November 5, 2020

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

Dear Commissioners:

Regular meetings of the Shingle Creek and West Mississippi Watershed Management Commissions will be held Thursday, November 12, 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=N3MvZThacmNRVDFrOWM3cU1KR5qQT09, 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,

Judi A. Anderson
Administrator

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

Z:\Shingle Creek\Meetings\Meetings 2020\11 Notice_Regular Meeting.docx
A combined regular meeting of the Shingle Creek (SC) and West Mississippi (WM) Watershed Management Commissions will be convened Thursday, November 12, 2020, at 12:45 p.m. Agenda items are available at [http://www.shinglecreek.org/minutes--meeting-packets.html](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](https://zoom.us/j/834887565) or go to [www.zoom.us](http://www.zoom.us) and click Join A Meeting. The meeting ID is 834-887-565. The passcode for this meeting is water.

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<table>
<thead>
<tr>
<th>1. Call to Order.</th>
<th>2. Approve Agenda.*</th>
<th>3. Approve Minutes of Last Meeting.*</th>
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<tbody>
<tr>
<td>SCWM</td>
<td>SC</td>
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<tr>
<td>a. Roll Call</td>
<td>b. Approve Agenda.</td>
<td>c. Approve Minutes of Last Meeting.*</td>
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<th>7. Grant Opportunities.</th>
<th>8. Education and Public Outreach.**</th>
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<tr>
<td>SCWM</td>
<td>SCWM</td>
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| a. Hennepin County Opportunity Grants.* | a. Next WMWA meeting – 8:30 a.m., Tuesday, December 8, 2020. Virtual meeting at [https://us02web.zoom.us/j/922390839?pwd=RU95T2ttL3FzQmxHcU9jcFhDdng1QT09](https://us02web.zoom.us/j/922390839?pwd=RU95T2ttL3FzQmxHcU9jcFhDdng1QT09)
Meeting ID: 922 390 839 | b. Education and Public Outreach.**
| b. SRP Reduction Project | 1) Robbinsdale project.** |
| 1) Final results and next steps.* | a. Staff Report.* |
| a) Grant Program.* | b. Bass and Pomerleau Lakes. |
| c. Education and Outreach. | 11. Other Business. |
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 12:45 p.m. on Thursday, October 8, 2020.

Present for Shingle Creek were: David Vlasin, Brooklyn Center; 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, Wenck Associates, Inc.; Troy Gilchrist, Kennedy & Graven; and Judie Anderson and Amy Juntunen, JASS.

Not represented: Brooklyn Park.

Present for West Mississippi were: David Vlasin, Brooklyn Center, Alex Prasch, 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: Mitch Robinson, Brooklyn Park; Derek Asche, Maple Grove; Bob Grant and Megan Hedstrom, New Hope; Ben Scharenbroich and Amy Riegel, Plymouth; Richard McCoy and Marta Roser, Robbinsdale.

II. Agendas and Minutes.

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

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

Motion by Jaeger, second by Schoch to approve the minutes of the September 10, 2020 regular meeting and public hearing.* Motion carried unanimously.

Motion by Johnson, second by Jaeger to approve the minutes of the September 10, 2020 regular meeting and public hearing.* Motion carried unanimously.

III. Finances and Reports.

A. Motion by Schoch, second by Orred to approve the Shingle Creek October Treasurer's Report* and claims totaling $79,957.07. Voting aye: Vlasin, Orred, Jaeger, Schoch, Wills, Roach, Polzin, and Sicora; voting nay – none; absent: Brooklyn Park.
B. Motion by Butcher, second by Jaeger to approve the West Mississippi October Treasurer's Report* and claims totaling $11,612.35. Voting aye: Vlasin, Prasch, Butcher, Jaeger, and Johnson; voting nay – none.

IV. Open Forum.

Orred inquired about the status of the MAC Boardwalk expansion (Project Review SC2020-008, approved last month). Three Rivers Park District stated they were uncertain when the next phase of this project will occur. They reported that the lumber bids came in over budget and with a long lead time. The District is planning to rebid the project in late winter/early spring when, hopefully, lumber prices have come back down. This will give the contractors enough lead time to order the materials and allow for the opportunity of a January/February 2022 installation.

V. Project Reviews.

A. SC2020-009 Bass Lake Shoreline Restoration, Plymouth. The proposed project is the shoreline restoration of a private property on Bass Lake. Existing shoreline boulders will be moved and lined underneath with MnDOT 3733 fabric liner. A buffer with landscaped wetland vegetation is proposed on the west side of the property. No increase in impervious surface is proposed. The complete project review application was received on September 21, 2020.

