverable: monitoring report.

Part 2

Natural Resources “Opportunity” Grant Program

2. PROPOSED BUDGET *(up to 50 points)*

Scoring Guide	Total 50 points
Complete project budget is consistent with the scope of work and estimates are clear and reasonable.	Up to 5 points
Project attempts to leverage other local, state, or federal resources.	Up to 30 points
The project budget represents a good value for the work and natural resource benefit achieved.	Up to 15 points

Reviewers award points to cost-effective projects with accurate cost estimates. Points are awarded for a complete, reasonable budget that is consistent with the tasks described in the scope of work.

Using the areas below, please provide:

- A budget for the project including total cost for the project broken down into tasks.
 - i. Additional lines may be added to the Proposed Project Budget table if necessary.
- Identify the match sources.

Proposed Project Budget	
Task elements	Total Project Cost
1. Design and Construction Oversight	\$ 20,000
2. Construction	\$ <u>100,000</u>
3. Monitoring	\$ <u>5,000</u>
4.	\$ _____
5.	\$ _____
6.	\$ _____
Total costs needed to complete:	\$ <u>125,000</u>

In addition to the proposed budget above, please provide the following information:

Total Project Cost	\$ <u>125,000</u>
Natural Resources “Opportunity” Grant request	\$ <u>75,000</u>

Match sources:

List other funding sources and amounts, including local cash matching funds. In-kind contributions are not eligible.

Funding Source: <u>Shingle Creek WMC</u>	\$ <u>50,000</u>
Funding Source: _____	\$ _____
Funding Source: _____	\$ _____

Describe the status of matching funds: Secured, in budget

Part 2

Natural Resources “Opportunity” Grant Program

3. SEVERITY OF PROBLEM/NEED *(up to 55 points)*

Scoring Guide	Total 55 points
Severity of the problem/need is well documented.	Up to 15 points
Project will achieve substantial natural resources benefits.	Up to 20 points
Project success can be measured, and proposed methods to measure success are reasonable.	Up to 10 points
The Project provides long-term sustainability of natural resource benefits (e.g. operation and maintenance, long-term follow-up, natural resources management), and/or identifies additional projects to address specific problems area(s).	Up to 10 points

Reviewers award points for addressing severe natural resource problems and needs, documentation of those problems and needs and expected protection and/or improvements achieved by the proposed. Projects with measurable improvements receive more points than those with unclear or vague benefits. Reviewers will consider the actual benefit, the level of implementation and the severity of the problem. Reviewers will consider only changes that can be achieved by the proposed scope of work.

Using the area below, please provide:

- A detailed description of the severity of the problem or need to be addressed by the project.
 - Include how the problem has been documented in a plan or assessment (e.g., TMDL, CIP, or presence on State’s 303(d) impairment list).
 - Describe how the problem will be addressed by the project and how success will be measured.

The Shingle Creek Watershed Management Commission and the cities of Crystal and Brooklyn Center have studied Upper Twin Lake and the entire Twin Lake chain of four lake for decades to diagnose water quality issues and develop and implement Best Management Practices which have since been installed throughout the lakeshed. Monitoring prior to the 2007 TMDL identified a large wetland upstream of Upper Twin Lake as a significant source of phosphorus to the lake system. A new outlet structure was installed to control discharge from the wetland, and successfully reduced phosphorus load into the lake by over 200 pounds per year. However, a high proportion of the remaining estimated 250 pounds per year is dissolved phosphorus. This is quite common in disturbed wetlands where hydrology has been altered and the soils are alternately wetted and dried out and release phosphorus under anoxic conditions. (<http://www.shinglecreek.org/tmdls.html>).

As noted above, inflow and outflow from the channel will be monitored for two years and annual load reduction estimated. The project will be considered a success if it reduces SRP in the outflow to Upper Twin Lake by at least 50 pounds annually.

Part 2

Natural Resources “Opportunity” Grant Program

4. PROJECT TEAM (up to 10 points)

Scoring Guide	Total 10 points
Team members’ roles and responsibilities are well defined and expected contributions to the project are adequate for the scope of work.	Up to 5 points
Team members’ qualifications and past experiences are relevant.	Up to 5 points

Reviewers will award points based on skills, qualifications and experience of the project team members.

Using the area below, please provide:

- List contact information for the partners, staff and volunteers who will implement the project
- Briefly describe their relevant skills, qualifications, past experiences and expected contributions in the project (*do NOT submit resumes*).

Ed Matthiesen, PE, Project Manager (Wenck Associates). Ed has 40 years of extensive experience in water resources and environmental engineering, including as the District Engineer for three Twin Cities area watershed districts and four Joint Powers Associations, including the Shingle Creek WMC. He has completed comprehensive stormwater plans, designed outlet structures and storm sewers, computer hydrologic and hydraulic models, and has extensive experience designing and overseeing construction of stream and ditch restorations and stabilization projects. ematthiesen@wenck.com

Brian Kallio, PE, Project Engineer. Brian has more than 25 years of experience as a Senior Civil and Water Resources Engineer. His engineering experience includes managing, designing, and overseeing construction for a broad assortment of large and small civil engineering and water resources projects throughout Minnesota. Specialties include integrating water resources needs with site design and development, retrofitting new stormwater management facilities into limited spaces in urban areas, and producing creative solutions to challenging conditions. Brian designed and was project manager for the pilot SRP Reduction Project. bkallio@wenck.com

Katie Kemmitt, Monitoring Manager. Katie is an Environmental Scientist who currently oversees the monitoring program for the 16 lakes and several streams in the Shingle Creek and West Mississippi watersheds. She provides lake and stream monitoring flow and water quality monitoring; fish, macroinvertebrate, and aquatic vegetation surveys; and specialty monitoring and manages other staff and interns. kkemmitt@wenck.com

Mark Ray, PE, City of Crystal Director of Public Works/City Engineer. Mark and his staff will provide technical and maintenance advice and oversight of the project. Mark.Ray@crystalmn.gov

Part 2

Natural Resources “Opportunity” Grant Program

5. PROJECT DEVELOPMENT PROCESS/ LOCAL COMMITMENT *(up to 30 points)*

Scoring Guide	Total 30 Points
A comprehensive decision-making process was used to arrive at the proposed project.	Up to 10 pts.
The level of local support and commitments from project partners is documented.	Up to 15 pts.
A collaborative process will be implemented to execute the project.	Up to 5 pts.

Reviewers award points based on project development and implementation efforts and commitments from project partners. Provide documentation as appropriate.

Using the area below, please provide:

- Describe the decision-making process used to select the project (i.e. why was this project chosen over other solutions).
- List where the proposed project is identified as a priority by a local, state, or federal unit of government that manages natural resources (e.g., state approved watershed management plan).
- Describe how you have involved and fostered local, regional and statewide partnerships for the success of the project.

