



Bassett Creek Watershed Management Commission

Regular Meeting
Thursday March 15, 2018

8:30 – 11:00 a.m.

Council Conference Room, Golden Valley City Hall, Golden Valley, MN

AGENDA

1. CALL TO ORDER and ROLL CALL

- 2. CITIZEN FORUM ON NON-AGENDA ITEMS** - *Citizens may address the Commission about any item not contained on the regular agenda. A maximum of 15 minutes is allowed for the Forum. If the full 15 minutes are not needed for the Forum, the Commission will continue with the agenda. The Commission will take no official action on items discussed at the Forum, with the exception of referral to staff or a Commissions Committee for a recommendation to be brought back to the Commission for discussion/action.*

3. APPROVAL OF AGENDA

4. CONSENT AGENDA

- A. Approval of Minutes – February 15, 2018 Commission Meeting
- B. Approval of March 2018 Financial Report
- C. Approval of Payment of Invoices
 - i. Keystone Waters, LLC – February 2018 Administrative Services
 - ii. Keystone Waters, LLC – February 2018 Meeting Materials Distribution Expenses
 - iii. Barr Engineering – February 2018 Engineering Services
 - iv. Triple D Espresso – February 2018 Meeting Refreshments
 - v. Wenck – February 2018 WOMP Monitoring
 - vi. Lawn Chair Gardener – February 2018 Administrative Services
- D. Approval to Set April 9 Technical Advisory Committee Meeting
- E. Approval of Letter Agreement with Freshwater Society for Engaging Lake Groups
- F. Approval of Golden Valley 2018 Pavement Management Program
- G. Approval of Revised Aquatic Invasive Species Rapid Response Plan

5. BUSINESS

- A. Receive Presentation on Technical Pre-Proposal for Assessment & Treatment of Phosphorus in Northwood Lake (30 minutes)
- B. Consider Approval of Resolution of Appreciation for Commissioner Mueller (5 minutes)
- C. Consider Approval of Recommendations from Technical Advisory Committee (15 minutes)
- D. Approval of Funding Request from Three Rivers Park District for Watercraft Inspectors (15 minutes)
- E. Discuss Status of Chloride Limited Liability Legislation (15 minutes)
- F. Receive Update on BWSR's Watershed Based Funding Pilot Program (15 minutes)
- G. Consider Approval of Recommendations from Education Committee (15 minutes)

6. COMMUNICATIONS (15 minutes)

- A. Administrator's Report
 - i. Report on CIP Project Open Houses
- B. Chair
- C. Commissioners
 - i. Report on Aquatic Invaders Summit
- D. TAC Members

- E. Committees
- F. Legal Counsel
- G. Engineer

7. INFORMATION ONLY (Information online only)

- A. Administrative Calendar
- B. CIP Project Updates <http://www.bassettcreekwmo.org/projects>
- C. Grant Tracking Summary and Spreadsheet
- D. Results of Harrison Neighborhood Knowledge, Attitudes and Practices (KAP) Survey
- E. [Minnesota Water Action Day at the Capitol](#)
- F. Metro Blooms Upcoming Workshops: Turf Alternatives and Resilient Yards

8. ADJOURNMENT

Upcoming Meetings & Events

- BCWMC Education Committee Meeting: Friday March 9th, 8:30 a.m., Golden Valley City Hall
- Harmful Algal Blooms Workshop: Thursday March 29th, 8:00 a.m. – 4:30 p.m., St. Anthony Fall Laboratory, Minneapolis <https://drive.google.com/file/d/1Any8Co2eE9hKAcvk-bT-qPi5Y3MFTr1W/view>
- BCWMC Technical Advisory Committee Meeting: Monday April 9th, 8:30 a.m., Golden Valley City Hall
- State of Water Conference: April 12 -14, Breezy Point MN <https://freshwater.org/stateofwaterconference/>
- BCWMC Regular Meeting: Thursday April 19th, 8:30 a.m., Council Conference Room, Golden Valley City Hall
- BCWMC CIP Prioritization Committee Meeting: Tuesday April 24th, 8:30 – 10:00 a.m., Golden Valley City Hall
- Minnesota Water Action Day at the Capitol: Wednesday May 2nd, 8:00 a.m. – 4:0 p.m., State Capitol



Bassett Creek Watershed Management Commission

AGENDA MEMO

Date: March 7, 2018

To: BCWMC Commissioners

From: Laura Jester, Administrator

RE: Background Information for 3/15/18 BCWMC Meeting

1. **CALL TO ORDER and ROLL CALL**
2. **CITIZEN FORUM ON NON-AGENDA ITEMS**
3. **APPROVAL OF AGENDA – ACTION ITEM with attachment**
4. **CONSENT AGENDA**
 - A. Approval of Minutes – February 15, 2018 Commission Meeting- **ACTION ITEM with attachment**
 - B. Approval of March 2018 Financial Report - **ACTION ITEM with attachment**
 - C. Approval of Payment of Invoices - **ACTION ITEM with attachments (online)** – *I have reviewed the following invoices and recommend approval of payment.*
 - i. Keystone Waters, LLC – February 2018 Administrative Services
 - ii. Keystone Waters, LLC – February 2018 Meeting Materials Distribution Expenses
 - iii. Barr Engineering – February 2018 Engineering Services
 - iv. Triple D Espresso – February 2018 Meeting Refreshments
 - v. Wenck – February 2018 WOMP Monitoring
 - vi. Lawn Chair Gardener – February 2018 Administrative Services
 - D. Approval to Set April 9th Technical Advisory Committee Meeting – **ACTION ITEM no attachment** – *The TAC should meet to finalize their recommendations for the 2020 – 2024 CIP.*
 - E. Approval of Letter Agreement with Freshwater Society for Engaging Lake Groups – **ACTION ITEM with attachment**– *At the January 2018 meeting the Commission approved a proposal from the Freshwater Society to facilitate a meeting of lake groups to discuss options for organizing at a cost not to exceed \$2,000 from the 2018 APM/AIS budget. Staff recommends approval of this letter agreement.*
 - F. Approval of Golden Valley 2018 Pavement Management Program (PMP) – **ACTION ITEM with attachment** – *The proposed linear project is located in the Medicine Lake Direct and Bassett Creek Main Stem subwatersheds in Golden Valley and includes the reconstruction of portions of several streets. The project includes excavation, grading, concrete curb & gutter, bituminous paving, storm sewer modifications, sanitary sewer repair, and water main replacement resulting in 8.37 acres of disturbance (grading) and a decrease in impervious surface by 0.20 acres. It was anticipated this project would include an iron enhanced sand filter basin to satisfy temporary variances granted for the 2016 and 2017 PMPs, but there is a delay in acquiring 1 of 4 properties needed to build the basin. The basin will be included and built with the city's 2019 CIP. Staff recommends approval of the project with comments in the attached memo.*
 - G. Approval of Revised Aquatic Invasive Species Rapid Response Plan – **ACTION ITEM with attachment online** – *At the December 2017 meeting, the Commission approved the BCWMC AIS Rapid Response Plan. Staff distributed it to the partnering organizations and cities with a role identified in the plan. However, some partners had comments on the plan and requested revisions.*

Revisions were made and all partners were satisfied with the revised plan. The revisions included more specificity of a few activities, an acknowledgement that early detection activities are important for the success of a rapid response to new infestations, and some definitions of terms. The revisions did not result in changes to the activities or responsible parties laid out in the original plan. Staff recommends approval of the revised AIS Rapid Response Plan (available online).

5. BUSINESS

- A. Receive Presentation on Technical Pre-Proposal for Assessment & Treatment of Phosphorus in Northwood Lake (30 minutes) – **INFORMATION ITEM with attachments** – *The City of New Hope and the University of MN are preparing a study on Northwood Lake to investigate internal phosphorus release from sediment, implement an iron-filings pilot study in the lake, and assess post-treatment phosphorus water quality. John Gulliver, a researcher and professor at St. Anthony Falls Laboratory will outline the proposed study at this meeting. City staff will describe a request for funding for the study.*
- B. Consider Approval of Resolution of Appreciation for Commissioner Mueller (5 minutes) – **ACTION ITEM with attachment** – *Unfortunately, this meeting will be Commissioner Mueller's last with the Commission as he is preparing to move to Wisconsin. He has served on the Commission since 2014, including serving as vice chair and working on several committees. A resolution of appreciation is in order.*
- C. Consider Approval of Recommendations from Technical Advisory Committee (15 minutes) – **ACTION ITEM with attachment** – *The TAC met on March 2nd to discuss a variety of topics. While they need another meeting to finalize recommendations on the CIP and other topics, the attached memo includes updates on the timing of local water management plan development in each city and recommendations regarding 1) BWSR's Biennial Budget Request and 2) a request from Plymouth for use of Channel Maintenance Funds.*
- D. Approval of Funding Request from Three Rivers Park District for Watercraft Inspectors (15 minutes) – **ACTION ITEM with attachment** – *The Commission was recently awarded a \$20,000 AIS prevention grant from Hennepin County to purchase an AIS decontamination unit for use at French Regional Park on Medicine Lake. The grant agreement is forthcoming from the County and should be included in your April meeting materials. Three Rivers Park District has agreed to own, operate, and maintain the decontamination unit but is in need of funding to hire Level II inspectors to operate the unit. They are requesting \$5,000 from the Commission's APM/AIS budget for this purpose. Staff recommends approval.*
- E. Discuss Status of Chloride Limited Liability Legislation (15 minutes) – **DISCUSSION ITEM no attachment** – *At the time of this writing, the limited liability legislation at the Capitol doesn't have file numbers. I anticipate having more information in time for the Commission meeting. There may be a role for the Commission in supporting the legislation.*
- F. Receive Update on BWSR's Watershed Based Funding Pilot Program (15 minutes) – **INFORMATION ITEM no attachment** – *A second meeting of the 11 Hennepin County watersheds was held February 27th. The group narrowed down their recommendations for use of the Clean Water funds which included an idea for all watersheds to work collectively on the issue of chloride pollution. The group agreed to meet in smaller groups based on basins. A meeting of the Mississippi River Basin watersheds is scheduled for March 12th. I will update the Commission on outcomes of that meeting and next steps.*

- G. Consider Approval of Recommendations from Education Committee (15 minutes) – **ACTION ITEM no attachment** – *The Education Committee is scheduled to meet March 9th. There will likely be recommendations brought to the Commission regarding funding of programs that are annually supported by the Commission such as the Children’s Water Festival and CleanWaterMN.org.*

6. COMMUNICATIONS

- A. Administrator’s Report - **INFORMATION ITEM with attachment**
 - i. Report on CIP Project Open Houses
- B. Chair
- C. Commissioners
 - i. Report on Aquatic Invaders Summit TAC Members
- D. Committees
- E. Legal Counsel
- F. Engineer

7. INFORMATION ONLY (Information online only)

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Bassett Creek Watershed Management Commission

DRAFT Minutes of Regular Meeting
Thursday, February 15, 2018
8:30 a.m.
Golden Valley City Hall, Golden Valley MN

1. CALL TO ORDER and ROLL CALL

On Thursday, February 15, 2018 at 8:35 a.m. in the Council Conference Room at Golden Valley City Hall (7800 Golden Valley Rd.), Vice Chair Mueller called to order the meeting of the Bassett Creek Watershed Management Commission (BCWMC) and asked for roll call to be taken.

Commissioners and city staff present:

City	Commissioner	Alternate Commissioner	Technical Advisory Committee Members (City Staff)
Crystal	Guy Mueller	<i>Vacant</i>	Mark Ray
Golden Valley	Stacy Harwell	Jane McDonald Black	Eric Eckman
Medicine Lake	Clint Carlson	<i>Absent</i>	<i>Absent</i>
Minneapolis	Michael Welch	<i>Vacant</i>	<i>Absent</i>
Minnetonka	Mike Fruen (Arrived during 6A)	<i>Absent</i>	Tom Dietrich
New Hope	<i>Absent</i>	Pat Crough	Megan Albert
Plymouth	Jim Prom	John Byrnes	Derek Asche
Robbinsdale	Michael Scanlan (arrived during 5A)	<i>Absent</i>	Marta Roser
St. Louis Park	<i>Absent</i>	<i>Absent</i>	Erick Francis
Administrator	Laura Jester, Keystone Waters		
Engineer	Karen Chandler		
Recorder	Dawn Pape, Lawn Chair Gardener Creative Services		
Legal Counsel	Troy Gilchrist, Kennedy & Graven		
Presenters/ Guests/Public	Jeff Strom, Wenck Associates		

2. CITIZEN FORUM ON NON-AGENDA ITEMS

None

3. APPROVAL OF AGENDA

MOTION: Commissioner Prom moved to approve the agenda. Commissioner Carlson seconded the motion. Upon a vote, the motion carried 6-0. [Cities of Minnetonka, St. Louis Park, Robbinsdale absent from the vote.]

4. CONSENT AGENDA

The following items were approved as part of the consent agenda: January 18, 2018 commission meeting minutes, February 2018 financial report, payment of invoices, approval of Resolution 18-03 Designating Depositories for BCWMC Funds, approval to designate *Finance and Commerce* as the official news publication of the BCWMC, approval of agreement with Three Rivers Park District for curly-leaf pondweed control in Medicine Lake, approval of sub-grant agreement with City of Minneapolis for Hennepin County ERF Grant Implementation, approval of agreement with Met Council for reimbursement on SWLRT work, approval of agreement with MnDNR for FEMA modeling project, approval to set March 2nd Technical Advisory Committee meeting, and approval to reimburse Alternate Commissioner Crough for Road Salt Symposium registration.

The general and construction account balances reported in the January 2018 Financial Report are as follows:

Checking Account Balance	\$ 839,455.26
TOTAL GENERAL FUND BALANCE	\$ 839,455.26
TOTAL CASH & INVESTMENTS ON-HAND (2/7/18)	\$3,746,224.87
CIP Projects Levied – Budget Remaining	(\$4,262,228.70)
Closed Projects Remaining Balance	(\$516,003.83)
2012-2016 Anticipated Tax Levy Revenue	\$10,286.93
2017 Anticipated Tax Levy Revenue	\$12,462.60
Anticipated Closed Project Balance	(\$493,254.30)

MOTION: Commissioner Carlson moved to approve the consent agenda. Commissioner Prom seconded the motion. Upon a vote, the motion carried 6-0. [Cities of Minnetonka, St. Louis Park, Robbinsdale absent from the vote.]

5. ORGANIZATIONAL MEETING**A. Elect Officers**

Vice Chair Mueller reported that he is moving to Wisconsin at some point in 2018 and won't be able to serve as an officer. Commissioner Harwell nominated Commissioner de Lambert as Chair. Commissioner Prom nominated himself as Vice Chair. Commissioner Welch nominated Commissioner Scanlan for Secretary and Commissioner Harwell for Treasurer.

[Commissioner Scanlan arrives.]

VOITE: Upon a vote of the above nominations, the slate of candidates was approved unanimously 7-0. [The Cities of Minnetonka and St. Louis Park were absent from the vote.]

B. Review 2018 Commission Calendar and Areas of Work

Administrator Jester provided an overview of the Commission's known work for various months throughout the year. Commissioner Welch noted that soliciting proposals for consulting engineers, legal, and others should be added to October or November.

