



# Bassett Creek Watershed Management Commission

Regular Meeting  
Thursday January 19, 2017  
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 – December 15, 2016 Commission Meeting
- B. Approval of January 2017 Financial Report
- C. Approval of Payment of Invoices
  - i. Keystone Waters, LLC – December 2016 Administrator Services
  - ii. Keystone Waters, LLC – December Meeting Materials Distribution Expenses
  - iii. Barr Engineering – December 2016 Engineering Services
  - iv. Triple D Espresso – January 2017 Meeting Refreshments
  - v. Wenck – December 2016 WOMP Monitoring
  - vi. Lawn Chair Gardener - December 2016 Educational Services
  - vii. Kennedy Graven – November 2016 Legal Services
  - viii. Met Council – 2016 CAMP Contribution
  - ix. HDR – Website Assistance
  - x. City of Golden Valley – 2016 Accounting Assistance
  - xi. CNA Surety – 2017 Insurance
- D. Approval to Reimburse City of Golden Valley for Main Stem Restoration Project (2015CR) Expenses
- E. Approval of Proposal from MMKR to Perform 2016 Financial Audit
- F. Approval of Resolution to Transfer Funds from CIP Account to Administrative Account
- G. Approval of Resolution to Transfer Funds from Administrative Account to Channel Maintenance Fund and Long Term Maintenance Fund
- H. Approval of Northwood North Area Infrastructure Improvements, City of New Hope

### 5. BUSINESS

- A. Consider Approval of Resolution of Appreciation for Alternate Commissioner David Tobelmann
- B. Receive Presentation from Commission Engineer on XP-SWMM Phase II Results
- C. Consider Approval of Recommendations from Technical Advisory Committee
  - i. MIDS in Linear Project
  - ii. Shoreland and Habitat Monitoring
  - iii. Letter of Understanding for MS4 Reporting on BCWMC Education Activities

- D. Discuss Structure of Agreement for Contributing Capital Improvement Program Funds to Agora Development, Plymouth
- E. Receive Update on Timeline and Requirements for Conformance with 2015 Watershed Management Plan Through City Ordinances and Local Water Plans
- F. Consider Directing Staff to Submit Aquatic Invasive Species Prevention Grant Application to Hennepin County
- G. Receive Update on Compliance with New State Buffer Law in BCWMC
- H. Receive Update on Various Grant Applications, Awards, and Development of Grant Work Plans

## 6. COMMUNICATIONS

- A. Administrator's Report
- B. Chair
- C. Commissioners
- D. TAC Members
  - i. New Meeting Date – 2/3, 9:00 a.m.
- E. Committees
  - i. APM/AIS Committee – Next Meeting 1/24 – [Meeting Materials](#)
- F. Legal Counsel
- G. Engineer

## 7. INFORMATION ONLY (Information online only)

- A. CIP Project Updates: Now Available Online <http://www.bassettcreekwmo.org/projects>
- B. Grant Tracking Summary and Spreadsheet
- C. [16<sup>th</sup> Annual Road Salt Symposium February 2<sup>nd</sup>](#)
- D. WMWA Meeting Minutes
- E. WCA Notice of Decision, Golden Valley
- F. WCA Notices of Application (multiple), Plymouth
- G. WCA Notice of Decision, Plymouth
- H. WCA Notice of Decision, Crystal

## 8. ADJOURNMENT

### Upcoming Meetings & Events

- [BCWMC APM/AIS Committee Meeting](#): Tuesday January 24th, 8:30 – 10:00 a.m., Medicine Lake Room, Plymouth City Hall
- [16<sup>th</sup> Annual Road Salt Symposium](#): Thursday February 2<sup>nd</sup>, 8:00 a.m. – 3:00 p.m., Mounds View Event Center
- [BCWMC Technical Advisory Committee Meeting](#): Friday February 3<sup>rd</sup>, 9:00 – 11:00 a.m. Council Conference Room, Golden Valley City Hall
- [BCWMC Regular Meeting](#): Thursday February 16, 8:30 a.m., Council Conference Room, Golden Valley City Hall

### Future Commission Agenda Items list

- Address Organizational Efficiencies
- State of the River Presentation
- Presentation on chlorides



# Bassett Creek Watershed Management Commission

## AGENDA MEMO

Date: January 12, 2016

To: BCWMC Commissioners

From: Laura Jester, Administrator

RE: **Background Information for 1/19/17 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 – December 15, 2016 Commission meeting- **ACTION ITEM with attachment**
  - B. Approval of January 2017 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 – December 2016 Administrator Services
    - ii. Keystone Waters, LLC – December Meeting Materials Distribution Expenses
    - iii. Barr Engineering – December 2016 Engineering Services
    - iv. Triple D Espresso – January 2017 Meeting Refreshments
    - v. Wenck – December 2016 WOMP Monitoring
    - vi. Lawn Chair Gardener – December 2016 Educational Services
    - vii. Kennedy Graven – November 2016 Legal Services
    - viii. Met Council – 2016 CAMP Contribution
    - ix. HDR – Website Assistance
    - x. City of Golden Valley – 2016 Financial Assistance
    - xi. CNA Suety – 2017 Insurance
  - D. Approval to Reimburse City of Golden Valley for Main Stem Restoration Project (2015CR) Expenses – ACTION ITEM with attachment – *At their meeting 11/19/15 the BCWMC entered into an agreement with the City of Golden Valley to design/construct the Main Stem Restoration Project from 10<sup>th</sup> Avenue to Duluth Street. The construction of the project is largely complete and the city has submitted a second reimbursement request for the work. I reviewed all documentation and invoices and recommend approval of the reimbursement. Planting, vegetation management, and minor structural work will continue on the site through 2018.*
  - E. Approval of Proposal from MMKR to Perform 2016 Financial Audit – ACTION ITEM with attachment – *Staff (including the Commission's Deputy Treasurer) recommends accepting the attached proposal from MMKR to perform the FY2016 – 2017 financial audit (full document online).*
  - F. Approval of Resolution to Transfer Funds from CIP Account to Administrative Account – ACTION ITEM with attachment – *Per its fiscal policies, each year the Commission transfers up to 2.5% of the taxes levied for CIP projects to the Commission's administrative account (annual operating funds) to offset the administrative costs of managing the CIP projects. In 2016, the Commission levied \$1.222M through Hennepin County; the 2016 administrative budget included \$17,055 as a transfer from the CIP account. Staff recommends approving the resolution to transfer 1.4% of the levy amount or \$17,055 from the CIP*

account to the administrative account.

- G. Approval of Resolution to Transfer Funds from Administrative Account to Channel Maintenance Fund and Long Term Maintenance Fund – **ACTION ITEM with attachment** – *Per its fiscal policies, each year the Commission transfers \$25,000 from the administrative account into the Channel Maintenance Fund and another \$25,000 from the administrative account into the Long Term Maintenance Fund. The Commission then transfers from the Long Term Maintenance Fund into the administrative account the cost of Flood Control Project inspections for that year. Staff recommends approving the resolution to transfer \$25,000 into the Channel Maintenance Fund and \$16,000 into the Long Term Maintenance Fund (which is \$25,000 less the cost of 2016 inspections of the Flood Control Project).*
- H. Approval of Northwood North Area Infrastructure Improvements, City of New Hope – **ACTION ITEM with attachment** - *The proposed project includes street reconstruction, water main and sanitary sewer replacement, and storm sewer improvements in the Northwood North neighborhood in the City of New Hope. The area currently drains untreated stormwater to Northwood Lake. The project will provide stormwater treatment by diverting water to underground filtration trenches and is designed to meet MIDS standards for linear projects. Staff recommends conditional approval of the project with conditions stated in Engineer’s memo.*

## 5. BUSINESS

- A. Consider Approval of Resolution of Appreciation for Alternate Commissioner David Tobelmann – **ACTION ITEM with attachment** – *The Plymouth City Council recently appointed a new Alternate Commissioner to represent Plymouth starting February 1<sup>st</sup>. The Commission should recognize the contributions of David Tobelmann over the past four years with a resolution of appreciation.*
- B. Receive Presentation from Commission Engineer on XP-SWMM Phase II Results – **INFORMATION ITEM with attachment** – *At their meeting on 4/16/15 the Commission Engineer approved a proposal to complete a comprehensive XP-SWMM hydrologic model of the watershed. The project is now complete and results will be presented at this meeting. Staff recommends the following actions by the Commission:*
- i. *Commission approve the draft BCWMC Phase 2 XPSWMM report and direct the Commission Engineer to finalize the report after comments have been received by Administrator, Commissioners and TAC.*
  - ii. *Commission request the TAC to review the new flood elevations presented in Table 3-7 based on the BCWMC Phase 2 XPSWMM Model (Atlas 14) results and provide recommendation to the Commission to adopt the new flood elevations.*
  - iii. *Commission direct the TAC to consider how to handle locations where the Phase 2 XPSMMM flood elevations are lower than existing flood elevations listed in the BCWMC plan or potentially lower than the elevations in the current Flood Insurance Study for Hennepin County.*
  - iv. *Commission direct the TAC to review Table 3-7 and identify or “ground-truth” locations of significant change that may require additional review or explanation by Engineer.*
- C. Consider Approval of Recommendations from Technical Advisory Committee – **ACTION ITEM with attachment** – *The TAC met on November 28<sup>th</sup> and forwards recommendations to the Commission on the following topics. Please see the memo included with meeting materials.*
- i. *MIDS in Linear Project*
  - ii. *Shoreland and Habitat Monitoring*
  - iii. *Letter of Understanding for MS4 Reporting on BCWMC Education Activities*

- D. Discuss Structure of Agreement for Contributing Capital Improvement Program Funds to Agora Development, Plymouth – **DISCUSSION ITEM with attachment** – *At the December meeting, the Commission took action approving a financial contribution of CIP funds to the Agora development in Plymouth. BCWMC staff and city staff have been working to determine the best way for the Commission to cooperate with the city and the project developer. Staff recommends the Commission consider entering an agreement directly with Rock Hill Management rather than with the City of Plymouth. Please see the memo in the meeting materials.*
- E. Receive Update on Timeline and Requirements for Conformance with 2015 Watershed Management Plan Through City Ordinances and Local Water Plans – **INFORMATION ITEM with attachment** – *The latest BCWMC Watershed Management Plan was adopted in September 2015. The Plan requires that member cities update their ordinances or other controls to comply with the Plan within two years of Plan adoption, September of this year. Updates to a city’s ordinances/controls may be needed in a variety of areas including erosion and sediment control; wetland management; floodplain/zoning; stormwater management, etc. Additionally, cities must update their Local Water Management Plan (LWMP) to conform with the BCWMC Plan. LWMPs are updated along with the city’s Comprehensive Plan, due in 2018. The checklist included in the meeting packet was developed to assist cities with their updates.*
- F. Consider Directing Staff to Submit Aquatic Invasive Species Prevention Grant Application to Hennepin County – **ACTION ITEM with attachment** – *At the December meeting the Commission approved a recommendation from the Aquatic Plant Management/Aquatic Invasive Species (AIS) Committee to submit a grant application to Hennepin County for the inventory of AIS in Sweeney, Parkers, and Medicine Lakes plus a pathways analysis, vulnerability and suitability assessment, and management plan development. The draft grant application is included in the packet along with the draft budget indicating a cash match from the BCWMC of \$5,000 and in-kind administrative support. Staff recommends approval to submit the application after final editing.*
- G. Receive Update on Compliance with New State Buffer Law in BCWMC – **INFORMATION ITEM with attachment** – *At the October meeting Commissioners received an update on the new [State Buffer Law](#). Hennepin County staff have completed a review of compliance within the watershed and found no parcels out of compliance with the new law. Please see the letter attached.*
- H. Receive Update on Various Grant Applications, Awards, and Development of Grant Work Plans – **INFORMATION ITEM no attachment** – *At this meeting staff will update Commissioners on the various grants currently awarded, recommended for award, or being implemented throughout the watershed.*

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- C. Commissioners
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Item 4A.  
BCWMC 1-19-17

## Bassett Creek Watershed Management Commission

**DRAFT Minutes of Regular Meeting  
Thursday December 15, 2016  
8:30 a.m.  
Golden Valley City Hall, Golden Valley MN**

**Commissioners and city staff present:**

City	Commissioner	Alternate Commissioner	Technical Advisory Committee Members (City Staff)
<b>Crystal</b>	Guy Mueller, Vice Chair	NA	<i>Absent</i>
<b>Golden Valley</b>	Stacy Hoschka, Secretary/Treasurer	Jane McDonald Black	Jeff Oliver
<b>Medicine Lake</b>	Clint Carlson	<i>Absent</i>	NA
<b>Minneapolis</b>	Michael Welch	<i>Absent</i>	Liz Stout
<b>Minnetonka</b>	Mike Fruen	<i>Absent</i>	Tom Dietrich
<b>New Hope</b>	John Elder	<i>Absent</i>	Megan Albert
<b>Plymouth</b>	Ginny Black	David Tobelmann	Derek Ashe
<b>St. Louis Park</b>	<i>Absent</i>	<i>Absent</i>	Erick Francis
<b>Robbinsdale</b>	<i>Absent</i>	<i>Absent</i>	Richard McCoy
<b>Staff and Others Present:</b>			
<b>Administrator</b>	Laura Jester, Keystone Waters		
<b>Engineer</b>	Karen Chandler, Barr Engineering		
<b>Legal Counsel</b>	Troy Gilchrist, Kennedy & Graven		
<b>Presenters/ Guests/Public</b>	Jim Prom, John Byrnes, Steve Christopher (BWSR), Kim Chapman (AES), John Hink (Solution Blue), Steve Gebauer (Solution Blue), Nathan Warner (Solution Blue), Apurva Patel (Rock Hill Management), Bojan Mistic (SWLRT Project Office)		

**1. CALL TO ORDER AND ROLL CALL**

On Thursday December 15, 2016, at 8:34 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. The cities of New Hope, St. Louis Park, and Robbinsdale were absent from the roll call.

**2. CITIZEN FORUM ON NON-AGENDA ITEMS**

No comments from citizens.

**3. APPROVAL OF AGENDA**

**MOTION:** Commissioner Welch moved to approve the agenda. Commissioner Black seconded the motion. Upon a vote, the motion carried 6-0. [Cities of New Hope, St. Louis Park and Robbinsdale were absent from the vote.]

**4. CONSENT AGENDA**

**MOTION:** Commissioner Black moved to approve the consent agenda. Commissioner Hoschka seconded the motion. Upon a vote, the motion carried 6-0. [Cities of New Hope, St. Louis Park and Robbinsdale were absent from the vote.]

The following items were approved as part of the consent agenda: the November 16, 2016 Commission Meeting Minutes, the December 2016 Financial Report, the payment of invoices, setting a February 2<sup>nd</sup> TAC meeting, reimbursement to Alt. Commissioner Scanlan for MAWD workshop registration, contract with Wenck Associates for operation of WOMP station in 2017, submission of a grant application to Minnesota Conservation Corps on behalf of Metro Blooms for Harrison Neighborhood Project, submission of Flood Control Project inspection report from Commission Engineer to cities, MDNR, and U.S. Army Corps of Engineers.]

The general and construction account balances reported in the December 2016 Financial Report are as follows: Checking Account Balance	\$513,116.56
<b>TOTAL GENERAL FUND BALANCE</b>	<b>\$513,116.56</b>
<b>TOTAL CASH &amp; INVESTMENTS ON-HAND (12/7/16)</b>	<b>\$3,466,563.60</b>
CIP Projects Levied – Budget Remaining	(\$3,965,796.69)
Closed Projects Remaining Balance	(\$499,233.09)
2011-2015 Anticipated Tax Levy Revenue	\$11,574.32
2016 Anticipated Tax Levy Revenue	\$14,828.86
Anticipated Closed Project Balance	(\$472,829.91)



## 5. BUSINESS

### A. Consider Approval of Resolution of Appreciation for Commissioner Ginny Black

Administrator Jester noted that Commissioner Black's term would end on January 31 but she would not be at the January Commission meeting, so the Commission is recognizing Commissioner Black's service at this meeting. Alt. Commissioner Tobelmann said it had been an honor to serve with Commissioner Black. Commissioner Hoschka said she was grateful for Commissioner Black's many hours of volunteered work when there was no administrator. Mr. Asche said that Commissioner Black's passion and dedication were admirable and that he was grateful for her work and particularly her efforts to develop a CIP program. Commissioner Welch noted his admiration for her knowledge of the subject matter, ability to articulate positions, willingness to have a meaningful dialogue, and ability to lead.

Commissioner Black said she would miss the people she worked with on the Commission, that it was a pleasure to serve, and that the Commission should be proud of its accomplishments.

Vice Chair Mueller read the resolution of appreciation.

**MOTION:** Commissioner Carlson moved to approve the resolution of appreciation for Commissioner Black. Commissioner Welch seconded the motion. Upon a vote, the motion carried 6-0. [Cities of New Hope, St. Louis Park and Robbinsdale were absent from the vote.]

### B. Receive Update on Clean Water Fund Grant Applications

Administrator Jester reported that the BWSR Board awarded Clean Water Fund grants to the BCWMC for the two submitted applications. She noted the Plymouth Creek Restoration Project will receive \$400,000 in grant funding and the Harrison Neighborhood Project will receive \$134,595 in grant funds. She indicated that staff will work with BWSR to develop work plans for the projects.

### C. Consider Approval of Southwest Light Rail Transit Project

Commission Engineer Chandler provided background on the project and reminded Commissioners about previous actions, including approval for the SWLRT to connect to the new Bassett Creek tunnel (March 2016) and the presentation of plans in June 2016. She noted that since June, SWLRT responded to comments, and worked with the Commission Engineer to refined design plans. She noted that the Commission Engineer has no further comments on the project and recommends approval without conditions.

Commissioner Welch asked about the configuration of the railway stations along the route within the watershed and wondered if they had been reviewed as part of the linear project or a non-linear development project. Commission Engineer Chandler reported that since none of the stations in the watershed include a parking lot, they were reviewed as part of the linear project. There was discussion about infiltration vs. filtration practices and the MIDS flexible treatment options. SWLRT staff noted that the practices in the design are directly from the MN Stormwater Manual, including SAFL baffles and vegetated swales.

**MOTION:** Commissioner Welch moved to approve the Southwest Light Rail Transit Project as presented and as recommended by the Commission Engineer. Commissioner Black seconded the

motion. Upon a vote, the motion carried 6-0. [Cities of New Hope, St. Louis Park and Robbinsdale were absent from the vote.]

**D. Consider Approval to Provide Financial Contributions for Stormwater Management at Agora Development, Plymouth**

Administrator Jester provided background on the project, reminding Commissioners about the August past presentation regarding stormwater management proposed for the redevelopment site that would go well above and beyond BCWMC pollutant removal requirements for the development. She noted that in August the Commission took action to “move forward with exploring a partnership with Rock Hill Management through an agreement with the City of Plymouth and for Commission staff to gather and assess additional information for further consideration including technical and legal issues.” She noted that Solution Blue and AES (the firms designing stormwater management features) have been refining plans which were reviewed by the Commission Engineer. Administrator Jester noted Rock Hill Management is seeking a decision on a possible funding commitment from the Commission.

Commission Engineer Chandler walked through the review memo and provided information on the four different alternatives developed by Solution Blue and AES. Specifically, she noted that Alternate 2 simply meets BCWMC stormwater management requirements with a pond in the southeast corner of the development (excavation of part of the wetland, needing wetland mitigation).

[Alt. Commissioner Jane McDonald Black arrives.]

Commission Engineer Chandler reported that Alternative 3 includes the pond from Alternative 2 plus treatment of stormwater from beyond the development site using infiltration with peat storage, 2 iron enhanced sand filtration basins, 2 filtration basins, a “wetland walk,” and permeable pavers.

Commission Engineer Chandler reported that Alternative 4 includes all of the components from Alternatives 2 and 3 plus restoration of the city-owner wetland south of the development site. She noted that low flows from the North Branch of Bassett Creek would be routed through the restored wetland. Water would be routed along a longer flow path in the wetland to allow for more water quality treatment, similar to the Schaper Pond concept. She reported that the pollutant removal estimates for Alternative 4 are 124 pounds of total phosphorus, which is 109 pounds more than what the developer is required to remove through site development. Further, Engineer Chandler reported that the estimated cost per pound of total phosphorus removal (for the 109 pounds above requirements) is \$515/pound. She compared these figures to the original Four Seasons Mall Water Quality Improvement Project which was estimated to remove 105 pounds of total phosphorus at approximately \$589/pound (in 2016 dollars).

Commission Engineer Chandler recommended that the Commission change the Four Seasons Mall Area Water Quality Project (2013 CIP NL-2) from the original design to the project presented here; and provide up to \$830,000 of CIP funds that are remaining in the Four Seasons Mall Water Quality Improvement Project with several conditions as noted in her memo. She noted that approximately \$20,000 of remaining CIP funds should be held by the Commission to cover the costs of additional Commission review and coordination.

There was discussion. It was reiterated that although this project is slated to prevent over 100 pounds of phosphorus from entering Northwood Lake, the lake will remain impaired because hundreds of pounds of phosphorus need to be removed before the lake meets water quality standards. Mr. Asche reported that approximately 800 lbs of total phosphorus flow into Northwood Lake from drainage areas in Plymouth, including this area. Mr. Asche noted that additional projects (either city projects, Commission projects, or possibly private projects) will be needed to further reduce pollutants in the Northwood Lake watershed.

Commissioner Welch indicated that this was a great opportunity to improve water quality and the condition of the wetland. Commissioner Hoschka indicated support for the project but expressed concern about the possible chloride pollution that might come from the development during deicing practices in the winter. She said a good chloride management plan is warranted. Mr. Hink with Solution Blue noted that the wetland plants that will be installed for some of the BMPs would be adverse to salt so there are multiple reasons to reduce salt use on site.

Mr. Asche distributed a memo with information about two possible stormwater ponds that could be constructed as part of a future project in the same general area. There was discussion about possible future projects, costs, and pollutant removals. Mr. Asche expressed support for the Commission's involvement in and financial contribution to the Agora development. He noted that wetland restorations are favorable projects but can be difficult to get through the wetland permitting process. After further questions, Mr. Asche assured Commissioners that although future projects and more pollutant removals are needed, the current project does not preclude the construction of future projects.

There was further discussion. Mr. Hink noted that Alternative 4, as designed, would address sediment loads coming from the west of Lancaster Lane. There was also discussion about future maintenance needs and costs. It was noted that long term maintenance would be included in a developers agreement between the city and the developer. There was also discussion about the opportunity for including public education pieces within the development.

Administrator Jester asked Mr. Christopher with the MN Board of Water and Soil Resources if a Plan amendment would be required to substitute this project for the original Four Seasons Project. She read from Table 5-3 in the 2015 BCWMC Watershed Management Plan that states the "Four Seasons Mall Area Water Quality Project could include construction of stormwater treatment ponds, restoration of an eroding stream channel, alum treatment of stormwater, or other projects to address phosphorus loading." Mr. Christopher indicated that a Plan amendment would not be needed to substitute this project for the original project.

[Commissioner John Elder arrives.]

Mr. Patel with Rock Hill Management expressed his excitement for the project and for the partnership with the Commission. He said this process has taught him a lot about water quality; that RHM has committed to spending additional funds to go above and beyond requirements; and that he hopes Agora will be the new standard for future development and a showcase for the community.

**MOTION:** Commissioner Welch moved to approve the recommendations as presented in the Commission Engineer's memo; and to provide up to \$830,000 of CIP funds from the Four Seasons Mall Water Quality Improvement Project; and to require that final project plans submitted to the Commission include a chloride management plan for the Agora site; and to require the developer and City work with the Commission to develop education opportunities on the Agora site. Seconded by Commissioner Elder.

During discussion of the motion it was recognized that the Commission's contribution to the project would likely impact the developer's TIF request to the city. It was also noted that a formal agreement between the city and the Commission would be presented for approval at a future Commission meeting.

Upon a vote the motion carried 7-0. [The cities of St. Louis Park and Robbinsdale were absent from the vote.]

[Commissioner Welch departs the meeting.]

**E. Consider Approval to Submit Aquatic Invasive Species Prevention Grant Application to Hennepin County**

Administrator Jester reported that the BCWMC Aquatic Plant Management/Aquatic Invasive Species Committee has been working to identify an appropriate role for the Commission in these issues. She reported that one role identified by the committee is to take the lead in AIS studies that include 1) pathways analysis and vulnerability assessment; 2) AIS inventory; and 3) AIS prevention and/or management plan development. She reported that the Committee recommended that although the work of the Committee is not yet complete, the Commission should take the opportunity to apply for grant funds from Hennepin County before the deadline of January 20<sup>th</sup>.

Administrator Jester reported the grant application would include a \$25,000 - \$30,000 grant request to study Medicine Lake, Parkers Lake, and Sweeney Lake for a variety of aquatic invasive species including inventory, pathways analysis, vulnerability assessment, and management/prevention plan development.