The Commission has on an ongoing basis made reduction of excess nutrients discharged from Wetland 639W a priority, as this is the largest single source of phosphorus to the Impaired Water Upper Twin Lake. Outflow from Upper Twin is the largest single source of phosphorus to Middle Twin Lake, which flows into Lower Twin Lake. Improving water quality in Upper Twin benefits multiple lakes. Three EPA/MPCA Section 319 grants have assisted the Commission in diagnosing the mechanics of the nutrient export and in constructing the original outlet modification project and the pilot SRP reduction study.

This project is a high priority to the Commission not only because of the need to continue to reduce phosphorus to Upper Twin Lake, but also because export of SRP from disturbed wetlands impacts other waterbodies in the watershed. There are several flow-through wetlands that discharge into Shingle and Bass Creeks, including Palmer Lake, the Cherokee Drive wetland, and I-94 wetland along Shingle Creek and the Timber Shores wetlands discharging to Bass Creek. Excess nutrients in both these streams are contributors to the DO impairment, which is a primary stressor to the fish and macroinvertebrate impairments in those streams. Demonstrating successful removal of SRP in wetland discharge to impaired waters is consistent with Minnesota’s Nutrient Reduction Strategy of nonpoint source reductions in urban runoff.

Part 2

Natural Resources “Opportunity” Grant Program

6. READINESS TO PROCEED *(up to 25 points)*

Scoring Guide	Total 25 Points
Project elements are in place for the project to proceed and documentation is provided (e.g. planning, design and permits).	Up to 25 pts.

Reviewers will award points based on how soon a project can begin construction.

Using the area below, please provide:

- Describe the steps you have taken to proceed immediately with the project. Provide information and documentation on project elements such as status of designs, permits, inter-local agreements, landowner agreements, easements, other secured funding, and staff or agency approvals.

The project has been 60% designed and can quickly proceed to final design and construction. The project site is located within the city of Crystal, on land that is owned by the Metropolitan Airports Commission (MAC) for the Crystal Airport and operated as the MAC Park Preserve under a cooperative agreement with the city that also allows the city to make improvements for water quality. The Commission and City are working with MAC staff to obtain permission to make modifications to the existing channel and expect to have that in hand prior to commencing the project. No other permits, agreements, or easements will be required.

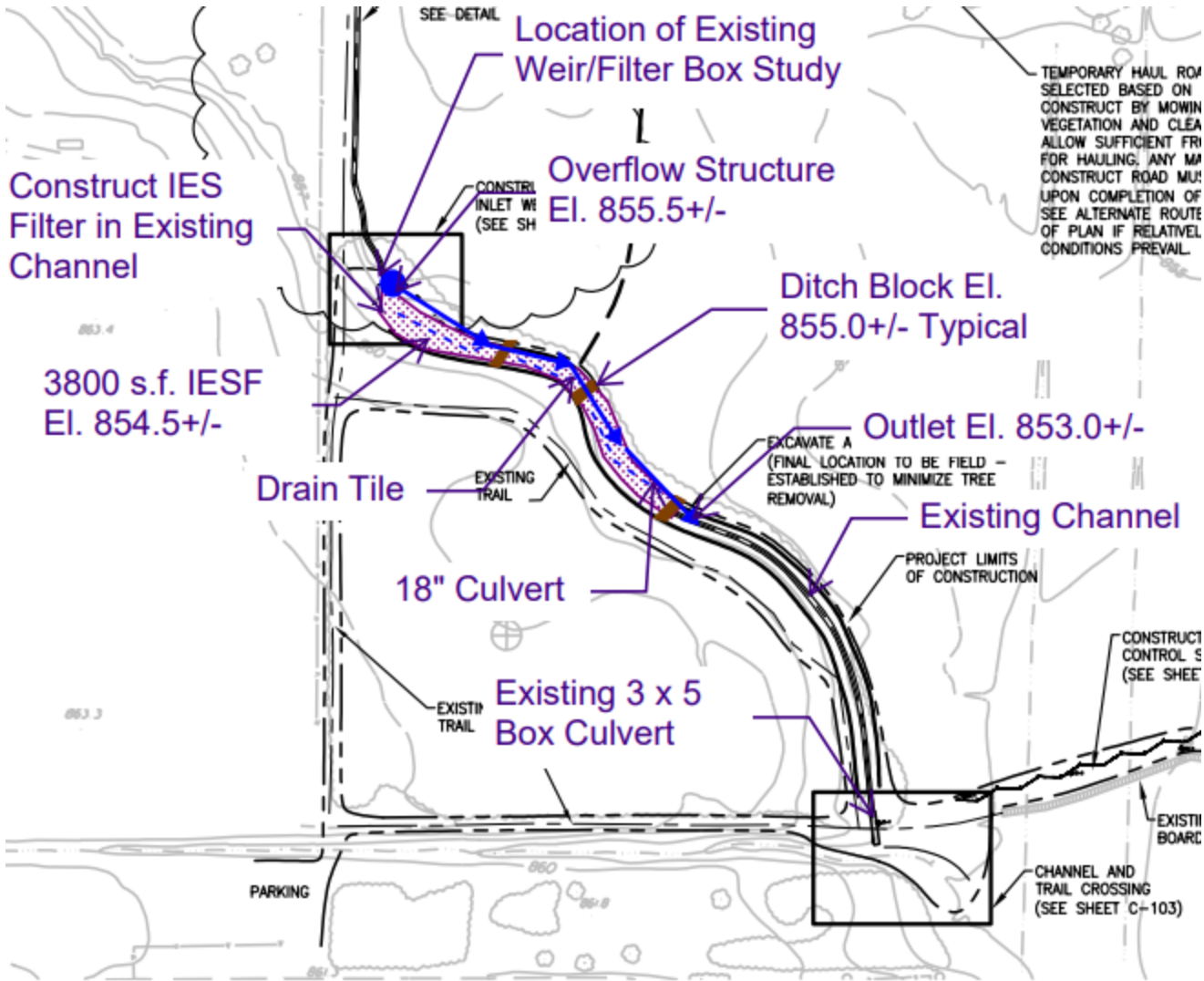
THIS CONCLUDES PART 2

Part 2 Natural Resources “Opportunity” Grant Program



Figure 1. Wetland 639W and overflow channel location.