C. Appoint Committee Members

Administrator Jester noted the document in 5B includes a description of the various committees.

i. Administrative Services Committee

The Administrative Services Committee is responsible for addressing policy issues. Commissioners de Lambert, Prom, Harwell, and Scanlan offered to serve on this committee.

ii. Budget Committee

Commissioners Scanlan and de Lambert and Alternate Commissioners McDonald Black and Byrnes volunteered to serve on the Budget Committee.

iii. Education Committee

Commissioner Scanlan and Alternate Commissioners Byrnes and Noon volunteered to serve on the Education Committee. Commissioner Welch noted his interest in helping with ideas to celebrate BCWMC's 50th Anniversary.

iv. CIP Prioritization Process Committee

A new committee is being formed to work on the CIP prioritization process. This committee will need to include both commissioners and TAC members. The following commissioners volunteered to serve on this committee: Prom, Welch, Harwell, Mueller, Carlson (if Alt. Commissioner Holter doesn't want to serve on the committee). The following alternate commissioners volunteered to serve on this committee: Monk, McDonald Black. TAC members volunteering on this committee include Eckman or Oliver, and Asche.

v. Technical Advisory Committee Liaison

Administrator Jester announced she is looking for a liaison for the Friday, March 2, 2018 meeting. Commissioners Welch, Harwell indicated they would attend the TAC meeting. Administrator Jester noted that the new alternate commissioner from Minnetonka, Bill Monk, also wished to attend the TAC meeting.

Administrator Jester noted she will reach out to commissioners and TAC members absent from this meeting to gauge their interest in serving on these committees.

MOTION: Commissioner Welch moved to approve the committee appointees. Commissioner Prom seconded the motion. Upon a vote, the motion carried 7-0. [Cities of Minnetonka and St. Louis Park absent from the vote.]

D. Review Meeting Efficiency Ideas

Administrator Jester reviewed ideas she and Chair de Lambert had discussed about streamlining meetings. She noted that she added benchmark times to this agenda. She noted that pre-meeting workshops or informational sessions could be held for complicated issues where commissioners wanted more information, or additional committee work could be done between meetings. She noted that these ideas require additional meetings. She is not recommending this path at this time.

Administrator Jester continued by noting that is the staffs' job to provide appropriate materials and to bring topics to the Commission in a timely manner. But it is the commissioners' jobs to review the materials, come prepared with questions, and to focus the discussions to the topic at hand. She indicated that Chair de Lambert had noted that the meeting notice states that this is a 2.5-hour meeting and that it's rare the meetings exceed this length.

Administrator Jester concluded that she thinks a 2.5-hour meeting is justified for the \$1.6 million that the Commission spends annually, that this is a busy organization with much work and engaged commissioners. Commissioner Welch pointed out that effectiveness diminishes towards the end of the meeting. He noted that policy discussions should happen at a meeting before a vote is needed (i.e., first meeting to discuss policy, second meeting to vote).

Commissioner Harwell stated that the meetings used to be four hours long before Ms. Jester came on board. Her one suggestion was that presentation lengths be shortened. Commissioner Prom commented that he likes as many items as possible on the consent agenda and that if commissioners want to discuss an item, it can be pulled off consent. The idea of using resolutions for every recommended action was brought up. Attorney Gilchrist gave an overview of some pros and cons of using resolutions. Administrator Jester indicated that it would be onerous to have a resolution for every motion because of the staff time involved in preparing the motion and the possible need for resolution language revisions negotiated during the meeting. She thinks the current system of using motions is working and resolution are used for significant actions and expenditures. Alternate Commissioner McDonald Black, and Commissioners Scanlan and Welch agreed with Administrator Jester.

E. Review Open Meeting Law

Administrator Jester said the general provisions of the open meeting law were outlined in the board packet, but, in summary, this law ensures that meetings of governing bodies are conducted in public where the public has access to decision-making processes. She stated that one of the easier ways to violate the law is through email and reminded commissioners not to hit "reply all" on emails to the whole commission.

6. BUSINESS

A. Receive Presentation on 2017 Water Quality Monitoring Results

Jeff Strom from Wenck Associates gave a presentation on results of water quality monitoring on Sweeney, Twin and Lost Lakes in 2017.

- i. Twin Lake overview: Twin Lake is a priority-1 deep lake with a watershed area of 131 acres located in Golden Valley. It is 21 acres, has an average depth of 26 feet, and a maximum depth of 56 feet. The downstream receiving waterbody is Sweeney Lake. It has no MPCA impairments and the only aquatic invasive species is curly-leaf pondweed. There is public access to the lake. There was an alum treatment to control total phosphorus (TP) levels in 2015. TP readings have been in the 20-25 ug/liter range, which is well below the state standard of 40 ug/liter.
- ii. Water quality in Twin Lake: The BCWMC has monitored water quality conditions in the watershed's 10 priority lakes and six ponds since 1972. Results of 2017 monitoring show that Twin Lake met applicable Minnesota Pollution Control Agency (MPCA) and BCWMC water quality standards for lakes. The lake has generally maintained good water quality conditions since monitoring over the past 20 years. In addition, the plant community currently meets the Minnesota Department of Natural Resources (MDNR) plant index of biotic integrity (IBI) standards
- iii. Recommendations for this lake include continuing water quality and biological monitoring, evaluating effectiveness of first aluminum sulfate (alum) treatment in 2015, and proceed with a second treatment. Finally, continue to implement best management practices and capital improvement projects in the lake's watershed.
- iv. Sweeney Lake overview: Sweeney Lake is also classified as a priority-1 deep lake and is in Golden Valley. It has a watershed area of 2,397 acres. The lake size is 67 acres with an average depth of 12 feet and a maximum depth of 25 feet. The downstream receiving waterbody is Bassett Creek. MPCA impairments include nutrients and chloride. The aquatic invasive species curly-leaf pondweed is present. This lake has a public canoe launch.
- v. The 2017 water quality monitoring indicate that, overall, Sweeney Lake does not meet applicable Minnesota Pollution Control Agency (MPCA) and BCWMC water quality standards for total phosphorus and chlorophyll.

- vi. The recommendations for Sweeney Lake include:
 - a. Implementing management measures to reduce the internal phosphorus load from sediment (about one-third of the lake's annual phosphorus load). Alum treatment would reduce internal phosphorus load from sediment and improve water quality.
 - b. Continuing implementation of Sweeney Lake TMDL, including best management practices and capital improvement projects to reduce watershed nutrient loads.
 - c. Reducing winter/spring chloride loads to Sweeney Lake through road salt management initiatives. Identify and target directly connected impervious areas and other potential locations in watershed that may be contributing high chloride loads.
 - d. Continuing water quality and biological monitoring.
 - e. Further investigating possible trends/shifts in the vegetation community and the lower plant IBI scores observed in 2017.

Commissioner Scanlan asked if phosphorus loading is coming from lawns. Engineer Chandler said yes, but the TMDL says impervious surfaces are the biggest issue. Alternate Commissioner McDonald Black wondered about rain levels and how rain might wash pollutants from Interstate 394, Highway 55 and Highway 100. There was discussion about chloride inputs to the lake. Commissioner Harwell wondered if a chloride committee should be started. Administrator Jester noted that the Education Committee works on the education/training side of the chloride issue but that a separate committee may make sense and can be discussed at a future meeting.

- vii. Overview of Lost Lake: Lost Lake is located in Plymouth and is classified as a priority-2 shallow lake. It has a watershed area of 61 acres. It is 22 acres, has an average depth of 3.5 feet, and a maximum depth of 6.5 feet. This lake is landlocked with no downstream receiving waterbody. There are no MPCA impairments, no aquatic invasive species, and no public access.
- viii. The results of 2017 monitoring show that Lost Lake did not meet applicable MPCA and BCWMC water quality standards for lakes. Lost Lake is currently not on the State of Minnesota's 303(d) list of impaired waters, however the 2017 monitoring results indicate the lake would likely be considered impaired if more monitoring data were available to assess impairment. While there is not enough long-term monitoring data to perform trend analyses for Lost Lake, the lake has generally exhibited poor water quality conditions over the past 25 years. In addition, the plant community does not meet the Minnesota Department of Natural Resources (MDNR) plant index of biotic integrity (IBI) standards.
- ix. Recommendations include:
 - a. Continuing water quality and biological monitoring.
 - b. Assessing/quantifying internal and external drivers of poor water quality/clarity in the lake.
 - c. Focusing on flipping the lake from its current turbid water state (poor clarity) to a clear water state to promote greater species diversity and ecosystem health.
 - d. Performing fish surveys to determine presence/absence of fish in the lake and (if applicable) what fish species are present.
 - e. Assessing watershed nutrient loading and implementing best management practices and capital improvement projects.

[Commissioner Fruen arrives]

Engineer Chandler noted she recommends some revisions to the water quality reports and some minor data analysis changes so the Commission is accurately comparing data across years. Mr. Strom agreed that some revisions are needed.

B. Review Year End Financial Report (Feb 1, 2017 - Jan 31, 2018)

Administrator Jester reported that overall, the Commission is in good financial standing and ended the year approximately \$20,000 in the black. Items to be noted are: revenue was higher than expected bringing in an additional \$73,600, almost \$61,000 of which came from a Met Council grant for the Harrison Neighborhood Project

that was not included in the original 2017 budget. These funds were entirely passed through to Metro Blooms. In fact, the Met Council still owes the Commission more than \$36,000 for work already completed and paid to Metro Blooms.

Administrator Jester noted that on the expenses side, the Commission was slightly over budget on engineering and monitoring but well under budget on administration. For outreach and education, the large budget deficit on the "education and public outreach" line item reflects payments made to Metro Blooms for the Harrison Neighborhood Project (and reimbursed by the Met Council as described above). A deficit is shown because that project was not included in the original 2017 budget. Including the payments made to Metro Blooms, the Commission was almost \$54,000 over budget for the year. Taking the revenue and expenses together and including the \$36,000 still owed the Commission by the Met Council, the Commission ended the year approximately \$20,000 in the black.

- i. Consider Approval to Carry Over Municipal Plan Review Funds from 2017 to 2018
Administrator Jester recommended carrying over \$6,165 from Review Municipal Plans because no cities have submitted local water plans for review and the existing 2018 budget of \$8,000 will not cover the cost of reviewing nine plans.
- ii. Consider Approval to Carry Over Sweeney Lake Aeration Study Funds from 2017 to 2018
Administrator Jester recommended carrying over \$3,444 from Water Quality/Monitoring to help pay for the second half of the Sweeney Lake Aeration Study. The Sweeney Lake Aeration Study was budgeted at \$41,000 to be spread between 2017 and 2018. Unfortunately, a mistake was made and the 2018 funding was not included in the 2018 monitoring budget so there is a budget deficit of \$24,204 to complete the study. Carrying over \$3,444 helps and staff may recommend a 2018 budget amendment to pay for the remainder of the study.

[Commissioner Harwell departs; Alternate Commissioner McDonald Black assumes voting responsibility for Golden Valley.]

MOTION: Commissioner Scanlan moved to approve the year-end financial statement. Alternate Commissioner McDonald Black seconded the motion. Upon a vote, the motion carried 8-0. [St. Louis Park absent from the vote.]

MOTION: Commissioner Welch moved to approve carrying over \$6,165 and \$3,444 from the 2017 Review Municipal Plans and Water Quality/Monitoring line items, respectively, to the 2018 budget. Commissioner Scanlan seconded the motion. Upon a vote, the motion carried 8-0. [St. Louis Park absent from the vote.]

C. Receive Responses and Recommendations as Follow Up to Staff/Commission Evaluations

Engineer Chandler and Administrator Jester reported they had more closely reviewed the staff/commission evaluations that were submitted by five commissioners and four TAC members in December. They indicated they paid particular attention to frustrations, strategic priorities, and needed improvements. Administrator Jester walked through some of her impressions and recommendations outlined in her memo. She noted the work of the new CIP Prioritization Process Committee will hopefully address many of the issues raised.

Commissioner Welch commented that the Commission needs to talk about appropriate avenues to address chloride. It was noted that chloride is an issue that crosses multiple areas including CIP projects, education, and policy.

There was some discussion about the use of the P8 model and whether switching to a new model would make sense. Engineer Chandler acknowledged that the model has limitations, but it is currently the best tool available.

Commissioner Welch expressed disappointment that there wasn't a higher rate of participation from commissioners in the evaluation. There was also discussion about watershed grant programs. Commissioner Welch noted that all other WMOs have grant programs and he recommends that the Commission look at grant programs from Shingle Creek WMO, Mississippi WMO, and Minnehaha Creek WD. Further, he recommended consulting with Becky Christopher or James Whisker from MCWD to present on possibilities on public-private partnerships.

Alternate Commissioner McDonald Black noted she found the memo from Administrator Jester and Engineer Chandler helpful.

D. Receive Update on New Watershed Based Funding Process

Administrator Jester reported that eleven watersheds in Hennepin County met on January 23, 2018 and there was a good discussion about this topic. She noted the group had questions that BWSR couldn't answer at the meeting, so BWSR put together FAQs for the whole metro area. She noted that in general, all Hennepin County watersheds are willing to work collaboratively. She reported the group took a look at straw-man ideas, such as using a funding formula to distribute funding or identifying certain needs or resources. She noted the group liked the idea of breaking the county into the three river basins. She noted another meeting is set for February 27, 2018. There are no recommendations or actions to be taken now, but things are moving forward.

Commissioner Scanlan wondered about needing agreements to work with each other. Jester responded that BWSR isn't prescribing agreements and that it will be up to partners to determine if agreements are needed.

E. Recognize City of Plymouth for Environmental Leadership Award

Administrator Jester noted that the City of Plymouth was recognized for its environmental leadership at the Road Salt Symposium. TAC member Derek Asche humbly responded that many cities do great work. He further noted that the City of Plymouth has very engaged staff on the issue of reducing road salt use.

7. COMMUNICATIONS

A. Administrator's Report

Administrator Jester noted her written report in the packet and provided the following updates:

i. Medicine Lake Zebra Mussel Survey Update

Commission Engineers, Administrator Jester, Three Rivers Park District staff, MnDNR staff and MAISRC met and developed a plan for surveying zebra mussels in Medicine Lake. Also, the AIS Rapid Response Plan was sent out to partners. Since a few partners wished they could have provided input on the plan before it was finalized, a revised plan will come to the Commission in March.

Commissioner Prom noted he recently spoke to AMLAC board members and noted there are a lot of people on the lake that are interested in the zebra mussel issues. He noted the social media platform Nextdoor would be a great tool to communicate with residents. He recommended that the Education Committee consider finding a better way to work with lake associations. Administrator Jester replied that she was hoping to work with cities to communicate with residents about zebra mussels.

Administrator Jester also noted that the price of the chemical to treat the curly-leaf pondweed on Medicine Lake increased significantly over last year's prices. She is working with Three Rivers Park District and contractors on this issue.

[Commissioner Welch departs.]

B. Chair

Nothing to report.

C. Commissioners

- i. Commissioner Carlson and Alternate Commissioner Byrnes represented BCWMC at the Peace Lutheran event and said it was a good event, but attendance wasn't outstanding.
- ii. Commissioner Scanlan reported on the Road Salt Symposium and that the speaker from Cargill was outstanding and he learned a lot about how important road temperatures are.

D. TAC Members

New Hope TAC Member, Megan Albert, announced that there is a technical pre-proposal included with the meeting materials. She noted the city is working with the U of M on a potential project to use iron fillings in Northwood Lake to reduce phosphorus levels. She noted they are applying for grants and may approach the Commission with a funding proposal.

E. Committees

Administrator Jester noted that committee meetings will be set up soon.

F. Legal Counsel

Attorney Gilchrist reminded the Commission about the open meeting law. Since committees were appointed, the open meeting law also applies to quorums of committees.

G. Engineer

Nothing to report.

8. INFORMATION ONLY (Information online only)

- A. CIP Project Updates: Now Available Online <http://www.bassettcreekwmo.org/projects>
- B. Grant Tracking Summary and Spreadsheet
- C. Northwood Lake Improvement Project Clean Water Partnership Grant Report
- D. Harrison Neighborhood Project Met Council Stormwater Grant Report
- E. WCA Notice of Decision, Plymouth
- F. Clean Streets, Clean Water Neighborhood Clean Up Kit
- G. Sun Post Article on Bassett Creek and Chloride Pollution
- H. Technical Pre-Proposal for Assessment & Treatment of Phosphorus in Northwood Lake
- I. WMWA Winter Newsletter

8. ADJOURNMENT

The meeting adjourned at 10:47 a.m.