**MOTION:** Commissioner Black moved to direct staff to prepare a grant application for Hennepin County's aquatic invasive species prevention grant. Seconded by Commissioner Carlson. Upon a vote the motion carried 6-0. [The cities of Minneapolis, St. Louis Park and Robbinsdale were absent from the vote.]

**F. Receive Information on Application of Atlas 14 Flood Levels to Blue Line LRT Project**

Commission Engineer Chandler reported that at the January 2017 meeting, the Commission will hear the results of the BCWMC's watershed-wide XP-SWMM model, which will include changes to flood levels resulting from higher precipitation totals in Atlas 14. She noted that she and other Commission Engineers have been in discussions with Blue Line LRT staff regarding appropriate flood elevations along the route and that preliminary (uncalibrated) Atlas 14 XP-SWMM model results indicate Bassett Creek flood levels are ½ foot higher than current (TP 40) flood levels along the portion of the route just north of Highway 55. She reported that the Blue Line LRT project design plans will come to the Commission in the summer of 2017, after the new Atlas 14 flood levels are likely adopted by the Commission. She noted that the Blue Line LRT project will use the BCWMC's preliminary Atlas 14 flood elevations in their project design and that early indications are that there

are potentially two locations where the Blue Line LRT may not be able to meet the Commission requirements regarding elevation of crossings above the flood elevation. She noted this may result in variance requests at these locations from the Blue Line LRT Project Office in the future.

**G. Consider Approval of Administrative Services Committee Recommendations**

Administrator Jester reported that the Administrative Services Committee met on December 5<sup>th</sup> to consider multiple issues and had recommendations for several items (as presented below).

[Commissioner Hoschka departs the meeting. Alt. Commissioner McDonald Black assumes Golden Valley representation.]

**a. Policy Manual Updates**

Administrator Jester walked through the pieces of the draft BCWMC Policy document that were not included in the discussion at the November BCWMC meeting including policies 2.6 and 3.1 – 3.6. She noted that policies on external costs of CIP projects; administration of water quality management standards; public involvement; and review of developments, improvements, and agency permits are recommended to be struck from the document entirely due to their inclusion, in much more detail, in the 2015 Watershed Management Plan. Further, she noted that the former language in policy 3.5 regarding the channel maintenance fund was replaced with policy language approved by the Commission in December 2015.

Administrator Jester noted that Policy 3.2.2 Subdivision 11 includes language regarding cost sharing of CIP projects with cities who wish to take some pollutant removal credit. She reminded the Commission that this policy was discussed at the November Commission meeting, and that it was subsequently revised by Commissioner Welch, and then reviewed by the TAC at their November 28<sup>th</sup> meeting. She reported that the TAC recommends the Commission not adopt such a policy because they believe it's unlikely for this scenario to happen again. She reported that she and the Administrative Services Committee recommend the policy be adopted to provide guidance for future similar situations, if they arise. Finally, she noted that Policy 3.6 is a new policy that reflects action taken by the Commission at their October meeting regarding when and how to request proposals for projects.

Administrator Jester reported the Administrative Services Committee recommends approval of these policies as presented.

There was some discussion about the proposed deletion of two sections of Policy 3.2.2 regarding capital improvement program funding. The Commission decided that section 10 and 11 should remain in the policy document as they are included in the BCWMC Joint Powers Agreement (JPA). Administrator Jester reported that she would make sure those policies were left in and reflected the JPA and other allowed funding mechanisms currently practiced by the Commission.

**MOTION: Commissioner McDonald Black moved to approve the proposed changes to the Policy Document, with the exception of section 3.2.2 Subdivisions 10 and 11 which will be revised to reflect the BCWMC Joint Powers Agreement. Commissioner Elder seconded the motion. Upon a vote the motion carried 6-0. [The cities of Minneapolis, St. Louis Park and**

Robbinsdale were absent from the vote.]

**b. Resolution Approving Records Retention Schedule**

Administrator Jester reported that Appendix B of the Policy Manual is a comprehensive records retention schedule as shown in the meeting materials. She noted the schedule was reviewed and revised by the Commission's legal counsel and additional input was provided by the Administrative Services Committee. She noted that the schedule must be formally adopted by a resolution, which was recommended for approval by the Committee.

**MOTION:** Commissioner McDonald Black moved to adopt the BCWMC records retention schedule. Commissioner Elder seconded the motion. Upon a vote the motion carried 6-0. [The cities of Minneapolis, St. Louis Park and Robbinsdale were absent from the vote.]

**c. Report on Staff Performance Evaluations**

Vice Chair Mueller reported that the Committee reviewed the results of the staff performance evaluations which were completed by a total of 16 Commissioners and TAC members. He noted the evaluations contained good feedback and that it was evident that the evaluations were very good but that there was also room for improvement. He noted that evaluations by TAC members tended not to be as favorable as evaluations by Commissioners. There was no discussion.

**d. Solicit Letters of Interest Proposals**

Administrator Jester reported that per State Statute, the Commission needs to solicit interest proposals for legal, professional, or technical consultant services at least every two years and that the Commission last solicited proposals in December 2014. She reported the Committee recommends directing staff to submit for official publication a notice soliciting "letters of interest proposals" (rather than full proposals) for legal and technical consulting services.

**MOTION:** Commissioner McDonald Black moved to direct staff to solicit letters of interest proposals for legal and technical consulting services. Commissioner Black seconded the motion. Upon a vote the motion carried 5-1 with the City of Plymouth voting against the motion. [The cities of Minneapolis, St. Louis Park and Robbinsdale were absent from the vote.]

**e. Amendments to Administrator Contract**

Administrator Jester reported that the Committee recommends an amendment to the Administrators contract to align with current job duties and the 2017 budget. She noted the 2017 budget includes an increase in the maximum monthly Administrator "salary" from \$5,150 to \$5,600 in order to allow for a few extra work hours per month and a slight increase in the Administrator's hourly rate from \$67 to \$70/hour.

**MOTION:** Commissioner Black moved to approve the amendments to the Administrators contract. Commissioner Elder seconded the motion. Upon a vote the motion carried 6-0. [The cities of Minneapolis, St. Louis Park and Robbinsdale were absent from the vote.]

**6. COMMUNICATIONS**

**A. Administrator’s Report**

Administrator Jester reported on the Plan It Conference, the MN Association of Watershed Districts Conference, the State of the River Report, and she reminded Commissioners to complete the State’s campaign finances paperwork.

**B. Chair**

Vice Chair Mueller again thanked Commissioner Black for her service to the Commission.

**C. Commissioners**

No report.

**D. TAC Members**

No report.

**E. Committees**

No report.

**F. Legal Counsel**

No report.

**G. Engineer**

Commission Engineer Chandler reported that she and Administrator Jester met with Hennepin County staff regarding the Hennepin West Mesonet project; she also pointed out the importance of getting reports from cities regarding their actions in response to the Flood Control Project inspections.

**7. INFORMATION ONLY** (Available <http://www.bassettcreekwmo.org/document/meeting-materials-minu/meeting-materials/thursday-december-15-2016> )

- A. CIP Project Updates: Now Available Online <http://www.bassettcreekwmo.org/projects>**
- B. Grant Tracking Summary and Spreadsheet**
- C. WMWA Meeting Minutes**
- D. Hennepin West Mesonet**
- E. WCA Notice of Decision, Plymouth**
- F. WCA Notice of Application, Plymouth**
- G. WCA Notice of Decision, Plymouth**
- H. WCA Notice of Application, Crystal**

**8. ADJOURNMENT** – Vice Chair Mueller adjourned the meeting at 10:50 a.m.

Signature/Title	Date	Signature/Title	Date
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**Bassett Creek Watershed Management Commission General Account  
 General Fund (Administration) Financial Report  
 Fiscal Year: February 1, 2016 through January 31, 2017  
 MEETING DATE: January 19, 2017**

**Item 4B.  
 BCWMC 1-19-17**

**UNAUDITED)**

<b>BEGINNING BALANCE</b>	<b>7-Dec-16</b>		<b>513,116.56</b>
<b>ADD:</b>			
	<b>General Fund Revenue:</b>		
	Interest less Bank Fees		(8.99)
	2017-18 Assessments-PREPAID		
	Golden Valley	131,270.00	
	Crystal	25,704.00	
	New Hope	25,917.00	
	Met Council - LRT Grant	4,328.94	
	Met Council - LRT Grant	5,298.65	
	LMC Insurance Dividend	2,976.00	
	Permits:		
	S E H BCWMC 2016-28	1,100.00	
	Opus BCWMC 2016-37	2,200.00	
	Reimbursed Construction Costs Insp Flood Control Proj	9,000.00	
	Reimbursed Construction Fund 1.4% of tax levy	17,108.00	
	Reimbursed Construction Costs	871,511.87	
		<b>Total Revenue and Transfers In</b>	<b>1,096,405.47</b>
<b>DEDUCT:</b>			
	<b>Checks:</b>		
	2921 Barr Engineering	Dec Engineering	63,635.53
	2922 Kennedy & Graven	Nov Legal	1,850.70
	2923 Keystone Waters LLC	Dec Administrator	4,623.45
		Dec Meeting Materials	318.56
	2924 Lawn Chair Gardener	Education/admin services	1,360.00
	2925 Triple D Espresso	Jan Meeting	103.98
	2926 Wenck Associates	Dec Outlet Monitoring	394.00
	2927 City of Golden Valley	Finanical Services	3,200.00
	2928 HDR Engineering	Website Services	227.90
	2929 Met Council	CAMP	4,050.00
	2930 City of Golden Valley	2015 Main Stem	841,405.15
2017-18 - Prepaid	2931 CNA Surety	2017 Surety Bond	100.00
		<b>Total Checks</b>	<b>921,269.27</b>
	Outstanding from previous month:		
	2909 Hennepin County	2016 River Watch	2,000.00
	<b>Transfers:</b>		
	EROSION/SEDIMENT (CHANNEL MAINT)		25,000.00
	LONG TERM MAINTENANCE		25,000.00
		<b>Total Transfers</b>	<b>50,000.00</b>
<b>ENDING BALANCE</b>	<b>11-Jan-17</b>		<b>638,252.76</b>



**Bassett Creek Watershed Management Commission General Account  
 General Fund (Administration) Financial Report  
 Fiscal Year: February 1, 2016 through January 31, 2017  
 MEETING DATE: January 19, 2017**

**(UNAUDITED)**

	2016 / 2017 BUDGET	CURRENT MONTH	YTD 2016 / 2017	BALANCE
<b>OTHER GENERAL FUND REVENUE</b>				
ASSESSMENTS TO CITIES	490,345	0.00	490,344.00	1.00
PROJECT REVIEW FEES	60,000	3,300.00	53,400.00	6,600.00
WOMP REIMBURSEMENT	5,000	0.00	4,500.00	500.00
MET COUNCIL REIMBURSEMENTS-LRT PROJECTS	0	9,627.59	32,024.59	(32,024.59)
TRANSFERS FROM LONG TERM FUND & CIP	27,055	26,108.00	26,108.00	947.00
<b>REVENUE TOTAL</b>	<b>582,400</b>	<b>39,035.59</b>	<b>606,376.59</b>	<b>(23,976.59)</b>
<b>EXPENDITURES</b>				
<b>ENGINEERING &amp; MONITORING</b>				
TECHNICAL SERVICES	120,000	8,668.50	101,677.57	18,322.43
DEV/PROJECT REVIEWS	65,000	3,518.47	89,775.76	(24,775.76)
NON-FEE/PRELIM REVIEWS	15,000	2,836.10	34,493.48	(19,493.48)
COMMISSION AND TAC MEETINGS	13,000	940.50	11,264.38	1,735.62
SURVEYS & STUDIES	25,000	1,593.12	23,491.92	1,508.08
WATER QUALITY/MONITORING	76,000	12,506.50	53,348.85	22,651.15
SHORELAND HABITAT MONITORING	6,000	0.00	2,468.00	3,532.00
WATER QUANTITY	11,500	525.62	8,273.08	3,226.92
WATERSHED INSPECTIONS -EROSION CONTROL	1,000	0.00	0.00	1,000.00
ANNUAL FLOOD CONTROL INSPECTIONS	10,000	1,758.50	6,060.92	3,939.08
REVIEW MUNICIPAL PLANS	2,000	0.00	2,491.50	(491.50)
WOMP	17,000	394.00	15,774.32	1,225.68
<b>ENGINEERING &amp; MONITORING TOTAL</b>	<b>361,500</b>	<b>32,741.31</b>	<b>349,119.78</b>	<b>12,380.22</b>
<b>ADMINISTRATION</b>				
ADMINISTRATOR	62,000	4,623.45	52,214.83	9,785.17
LEGAL COSTS	18,500	1,850.70	12,862.58	5,637.42
AUDIT, INSURANCE & BONDING	15,500	0.00	14,606.00	894.00
FINANCIAL MANAGEMENT	3,200	3,200.00	3,277.60	(77.60)
DIGITIZE HISTORIC PAPER FILES	5,000	0.00	2,167.00	2,833.00
MEETING EXPENSES	2,200	103.98	1,572.44	627.56
ADMINISTRATIVE SERVICES	25,000	1,038.56	10,744.45	14,255.55
<b>ADMINISTRATION TOTAL</b>	<b>131,400</b>	<b>10,816.69</b>	<b>97,444.90</b>	<b>33,955.10</b>
<b>OUTREACH &amp; EDUCATION</b>				
PUBLICATIONS/ANNUAL REPORT	2,500	0.00	1,246.50	1,253.50
WEBSITE	3,500	227.90	2,274.93	1,225.07
PUBLIC COMMUNICATIONS	2,500	0.00	1,128.39	1,371.61
EDUCATION AND PUBLIC OUTREACH	22,500	640.00	25,040.19	(2,540.19)
WATERSHED EDUCATION PARTNERSHIPS	15,500	4,050.00	9,550.00	5,950.00
<b>OUTREACH &amp; EDUCATION TOTAL</b>	<b>46,500</b>	<b>4,917.90</b>	<b>39,240.01</b>	<b>7,259.99</b>
<b>MAINTENANCE FUNDS</b>				
EROSION/SEDIMENT (CHANNEL MAINT)	25,000	25,000.00	25,000.00	0.00
LONG TERM MAINTENANCE (moved to CF)	25,000	25,000.00	25,000.00	0.00
<b>MAINTENANCE FUNDS TOTAL</b>	<b>50,000</b>	<b>50,000.00</b>	<b>50,000.00</b>	<b>0.00</b>
<b>TMDL WORK</b>				
TMDL IMPLEMENTATION REPORTING	20,000	1,181.50	18,950.00	1,050.00
<b>TMDL WORK TOTAL</b>	<b>20,000</b>	<b>1,181.50</b>	<b>18,950.00</b>	<b>1,050.00</b>
<b>TOTAL EXPENSES</b>	<b>609,400</b>	<b>99,657.40</b>	<b>554,754.69</b>	<b>54,645.31</b>

**BCWMC Construction Account**  
**Fiscal Year: February 1, 2015 through January 31, 2016**  
**January 2017 Financial Report**

(UNAUDITED)

Cash Balance 12/7/16				
Cash		2,432,229.54		
	Total Cash			2,432,229.54
	Ally Bk Midvale Utah C/D (9/25/2017 1.25%)	248,000.00		
	Capital One Bk-McLean VA C/D (9/25/2017 1.15%)	248,000.00		
	Capital One Bk-Glen Allen VA C/D (9/25/2017 1.15%)	248,000.00		
	Key Bk Natl Assn Ohio C/D (10/02/2017 1.15%)	248,000.00		
	Total Investments			992,000.00
	<b>Total Cash &amp; Investments</b>			<b>3,424,229.54</b>
Add:	Interest Revenue (Bank Charges)	(60.81)		
	State of Minnesota-MVHS Credit	2.41		
	<b>Total Revenue</b>			<b>(58.40)</b>
Less:	Transfer 1.4% Tax Levy for Administrative Services	(17,108.00)		
	CIP Projects Levied - Current Expenses - TABLE A	(849,366.83)		
	Proposed & Future CIP Projects to Be Levied - Current Expenses - TABLE B	(1,681.80)		
	<b>Total Current Expenses</b>			<b>(868,156.63)</b>
	<b>Total Cash &amp; Investments On Hand</b>		<b>01/10/17</b>	<b>2,556,014.51</b>
	Total Cash & Investments On Hand	2,556,014.51		
	CIP Projects Levied - Budget Remaining - TABLE A	(3,116,429.86)		
	<b>Closed Projects Remaining Balance</b>	<b>(560,415.35)</b>		
	2011 - 2015 Anticipated Tax Levy Revenue - TABLE C	11,574.32		
	2016 Anticipated Tax Levy Revenue - TABLE C	14,828.86		
	<b>Anticipated Closed Project Balance</b>	<b>(534,012.17)</b>		
	Proposed & Future CIP Project Amount to be Levied - TABLE B	1,928,045.00		

**TABLE A - CIP PROJECTS LEVIED**

	Approved Budget	Current Expenses	2016 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	7,961.68	12,602.18	140,104.02	849,895.98	
<b>2014</b>						
Schaper Pond Enhance Feasibility/Project (SL-1)(SL-3)	612,000	0.00	213,668.55	303,263.45	308,736.55	
Briarwood / Dawnview Nature Area (BC-7)	250,000	0.00	230,401.91	250,000.00	0.00	
Twin Lake Alum Treatment Project (TW-2)	163,000	0.00	66,812.17	91,037.82	71,962.18	
<b>2015</b>						
Main Stem 10th to Duluth (CR2015)	1,503,000	841,405.15	841,405.15	946,447.15	556,552.85	
<b>2016</b>						
Honeywell Pond Expansion (BC-4) <sup>1</sup>	810,930	0.00	49.50	13,953.98	796,976.02	
Northwood Lake Pond (NL-1) <sup>2</sup>	822,140					
Budget Amendment	611,600	1,433,740	0.00	985,902.03	1,085,844.22	294,932.80
	<b>5,958,670</b>	<b>849,366.83</b>	<b>2,350,841.49</b>	<b>2,842,240.14</b>	<b>3,116,429.86</b>	

**TABLE B - PROPOSED & FUTURE CIP PROJECTS TO BE LEVIED**

		Approved Budget - To Be Levied	Current Expenses	2016 YTD Expenses	INCEPTION To Date Expenses	Remaining Budget
<b>2017</b>						
Main Stem Cedar Lk Rd-Dupont (2017CR-M)	2017 Levy	580,930	863,573	0.00	71,789.91	114,461.79
	2018 Levy	282,643				
Plymouth Creek Restoration (CR-P)	2017 Levy	400,000	1,064,472	0.00	16,192.00	65,604.13
	2018 Levy	664,472				
2017 Project Totals			1,928,045	0.00	87,981.91	180,065.92
<b>2018</b>						
Bassett Creek Park & Winnetka Ponds Dredging (BCP-2)				1,681.80	27,010.89	27,010.89
2018 Project Totals			0	1,681.80	27,010.89	27,010.89
<b>2019</b>						
Bryn Mawr Meadows (BC-5)			0	0.00	0.00	5,282.80
2019 Project Totals			0	0.00	0.00	5,282.80
Total Proposed & Future CIP Projects to be Levied		1,928,045	1,681.80	114,992.80	212,359.61	1,715,685.39

**BCWMC Construction Account**

Fiscal Year: February 1, 2015 through January 31, 2016

(UNAUDITED)

January 2017 Financial Report

**TABLE C - TAX LEVY REVENUES**

	County Levy	/ Adjustments	Adjusted Levy	Current Received	Year to Date Received	Inception to Date Received	Balance to be Collected	BCWMO Levy
2017 Tax Levy			0.00	0.00			0.00	1,303,600.00
2016 Tax Levy	1,222,000.00		1,222,000.00	0.00	1,207,171.14	1,207,171.14	14,828.86	1,222,000.00
2015 Tax Levy	1,000,000.00	4,784.98	1,004,784.98	0.00	1,180.27	1,000,017.76	4,767.22	1,000,000.00
2014 Tax Levy	895,000.00	(5,147.27)	889,852.73	0.00	(1,269.14)	886,432.27	3,420.46	895,000.00
2013 Tax Levy	986,000.00	(8,746.67)	977,253.33	0.00	(1,432.61)	974,669.78	2,583.55	986,000.00
2012 Tax Levy	762,010.00	(7,283.60)	754,726.40	0.00	(22.60)	754,089.15	637.25	762,010.00
2011 Tax Levy	863,268.83	(12,453.26)	850,815.57	0.00	183.50	850,649.73	165.84	862,400.00
				<u>0.00</u>			<u>26,403.18</u>	

**OTHER PROJECTS:**

	Approved Budget	Current Expenses / (Revenue)	2016 YTD Expenses / (Revenue)	INCEPTION To Date Expenses / (Revenue)	Remaining Budget
<b>TMDL Studies</b>					
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
<b>Flood Control Long-Term</b>					
Flood Control Long-Term Maintenance	673,373.00	29,463.24	129,869.24	283,644.91	
Less: State of MN - DNR Grants			(13,838.00)	(13,838.00)	
	673,373.00	29,463.24	116,031.24	269,806.91	403,566.09
<b>Annual Flood Control Projects:</b>					
Flood Control Emergency Maintenance	500,000.00	0.00	0.00	0.00	500,000.00
<b>Annual Water Quality</b>					
Channel Maintenance Fund	350,000.00	0.00	0.00	121,242.95	228,757.05
Total Other Projects	1,658,373.00	29,463.24	116,031.24	498,815.01	1,159,557.99

Cash Balance 12/7/16 **1,036,520.18**

Add:

Transfer from GF 50,000.00

Less:

Current (Expenses)/Revenue (29,463.24)

**Ending Cash Balance 01/10/17 1,057,056.94**

**Additional Capital Needed (102,501)**

**Bassett Creek Construction Project Details**

1/11/2017

**CIP Projects Levied**

	Total	2013	2013	2014	2014	2014	2015	2016	2016	2017	2017
	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 (2017 CR-M)	Plymouth Creek Restoration (2017 CR-P)
<b>Original Budget</b>	7,275,115	196,000	990,000	612,000	250,000	163,000	1,503,000	810,930	822,140	863,573	1,064,472
<b>Added to Budget</b>	611,600								611,600		
<b>Expenditures:</b>											
Feb 2004 - Jan 2005	637.50	637.50									
Feb 2005 - Jan 2006											
Feb 2006 - Jan 2007											
Feb 2007 - Jan 2008											
Feb 2008 - Jan 2009											
Feb 2009 - Jan 2010											
Feb 2010 - Jan 2011	602.00		602.00								
Feb 2011 - Jan 2012	49,194.86	1,476.00	8,086.37	39,632.49							
Feb 2012 - Jan 2013	71,301.89	2,964.05	61,940.82	4,572.97	152.80	1,671.25					
Feb 2013 - Jan 2014	78,112.38	6,511.95	31,006.30	19,079.54	6,477.29	13,678.55	1,358.75				
Feb 2014 - Jan 2015	70,123.05			26,309.90	12,968.00	8,443.85	9,820.60	7,461.95	5,118.75		
Feb 2015-Jan 2016	313,510.98		25,866.35			432.00	93,862.65	6,442.53	94,823.44	42,671.88	49,412.13
Feb 2016-Jan 2017	2,438,823.40		12,602.18	213,668.55	230,401.91	66,812.17	841,405.15	49.50	985,902.03	71,789.91	16,192.00
<b>Total Expenditures:</b>	<b>3,022,306.06</b>	<b>11,589.50</b>	<b>140,104.02</b>	<b>303,263.45</b>	<b>250,000.00</b>	<b>91,037.82</b>	<b>946,447.15</b>	<b>13,953.98</b>	<b>1,085,844.22</b>	<b>114,461.79</b>	<b>65,604.13</b>

<b>Project Balance</b>	<b>4,864,408.94</b>	<b>184,410.50</b>	<b>849,895.98</b>	<b>308,736.55</b>		<b>71,962.18</b>	<b>556,552.85</b>	<b>796,976.02</b>	<b>347,895.78</b>	<b>749,111.21</b>	<b>998,867.87</b>
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	Total	2013	2013	2014	2014	2014	2015	2016	2016	2017	2017
	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 (2017 CR-M)	Plymouth Creek Restoration (2017 CR-P)
<b>Project Totals By Vendor</b>											
Barr Engineering	374,566.91	6,338.95	41,272.72	75,251.50	13,089.74	15,712.00	15,825.00	13,157.98	16,771.00	111,643.39	65,504.63
Kennedy & Graven	11,902.00	1,200.55	2,471.95	993.40	1,038.35	1,058.65	2,223.75	796.00	1,701.45	318.40	99.50
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	75,759.35		75,759.35								
City of New Hope	1,067,371.77								1,067,371.77		
MPCA	2,500.00									2,500.00	
Blue Water Science	3,900.00					3,900.00					
S E H											
Misc											
2.5% Admin Transfer	72,025.00	4,050.00	20,600.00	13,350.00	5,470.00	3,555.00	25,000.00				
Transfer to General Fund											
<b>Total Expenditures</b>	<b>3,022,306.06</b>	<b>11,589.50</b>	<b>140,104.02</b>	<b>303,263.45</b>	<b>250,000.00</b>	<b>91,037.82</b>	<b>946,447.15</b>	<b>13,953.98</b>	<b>1,085,844.22</b>	<b>114,461.79</b>	<b>65,604.13</b>