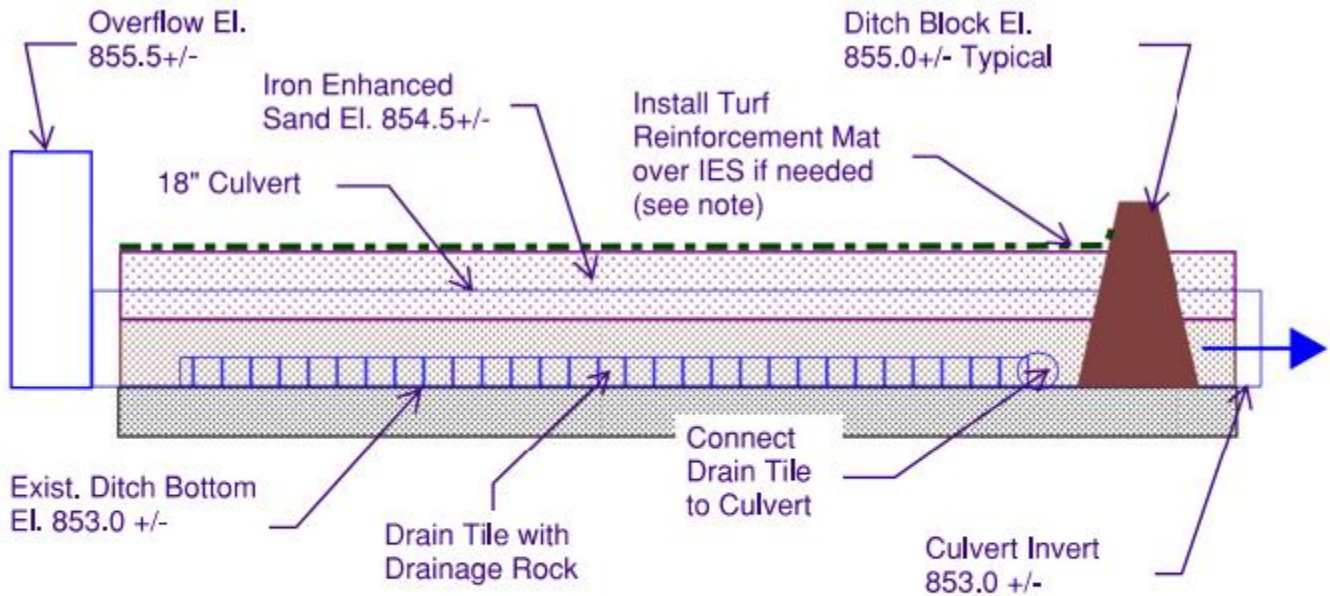
Part 2 Natural Resources "Opportunity" Grant Program



IES Filter Channel Plan View

Figure 2. Plan view of the IES filter channel.
Wenck Associates, Inc.

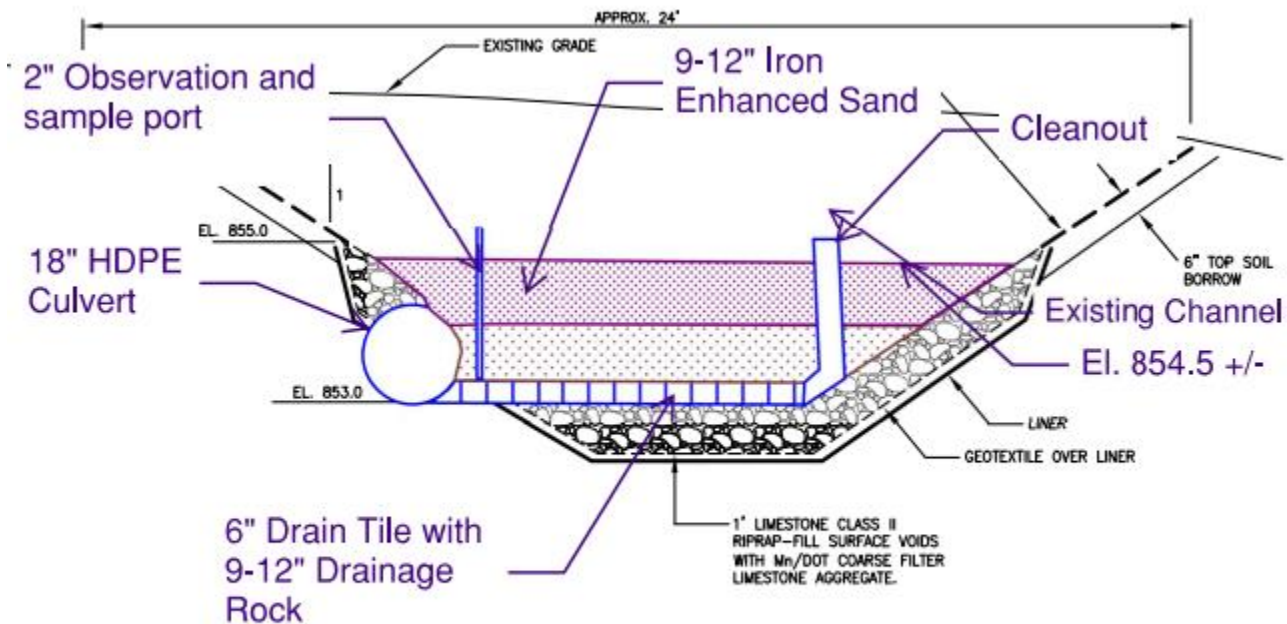
Part 2 Natural Resources "Opportunity" Grant Program



IES Filter Channel Profile

Note: Install Turf Reinforcement Mat over Iron Enhanced Sand surface if erosion, scour and loss of Iron Enhanced Sand is observed.

Figure 3. Profile view of the IES filter channel
Wenck Associates, Inc.



IES Filter Channel Cross Section

Figure 4. Typical cross section of the IES filter channel.
Wenck Associates, Inc.

Part 1

Natural Resources “Opportunity” Grant Application



Application No. _____

Place the cursor in the gray box at question 1, fill in the answer, and then use the F11 function key to navigate through the remaining questions in the application.

1. PROJECT TITLE:

Ryan Lake Shoreline Restoration

2. APPLICANT NAME:

City of Robbinsdale

3. APPLICANT SIGNATORY: *(The person whose name is listed here must sign Part 1 -Box 7 of this application)*

Name: Marta Roser

Title: Water Resources
Specialist

Telephone Number: (763) 531-1248

E-Mail Address:
mroser@ci.robbinsdale.mn.us

Mailing Address

Agency: City of Robbinsdale

Address: 4100 Lakeview Ave N

City: Robbinsdale State: MN Zip Code: 55422

4. PROJECT DURATION:

Estimated Start Date: 3/1/21

Estimated Completion Date: 6/1/23


Anticipated PROJECT Length: 3 months (for installation, but includes 2 years of follow-up maintenance)

Part 1

Natural Resources “Opportunity” Grant Application

5. PROJECT TYPE:
<input checked="" type="checkbox"/> 1. Water Quality Project <input type="checkbox"/> 2. Wetland Restoration <input checked="" type="checkbox"/> 3. Habitat Restoration/Protection <input type="checkbox"/> 4. Assessment Identifying Future Projects <input type="checkbox"/> 5. Other:

6. FUNDING REQUEST: <i>(Provide the amount of funding requested to complete your project.)</i>	
Check for consistency with costs provided in Part 2, Question 2.	Project Amount:
Total PROJECT Cost This amount represents the full cost of the PROJECT. (TBD w/ Wenck/watershed)	\$ <u>100,000</u>
Natural Resources “Opportunity” Grant Request	\$ <u>50,000</u>
Other Match Funds in PROJECT Identify secured source(s) of funds: Funding Source <u>Shingle Creek WMO Partnership Cost Share</u> Funding Source _____ Funding Source _____ Funding Source _____	\$ <u>50,000</u> \$ _____ \$ _____ \$ _____
Describe the status of the matching funds: Secured	

7. APPLICATION CERTIFICATION:	
I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM THE LEGALLY AUTHORIZED SIGNATORY OR DESIGNEE FOR THE SUBMITTAL OF THIS INFORMATION ON BEHALF OF THE APPLICANT.	
Marta B Roser	
Printed Name	Signature
Water Resources Specialist	12/02/2020
Title	Date

Part 1
Natural Resources “Opportunity” Grant Application

THIS CONCLUDES PART 1

Part 2

Natural Resources “Opportunity” Grant Program

This is the rated portion of the application with a total of 200 possible points.