Signature/Title

Date

Signature/Title

Date

Bassett Creek Watershed Management Commission General Account**General Fund (Administration) Financial Report****Fiscal Year: February 1, 2018 through January 31, 2019****MEETING DATE: March 15, 2018****Item 4B.
BCWMC 3-15-18****(UNAUDITED)**

BEGINNING BALANCE	7-Feb-18		839,455.26
ADD:			
General Fund Revenue:			
Interest less Bank Fees		34.19	
Assessments:			
Robbinsdale		8,189.00	
Permits:			
City of Plymouth	2018-02	Hwy 55 Frontage Rd Rec	1,500.00
Buhler	2018-03	Buhler Food App Centre	1,500.00
S E H	2018-04	GV 2018 PMP	1,500.00
Other:			
Metro Blooms Grant - Met Council SG-05827		36,541.24	
Reimbursed Construction Costs		15,573.53	
		Total Revenue and Transfers In	64,837.96
DEDUCT:			
Checks:			
3052 Barr Engineering		February Engineering	47,586.69
3053 Keystone Waters LLC		February Administrator	6,195.73
3054 Lawn Chair Gardener		Feb Admin Services	942.47
3055 Triple D Espresso		Mar Meeting	103.98
3056 Wenck Associates		Feb WOMP	650.05
3057 Michael Scanlan		Reimb-AIS Summit Reg	189.00
		Total Checks/Deductions	55,667.92
Outstanding from previous month:			
3048 Metro Blooms	Northside Engagement/Harrison	16,458.29	
3050 Shingle Creek WMC	2018 WMWA Gen Exp	5,250.00	
ENDING BALANCE	7-Mar-18		848,625.30

Bassett Creek Watershed Management Commission General Account

General Fund (Administration) Financial Report

(UNAUDITED)

Fiscal Year: February 1, 2018 through January 31, 2019

MEETING DATE: March 15, 2018

	2018 /2019 BUDGET	CURRENT MONTH	YTD 2018 /2019	BALANCE
<u>OTHER GENERAL FUND REVENUE</u>				
ASSESSMENTS TO CITIES	515,000	8,189.00	515,050.00	(50.00)
PROJECT REVIEW FEES	55,000	4,500.00	6,000.00	49,000.00
WOMP REIMBURSEMENT	5,000	0.00	0.00	5,000.00
METRO BLOOMS - MET COUNCIL GRANT		36,541.24	36,541.24	
TRANSFERS FROM LONG TERM FUND & CIP	75,000	0.00	0.00	75,000.00
REVENUE TOTAL	650,000	49,230.24	557,591.24	128,950.00
<u>EXPENDITURES</u>				
ENGINEERING & MONITORING				
TECHNICAL SERVICES	125,000	13,168.50	13,168.50	111,831.50
DEV/PROJECT REVIEWS	75,000	2,222.41	2,222.41	72,777.59
NON-FEE/PRELIM REVIEWS	10,000	944.50	944.50	9,055.50
COMMISSION AND TAC MEETINGS	12,000	525.00	525.00	11,475.00
SURVEYS & STUDIES	12,000	0.00	0.00	12,000.00
WATER QUALITY/MONITORING	80,700	9,792.00	9,792.00	70,908.00
WATER QUANTITY	6,300	506.25	506.25	5,793.75
WATERSHED INSPECTIONS - EROSION CONTROL	1,000	0.00	0.00	1,000.00
ANNUAL FLOOD CONTROL INSPECTIONS	48,000	0.00	0.00	48,000.00
REVIEW MUNICIPAL PLANS	8,000	0.00	0.00	8,000.00
WOMP	20,500	775.05	775.05	19,724.95
XP-SWMM MODEL UPDATES/REVIEWS	10,000	1,841.50	1,841.50	8,158.50
APM / AIS WORK	32,000	0.00	0.00	32,000.00
ENGINEERING & MONITORING TOTAL	440,500	29,775.21	29,775.21	410,724.79
ADMINISTRATION				
ADMINISTRATOR	67,200	5,810.00	5,810.00	61,390.00
LEGAL COSTS	17,000	0.00	0.00	17,000.00
AUDIT, INSURANCE & BONDING	15,500	0.00	100.00	15,400.00
FINANCIAL MANAGEMENT	3,200	0.00	0.00	3,200.00
MEETING EXPENSES	1,600	103.98	207.96	1,392.04
ADMINISTRATIVE SERVICES	15,000	1,328.20	1,328.20	13,671.80
ADMINISTRATION TOTAL	119,500	7,242.18	7,446.16	112,053.84
OUTREACH & EDUCATION				
PUBLICATIONS/ANNUAL REPORT	1,500	0.00	0.00	1,500.00
WEBSITE	4,200	0.00	0.00	4,200.00
PUBLIC COMMUNICATIONS	2,500	0.00	0.00	2,500.00
EDUCATION AND PUBLIC OUTREACH	22,000	189.00	5,439.00	16,561.00
WATERSHED EDUCATION PARTNERSHIPS	13,850	0.00	0.00	13,850.00
OUTREACH & EDUCATION TOTAL	44,050	189.00	5,439.00	38,611.00
MAINTENANCE FUNDS				
EROSION/SEDIMENT (CHANNEL MAINT)	25,000	0.00	0.00	25,000.00
LONG TERM MAINTENANCE (moved to CF)	25,000	0.00	0.00	25,000.00
MAINTENANCE FUNDS TOTAL	50,000	0.00	0.00	50,000.00
TMDL WORK				
TMDL IMPLEMENTATION REPORTING	10,000	2,888.00	2,888.00	7,112.00
TMDL WORK TOTAL	10,000	2,888.00	2,888.00	7,112.00
TOTAL EXPENSES	664,050	40,094.39	45,548.37	618,501.63

BCWMC Construction Account
Fiscal Year: February 1, 2018 through January 31, 2019
March 2018 Financial Report

(UNAUDITED)

Cash Balance 2/7/2018				
Cash			3,746,224.87	
Transfer to purchase investments			(2,500,000.00)	
	Total Cash			1,246,224.87
Investments:				
Minnesota Municipal Money Market (4M Fund)			2,500,000.00	
	Total Investments			<u>2,500,000.00</u>
	Total Cash & Investments			3,746,224.87
Add:				
Interest Revenue (Bank Charges)			199.00	
4M Fund Interest			231.38	
	Total Revenue			430.38
Less:				
CIP Projects Levied - Current Expenses - TABLE A			0.00	
Proposed & Future CIP Projects to Be Levied - Current Expenses - TABLE B			(15,573.53)	
	Total Current Expenses			(15,573.53)
	Total Cash & Investments On Hand	03/07/18		<u><u>3,731,081.72</u></u>
Total Cash & Investments On Hand			3,731,081.72	
CIP Projects Levied - Budget Remaining - TABLE A			(4,262,228.70)	
Closed Projects Remaining Balance			(531,146.98)	
2012 - 2016 Anticipated Tax Levy Revenue - TABLE C			3,721.01	
2017 Anticipated Tax Levy Revenue - TABLE C			1,771.12	
Anticipated Closed Project Balance			<u>(525,654.85)</u>	
Proposed & Future CIP Project Amount to be Levied - TABLE B			0.00	

TABLE A - CIP PROJECTS LEVIED

		Approved Budget	Current Expenses	2018 YTD Expenses	INCEPTION To Date Expenses	Remaining Budget	Grant Funds Received
Lakeview Park Pond (ML-8) (2013)		196,000	0.00	0.00	11,589.50	184,410.50	
Four Seasons Mall Area Water Quality Proj (NL-2)		990,000	0.00	0.00	162,907.34	827,092.66	
2014							
Schaper Pond Enhance Feasibility/Project (SL-1)(SL-3)		612,000	0.00	0.00	349,661.40	262,338.60	
Briarwood / Dawnview Nature Area (BC-7)		250,000	0.00	0.00	250,000.00	0.00	
Twin Lake Alum Treatment Project (TW-2)		163,000	0.00	0.00	91,037.82	71,962.18	
2015							
Main Stem 10th to Duluth (CR2015)		1,503,000	0.00	0.00	1,003,746.24	499,253.76	
2016							
Honeywell Pond Expansion (BC-4) ¹		810,930	0.00	0.00	25,307.00	785,623.00	
Northwood Lake Pond (NL-1) ²	822,140						
Budget Amendment	611,600	1,433,740	0.00	0.00	1,445,143.38	(11,403.38)	670,000
2017							
Main Stem Cedar Lk Rd-Dupont (2017CR-M)	2017 Levy	400,000					
	2018 Levy	664,472	0.00	0.00	126,376.39	938,095.61	
Plymouth Creek Restoration (2017 CR-P)	2017 Levy	580,930					
	2018 Levy	282,643	863,573	0.00	158,717.23	704,855.77	200,000
2018							
Bassett Creek Park & Winnetka Ponds Dredging (BCP-2)		1,000,000	0.00	0.00	61,069.25	938,930.75	
		<u>7,886,715</u>	<u>0.00</u>	<u>0.00</u>	<u>3,624,486.30</u>	<u>4,262,228.70</u>	

TABLE C - TAX LEVY REVENUES								
	County Levy	Abatements / Adjustments	Adjusted Levy	Current Received	Year to Date Received	Inception to Date Received	Balance to be Collected	BCWMO Levy
2018 Tax Levy	947,115.00		947,115.00	0.00	0.00	0.00	947,115.00	947,115.00
2017 Tax Levy	1,303,600.00	(10,691.48)	1,292,908.52	0.00	0.00	1,291,137.40	1,771.12	1,303,600.00
2016 Tax Levy	1,222,000.00	(9,526.79)	1,212,473.21	0.00	0.00	1,211,215.56	1,257.65	1,222,000.00
2015 Tax Levy	1,000,000.00	32.19	1,000,032.19	0.00	0.00	998,931.70	1,100.49	1,000,000.00
2014 Tax Levy	895,000.00	(8,533.75)	886,466.25	0.00	0.00	885,636.52	829.73	895,000.00
2013 Tax Levy	986,000.00	(10,510.52)	975,489.48	0.00	0.00	974,956.34	533.14	986,000.00
				<u>0.00</u>			<u>5,492.13</u>	

OTHER PROJECTS:

	Approved Budget	Current Expenses / (Revenue)	2018 YTD Expenses / (Revenue)	INCEPTION To Date Expenses / (Revenue)	Remaining Budget
TMDL Studies					
TMDL Studies	135,000.00	0.00	0.00	107,765.15	27,234.85
TOTAL TMDL Studies	135,000.00	0.00	0.00	107,765.15	27,234.85
Flood Control Long-Term					
Flood Control Long-Term Maintenance	690,573.00	0.00	0.00	320,742.41	
Less: State of MN - DNR Grants				0.00	(93,000.00)
	690,573.00	0.00	0.00	227,742.41	462,830.59
Annual Flood Control Projects:					
Flood Control Emergency Maintenance	500,000.00	0.00	0.00	0.00	500,000.00
Annual Water Quality					
Channel Maintenance Fund	375,000.00	0.00	0.00	182,157.95	192,842.05
Metro Blooms Harrison Neighborhood CWF Grant Project	134,595.00	0.00	0.00	8,396.89	126,198.11
BWSR Grant				(67,298.00)	(67,298.00)
	134,595.00	0.00	0.00	(58,901.11)	
Total Other Projects	1,835,168.00	0.00	0.00	391,466.40	1,241,807.60

Bassett Creek Construction Project Details

3/7/2018

	CIP Projects Levied											
	Total	2013	2013	2014	2014	2014	2015	2016	2016	2017	2017	2018
	CIP Projects Levied	Lakeview Park Pond (ML-8)	Four Seasons Mall Area Water Quality Project (NL-2)	Schaper Pond Enhancement Feasibility / Project (SL-1) (SL-3)	Briarwood / Dawnview Water Quality Improve Proj (BC-7)	Twin Lake In-Lake Alum Treatment Project (TW-2)	Main Stem - 10th Ave to Duluth (CR2015)	Honeywell Pond Expansion (BC-4)	Northwood Lake Pond (NL-1)	Main Stem-Cedar Lk Rd to Dupont (CR-M)	Plymouth Creek Restoration (CR-P)	Basset Cr Pk & Winnetka Ponds Dredging (BCP-2)
Original Budget	8,275,115	196,000	990,000	612,000	250,000	163,000	1,503,000	810,930	822,140	1,064,472	863,573	1,000,000
Added to Budget	611,600								611,600			
Expenditures:												
Feb 2004 - Jan 2014	269,971.68	11,589.50	101,635.49	89,594.90	19,598.09	23,793.65	11,179.35	7,461.95	5,118.75	42,671.88	49,412.13	
Feb 2015-Jan 2016	313,510.98		25,866.35			432.00	93,862.65	6,442.53	94,823.44			
Feb 2016-Jan 2017	2,835,773.05		14,350.00	213,668.55	230,401.91	66,812.17	841,405.15	11,402.52	1,338,331.79	71,889.91	16,192.00	31,319.05
Feb 2017-Jan 2018	266,299.84		21,055.50	46,397.95			57,299.09		6,869.40	11,814.60	93,113.10	29,750.20
Feb 2018-Jan 2019												
Total Expenditures:	3,685,555.55	11,589.50	162,907.34	349,661.40	250,000.00	91,037.82	1,003,746.24	25,307.00	1,445,143.38	126,376.39	158,717.23	61,069.25
Project Balance	5,201,159.45	184,410.50	827,092.66	262,338.60		71,962.18	499,253.76	785,623.00	(11,403.38)	938,095.61	704,855.77	938,930.75
	Total	2013	2013	2014	2014	2014	2015	2016	2016	2017	2017	2018
	CIP Projects Levied	Lakeview Park Pond (ML-8)	Four Seasons Mall Area Water Quality Project (NL-2)	Schaper Pond Enhancement Feasibility / Project (SL-1) (SL-3)	Briarwood / Dawnview Water Quality Improve Proj (BC-7)	Twin Lake In-Lake Alum Treatment Project (TW-2)	Main Stem - 10th Ave to Duluth (CR2015)	Honeywell Pond Expansion (BC-4)	Northwood Lake Pond (NL-1)	Main Stem-Cedar Lk Rd to Dupont (CR-M)	Plymouth Creek Restoration (CR-P)	Basset Cr Pk & Winnetka Ponds Dredging (BCP-2)
Project Totals By Vendor												
Barr Engineering	519,796.93	6,338.95	64,076.04	121,649.45	13,089.74	15,712.00	15,825.00	13,157.98	17,966.00	111,939.39	78,973.13	61,069.25
Kennedy & Graven	11,961.70	1,200.55	2,471.95	993.40	1,038.35	1,058.65	2,223.75	796.00	1,701.45	318.40	159.20	
City of Golden Valley	1,414,281.03			213,668.55	230,401.91	66,812.17	903,398.40					
City of Minneapolis												
City of Plymouth	97,451.25		25,866.35								71,584.90	
City of New Hope	1,413,267.55								1,413,267.55			
City of Crystal												
MPCA	2,500.00									2,500.00		
Blue Water Science	3,900.00					3,900.00						
Misc												
2.5% Admin Transfer												
Transfer to General Fund	109,450.02	4,050.00	20,600.00	13,350.00	5,470.00	3,555.00	25,000.00	11,353.02	6,453.40	11,618.60	8,000.00	
Total Expenditures	3,572,608.48	11,589.50	113,014.34	349,661.40	250,000.00	91,037.82	946,447.15	25,307.00	1,439,388.40	126,376.39	158,717.23	61,069.25
	Total	2013	2013	2014	2014	2014	2015	2016	2016	2017	2017	2018
	CIP Projects Levied	Lakeview Park Pond (ML-8)	Four Seasons Mall Area Water Quality Project (NL-2)	Schaper Pond Enhancement Feasibility / Project (SL-1) (SL-3)	Briarwood / Dawnview Water Quality Improve Proj (BC-7)	Twin Lake In-Lake Alum Treatment Project (TW-2)	Main Stem - 10th Ave to Duluth (CR2015)	Honeywell Pond Expansion (BC-4)	Northwood Lake Pond (NL-1)	Main Stem-Cedar Lk Rd to Dupont (CR-M)	Plymouth Creek Restoration (CR-P)	Basset Cr Pk & Winnetka Ponds Dredging (BCP-2)
Levy/Grant Details												
2010 -2014 Levies	1,881,000	162,000	824,000	534,000	218,800	142,200						
2014/2015 Levy	1,000,000						1,000,000					
2015-2016 Levy	1,222,000							810,930	411,070			
2016-2017 Levy	1,303,600								322,670	580,930	400,000	
2017-2018 Levy	947,115									282,643	664,472	
Construction Fund Balance	703,000	34,000	166,000				503,000		470,000			
BWSR Grant- BCWMO	470,000											
DNR Grants-LT Maint												
Total Levy/Grants	7,526,715	196,000	990,000	534,000	218,800	142,200	1,503,000	810,930	1,203,740	863,573	1,064,472	
BWSR Grants Received									670,000		200,000	
MPCA Grant-CWP (Total \$300,000)									75,000.00			
									19,932.80			