	Total	2013	2013	2014	2014	2014	2015	2016	2016	2017	2017
	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 (2017 CR-M)	Plymouth Creek Restoration (2017 CR-P)
<b>Levy/Grant Details</b>											
2009/2010 Levy											
2010/2011 Levy											
2011/2012 Levy											
2012/2013 Levy	986,000	162,000	824,000								
2013/2014 Levy	895,000			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
Construction Fund Balance	703,000	34,000	166,000				503,000				
BWSR Grant- BCWMO	400,000								400,000		
MPCA Grant-CWPGrant	94,933								94,933		
DNR Grants-LT Maint											
<b>Total Levy/Grants</b>	<b>6,604,533</b>	<b>196,000</b>	<b>990,000</b>	<b>534,000</b>	<b>218,800</b>	<b>142,200</b>	<b>1,503,000</b>	<b>810,930</b>	<b>1,228,673</b>	<b>580,930</b>	<b>400,000</b>

BWSR Grants Received 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)				Other Projects					Totals - All Projects
	Total Proposed & Future CIP Projects (to be Levied)	2018 Bassett Cr Pk & Winnetka Ponds Dredging (2018 BCP-2)	2019 Bryn Mawr Meadows	Total Other Projects	TMDL Studies	Flood Control Emergency Maint	Flood Control Long- Term Maint	Channel Maint	
<b>Original Budget</b> Added to Budget				1,278,373.00 <span style="color: red;">(250,000.00)</span> 13,838.00 380,000.00	105,000.00	500,000.00	748,373.00 <span style="color: red;">(250,000.00)</span> 13,838.00 175,000.00	175,000.00	8,553,488.00 361,600.00 13,838.00 380,000.00
<b>Expenditures:</b>									
Feb 2004 - Jan 2005				6,949.19			3,954.44	2,994.75	637.50 6,949.19
Feb 2005 - Jan 2006				10,249.09	637.20		9,611.89		10,249.09
Feb 2006 - Jan 2007				23,486.95	23,486.95				23,486.95
Feb 2007 - Jan 2008				70,413.47	31,590.12			38,823.35	70,413.47
Feb 2008 - Jan 2009				31,868.63	31,868.63				31,868.63
Feb 2009 - Jan 2010				15,005.25	15,005.25				15,005.25
Feb 2010 - Jan 2011				168.00	168.00				49,362.86
Feb 2011 - Jan 2012				21,094.00	3,194.00			17,900.00	92,395.89
Feb 2012 - Jan 2013				6,732.00	1,815.00		4,917.00		84,844.38
Feb 2013 - Jan 2014	5,282.80		5,282.80	59,459.65			24,712.15	34,747.50	134,865.50
Feb 2014 - Jan 2015				137,357.54			110,580.19	26,777.35	450,868.52
Feb 2015-Jan 2016	27,010.89	27,010.89		129,869.24			129,869.24		2,595,703.53
Feb 2016-Jan 2017									
<b>Total Expenditures:</b>	<b>32,293.69</b>	<b>27,010.89</b>	<b>5,282.80</b>	<b>512,653.01</b>	<b>107,765.15</b>		<b>283,644.91</b>	<b>121,242.95</b>	<b>3,567,252.76</b>
<b>Project Balance</b>	<span style="color: red;">(32,293.69)</span>	<span style="color: red;">(27,010.89)</span>	<span style="color: red;">(5,282.80)</span>	<b>1,159,557.99</b>	<b>27,234.85</b>	<b>500,000.00</b>	<b>403,566.09</b>	<b>228,757.05</b>	<b>5,991,673.24</b>
<b>Project Totals By Vendor</b>									
Barr Engineering	32,293.69	27,010.89	5,282.80	350,842.00	104,888.70		245,953.30		757,702.60
Kennedy & Graven				2,648.25	1,164.30		1,099.35	384.60	14,550.25
City of Golden Valley				55,287.50				55,287.50	1,469,568.53
City of Minneapolis				26,747.50				26,747.50	26,747.50
City of Plymouth				38,823.35				38,823.35	114,582.70
City of New Hope									1,067,371.77
MPCA									2,500.00
Blue Water Science									3,900.00
S E H				3,992.26			3,992.26		3,992.26
Misc				1,712.15	1,712.15				1,712.15
2.5% Admin Transfer									72,025.00
Transfer to General Fund				32,600.00			32,600.00		32,600.00
<b>Total Expenditures</b>	<b>32,293.69</b>	<b>27,010.89</b>	<b>5,282.80</b>	<b>512,653.01</b>	<b>107,765.15</b>		<b>283,644.91</b>	<b>121,242.95</b>	<b>3,567,252.76</b>
<b>Levy/Grant Details</b>									
2009/2010 Levy									
2010/2011 Levy				60,000.00	10,000		25,000	25,000	60,000
2011/2012 Levy				60,000.00	10,000		25,000	25,000	60,000
2012/2013 Levy				60,000.00	10,000		25,000	25,000	1,046,000
2013/2014 Levy				50,000.00			25,000	25,000	945,000
2014/2015 Levy				50,000.00			25,000	25,000	1,050,000
2015-2016 Levy				50,000.00			25,000	25,000	
2016-2017 Levy				50,000.00			25,000	25,000	
Construction Fund Balance									753,000
BWSR Grant- BCWMO									400,000
MPCA Grant-CWPGrant									
DNR Grants-LT Maint				13,838.00			13,838		
<b>Total Levy/Grants</b>				<b>393,838.00</b>	<b>30,000</b>		<b>188,838</b>	<b>175,000</b>	<b>4,314,000</b>



7800 Golden Valley Road  
Golden Valley, MN 55427

December 9, 2016

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

Subject: 2015 Bassett Creek Main Stem Restoration Project (City Project No. 13-25)  
BCWMC Project #CR2015  
2<sup>nd</sup> Request for Reimbursement

Dear Ms. Jester:

Per the terms of the Cooperative Agreement for the 2015 Bassett Creek Main Stem Restoration Project, the City of Golden Valley is requesting reimbursement for expenses incurred to date for the final design and construction phase of the creek restoration project. The amount of the request for this reimbursement is **\$841,405.15**.

Enclosed please find the following supporting documentation:

- WSB & Associates, Inc. invoice numbers 1 thru 21
- Rachel Contracting Voucher numbers 1 thru 7
- MnDNR Permit fee
- Finance & Commerce advertising fee
- City of Golden Valley expenditure report

Following is a summary of reimbursement requests to date:

Reimbursement 1 (July 2015)	\$ 61,993.25 PAID
<u>Reimbursement 2 (December 2016)</u>	<u>\$841,405.15</u>
Total amount requested to date	\$903,309.40

It is anticipated there will be one more reimbursement request for the construction phase of the project. Following that request, there will be additional reimbursement requests for the Native Vegetation Establishment phase of the project which runs through 2018.

Laura Jester  
December 9, 2016  
Page 2

If you have any questions regarding this submission, please contact me at 763-593-8084.

Sincerely,



Eric Eckman  
Project Manager

Enclosures

C: Marc Nevinski, Physical Development Director  
Jeff Oliver, PE, City Engineer  
Tom Hoffman, Water Resources Technician  
Sue Virnig, Finance Director  
Amy Herbert, BCWMC Recording Administrator  
Karen Chandler, Barr Engineering Co., Engineer for BCWMC



Remit To:  
CITY OF GOLDEN VALLEY  
7800 GOLDEN VALLEY RD  
GOLDEN VALLEY MN 55427

7800 Golden Valley Road  
Golden Valley, MN 55427

# INVOICE

8273

Invoice Date 12/19/2016

Due Date 12/19/2016

Page: 1

Billing Address: 116776  
BASSETT CREEK WATERSHED MGMT COMMISSION  
7800 GOLDEN VALLEY RD  
GOLDEN VALLEY MN 55427

Item	Remark	Amount
001	MAIN STEM 2015 - PARTIAL REIMB	841,405.15
<b>Total Amount Invoiced</b>		841,405.15
<b>Tax Amount</b>		
<b>Balance Due</b>		841,405.15

*Please return one copy with your payment.*





**CITY OF GOLDEN VALLEY**  
**General Ledger Activity**  
**7346 - Main Stem 2015 BC Activity**  
**Thursday, August 01, 2013 to Monday, October 17, 2016**

Document Type	Document Number	GL Date	Object Account	Actual Amount	Invoice Number	Remark	Address Number	JE Explanation
PV	119070	12/31/2014	6320 - OPERATING SUPPLIES	130.00	35185	2015-16 PMP OPEN HOUSE	118845	COOKIE CART, THE
<b>7346 - MAIN STEM -2015 BC</b>				<b>130.00</b>				
<b>Total 6320 - OPERATING SUPPLIES</b>				<b>130.00</b>				
PV	105926	8/14/2013	6340 - PROFESSIONAL SERVICES	1,156.00		1 6/1 - 6/30/13 SERVICES	107865	WSB & ASSOCIATES, INC.
PV	106554	9/10/2013	6340 - PROFESSIONAL SERVICES	600.00		2 7/1-7/31/13 SERVICES	107865	WSB & ASSOCIATES, INC.
PV	107301	10/9/2013	6340 - PROFESSIONAL SERVICES	3,982.00		3 8/1-8/31/13 SERVICES	107865	WSB & ASSOCIATES, INC.
PV	108039	11/12/2013	6340 - PROFESSIONAL SERVICES	5,296.50		4 8/1-9/30/13 SERVICES	107865	WSB & ASSOCIATES, INC.
PV	108985	12/12/2013	6340 - PROFESSIONAL SERVICES	3,116.00		5 10/1-10/31/13 SERVICES	107865	WSB & ASSOCIATES, INC.
PV	109421	12/31/2013	6340 - PROFESSIONAL SERVICES	7,294.50		6 NOV 2013-SERVICES	107865	WSB & ASSOCIATES, INC.
PV	110017	12/31/2013	6340 - PROFESSIONAL SERVICES	3,145.50		7 DEC 2013-2015 BASSETT CK REST	107865	WSB & ASSOCIATES, INC.
PV	110876	3/12/2014	6340 - PROFESSIONAL SERVICES	11,545.00		02032-060-8 BASSETT CREEK RESTORATION	107865	WSB & ASSOCIATES, INC.
PV	111785	4/15/2014	6340 - PROFESSIONAL SERVICES	6,734.00		9 FEB 2014-2015 BASSETT CREEK	107865	WSB & ASSOCIATES, INC.
PV	112492	5/14/2014	6340 - PROFESSIONAL SERVICES	6,452.50		02032-060-10 2015 BASSETT CREEK RESTORATION	107865	WSB & ASSOCIATES, INC.
PV	113280	6/11/2014	6340 - PROFESSIONAL SERVICES	2,297.50		02032-060-11 2015 BASSETT CREEK RESTORATION	107865	WSB & ASSOCIATES, INC.
PV	113971	7/9/2014	6340 - PROFESSIONAL SERVICES	3,466.50		02032-060-12 2015 BASSETT CREEK RESTORATION	107865	WSB & ASSOCIATES, INC.
PV	115322	8/25/2014	6340 - PROFESSIONAL SERVICES	2,093.00		13 JUNE 2014-PROFESSIONAL SERVICE	107865	WSB & ASSOCIATES, INC.
PV	115826	9/12/2014	6340 - PROFESSIONAL SERVICES	1,176.00		14 JULY SERVICES	107865	WSB & ASSOCIATES, INC.
PV	116642	10/20/2014	6340 - PROFESSIONAL SERVICES	2,499.00		15 AUG 2014-2015 BASSETT CREEK	107865	WSB & ASSOCIATES, INC.
PV	117275	11/18/2014	6340 - PROFESSIONAL SERVICES	1,139.25		02032-060-16 2015 BASSETT CREEK MAIN STEM	107865	WSB & ASSOCIATES, INC.
PV	117892	12/16/2014	6340 - PROFESSIONAL SERVICES	12,125.75		02032-090-1 2015 BASSETT CREEK DESIGN	107865	WSB & ASSOCIATES, INC.
PV	118980	12/31/2014	6340 - PROFESSIONAL SERVICES	3,794.50		02032-090-2 NOV 2014 BASSETT CREEK DESIGN	107865	WSB & ASSOCIATES, INC.
PV	119314	12/31/2014	6340 - PROFESSIONAL SERVICES	5,749.25		3 PROF PERSONNEL DEC 2014	107865	WSB & ASSOCIATES, INC.
PV	120263	3/12/2015	6340 - PROFESSIONAL SERVICES	7,756.75		4 PROFESSIONAL SERVICES JAN 15	107865	WSB & ASSOCIATES, INC.
PV	120735	4/1/2015	6340 - PROFESSIONAL SERVICES	3,204.00		5 PROF SERVICES FEB 15	107865	WSB & ASSOCIATES, INC.
PV	121472	5/6/2015	6340 - PROFESSIONAL SERVICES	3,463.00		6 2015 BASSETT CREEK DESIGN	107865	WSB & ASSOCIATES, INC.
PV	122554	6/9/2015	6340 - PROFESSIONAL SERVICES	4,185.25		7 APRIL SERVICES	107865	WSB & ASSOCIATES, INC.
PV	123165	7/2/2015	6340 - PROFESSIONAL SERVICES	8,883.50		8 MAY 2015 SERVICES	107865	WSB & ASSOCIATES, INC.
PV	124086	8/7/2015	6340 - PROFESSIONAL SERVICES	1,000.00		BURWAT00086156 V-PERMIT FEE-STREAMBANK	120500	MN DEPT OF NATURAL RESOURCES-O
PV	124356	8/11/2015	6340 - PROFESSIONAL SERVICES	8,732.00		9 JUNE SERVICES	107865	WSB & ASSOCIATES, INC.
PV	124869	9/3/2015	6340 - PROFESSIONAL SERVICES	242.00		742346288 BASSETT CREEK RESTORATION	125462	FINANCE & COMMERCE INC
PV	125615	10/2/2015	6340 - PROFESSIONAL SERVICES	14,581.25		10 JULY 2015-BASSETT CREEK DESIGN	107865	WSB & ASSOCIATES, INC.
PV	125772	10/8/2015	6340 - PROFESSIONAL SERVICES	16,240.00		11 AUGUST SERVICES	107865	WSB & ASSOCIATES, INC.
PV	126403	11/3/2015	6340 - PROFESSIONAL SERVICES	4,509.50		12 SEPT 15 BASSETT CREEK DESIGN	107865	WSB & ASSOCIATES, INC.
PV	127181	12/4/2015	6340 - PROFESSIONAL SERVICES	4,095.25		13 OCT 15 SERVICES	107865	WSB & ASSOCIATES, INC.
PV	127893	12/31/2015	6340 - PROFESSIONAL SERVICES	16,971.50		14 NOV 15	107865	WSB & ASSOCIATES, INC.
PV	128337	12/31/2015	6340 - PROFESSIONAL SERVICES	24,891.50		15 DEC 2015-BASSETT CREEK	107865	WSB & ASSOCIATES, INC.
PV	129230	3/7/2016	6340 - PROFESSIONAL SERVICES	31,373.25		16 JAN 2016-2015 BASSETT DESIGN	107865	WSB & ASSOCIATES, INC.



**CITY OF GOLDEN VALLEY**  
**General Ledger Activity**  
**7346 - Main Stem 2015 BC Activity**  
**Thursday, August 01, 2013 to Monday, October 17, 2016**

Document Type	Document Number	GL Date	Object Account	Actual Amount	Invoice Number	Remark	Address Number	JE Explanation
PV	131249	5/23/2016	6340 - PROFESSIONAL SERVICES	28,966.50	17 MARCH 2016-SERVICES	107865	WSB & ASSOCIATES, INC.	
PV	131881	6/8/2016	6340 - PROFESSIONAL SERVICES	618.00	18 APR 16	107865	WSB & ASSOCIATES, INC.	
PV	132796	7/12/2016	6340 - PROFESSIONAL SERVICES	22,632.50	19 MAY 16	107865	WSB & ASSOCIATES, INC.	
PV	133591	8/9/2016	6340 - PROFESSIONAL SERVICES	5,006.00	02032-090-20 JUN 16	107865	WSB & ASSOCIATES, INC.	
PV	135234	10/12/2016	6340 - PROFESSIONAL SERVICES	184.00	21 PROJ 02032-090 AUG 2015-BASSETT CREEK	107865	WSB & ASSOCIATES, INC.	
<b>Total 6340 - PROFESSIONAL SERVICES</b>				<b>291,198.50</b>				
PV	127241	12/7/2015	7430 - CONSTRUCTION CONTRACT	40,854.27	1 NOV 15	125438	RACHEL CONTRACTING	
JE	55818	12/31/2015	7430 - CONSTRUCTION CONTRACT	129,276.45	RACHEL CONTRACTING	0	SET UP CONTRACTS PAYABLE	
JE	55821	12/31/2015	7430 - CONSTRUCTION CONTRACT	-120,769.91	RACHEL-CONTRACT PAYABLE	0	REVERSE ACCTS PAYABLE	
PV	127963	12/31/2015	7430 - CONSTRUCTION CONTRACT	120,769.91	2 DEC 15 WORK	125438	RACHEL CONTRACTING	
JE	55818	1/1/2016	7430 - CONSTRUCTION CONTRACT	-129,276.45	RACHEL CONTRACTING	0	SET UP CONTRACTS PAYABLE	
JE	55821	1/1/2016	7430 - CONSTRUCTION CONTRACT	120,769.91	RACHEL-CONTRACT PAYABLE	0	REVERSE ACCTS PAYABLE	
PV	128336	1/25/2016	7430 - CONSTRUCTION CONTRACT	151,962.04	3 BASSETT CREEK	125438	RACHEL CONTRACTING	
PV	128919	2/23/2016	7430 - CONSTRUCTION CONTRACT	156,021.02	4 BASSETT CREEK	125438	RACHEL CONTRACTING	
PV	129400	3/9/2016	7430 - CONSTRUCTION CONTRACT	21,457.42	5 2015-BASSETT CREEK DESIGN	125438	RACHEL CONTRACTING	
PV	132090	6/15/2016	7430 - CONSTRUCTION CONTRACT	95,835.48	6 BASSETT CREEK	125438	RACHEL CONTRACTING	
PV	132891	7/19/2016	7430 - CONSTRUCTION CONTRACT	56,148.28	1 - BASSETT CREEK NATIVE VEG	128022	APPLIED-ECOLOGICAL SERVICES-IN	
PV	133898	8/24/2016	7430 - CONSTRUCTION CONTRACT	25,299.76	02032-09-2015-7 2015-BASSETT CRK FINAL DESIGN	125438	RACHEL CONTRACTING	
PV	134442	9/12/2016	7430 - CONSTRUCTION CONTRACT	6,957.46	16-06-2 AUG-16	128022	APPLIED-ECOLOGICAL SERVICES-IN	
PV	136083	10/11/2016	7430 - CONSTRUCTION CONTRACT	2,156.50	16-05-3 BC NATIVE-VEGETATION	128022	APPLIED-ECOLOGICAL SERVICES-IN	
<b>Total 7430 - CONSTRUCTION CONTRACT</b>				<b>677,462.14</b>				
<b>Total 7346 - MAIN STEM -2015 BC</b>				<b>968,790.64</b>				



Item 4E.  
BCWMC 1-19-17  
Full document online

PRINCIPALS

Thomas M. Montague, CPA  
Thomas A. Karnowski, CPA  
Paul A. Radosevich, CPA  
William J. Lauer, CPA  
James H. Eichten, CPA  
Aaron J. Nielsen, CPA  
Victoria L. Holinka, CPA

January 3, 2017

Ms. Sue Virnig, Treasurer  
Bassett Creek Watershed  
Management Commission  
City of Golden Valley  
7800 Golden Valley Road  
Golden Valley, MN 55427

Dear Ms. Virnig:

Enclosed are two copies of an engagement letter which explains and confirms the basic services we expect to perform in conjunction with your upcoming audit.

Assuming the letter adequately describes the services you desire, please sign both copies, return one to our office, and keep the other copy for your files.

Please do not hesitate to contact me if you believe the letter should be modified or if you have any questions.

Sincerely,

MALLOY, MONTAGUE, KARNOWSKI, RADOSEVICH & CO., P.A.

A handwritten signature in black ink that reads "William J. Lauer". The signature is written in a cursive, flowing style.

William J. Lauer, CPA  
Principal

WJL:lmb

Enclosures



Item 4F.  
BCWMC 1-19-17

## Bassett Creek Watershed Management Commission

### RESOLUTION NO. 17-01

Member \_\_\_\_\_ introduced the following resolution and moved its adoption:

A RESOLUTION APPROVING THE REIMBURSEMENT TO THE BASSETT CREEK WATERSHED MANAGEMENT COMMISSION 1.4% OF THE TAX LEVY REQUEST TO HENNEPIN COUNTY FOR COLLECTION IN 2016, FOR ADMINISTRATIVE EXPENSES FOR CAPITAL IMPROVEMENT PROGRAM (CIP) PROJECTS AND APPROVING THE TRANSFER OF THE FUNDS FROM THE CIP ACCOUNT TO THE ADMINISTRATIVE ACCOUNT

BE IT RESOLVED by the Bassett Creek Watershed Management Commission of the Cities of Crystal, Golden Valley, Medicine Lake, Minneapolis, Minnetonka, New Hope, Plymouth, Robbinsdale, and St. Louis Park that:

1. The Bassett Creek Watershed Management Commission (BCWMC) will be reimbursed \$17,108, which is 1.4% of the BCWMC's September 2015 tax request in the amount of \$1,222,000 to Hennepin County for collection in 2016, for administrative expenses for Capital Improvement Projects.
2. The Bassett Creek Watershed Management Commission directs its Deputy Treasurer to transfer the reimbursed funds from the Commission's CIP Account to its Administrative Account.

\_\_\_\_\_  
Chair

\_\_\_\_\_  
Date

Attest:

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Date

The motion for adoption of the foregoing resolution was seconded by Member \_\_\_\_\_ and upon a vote being taken thereon, the following voted in favor thereof: \_\_\_\_\_ and the following voted against the same \_\_\_\_\_ whereupon said resolution was declared duly passed and adopted.



Item 4G.  
BCWMC 1-19-17

## Bassett Creek Watershed Management Commission

### RESOLUTION NO. 17-02

Member \_\_\_\_\_ introduced the following resolution and moved its adoption:

A RESOLUTION APPROVING THE TRANSFER OF BASSETT CREEK WATERSHED MANAGEMENT COMMISSION FUNDS FROM THE ADMINISTRATIVE ACCOUNT TO THE EROSION/SEDIMENT (CHANNEL MAINTENANCE) ACCOUNT AND LONG-TERM MAINTENANCE ACCOUNT

BE IT RESOLVED by the Bassett Creek Watershed Management Commission that:

1. \$25,000 will be transferred from the Bassett Creek Watershed Management Commission's Administrative Account to the Erosion/Sediment (Channel Maintenance Fund) account.
2. \$16,000 will be transferred from the Bassett Creek Watershed Management Commission's Administrative Account to the Long-Term Maintenance account which equals the annual \$25,000 transfer amount less the cost of the 2016 inspections of the BCWMC Flood Control Project of \$9,000.

\_\_\_\_\_  
Chair

\_\_\_\_\_  
Date

Attest:

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Date

The motion for adoption of the foregoing resolution was seconded by Member \_\_\_\_\_ and upon a vote being taken thereon, the following voted in favor thereof: \_\_\_\_\_ and the following voted against the same \_\_\_\_\_ whereupon said resolution was declared duly passed and adopted.



## Memorandum

**To:** Bassett Creek Watershed Management Commission  
**From:** Barr Engineering Co.  
**Subject:** Item 4H – Northwood North Area Infrastructure Improvements – New Hope  
BCWMC January 19, 2017 Meeting Agenda  
**Date:** January 11, 2017  
**Project:** 23270051 2016 2106

### 4H Northwood North Area Infrastructure Improvements – New Hope BCWMC 2016-26

#### Summary:

**Proposed Work:** Road reconstruction in the Northwood North neighborhood

**Basis for Commission Review:** Linear project disturbing over five (5) acres

**Impervious Surface Area:** Increase approximately 0.02 acres

**Recommendation:** Conditional Approval

#### General Background & Comments

The proposed project includes street reconstruction, water main and sanitary sewer replacement, and storm sewer improvements in the Northwood North neighborhood bounded by 42<sup>nd</sup> Ave North to the north, Highway 169 to the west, Northwood Park to the south, and Boone Ave North to the east. The project is in the Northwood Lake subwatershed and 12.09 acres will be graded as part of this project. The proposed project results in an increase of approximately 0.02 acres of impervious surface.