Each question identifies the proportion of available points. Applicants should provide clear and concise answers. The Scoring Guide, shown below each scored question, provides information on what reviewers will look for in a successful application.

EXECUTIVE SUMMARY (0 points)

Summarize the overall project and associated water quality problem and how the project will address or solve the problem. (limit your answer to 250 words or less).

The purpose of the Ryan Lake Shoreline Restoration Project is to reduce bank erosion and sedimentation into Ryan Lake and downstream waterbodies and enhance resiliency by implementing stabilization projects along the shoreline. Extreme weather-patterns and heavy precipitation have created wide water level fluctuations that can accelerate shoreline erosion. Additional water to Ryan Lake includes water pumped in from Crystal Lake to alleviate flooding within the Crystal Lake basin. Underlying sandy soils along the Ryan Lake shoreline exacerbate this situation by eroding away quicker than overlying organic-rich topsoil, causing the top layer to slough into the lake. In Ryan Lake’s 5-Year TMDL Review it was determined that installation and maintenance of shoreline buffers should be a priority in water quality improvement efforts. Shoreline restoration would help stabilize the banks against fluctuating water levels and prevent further erosion of nutrient-rich soil in the waterbody as well as provide additional habitat to local wildlife. The City of Robbinsdale owns very little shoreline around Ryan Lake and so will partner with willing residents to implement up to ten shoreline restorations on their private property.

1. SCOPE OF WORK (up to 30 points)

Scoring Guide	Total 30 points
Clear and concise project description	Up to 5 points
Clear description of project tasks	Up to 5 points
Project deliverables are clearly defined	Up to 10 points
Clearly defined timeline for the project	Up to 5 points
The purpose meets defined shared goals	Up to 5 points

Reviewers award points for a clear, complete, and thorough scope that directly addresses the natural resource management problem/need. The scope must demonstrate an understanding of the work required to fully implement and complete the project.

Using the area below, please provide:

- A detailed scope of work for the project that includes clearly defined tasks, deliverables, timelines, and purpose.
 - Describe the intended results (what is the benefit?).
 - Be specific, clear, and concise.
 - Describe the project area and provide supporting map(s) and relevant diagrams and/or pictures.

Part 2

Natural Resources “Opportunity” Grant Program

Ryan Lake is in the cities of Brooklyn Center, Minneapolis, and Robbinsdale and is immediately south of the CP Railroad line. The 35-acre lake has a maximum depth of approximately 35 ft and 5,510 acres of highly urbanized land drain to this waterbody. This high watershed-to-lake ratio (157:1) means a large stressor on the Ryan Lake system is external loading and surface runoff. Compounding any issues with runoff are weather pattern changes in the Midwest due to climate change that are creating storms with heavy precipitation, especially in the spring and summer months. Supercharging the chain of lakes with precipitation has led to wide water level fluctuations that has created shoreline erosion and bank sloughing.

In 2019, the City of Robbinsdale investigated alternatives to manage persistent high water levels in Crystal Lake to the south due to years of increased precipitation. Crystal Lake is a 79-acre lake directly northeast of Co. Rd. 81 that is completely within the municipal boundaries of Robbinsdale and has no natural inlet or outlet. In 1992 the City was permitted to pump water to Minneapolis via stormwater pipes to create an artificial outlet to the lake. This pump lies to the north of lake and can pump up to 1,150 gal/min. However, in May 2019 Crystal Lake hit a high-water level record and extensive flooding occurred in many properties around the lake. The City of Minneapolis storm sewer system cannot handle any additional flow and thus the City was permitted by the MN DNR to start emergency pumping into Ryan Lake in 2019. Permanent pumping into Ryan Lake when the surface elevation in Crystal Lake is above 847.50 ft was allowed starting in summer 2020.

The purpose of this project is to stabilize the Ryan Lake shoreline to repair current conditions and improve resiliency to future high water levels from increased precipitation. Shoreline restoration and maintenance was also called out as a potential strategy for Ryan Lake in both the Twin and Ryan Lakes TMDL Implementation Plan and the 5-Year Review. Native plant buffers reduce sediment and nutrients in overland flow as well as create habitat for aquatic and terrestrial wildlife. While there are 20+ private residences on the lake, some have riprap or improvements in the riparian area and may not be suitable for this phase of the project. The goal is to complete restorations on ten properties.

The tasks would be as follows:

Task 1: Work with willing property owners to design each site

- While there will be a standard set of design options, the designer will work with each property owner to integrate the buffer into their backyard landscaping
- Property owners must execute maintenance agreements specifying they will maintain the buffers in place for at least ten years

Task 2: Install double row of coconut coir logs (or comparable BMP) onto shoreline

- Purpose is to form a protective barrier between the shoreline and the water
- Anchoring is essential to keep logs in-place

Task 3: Plant forbs and/or grass plugs directly into coconut coir logs

- Purpose is to give the roots of the plants a matrix of fibers to grow in rather than erodible soil
- Amount and type of plants would depend on each site and would be a balance between effective buffer species and the residents' use of the property
- Many of the properties have narrow back yards but where there is sufficient depth buffers may be widened by sowing native seed on prepared soil.

Task 4: Two (2) years of shoreline maintenance by professionals

- Purpose it to make sure that the plants establish well
- Plant mortality above a certain percentage will result in replanting of same species or comparable species, depending on what conditions resulted in the mortality

Part 2

Natural Resources “Opportunity” Grant Program

2. PROPOSED BUDGET (up to 50 points)

Scoring Guide	Total 50 points
Complete project budget is consistent with the scope of work and estimates are clear and reasonable.	Up to 5 points
Project attempts to leverage other local, state, or federal resources.	Up to 30 points
The project budget represents a good value for the work and natural resource benefit achieved.	Up to 15 points

Reviewers award points to cost-effective projects, with accurate cost estimates, which are able to equitably leverage multiple funding sources. Points are awarded for a complete, reasonable budget that is consistent with the tasks described in the scope of work.

Using the areas below, please provide:

- A budget for the project including total cost for the project broken down into tasks.
 - i. Additional lines may be added to the Proposed Project Budget table if necessary.
- Identify the match sources and their status.