The erosion control plan includes a silt fence along the lake shoreline and construction limits. The erosion control plan meets Commission requirements.

The site is located on the shoreline of Bass Lake, a DNR Public Water. Bass Lake is impaired for nutrients. The proposed project is not anticipated to negatively impact the lake’s impairment status. The applicant meets Commission Public Waters requirements.

There is a FEMA-regulated floodplain on this site; however, no floodplain fill is proposed. The applicant meets Commission floodplain requirements.

Motion by Schoch, second by Orred to advise the City of Plymouth that project SC2020-009 is approved with no conditions. Motion carried unanimously.

B. Revised Project Review Fee Schedule.* As part of the 2021 budget process Staff looked at the project review fees to see if they are adequately covering costs. The fee structure is intended to on average recapture the costs of undertaking the reviews, which may include meetings with agency or applicant representatives and special analyses such as hydrologic and hydraulic modeling or floodplain calculations. The intent is to limit both undercharging and overcharging individual projects. (The project review fees were last revised effective October 2014.)

The Technical Advisory Committee (TAC) has discussed the project review fee structure, looking at the schedules for Bassett Creek and Elm Creek for comparison. Staff also looked more closely at the effort to complete the last few years of reviews where the cost exceeded the fee received or where the fee greatly exceeded the cost to review. There was no one reason why, but projects with floodplain impacts, stream crossings, or complicated, lengthy highway projects generally required more effort to review. In addition, there are some projects that require the applicant to rework and resubmit details, quickly increasing the time required to review. And many of the largest projects at the top tier were in the Arbor Lakes or the Highway 610 corridor, where regional stormwater management simplifies the analysis required for the project review.
The TAC previously discussed two options: (1) a structure that charges a base fee and adds additional fees for specialized reviews such as Bassett; and (2) an escrow structure where the applicant pays the actual cost to complete the review such as Elm Creek. The TAC leaned toward the first option.

1. Condense the top two tiers for both residential and commercial sites to a single tier.
2. Separate city street and county/state linear projects into separate tiers. County and state projects often require one or more meeting with those agencies at various design stages, requiring more work than city projects.
3. Linear projects impacting multiple jurisdictions such as light rail or major highway projects should be determined by negotiation.
4. Add separate add-on fees for projects needing analysis of manufactured treatment devices, floodplain impacts or crossings that may require H & H modeling and verification.

The following table shows the current fee structure and Staff/TAC recommendations.

<table>
<thead>
<tr>
<th>Project Fees</th>
<th>Current</th>
<th>Suggested</th>
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<tbody>
<tr>
<td>Single Family Lot</td>
<td>$300</td>
<td>$300</td>
</tr>
<tr>
<td>Single Family Residential Development, density less than 3 units per acre</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Site &lt;15 acres</td>
<td>1,500</td>
<td>1,800</td>
</tr>
<tr>
<td>Total Site 15+ acres</td>
<td>1,800</td>
<td>2,000</td>
</tr>
<tr>
<td>All Other Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Site &lt;5 acres</td>
<td>1,700</td>
<td>1,800</td>
</tr>
<tr>
<td>Total Site 5-9.99 acres</td>
<td>2,200</td>
<td>2,200</td>
</tr>
<tr>
<td>Total Site 10+ acres</td>
<td>2,200</td>
<td>2,500</td>
</tr>
<tr>
<td>Variance Escrow</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>City street or utility project</td>
<td>1,100</td>
<td>1,100</td>
</tr>
<tr>
<td>County or state highway project</td>
<td></td>
<td>2,000</td>
</tr>
<tr>
<td>Linear project impacting multiple jurisdictions</td>
<td>Negotiated fee</td>
<td></td>
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</tbody>
</table>

Additions to Base Fee

| Projects using Manufactured Treatment Devices (fee per type of device) | 500 |
| Projects with floodplain impacts | 300 |
| Projects with stream crossings | 1,000 |

Wetlands:

| Wetland delineation review | 300 |
| Wetland replacement plan escrow | 1,500 |
| Monitoring and reporting deposit | 1,500 |
| Wetland replacement escrow | varies |

Motion by Schoch, second by Orred to approve the Shingle Creek project review schedule as revised, effective January 1, 2021. Motion carried unanimously.
Motion by Butcher, second by Jaeger to approve the West Mississippi project review schedule as revised, effective January 1, 2021. *Motion carried unanimously.*

VI. Watershed Management Plan.

VII. Water Quality.

VIII. Grant Opportunities - BWSR Watershed Based Implementation Funding (WBIF).

Included in the meeting packet are the notes* from Meeting #4 held on September 23, 2020. The purpose of the meeting was to review the projects submitted and ranked by the partnership. Diane Spector, Wenck Associates, represented the SC/WM Commissions.