#### 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 New Hope is the LGU for administering the Minnesota Wetland Conservation Act of 1991.

#### Stormwater Management

Under existing conditions, the project drains to Northwood Lake. Under proposed conditions, the drainage patterns will ultimately remain similar; however, stormwater treatment will be provided within the project area by diverting water to underground filtration trenches.

**To:** Bassett Creek Watershed Management Commission  
**From:** Barr Engineering Co.  
**Subject:** Item 4H – Northwood North Area Infrastructure Improvements – New Hope  
**Date:** January 11, 2017  
**Page:** 2  
**Project:** 23270051 2016 2106

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## Water Quality Management

There is currently little to no water quality treatment in the Northwood North neighborhood. Because the project is a linear redevelopment that creates one acre or greater of new and/or fully reconstructed impervious surfaces, the September 2015 BCWMC Requirements for Improvements and Development Proposals (Requirements) document requires that the project capture and retain the larger of 1) 0.55 inches of runoff from the new and fully reconstructed impervious surfaces, or 2) 1.1 inches of runoff from the net increase in impervious area. In this case, 0.55 inches of runoff from the new and fully reconstructed impervious surfaces is the larger volume, resulting in a required treatment volume of 0.30 acre-feet (12,997 cubic feet). If the performance goal is unable to be met due to site restrictions, the Requirements document requires that the MIDS flexible treatment options approach be used, following the MIDS design sequence flow chart.

The city proposes to construct underground filtration trenches with iron enhanced media to provide water quality treatment for the project. The underground filtration trenches will provide a storage volume reduction of 715 cubic feet. This is equivalent to 0.03 inches of runoff from the new and fully reconstructed impervious surfaces (6% of the required volume).

Because the city is not able to meet the MIDS performance goal, the city's consultant provided a sequencing analysis following the MIDS design sequence flow chart and indicating what treatment options were explored and feasible on the site. Based on the flow chart, the first alternative to be considered for this project is Flexible Treatment Option #2 (FTO 2). The flow chart analysis indicates that FTO 2 is feasible on the site. FTO 2 requires volume reduction to the maximum extent practicable, removal of 60% of the annual total phosphorus (TP) load, and discussion of options considered toward relocating elements and addressing varying soil conditions and constraints across the site.

The applicant has limited right of way area in which to construct stormwater BMPs because the project is primarily road reconstruction. The project area has Type D soils with low infiltration rates, which do not allow significant infiltration. The project area also has steep grades, which limit the areas where BMPs can be implemented. Based on limited right of way, soils with low infiltration rates, and steep grades within the project area, the applicant has demonstrated volume reduction to the maximum extent practicable by maximizing the size of the underground filtration trenches.

To meet the removal of 60% of the annual TP load requirement (7.0 pounds), the applicant is using treatment provided by the underground filtration trenches with iron enhanced media. Underground trenches will be installed on Jordan Avenue North, Gettysburg Avenue North, Flag Avenue North, Ensign Avenue North, 40 ½ Avenue North, 41<sup>st</sup> Avenue North, and Hopewood Avenue North. Using treatment provided by the underground filtration trenches with iron enhanced media, and in compliance with the FTO 2 criteria, the applicant indicated that the project removes 60% of the annual TP load (7.02 pounds), however, additional information must be provided to demonstrate use of iron enhanced media for subsurface treatment.

**To:** Bassett Creek Watershed Management Commission  
**From:** Barr Engineering Co.  
**Subject:** Item 4H – Northwood North Area Infrastructure Improvements – New Hope  
**Date:** January 11, 2017  
**Page:** 3  
**Project:** 23270051 2016 2106

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## **Erosion and Sediment Control**

Since the area to be graded is greater than 10,000 square feet, the proposed project must meet the BCWMC erosion control requirements. Proposed temporary erosion control features include inlet protection, rock construction entrances, and concrete washouts. Permanent erosion control features include erosion control blanket.

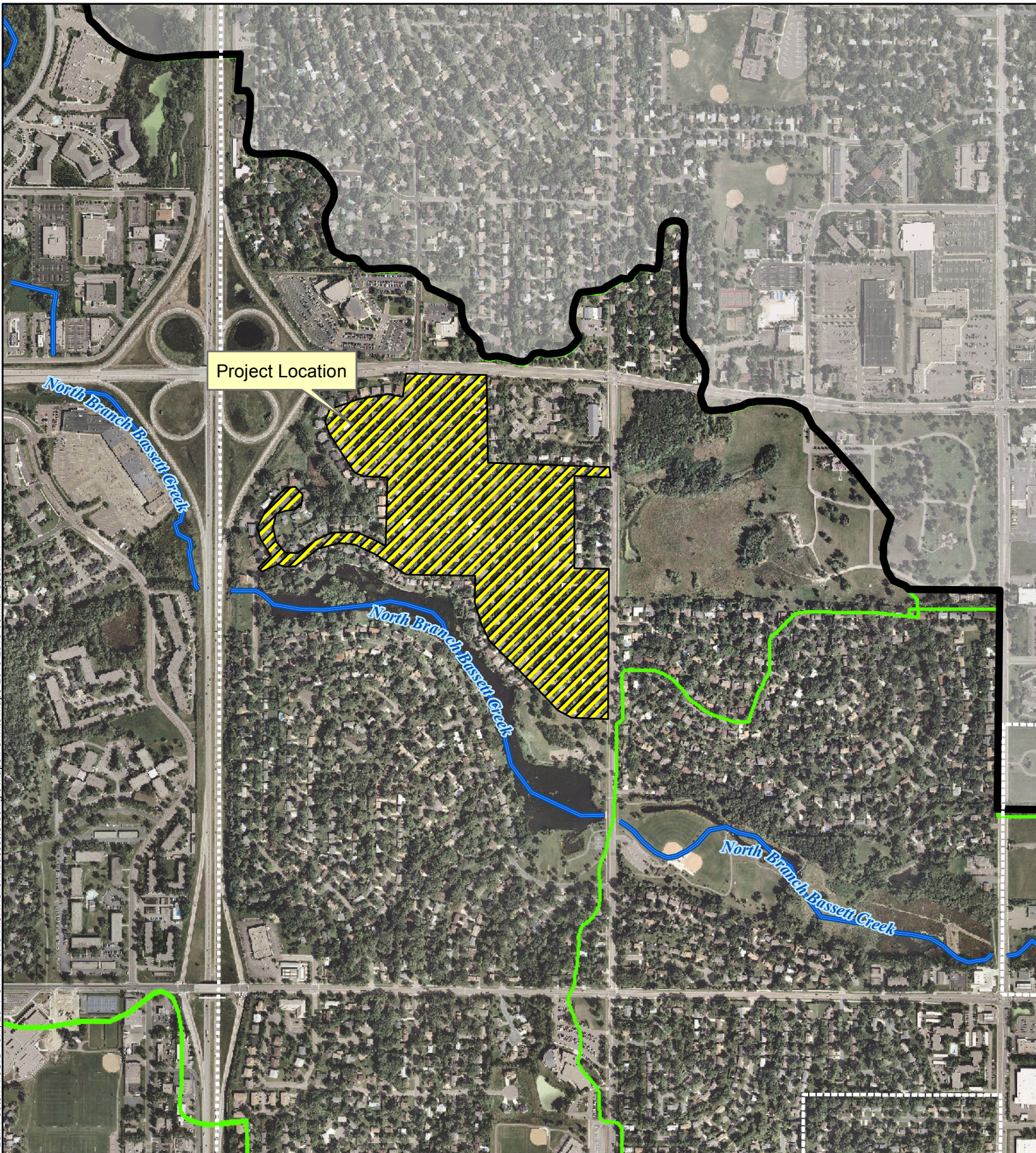
## **Recommendation**

Conditional approval based on the following comments:







1. This project creates more than one acre of new or redeveloped impervious area, therefore the applicant must provide documentation that stormwater runoff is managed such that peak flow rates leaving the site are equal to or less than the existing rates leaving the site for the 2-, 10-, and 100-year events based on Atlas 14 precipitation amounts and using a nested 24-hour rainfall distribution, as described in the BCWMC Requirements for Improvements and Development Proposals.
2. The filtration trench detail #2 on Sheet C8.03 indicates that 3' sumps will be placed on catch basins upstream of filtration trenches however sump elevations are not included for structure CBMH-11 on Sheet C5.02, CBMH-25 on Sheet C5.04, CBMH-62 on Sheet C5.05, CBMH-51 on Sheet C5.06, and CBMH-75 on Sheet C5.07. Sump elevations must be included on these sheet to ensure the structures are built correctly.
3. Iron enhanced sand is generally not recommended for use in subsurface filtration due to the requirement for oxygenation of the iron enhanced filter bed between rainfall events. The applicant must provide documentation indicating that the system is properly designed to provide oxygenation of the iron between rainfall events or must revise the design to meet the MIDS treatment requirements without the use of iron-enhanced sand in a subsurface filtration system.
4. Inlet protection must be added to the northwest corner of Decatur Avenue North and 40 ½ Ave North. A maintenance plan for the underground filtration trenches must be developed.
5. Revised drawings (paper copy and final electronic files) must be provided to the BCWMC Engineer for final review and approval.

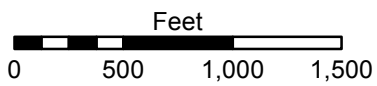


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Imagery Source: Aerial Express (2009)

-  Project Location
-  Bassett Creek
-  WMC Boundary
-  Major Subwatershed
-  Municipality
-  Stream



**LOCATION MAP**  
**APPLICATION 2016-38**  
**Northwood North Area**  
**Infrastructure Improvements**  
**New Hope, MN**



BASSETT CREEK WATERSHED MANAGEMENT COMMISSION

A RESOLUTION OF APPRECIATION FOR SERVICES OF DAVID TOBELMANN  
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, David Tobelmann served as a representative from the City of Plymouth for four years from 2013 to 2016; and

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

WHEREAS, David served on other committees including the Education Committee, Administrative Services Committee, and the Aquatic Plant Management/Aquatic Invasive Species Committee; and

WHEREAS, David was a continually engaged participant in Commission discussions and often provided critical perspectives, new ideas, and interesting questions that helped the Commission consider issues from different angles; and

WHEREAS, David gave generously of his time and talents, including representing the Commission and engaging residents at community events, 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 David Tobelmann for his distinguished service to the public.

Adopted by the Board of Commissioners of the Bassett Creek Watershed Management Commission this 19<sup>th</sup> day of January, 2017.

\_\_\_\_\_  
Chair

# **DRAFT** Bassett Creek Hydrologic and Hydraulic Analyses

## *Phase 2 XPSWMM Model Report*

Prepared for  
Bassett Creek Watershed Management Commission



January 11, 2017



# Bassett Creek Hydrologic and Hydraulic Analyses

January 11, 2017

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## Certifications

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

---

Jennifer Koehler, PE  
MN PE #: 47500

date \_\_\_\_\_  
Date



## Acronyms

<b>Acronym</b>	<b>Description</b>
BCWMC	Bassett Creek Watershed Management Commission
DEM	Digital Elevation Model
FEMA	Federal Emergency Management Agency
FIS	Flood Insurance Study
HEC	Hydrologic Engineering Center
HEC-RAS	Hydrologic Engineering Center River Analysis System
JPA	joint powers agreement
LiDAR	Light Detection and Ranging
MnDOT	Minnesota Department of Transportation
MnDNR	Minnesota Department of Natural Resources
MSL 1912	Mean Sea Level Datum of 1912
NAVD88	North American Vertical Datum of 1988
NCDC	National Climatic Data Center
NEXRAD	Next-Generation Radar
NGIA	National Geospatial Intelligence Agency
NGVD29	National Geodetic Vertical Datum of 1929
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWL	Normal Water Level
NWS	National Weather Service
PCSWMM	Storm Water Management Module (interface by PC Solutions)
SSURGO	Soil Survey Geographic Dataset maintained by the NRCS
TAC	Technical Advisory Committee
TMDL	Total Maximum Daily Load
TP40	Technical Paper 40
USACE	United States Army Corps of Engineers
WOMP	Watershed Outlet Monitoring Program
WMO	Watershed Management Organization
WRMP	Water Resources Management Plan
XPSWMM	Storm Water Management Module (interface by XP Solutions)

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## Executive Summary

The Bassett Creek Watershed Management Commission (BCWMC) Phase 2 XPSWMM model update incorporated more detailed subwatershed, storage, and storm sewer information for the watershed, including the major ponds and wetlands. The Phase 2 XPSWMM modeling effort included the following items:

- Increasing the number of the subwatersheds for the entire BCWMC watershed from approximately 55 to approximately 1,156 (see Figure 2-1)
- Developing revised watershed hydrology inputs based on more current soils data and impervious coverage information for the Twin Cities area.
- Modeling of storm sewer and outlet structures based on data provided by the member cities and agencies.
- Integrating detailed storage (e.g. ponds and wetlands) within each of the subwatersheds based on recent topographic data.
- Ensuring consistent vertical datum in the model with the entire Phase 2 XPSWMM model updated to be in the NAVD88 vertical datum.
- Developing the model to fully capture and route the Atlas 14 100-year design storm event.
- Performing flow/elevation monitoring at Douglas Drive on the North Branch of Bassett Creek (in 2015).
- Calibrating at several locations including Plymouth Creek, Wisconsin Avenue, the North Branch of Bassett Creek (at Douglas Drive), and at the Watershed Outlet Monitoring Program (WOMP) gage.
- Using the calibrated model to estimate the Atlas 14 100-year flood elevations along the Bassett Creek system and within the contributing watershed.

The Phase 2 XPSWMM model is a tool that can be utilized by the BCWMC, member cities, and other entities to evaluate projects and make informed watershed management decisions. One of the primary applications is evaluating and updating flood management elevations to reflect current and future infrastructure and land use conditions. However, there are a variety of other uses of the BCWMC Phase 2 XPSWMM model, such as assessing the capacity of the existing and proposed storm sewer systems, identifying localized flooding issues in the watershed, verifying and designing outlet and storm sewer modifications, and estimating various flow regimes for stream stabilization and restoration analysis and design projects. Section 1.2.1 further discusses other potential uses of the Phase 2 XPSWMM model, and Section 1.2.2 outlines the model structure and organization. Additionally, the BCWMC may update the XPSWMM model annually to include projects built within the nine member cities.

The BCWMC Phase 2 XPSWMM model was calibrated at flow/elevation monitoring gages at various points within the watershed, including two locations upstream of Medicine Lake (Parkers Lake storm sewer inflow and on Plymouth Creek), two locations on the Main Stem of Bassett Creek (Wisconsin Avenue control structure and the WOMP station), and one location on the North Branch of Bassett Creek (Douglas Drive). Calibration was performed for both a small precipitation event and a large precipitation event. Once calibrated, the model was run for a third validation event that was a precipitation depth

between the small and large event. To evaluate the calibration and validation results, we used several parameters to compare the Phase 2 XPSWMM model performance with the monitoring data. These parameters include the percent error in peak flow and/or peak elevation/flow depth, percent error in volume (if flow monitoring data was available), and the Nash-Sutcliffe efficiency index. The calculated Nash-Sutcliffe efficiency indices and the percent error statistics indicate a good fit for both the small and large calibration events as well as the validation events for the various monitoring stations in the watershed. Also, review of the calibration plots indicate that the XPSWMM model results are closely matching the monitoring data magnitudes and hydrograph shapes for the various storm events. Additional discussion related to the modeling methodology and calibration results can be found in Sections 2.0 and 3.0, respectively, in the report.

The historic 100-year flood elevations reported in the current BCWMC *Watershed Management Plan* were based on the *Technical Paper 40* (TP40) precipitation data which was equivalent to a storm event with 6.0 inches of precipitation falling within a 24-hour period. In 2013, the precipitation depths outlined in the *Atlas 14 Precipitation Frequency Atlas of the United States* (Atlas 14), Volume 8 replaced the TP40 design storm events; the new 100-year (1% chance) storm event is 7.42 inches of precipitation falling within a 24-hour period (~25% increase in the design storm precipitation depth). The final, calibrated XPSWMM model was used to evaluate the Atlas 14 100-year (1% chance) design storm event.

Table 3-7 summarizes the flood elevations and peaks discharges as summarized in the BCWMC Watershed Management Plan, the corresponding flood elevations and peak discharges as estimated by the Phase 2 XPSWMM model, and the difference between the data sources. Figure 3-16 through Figure 3-19 show the expected extents of inundation based on the peak flood elevations from BCWMC Phase 2 XPSWMM model for the Atlas 14 100-year as applied to the 2011 MnDNR LiDAR elevation data. The inundation mapping was developed using a level pool mapping methodology, based on the modeled peak flood elevation for each subwatershed and the MnDNR LiDAR elevation data. This method is more accurate for lakes, wetlands, and ponds, whereas the inundation extents shown along Plymouth Creek, North Branch Bassett Creek, and Bassett Creek Main Stem are approximate. To more accurately determine the flood inundation along the creeks, the elevations summarized in Table 3-7 should be used.

In general, it would be expected that evaluating the Atlas 14 design storm event across the Bassett Creek watershed would result in increases of the peak flood elevations and discharge rates throughout the watershed due to the larger magnitude of the design storm precipitation depth. However, the Phase 2 XPSWMM model also incorporated significantly more detail, including the refined subwatersheds, the storage available in all of the ponds and wetlands throughout the watershed, and the incorporation of storm sewer systems connecting the ponds and wetlands, compared to the previous modeling efforts for the watershed. As a result, the estimated peak flood elevations and discharge rates for the Atlas 14 design storm event are higher than the values included in the BCWMC Watershed Management Plan in some locations, while in other locations in the watershed, a slight decrease in the peak flood elevations are observed.

---

The following are some general observations regarding the changes in the 100-year flood elevations and flows from the BCWMC Watershed Management Plan to the Phase 2 XPSWMM modeling (organized by location in the watershed):

### ***Bassett Creek Main Stem***

- Flood elevations upstream of the New Tunnel inlet increased significantly (approximately 3.7 ft), as well as along the channel to the Cedar Lake Road Bridge (0.5-2.6 ft increase).
- Flood elevations generally increased upstream of the Freun Mill Dam to Noble Lane, with flood elevations between Golden Valley Road and Noble Lane increasing significantly (2.4 to 4.4 feet)
- Flood elevations near Highway 100 and the confluence with the North Branch of Bassett Creek rose significantly (1.5 to 2.7 feet).
- Flood elevations between Duluth Street and the Golden Valley Country Club increased moderately (between 0.4 and 1.5 feet).
- Flood elevations between the Golden Valley Country Club control structure and Wisconsin Avenue increased significantly (2.0 to 2.5 feet). Flood elevations near Hampshire Avenue increased between 0.5 and 1.0 feet.
- Flood elevations upstream of Wisconsin Avenue, including the Brookview Golf Course, to Medicine Lake are similar to, but slightly lower than, the Bassett Plan water surface elevations (-0.2 to -1.2 feet).

### ***North Branch of Bassett Creek***

- Flood elevations between Highway 100 through Bassett Creek Park Pond Park increased significantly (1.8 to 2.3 feet).
- Flows between Brunswick Avenue and 32nd Avenue decreased.
- Flood elevations upstream of the Edgewood Embankment and especially upstream of Winnetka Pond East increased significantly (2.0 to 3.4 feet)
- The flood elevation of Northwood Lake increased by 1.7 feet.

### ***Sweeney Branch***

- Flood elevations between the upstream side of Highway 100 to the Ravine Storage Area increased substantially (0.5 to 6.3 feet).
- The flood elevation of Sweeney and Twin Lakes increased by 0.4 feet.

### ***Plymouth Creek/Medicine Lake***

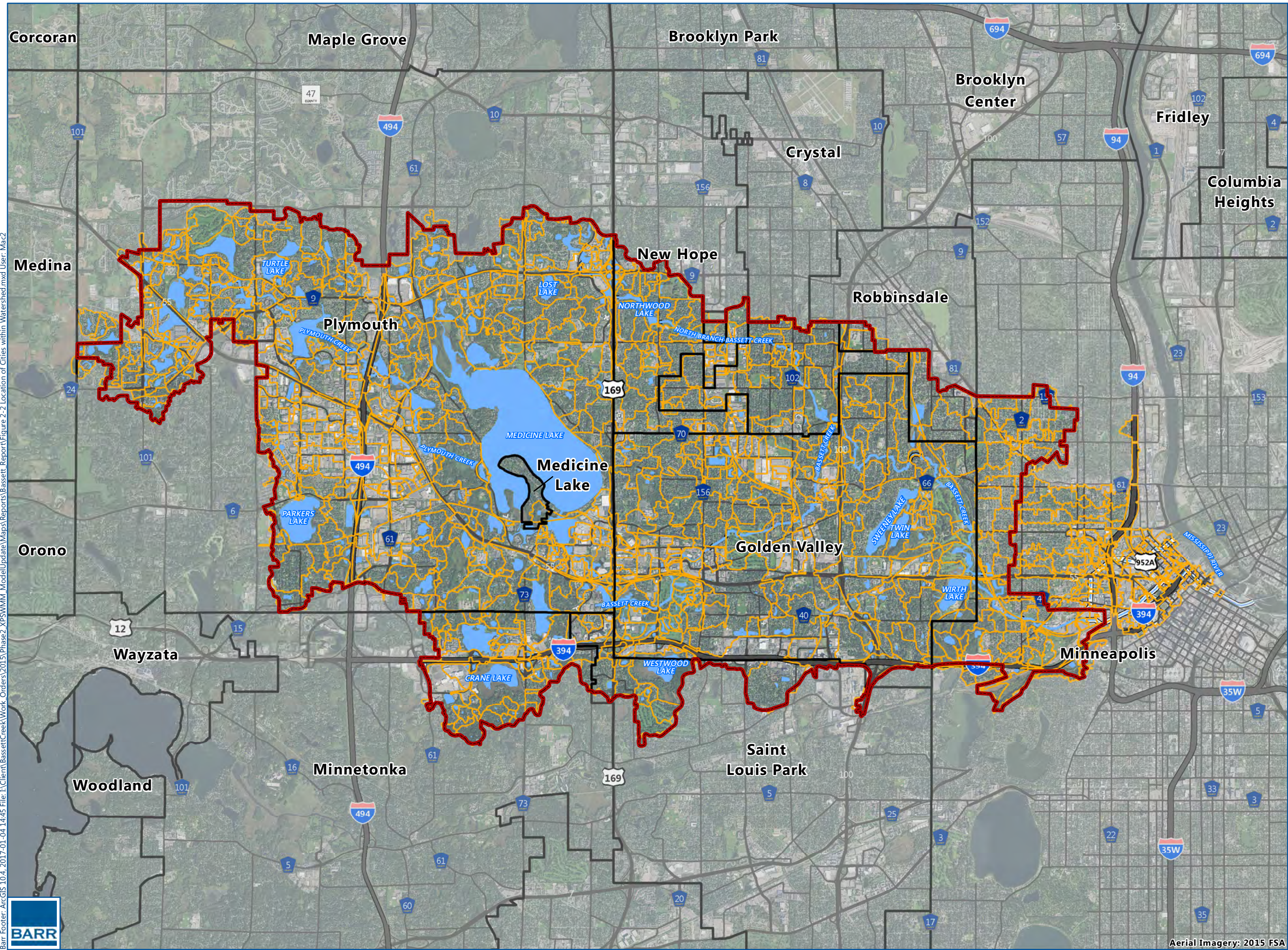
- Flood elevations in the Dunkirk flood storage area increased substantially (3.1 to 5.4 feet).
- Flood elevations upstream of County Road 9 (Rockford Road) decreased substantially (-4.1 feet).
- The flood elevation of Medicine Lake decreased slightly (-0.2 feet).
- The Crane Lake flood elevation decreased by 0.5 feet.

Based on a review of the inundation mapping, the LiDAR data, and aerial photos, the new flood elevations and inundation mapping indicate several structures are potentially at-risk of flooding during the Atlas 14

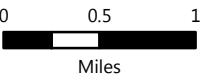
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100-year design storm event. Some of the potentially at-risk structures are located along the Bassett Creek Main Stem; however, other potentially at-risk properties are located in upstream portions of the watershed. Topographic surveys of these structures are needed to confirm if these structures are at-risk of flooding.