Proposed Project Budget	
Task elements	Total Project Cost
1. Project administration/management	\$ <u>0 (in kind)</u>
2. Design and installation oversight	\$ <u>8,000</u>
3. Installation cost	\$ <u>87,000</u>
4. Two years professional maintenance	\$ <u>5,000</u>
5.	\$ _____
6.	\$ _____
Total costs needed to complete:	\$ <u>100,000</u>

In addition to the proposed budget above, please provide the following information:

Total Project Cost	\$ <u>100,000</u>
Natural Resources “Opportunity” Grant request	\$ <u>50,000</u>

Match sources:

List other funding sources and amounts, including local cash matching funds. In-kind contributions are not eligible.

Funding Source: <u>Shingle Creek WMO Partnership Cost Share</u>	\$ <u>50,000</u>
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Funding Source: _____	\$ _____
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Funding Source: _____	\$ _____
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Describe the status of matching funds: Secured

Part 2

Natural Resources “Opportunity” Grant Program

3. SEVERITY OF PROBLEM/NEED *(up to 55 points)*

Scoring Guide	Total 55 points
Severity of the problem/need is well documented.	Up to 15 points
Project will achieve substantial natural resources benefits.	Up to 20 points
Project success can be measured, and proposed methods to measure success are reasonable.	Up to 10 points
The Project provides long-term sustainability of natural resource benefits (e.g. operation and maintenance, long-term follow-up, natural resources management), and/or identifies additional projects to address specific problems area(s).	Up to 10 points

Reviewers award points for addressing severe natural resource problems and needs, documentation of those problems and needs, and expected protection and/or improvements achieved by the proposed. Projects with measurable improvements receive more points than those with unclear or vague benefits. Reviewers will consider the actual benefit, the level of implementation, and the severity of the problem. Reviewers will consider only changes that can be achieved by the proposed scope of work.

Using the area below, please provide:

- A detailed description of the severity of the problem or need to be addressed by the project.
 - Include how the problem has been documented in a plan or assessment (e.g., TMDL, CIP, or presence on State’s 303(d) impairment list).
 - Describe how the problem will be addressed by the project and how success will be measured.

This project would directly relate to goals listed in the Twin Lakes and Ryan Lake Nutrient TMDL. The 5-Year Review document specifically calls for cities to urge shoreline property owners to install and maintain shoreline buffers and to restore any unstable or eroded shorelines. This project would stabilize shorelines as well as create a shoreline buffer easement. Additionally, Shingle Creek lies directly downstream of Ryan Lake and is on the State’s 303d list of impaired waters. Any benefit to Ryan Lake would subsequently be a benefit to Shingle Creek. The project goal is to complete buffer installations on ten properties.

The project is also consistent with Hennepin County’s upcoming Climate Action Plan by adding resiliency to the shoreline to address increased precipitation depths and durations.

Part 2

Natural Resources “Opportunity” Grant Program

4. PROJECT TEAM (up to 10 points)

Scoring Guide	Total 10 points
Team members’ roles and responsibilities are well defined and expected contributions to the project are adequate for the scope of work.	Up to 5 points
Team members’ qualifications and past experiences are relevant.	Up to 5 points

Reviewers will award points based on skills, qualifications, and experience of the project team members.

Using the area below, please provide:

- List contact information for the partners, staff, and volunteers who will implement the project.
- Briefly describe their relevant skills, qualifications, past experiences, and expected contributions for this project (*do NOT submit resumes*).

Staff Contact Information:

Name:	Marta Roser	Richard McCoy
Organization:	City of Robbinsdale	City of Robbinsdale
Position:	Water Resources Specialist	Public Works Director/City Engineer
Address:	4100 Lakeview Ave N Robbinsdale, MN 55422	4100 Lakeview Ave N Robbinsdale, MN 55422
Phone:	(763) 531-1248	(763) 531-1260
Email:	mrosier@ci.robbinsdale.mn.us	rmccoy@ci.robbinsdale.mn.us

Richard McCoy, PE, Public Works Director / City Engineer (City of Robbinsdale). Richard has 35 years of extensive experience in municipal engineering across two continents. He continues to successfully manage teams in the design, delivery and maintenance of a wide variety of projects, primarily in a local government context and following prudent asset management principles. His work also includes budget preparation and control, public outreach and policy development.

Marta Roser, Water Resources Specialist (City of Robbinsdale). Marta has a B.A in Environmental Studies and a Master of Science in Land and Atmospheric Science. As Water Resources Specialist, she is responsible for a wide range of activities including raingarden installation, water quality monitoring, construction site inspection, and resident environmental education. Her background includes shoreline restoration and buffer installation projects with Blue Earth and Sherburne County Soil, Water, and Climate offices and research in agricultural drainage water remediation.

Partner Contact Information:

Name:	Judie Anderson	Ed Matthiesen	Seth Bossert
Organization:	SCWMC	Wenck	Wenck
Position:	Administrator	Principal Engineer	Landscape Architect
Address:	3235 Fernbrook Lane Plymouth, MN 55447	7500 Olson Memorial Hwy, Suite 300 Golden Valley, MN 55427	1800 Pioneer Creek Center Maple Plain, MN 55359
Phone:	(753) 553-1144	(763) 252-6851	(763) 479-4252
Email:	judie@jass.biz	ematthiesen@wenck.com	sbossert@wenck.com

Part 2

Natural Resources “Opportunity” Grant Program

Ed Matthiesen, PE, Project Manager (Wenck Associates). Ed has 40 years of extensive experience in water resources and environmental engineering, including as the District Engineer for three Twin Cities area watershed districts and four Joint Powers Associations, including the Shingle Creek WMC. He has completed comprehensive stormwater plans, designed outlet structures and storm sewers, computer hydrologic and hydraulic models, and has extensive experience designing and overseeing construction of shoreline, stream and ditch restorations and stabilization projects.

Seth Bossert, PLA (Wenck Associates). is a registered Landscape architect with more than fourteen years of experience in developing creative design solutions and implementing projects with both the public and private sectors. His focus is on environmental conservation and restoration projects and his specialties include, stream restoration, urban stormwater management, lake shore restoration, and construction administration.

Part 2

Natural Resources “Opportunity” Grant Program

5. PROJECT DEVELOPMENT PROCESS/ LOCAL COMMITMENT *(up to 30 points)*

Scoring Guide	Total 30 Points
A comprehensive decision-making process was used to arrive at the proposed project.	Up to 10 pts.
The level of local support and commitments from project partners is documented.	Up to 15 pts.
A collaborative process will be implemented to execute the project.	Up to 5 pts.

Reviewers award points based on project development and implementation efforts and commitments from project partners. Provide documentation as appropriate.