The Shingle Creek Commission submitted the Meadow Lake Management Plan ($40,000) and the Connections II ($70,000) projects. Since both projects were also submitted to the BWSR Clean Water Fund grant program, Staff submitted as the WBIF grant request the Commission match portion of the projects’ costs. Should both the CWF and WBIF grants be approved, the Commission would be able to fully fund those projects from grants. The Commission has also certified a levy for both projects. Levy funds received that are not necessary to fund the projects will be transferred to the Closed Projects Account and become available to fund other projects. No projects from West Mississippi were submitted for WBIF funding.

The available WBIF grant funds total $874,153.

The partnership developed a scoring process. Each of the twelve partners scored each project from 1 (low) to 5 (high) for its water quality benefits and secondary benefits. The water quality score was weighed at 70% of the total score for the project, and the secondary benefits score was weighed at 30%. The scores were averaged across the twelve partners and the projects ranked by total average score.

The Meadow Lake project earned the highest total score (4.43); the Connections II project ranked fifth, earning a total score of 3.73. The funding recommendations for both projects were the total amounts requested.

Also included in the meeting packet was Staff’s memo* recommending acceptance of the grants and authorization to submit works plans for the two projects. Motion by Schoch, second by Wills to approve Staff’s recommendation to accept the grants and authorize them to submit the work plans for these two projects. *Motion carried unanimously.*

IX. Education and Public Outreach.

The West Metro Water Alliance (WMWA) will meet on Tuesday, October 13, 2020. The WMWA Zoom number is [https://us02web.zoom.us/j/922390839](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 WMWA meeting **passcode is 545059.**

X. Staff Report.*

A. Lake and Stream Monitoring. The final lake monitoring for the year has been completed. Stream monitoring will continue biweekly through the end October. Stream chloride sampling will continue monthly through the winter. Two DO longitudinal studies have been completed on Bass and Shingle Creeks, one in late July and one in late August. The goal of a longitudinal study is to assess the DO conditions across the entire stream in rapid succession. At 6 a.m. the field technician starts at the most upstream site, in this case Bass Creek just west of I-494, and takes a DO reading, then moves downstream to the next site and takes a reading, and so on until she reaches the confluence with the Mississippi River just after 9 am. These readings are early in the day, after DO has been depleted overnight and the values
are at their lowest. She returns at 3 p.m. and repeats the process after photosynthesis in the stream has raised DO and the values are at their highest. This provides both a snapshot of overall conditions as well as an understanding of the daily range of DO concentrations. The state standard for streams such as Shingle Creek is to maintain a minimum concentration of 5 mg/L of DO. Except for a few locations, most of the 22 sites tested fell below 5 mg/L in the early morning, with the lowest concentration 0.4 mg/L of DO. All the sites were above 5.0 mg/L by midafternoon. Staff will be working on the Shingle and Bass Creeks DO and Biotic TMDL 5 Year Review this winter.

B. SRP Reduction Project. The conditions have been dry these days so not much water sampling has occurred. Samples of the media were collected and sent to a lab for P-saturation analysis to determine whether the media can still adsorb P. The results show none of the media are fully saturated yet.

C. Crystal Lake Management Plan. In the past few weeks Staff undertook a Crystal Lake carp population assessment. This is done using a standardized method to sample the population and an equation to convert the results of the survey into an estimate of population and total biomass. While those final calculations haven’t been completed yet, Staff caught between 20-40 carp on each transect totaling about 60-80 carp in one hour. Most of the fish were 1-4 pounds and appear to be from a similar recruitment year. To refine the estimate and age distribution, 50 of the fish were euthanized and had their otoliths (inner ear structures) extracted for aging analysis. These samples were preserved and have been sent to a subcontractor for an aging analysis. Once the results come back, the Commission will have an estimate of the biomass, population, and age structure for the carp in Crystal Lake.

D. Bass and Pomerleau Lakes. The second alum treatment will occur the week of October 12 and will be completed by the end of the week. Next spring, Staff will take final sediment cores to determine if the sediment release has been successfully reduced to the goal rate. Staff will also survey the curly-leaf pondweed and complete a third treatment.