Barr Footer: ArcGIS 10.4, 2017-01-04 14:45 File: I:\Client\BassettCreek\Work Orders\2015\Phase2\_XPSWMM\_ModelUpdate\Maps\Reports\Bassett\_Report\Figure 2-2\_Location of Cities within Watershed.mxd User: Mac2



- Subwatersheds
- City Boundaries
- Legal Boundary

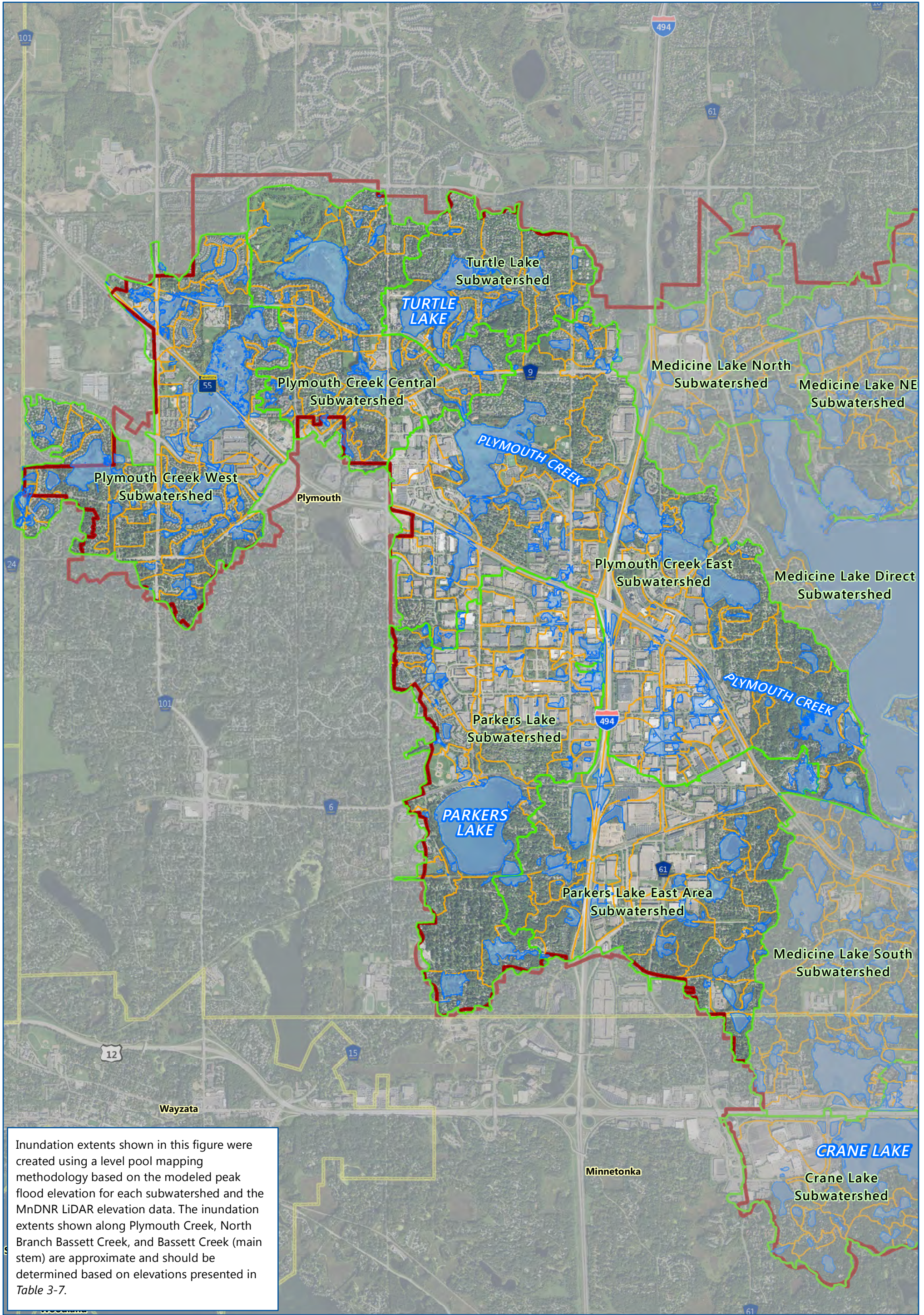


LOCATION OF CITIES WITHIN WATERSHED  
XPSWMM Phase 2 Model  
BCWMC






FIGURE 2-2


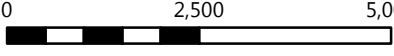


Aerial Imagery: 2015 FSA

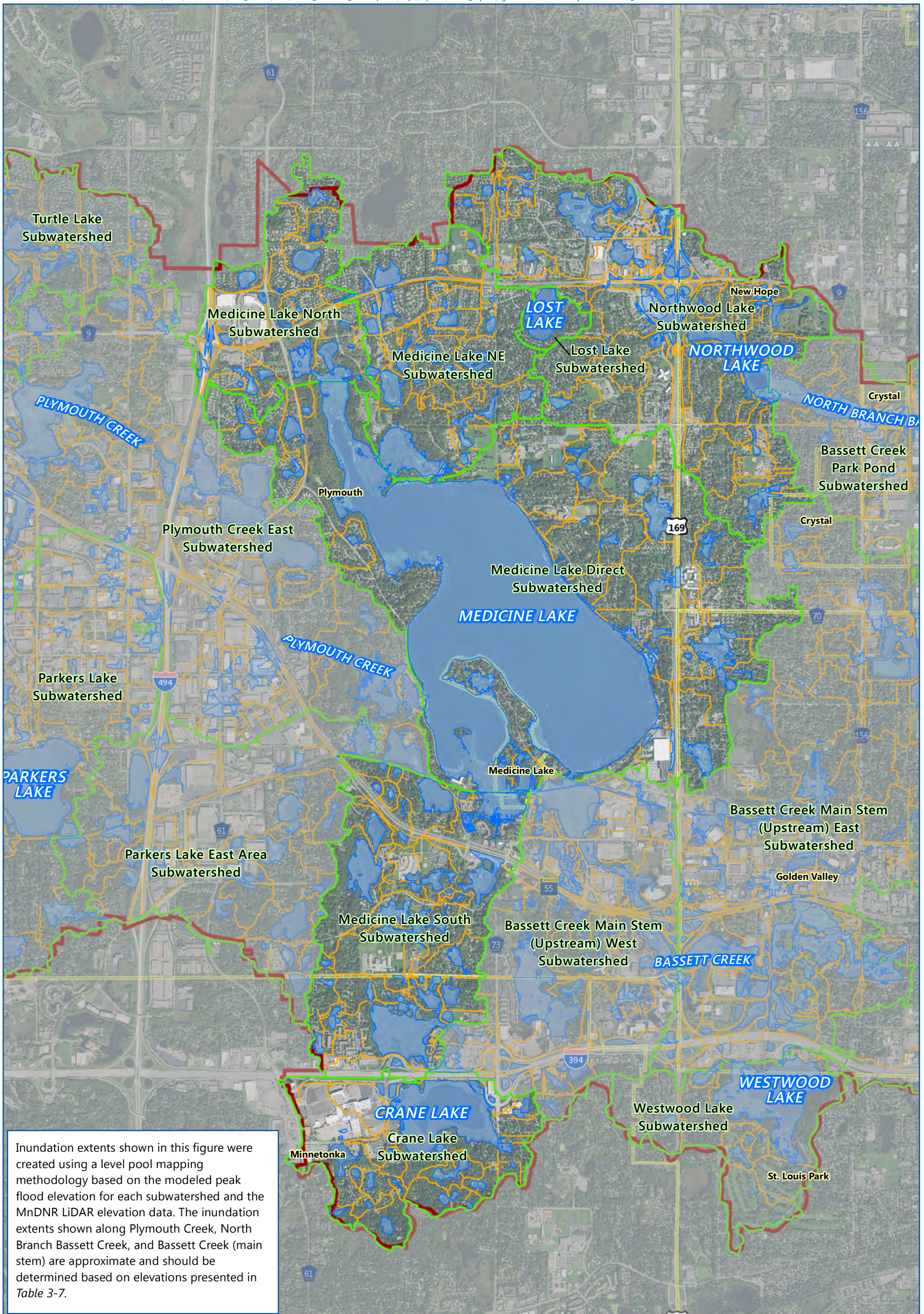


Inundation extents shown in this figure were created using a level pool mapping methodology based on the modeled peak flood elevation for each subwatershed and the MnDNR LiDAR elevation data. The inundation extents shown along Plymouth Creek, North Branch Bassett Creek, and Bassett Creek (main stem) are approximate and should be determined based on elevations presented in Table 3-7.

-  Atlas 14 100yr Inundation Extents
-  Subwatersheds
-  Major Subwatersheds
-  Legal Boundary
-  City Boundaries







  

  
 Feet

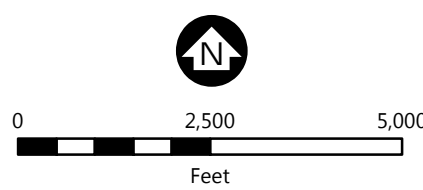
**PLYMOUTH CREEK, TURTLE LAKE AND PARKERS LAKE SUBWATERSHEDS ATLAS 14 100-YEAR INUNDATION EXTENTS**  
 Bassett Creek Water Management Commission  
**FIGURE 3-16**



Inundation extents shown in this figure were created using a level pool mapping methodology based on the modeled peak flood elevation for each subwatershed and the MnDNR LiDAR elevation data. The inundation extents shown along Plymouth Creek, North Branch Bassett Creek, and Bassett Creek (main stem) are approximate and should be determined based on elevations presented in Table 3-7.



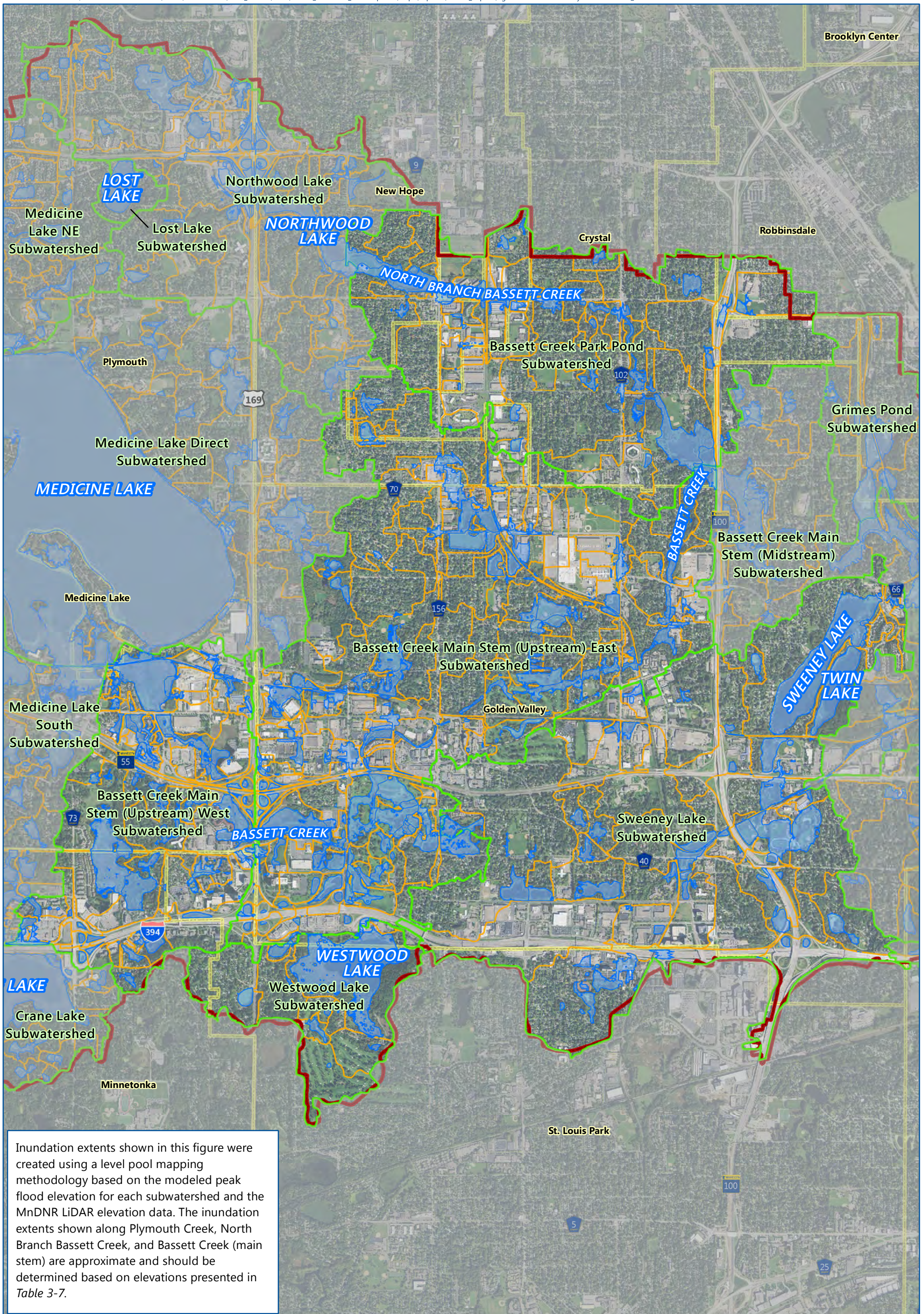
-  Atlas 14 100yr Inundation Extents
-  Subwatersheds
-  Major Subwatersheds
-  Legal Boundary
-  City Boundaries








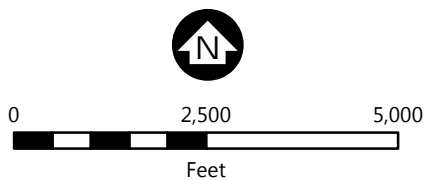
LOST LAKE, NORTHWOOD LAKE, CRANE LAKE,  
AND MEDICINE LAKE SUBWATERSHEDS  
ATLAS 14 100-YEAR INUNDATION EXTENTS  
Bassett Creek Water  
Management Commission

FIGURE 3-17

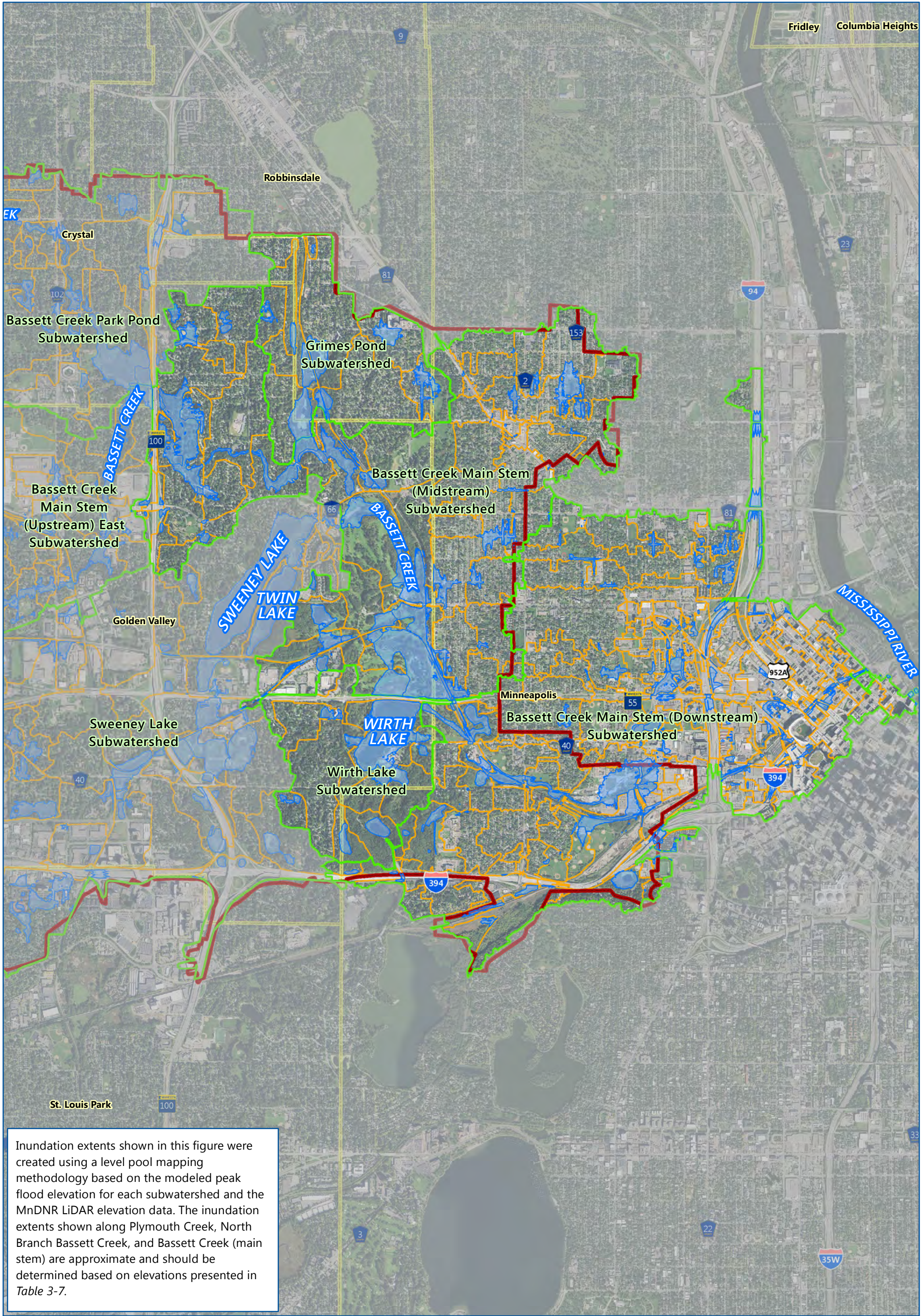





-  Atlas 14 100yr Inundation Extents
-  Subwatersheds
-  Major Subwatersheds
-  Legal Boundary
-  City Boundaries










**BASSETT CREEK MAIN STEM (UPSTREAM), WESTWOOD LAKE, BASSETT CREEK PARK POND, AND SWEENEY LAKE ATLAS 14 100-YEAR INUNDATION EXTENTS**  
 Bassett Creek Water Management Commission  
**FIGURE 3-18**



Inundation extents shown in this figure were created using a level pool mapping methodology based on the modeled peak flood elevation for each subwatershed and the MnDNR LiDAR elevation data. The inundation extents shown along Plymouth Creek, North Branch Bassett Creek, and Bassett Creek (main stem) are approximate and should be determined based on elevations presented in Table 3-7.



-  Atlas 14 100yr Inundation Extents
-  Subwatersheds
-  Major Subwatersheds
-  Legal Boundary
-  City Boundaries

0                      2,500                      5,000  
Feet

**GRIMES POND, NORTH AND SOUTH RICE PONDS, BASSETT CREEK MAIN STEM (DOWNSTREAM), AND WIRTH LAKE SUBWATERSHEDS ATLAS 14 100-YEAR INUNDATION EXTENTS**  
 Bassett Creek Water Management Commission  
**FIGURE 3-19**

**DRAFT****Table 3-7 Comparison of BCWMC Watershed Management Plan to the Phase 2 XPSWMM Model - Flood Elevations and Peak Discharges**

Location	Creek Distance above the Mississippi River (feet)	Normal Water Level (NAVD88)	BCWMC Watershed Management Plan <sup>1</sup>		BCWMC Phase 2 XP-SWMM Model - Atlas 14		Change in Flood Elevations and Flow Rates	
			100-yr		100-yr		XPSWMM - Plan	
			Flood Elevation	Flow Rate	Flood Elevation	Flow Rate	Flood Elevation	Flow Rate
			(NAVD88 feet)	(cfs)	(NAVD88 feet)	(cfs)	(feet)	(cfs)
<b>BASSETT CREEK MAIN STEM</b>								
Tunnel Inlet	8,000		807.3	1,220	811.0	1,370	3.7	150
Irving Avenue Bridge (DS)	9,800		808.6	1,135	811.2	1,370	2.6	235
Irving Avenue Bridge (US)	---		809.3	1,135	811.3	1,400	2.0	265
Cedar Lake Rd (Bridge)	10,900		812.9	945	813.4	1,400	0.5	455
MN&S RR Bridge	11,600		814.8	945	813.8	1,400	-1.0	455
Old Penn Ave Bridge (DS)	12,410		814.9	705	814.5	1,400	-0.4	695
Old Penn Ave Bridge (US)	---		815.2	705	814.6	1,400	-0.6	695
BN RR Bridge	12,670		815.3	705	814.5	1,400	-0.8	695
MN&S RR Bridge (DS)	13,930		816.2	465	815.7	1,400	-0.5	935
MN&S RR Bridge (US)	---		816.4	465	815.8	1,400	-0.6	935
Fruen Mill Dam (DS)	14,150		816.5	510	817.2	1,400	0.7	890
Fruen Mill Dam (US)	---		818.2	510	819.8	1,400	1.7	890
Glenwood Ave	14,855		820.3	680	822.2	1,310	1.9	630
Hwy 55 (DS)	16,500		821.7	680	823.4	1,160	1.7	480
Hwy 55 (US)	---		826.2	680	826.9	1,530	0.7	850
Golf Cart Bridge	---		826.2	680	826.9	1,560	0.7	880
MN&S RR Bridge	18,700		826.2	945	826.9	1,560	0.7	615
Plymouth Ave Bridge	19,500		826.2	680	827.0	1,590	0.8	910
Wirth Parkway (DS)	20,480		826.2	1,570	827.0	1,490	0.8	-80
Wirth Parkway (US) Bridge	---		826.5	1,570	827.0	1,490	0.5	-80
Confluence w/ Sweeney Lake Branch	22,000		827.2	----	827.4	1,510	0.3	---
Golden Valley Road (DS)	23,800		827.4	790	828.3	1,400	0.9	610
Golden Valley Road (US)	23,800		830.2	680	834.0	1,400	3.9	720
Dresden Lane (DS)	25,900		830.5	680	834.3	1,400	3.8	720
Dresden Lane (US)	---		831.6	680	834.3	1,400	2.7	720
Bassett Creek Drive (DS)	---		832.2	665	834.6	1,350	2.4	685
Bassett Creek Drive (US)	---		832.9	665	837.3	1,350	4.4	685
Noble Lane (DS)	29,200		839.7	660	838.8	1,380	-0.8	720
Noble Lane (US)	---		839.7	660	839.9	1,360	0.2	700
Regent Avenue (DS)	30,800		---	660	---	1,360	---	700
Regent Avenue (US)	---		842.1	660	843.9	1,330	1.8	670
Minnaqua Avenue	31,650		842.7	---	844.2	1,320	1.5	---
Highway 100 (DS)	34,020		843.4	770	845.0	1,340	1.6	570
Highway 100 (US)	34,020		849.2	610	851.5	1,100 <sup>2</sup>	2.3	490
DS Confluence N. Branch	34,400		849.2	495	851.5	1,100	2.3	605
Westbrook Road (DS)	37,000		857.3	940	859.1	890	1.8	-50
Westbrook Road (US)	---		858.3	940	861.0	890	2.7	-50

**DRAFT****Table 3-7 Comparison of BCWMC Watershed Management Plan to the Phase 2 XPSWMM Model - Flood Elevations and Peak Discharges**

Location	Creek Distance above the Mississippi River (feet)	Normal Water Level (NAVD88)	BCWMC Watershed Management Plan <sup>1</sup>		BCWMC Phase 2 XP-SWMM Model - Atlas 14		Change in Flood Elevations and Flow Rates	
			100-yr		100-yr		XPSWMM - Plan	
			Flood Elevation	Flow Rate	Flood Elevation	Flow Rate	Flood Elevation	Flow Rate
			(NAVD88 feet)	(cfs)	(NAVD88 feet)	(cfs)	(feet)	(cfs)
Duluth Street (DS)	38,400		861.5	850	862.0	870	0.5	20
Duluth Street (US)	---		862.0	850	862.7	850	0.7	0
St. Croix Avenue (DS)	39,800		863.2	850	864.6	850	1.4	0
St. Croix Avenue (US)	---		864.3	850	864.7	820	0.4	-30
MN&S RR (DS)	41,660		869.7	760	870.4	720	0.7	-40
MN&S RR (US)	---		869.7	760	870.6	710	0.9	-50
Douglas Drive (DS)	42,130		870.4	670	871.0	710	0.7	40
Douglas Drive (US)	---		871.2	670	871.9	710	0.7	40
Florida Avenue (DS)	42,820		871.8	670	872.7	710	0.9	40
Florida Avenue (US)	---		872.5	670	873.1	710	0.6	40
Hampshire Ave (DS)	43,410		872.7	630	873.4	710	0.7	80
Hampshire Ave (US)	---		873.2	630	874.0	680	0.9	50
GV Country Club (DS)	44,320		874.6	365	876.1	670	1.5	305
GV Country Club (US)	---		878.6	405	880.7	670	2.1	265
Pennsylvania Avenue (DS)	46,500		879.5	380	881.7	670	2.2	290
Pennsylvania Avenue(US)	---		880.7	375	883.1	570	2.4	195
C&NW RR (DS)	47,200		881.9	375	884.4	590	2.5	215
C&NW RR (US)	---		883.1	375	884.9	470	1.8	95
Winnetka Ave (DS)	48,000		883.5	360	885.0	450	1.5	90
Winnetka Ave (US)	---		883.7	360	885.3	440	1.6	80
Wisconsin Ave (DS)	49,750		884.9	360	886.0	440	1.1	80
Wisconsin Ave (US)	50,100		888.2	340	887.7	360	-0.5	20
Golden Valley Road (DS)	---		888.2	290	887.8	330	-0.4	40
Golden Valley Road (US)	---		888.2	290	887.8	330	-0.4	40
Westbound Hwy 55 (DS)	51,250		888.2	290	887.8	330	-0.4	40
Eastbound Hwy 55 (US)	---		888.3	290	887.8	400	-0.4	110
Boone Ave (DS)	---		888.4	280	887.9	320	-0.5	40
Boone Ave (US)	---		888.5	280	888.0	220	-0.5	-60
Hwy 169 (DS)	56,500		888.6	255	888.3	300	-0.2	45
Hwy 169 (US)	---		888.7	250	888.4	240	-0.3	-10
Hwy 55 Ramp (DS)	58,300		888.7	235	888.4	210	-0.3	-25
Hwy 55 Ramp (US)	---		888.7	235	888.4	210	-0.2	-25
Hwy 55 Eastbound (DS)	58,500		888.7	235	888.4	210	-0.2	-25
Hwy 55 Eastbound (US)	---		888.7	235	888.5	210	-0.2	-25
Hwy 55 Westbound (DS)	---		888.7	235	888.5	210	-0.2	-25
Hwy 55 Westbound (US)	---		889.0	235	888.5	210	-0.5	-25
Hwy 169 ramp to W 55 (DS)	58,750		889.0	235	888.5	210	-0.5	-25
Hwy 169 ramp to W 55 (US)	---		889.0	235	888.5	210	-0.5	-25
Hwy 55 N Frontage Rd (DS)	58,850		889.2	235	888.5	210	-0.7	-25