Bassett Creek Construction Project Details

Proposed & Future CIP Projects (to be Levied)					DNR Grant From GF	Other Projects					Totals - All Projects
Total	2019	2019		Total							
Proposed & Future CIP Projects (to be Levied)	Bryn Mawr Meadows (BC- 5)	DeCola Ponds B&C Improve (BC- 2,BC-3,BC-8)	Westwood Lake Water Quality - Feasibility	Other Projects		TMDL Studies	Flood Control Emergency Maint	Flood Control Long- Term Maint	Channel Maint		
Original Budget Added to Budget					1,278,373.00 (250,000.00) 93,000.00 422,200.00	105,000.00	500,000.00	748,373.00 (250,000.00) 93,000.00 192,200.00	175,000.00	9,553,488.00 361,600.00 93,000.00 422,200.00	
Expenditures:											
Feb 2004 - Jan 2014	5,282.80	5,282.80			245,426.23	107,765.15		43,195.48	94,465.60	520,680.71	
Feb 2015-Jan 2016					137,357.54			110,580.19	26,777.35	450,868.52	
Feb 2016-Jan 2017					152,070.74			152,070.74		2,987,843.79	
Feb 2017-Jan 2018	72,978.88	25,959.52	44,509.16	2,510.20	75,811.00			14,896.00	60,915.00	415,089.72	
Feb 2018-Jan 2019	15,573.53	2,792.67	12,125.86	655.00						15,573.53	
Total Expenditures:	93,835.21	34,034.99	56,635.02	3,165.20	610,665.51	107,765.15		320,742.41	182,157.95	4,390,056.27	
Project Balance	(93,835.21)	(34,034.99)	(56,635.02)	(3,165.20)	1,182,907.49	27,234.85	500,000.00	462,830.59	192,842.05	6,290,231.73	
Project Totals By Vendor					DNR Grant From GF	Other Projects					Totals - All Projects
Total	2019	2019		Total							
Proposed & Future CIP Projects (to be Levied)	Bryn Mawr Meadows (BC- 5)	DeCola Ponds B&C Improve (BC- 2,BC-3,BC-8)	Westwood Lake Water Quality - Feasibility	Other Projects		TMDL Studies	Flood Control Emergency Maint	Flood Control Long- Term Maint	Channel Maint		
Barr Engineering	93,835.21	34,034.99	56,635.02	3,165.20	387,939.50	104,888.70		283,050.80		1,001,571.64	
Kennedy & Graven					2,648.25	1,164.30		1,099.35	384.60	14,609.95	
City of Golden Valley					55,287.50				55,287.50	1,469,568.53	
City of Minneapolis					38,823.35				38,823.35	38,823.35	
City of Plymouth					26,747.50				26,747.50	124,198.75	
City of New Hope									29,240.00	1,413,267.55	
City of Crystal											
MPCA										2,500.00	
Blue Water Science										3,900.00	
Misc					5,704.41	1,712.15		3,992.26		5,704.41	
2.5% Admin Transfer					32,600.00			32,600.00		109,450.02	
Transfer to General Fund										32,600.00	
Total Expenditures	93,835.21	34,034.99	56,635.02	3,165.20	578,990.51	107,765.15		320,742.41	150,482.95	4,216,194.20	
Levy/Grant Details					DNR Grant From GF	Other Projects					Totals - All Projects
Total	2019	2019		Total							
Proposed & Future CIP Projects (to be Levied)	Bryn Mawr Meadows (BC- 5)	DeCola Ponds B&C Improve (BC- 2,BC-3,BC-8)	Westwood Lake Water Quality - Feasibility	Other Projects		TMDL Studies	Flood Control Emergency Maint	Flood Control Long- Term Maint	Channel Maint		
2010 -2014 Levies				2010-2017							
2014/2015 Levy				2017/18	42,200.00	30,000		175,000	175,000	1,881,000	
2015-2016 Levy								17,200	25,000	1,042,200	
2016-2017 Levy											
2017-2018 Levy											
Construction Fund Balance										703,000	
BWSR Grant- BCWMO										470,000	
DNR Grants-LT Maint				DNR Grant	93,000.00			93,000			
Total Levy/Grants					515,200.00	30,000		285,200	200,000	4,096,200	



Proposal: Facilitation for Public Engagement – Exploring organization options for lake associations

Purpose

Freshwater Society (FWS) proposes to develop and facilitate an education and engagement workshop on behalf of the **Bassett Creek Watershed Management Commission (BCWMC)** for lake associations and concerned residents as they consider potential options for further organizing.

Scope of Work

Freshwater Society will:

1. Workshop Preparation

FWS will plan the structure and content for a one 3-hr education and engagement workshop for lake associations and concerned residents to explore a Lake Improvement District, Coalition of Lake Associations, and other options for further organizing.

Deliverable

- Meeting plan outlining purpose, need, outcomes, process, and schedule
- Invitation language to be used by BCWMC staff and others

Anticipated Completion – March or April, 2018

2. Hosting of Workshop

Using a participatory leadership framework, FWS will facilitate and bring materials needed for the workshop.

Deliverable

One 3-hour workshop

Anticipated Completion – May 2018

3. Transcription, Analysis, and Final Report

FWS will transcribe all comments from the workshop and, using qualitative research methods, analyze the transcripts to identify themes. FWS will share a draft narrative summary of the workshop outputs and analysis with the BCWMC and workshop attendees for feedback in preparation of a final report with recommendations, if appropriate.

Deliverable

- Transcription of all comments
- Sorting and coding of comments according to qualitative research methods
- Draft narrative for distribution to workshop participants for review
- Updated narrative reflecting feedback
- Final report with one-page summary of key points

Anticipated Completion – June 2018

BCWMC
The ~~SWCD~~ will:

Workshop Preparation

BCWMC will be responsible for identifying and booking workshop location, food, and other logistics, and will collaborate with FWS on developing content and structure of the workshop.

Hosting of Workshop

BCWMC will assist with hosting of the workshop in roles identified during the Workshop Preparation phase.

Summary and Community Feedback

BCWMC will distribute the summary to participants of the workshop, directing recipients to send further comments or questions to FWS.

Final Report

It is Freshwater Society's assumption that the feedback will be considered by the BCWMC in future programming and operations relating to lake associations.

The project will begin immediately upon signing of this agreement and it is anticipated to be completed by June 2018.

Payment Agreement

BCWMC will pay \$2,000 to FWS for the activities described above and upon completion of the project in June 2018.

FRESHWATER SOCIETY

BASSETT CREEK WATERSHED MGMT COMMISSION

Julie Fliflet, Director of Finance
Print Name and Title & Administration

Print Name and Title

Julie Fliflet 3.5.18
Signature Date

Signature Date



Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4F –Golden Valley 2018 Pavement Management Program (PMP) Project
BCWMC March 15, 2018 Meeting Agenda
Date: March 7, 2018
Project: 23270051 2018 2151

4F Golden Valley 2018 Pavement Management Program (PMP) Project BCWMC 2018-04

Summary:

Proposed Work: Excavation, Grading, Concrete Curb & Gutter, Bituminous Paving, Storm Sewer modifications, Sanitary Sewer Repair, and Water Main Replacement

Basis for Review at Commission Meeting: Linear Project Disturbing Over 5 Acres; Delayed Mitigation for BCWMC #2016-06 & BCWMC #2017-02 Water Quality Treatment

Impervious Surface Area: Decrease 0.20 Acres

Recommendation: Conditional Approval

General Background & Comments

The proposed linear project is located in the Medicine Lake Direct and Bassett Creek Main Stem subwatersheds in Golden Valley, MN. The project includes the reconstruction of portions of Ensign Avenue, Elgin Place, Duluth Street, Independence Avenue, Hillsboro Avenue, Gettysburg Avenue, Flag Avenue, and Earl Street. The proposed linear project includes excavation, grading, concrete curb & gutter, bituminous paving, storm sewer modifications, sanitary sewer repair, and water main replacement resulting in 8.37 acres of disturbance (grading). The proposed project results in a decrease in impervious surface by 0.20 acres from 5.27 acres (existing) to 5.07 acres (proposed), due to narrowing of streets.

Floodplain

The project does not involve work in the Bassett Creek floodplain.

Wetlands

The project appears to involve work adjacent to wetlands. The City of Golden Valley is the LGU for administering the Minnesota Wetland Conservation Act.

Stormwater Management

The proposed linear project does not create one or more acres of net new impervious surfaces and therefore does not trigger the BCWMC requirements for rate control. The BCWMC Engineer reviewed a separate request for *Diversion of Surface Water Runoff for Golden Valley 2018-2019 Pavement Management Program (PMP) Project* (BCWMC #2017-40), which will be completed as part of this project.

The proposed diversion will reroute runoff from an 8.6-acre subwatershed within the Medicine Lake Direct subwatershed to a pond on the General Mills site, and eventually to the Main Stem of Bassett Creek. With the exception of the proposed diversion, the drainage patterns under existing and proposed conditions will remain similar; this project will not result in major changes to land use or topography. This project may slightly reduce stormwater volumes and rates by decreasing the amount of impervious surface within the project area.

Water Quality Management

2018 PMP Project: The proposed linear project does not create one or more acres of net new impervious surfaces and therefore does not trigger the BCWMC requirements for water quality treatment.

2016 PMP and 2017 PMP Projects: The BCWMC granted a variance to the City from the water quality treatment requirements for the 2016 PMP and the 2017 PMP projects (see attached variance agreements). It was anticipated that the 2018 PMP project would provide water quality treatment greater than or equal to the requirements for the 2016 PMP and 2017 PMP projects. The City developed plans for an iron-enhanced sand filter basin (IESFB) as part of the 2018 PMP project. However, due to a delay in the acquisition of one of the properties, implementation of the IESFB has been removed from the 2018 PMP project. The attached letter from the City of Golden Valley indicates that if the fourth property can be acquired and demolished before the 2018 PMP is completed, it is possible that the filtration basin will be added back into the project and constructed in 2018. Otherwise, the city will include the IESFB in its 2019-2023 Capital Improvement Program for construction by the end of 2019, or as soon thereafter as is reasonably possible. Although it likely will not be constructed as part of the 2018 PMP project, the IESFB was reviewed as part of this submittal to allow construction of the IESFB at the earliest convenience of the city.

Erosion and Sediment Control

Since the area to be graded is greater than one acre, the proposed linear project must be submitted to the BCWMC for review. Proposed temporary erosion control features include silt fence and catch basin inlet protection. Proposed temporary erosion and sediment control features include silt fence, a rock construction entrance, and inlet protection. Permanent erosion and sediment control features include riprap and stabilization through seeding and sod.

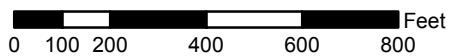
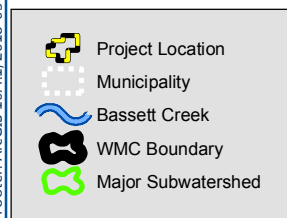
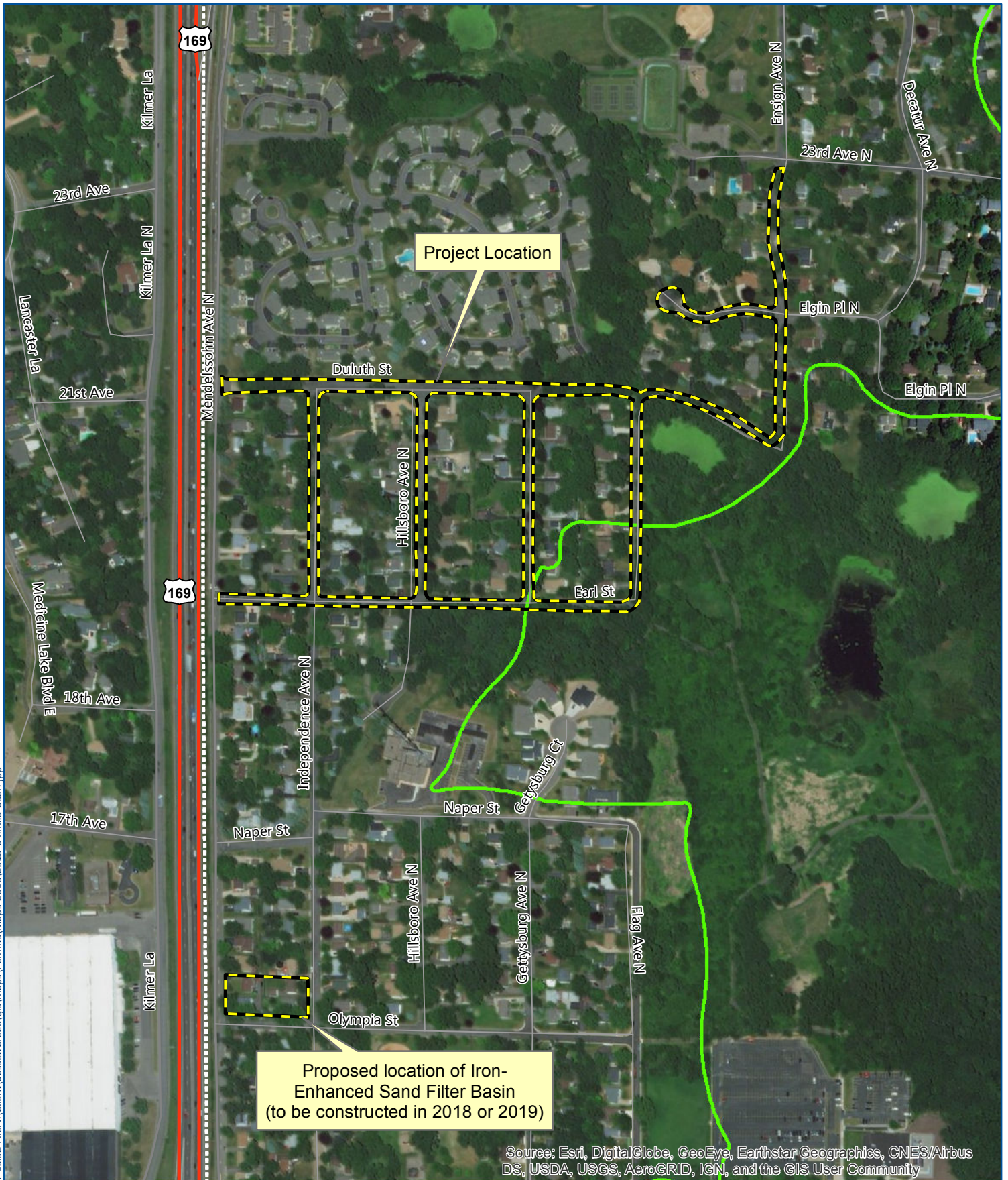
Recommendation

Conditional approval based on the following comments:

1. Final approval for the *Request for Diversion of Surface Water Runoff for Golden Valley 2018-2019 Pavement Management Program (PMP) Project* (BCWMC #2017-40) must be received prior to, or in conjunction with, this approval to confirm the diversion does not adversely impact lakes, streams, or wetlands.
2. We recommend maximizing the distance between FES1 and the pond outlet and FES2 and the pond outlet to limit short-circuiting of the existing stormwater pond.
3. We recommend adding floating silt curtain around FES1 and FES2 for improved sediment control during construction.
4. The draintile for the iron-enhanced sand filter basin (IESFB) must be lowered to the bottom of the iron enhanced sand (directly on top of the liner) to allow the basin to draw down completely and

prevent the iron-enhanced sand from becoming anoxic (which could release the chemically-bonded dissolved phosphorus).