E. Meadow Lake Drawdown. Wenck conducted a fisheries and turtle survey, collected zooplankton and phytoplankton samples, and completed the fall SAV (submersed aquatic vegetation) survey. The fisheries survey found over 30,000 fathead minnows and no other fish species. Also captured were a few invasive rusty crayfish and a handful of painted turtles. The SAV survey was encouraging. Elodea (Canadian waterweed) dominated the biomass and was found throughout the lake. Staff also observed narrowleaf pondweed, coontail, multiple duckweed species, and arrowhead growing along the shore. Staff completed the feasibility report that will be submitted to the DNR with the water appropriation permit and it is currently being reviewed by the city and the lake association.

XII. Other Business.

XIII. Adjournment. There being no further business before the Commissions, the joint meeting was adjourned at 1:46 p.m.

Respectfully submitted,

Judie A. Anderson, Recording Secretary

Z:\Shingle-Creek\Meetings\Meetings 2020\October 8 2020 minutes.docx
To: West Mississippi WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: November 6, 2020

Subject: Replace Data Logger

<table>
<thead>
<tr>
<th>Recommended</th>
<th>Authorize purchasing a replacement data logger at an estimated cost of $1,750, funded from cash reserves.</th>
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One of the Commission’s pieces of monitoring equipment is no longer functional, and we recommend that it be replaced. The equipment is an In-Situ AquaTroll data logger (see attached) 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. We use conductivity to estimate chloride concentrations in streamflow. The Environmental Preserve is one of our ongoing monitoring stations in West Mississippi, 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; we’d expect similar longevity for the replacement unit.

Staff recommends funding this equipment replacement from your cash reserves.
Aqua TROLL® CTD Data Loggers

CONDUCTIVITY, TEMPERATURE, PLUS WATER LEVEL LOGGING
Technical Memo

To: Shingle Creek/West Mississippi WMC Commissioners

From: Ed Matthiesen, P.E.
Diane Spector
Brian Kallio, P.E.

Date: November 6, 2020

Subject: SRP Reduction Project Final Results and Next Steps

The SRP Reduction research project at the outlet of wetland 639W is complete and staff are preparing the final report for the MPCA. Brian Kallio will give a presentation to the Commissions of the major findings. He recently gave this presentation at the Minnesota Water Resources Conference and will be repeating it at the upcoming North American Lake Management Society (NALMS) later this month. This national conference was supposed to have taken place in Minneapolis in August of this year, but like most conferences it has been reorganized as a virtual conference.

While the grant that funded most of the project costs is expiring soon, the filter boxes are still in place. The instrumentation for recording flow and taking water quality samples has been removed for the season. We have received some interest from outside parties regarding whether the filter box could be available to test other materials at other parties’ expense, most notably a company promoting the use of tire shreds in water quality treatment filters. Following the presentation, we would like to discuss whether the Commission is open to such a use.

Finally, also on the November 12 meeting agenda is a solicitation from Hennepin County for applications for its Opportunity Grant. Brian will present a recommendation to apply for a grant to help fund phase 2 of this project.

Z:\Shingle Creek\GrantOpportunities\2020 Opportunity Grant 2 SRP\M-final srp presentation.docx
To: Shingle Creek WMO Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: November 6, 2020

Subject: Hennepin County Opportunity Grants

Recommended Commission Action

Authorize submittal of a Hennepin County Opportunity Grant application for the Channel Modification to Enhance SRP Removal project in the amount of $75,000, and specify the source of the proposed $50,000 match.

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\textsuperscript{nd}. Grant awards can be as high as $100,000 but are typically $25,000-50,000 and based both on application merit and available funding.

- The primary purpose of the proposed must address a natural resource problem or need including:
  - Improving water quality
  - Preserve, establish or restore the County's natural resources including critical habitats, natural resource corridors and greenways, and designated open spaces.
  - Reduce erosion and sedimentation
- Special consideration is given to applications that are able to leverage resources (e.g., Clean Water Land and Legacy Amendment funds (CWL&L) or other funding sources).
- The proposed project helps meets goals, objectives and strategies identified in the Hennepin County Natural Resources Strategic Plan.

Last June you authorized submitting a grant request (attached) to the Opportunity Grant program for the Channel Modification to Enhance SRP Remove project, requesting $100,000 to be matched $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. That application was not funded, primarily because it did not leverage enough match and because it was very early in the design phase.

Our recommendation is 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. The Closed Projects account at the end of 2019 had an audited balance of $115,560. The Cost Share Account has a balance of just over $200,000.

There are still some match funds available in the SRP Reduction budget that could be used to fund 8 hours of design time to bring the plans from 30% to 60% plans.