**DRAFT****Table 3-7 Comparison of BCWMC Watershed Management Plan to the Phase 2 XPSWMM Model - Flood Elevations and Peak Discharges**

Location	Creek Distance above the Mississippi River (feet)	Normal Water Level (NAVD88)	BCWMC Watershed Management Plan <sup>1</sup>		BCWMC Phase 2 XP-SWMM Model - Atlas 14		Change in Flood Elevations and Flow Rates	
			100-yr		100-yr		XPSWMM - Plan	
			Flood Elevation	Flow Rate	Flood Elevation	Flow Rate	Flood Elevation	Flow Rate
			(NAVD88 feet)	(cfs)	(NAVD88 feet)	(cfs)	(feet)	(cfs)
Hwy 55 N Frontage Rd (US)	---		889.2	235	888.5	210	-0.7	-25
10th Ave (DS)	---		889.2	---	889.0	210	-0.2	---
10th Ave (US)	---		889.2	---	889.1	210 <sup>2</sup>	-0.1	---
C&NW RR Bridge (DS)	63,450		889.2	200	889.1	210 <sup>2</sup>	-0.1	10
C&NW RR Bridge (US)	---		889.6	200	889.1	210	-0.5	10
South Shore Drive (DS)	63,800		889.6	190	889.3	210	-0.3	20
South Shore Drive (US)	---		890.5	190	889.3	210 <sup>2</sup>	-1.2	20
Medicine Lake Weir (DS)	63,960		890.5	190	889.3	210	-1.2	20

**Inundation Areas**

Theodore Wirth Park (Area upstream of Highway 55 Control Structure)	---	815.7	826.2	---	826.9	---	0.7	---
South Rice Pond	---		831.7	---	834.5	---	2.8	---
North Rice Pond	---	832.5	838.2	---	836.4	---	-1.7	---
Grimes Avenue Pond	---	832.5	838.2	---	836.5	---	-1.7	---
Golden Valley Country Club	---		878.6	---	880.7	---	2.1	---
Brookview Golf Course	---		888.3	---	887.8	---	-0.4	---
Westwood Lake	---	887.6 <sup>3</sup>	889.2	---	890.0	---	0.8	---
Medicine Lake	---	887.9	890.5	---	890.3	---	-0.2	---

**NORTH BRANCH**

Hwy 100 Control (US)	---		849.2	610	851.5	1,100	2.3	490
Confluence w/Main Stem	---		849.2	---	851.5	1,800 <sup>2</sup>	2.3	---
29th Avenue (DS)	200		849.2	1,515	851.5	1,800 <sup>2</sup>	2.3	285
29th Avenue (US)	---		849.7	1,515	851.5	1,460 <sup>2</sup>	1.8	-55
32nd Avenue (DS)	2,600		849.8	1,175	852.2	1,460 <sup>2</sup>	2.4	285
32nd Avenue (US)	---		854.2	1,175	852.7	560 <sup>2</sup>	-1.5	-615
Brunswick Avenue (DS)	3,000		854.9	1,175	852.7	560 <sup>2</sup>	-2.2	-615
Brunswick Avenue (US)	---		856.1	1,175	856.7	510	0.6	-665
34th Culvert (DS)	4,200		863.0	700	865.4	520	2.4	-180
34th Culvert (US)	---		866.3	430	867.1	500	0.8	70
Douglas Drive (DS)	5,250		870.2	670	869.3	560 <sup>2</sup>	-0.8	-110
Douglas Drive (US)	---		870.3	670	870.4	350 <sup>2</sup>	0.1	-320
Edgewood Emb (DS)	5,600		870.9	430	871.0	350 <sup>2</sup>	0.1	-80
Edgewood Emb (US)	---		878.4	340	880.4	330	2.0	-10

**DRAFT**

**Table 3-7 Comparison of BCWMC Watershed Management Plan to the Phase 2 XPSWMM Model - Flood Elevations and Peak Discharges**

Location	Creek Distance above the Mississippi River (feet)	Normal Water Level (NAVD88)	BCWMC Watershed Management Plan <sup>1</sup>		BCWMC Phase 2 XP-SWMM Model - Atlas 14		Change in Flood Elevations and Flow Rates	
			100-yr		100-yr		XPSWMM - Plan	
			Flood Elevation	Flow Rate	Flood Elevation	Flow Rate	Flood Elevation	Flow Rate
			(NAVD88 feet)	(cfs)	(NAVD88 feet)	(cfs)	(feet)	(cfs)
Georgia Avenue (DS)	6,250		878.4	305	880.4	450	2.0	145
Georgia Avenue (US)	---		878.6	305	880.7	500 <sup>2</sup>	2.1	195
36th & Hampshire (DS)	6,800		878.6	260	880.7	460 <sup>2</sup>	2.1	200
36th & Hampshire (US)	6,980		879.2	260	881.2	290 <sup>2</sup>	2.0	30
Louisiana Ave. (DS) (Street Elevation Approx. 882.4)	8,000		881.2	---	883.3	500 <sup>2</sup>	2.1	---
Maryland Ave. (Street Elevation Approx. 885.7)	8,500		---	---	886.0	270 <sup>2</sup>	---	---
Oregon Ave. (Street Elevation Approx. 885.4)	9,000		---	---	888.9	90 <sup>2</sup>	---	---
MN & S RR (Street Elevation Approx. 889.1)	9,300		---	---	889.8	90 <sup>2</sup>	---	---
Inlet of 42" CMP (East Winnetka Pond)	9,500		888.2	---	891.0	100 <sup>2</sup>	2.8	---
Service Road (West Winnetka Pond)	10,000		888.2	---	891.2	190 <sup>2</sup>	3.1	---
Winnetka Ave. (DS)	10,600		888.2	---	891.3	240 <sup>2</sup>	3.1	---
Winnetka Ave. (US)	---		889.2	---	891.4	280	2.2	---
Boone Ave. (DS)	13,500		889.5	---	891.4	680 <sup>2</sup>	1.9	---
Boone Ave. (US)	---		889.7	---	891.4	270 <sup>2</sup>	1.7	---
Northwood Lake	---		889.7	---	891.4	270 <sup>2</sup>	1.7	---
TH 169 (DS)	16,850		889.7	---	893.0	270 <sup>2</sup>	3.4	---
TH 169(US)	---		890.7	---	893.1	760 <sup>2</sup>	2.4	---
Rockford Road (DS)	18,350		890.7	---	893.1	760 <sup>2</sup>	2.4	---
Rockford Road (US)	---		898.7	---	901.4	20 <sup>2</sup>	2.8	---

<b>Inundation Areas</b>								
Bassett Creek Park	---	840.6	849.7	---	851.5	---	1.8	---
Edgewood Avenue Pond	---		878.4	---	880.4	---	2.0	---
Winnetka Pond (DS of Winnetka Avenue)	---	879.8	888.2	---	891.0	---	2.8	---
Northwood Park	---		889.5	---	891.4	---	1.9	---
Northwood Lake	---	884.6	889.7	---	891.4	---	1.7	---

<b>SWEENEY LAKE BRANCH</b>								
Confluence w/Main Stem	---		827.2	---	827.4	1,510	0.3	---
France Ave extension (DS)	700		827.2	---	827.8	170 <sup>2</sup>	0.7	---
France Ave (US)	---		829.2	---	828.1	170 <sup>2</sup>	-1.0	---
Courage Center & Hidden Lakes Parkway (DS)	900		829.2	---	830.7	170	1.5	---
Courage Center & Hidden Lakes Parkway (US)	---		831.2	---	832.0	170	0.9	---

**DRAFT****Table 3-7 Comparison of BCWMC Watershed Management Plan to the Phase 2 XPSWMM Model - Flood Elevations and Peak Discharges**

Location	Creek Distance above the Mississippi River (feet)	Normal Water Level (NAVD88)	BCWMC Watershed Management Plan <sup>1</sup>		BCWMC Phase 2 XP-SWMM Model - Atlas 14		Change in Flood Elevations and Flow Rates	
			100-yr		100-yr		XPSWMM - Plan	
			Flood Elevation	Flow Rate	Flood Elevation	Flow Rate	Flood Elevation	Flow Rate
			(NAVD88 feet)	(cfs)	(NAVD88 feet)	(cfs)	(feet)	(cfs)
Precast Concrete Dam (DS)	1,700		831.7	---	832.0	170	0.4	---
Sweeney Lake	---		831.7	---	832.0	170	0.4	---
Union Pacific RR (DS)	6,800		831.7	---	832.0	410	0.4	---
Union Pacific RR (US)	---		835.8	311	836.4	480 <sup>2</sup>	0.6	169
Hwy 55 (DS)	8,150		835.8	680	836.9	870 <sup>2</sup>	1.1	190
Hwy 55 (US)	---		836.9	680	838.5	320 <sup>2</sup>	1.7	-360
MN & S RR (DS)	9,000		836.9	233	838.5	270	1.7	37
MN & S RR (US)	---		839.5	233	842.0	270	2.5	37
Breck Pond & Control Structure (US)	9,580		839.9	296	842.6	280 <sup>2</sup>	2.7	-16
TH 100 (DS) (Breck Pond)	10,400		839.9	298	842.6	450 <sup>2</sup>	2.7	152
TH 100 (US)	---		845.4	298	851.7	520 <sup>2</sup>	6.3	222
Turners Crossroad (US)	10,950		854.9	241	857.2	450 <sup>2</sup>	2.4	209
Glenwood Pond A	---		854.9	---	857.2	---	2.4	---
MN & S RR (DS)	11,550		854.9	233	857.2	450 <sup>2</sup>	2.4	217
MN & S RR (US)	---		855.0	233	857.3	450 <sup>2</sup>	2.3	217
Glenwood Pond B	---		855.0	---	857.3	---	2.3	---
Glenwood Ave (DS)	---		855.0	84	857.3	100 <sup>2</sup>	2.3	16
Glenwood Ave (US)	---		855.0	84	857.3	100	2.3	16
Duck Pond	---		855.0	---	857.3	---	2.3	---
MN & S RR (DS)	---		855.0	233	857.3	570 <sup>2</sup>	2.3	337
MN & S RR (US)	---		858.9	233	859.6	310 <sup>2</sup>	0.7	77
Ravine Storage Area	---		858.9	---	859.6	90 <sup>2</sup>	0.7	---
Courtawn Pond	---		873.1	---	873.6	120 <sup>2</sup>	0.5	---
East Ring Pond	---		879.0	---	879.4	190 <sup>2</sup>	0.5	---
78" RCP Equalizer	18,800		---	---	---	480 <sup>2</sup>	---	---
West Ring Pond	---		879.0	---	879.4	---	0.5	---
<b>Ravine Storage Area Overflow</b>								
Glenwood Pond B	---		855.0	---	857.3	---	2.3	---
MN & S RR (DS)	---		855.0	---	857.3	---	2.3	---
MN & S RR (US)	---		857.3	---	859.6	---	2.3	---
Glenwood Ave (DS)	---		855.0	---	857.3	---	2.3	---
Glenwood Ave (US)	---		855.0	---	857.3	---	2.3	---
<b>Inundation Areas</b>								
Sweeney Lake	---	827.2 <sup>4</sup>	831.7	---	832.0	---	0.4	---
Twin Lake	---	827.2 <sup>4</sup>	831.7	---	832.0	---	0.4	---

**DRAFT**

**Table 3-7 Comparison of BCWMC Watershed Management Plan to the Phase 2 XPSWMM Model - Flood Elevations and Peak Discharges**

Location	Creek Distance above the Mississippi River (feet)	Normal Water Level (NAVD88)	BCWMC Watershed Management Plan <sup>1</sup>		BCWMC Phase 2 XP-SWMM Model - Atlas 14		Change in Flood Elevations and Flow Rates	
			100-yr		100-yr		XPSWMM - Plan	
			Flood Elevation	Flow Rate	Flood Elevation	Flow Rate	Flood Elevation	Flow Rate
			(NAVD88 feet)	(cfs)	(NAVD88 feet)	(cfs)	(feet)	(cfs)
Breck Pond	---	831.6	839.9	---	842.6	---	2.7	---
Courtawn Pond	---	870.1	873.1	---	873.6	---	0.5	---
East Ring Pond	---	874.1	879.0	---	879.4	---	0.5	---
West Ring Pond	---	874.1	879.0	---	879.4	---	0.5	---
<b>MEDICINE LAKE BRANCH (PLYMOUTH CREEK)</b>								
West Medicine Lake Drive (DS)	10,450		890.5	---	890.7	300	0.2	---
West Medicine Lake Drive (US)	---		891.7	---	893.6	700 <sup>2</sup>	1.9	---
26th Avenue N. (DS)	16,500		925.2	---	924.4	230	-0.8	---
26th Avenue N. (US)	---		925.7	---	925.0	230	-0.7	---
28th Avenue N. Dike (DS)	---		928.2	---	929.9	230	1.7	---
28th Avenue N. Dike (US)	---		931.0	---	932.3	270 <sup>2</sup>	1.3	---
County Road 61 (DS)	---		931.0	---	932.3	270	1.3	---
County Road 61 (US)	---		931.4	---	933.9	230	2.5	---
Xenium Lane (DS)	20,850		931.4	---	933.9	440	2.6	---
Xenium Lane (US)	---		931.7	---	934.3	470 <sup>2</sup>	2.6	---
I-494 (DS)	22,500		935.2	---	938.1	440	2.9	---
I-494 (US)	---		938.7	---	939.0	410	0.3	---
Fernbrook Lane (DS)	25,000		947.2	---	946.6	260	-0.6	---
Fernbrook Lane (US)	---		948.2	---	946.7	260	-1.5	---
Central Park Pond Outlet Structure (DS)	---		949.2	---	949.7	260	0.5	---
Central Park Pond Outlet Structure (US)	---		953.2	---	954.8	690 <sup>2</sup>	1.6	---
37th Avenue	28,900		956.2	---	954.9	690 <sup>2</sup>	-1.3	---
County Road 9	30,450		959.2	---	955.0	400	-4.1	---
Vicksburg Lane (DS)	31,300		961.2	---	963.1	390	1.9	---
Vicksburg Lane (US)	---		962.2	---	963.8	290	1.6	---
Dunkirk Lane (DS)	---		979.2	---	979.4	80	0.2	---
Dunkirk Lane (US)	34,450		982.2	---	985.3	90	3.1	---
T.H. 55 (DS)	38,300		982.2	---	987.6	40	5.4	---
T.H. 55 (US)	---		982.7	---	987.6	---	4.9	---
<b>Inundation Areas</b>								
Xenium Lane	---		931.7	---	934.3	---	2.6	---
Central Park Pond	---	948.2	952.2	---	954.8	---	2.6	---
Turtle Lake	---	962.9 <sup>5</sup>	964.2	---	967.0	---	2.8	---
Rockford Road	---		968.2	---	968.5	---	0.3	---
Dunkirk Lane	---		982.2	---	982.2	---	0.1	---



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**Table 3-7 Comparison of BCWMC Watershed Management Plan to the Phase 2 XPSWMM Model - Flood Elevations and Peak Discharges**

Location	Creek Distance above the Mississippi River (feet)	Normal Water Level (NAVD88)	BCWMC Watershed Management Plan <sup>1</sup>		BCWMC Phase 2 XP-SWMM Model - Atlas 14		Change in Flood Elevations and Flow Rates	
			100-yr		100-yr		XPSWMM - Plan	
			Flood Elevation	Flow Rate	Flood Elevation	Flow Rate	Flood Elevation	Flow Rate
			(NAVD88 feet)	(cfs)	(NAVD88 feet)	(cfs)	(feet)	(cfs)
Oak Knoll Pond	---	914.4	917.3	---	918.5	---	1.2	---
Crane Lake	---	917.3	920.7	---	920.2	---	-0.5	---

**Notes**

<sup>1</sup>Historical reporting for the Bassett Plan were presented in NGVD29 (NAVD88=NGVD29+0.18ft)

<sup>2</sup>Multiple inflows to node. The reported peak inflow reflects the sum all inflow peaks.

<sup>3</sup>Barr study surveyed outlet of Westwood Lake and found the outlet ditch has filled with sediment to elevation 887.6ft. The outlet pipe invert elevation (historical normal water level) is at 886.18ft



## Bassett Creek Watershed Management Commission

### MEMO

To: Bassett Creek Watershed Management Commissioners  
From: BCWMC Technical Advisory Committee  
Date: January 11 2017

**RE: TAC Recommendations – 11/28/16 TAC Meeting**

The BCWMC Technical Advisory Committee met on November 28<sup>th</sup> and discussed a variety of topics. They forward the following recommendations for the Commission's consideration.

TAC Members and Others at 11/28/16 TAC Meeting:

Liz Stout, Minneapolis	Mark Ray, Crystal
Jeff Oliver, Golden Valley	Susan Wiese, Medicine Lake
Erick Francis, St. Louis Park	Tom Dietrich, Minnetonka
Richard McCoy, Robbinsdale	Rachael Crabb, MPRB
Megan Albert, New Hope	Laura Jester, Administrator
Chris Long, New Hope	Karen Chandler, Engineer
Bob Paschke, New Hope	

#### 1. MIDS in Linear Projects

Background:

In 2015, the BCWMC adopted the MPCA's Minimal Impact Design Standards (MIDS) for development and redevelopment projects. These standards require storm water infiltration and/or other pollution reduction requirements for development/redevelopment projects and linear projects, (see below for BCWMC MIDS requirements). Since adoption of MIDS, member cities with local street reconstruction projects have indicated that poor draining soils, high groundwater, limited right-of-way, utilities, contamination, and other issues make meeting MIDS linear project requirements very difficult.

Current BCWMC Requirement:

Linear projects on sites without restrictions that create more than one acre of new and/or fully reconstructed impervious surface must meet the MIDS performance goal for linear projects. Mill and overlay and other resurfacing activities are not considered fully reconstructed impervious surfaces. Sites with restrictions may follow the flexible treatment options approach. Site restrictions include those factors listed in the MIDS flexible treatment options, which include but are not limited to: shallow depth to bedrock, contaminated soils, shallow groundwater, tight clay soils, existing site constraints or zoning requirements

MIDS performance goal:

Linear projects on sites without restrictions that create one acre or greater of new and/or fully reconstructed impervious surfaces, shall capture and retain the larger of the following:

- 0.55 inches of runoff from the new and fully reconstructed impervious surfaces
- 1.1 inches of runoff from the net increase in impervious area

Mill and overlay and other resurfacing activities are not considered fully reconstructed impervious surfaces. [Section 6.3 of the 2015 Requirements for Improvements and Development Proposals document outlines the flexible treatment options approach.]

Alternatives Considered by TAC – May and November 2016:

At their meeting in May, the TAC heard about MIDS implementation in linear projects from Paige Ahlborg, Watershed Project Manager with Ramsey-Washington Metro Watershed District and Steve Love, Assistant City Engineer with the City of Maplewood. Presenters described how the watershed district uses credits, deferred treatments, and cost caps to help project proposers meet requirements and presented examples of ways Maplewood meets requirements. (You can view their presentations [here.](#))

In November, the TAC continued its discussion and reviewed how other organizations implement storm water management requirements in linear projects including:

1. Shingle Creek WMO Rule D(2)(b)

Linear projects that create one acre or more of new impervious surface must meet all Commission requirements (rate, quality, volume) for the net new impervious surface. [Shingle Creek WMO’s abstraction standard is one inch. Other details can be found on page 12 of their requirements document [here.](#)]

2. Public Linear Reconstruction – Revisions Adopted December 2016 by Rice Creek Watershed District

The District recently revised subsection C.6 so that public road authorities and other public permittees no longer must provide water quality treatment for surface area of existing hard surface that is reconstructed as a part of a Public Linear Project. Only runoff from new impervious areas must meet water quality treatment requirements.

*Background: Under the previous rule, the area that required treatment for water quality (by infiltrating 0.75 inches) included both new linear hard surface and the area of existing hard surface that is reconstructed (“Reconstruction” is defined as “removal of an impervious surface such that the underlying structural aggregate base is effectively removed and the underlying native soil exposed.”) Historically, water quality practices to meet the requirement for public linear reconstruction projects have been challenging to construct principally because unlike for new roadway construction, road reconstruction works within existing right-of-way that rarely affords sufficient space, grades or soil conditions for effective new water quality practices. The process to identify and design practices, and District engineering oversight and review of this process, tended to be expensive and resulted in compromised water quality outcomes. The rule change reflects a pragmatic judgment by the District that water quality outcomes from treating reconstructed hard surface in aggregate are quite limited, and that the public funds spent to generate these outcomes can be used for more effective water resource outcomes if directed differently.*

3. Contributions to storm water impact fund - Ramsey-Washington Metro WD  
As a last alternative, for any remaining volume reduction that cannot be met through alternate sequencing (similar to MIDS' flexible treatment options), the applicant shall pay into the District's Stormwater Impact Fund to cover the cost of implementing equivalent volume reduction elsewhere in the watershed. The required amount to contribute to the Stormwater Impact Fund shall be set by the Board annually.
4. Banking excess volume reductions from other projects – Ramsey-Washington Metro WD  
Volume reduction provided in excess of the 1.1-inch requirement may be banked for use on another project.
5. Cost caps – Ramsey-Washington Metro WD  
For linear projects, costs specific to satisfying the volume reduction and water quality standards shall not exceed a cost cap which will be set by the Board annually (2015 & 2016 = \$30,000/impervious acre). The cap shall apply to costs directly associated with the design, testing, land acquisition, and construction of the volume reduction and water quality stormwater BMPs only. [Note, the RWMWD requires 1.1 inches of infiltration from impervious surfaces, including in linear projects, which is twice the MIDS requirements for linear projects.]

TAC Discussion and Recommendation – November 2016:

In discussing the options above, the following points were made by the TAC –

- Road reconstruction is different from redevelopment; redevelopment is a genuine opportunity to improve conditions while road reconstruction is maintenance of existing public infrastructure with limited space and often with existing underground utilities.
- 2004 – 2014 BCWMC storm water management requirements required that a “good faith effort” be made to improve conditions during road projects (see excerpt from previous rules below). Cities often did improve conditions during road projects.

## **4.6 Road Projects**

BMPs must be considered to improve the quality of stormwater runoff from *road construction and reconstruction* projects. The most desirable BMP reduces pollutants to the maximum extent practicable and reduces runoff. The BCWMC realizes that existing development and right-of-way constraints will limit the type of BMPs that can be implemented. At a minimum, temporary measures will be required to address erosion and sediment control during construction. The BCWMC will work with the project applicant to assist with determining the appropriate temporary and permanent BMPs to implement for the project. The project applicant must submit a description of the evaluation process used to identify feasible BMPs to be implemented on the project.

- Golden Valley has long history of reducing impervious surfaces and adding best management practices where possible.
- Increased street sweeping in priority areas should be considered as implementation of a best management practice with credit given.
- A credit banking system (such as in #4 above) is not desirable because developers may argue for the same system or to use credits.
- Golden Valley spent millions to address sanitary sewer inflow and infiltration issues in the city and cannot support infiltration in the right-of-way of linear projects due to the nearby presence of sanitary sewer pipes.