5. The MPCA recommends a minimum of 18 inches of filtration for sand filters. Although it is not specified whether the draintile can be located within this 18-inch depth, we recommend providing a minimum of 18 inches of filtration above the crown of the draintile (i.e., 18 inches of filter material) to maximize the filtration potential and limit the potential for short-circuiting.
6. Soil borings or a geotechnical report must be provided to demonstrate that the bottom of the sand filter is located a minimum of 3 feet above the seasonally high water table.
7. The city must develop a maintenance plan for the iron-enhanced sand filter basin (IESFB).
8. Revised Drawings (paper copy and final electronic files) must be provided to the BCWMC Engineer for final review and approval.



BCWMC #2018-04
Golden Valley 2018 PMP
Golden Valley, MN

LOCATION MAP



MEMORANDUM

Physical Development Department

763-593-8030 / 763-593-3988 (fax)

Date: March 5, 2018

To: Jim Herbert, Barr Engineering

From: Jeff Oliver, City Engineer

Subject: 2018 PMP Stormwater Filtration Basin

For the past couple years, the City has been working with four property owners located in the 2017 Pavement Management Program (PMP) area who have experienced repeat flood damage to their homes. As part of the DNR's flood damage reduction program, the City is acquiring the properties and removing the homes. As you recall, all four properties are needed to create space for the construction of the iron enhanced sand filtration basin included in the City's 2018 PMP plans. The stormwater basin is being constructed to meet MIDs performance goals to mitigate for the City's 2016 PMP (BCWMC 2016-06) and 2017 PMP (BCWMC 2017-02) projects.

The City has acquired three of the four properties and demolition is underway. The City has a purchase agreement on the fourth property. However, due to unforeseen circumstances beyond the City's control, the sale of the fourth property is experiencing a temporary delay. With this temporary delay in acquisition, the City has no choice but to award its 2018 PMP contract without the filtration basin included.

If the fourth property can be acquired and demolished before the 2018 PMP is completed, it is possible that the filtration basin will be added back into the project and constructed in 2018. If the timing does not work out, the City will include the filtration basin in its 2019-2023 Capital Improvement Program for construction in 2019.

The City is committed to fulfilling its intent and obligation to construct a stormwater filtration basin that will benefit the water quality of Medicine Lake. Please accept this memo as notification to the BCWMC that the City will provide the required offsite treatment by the end of 2019 or as soon thereafter as reasonably possible.

**A RESOLUTION GRANTING A VARIANCE FROM WATER QUALITY TREATMENT
REQUIREMENTS FOR THE 2016 GOLDEN VALLEY PAVEMENT MANAGEMENT
PROGRAM**

Bassett Creek Watershed Management Commission
Resolution #16-06

WHEREAS, the Bassett Creek Watershed Management Commission ("BCWMC") received a letter from the City of Golden Valley ("City") requesting a variance from the BCWMC water quality treatment requirements, known as the Minimal Impact Design Standards ("MIDS") performance goals, for the 2016 Golden Valley Pavement Management Program ("Project");

WHEREAS, the City and its consulting engineer have studied the options available to meet the MIDS treatment standards for the Project and have determined that it is not feasible to satisfy the standards as part of the Project because of the linear nature of the Project, the existence of poor soils in the Project area that are not conducive to volume reduction, and the confined right-of-way area in which the Project will be constructed;

WHEREAS, the City will construct all practical and feasible water quality best management practices available in conjunction with this Project, including reducing impervious area and installing sump manholes with SAFL baffles, but despite these efforts the Project will not meet the MIDS performance goals including the three flexible treatment options;

WHEREAS, the City can provide equivalent offsite treatment to meet the MIDS performance goals for the Project by the end of 2018; and

WHEREAS, the Board of Commissioners ("Board") has considered the request, the standards for issuing variances in the BCWMC's Requirements for Improvements and Development Proposals, and finds and determines as follows:

- a. The linear nature of the Project, the poor soils, and the limited area in which the Project will be constructed constitute special circumstances or conditions such that the strict application of the provisions of the standards and criteria would deprive the City of the reasonable use of its right-of-way and its ability to construct improvements;
- b. The requested variance is necessary for the preservation and enjoyment of a substantial property right of the applicant in that the City is working to improve its right-of-way for the benefit of the public;
- c. Granting the variance will not be detrimental to the public welfare or injurious to the other property in the territory of the right-of-way being improved in that the Project will be increasing safety and addressing existing surface water issues;

- d. The Project does not relate to a use in the 1% (base flood elevation, 100-year flood) floodplain set forth in Table 2-9 of the Plan;
- e. Granting the variance will not be contrary to the intent of taking all reasonable and practical steps to improve water quality within the watershed in that the City will implement all practical and feasible water quality best management practices available in conjunction with this Project, including reducing impervious area and installing sump manholes with SAFL baffles.

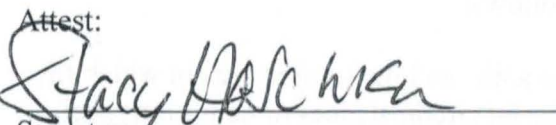
NOW, THEREFORE, BE IT RESOLVED, by the Board of the BCWMC that, pursuant to its variance procedure the BCWMC Requirements for Improvements and Development Proposals, the findings contained herein, and the record of this matter, it hereby grants the City a variance from the MIDS performance goals for the Project conditioned on compliance with each of the following:

- 1. The City shall implement all practical and feasible water quality best management practices, including reducing impervious area and installing sump manholes with SAFL baffles, related to the construction of the Project; and
- 2. The City shall provide offsite treatment to meet the MIDS performance goals for the Project by the end of 2018 or as soon thereafter as is reasonably possible.

Adopted by the Board of Commissioners of the Bassett Creek Watershed Management Commission this 17th day of March, 2016.


Chair

Attest:


Secretary

Resolution No.16-06: Offered by Commissioner Hoschka, seconded by Alternate Commissioner Tobelmann, adopted by a vote of 7 - 0 at the regular meeting of the Board of Commissioners of Bassett Creek Watershed Management Commission on March 17, 2016.

A RESOLUTION GRANTING A VARIANCE FROM WATER QUALITY TREATMENT REQUIREMENTS FOR THE 2017 GOLDEN VALLEY PAVEMENT MANAGEMENT PROGRAM

Bassett Creek Watershed Management Commission
Resolution #17-04

WHEREAS, the City of Golden Valley (“City”) requests a variance from the Bassett Creek Watershed Management Commission (“BCWMC”) water quality treatment requirements, known as the Minimal Impact Design Standards (“MIDS”) performance goals, for the 2017 Golden Valley Pavement Management Program (“Project”);

WHEREAS, the City and its consulting engineer have studied the options available to meet the MIDS treatment standards for the Project and have determined that it is not feasible to satisfy the standards as part of the Project because of the linear nature of the Project, the existence of poor soils in the Project area that are not conducive to volume reduction, and the confined right-of-way area in which the Project will be constructed;

WHEREAS, the City will construct all practical and feasible water quality best management practices available in conjunction with this Project, including reducing impervious area and installing sump manholes with SAFL baffles, but despite these efforts the Project will not meet the MIDS performance goals including the three flexible treatment options;

WHEREAS, the City can provide equivalent offsite treatment to meet the MIDS performance goals for the Project by the end of 2018; and

WHEREAS, the Board of Commissioners (“Board”) has considered the request, the standards for issuing variances in the BCWMC’s Requirements for Improvements and Development Proposals, and finds and determines as follows:

1. The linear nature of the Project, the poor soils, and the limited area in which the Project will be constructed constitute special circumstances or conditions such that the strict application of the provisions of the standards and criteria would deprive the City of the reasonable use of its right-of-way and its ability to construct improvements;
2. The requested variance is necessary for the preservation and enjoyment of a substantial property right of the applicant in that the City is working to improve its right-of-way for the benefit of the public;
3. Granting the variance will not be detrimental to the public welfare or injurious to the other property in the territory of the right-of-way being improved in that the Project will be increasing safety and addressing existing surface water issues;
4. The Project does not relate to a use in the 1% (base flood elevation, 100-year flood) floodplain set forth in Table 2-9 of the Plan;


5. Granting the variance will not be contrary to the intent of taking all reasonable and practical steps to improve water quality within the watershed in that the City will implement all practical and feasible water quality best management practices available in conjunction with this Project, including reducing impervious area and installing sump manholes with SAFL baffles.

NOW, THEREFORE, BE IT RESOLVED, by the Board of the BCWMC that, pursuant to its variance procedure the BCWMC Requirements for Improvements and Development Proposals, the findings contained herein, and the record of this matter, it hereby grants the City a variance from the MIDS performance goals for the Project conditioned on the City agreeing to 1) implement all practical and feasible water quality best management practices, including reducing impervious area and installing sump manholes with SAFL baffles, related to the construction of the Project; and 2) provide equivalent offsite treatment to meet the MIDS performance goals for the Project by the end of 2018.

Adopted by the Board of Commissioners of the Bassett Creek Watershed Management Commission this 16th day of March, 2017.


Chair

Attest:


Secretary

Resolution No. 17-04: Offered by Commissioner Harwell, seconded by Commissioner Scanlan, adopted by a vote of 6-2 at the regular meeting of the Board of Commissioners of Bassett Creek Watershed Management Commission on March 16, 2017.

Assessment and treatment of internal phosphorus loading in Northwood Lake, City of New Hope

Two-part Study

1. Investigate internal phosphorus release from sediment in Northwood Lake
2. Implement iron-filings pilot study in the lake and assess post-treatment phosphorus water quality

Rationale

USEPA has listed approximately 3,000 lakes for impairments due to excess phosphorus. Phosphorus levels in lakes are affected by two primary sources:

1. Inputs from watershed runoff
2. Internal loading resulting from release of phosphorus from the sediment

High phosphorus loading can cause and accelerate eutrophication and harmful algal blooms and weed growth in the lake. Reducing internal loading can improve lake water quality, reduce weed growth and algal blooms, and help meet TMDL allocation goals.

The project will investigate the effectiveness of iron filing addition to Northwood Lake to bind up the phosphorus in the sediment, preventing its release into the lake's water column. Iron filing addition to sand filters has been studied extensively by the University of Minnesota's St. Anthony Falls Lab, showing effective removal of soluble phosphorus from stormwater runoff.

Building on that success, a 2017 study by the U of M looked at iron filing addition to lake sediments under controlled laboratory conditions. The study showed a significant reduction in phosphorus release from the sediment.

The proposed pilot study in Northwood Lake will now look at iron filing addition directly to the lake sediment. It will be one of the first field applications of iron filings as a sediment phosphorus inactivation method in lakes. If successful, iron filing addition can be a viable tool for treating lake phosphorus in the numerous lakes across the Metro area and the state that are experiencing high internal loading of phosphorus.

Project Approach

The project will be a two-year effort:

- **Year 1:** Measure current conditions in the lake through a combination of sediment core collection and assessment and in-situ water quality sampling. This will form the baseline for evaluating effectiveness of iron filing treatment. It will also provide information on the amount of iron filings needed for the treatment. Prepare a project report on the procedures and results.
- **Year 2:** Apply iron filings across the lake sediment surface. Perform both water quality sampling and sediment analysis. Determine change from Year 1 (untreated) conditions. Prepare a project report on the procedures and results.

Project Costs

The project costs will include labor costs for the U of M to perform the work, lab testing costs, and material costs for the iron filings. Stantec staff will assist as needed at no cost to the project.

Estimated costs are as follows:

- Year 1 study: \$16,409
- Year 2 study: \$26,876
- Iron filings (Year 2): \$15,000-\$30,000

BCWMC Funding Request

We are requesting \$15,000-\$30,000 from the BCWMC to help cover the project costs. We are currently pursuing other grant funding options as well (University of Minnesota, Stantec), though there are no guarantees about being awarded this money.

Technical Pre-Proposal

Assessment and treatment of internal phosphorus loading in Northwood Lake, City of New Hope, MN

Part I: Pre-treatment study

Part II: Iron filings treatment and assessment study

Principal Investigator: John S. Gulliver
Professor
St. Anthony Falls Laboratory
2 Third Ave. SE
Minneapolis, MN 55414
Phone: (612) 625-4080
Fax: (612) 626-7750
gulli003@umn.edu

I. Proposal summary

A. Project activities

The proposed project is a two-part study to (i) investigate the internal phosphorus release in Northwood Lake in the City of New Hope (Part I), and (ii) implement an iron filings treatment in the lake and assess the post-treatment phosphorus water quality (Part II). The Part I pre-treatment study will measure the sediment phosphorus release using laboratory mesocosms of lake sediment-water columns, and measure the *in situ* water quality in the lake. If internal phosphorus release is substantial, the results will be utilized in the Part II study to chemically-inactivate the sediment phosphorus using iron filings, and then monitor the phosphorus water quality in the lake to assess the treatment effectiveness. The overall goal is to mitigate internal phosphorus loading in Northwood Lake, and eventually improve the lake water quality.

B. Relevance

The US EPA has listed ~3000 surface water impairments due to excess phosphorus and eutrophication (US EPA 2016). Phosphorus levels in lakes are influenced by the phosphorus inputs from the watershed and by internal phosphorus loading (i.e., release of phosphorus from the bottom sediments). High internal loading can cause and sustain eutrophication and harmful algal blooms that negatively impact the lake water quality. Studies have shown that internal loading should be reduced, along with external load reduction, to improve lake water quality, aid lake recovery, and meet Total Maximum Daily Load (TMDL) allocation goals (Smolders et al. 2006).

C. Project outcomes

The proposed project will assess the importance of internal phosphorus loading in Northwood Lake through a laboratory mesocosm study, and determine the effectiveness of iron filings treatment in accomplishing the goals of reducing internal phosphorus loading and improving the water quality in the lake. The project will be one of the earliest field applications of iron filings as a sediment phosphorus inactivation method in lakes. If successful, iron filings application can be a viable tool for treating lake phosphorus. Given that a large number of lakes can experience summertime anoxia and eutrophication due to high internal loading, a decrease in lake phosphorus levels will greatly benefit the lake and have important implications for TMDL implementation plans for impaired waters.

II. Background

Phosphorus is the limiting nutrient for primary production in temperate freshwaters (Schindler 1977). Phosphorus accumulated in the lake sediments can recycle back into the water column under certain environmental conditions, and this internal loading can be significant in some lakes, especially during summer. Oftentimes, internal phosphorus loading must be addressed to improve the lake water quality and satisfy TMDL goals. One of the lake treatment techniques to reduce internal loading is the chemical inactivation of sediment phosphorus, commonly using alum, iron chloride or lanthanum.