Using the area below, please provide:

- Describe the decision-making process used to select the project (i.e. why was this project chosen over other solutions).
- List where the proposed project is identified as a priority by a local, state, or federal unit of government that manages natural resources (e.g., state approved watershed management plan).
- Describe how you have involved and fostered local, regional, and statewide partnerships for the success of the project.

A shoreline restoration project was selected for Ryan Lake due observed bank erosion as well as the combination of increased precipitation, underlying soil conditions, and lakewater inputs from Crystal Lake emergency pumping to Ryan Lake. The SCWMC has been working on water quality improvements within the Twin Lakes/Ryan Lakes chain on an ongoing basis. Upstream work in Twin Lakes has included carp removals and aquatic plant management, but work within Ryan Lake itself has been limited. Ryan Lake is within the municipal boundaries of Brooklyn Center, Minneapolis, and Robbinsdale and the outlet of Ryan Lake is contained in CR Railroad property. Because City-owned property is limited along Ryan Lake to one parcel on the west side of the lake, working with private shoreline owners will increase our potential to improve water quality and provide habitat restoration. This project also is being pursued because the Ryan and Twin Lakes TMDL 5-Year Review document identifies installation and maintenance of shoreline buffers as a priority on both private and public land. The City of Robbinsdale has been in contact with Ryan Lake residents and staff have met with residents to discuss shoreline erosion.

A complete shoreline restoration would be necessary for properties because just using plants would not solve bank sloughing issues. There are similar wide water level fluctuations and underlying sandy soil conditions under a prairie restoration site along Crystal Lake shoreline and even with nearby deep-rooted native species the shoreline is experiencing bank erosion and sloughing. While shoreline erosion issues are much more extensive on Crystal Lake than Ryan Lake, some sort of “armor” is needed to keep the shoreline stable in addition to plants. Rip rap can be expensive and labor intensive to install as well as having no habitat benefits, but fiber rolls such as coconut fiber would provide “armor” to the shoreline as well as promoting habitat restoration.

The City of Robbinsdale is an active member of the Shingle Creek Watershed Management Commission (SCWMC) and City staff sit on the Technical Advisory Committee. The SCWMC and the City have partnered on many water quality projects using both commission and grant funds. The Ryan Lake Shoreline Restoration Project was presented at the November 12, 2020 Shingle Creek/West Mississippi WMC Joint Meeting and recommended for improvement at the December 1, 2020 TAC Meeting.

Part 2

Natural Resources “Opportunity” Grant Program

DNR has been consulted on another recent project implemented by the SCWMC and a maintenance plan would be submitted to the Area Fisheries office.

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6. READINESS TO PROCEED *(up to 25 points)*

Scoring Guide	Total 25 Points
Project elements are in place for the project to proceed and documentation is provided (e.g. planning, design, and permits).	Up to 25 pts.

Reviewers will award points based on how soon a project can begin construction and how efficiently the project can proceed to completion, especially through early stages.

Using the area below, please provide:

- Describe the steps you have taken to proceed immediately with the project. Provide information and documentation on project elements such as status of designs, permits, inter-local agreements, landowner agreements, easements, other secured funding, and staff or agency approvals.

A letter and survey has been sent to all Ryan Lake shoreline residents to identify properties that would be willing to have a shoreline buffer installed. This would involve an agreement to maintain the shoreline buffer for at least ten (10) years. The Ryan Lake Shoreline Restoration project was presented at the November 12, 2020 Shingle Creek/West Mississippi WMC Joint Meeting and at the December 1, 2020 TAC Meeting. The TAC has recommended that the Commission fund the \$50,000 match from the Partnership Cost Share. NDR Work in Public Waters Permits may be required for these projects, which will be determined as the sites are designed.

THIS CONCLUDES PART 2

Part 2 Natural Resources “Opportunity” Grant Program

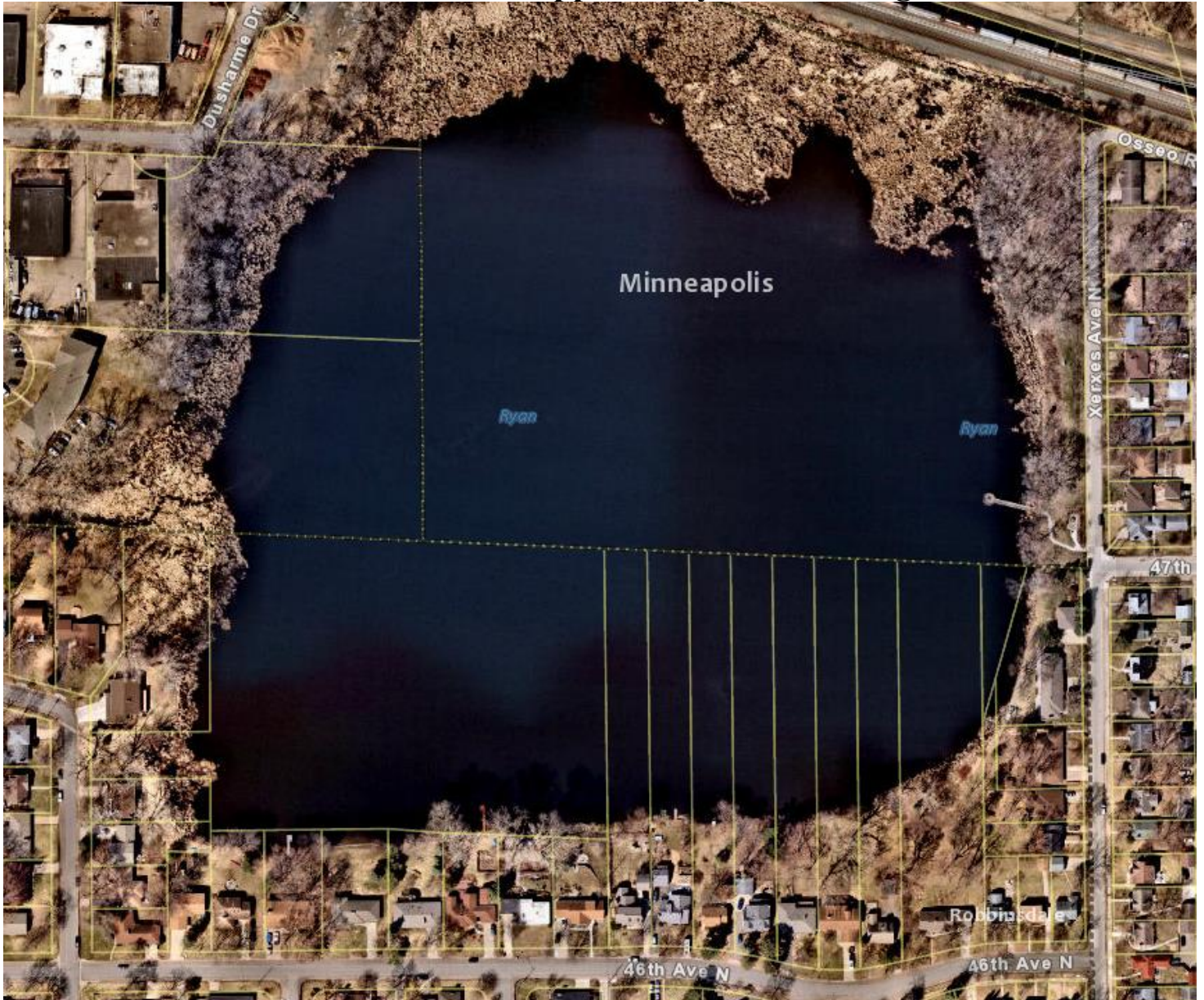


Figure 1. The Ryan Lake shoreline showing potential residential property locations on the south and west shores.