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Natural Resources “Opportunity” Grant Program

This Natural Resources “Opportunity” Grant Application Form is available at:

http://www.hennepin.us/residents/environment/natural-resources-funding
Guidelines for submitting Natural Resource “Opportunity” Grants

Please email your application to Kris Guentzel at Kristopher.guentzel@hennepin.us or send to:

U.S. Postal Mailing Address:
Hennepin County
Environment and Energy
Attn: Kris Guentzel
701 Fourth Avenue South, Suite 700
Minneapolis, MN 55415-1842

Find out more at http://www.hennepin.us/residents/environment/natural-resources-funding

About the Natural Resources “Opportunity” Grant Program

In an effort to work with partners to preserve, establish and restore our natural resources, reduce erosion and protect and improve water quality, Hennepin County Environment and Energy Department has initiated the Natural Resources “Opportunity” Grant program. Through the Natural Resources “Opportunity” Grant program, Hennepin County provides funds to potential partners to implement projects that address an identified natural resource management problem or need and/or undertake assessments that directly lead to the siting of projects that meet common natural resource management goals.

Questions & technical assistance

Prospective applicants are encouraged to contact the program managers shown below for assistance, including feedback on ideas, suggestions for activities, help with the application or any general questions and concerns.

Hennepin County Project Managers:

Kris Guentzel 612-596-1171 Kristopher.guentzel@hennepin.us
Kristine Maurer 612-348-6570 Kristine.maurer@hennepin.us
Karen Galles 612-348-2027 Karen.galles@hennepin.us

Selection criteria

The Natural Resources “Opportunity” Grant review committee will evaluate the application based on the following criteria to determine if the project sufficiently meets the threshold for partial funding of the project, assessment and/or project grant application:

- The primary purpose of the proposed must address a natural resource problem or need including:
  - Improving water quality
  - Preserve, establish or restore the County’s natural resources including critical habitats, natural resource corridors and greenways, and designated open spaces.
  - Reduce erosion and sedimentation
- Special consideration is given to applications that are able to leverage resources (e.g., Clean Water Land and Legacy Amendment funds (CWL&L) or other funding sources).
- The proposed project helps meets goals, objectives and strategies identified in the Hennepin County Natural Resources Strategic Plan.
• Severity of the natural resource problem or need:
  o Relates directly to a total maximum daily load (TMDL) impairment load reduction
  o Addresses loading to a water resource on the State’s 303d list of impaired waters
  o Is identified as a priority in the potential partner’s plan(s) (i.e., watershed management plan, comprehensive plan Capital Improvement Project (CIP), etc.)
  o Addresses critical habitat for federally listed species or provides/improves habitat for state listed species with preference for species of greatest conservation need
  o Conserves or enhances habitat for rare plants or community types

• Environmental importance:
  o Addresses approved TMDL or subwatershed priority area(s)
  o Addresses climate resiliency goal such as reduced flooding or improved carbon sequestration
  o Falls within priority natural resource corridor(s) or Significant Natural Area(s)
  o Located adjacent to protected high quality natural areas like regional parks, Scientific and Natural Area (SNA), and/or wildlife refuges
  o Located in subwatershed of sensitive waters (nearly or barely impaired waterbody or watercourse, phosphorus-sensitive waterbody, lake of biological importance)
  o Addresses human health concern (area with high E coli, cyanobacteria bloom)

• Scientific feasibility:
  o Draft or final design/engineering plans completed or substantially underway, even at a conceptual level
  o Restoration plan and actions are clearly identified and follow recommendations of current scientific literature
  o Likelihood for long-term sustainability of practice with clear plan for operation and maintenance

• Need for County role:
  o Project that includes multiple jurisdictions and would benefit from higher level coordination
  o Project unlikely to happen without County resources
  o Project is on County property

All contracts recommended by the Hennepin County Environment and Energy Department are subject to approval by the Hennepin County Board of Commissioners.