**TAC Recommendation:** The TAC recommends that the Commission revise their storm water management requirements for linear projects to:

- a) revise the BCWMC requirement for reconstruction of existing linear impervious surfaces; and
- b) replace with language similar to the previous BCWMC requirements indicating that road authorities must demonstrate a “good faith effort” to improve conditions during linear construction/reconstruction projects.

The TAC further recommends that MIDS requirements remain for linear projects that create more than one acre of NEW impervious surfaces.

## 2. Shoreland and Habitat Monitoring

The 2015 BCWMC Watershed Plan includes policy 78 regarding consideration of a shoreland habitat monitoring program (see below).

*78. The BCWMC will consider developing and implementing a shoreland habitat monitoring program for its Priority 1 lakes to monitor biological and physical indicators and to recommend management actions (to cities or for the Commission’s consideration) based upon monitoring results. If implemented, monitoring may include assessment of upland and aquatic vegetation, buffer zones, erosion, sedimentation, and the presence of non-native invasive species.*

Staff noted that a habitat monitoring program would provide baseline and ongoing information regarding the habitat quality of the water bodies and a method for detecting change. It would also be used to assess progress towards achieving the BCWMC goal to “protect and enhance fish and wildlife habitat in the BCWMC.” Staff presented the TAC with information on a similar monitoring program in the Black Dog watershed, and reviewed excerpts from a [report](#) generated by that program.

Staff with two cities in the Black Dog WMO (Burnsville and Lakeville) provided their insights on the program (via email to the BCWMC Administrator). Daryl Jacobson with the City of Burnsville noted he uses the data to identify projects that can be done around the lakes. He also noted the program provides data that can be tracked over time to see if conditions are improving, getting worse or staying the same. Ann Messerschmidt with the City of Lakeville indicated the data are useful for monitoring trends and for positioning the city to be proactive in responding to adverse conditions and problems.

The TAC briefly discussed the potential for a shoreland and habitat monitoring program but noted that in most instances, city staff or park district staff already monitor or can easily monitor these

parameters and keep track of conditions along shorelines. It was also noted that data on aquatic plants (useful in determining shoreline habitats) are already collected through the current BCWMC lake monitoring program. BCWMC staff also noted that recommendations from the BCWMC Aquatic Plant Management/Aquatic Invasive Species Committee may include expanded habitat or plant monitoring.

**Recommendation:** The TAC recommends that the BCWMC not develop and implement a shoreland and habitat monitoring program at this time.

### **3. Formalizing Activity to Help Cities Meet Public Education Requirements in Stormwater Permit**

Staff noted that the MPCA has indicated that a formal agreement/arrangement between a city and a watershed organization is needed for the city to officially take credit in their MS4 permit report for educational activities performed by the watershed. The TAC briefly reviewed and discussed a draft letter of understanding.

**Recommendation:** The TAC recommends that the Administrator annually provide a list of educational activities and a letter of understanding (attached on page 6) such that cities can formally take credit for these activities in their MS4 permit reports.

### **4. Proposed Cost Sharing Policy for Regulatory Credit**

At their meeting on November 16, 2016 the Commission considered a [draft policy](#) regarding cost sharing of CIP projects and asked for TAC review. The TAC considered the draft policy presented by staff and indicated that no such policy is needed as the scenario that precipitated an apparent need for a policy is not likely to be presented in the future.

**Recommendation:** The TAC recommends that the Commission not adopt a CIP cost sharing policy.

[NOTE: The BCWMC Administrative Services Committee considered this TAC recommendation at their meeting on December 5, 2016. Despite the TAC recommendation, the Committee (and staff) recommended adoption of a revised CIP cost share policy to be incorporated into the overall BCWMC Policy Document. The Commission approved the [revised policy](#) (3.2.2 Subd. 11) at their meeting on December 15, 2016.]



## Bassett Creek Watershed Management Commission

City Staff  
Address  
City State Zip

Dear XXX,

This letter is to serve as an official arrangement between the Bassett Creek Watershed Management Commission (BCWMC) and the City of XXX. The City of XXX provides financial contributions to the BCWMC through an annual assessment based on area within the watershed and tax valuation of property in the watershed. In 2017 this assessment will be XXX. Further, watershed commissioners representing XXX and city staff participate in, guide, and help implement the programs of the BCWMC, including a robust public education program.

The specific activities of the BCWMC public outreach and education program are set annually by the Commission after recommendations are forwarded by the BCWMC Education and Outreach Committee. The 2016 BCWMC Education and Outreach Plan is attached to this letter. It includes specific actions the Commission will take to provide water resource education, as well as a list of specific education organizations to which the BCWMC will contribute financially.

Education-related activities of the BCWMC are guided by its 2015 Watershed Management Plan, specifically its education and outreach policies (Section 4.2.9), and its overall Education and Outreach Plan found in Appendix B. <http://www.bassettcreekwmo.org/document/wmp-plans>

Due to the City of XXX's financial contributions and close involvement and participation with the BCWMC's activities, the BCWMC's education activities can and should be considered part of the city's implementation of Minimal Control Measures (MCM) 1 and 2 in the MS4 stormwater permit.

Sincerely,

Jim de Lambert  
Chair, BCWMC



Item 5D.  
BCWMC 1-19-17

## Bassett Creek Watershed Management Commission

### MEMO

To: BCWMC Commissioners  
From: Laura Jester, Administrator  
Date: January 11, 2017

**RE: Item 5D. Structure of Agreement for Contributing Capital Improvement Funds to Agora Development, Plymouth**

At the meeting in December, the Commission took the following action with regard to contributing funds to the Agora Development on the site of the old Four Seasons Mall.

Conditional approval to provide up to \$830,000 from the Four Seasons Mall Water Quality Project CIP budget as a financial contribution towards Alternative 4, which will provide stormwater treatment above and beyond the BCWMC's requirements at the Agora development (old Four Seasons Mall site) in Plymouth, based on the following conditions:

- a) Prior to the BCWMC formalizing a financial commitment, the developer must provide final drawings (i.e. final construction plans for the entire project including the wetland restoration) and supporting information (final pollutant removals and other information to confirm pollutant removal estimates) to the BCWMC Engineer for review and Commission approval. BCWMC's final financial commitment will be based on the final pollutant removal estimates.
- b) The BCWMC will enter into an agreement with the City of Plymouth for construction and funding of the project. Concurrently, the developer will need to enter into an agreement with the City of Plymouth regarding construction of the project and allowing construction of the wetland restoration portion of the project.
- c) The BCWMC must obtain BWSR approval to substitute this new CIP project for the original Four Seasons Mall Area Water Quality Project.
- d) The developer must obtain all required local, state, and federal permits for the project.
- e) The developer must submit the application, fee, drawings and supporting information for the Agora redevelopment site to the BCWMC Engineer for separate review as part of the BCWMC project review program.
- f) The final plans submitted to the Commission include a chloride management plan for the Agora site.
- g) The developer and City work with the Commission to develop education opportunities on the Agora site.



Since the December meeting, BCWMC staff and city staff have been working to determine the best way for the Commission to cooperate with the city and the developer (Rock Hill Management) and to ultimately contribute CIP funding to the project.

**RECOMMENDATION:** Although the Commission’s action indicates the Commission should enter into an agreement with the City, BCWMC staff and city staff recommend that the Commission enter into an agreement directly with Rock Hill Management to gain efficiencies in communication and information transfer.

This table presents a comparison of the different approaches.

Agreement with City	Agreement with Rock Hill Management (RHM)
Current practice to implement CIP projects.	New approach; could feel risky. Agreement could be structured similar to grant agreements between WMOs/WDs and private entities.
City to determine how to work with RHM to fulfill requirements of agreement.	Eliminates City as the “middle man” between BCWMC and RHM, more efficient process.
City responsible for ensuring long term maintenance of BMPs.	City would have development agreement with RHM for long term maintenance of BMPs.
City would request reimbursement of CIP funds from BCWMC; must gather documentation of expenses from RHM.	RHM would request reimbursement of CIP funds directly from BCWMC. [Could build reimbursement request timeline and documentation requirements into agreement]
City would provide monthly updates on project implementation to BCWMC; must gather information from RHM.	RHM would provide monthly updates on project implementation to directly BCWMC. [Could build reporting requirements into agreement]
City typically performs construction inspections but would request the Commission Engineer to perform inspections for this project.	BCWMC would perform construction inspections.

Troy Gilchrist (BCWMC Legal Counsel) reviewed the BCWMC Joint Powers Agreement and State law; and I reviewed the Watershed Plan and consulted the County (due to use of CIP funding) regarding the ability to contract directly with RHM to implement the project. In no instances, did we find rules or regulations that wouldn’t allow the Commission to enter into an agreement with RHM for project implementation.

Item 5E.  
BCWMC 1-19-17

No.	BCWMC Requirement	BCWMC Plan Section	BCWMC Plan Pg
<b>DEADLINE SEPTEMBER 30, 2017</b>			
A	<p>Local controls must be implemented within 2 years of adoption of the BCWMC Plan (September 2017). Ordinances/controls may include erosion and sediment control; wetland management; floodplain/zoning; stormwater management, and others. Specific policies included in the BCWMC Plan related to local controls and/or performance standards include (by BMCWC Plan policy section): [The referenced BCWMC policies are included in an attached table.]</p> <ul style="list-style-type: none"> <li>- Water Quality: 4.2.1-3, 4.2.1-12, 4.2.1-13, 4.2.1-15</li> <li>- Flooding and Rate Control: 4.2.2-29, 4.2.2-31, 4.2.2-32, 4.2.2-34, 4.2.2-35, 4.2.2-36, 4.2.2-38, 4.2.2-39</li> <li>- Groundwater Management: 4.2.3-48</li> <li>- Erosion and Sediment Control: 4.2.4-51, 4.2.4-54, 4.2.4-55</li> <li>- Streams Restoration and Protection: 4.2.5-64</li> <li>- Wetland Management: 4.2.6-65, 4.2.6-66, 4.2.6-68, 4.2.6-69</li> <li>- Recreation, Habitat and Shoreland Management: 4.2.8-80, 4.2.8-89</li> <li>- Administration: 4.2.10-112, 4.2.10-113, 4.2.10-120, 4.2.10-121</li> </ul>	<p>Section 5.3.1.1 Section 4.2.2-39 Section 4.2.1 to Section 4.2.10</p>	<p>5-24 4-7</p>
<b>REQUIRED IN LWMP DUE WITH CITY COMPREHENSIVE PLAN - 2018</b>			
1	<p>The LWMP must outline the city's permitting process, including preliminary and final platting process. The LWMP must describe the City's collaborative role in the BCWMC review of development and improvement projects, as described in Section 5.1.1.1 of the BCWMC Plan.</p>	<p>Section 5.1.1.1 Section 5.3.1</p>	<p>5-2 5-23</p>
2	<p>The LWMP must include an assessment of problems affecting the city that are identified in Section 3 of the BCWMC Plan. Generally, issues identified in Section 3 of the BCWMC Plan include those related to:</p> <ul style="list-style-type: none"> <li>- Water quality</li> <li>- Water quantity, flooding, and floodplain management</li> <li>- Erosion and sedimentation</li> <li>- Stream management</li> <li>- Wetlands, habitat, shoreland areas, and invasive species</li> <li>- Groundwater</li> <li>- Education and outreach</li> <li>- Maintenance of stormwater systems</li> </ul>	<p>Section 5.3.1.1 Section 3.0</p>	<p>5-24 3-1 thru 3-20</p>

BCWMC Requirements for Ordinance and Local Water Management Plans (LWMPs)

No.	BCWMC Requirement	BCWMC Plan Section	BCWMC Plan Pg
3	The LWMP must include proposed corrective actions for issues identified in the LWMP. Proposed corrective actions must be consistent with the individual and collaborative roles of the BCWMC and city. Corrective actions may include policies, action items, or implementation items within the LWMP.	Section 5.3.1.1	5-24
4	The LWMP must describe the city's existing and proposed ordinances, permits, and procedures addressing erosion and sediment control.	Section 4.2.4-Policy 55	4-10
5	Goals, policies, and activities (or equivalent, e.g., strategies, actions, etc.) included in the LWMP must be consistent with the BCWMC goals and policies identified in Section 4 of the BCWMC Plan. Specific policies in the BCWMC Plan that should be included or referenced among LWMP policies, strategies, or actions include (by BMCWC Plan policy section): [The referenced BCWMC policies are included in an attached table.] - Water Quality: 4.2.1-3, 4.2.1-5, 4.2.1-11, 4.2.1-12, 4.2.1-13, 4.2.1-15, 4.2.1-16 - Flooding and Rate Control: 4.2.2-22, 4.2.2-23, 4.2.2-24, 4.2.2-29, 4.2.2-31, 4.2.2-32, 4.2.2-34, 4.2.2-35, 4.2.2-36, 4.2.2-38, 4.2.2-39 - Groundwater Management: 4.2.3-48, 4.2.3-50 - Erosion and Sediment Control: 4.2.4-51, 4.2.4-54, 4.2.4-55, 4.2.4-56 - Streams Restoration and Protection: 4.2.5-62, 4.2.5-64 - Wetland Management: 4.2.6-65, 4.2.6-66, 4.2.6-68, 4.2.6-69, 4.2.6-70, 4.2.6-72 - Public Ditches: 4.2.7-77 - Recreation, Habitat and Shoreland Management: 4.2.8-80, 4.2.8-85, 4.2.8-89 - Administration: 4.2.10-106, 4.2.10-112, 4.2.10-113, 4.2.10-118, 4.2.10-119, 4.2.10-120, 4.2.10-121, 4.2.10-122	Section 5.3.1.1 Section 4.2.1 to Section 4.2.10	5-24
6	The LWMP must assess the need for maintenance of local storm sewer systems under city jurisdiction, including public works facilities and natural conveyance systems. The LWMP must reference the City's responsibilities related to management of local storm sewer systems. [The LWMP may reference the City's MS4 permit if the current City MS4 permit clearly describes the required information.]	Section 5.3.1.1 Section 3.8.1	5-24 3-20
7	The LWMP must adopt the BCWMC waterbody classification system (Section 2.7.2.2 of the BCWMC Plan). The LMWP must assess the need for a local waterbody management classification system and, if needed, correlate the system to the BCWMC waterbody classification system.	Section 5.3.1.1 Section 4.2.1-3	5-24 4-3
8	The LWMP must assess the need for other water quality and water quantity management programs, if necessary, in addition existing programs already described in the LWMP (or included in the City's SWPPP and referenced in the LWMP).	Section 5.3.1.1	5-24

BCWMC Requirements for Ordinance and Local Water Management Plans (LWMPs)

No.	BCWMC Requirement	BCWMC Plan Section	BCWMC Plan Pg
9	The LWMP Implementation Table shall include BCWMC projects located within the City, to the extent those projects are known.	Section 4.2.1-5	4-3
10	<p>The LWMP is required to conform to Minnesota Statutes 103B.235. Minnesota Statutes 103B.235 Subd. 2 include specific requirements for LWMP contents:</p> <ul style="list-style-type: none"> <li>(1) describe existing and proposed physical environment</li> <li>(1) define drainage areas and the volumes, rates, and paths of storm water runoff existing and proposed physical environment</li> <li>(3) identify areas and elevations for stormwater storage adequate to meet performance standards established in the watershed plan</li> <li>(4) define water quality and water quality protection measures adequate to meet performance standards established in the watershed plan</li> <li>(5) identify regulated areas</li> <li>(6) set forth an implementation program, including a description of official controls and, as appropriate, a capital improvement program.</li> </ul>	Section 5.3.1.1 MN Statutes 103B.235 Subd. 2	5-24

BCWMC Requirements for Ordinance and Local Water Management Plans (LWMPs)

No.	BCWMC Requirement	BCWMC Plan Section	BCWMC Plan Pg
11	<p>The LWMP is required to conform to Minnesota Rules 8410. According to Minnesota Rules 8410.0160 Subp. 3, the LWMP must include:</p> <ul style="list-style-type: none"> <li>A. an executive summary that summarizes the highlights of the local water plan;</li> <li>B. appropriate water resource management-related agreements that have been entered into by the local community must be summarized, including joint powers agreements related to water management that the local government unit may be party to between itself and watershed management organizations, adjoining communities, or private parties;</li> <li>C. the existing and proposed physical environment and land use must be described. Drainage areas and the volumes, rates, and paths of storm water runoff must be defined. Data may be incorporated by reference;</li> <li>D. an assessment of existing or potential water resource-related problems must be summarized for only those areas within the corporate limits of the city;</li> <li>E. a local implementation program through the year the local water plan extends must describe nonstructural, programmatic, and structural solutions to issues identified in the LWMP. The program must be prioritized. The program shall: <ul style="list-style-type: none"> <li>(1) include areas and elevations for storm water storage adequate to meet performance standards or official controls established in WMO plans;</li> <li>(2) define water quality protection methods adequate to meet performance standards or official controls in tin WMO plans and identify regulated areas;</li> <li>(3) clearly define the responsibilities of the city from that of WMOs for carrying out the implementation components;</li> <li>(4) describe official controls and any changes to official controls relative to requirements of WMO plans;</li> <li>(5) include a table that briefly describes each component of the implementation program and clearly details the schedule, estimated cost, and funding sources for each component including annual budget totals;</li> <li>(6) include a table for a capital improvement program that sets forth, by year, details of each contemplated capital improvement that includes the schedule, estimated cost, and funding source.</li> </ul> </li> </ul>	Section 5.3.1.1 MN Rules 8410.0160	5-24

BCWMC Plan Policies related to LWMP Content

BCWMC Policy Category	Plan Section- Policy No.	BCWMC Plan Policy Text	Category (performance standard, required city action/policy, or collaboration with BCWMC)
Water Quality	4.2.1-3	Member cities shall classify other waterbodies according to the BCWMC classification system and include this information in their local water management plans.	Required city action
Water Quality	4.2.1-5	The BCWMC and the member cities will implement the improvement options listed in the BCWMC’s CIP (Table 5-3) to address the water quality of priority waterbodies based on feasibility, prioritization, and available funding (see policy 110 regarding CIP prioritization criteria).	Required city action
Water Quality	4.2.1-11	<p>The BCWMC will coordinate monitoring efforts with other programs including:</p> <ul style="list-style-type: none"> <li>- Member city monitoring...</li> <li>- Metropolitan Council Citizen Assisted Monitoring Program (CAMP) and Watershed Outlet Monitoring Program (WOMP)</li> <li>- Three Rivers Park District monitoring</li> <li>- Minneapolis Park and Recreation Board monitoring</li> <li>- Minnesota Pollution Control Agency Citizen Lake Monitoring Program (CLMP) and other monitoring</li> <li>- Hennepin County River Watch Program</li> </ul>	City/BCWMC collaboration
Water Quality	4.2.1-12	The BCWMC requires all stormwater to be treated in accordance with the MPCA’s Minimal Impact Design Standards (MIDS) performance goal for new development, redevelopment, and linear projects. If the MIDS performance goal is not feasible and/or is not allowed for a proposed project, then the project proposer must implement the MIDS flexible treatment options, as shown in the MIDS Design Sequence Flow Chart, or BCWMC approved alternative.	Performance standard
Water Quality	4.2.1-13	The BCWMC will review projects and developments to evaluate compliance with the MPCA’s Minimal Impact Design Standards (MIDS) performance goals, triggers, and flexible treatment options (which are adopted by the Commission as BCWMC water quality management standards) if the projects are located in member cities that have not adopted the MIDS performance goals, triggers, and flexible treatment options, or at the request of the member city. For projects located in member cities that have adopted the MIDS performance goals, triggers, and flexible treatment options, the member cities shall review projects for conformance with MIDS water quality treatments standards, unless Commission review is requested by the member cities.	Performance standard

BCWMC Plan Policies related to LWMP Content

BCWMC Policy Category	Plan Section- Policy No.	BCWMC Plan Policy Text	Category (performance standard, required city action/policy, or collaboration with BCWMC)
Water Quality	4.2.1-15	Member cities shall not allow the drainage of sanitary sewage or non-permitted industrial wastes onto any land or into any watercourse or storm sewer discharging into Bassett Creek.	Required city action
Water Quality	4.2.1-16	The BCWMC will maintain a water quality model (e.g., P8) for the watershed. Each year, member cities shall provide the BCWMC with plans for BMPs constructed within their city. The BCWMC will update the model annually to incorporate completed BCWMC capital improvements and BMP information provided by the member cities. The BCWMC will develop a summary report of the water quality model results and provide that report to the member cities to assist in their MS4 reporting.	Required city action
Flooding and Rate Control	4.2.2-22	During the first five years of Plan implementation, the BCWMC will work with the member cities to determine responsibilities for major rehabilitation and replacement of the BCWMC Flood Control Project features and establish the associated funding mechanisms.	City/BCWMC collaboration
Flooding and Rate Control	4.2.2-23	The BCWMC will finance major maintenance and repair of water level control and conveyance structures that were part of the original BCWMC Flood Control Project on the same basis as the original project. New road crossings of the creek that were installed as part of the project will be maintained by the city where the structure is located.	Required city action
Flooding and Rate Control	4.2.2-24	Member cities shall be responsible for routine maintenance and repair of BCWMC Flood Control Project structures located within each city. Each member city shall be responsible for routine cleaning, including removal of debris, brushing, and tree removal from the BCWMC Flood Control Project features located within their city.	Required city action
Flooding and Rate Control	4.2.2-29	The member cities must implement the BCWMC's development policies, including minimum building elevations of at least 2 feet above the 100-year flood level for new and redeveloped structures, as outlined in the BCWMC's Requirements for Improvements and Development Proposals document (BCWMC, 2015, as revised).	Performance standard
Flooding and Rate Control	4.2.2-31	The BCWMC and member cities must require rate control in conformance with the Flood Control Project system design and this Plan. The BCWMC requires cities to manage stormwater runoff so that future peak flow rates leaving development and redevelopment sites are equal to or less than existing rates for the 2-year, 10-year, and 100-year events.	Performance standard

BCWMC Plan Policies related to LWMP Content

BCWMC Policy Category	Plan Section- Policy No.	BCWMC Plan Policy Text	Category (performance standard, required city action/policy, or collaboration with BCWMC)
Flooding and Rate Control	4.2.2-32	<p>The BCWMC requires the retention of on-site runoff from development and redevelopment projects consistent with the MPCA’s Minimal Impact Design Standards (MIDS) performance goals. These include the retention of:</p> <ul style="list-style-type: none"> <li>- 1.1 inches of runoff from impervious areas for new development creating more than 1 acre of new impervious area</li> <li>- 1.1 inches of runoff from new or fully reconstructed impervious areas for redevelopment creating one or more acres of new or fully redeveloped impervious area</li> <li>- 0.55 inches of runoff from new or fully reconstructed impervious areas for linear projects creating one or more acres of new or fully redeveloped impervious area (or 1.1 inches from the net increase in impervious area, whichever is greater)</li> <li>- If an applicant is unable to achieve the performance goals due to site restrictions, the MIDS flexible treatment options approach shall be used, following the MIDS design sequence flow chart.</li> </ul> <p>For all other projects, the BCWMC encourages the use of infiltration, filtration, or other abstraction of runoff from impervious areas for all development and redevelopment projects as a best practice to reduce stormwater runoff.</p>	Performance standard
Flooding and Rate Control	4.2.2-34	<p>The BCWMC will allow only those land uses in the BCWMC-established floodplain that will not be damaged by floodwaters and will not increase flooding. Allowable types of land use that are consistent with the floodplain include recreation areas, parking lots, temporary excavation and storage areas, public utility lines, agriculture, and other open spaces.</p>	Performance standard
Flooding and Rate Control	4.2.2-35	<p>The BCWMC prohibits the construction of basements in the floodplain; construction of all other infrastructure within the floodplain is subject to BCWMC review and approval.</p>	Performance standard
Flooding and Rate Control	4.2.2-36	<p>The BCWMC prohibits permanent storage piles, fences and other obstructions in the floodplain that would collect debris or restrict flood flows.</p>	Performance standard
Flooding and Rate Control	4.2.2-38	<p>The BCMWC requires that projects within the floodplain maintain no net loss in floodplain storage and no increase in flood level any point along the trunk system. The BCWMC prohibits expansion of existing non-conforming land uses within the floodplain unless they are fully flood-proofed in accordance with codes and regulations.</p>	Performance standard