Part 2 Natural Resources "Opportunity" Grant Program

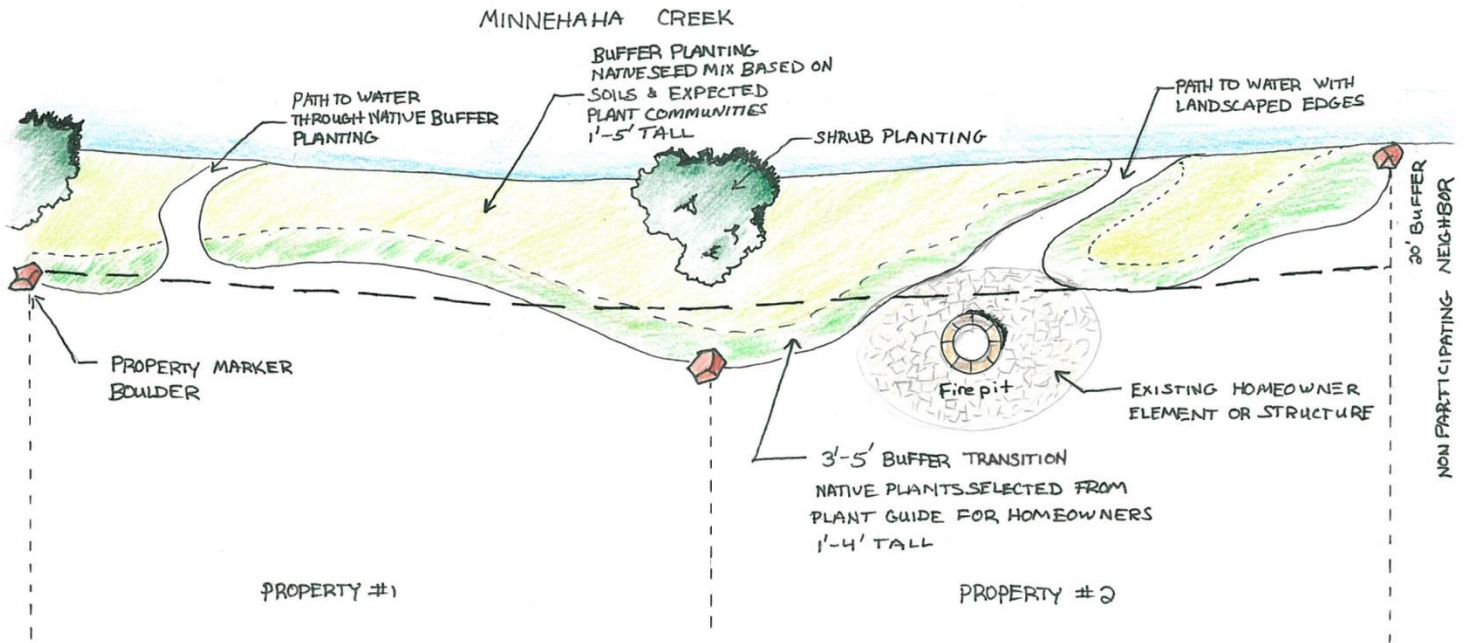


Figure 2. A typical shoreline restoration prepared by Wenck for another client.

From: Kristopher Guentzel <Kristopher.Guentzel@hennepin.us>
Sent: Thursday, December 03, 2020 11:55 AM
To: Kristopher Guentzel <Kristopher.Guentzel@hennepin.us>
Cc: Karen Galles <Karen.Galles@hennepin.us>; Kristine M Maurer <Kristine.Maurer@hennepin.us>
Subject: Opportunity Grant Application Receipt Notification and Review Schedule

Good morning,

Thank you for submitting an Opportunity Grant Application! Your application will be reviewed along with others by our Opportunity Grant Review Committee, made up of both internal Hennepin County staff and an external government partner. Below is an outline of the committee's review process and an approximate schedule for completing each step. This schedule is subject to change.

Activity	Description	Date(s)
Grant Committee Initial Meeting	Committee members receive applications and instructions	Dec 14 th (2020)
Grant Committee Review	Committee members given time to complete review and score applications	Dec. 15 th to Jan. 4 th (2021)
Grant Committee 2 nd Meeting	Committee meeting to discuss preliminary application score	Jan. 6 th
Applicant Follow-up	Should committee members have questions, applicants will be solicited and provided a week to answer	Jan. 7 th to Jan 14 th
Grant Committee 3 rd Meeting	Committee meets to review applicant answers (if any) and provide recommendation for funding	Jan. 11 th to 15 th (to be scheduled)
Applicants Alerted of Funding Recommendation	Applicants will be emailed and provided notification on whether the committee is recommending their grant be funded	Likely by/around Jan. 15 th

Please note that the Opportunity Grant Committee can only provide a recommendation for funding. That recommendation must be formally approved by Hennepin County's Board of Commissioners. Grant applicants should not plan to incur reimbursable grant expenses until we have received Board approval, which is expected in Spring 2021.

If you have any questions now or during our review process, please don't hesitate to reach out. My contact information is below.

Kris Guentzel

Senior Water Resources Specialist

Hennepin County Environment and Energy

Office: 612-596-1171

kristopher.guentzel@hennepin.us | www.hennepin.us/environment

701 Fourth Ave South, Suite 700

Minneapolis, MN 55415-1842

Z:\Shingle Creek\GrantOpportunities\2020 Ryan Lake Opp Grant Application\Grant selection process.docx

Technical Memo



Responsive partner.
Exceptional outcomes.