Program guidelines and requirements

| ELIGIBILITY | • The project must be located in Hennepin County  
|            | • Eligible organizations include:  
|            |   – Local, state or regional governmental unit;  
|            |   – Non-profit organization;  
|            |   – Business; and/or  
|            |   – Landowner.  
<p>| • The project must have consent of all landowners. |
| FUNDING    | Funding is available to share the costs with eligible applicants to implement water quality projects to preserve, establish and restore urban, suburban and rural natural resources and to meet common natural resource management goals. Special consideration is given to applications that are able to leverage resources (e.g., Clean Water Land and Legacy Amendment funds (CWL&amp;L)). |</p>
<table>
<thead>
<tr>
<th><strong>AWARD AMOUNT</strong></th>
<th>Up to $100,000, per the discretion of the Natural Resources “Opportunity” Grant review committee and Hennepin County Administration.</th>
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</thead>
</table>
| **TIMELINES**    | - *Natural Resources “Opportunity” Grant* requests are non-competitive, and applications can be submitted year-round, with funds being allocated to projects substantially meeting one or more selection criteria as funds are available.  
- Each application is ranked against a set of criteria and must meet a minimal score in order to be funded.  
- In an effort to emphasize the desire to award Opportunity grants that catalyze and leverage additional investment, grant award notifications will be timed to allow recipients to use an Opportunity grant award to support competitive grant programs operated by the State of Minnesota, although other sources of leveraged funds are encouraged as well.  
- Funding reimbursement cannot occur before contract approval by Hennepin County.  
- Semi-annual project progress/summary reports must be provided as determined through contract agreement.  
- Final report within 2 months after project completion. |
| **REPORTING REQUIREMENTS FOR AWARDED PROJECTS** | - Work plan and budget.  
- Project design and specifications.  
- All invoices for consultant and/or contractor work.  
- Approval of in-kind contributions prior to work.  
- Certification that the project was installed according to the approved plans and specifications.  
- Operation and maintenance plan covering the life of the practice.  
- Final project report |
| **ACCEPTABLE EXPENSES** | Grant funds may be used for environmental/engineering consulting fees, materials, supplies, labor and inspection fees. |
| **PROJECT AGREEMENT** | Each project recipient must formally enter into a project agreement with the county. The agreement will address the conditions of the award, including implementation of the project and a final report. The agreement is a legal, binding document. Project recipients are expected to keep accurate financial records of the project which includes documentation of all expenses. |
| **PAYMENTS** | Final payment will be provided after the final report is approved by the County Project Manager. Interim payments can be made on a project by project basis as documented in the project agreement. Interim payments will be based on documentation of expenditures and project stage of completion. |
Application instructions

The Application
The Natural Resources “Opportunity” Grant application is to be used by local, state or regional governmental units, landowners, and other organizations to seek Natural Resources “Opportunity” Grant program funds from the County. Please complete all required sections of the application. Incomplete applications will not be considered for funding.

Part 1 of the application requests background information on the applicant, the project area, project type and funding request. Part 2 of the application requests detailed information on the project, natural resources problem or need being addressed, scope of work and project budget.

Application Resources
An overview of all Hennepin County Natural Resource funding opportunities, programs, guidelines and applications can be found at http://www.hennepin.us/residents/environment/natural-resources-funding

Hennepin County Environment and Energy Department staff are available to provide clarification and answer questions regarding the funding program, process and requirements.
### 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)*

<table>
<thead>
<tr>
<th>Name:</th>
<th>Judie Anderson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Administrator</td>
</tr>
<tr>
<td>Telephone Number:</td>
<td>763-553-1144</td>
</tr>
<tr>
<td>E-Mail Address:</td>
<td><a href="mailto:judie@jass.biz">judie@jass.biz</a></td>
</tr>
</tbody>
</table>

**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: **10/1/2020**
- Estimated Completion Date: **11/15/2020**
- Anticipated PROJECT Length: **1 months**
## Part 1
Natural Resources “Opportunity” Grant Application

### 5. PROJECT TYPE:

- [x] 1. Water Quality Project
- [ ] 2. Wetland Restoration
- [ ] 3. Habitat Restoration/Protection
- [ ] 4. Assessment Identifying Future Projects
- [ ] 5. Other:

### 6. FUNDING REQUEST: (Provide the amount of funding requested to complete your project.)

<table>
<thead>
<tr>
<th>Check for consistency with costs provided in Part 2, Question 2.</th>
<th>Project Amount:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PROJECT Cost: This amount represents the full cost of the PROJECT.</td>
<td>$110,000</td>
</tr>
<tr>
<td>Natural Resources “Opportunity” Grant Request</td>
<td>$100,000</td>
</tr>
<tr>
<td>Other Match Funds in PROJECT</td>
<td></td>
</tr>
<tr>
<td>Identify secured source(s) of funds:</td>
<td>$10,000</td>
</tr>
<tr>
<td>Funding Source</td>
<td>Shingle Creek WMC</td>
</tr>
<tr>
<td>Funding Source</td>
<td>____</td>
</tr>
<tr>
<td>Funding Source</td>
<td>____</td>
</tr>
<tr>
<td>Funding Source</td>
<td>____</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Judie Anderson</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Printed Name</td>
<td>Signature</td>
</tr>
<tr>
<td>Administrator</td>
<td>6/30/20</td>
</tr>
</tbody>
</table>