The addition of zero-valent iron metal filings to lake sediments as a measure for internal load reduction was investigated in a recent research project (Natarajan et al. 2017). Sediment cores from two eutrophic Minnesota lakes (Rush Lake in Chisago County and Ann Lake in Wright County) were subject to experimental doses of iron filings in a laboratory-scale mesocosm setup. The anoxic phosphate release from the natural (unamended) lake sediments were approximately five times the oxic phosphate release at 20 °C. The addition of > 0.05 g iron/cm² sediment area significantly reduced the anoxic phosphate release. Detailed analysis of the sediment phosphorus species revealed that the iron-dosed sediments contained very low mobile phosphorus in the porewater, which resulted in the decreased phosphate flux across the sediment-water interface and the very low phosphate concentrations (<0.050 mg/L) in the water overlying the sediments. The placement of an appropriate dose of iron filings is a potential sediment phosphorus inactivation tool that can be applied in lakes and stormwater ponds.

III. Proposal narrative

A. Part I: Pre-treatment study

1. Objectives

The main objective of the Part I pre-treatment study is to determine the significance of internal phosphorus loading in Northwood Lake. Using laboratory-scale mesocosms of lake sediment-

water columns, the phosphorus release rates will be measured under varying environmental conditions. Periodic field measurements of dissolved oxygen (DO), temperature, conductivity and total phosphorus will be taken to verify the environmental conditions of the lake. The water quality data and mesocosm study results will be used to assess the importance of internal loading in Northwood Lake. The Part I study will provide the information necessary for recommending an iron filings dose required to reduce sediment phosphorus release (for the Part II study).

2. Proposed site

Northwood Lake (area = 0.0607 km²; mean depth = 0.762 m; max depth = 1.52 m), a shallow eutrophic lake located in the Northwood Park, City of New Hope, Hennepin County, MN, is the proposed site for the internal phosphorus assessment and treatment studies. The drainage area to the lake (5.42 km²) is primarily low-density residential land. In addition to the pipe inflow from the northwest drainage area, runoff outflows from a unique treatment train system (underground vault-bioretention basins) are routed to the lake (Stantec 2014).



Figure 1. Map showing the location of Northwood Lake in the City of New Hope, Hennepin County, MN. (source: <www.maps.google.com>)

Northwood Lake was placed in the Minnesota Pollution Control Agency (MPCA)'s 303(d) Impaired Waters List in 2000 due to excess phosphorus. Conditions in the lake have been eutrophic or hypereutrophic due to the high and increasing total phosphorus (TP) concentrations that fail to meet the MPCA's water quality standard for shallow lakes (Barr 2014; BCWMC 2016). Historic water quality data indicate high average TP (> 0.196 mg/L), low Secchi depth

(0.6 m), low dissolved oxygen (< 2 mg/L below 1 m), and invasive curly leaf pondweed growth during summer (Barr 2014; BCWMC 2016). Northwood Lake has been found to stratify during some periods over summer (Barr 2014).

3. Methods and tasks

The laboratory mesocosm systems will consist of lake sediment cores placed with overlying lake water. The dissolved oxygen (DO) levels in the water columns will be manipulated to create oxic (high DO) and anoxic (low DO) conditions, and the phosphorus release from the sediments to the overlying water will be measured. The oxic and anoxic phosphorus release rates will be quantified as the linear change in phosphorus mass in the water column over the respective experimental duration. *In situ* DO, temperature and conductivity profiles will be taken at select locations in the lake during the growing season. Water samples for total phosphorus will be collected. If the lake is found to be stratified, water samples will be collected at the surface and below the stratified layer. The laboratory data and field conditions will be related to evaluate the internal loading potential in the lake.

Task 1. Sediment core collection

At least ten intact sediment cores with overlying water column will be collected through ice or from a boat. DO, temperature, and conductivity at the coring locations will be measured.

Task 2. Laboratory mesocosm studies

The sediment-water columns will be set up at 20 °C at the St. Anthony Falls Laboratory (SAFL). Bubblers will be placed above the sediment-water interface to simulate oxic conditions (by air bubbling) or anoxic conditions (by nitrogen gas bubbling) in the water column. The water column concentrations of soluble reactive phosphorus (primarily phosphate) will be monitored throughout the experimental duration, and the oxic and anoxic phosphate release rates determined.

Task 3. In situ water quality sampling

The DO, temperature and conductivity profiles will be measured in the lake water column, and water samples for total phosphorus concentrations will be taken in selected locations. Data collection will be done a few times during the growing season.

Task 4. Sediment analysis

The lake sediments will be analyzed for phosphorus and associated metal concentrations. The available (redox-sensitive and labile organic phosphorus) and unavailable (aluminum- and mineral-bound) forms of phosphorus in the pond sediments will be determined by the sequential phosphorus extraction method. Concentrations of metals (Fe, Al, Ca) in the sediments will be measured. The data will be related to the phosphorus release rates measured in the mesocosms.

The main purpose of Task 5 is to gather pre-treatment sediment quality data, so that future comparisons with iron-treated sediments can be made. The phosphorus forms in the sediments can be expected to change because of iron filings addition. The sediment data will help understand the impacts of iron dosing on the sediment phosphorus retention (or release).

Task 5: Project report

A project report, summarizing the results of the laboratory mesocosm studies and the *in situ* water quality observations, will be prepared.

The budget subtotal for Tasks 1 to 5 is \$16,409.

4. Results and deliverables

The Part I pre-treatment study will determine the significance of internal loading in Northwood Lake under different environmental conditions. The phosphorus release rate data and lake water quality will help interpret the phosphorus release vis-à-vis retention by the lake sediments. A project report summarizing the results will be final deliverable for the Part I study. The iron filings dose recommended for future treatment of Northwood Lake will also be included in the report.

5. Budget and timetable

The proposed Part I study has five tasks and the budget subtotal for Tasks 1 to 5 is \$16,409. The timeline listed for each task is approximate.

Table 1. Budget and timetable for the Part I pretreatment study for Northwood Lake.

Part I: Pre-treatment study				
	Tasks	~Start by	~End before	Budget
1	Sediment core collection	4/1/2018	5/1/2018	\$ 1,106
2	Laboratory mesocosm studies	4/1/2018	8/31/2018	\$ 3,279
3	<i>In situ</i> water quality sampling	5/1/2018	8/31/2018	\$ 2,413
4	Sediment analysis	4/1/2018	8/31/2018	\$ 6,677
5	Project report		10/31/2018	\$ 2,934
Task 1 to 5 total				\$16,409

B. Part II: Iron filings treatment and assessment study

1. Objectives

The main objectives of the proposed Part II study are to implement iron filings treatment in Northwood Lake and monitor the phosphorus water quality in the lake to measure the treatment effectiveness. Iron filings treatment is proposed to chemically-inactivate the sediment phosphorus and reduce the internal phosphorus release in the lake. Factors affecting phosphorus release/retention will be determined based on detailed sediment analysis.

2. Proposed site

Northwood Lake (area = 0.0607 km²; mean depth = 0.762 m; max depth = 1.52 m) in the City of New Hope (Hennepin County, MN), assessed for internal loading in the Part I pre-treatment study, is the proposed candidate for iron filings treatment.

3. Methods and tasks

The iron filings dose for reducing internal phosphorus loading in Northwood Lake will be determined based on the Part I study and Natarajan et al. (2017) study. Iron filings will be applied on the surface of lake sediments. The post-treatment water quality in the lake will be monitored by grab sampling technique over a one-year period. Sediments from the iron-treated area of the lake will be analyzed to explain the lake phosphorus levels.

Task 1. Iron filings treatment

Iron filings will be spread on the sediments in the deeper areas that are most likely to thermally-stratify and become anoxic. The assistance of the City of New Hope personnel will be needed for this task. One method is to spread iron filings over a frozen lake surface in winter so that the iron filings will eventually settle to the bottom as the ice thaws. An alternate option is to apply the iron filings using a spreader device attached to a boat during early Spring. The iron filings units (lb) and costs may change depending on Part I mesocosm study results (\$2000/acre est.), and variability of iron filings costs; therefore, the costs of iron filings application is not included in the budget (please see Table 2). The purchase of the iron filings will be made by the City of New Hope, with guidance from SAFL staff. At current rates for iron filings, the estimated cost would be between \$15,000 (if half the lake needs to be treated) and \$30,000 (if the entire lake needs to be treated).

Task 2. Year 1 water quality sampling

Total phosphorus concentrations, and DO, temperature and conductivity profiles in the water column will be measured at various sampling frequencies during the growing season. Frequent sampling will be conducted during select periods; one possibility is to take daily *in situ*

measurements. The goal will be to follow an adaptive assessment method based on the field measurements.

Task 3. Sediment analysis

Sediment cores will be collected from the iron-treated lake area. The upper 10 cm of sediments will be subject to sequential phosphorus extraction to determine the concentrations of available (redox-sensitive and labile organic phosphorus) and unavailable (aluminum- and mineral-bound) forms of phosphorus in the sediments. The concentrations will be compared to the pre-treatment sediment data (Task 4, Part I study). Metal (Fe, Al, Ca) concentrations in the sediments will be measured.

Task 4: Project report

A project report, summarizing the effectiveness of iron filings treatment in improving the phosphorus water quality in Northwood Lake, will be prepared.

The budget subtotal for Part II, Tasks 1 to 4 is \$20,847.

Add scope to Part II study

It is possible that weather conditions during the first-year monitoring could create unusual conditions in terms of phosphorus release from the sediments and phosphorus loading to the lake. Water quality monitoring in Northwood Lake may be continued for a second year, if necessary.

Task 5. Year 2 water quality sampling

Total phosphorus concentrations, and DO, temperature and conductivity profiles in the water column will be measured at various sampling frequencies during the growing season. Frequent sampling will be conducted during select periods; one possibility is to take daily *in situ* measurements. The goal will be to follow an adaptive assessment method based on the field measurements.

Task 5 will add \$6,028 to the project cost. The budget subtotal for Tasks 1 through 5, including cost for Year 2 data analysis and report writing, is \$26,876.

4. Results and deliverables

The Part II study will provide the effectiveness of iron filings treatment in improving phosphorus retention in the Northwood Lake. The water quality measured before and after treatment will indicate the success of the treatment method. A project report summarizing the results will be the final deliverable for the Part II study.

5. Budget and timetable

The Part II study will encompass one or two years following one year of pre-treatment study. Iron filings treatment and one-year water quality monitoring is estimated to cost \$20,597 (excluding the costs of iron filings). Conducting a second-year monitoring is estimated to add \$5,728 to the budget (hence, Part II study total = \$26,326). As noted under Part II, Task 1, the iron filings units (lb) and costs may change depending on Part I mesocosm study results (\$2000/acre est.), and variability of iron filings costs; therefore the costs for iron filings application is not included in the Task 1 budget (Table 2). The purchase of the iron filings will be made by the City of New Hope, with guidance from SAFL staff.

Table 2. Budget and timetable for the Part II iron filings treatment and assessment study for Northwood Lake.

Part II: Iron filings treatment and assessment study				
	Tasks	~Start by	~End before	Budget
1*	Iron filings treatment	2/1/2019	5/1/2019	\$ 856
2	Year 1 <i>in situ</i> water quality sampling	5/1/2019	8/31/2019	\$ 3,306
3	Sediment analysis		8/31/2019	\$ 7,258
4	Data analysis and project report		10/31/2019	\$ 9,428
Tasks 1 to 4 subtotal				\$20,847
5a-d**	Year 2 <i>in situ</i> water quality sampling	5/1/2020	8/31/2020	\$ 3,305
5e-f**.	Data analysis (Year 2 data) and project report		10/31/2020	\$ 2,723
Task 5 subtotal				\$ 6,028
Task 1 to 5 total				\$26,876

* iron filings costs (material+mobilization) not included

**additional scope

References

- Barr (2014). *2013 Lake water quality study: Northwood Lake, North Rice Pond, and South Rice Pond*, prepared for Bassett Creek Watershed Management Commission, Barr Engineering, Minneapolis, MN.
- BCWMC (2016). *Northwood Lake 2016 water quality monitoring*. The Bassett Creek Watershed Management Commission. <<http://www.bassettcreekwmo.org/lakes-streams/northwood-lake>> (accessed November 2017).
- Natarajan, P., Gulliver, J.S., and Arnold, W.A. (2017). *Internal phosphorus load reduction with iron filings*. Final project report prepared for the U.S. EPA Section 319 Program and the Minnesota Pollution Control Agency, St. Paul, MN.
- Schindler, D.W. (1977). "Evolution of phosphorus limitation in lakes: Natural mechanisms compensate for deficiencies of nitrogen and carbon in eutrophied lakes." *Science*, 195, 260-262.
- Smolders, A. J. P., L. P. M. Lamers, E. C. H. E. T. Lucassen, G. Van Der Velde, and J. G. M. Roelofs. (2006). "Internal eutrophication: how it works and what to do about it – a review." *Chemistry and Ecology*, 22, 93-111.
- Stantec (2014). *Feasibility report for Northwood Lake storm water improvements*. Prepared for City of New Hope, MN, Stantec Consulting Services, Inc., St. Paul, MN. <<http://www.bassettcreekwmo.org/projects/all-projects/nwl-improvement>> (accessed November 2017)

USEPA. (2016). *Specific State causes of impairment*. U.S. Environmental Protection Agency, Washington, D.C.
<https://iaspub.epa.gov/waters10/attains_nation_cy.cause_detail_303d?p_cause_group_id440=792> (accessed October 2016)

						Undergraduate salary (\$/hr) =	17.93
						Research staff (salary+fringe) (\$/hr) =	87.39
						John Gulliver (salary+fringe) (\$/hr) =	243.72
Part I: Pre-treatment study							
IA.	Tasks	Units/hours	Unit cost	Total cost	Detailed task description		
	1 Sediment core collection						
	a Staff (1 Undergraduate student + 1 Research staff)	8	\$105	\$843	Site work preparation, collect 10 cores, and measure in situ DO, T and conductivity		
	b Materials for sediment core collection	1	\$250	\$250	Piston corer rental from LRC and coring supplies		
	c Travel mileage	24	\$0.55	\$13	Mileage within MN (SAFL to Northwood Lake is 12 miles one-way; 1 trip)		
Task 1 subtotal =				\$1,106			
	2 Laboratory mesocosm studies						
	a Phosphorus release rate experiments at 20 °C	28	\$105	\$2,949	Collect and analyze water samples for phosphorus; measure DO and pH in the columns		
	b Supplies for laboratory chemical analysis	1	\$330	\$330	Supplies for mesocosm experiments, nitrogen gas tank, 0.45 micron filters, chemicals for phosphorus analysis		
Task 2 subtotal =				\$3,279			
	3 Water quality sampling						
	a Data collection (1 Undergraduate student)	60	\$18	\$1,076	In situ DO, T and conductivity profiles, and TP water sample (10 times)		
	b Water sample analysis (total phosphorus)	60	\$18	\$1,076	TP analysis (~150 water samples; ~15 samples/sampling trip)		
	c Travel mileage	480	\$0.55	\$262	Mileage within MN (SAFL to Northwood Lake is 12 miles one-way)		
Task 3 subtotal =				\$2,413			
	4 Sediment analysis						
	a Sediment extrusion and sequential phosphorus extraction	38	\$105	\$4,002	Extrude sediments, sediment extraction and P analysis, water content and LCI (6-10 cores; 7 samples/core)		
	b Supplies for sediment analysis	1	\$550	\$550	Extruder rental from LRC; supplies for analysis (centrifuge tubes, chemicals, oxygen tank)		
	c Metal analysis (@ RAL)	40	\$40	\$1,600	Metals analysis of sediments will be done at UMN's RAL (6-10 cores; 5 samples/core)		
	d Data analysis (1 Research staff)	6	\$87	\$524	data analysis		
Task 4 subtotal =				\$6,677			
	5 Report						
	a Data analysis and report (1 Research staff)	28	\$87	\$2,447	Data analysis and report writing		
	b Supervision and report (Project PI)	2	\$244	\$487	Data analysis and report writing		
Task 5 subtotal =				\$2,934			
Part I: Pre-treatment study Total =				\$16,409			