To: Shingle Creek/West Mississippi WMC Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: December 4, 2020

Subject: Hennepin County Chloride Initiative Update

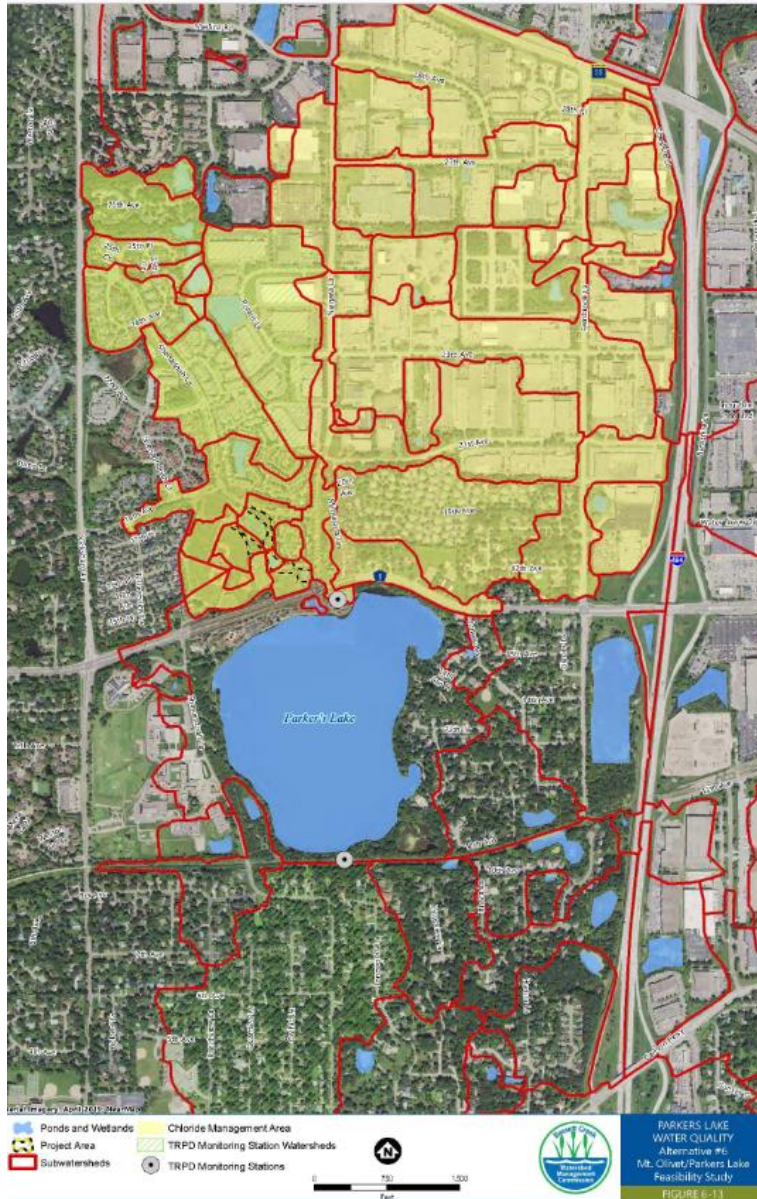
The Commissioners will recall that the eleven WMOs in Hennepin County elected to set aside 10 percent of the BWSR Watershed Based Funding from the 2018 Pilot Program, or \$101,800, specifically for joint, countywide chloride reduction initiatives. The Hennepin County Chloride Initiative is comprised of one representative designated by each WMO. Ben Scharenbroich represents Shingle Creek and Andrew Hogg represents West Mississippi. The Riley-Purgatory-Bluff Creek Watershed District serves as coordinator and fiscal agent for the Hennepin County Chloride Initiative (HCCI).

Since that time the HCCI has been primarily engaged in better understanding barriers to chloride reduction BMPs and assessing training needs. The group has been partnering with the MPCA on one of identified training needs – outreach and training opportunities for property managers. A training workshop has been developed, and the accompanying handbook has recently been made available on the MPCA’s website at: <https://www.pca.state.mn.us/water/salt-applicators>. The handbook is intended to accompany the workshop, not replace it.

Attached are the notes from the December 1, 2020 HCCI meeting. As noted, MPCA will be translating the manuals and training materials into Spanish and may make other languages available if there is demand. As noted, the grant funding that the MPCA and other WMO partners used to subsidize the training cost per person have been expended, so the cost to offer a Smart Salt workshop is now \$2,000. Neither Shingle Creek nor West Mississippi has in the past partnered with the MPCA to offer local Smart Salt training. Shingle Creek did work with the MPCA and Fortin Consulting to offer workshops that preceded the development of the Salt Smart training after the Shingle Creek chloride TMDL was first approved. Most of the attendees were city staff. The West Metro Water Alliance (WMWA) may elect to offer one or more workshops in the future but has no plan to at this time.

Most of the HCCI grant funding is still available for implementation. One potential demonstration project that is in the initial stages of discussion is the Parkers Lake Chloride Reduction Project that is a partnership with Bassett Creek and the City of Plymouth (see attached). That project would take a commercial/industrial area and search for willing partners to implement chloride reductions BMPs to see what it would take to make a measurable reduction in chloride in runoff. This is in the early stage of discussion, and the city and Bassett are developing some specifics for consideration at a future meeting.

Parkers Lake Chloride Reduction Demonstration Project



Chloride Reduction Demonstration Project:

- Work with willing private landowners & property managers
- Could include site pre and post implementation monitoring
- City will take lead on initial communications to property owners in the northern watershed to identify interested parties
- Implementation of projects beyond smart salt trainings & ongoing support for limited liability legislation

Example Projects:

- Upgrading plowing (e.g. segmented blades) and deicing equipment (e.g. brining)
- Automated pavement anti-icing system
- Snowmelt systems below high use walks/drives
- Conversion of impervious surfaces to permeable surfaces
- Education of multi-family occupants

HCCI Meeting Report 12/1/2020

(by Claire Bleser, RPBCWD)

- HCCI Project Update
 - Training materials Posted soon on the website.
 - 2 versions: web and 3ring binder format
 - Other manuals will be getting updated to same formats
 - Spanish version coming property and parking lots
 - Any other language? (thoughts?)
 - Manuals are available online
- MPCA – Smart Salting trainings updates
 - 319 grant over
 - Switchover to MPCA to do Amin – Angie Bourdaghs is taking over coordination between partners and Fortin, certificate, web posting, newsletter (sign up!)
 - Very limited budget... Asking partners to consider hosting class and covering cost (\$2,000/class). –
 - NMCWD \$15
 - BCWMO – fee makes sense...
 - Whole site approach – continue similar approach
 - Fortin will be teaching
 - **PARTNERS – Online through June and then in person (50 computer/connections limit)/ interested contact MPCA**
 - Preference long term in person but will continue online too
 - Partners could charge a fee if they want to
 - Eventbrite registration
- MS4 Permit Overview re: Chlorides (any one please jump in on this one)
 - October permit requirements
 - <https://www.pca.state.mn.us/water/chloride-management-and-new-ms4-permit>
 - Training
 - Education
 - Non-permitted property who has salt need to store it properly!
 - Regulatory mechanism to enforce/illicit discharge
 - Model Ordinances were also developed (has language on how to use your authority to handle this situation)
 - <https://www.pca.state.mn.us/sites/default/files/p-tr1-54.pdf>
- BCWMC Parkers Lake Chloride Reduction Project
 - Chloride reduction Project
 - Agreement in place with City of Plymouth
 - Communication and education and implementing projects
 - Anti-icing system
- Chloride Management Plan Template for Property Managers/Owners

Expensed ~22K and ~90K left to grant.