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. 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. SRP is easily taken up by algae and fuels algal blooms. 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 300 feet of the outlet channel with interconnected cells of the two best-performing media, which consistently reduced 70-90% of SRP. It is estimated that the project will reduce SRP load 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)

<table>
<thead>
<tr>
<th>Scoring Guide</th>
<th>Total 30 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear and concise project description</td>
<td>Up to 5 points</td>
</tr>
<tr>
<td>Clear description of project tasks</td>
<td>Up to 5 points</td>
</tr>
<tr>
<td>Project deliverables are clearly defined</td>
<td>Up to 10 points</td>
</tr>
<tr>
<td>Clearly defined timeline for the project</td>
<td>Up to 5 points</td>
</tr>
<tr>
<td>The purpose meets defined shared goals</td>
<td>Up to 5 points</td>
</tr>
</tbody>
</table>

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.
Wetland 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 outletted 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 Figure 1 and [http://www.shinglecreek.org/srp-reduction-project.html](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. Alcan would be used in the first cell to treat the runoff directly from the wetland, while the less expensive IES would line the more downstream cells to act as a “polishing” filter.

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 30% design will be finalized, construction documents prepared, and quotes solicited from qualified contractors. This task also includes obtaining approval from the MAC, which is the owner of the property. The City of Crystal has an ongoing agreement with MAC to manage the wetland and adjacent upland as the MAC Park Preserve that also allows the city to make improvements for water quality. 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 late fall/early winter construction, and could be completed as soon as Fall 2020.

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)

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

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.
  - Additional lines may be added to the Proposed Project Budget table if necessary.
- Identify the match sources.

<table>
<thead>
<tr>
<th>Proposed Project Budget</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task elements</td>
<td></td>
</tr>
<tr>
<td>1. Design and Construction Oversight</td>
<td>$ 7,200</td>
</tr>
<tr>
<td>2. Construction</td>
<td>$ 95,800</td>
</tr>
<tr>
<td>3. Monitoring</td>
<td>$ 7,000</td>
</tr>
<tr>
<td>4.</td>
<td>$ ____</td>
</tr>
<tr>
<td>5.</td>
<td>$ ____</td>
</tr>
<tr>
<td>6.</td>
<td>$ ____</td>
</tr>
<tr>
<td><strong>Total costs needed to complete:</strong></td>
<td><strong>$ 110,000</strong></td>
</tr>
</tbody>
</table>

In addition to the proposed budget above, please provide the following information:
- Total Project Cost $ 110,000
- Natural Resources “Opportunity” Grant request $ 100,000

Match sources:
List other funding sources and amounts, including local cash matching funds. In-kind contributions are not eligible.
- Funding Source: Shingle Creek WMC $ 10,000
- Funding Source: ____ $ ____
- Funding Source: ____ $ ____

Describe the status of matching funds: Secured, in budget
3. SEVERITY OF PROBLEM/NEED  (up to 55 points)

<table>
<thead>
<tr>
<th>Scoring Guide</th>
<th>Total 55 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity of the problem/need is well documented.</td>
<td>Up to 15 points</td>
</tr>
<tr>
<td>Project will achieve substantial natural resources benefits.</td>
<td>Up to 20 points</td>
</tr>
<tr>
<td>Project success can be measured, and proposed methods to measure success are reasonable.</td>
<td>Up to 10 points</td>
</tr>
<tr>
<td>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).</td>
<td>Up to 10 points</td>
</tr>
</tbody>
</table>

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](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.
4. PROJECT TEAM  (up to 10 points)

<table>
<thead>
<tr>
<th>Scoring Guide</th>
<th>Total 10 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team members’ roles and responsibilities are well defined and expected contributions to the project are adequate for the scope of work.</td>
<td>Up to 5 points</td>
</tr>
<tr>
<td>Team members’ qualifications and past experiences are relevant.</td>
<td>Up to 5 points</td>
</tr>
</tbody>
</table>

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.

**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.

**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.

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

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

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)

<table>
<thead>
<tr>
<th>Scoring Guide</th>
<th>Total 25 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project elements are in place for the project to proceed and documentation is provided (e.g. planning, design and permits).</td>
<td>Up to 25 pts.</td>
</tr>
</tbody>
</table>

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 30% 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 City will work with MAC staff to obtain permission to make modifications to existing facilities, similar to the approval gained to undertake the pilot SRP Reduction project, and the original outlet modification project. No other permits, agreements, or easements will be required.