Part IIa: Iron filings treatment and Year 1 water quality monitoring					
IIa.	Tasks	Units/hours	Unit cost	Total cost	Detailed task description
1	Iron filings treatment				
a	Iron filings (material + shipping cost)	0	\$0	\$0	City match of project. ~\$2000/acre estimated; however iron filings quantity (lb) may change depending on Part I mesocosm study results.
b	Labor (iron filings application)	8	\$105	\$843	City personnel will be required.
c	Travel mileage	24	\$0.55	\$13	Mileage within MN (SAFL to Northwood Lake is 12 miles one-way; 1 trip)
Task 1 subtotal =				\$856	
2	Year 1 water quality sampling				
a	Data collection (1 Undergraduate student)	60	\$18	\$1,076	DO, conductivity and temperature profiles; water sample for TP during summer (up to 50 times)
b	Water sample analysis (total phosphorus)	60	\$18	\$1,076	total phosphorus analysis (~15 samples/trip)
c	Supplies for chemical analysis	1	\$500	\$500	sample bottles, centrifuge vials, cuvettes, chemicals for TP analysis
d	Travel mileage	1200	\$0.55	\$654	Mileage within MN (SAFL toNorthwood Lake 12 miles one-way; 50 trips)
Task 2 subtotal =				\$3,306	
3	Sediment coring and analysis				
a	Sediment core collection	8	\$105	\$843	Collect 6-10 cores from the iron-treated area
b	Materials for sediment core collection	1	\$250	\$250	Piston corer rental from LRC and coring supplies
c	Travel mileage	24	\$0.55	\$13	Mileage within MN (SAFL to Northwood Lake is 12 miles one-way; 1 trip)
d	Sediment extrusion and sequential phosphorus extraction	38	\$105	\$4,002	Extrude sediments, sediment extraction, P analysis, water content and IOI (6-10 cores; 7 samples/core)
e	Supplies for laboratory chemical analysis	1	\$550	\$550	Extruder rental; supplies for analysis (centrifuge tubes, chemicals, oxygen tank)
f	Metal analysis (@ RAL)	40	\$40	\$1,600	Metals analysis of sediments will be done at UMN's RAL (6-10 cores; 5 samples/core)
Task 3 subtotal =				\$7,258	
4	Project supervision and project report				
a	Data collection, analysis and final report (1 Research staff)	80	\$87	\$6,991	Data collection, data analysis and report writing
b	Project supervision and final report (PI)	10	\$244	\$2,437	Data collection, data analysis and report writing
Task 4 subtotal =				\$9,428	
Part IIa study (Iron filings tretament and Year 1 monitoring) Total =				\$20,847	

Part IIb: Year 2 water quality monitoring (added scope)					
IIb.	Tasks	Units/hours	Unit cost	Total cost	Detailed task description
5	Year 2 water quality sampling				
a	Data collection (1 Undergraduate student)	60	\$18	\$1,076	DO, conductivity and temperature profiles; water sample for TP during summer (up to 50 times)
b	Water sample analysis (total phosphorus)	60	\$18	\$1,076	total phosphorus analysis
c	Supplies for chemical analysis	1	\$500	\$500	
d	Travel mileage	1200	\$0.55	\$654	Mileage within MN (SAFL to Northwood Lake 12 miles one-way; 50 trips)
e	Data analysis and report (1 Research staff)	20	\$87	\$1,748	data analysis and report writing
f	Supervision and report (Project PI)	4	\$244	\$975	data analysis and report writing
Part IIb (Year 2 monitoring) TOTAL =				\$6,028	

Part IIa (Treatment and Year 1 monitoring) & IIb (Year 2 monitoring) TOTAL =			\$26,876	
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BASSETT CREEK WATERSHED MANAGEMENT COMMISSION

A RESOLUTION OF APPRECIATION FOR SERVICES OF GUY MUELLER
TO THE BASSETT CREEK WATERSHED MANAGEMENT COMMISSION

WHEREAS, the Bassett Creek Watershed Management Commission (the "Commission") is a joint powers organization formed by the cities of Crystal, Golden Valley, Medicine Lake, Minneapolis, Minnetonka, New Hope, Plymouth, Robbinsdale and St. Louis Park; and

WHEREAS, the Commission serves as the duly constituted watershed management organization for the Bassett Creek watershed pursuant to the Metropolitan Surface Water Management Act; and

WHEREAS, under the Act and the Commission's joint powers agreement the Commission is charged with responsibility for the management of storm water to protect persons and property from flooding and to protect and preserve the water quality of lakes, streams and wetlands of the Bassett Creek Watershed and downstream receiving waters; and

WHEREAS, Guy Mueller served as a representative from the City of Crystal from 2013 to 2018 and served as Vice Chair of the Commission from 2014 through 2017; and

WHEREAS, Guy helped to develop significant policy recommendations as an active participant on the Plan Steering Committee for the 2015 Watershed Management Plan; and

WHEREAS, Guy served on the Budget Committee from 2014 to 2017 and as Chair of the Administrative Services Committee from 2014 to 2017; and

WHEREAS, Guy participated in workshops, conferences and trainings to further his knowledge and understanding of water resource issues, and consistently used critical analyses and his expertise to review Commission projects and programs; and

WHEREAS, Guy was a helpful and active participant in the development of the Bassett Creek Park Pond/Winnetka Pond Dredging Project Feasibility Study, communicating with and acting as a liaison between the City of Crystal and the Commission; and

WHEREAS, Guy gave generously of his time and talents, without compensation, to protect and improve the environment and to serve the public with integrity, vision, and respect for others.

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of the Bassett Creek Watershed Management Commission, its member cities, and the public hereby express its sincere and grateful appreciation to Guy Mueller for his distinguished service to the public.

Adopted by the Board of Commissioners of the Bassett Creek Watershed Management Commission this 15th day of March, 2018.

Chair



Bassett Creek Watershed Management Commission

MEMO

To: Bassett Creek Watershed Management Commissioners
From: Technical Advisory Committee
Date: March 7, 2018

RE: TAC Recommendations – 3/2/18 TAC Meeting

The BCWMC Technical Advisory Committee met on March 2nd to discuss the 2020-2024 CIP project list and a model snow and ice removal policy; to provide updates on development of their local water management plans and ordinances; to offer suggestions for the CIP Prioritization Process Committee and BWSR's Biennial Budget Request; and to consider a request for use of Channel Maintenance Funds from the City of Plymouth. They forward the following recommendations for the Commission's consideration.

TAC Members and Others attending 3/2/18 TAC Meeting:

Liz Stout, Minneapolis
Jeff Oliver and Eric Eckman, Golden Valley
Erick Francis, St. Louis Park
Richard McCoy and Marta Roser, Robbinsdale
Chris Long, Megan Albert and Bernie Weber, New Hope
Mark Ray, Crystal
Tom Dietrich and Will Manchester, Minnetonka
Derek Asche, Plymouth
Susan Wiese, Medicine Lake
Stacy Harwell, Golden Valley Commissioner
Michael Welch, Minneapolis Commissioner
Jim Prom, Plymouth Commissioner
Bill Monk, Minnetonka Alternate Commissioner
Laura Jester, Administrator
Karen Chandler, Commission Engineers

1. Elect Committee Chair

Erick Francis of St. Louis Park was re-elected as committee chair.

2. 5-Year Capital Improvement Program Development 2020 – 2024

Administrator Jester asked what projects should be considered for 2024 and if there are projects currently slated for 2020 to 2023 that should be moved or removed.

Minnetonka TAC members reported the city is reconstructing Ridgedale Drive in 2019 and 2020, that the area drains to Crane Lake, and that there may be opportunities to install projects that reduce pollution above and beyond requirements. Derek Asche noted there aren't many opportunities for projects in Minnetonka and suggested \$200,000 be included in the CIP, but it was also noted Crane

Lake has decent water quality and is not on the impaired waters list, although chlorides are on the rise. Liz Stout noted that the Bryn Mawr Project won't be constructed until 2021 even though it's a 2019 project. There was discussion about moving Bryn Mawr to 2021, shifting DeCola Ponds funding, and possibly adding the Ridgedale Project in 2020. Administrator Jester indicated she would work with those suggestions and bring a revised CIP schedule to the next TAC meeting.

For 2024 projects, the following projects were briefly discussed. Project fact sheets will be developed by the cities and brought to a future TAC meeting to develop a final recommendation for the 5-year CIP.

- Bassett Creek Park Wetland Restoration Project, Minneapolis
- Stream Restoration Project, Tributary to West Medicine Lake Pond, Plymouth
- Main Stem Restoration Project, Regent Avenue to Golden Valley Road, Golden Valley

There was discussion about the need to reduce chlorides and the fact that traditional BMPs don't address chlorides. Commissioner Welch confirmed that CIP funds could be used for salting or brining equipment purchases or retrofitting. There was consensus that this idea should stay on the table but it was also noted there are plenty of actual constructed BMPs to install (to address other pollutants) so funding for salting equipment may not fit into the CIP.

No recommendation on 5-year CIP at this time. TAC will consider changes and additions to the CIP at a future meeting.

3. Review Model Snow and Ice Removal Policy

There was discussion about the issue of snow and ice removal practices and policies. The TAC materials included a [model snow and ice removal policy](#) developed by the Freshwater Society. The TAC discussion included the following points:

- None of the member cities have adopted this model ordinance. Golden Valley expressed interest in the policy and will have their maintenance department review it.
- One possible role is for the Commission is to engage Hennepin County staff and/or elected officials regarding the model policy.
- The MPCA Winter Maintenance Assessment Tool helps organizations assess operations, and identify opportunities to reduce salt use using proven BMPs and track progress.
- City practices are far better than private contractors at not over-salting and there is a growing awareness of the problem among citizens.
- In response to the Twin Cities Metro Area Chloride TMDL, the new MS4 permit may require cities to better address chloride pollution or improve winter maintenance practices.
- Education and outreach is a good role for the Commission – to help improve residents' expectations for snow and ice removal. Minneapolis is using Master Water Stewards to talk with private businesses.
- Minneapolis is including chloride management in contracts with private applicators.
- Cities could include chloride management provisions in development agreements with private developers.
- Other watershed management organizations are adopting rules regarding chloride.
- The [Guidance Document](#) that accompanies this model ordinance should be reviewed as well.

No recommendation at this time. TAC will review and discuss again at a future meeting.

4. Local Water Management Plans and Ordinance Updates

Administrator Jester asked each city to indicate the status of their ordinance updates and when they expect to submit their local water management plan (LWMP) for review.

- St. Louis Park: LWMP September 14; ordinances updated as part of LWMP development (fall)
- Golden Valley: LWMP at beginning of June; ordinances September
- Medicine Lake: Unknown
- New Hope: LWMP in May; ordinances in the fall
- Plymouth: LWMP in August; ordinances in August
- Minnetonka: LWMP in March; ordinances already complete, except possibly for floodplain requirements
- Robbinsdale: Unknown, making progress on LWMP; need to look at ordinances
- Crystal: LWMP in June; ordinances already complete
- Minneapolis: LWMP this summer (depends on council workshops); currently working on ordinances

5. CIP Prioritization

TAC members had no recommendations for parameters that should be considered by the CIP Prioritization Committee for ranking, scoring, scheduling and choosing CIP projects. It was noted the committee membership includes two TAC members.

6. Biennial Budget Request (BBR)

The TAC recommends that the Commission submit its 2020 – 2021 capital projects to BWSR through the BBR and ask member cities for their 2020 and 2021 capital projects to be included with the Commission's submittal.

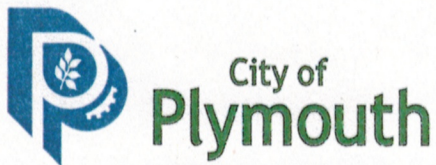
7. Channel Maintenance Fund Request from Plymouth – attached letter from Plymouth and Channel Fund Maintenance Memo

Derek Asche distributed a request to use the balance of Plymouth's Channel Maintenance Funds in the amount of \$73,461.65 for sediment removal in Plymouth Creek at the Plymouth Creek Water Quality Ponds. He noted that 2,975 cy of sediment was removed in February for a cost greater than the funds being requested. Although this is an "after the fact" request, the Commission approved a similar request from the City of New Hope in 2016.

The TAC recommends that the Commission approve a reimbursement to the City of Plymouth from its accrued Channel Maintenance Funds in the amount of \$73,461.65 for sediment removed from the Plymouth Creek Water Quality Ponds in February 2018.

Administrator also gave a brief update on the new Watershed Based Funding Pilot Program and reported that cities would be invited to a large meeting on the subject in 5 to 7 weeks.

The TAC meeting adjourned at 11:32 a.m.



Adding Quality to Life

March 1, 2018

Laura Jester, Administrator
Bassett Creek Watershed

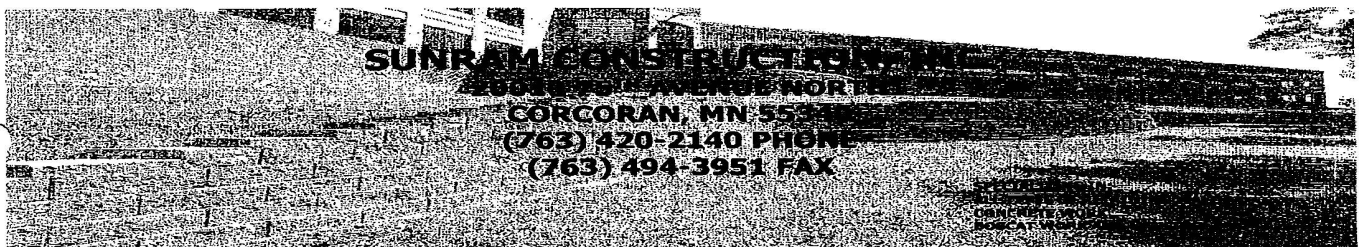
SUBJECT: CHANNEL MAINTENANCE FUND REQUEST

Dear Ms. Jester,

The City of Plymouth is requesting its balance of channel maintenance funds in the amount of \$73,461.65 for sediment removal in Plymouth Creek at the Plymouth Creek Water Quality Ponds. Sunram Construction was the low bid at 80,523.00. The City of Plymouth will cover the project costs over the available channel maintenance funds.

Sincerely,

Derek Asche
Water Resources Manager



Invoice ID: 9133592
Invoice Date: 01/31/2018

To: CITY OF PLYMOUTH
3400 PLYMOUTH BOULEVARD
PLYMOUTH, MN 55447-1482

Job Location: PLYMOUTH CREEK POND
SUNRAM JOB C-17-048
PLYMOUTH, MN

Below please find billing for work performed on the above referenced project.

<u>Item</u>	<u>Description</u>	<u>Units</u>	<u>Unit of Measure</u>	<u>Unit Price</u>	<u>Amount</u>
	PAY APP 1				79,878.00
	COMPLETE \$79,878.00				
	CONTRACT \$80,523.00				
	5% RETAINAGE				





Bassett Creek Watershed Management Commission

Memorandum

To: BCWMC Technical Advisory Committee
From: Laura Jester, BCWMC Administrator
Subject: Available Channel Maintenance Funds
Date: February 21, 2018

Channel Maintenance Fund Budget

Budget Year	Total Funds Budgeted
2003	\$50,000
2004 - 2013	\$250,000 (\$25,000 / year)
2014	\$25,000
2015	\$25,000
2016	\$25,000
2017	\$25,000
2018	\$25,000
	TOTAL: \$425,000

Fund Distribution Based on Need: None of total channel maintenance funds [0% x 425,000] will be distributed to member cities based on need.

Fund Allocation Based on Percentage of Trunk System

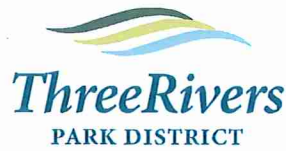
One hundred percent of total channel maintenance funds [100% x 425,000] will be allocated to member cities based on their percentage of overall trunk system.