THIS CONCLUDES PART 2
Figure 1. The overflow weir and channel at wetland 639W.
Technical Memo

To: Shingle Creek/West Mississippi WMC Commissioners

From: Ed Matthiesen, P.E.
       Diane Spector

Date: November 7, 2020

Subject: October 2020 Monthly Staff Report

It’s been a quiet month as activity is winding down for the season.

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

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

**Education and Outreach.** Mary Anderson, one of the two WMWA educators, announced her retirement in October, so we will be looking for another contracted educator. Mary 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, Sharon’s focus is on online resources available both to teachers and families looking for content or enrichment as they learn from home.

We have the final proofs of the native plant roots sign (attached), and the sign makers will begin fabricating the tabletop versions with pull-out roots.
The magic is in the roots!

Which Plant has the longest roots?

Deep-rooted plants are the best option for native gardens, raingardens, and shorelines. Learn more at bluethumb.org
<table>
<thead>
<tr>
<th>Date</th>
<th>From</th>
<th>To</th>
<th>SC</th>
<th>WM</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-1-2020</td>
<td>Brian Green @ MPCA</td>
<td>Ed Matthiesen</td>
<td>X</td>
<td></td>
<td>Kurita site infiltration rate</td>
</tr>
<tr>
<td>10-1-2020</td>
<td>Austin Adam @ BKBM</td>
<td>Ed M.</td>
<td></td>
<td>X</td>
<td>Crystal City Hall project review</td>
</tr>
<tr>
<td>10-6-2020</td>
<td>Mary Anderson</td>
<td>WMWA</td>
<td></td>
<td>X</td>
<td>Notice of retirement as one of WMWA’s educators.</td>
</tr>
<tr>
<td>10-9-2020</td>
<td>Bill Diede @ AJA</td>
<td>Ed M.</td>
<td></td>
<td>X</td>
<td>Champlin HS track</td>
</tr>
<tr>
<td>10-12-2020</td>
<td>Ed M.</td>
<td>Brian Vlach @ Three Rivers Park</td>
<td>X</td>
<td></td>
<td>MAC Boardwalk schedule</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserve District</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12-2020</td>
<td>Ed M.</td>
<td>Ben Scharenbroich</td>
<td></td>
<td>X</td>
<td>Watershed boundary at Kirstensen’s property 15725 48th Ave No, Plymouth</td>
</tr>
<tr>
<td>10-12-2020</td>
<td>Roxy Robertson</td>
<td>Ed M.</td>
<td></td>
<td>X</td>
<td>Notice of Decision- Tilleman’s Site in Champlin</td>
</tr>
<tr>
<td>10-12-2020</td>
<td>Trish Sieh</td>
<td>Judie Anderson</td>
<td></td>
<td>X</td>
<td>Update to WM2020-007 North Park Business Center-Databank in Brooklyn Park</td>
</tr>
<tr>
<td>10-12-2020</td>
<td>Ed M.</td>
<td>Joe Richter @ MPCA</td>
<td></td>
<td>X</td>
<td>Joslyn Site remediation pumping</td>
</tr>
<tr>
<td>10-15-2020</td>
<td>Ed M.</td>
<td>Hilania Kristensen</td>
<td></td>
<td>X</td>
<td>Email re: lot reassignment to Shingle Creek</td>
</tr>
<tr>
<td>10-26-2020</td>
<td>Laura Scholl @ Metro Blooms</td>
<td>Ed M.</td>
<td></td>
<td>X</td>
<td>Brooks Landing close out visit schedule</td>
</tr>
<tr>
<td>10-26-2020</td>
<td>Mitch Robinson @ Brooklyn Park</td>
<td>Ed M.</td>
<td></td>
<td>X</td>
<td>Park Place Promenade project review requirement</td>
</tr>
<tr>
<td>10-28-2020</td>
<td>Jennifer Ehler @ Metro Blooms</td>
<td>Ed M.</td>
<td></td>
<td>X</td>
<td>Roundabout floodplain fill question</td>
</tr>
<tr>
<td>10-30-2020</td>
<td>Trisha Sieh @ Kimley-Horn</td>
<td>Judie/Ed</td>
<td></td>
<td>X</td>
<td>2020-007 North Park Business Center-Databank remaining items</td>
</tr>
<tr>
<td>10-30-2020</td>
<td>Matthew Petersen @ Hennepin</td>
<td>Ed M.</td>
<td></td>
<td>X</td>
<td>Hennepin County Recycling Center Transfer Station Groundwater Monitoring</td>
</tr>
<tr>
<td></td>
<td>County</td>
<td></td>
<td></td>
<td></td>
<td>Report</td>
</tr>
</tbody>
</table>