Fund Allocation Based on Percentage of Trunk System

Allocation Formula: (Percent of trunk system) x (\$425,000) = Allocation

City	% Trunk System	Accumulated Funds (over life of fund)	Approved Project	Funds Approved	Funds Reimbursed	Accumulated Funds Remaining
Minneapolis	8.23	\$34,977.50	Supplemental funds for the Bassett Creek Main Stem Restoration Project (CR2012)	\$26,747.50 (Jan 2014)	\$26,747.50 (Nov 2015)	\$8,230.00
Golden Valley	48.99	\$208,207.50	Sweeney Lake Branch Streambank Stabilization at 215 King Road	\$2,640.00 (2004)	\$2,640.00 (11/2004)	-
			A 2012 stream bank restoration project immediately upstream of St. Croix Avenue, within the Main Stem Reach 1, Subreach 2.	\$82,100.00 (Jan 2012)	\$17,900.00 (Dec 2012) ¹	-
			Stabilization along Bassett Creek Main Stem at private residences at 4840 and 4820 Markay Ridge	\$75,000.00 (June 2014)	\$34,747.50 (Feb 2015)	-
			Golden Valley SUBTOTAL	\$159,740.00	\$55,287.50	\$152,920.00
Plymouth	26.42	\$112,285	Channel Maintenance Repairs in the lower reaches of Plymouth Creek	\$50,000.00 (Jan 2005)	\$38,823.35 (Mar 2009)	-
			Plymouth Creek Channel Stabilization/ Sediment Removal downstream of fish barrier	\$45,000.00 (Nov 2008)	\$0	-
			Plymouth SUBTOTAL	\$95,000.00	\$38,823.35	\$73,461.65
New Hope	7.31	\$31,067.50	North Branch Channel Excavation Project	\$18,100.00 (Nov 2008)	\$0	
			Northwood West Inlet Cleaning	\$16,448.00 (Jan 2010)	\$29,240 (March 2017)	
			Northwood Wetland Cleaning	\$75,000 - \$200,000 (Nov 2010)	\$0	
			New Hope SUBTOTAL	\$109,548 - \$234,458	\$29,240	\$1,827.50
Crystal	9.05	\$38,462.50	North Branch Bassett Creek Erosion Repair Project	\$31,675.00 (Nov 2015)	\$6,675.00 (Mar 2017) \$25,000 (Oct 2017)	\$6,787.50
TOTAL	100.00	\$425,000				\$243,226.65

¹ Reimbursement for work property owners on portions of the Main Stem of Bassett Creek adjacent @ 5919 and 5929 St. Croix Ave.



Item 5D.
BCWMC
3-15-18

March 7, 2018

Laura Jester
Administrator
Bassett Creek Watershed Management Commission
16145 Hillcrest Lane
Eden Prairie, MN 55346

Dear Laura Jester,

The recent discovery of zebra mussels in Medicine Lake this past fall of 2017 has become an immediate concern due to the potential recreational and ecological impacts on the lake. The lake should be considered high risk for new infestations of new AIS and the potential to infest other lakes within the area due to its high recreational use. It was proposed by the Bassett Creek Watershed Management Commission and supported by the Three River Park District to provide a decontamination unit at the French Regional Park access in order to prevent additional AIS infestations in the lake and to prevent the lake's newly discovered zebra mussels from being spread to other lakes in the area. The Three Rivers Park District has already committed (letter of support to the Bassett Creek Watershed Management Commission – January 12, 2018) to the staffing and operation of a decontamination unit as part of our existing watercraft inspection program.

In 2018, the Three Rivers Park District has currently budgeted approximately \$20,000 from our general operation funds and the Hennepin County AIS Prevention Grant dollars to allocate towards our existing watercraft inspection program. The current budget will provide approximately 2000 hours invested toward Level I watercraft inspections. The operation of the decontamination unit will require additional funding to staff/train Level II inspectors as well as to increase inspection hours for incoming/outgoing watercraft at the access.

Based on previous discussions, the Bassett Creek Watershed Management Commission expressed an interest in providing financial support to assist with increased inspection staffing hours that will be required for the operation of the decontamination unit. Consequently, the Three Rivers Park District is requesting funding of \$5000 from the Bassett Creek Watershed Management Commission to help facilitate the operation of a decontamination unit at French Regional Park. The financial contribution would provide an additional 400 to 450 Level II staffing hours that would be required for the operation of the decontamination unit as well as augmenting the existing watercraft inspection program at the French Regional Park boat access. The Three Rivers Park District would be looking to secure more stable funding in the future from other interested partners or through budget increases in our general operations fund. All inspection outcomes and staffing hours will be tracked and measured through the use of tablets loaded with the application developed by Minnesota Department of Natural Resources. The results from the watercraft inspection program will be available for your review and the data will be used to improve the existing watercraft inspection program.

Three Rivers Park District appreciates the partnership and collaboration with the Bassett Creek Watershed Management Commission on Medicine Lake issues, and looks forward to the further collaboration as AIS threats require the implementation of ever increasing management efforts.

If you have any questions, please feel free to give me a call.

Sincerely,

Brian Vlach

Brian Vlach
Senior Water Resources Manager
Three Rivers Park District
Brian.Vlach@ThreeRiversParks.org
763-694-7846





Bassett Creek Watershed Management Commission

Item 6A.
BCWMC 3-15-18

MEMO

Date: March 7, 2018
From: Laura Jester, Administrator
To: BCWMC Commissioners
RE: **Administrator's Report**

Aside from this month's agenda items, the Commission Engineers, city staff, committee members, and I continue to work on the following Commission projects and issues.

CIP Projects (more resources at <http://www.bassettcreekwmo.org/projects.>)

2019 Medicine Lake Road and Winnetka Avenue Area Long Term Flood Mitigation Plan Implementation Phase I: DeCola Ponds B & C Improvement Project (BC-2, BC-3 & BC-8), Golden Valley: At their meetings in September and October, the Commission approved a proposal and additional proposed actions (respectively) from the Commission Engineer to complete a feasibility study for this project. Feasibility study field work began in late September. A project kick-off meeting was held October 6th, a public open house was held November 9th, a meeting with permitting agencies was held December 8th and a meeting with Met Council regarding the existing sanitary sewer line was held in late December. In late January and early February, the following activity occurred: 1) the MnDNR provided an Ordinary High-Water Level OHWL of 895.3 for DeCola Ponds A, B, and C; 2) the Phase 2 XP-SWMM model was updated to incorporate the Liberty Crossing project; 3) BCWMC and City staff reviewed 3 project concepts and provided feedback on to help direct the grading and concept development, and 4) the Commission Engineer completed the environmental test trench investigation. The field observations indicated no debris and no field evidence of contamination. More recent work includes developing the grading concepts for the 3 concepts to estimate the anticipated flood (and potential water quality treatment volume). A second public open house is scheduled for April 11th. Project website: <http://www.bassettcreekwmo.org/index.php?cID=433>

2019 Bryn Mawr Meadows Water Quality Improvement Project (BC-5), Minneapolis: At their meeting in September, the Commission approved a proposal from the Commission Engineer to complete a feasibility study for this project. A project kick-off meeting was held on October 23rd. A wetland delineation is complete and submitted for approval. Preliminary concepts were developed and discussed with designers for Minneapolis Park and Rec Board. The development and implementation of the project will coincide nicely with the MPRB's planning and implementation of significant improvements and redevelopment Bryn Mawr Meadows Park where the project will be located. A meeting with permitting agencies was held on January 19th and another meeting with MPRB designers was held February 13th to review possible concepts. Currently, concepts are being more fully developed and soil borings in the park are scheduled for March 19th. A public open house on the MPRB's Bryn Mawr Meadows Park improvement project scheduled for March 8th will include BCWMC representatives engaging residents about the CIP project. Project website: <http://www.bassettcreekwmo.org/projects/all-projects/bryn-mawr-meadows-water-quality-improvement-project>

2019 Westwood Lake Water Quality Improvement Project (WST-2), St. Louis Park: At their meeting in September, the Commission approved a proposal from the Commission Engineer to complete a feasibility study for this project. The project will be completed in conjunction with the Westwood Hills Nature Center reconstruction project. A kick-off meeting was held November 21st. A wetland delineation was completed and approved. The Commission Engineer has received the architect's survey and building location and soil boring data. Project concepts were recently discussed with the city's architect and city staff. Two public open houses were held (Feb 22 and 28) for the Westwood Hills Nature Center reconstruction project and included BCWMC information about the upcoming CIP project. Project website: <http://www.bassettcreekwmo.org/projects/all-projects/westwood-lake-water-quality-improvement-project>

2018 Bassett Creek Park Pond Phase I Dredging Project: Winnetka Pond, Crystal (BCP-2): The final feasibility study for this project was approved at the May 2017 meeting and is now available on the project page online at <http://www.bassettcreekwmo.org/index.php?cID=403>. At the September 2017 meeting, the Commission held a public hearing on the project and adopted a resolution officially ordering the project, certifying costs to Hennepin County, and entering an agreement with the City of Crystal for design and construction. Hennepin County approved the 2018 final levy request at their meeting in November 2017. Project design and permit application development is underway by Barr Engineering (hired by City of Crystal). 50% plans are expected to be presented at the April 2018 Commission meeting.

2017 Plymouth Creek Restoration Project, Annapolis Lane to 2,500 feet Upstream (2017CR-P): All project documents including the feasibility study and 90% design plans are available online at <http://www.bassettcreekwmo.org/index.php?cID=284>. The BCWMC executed agreements with the BWSR for a \$400,000 Clean Water Fund grant and with Hennepin County for a \$50,000 Opportunity Grant and a subgrant agreement with the City was executed. Project design was completed by the city's contractor, Wenck Associates, with 60% and 90% design plans approved by the Commission at the April and August 2017 meetings, respectively. Plymouth City Council awarded a construction contract in early December and construction got underway on December 11, 2018 but most work was put on hold because of frost depths. Grant reports were submitted in late January.

2017 Main Stem Bassett Creek Streambank Erosion Repair Project (2017CR-M) (No change since October): The feasibility study for this project was approved at the April Commission meeting and the final document is available on the project page at: <http://www.bassettcreekwmo.org/index.php?cID=281>. A Response Action Plan to address contaminated soils in the project area was completed by Barr Engineering with funding from Hennepin County and was reviewed and approved by the MPCA. The Commission was awarded an Environmental Response Fund grant from Hennepin County for \$150,300 and a grant agreement is in the process of being signed by the county. A subgrant agreement with the City will be developed. The City hired Barr Engineering to design and construct the project. Fifty-percent and 90% designs were approved at the August and October Commission meetings, respectively. In September, design plans were presented by Commission and city staff to the Harrison Neighborhood Association's Glenwood Revitalization Team committee and through a public open house on the project. Bidding for construction is expected in February.

2016 Northwood Lake Improvement Project, New Hope (NL-1) (No change since February): Northwood Lake Improvement Project is nearing completion with all major work complete. The storm water tank was fully operational in June and irrigated the fields all summer. Since it began operating the tank has captured and reused 904,000 gallons of storm water. All raingardens are planted and working well. A grand opening of the park was held last spring. Friends of Northwood Lake disseminated water quality educational materials, including BCWMC materials. A semi-annual grant report was submitted to the MPCA in January. The final piece of the project is to install educational signage which will happen this spring.

2016 Honeywell Pond Expansion Project, Golden Valley (BC-4) (No change since February): In spring 2016, the Honeywell Pond Project was bid as part of the City of Golden Valley and Hennepin County's Douglas Drive (CSAH 102) Reconstruction Project. The reconstruction project began in June 2016. Excavation of the pond basin is complete and the disturbed soils around the pond were temporarily stabilized. The force main work was recently completed. The lift station and pumps have been installed and will be connected to the Sandburg Athletic complex this fall. Park Construction is working with Excel Energy to complete the final connection of power to the lift station. Final stabilization of the pond was completed last fall and the area was seeded with a mix of natives including wetland and upland species.

2015 Main Stem Restoration Project 10th Avenue to Duluth Street, Golden Valley (2015CR) (No change since October): The restoration project is being constructed in two phases, each under separate contract. Phase one included stream bank shaping, placement of field stone rock and 12-inch bio-logs, and repair of storm sewer outlets. The first phase of the project began in November 2015 and was finished in June 2016. Turf establishment and minor restoration repairs in Phase 1 were accepted in late October 2016. Repairs to some areas where flooding impacted rocks or biologs were completed and accepted in mid-December 2016. Phase 1 of the construction project has entered the warranty period.

Phase 2 of the project includes the establishment of native vegetation along the stream, including grasses, wildflowers, shrubs, live stakes and fascines, and cordgrass plugs. The project has been seeded and stabilized and maintenance mowing and spot treatments have been completed. Applied Ecological Services (AES) installed live stakes and fascines this spring and completed the tree and shrub planting along the restoration project. AES will continue to monitor and maintain the native vegetation through 2018. It is anticipated that the total contract amount for both Phase one and Phase two will be within the Watershed's overall project budget.

2014 Schaper Pond Diversion Project, Golden Valley (SL-3) (No change since October): Repairs to the baffle structure were made in 2017 after anchor weights pulled away from the bottom of the pond and some vandalism occurred in 2016. The city continues to monitor the baffle and check the anchors, as needed. Vegetation around the pond was planted in 2016 and a final inspection of the vegetation was completed last fall. Once final vegetation has been completed, erosion control will be pulled and the contract will be closed. The Commission Engineer began the Schaper Pond Effectiveness Monitoring Project last summer and is in the process of analyzing results.

2014 Twin Lake In-lake Alum Treatment, Golden Valley (TW-2): (No change since January 2017) At their March 2015 meeting, the Commission approved the project specifications and directed the city to finalize specifications and solicit bids for the project. The contract was awarded to HAB Aquatic Solutions. The alum treatment spanned two days: May 18- 19, 2015 with 15,070 gallons being applied. Water temperatures and water pH stayed within the desired ranges for the treatment. Early transparency data from before and after the treatment indicates a change in Secchi depth from 1.2 meters before the treatment to 4.8 meters on May 20th. There were no complaints or comments from residents during or since the treatment. Water monitoring continues to determine if and when a second alum treatment is necessary. Lake monitoring in 2017 will help determine if a second dose of alum is needed to retain water quality.

2013 Four Season Area Water Quality Project/Agora Development (NL-2) (No change since August): At their meeting in December 2016, the Commission took action to contribute up to \$830,000 of Four Seasons CIP funds for stormwater management at the Agora development on the old Four Seasons Mall location. At their February 2017 meeting the Commission approved an agreement with Rock Hill Management and an agreement with the City of Plymouth allowing the developer access to a city-owned parcel to construct a wetland restoration project and to ensure ongoing maintenance of the CIP project components. At the August 2017 meeting, the Commission approved the 90% design plans for the CIP portion of the project.

Other Work

CIP Project Work and Technical Assistance

- Developed and distributed outreach materials for Bryn Mawr Meadows Water Quality Improvement Project open house
- Gathered comments on and made revisions to AIS Rapid Response Plan
- Coordinated with DNR, contractors and TRPD on curly-leaf pondweed control in Medicine Lake

- Coordinated with St. Louis Park staff; delivered and set up BCMWC display for two Westwood Hills Nature Center open houses
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Administration and Education

- Continued to organize, review, cull, and prepare for scanning the Commission's paper files
- Participated in second meeting of Hennepin County watershed administrators to discuss Watershed Based Funding and set meeting of Mississippi River Basin watersheds
- Updated administrative calendar and CIP project status table
- Developed email of events and meetings for Commissioners, et al
- Gathered interest in 2018 monitoring from CAMP volunteers
- Corresponded with AMLAC President regarding zebra mussel dock surveys, etc.
- Reviewed BCWMC column for Sun Post and discussed with Dawn Pape
- Was interviewed and then reviewed League of MN Cities article on Northwood Lake Improvement Project
- Developed and distributed Letter of Understanding on 2017 education activities for cities
- Updated and distributed to cities a memo with Channel Maintenance Fund allocations