BCWMC Plan Policies related to LWMP Content

BCWMC Policy Category	Plan Section- Policy No.	BCWMC Plan Policy Text	Category (performance standard, required city action/policy, or collaboration with BCWMC)
Flooding and Rate Control	4.2.2-39	The BCWMC requires member cities to maintain ordinances that are consistent with BCMWC floodplain standards. Member cities must submit ordinances to the BCWMC for review.	Required city action
Ground-water	4.2.3-48	<p>To protect groundwater quality, the BCWMC requires infiltration practices to be implemented in accordance with the following guidance for determining the feasibility of infiltration:</p> <ul style="list-style-type: none"> <li>- NPDES General Construction Stormwater Permit (2013, as amended)</li> <li>- Minimal Impact Design Standards (MIDS) Design Sequence Flow Chart (2013, as amended)</li> <li>- Minnesota Department of Health’s Evaluating Proposed Stormwater Infiltration Projects in Vulnerable Wellhead Protection Areas (MDH, 2007)</li> </ul> <p>The BCWMC recommends that infiltration practices be designed with consideration for the following guidance:</p> <ul style="list-style-type: none"> <li>- BCWMC’s Requirements for Improvements and Development Proposals (BCWMC, 2015, as revised)</li> <li>- Minnesota Pollution Control Agency’s Minnesota Stormwater Manual (<a href="http://stormwater.pca.state.mn.us/index.php/Main_Page">http://stormwater.pca.state.mn.us/index.php/Main_Page</a>)</li> </ul>	Performance standard
Ground-water	4.2.3-50	Member cities shall share groundwater elevation data, where available, with the BCWMC.	Required city action
Erosion and Sediment Control	4.2.4-51	<p>Member cities shall continue managing erosion and sediment control permitting programs and ordinances as required by their NPDES MS4 permit and the NPDES Construction Stormwater General Permit. These programs must address:</p> <ul style="list-style-type: none"> <li>- Permitting and inspection of erosion controls</li> <li>- Erosion and sediment control at individual building sites</li> <li>- Requirements and procedures for reviewing, approving, and enforcing erosion control plans</li> </ul>	Performance standard
Erosion and Sediment Control	4.2.4-54	Member cities shall perform regular erosion and sediment control inspections for projects triggering BCWMC review and subject to BCWMC erosion and sediment control standards. The member cities will annually report to the BCWMC regarding compliance with BCWMC standards as part of annual MS4 reporting or as requested by the Commission.	Required city action

BCWMC Plan Policies related to LWMP Content

BCWMC Policy Category	Plan Section- Policy No.	BCWMC Plan Policy Text	Category (performance standard, required city action/policy, or collaboration with BCWMC)
	4.2.4-55	The BCWMC requires local water management plans to describe existing and proposed city ordinances, permits, and procedures addressing erosion and sediment control.	Required city action
Erosion and Sediment Control	4.2.4-56	The BCWMC will work with member cities to evaluate end-of-pipe sediment sources and controls. Following adequate source control, the BCWMC may fund removal of end-of-pipe sediment deltas downstream of intercommunity watersheds, or facilitate collaboration among responsible parties to remove these deltas.	City/BCWMC collaboration
Streams	4.2.5-62	The member cities are responsible for funding maintenance and repairs that are primarily aesthetic improvements.	Required city action
Streams	4.2.5-64	<p>Member cities shall maintain and enforce buffer requirements adjacent to priority streams for projects that will result in more than 200 yards of cut or fill, or more than 10,000 square feet of land disturbance. Buffer widths adjacent to priority streams must be at least 10 feet or 25 percent of the distance between the ordinary high water level and the nearest existing structure, whichever is less.</p> <p>Allowable land uses, and vegetative criteria for buffers are specified in the BCWMC's Requirements for Development and Redevelopment (BCWMC, 2015, as amended). Member cities may allow exemptions for public recreational facilities parallel to the shoreline (e.g. trails) up to 20 feet in width, with that width being added to the required buffer width.</p>	Performance standard
Wetlands	4.2.6-65	<p>The BCWMC requires member cities to inventory, classify and determine the functions and values of wetlands, either through a comprehensive wetland management plan or as required by the Wetland Conservation Act (WCA).</p> <p>Member cities shall maintain a database of wetland functions and values assessment results.</p> <p>The BCWMC encourages member cities to complete comprehensive wetland management plans as part of their local water management plan or as an implementation task identified in their local water management plan. Completed comprehensive wetland management plans shall be submitted to the BCWMC for review and comment.</p>	Required city action

BCWMC Plan Policies related to LWMP Content

BCWMC Policy Category	Plan Section- Policy No.	BCWMC Plan Policy Text	Category (performance standard, required city action/policy, or collaboration with BCWMC)
Wetlands	4.2.6-66	The BCWMC requires member cities to develop and implement wetland protection ordinances that consider the results of wetland functions and values assessments, and are based on comprehensive wetland management plans, if available. For wetlands classified as Preserve or Manage 1, member cities shall implement standards for bounce, inundation, and runout control that are similar to BWSR guidance; member cities are encouraged to apply standards for other wetland classifications.	Performance standard
Wetlands	4.2.6-68	Member cities shall maintain and enforce buffer requirements for projects containing more than one acre of new or redeveloped impervious area. Average minimum buffer widths are required according to the MnRAM classification (or similar classification system): - An average of 75 feet and minimum of 50 feet from the edge of wetlands classified as Preserve - An average of 50 feet and minimum of 30 feet from the edge of wetlands classified as Manage 1 - An average of 25 feet and minimum of 15 feet from the edge of wetlands classified as Manage 2 or 3. Allowable land uses and vegetative criteria for buffers are specified in the BCWMC's Requirements for Development and Redevelopment (BCWMC, 2015, as amended). Member cities may allow exemptions for public recreational facilities parallel to the shoreline (e.g. trails) up to 20 feet in width, with that width being added to the required buffer width.	Performance standard
Wetlands	4.2.6-69	The member cities are required to manage wetlands in accordance with the WCA. The BCWMC will assist the member cities with managing wetlands in accordance with the WCA, as requested. The MnDOT is the LGU within its right-of-ways.	Required city action
Wetlands	4.2.6-70	The BCWMC will serve as the local governmental unit (LGU) responsible for administering the WCA for member cities, as requested (currently Medicine Lake, Robbinsdale, and St. Louis Park).	Required city action
Wetlands	4.2.6-72	The BCWMC requires that member cities annually inspect wetlands classified as Preserve for terrestrial and emergent aquatic invasive vegetation, such as buckthorn and purple loosestrife, and attempt to control or treat invasive species, where feasible.	Required city action

BCWMC Plan Policies related to LWMP Content

BCWMC Policy Category	Plan Section- Policy No.	BCWMC Plan Policy Text	Category (performance standard, required city action/policy, or collaboration with BCWMC)
Public Ditches	4.2.7-77	The BCWMC will manage abandoned or transferred public ditches that are part of the trunk system consistent with the policies of this Plan. Member cities will be responsible for management of abandoned or transferred public ditches that are not on the trunk system, but are currently part of their municipal drainage system.	Required city action
Recreation, Habitat, and Shoreland	4.2.8-80	The member cities are responsible for shoreland regulation and are required to adopt MDNR-approved shoreland ordinances, in accordance with the MDNR's priority phasing list.	Required city action
Recreation, Habitat, and Shoreland	4.2.8-85	Member cities shall consider opportunities to maintain, enhance, or provide new open spaces and/or habitat as part of wetland creation or restoration, stormwater facility construction, development, redevelopment, or other appropriate projects.	Required city action
Recreation, Habitat, and Shoreland	4.2.8-89	Member cities shall adopt State buffer and/or shoreland management requirements for public waters in incorporated areas, if and when they are promulgated.	Required city action
Admin.	4.2.10-106	The BCWMC will review local water management plans for compliance with this Plan's goals and policies.	City/BCWMC collaboration
Admin.	4.2.10-112	The BCWMC may review proposed changes to member city development regulations (e.g., zoning and subdivision ordinances) at its discretion or the request of the member cities.	City/BCWMC collaboration
Admin.	4.2.10-113	Member cities must inform the BCWMC regarding updates to city ordinances or comprehensive plans that will affect stormwater management. Stormwater management elements of the member cities' comprehensive plans must conform to the BCWMC Plan.	Required city action
Admin.	4.2.10-118	The BCWMC will assist member cities in resolving watershed management disputes, as requested. The BCWMC will follow the dispute resolution procedure described in Section 5.1.1.5 of this Plan.	City/BCWMC collaboration
Admin.	4.2.10-119	The BCWMC will maintain a Technical Advisory Committee (TAC) to promote communication and cooperation between the BCWMC and member cities. Member cities shall appoint a technical advisor to the TAC and encourage the technical advisor to attend BCMWC meetings.	Required city action
Admin.	4.2.10-120	The BCWMC will continue to rely on member cities to implement the BCWMC's policies at the time of development and redevelopment. Member cities shall inform developers and other project applicants regarding BCWMC requirements.	Performance standard

BCWMC Plan Policies related to LWMP Content

BCWMC Policy Category	Plan Section- Policy No.	BCWMC Plan Policy Text	Category (performance standard, required city action/policy, or collaboration with BCWMC)
Admin.	4.2.10-121	The BCWMC will continue to rely on member cities to issue permits. Member cities shall permit only those projects that conform to the policies and standards of the BCWMC. The BCWMC will review proposed projects after the member city has provided preliminary approval (indicating compliance with the member city’s local water management plan) and submitted a signed BCWMC application form to the BCWMC. Member cities shall not issue construction permits, or other approvals, until the BCWMC has approved the project.	Performance standard
Admin.	4.2.10-122	For CIP projects that have been ordered by the Commission, the BCWMC requires member cities to acquire and maintain easements, right-of-way, or interest in land necessary to implement and maintain projects upon order of the BCWMC (the cost of land acquisition may be eligible for Commission reimbursement, see Table 5-1).	Required city action

## Aquatic Invasive Species Prevention Grants

### Request for Proposals

Submit proposals to Tony Brough at [tony.brough@hennepin.us](mailto:tony.brough@hennepin.us) by 4:30 p.m. Friday, January 20, 2017.

### About the Aquatic Invasive Species (AIS) Prevention Grants

Hennepin County works to protect and preserve natural resources to enhance the quality of life for current and future generations. Through the Aquatic Invasive Species (AIS) Prevention Program, the county has up to \$300,000 of grant funds available to help local units of government and organizations implement projects that prevent the spread of aquatic invasive species. Eligible prevention activities:

- Assess the risk of AIS introduction and the resources available to respond
- Increase available resources and leverage partnerships
- Broaden knowledge and participation in early detection and rapid response
- Prevent the spread if AIS
- Address specific pathways of introduction
- Increase enforcement resources
- Increase public awareness and participation in prevention
- Promote research

### Additional information

Prospective applicants are encouraged to visit [www.hennepin.us/aisprevention](http://www.hennepin.us/aisprevention) for additional information. Prospective applicants may also contact the AIS Project Manager for feedback regarding ideas and questions concerning their applications.

Hennepin County AIS Project Manager:

Tony Brough , 612-348-4378, [tony.brough@hennepin.us](mailto:tony.brough@hennepin.us)

## Selection criteria

Hennepin County staff will evaluate applications based on the following criteria:

- Project goals, activities and outcomes
  - Project goals clearly focus on preventing the spread of aquatic invasive species in Hennepin County.
  - Proposed activities are consistent with project goals and have identified outcomes.
  - Identified outcomes are reasonable and measurable.
  - Project focus is holistic, long-term, new or innovative.
- Organizational need and capacity
  - Application clearly describes the need for AIS prevention funding.
  - Demonstrates the applicant’s capacity and commitment regarding project implementation.
  - Demonstrates ability to properly administer grant funds and meet all reporting requirements.
- Hennepin County is interested in engaging partners located throughout the county. The geographic location of programs, projects and activities may be considered to ensure program coverage throughout the county.

## Program guidelines and requirements

<b>ELIGIBILITY</b>	<ul style="list-style-type: none"> <li>• Project must be located in Hennepin County</li> <li>• Eligible organizations include:               <ul style="list-style-type: none"> <li>– Nonprofit organizations</li> <li>– Local governments such as cities, watershed organizations and park districts</li> <li>– Public companies and institutions</li> <li>– Private for-profit companies</li> </ul> </li> </ul>
<b>FUNDING</b>	<ul style="list-style-type: none"> <li>• Funding is available for eligible activities that prevent the spread of AIS.</li> <li>• Grant amounts will be based on the funds available, application score/rank, and the submitted work plan and budget.</li> </ul>
<b>AWARD AMOUNT</b>	<ul style="list-style-type: none"> <li>• The maximum amount of funds awarded is \$50,000 per project.</li> <li>• Typical past project awards ranged from \$5,000 to \$25,000.</li> <li>• No match required.</li> </ul>
<b>TIMELINES</b>	<ul style="list-style-type: none"> <li>• Applications are <b>due January 20, 2017</b>. Depending on the number and quality of proposals submitted, this may be the only time the county solicits for proposals.</li> <li>• Hennepin County review and board approval in February or March, 2017.</li> </ul>

	<ul style="list-style-type: none"> <li>• Project start times cannot occur before contract approval by Hennepin County.</li> <li>• 12 to 24 months to complete project.</li> <li>• Semi-annual project progress/summary reports.</li> <li>• Final report within 2 months after project completion.</li> </ul>
<b>REPORTING REQUIREMENTS FOR AWARDED PROJECTS</b>	<ul style="list-style-type: none"> <li>• Work plan and budget.</li> <li>• Project design and specifications (if applicable).</li> <li>• Documentation regarding expenses, such as time sheets and invoices.</li> <li>• Interim and final reports as identified in the grant agreement.</li> </ul>
<b>ACCEPTABLE EXPENSES</b>	Grant funds may be used for consulting fees, staff time, materials, supplies, labor, printing and promotions.
<b>PROJECT AGREEMENT</b>	Each grant recipient must formally enter into a grant agreement with the county. The agreement will address the conditions of the award, including implementation of the project and a final report. The agreement is a legal, binding document. Grant recipients are expected to keep accurate financial records of the project which includes documentation of all expenses.
<b>PAYMENTS</b>	Payments will be provided pursuant to the terms and conditions of the grant agreement based on documented expenditures and completion of objectives.

Find additional information at [www.hennepin.us/aisprevention](http://www.hennepin.us/aisprevention).

*The county reserves the right to determine, in its sole and absolute discretion, whether any aspect of the proposal satisfactorily meets the criteria established in this Request for Proposals (RFP), the right to seek clarification from any Proposer(s), the right to negotiate with any Proposer(s) whether or not they submitted a proposal, the right to reject any or all proposals with or without cause, and the right to cancel and/or amend, in part or entirely, the RFP.*

## **DRAFT BCWMC AIS Prevention Grant Application**

### **1. Project goals and summary description of project (25%)**

Organization name:	Bassett Creek Watershed Management Commission
Project title	AIS Inventory, Pathways Analysis, and Prevention/Management Plan for Three Lakes
Project location	Medicine Lake and Parkers Lake in City of Plymouth; Sweeney Lake in City of Golden Valley
Applicant name/organization	Laura Jester, Administrator, BCWMC
Amount requested	\$30,000

- **Executive Summary:** Complete the above table and provide a summary of the project that describes project goals, why the project is needed, where it will be implemented, project participants and proposed activities and expected outcomes (200 word limit).



The goal of this project is to better understand the current AIS conditions and potential AIS threats in three lakes in the Bassett Creek watershed, and to prepare a plan to manage existing AIS or prevent the introduction of potential AIS. Medicine, Parkers, and Sweeney Lakes are important regional and local lakes with public access and active groups of concerned residents. The project will include an AIS inventory; analyses for suitability, vulnerability, and introduction pathways; and the development of a plan to manage existing AIS and prevent future AIS infestations. The project is important to help the BCWMC and other stakeholders understand AIS conditions and vulnerabilities and create a plan to manage and prevent nuisance AIS infestations. This project will fill an existing gap in AIS management in the watershed. While the BCWMC and others collect water quality and macrophyte data on these lakes, the exact presence/absence of some AIS is unknown and the threats for future AIS are poorly understood. The BCWMC's engineer (Barr Engineering Co.) would perform the work with cooperation from the Cities of Plymouth, Golden Valley, and Three Rivers Park District, and with project management by the BCWMC administrator.

## 2. Project activities and outcomes (40%)

- **Project Description:** For each proposed activity, describe the activity including who will do the proposed activity, how it will be implemented and the anticipated outcomes. List all the activities that apply.
  - *Be specific about each activity.*
  - *Describe when the activity will begin and when it will conclude.*
  - *Identify the party responsible for each activity.*
  - *Is this a new activity? Or is it an expansion of an existing activity/program?*
  - *Describe anticipated outcomes and how outcomes will be measured.*
  
- A. AIS Inventory and Monitoring: AIS Inventory and Monitoring: In this phase of the project, we will determine if any of nine selected invasive species are present, and we will collect the data needed to perform a suitability analysis for nine selected invasive species: flowering rush, Eurasian watermilfoil, hydrilla, rusty crayfish, spiny waterflea, starry stonewort, Chinese mystery snail, banded mystery snail and faucet snail. Table 1 summarizes the 2017 inventory and monitoring work. Table 2 summarizes BCWMC and CAMP data that will be used to complete the suitability analysis and to determine if the following AIS species are present: spiny waterflea, starry stonewort, hydrilla, flowering rush, and Eurasian watermilfoil. Data in Table 2 are not collected as part of this grant project.

**Table 1. 2017 AIS Inventory and Monitoring Tasks**

Parameters	Lake	2017 Monitoring Frequency	Monitoring Method
AIS Plant Species: starry stonewort, hydrilla, flowering rush, and Eurasian watermilfoil	Parkers	One Time	Meandering boat search and sample 20 random points
AIS Invertebrate Species: spiny waterflea, zebra mussel, faucet snail, Chinese and banded mystery snails	Medicine, Sweeney, and Parkers	One Time	Meandering boat search and sample 20 random points

Parameters	Lake	2017 Monitoring Frequency	Monitoring Method
Zebra mussel	Medicine, Sweeney, and Parkers	Sampler (continuous)	Install two samplers in late June and remove samplers in August
Rusty crayfish	Medicine, Sweeney, and Parkers	Traps (continuous)	Install 10 traps in late June and remove traps in August; traps checked periodically.
Water Quality: calcium, alkalinity, hardness, sodium, magnesium, potassium, dissolved inorganic carbon, and dissolved organic carbon	Medicine, Sweeney, and Parkers	One Time	0-2 meter composite sample collected at deepest location; same location used for BCWMC lake monitoring program
Water Quality: total nitrogen, nitrate nitrogen	Parkers	One Time	CAMP monitoring methods
Zooplankton	Parkers	One Time	Bottom-to-surface zooplankton tow

**Table 2. BCWMC and CAMP Data Used in the AIS Grant Project**

Data Source	Lake	Year	Parameters	How Used
BCWMC	Medicine	2016	Total phosphorus, soluble reactive phosphorus, total nitrogen, nitrate nitrogen, chlorophyll <i>a</i> , Secchi disc transparency, and turbidity	Suitability analyses
BCWMC	Medicine	2016	Plant survey data and zooplankton data	To determine if the following AIS species are present: spiny waterflea, starry stonewort, hydrilla, flowering rush, and Eurasian watermilfoil
BCWMC	Sweeney	2017	Total phosphorus, soluble reactive phosphorus, total nitrogen, nitrate nitrogen, chlorophyll <i>a</i> , Secchi disc transparency, and turbidity	Suitability analyses
BCWMC	Sweeney	2017	Plant survey data and zooplankton data	To determine if the following AIS species are present: spiny waterflea, starry stonewort, hydrilla, flowering rush, and Eurasian watermilfoil
CAMP	Parkers	2016	Total phosphorus, soluble reactive phosphorus, Secchi disc transparency, and chlorophyll <i>a</i>	Suitability analyses

Data Source	Lake	Year	Parameters	How Used
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- a. Methods: Methods are shown in Table 1. Minnesota DNR methods as detailed in Guidance for Conducting Aquatic Invasive Species Early Detection and Baseline Monitoring in Lakes (June 29, 2015) will be used for the inventory and monitoring of nine invasive species. Water quality and zooplankton monitoring methods are detailed in the BCWMC 2015-2025 Watershed Management Plan.
  - b. Timeline: June – August 2017
  - c. Responsible Party: BCWMC Engineers with some data possibly collected by Three Rivers Park District.
  - d. New or Expansion of Existing Activity: Inventory for AIS animals is a new activity. The BCWMC already collects aquatic plant data and most water quality data needed for this project. New water quality parameters include: calcium, alkalinity, hardness, sodium, magnesium, dissolved inorganic carbon, and calcium carbonate.
  - e. Outcomes/deliverables: Data summary of AIS, water quality, and substrate data from each lake either collected recently or in 2017.
- B. Suitability Analysis: A determination of the suitability of each lake to harbor each of the nine AIS species.
- a. Methods: Bioindicators or biological requirements of AIS species (e.g., water quality, substrate) will be used to determine suitability of each lake to harbor the nine AIS species. Method details are shown in the following table.

AIS Species	Suitability Analysis Method
Flowering Rush	Presence of emergent or submerged vegetation and non-shady areas between shore and 20 foot depth indicate conditions are suitable for flowering rush.
Eurasian watermilfoil	Presence of <i>Stuckenia pectinata</i> and/or <i>Potamogeton Illinoensis</i> and absence of <i>Sparganium angustifolium</i> indicate conditions are suitable for Eurasian watermilfoil.
Hydrilla	Grows in virtually all conditions so no assessment needed.
Rusty Crayfish	Compare specific conductance and calcium values with suitability thresholds.
Spiny Waterflea	Compare water temperature and pH with suitability thresholds
Starry Stonewort	Compare Secchi disc, water temperature, pH, calcium carbonate values, and TSI with suitability thresholds; determine whether the lake is in an aquatic plant dominated state and whether or not marl formations are present and then compare with suitability criteria.
Chinese Mystery Snail	Compare pH, calcium, magnesium, dissolved oxygen, specific conductance, and sodium with suitability thresholds; determine whether or not the substrate is muck and compare with suitability criterion.
Banded Mystery Snail	Compute saturation state and then compare saturation state with suitability threshold.
Faucet Snail	Compare pH, specific conductance, calcium, and sodium values to suitability threshold.

- b. Timeline: September – November 2017
  - c. Responsible Party: BCWMC Engineers
  - d. New or Expansion of Existing Activity: This is a new activity.
  - e. Outcomes/deliverables: Summary of suitability analysis results will be presented in comprehensive plan (see E, below).
- C. Pathways Analysis: A determination of the potential pathways for introduction of AIS species to the lakes and an estimate of the risk of the various potential pathways (low, moderate, high).
- a. Methods: Identify potential pathways of introduction (e.g., trailered boats, fishing gear, internet order) of the nine AIS species to each lake. Information on the presence of AIS species in neighboring lakes, data on recreational use of the lake and the equipment used (boating, fishing, etc.), and the number of riparian residents will be evaluated to estimate risk of AIS introduction via the various potential pathways (low, moderate, high) for each lake.
  - b. Timeline: September – November 2017.
  - c. Responsible Party: BCWMC Engineers
  - d. New or Expansion of Existing Activity: This is a new activity.
  - e. Outcomes/deliverables: Summary of pathways analysis results will be detailed in comprehensive plan (see E, below).
- D. Vulnerability Analysis: An assessment of vulnerability of each lake to the nine AIS species using the results of the suitability and pathways analyses.
- a. Methods: Results of suitability analysis and pathways analysis will be evaluated to determine the vulnerability of each lake to introduction and harboring of nine AIS species. The results will estimate invasion risk (low, moderate, high) for each species based on risk of invasion via the potential pathways and likelihood of survival after introduction.
  - b. Timeline: September – November 2017.
  - c. Responsible Party: BCWMC Engineers
  - d. New or Expansion of Existing Activity: This is a new activity.
  - e. Outcomes/deliverables: Summary of vulnerability analysis results will be detailed in comprehensive plan (see E, below).
- E. Prevention/Management Plan: Development of a plan to provide prevention or management options and recommendations to manage current infestations and manage the risk of AIS introduction. The results of the suitability analysis/pathways analysis/vulnerability analysis will determine the focus of the management effort to prevent AIS introduction to these lakes.
- a. Methods: AIS inventory and monitoring data, and results of suitability analysis/pathways analysis, and vulnerability analysis will be used to identify AIS management needs and the focus of effort to prevent AIS introduction. Management/prevention options will be identified and recommendations provided.
  - b. Timeline: December 2017 – April 2018
  - c. Responsible Party: BCWMC Engineers
  - d. New or Expansion of Existing Activity: This is a new activity.
  - e. Outcomes/deliverables: A comprehensive plan to be presented to the Bassett Creek Watershed Management Commissioners and other stakeholders. Recommended actions in the plan could be implemented by the BCWMC, cities, lake groups, park districts or others.

- F. Overall Project Management: Management of the activities, budget, timeline, and reporting according to the grant agreement with the County.
  - a. Methods: General budget/project management and reporting activities consistent with grant agreement including tracking of expenses, activities, and timelines. Communication with County project manager, as needed.
  - b. Timeline: Throughout project with reports delivered as specified in the agreement.
  - c. Responsible Party: BCWMC Administrator
  - d. New or Expansion of Existing Activity: This is a new activity.
  - e. Outcomes/deliverables: Complete and timely grant reports and final grant report including documentation on methods and expenses.

### 3. Project partners, staff and volunteers (25%)

- Project coordinator and organization information  
 Bassett Creek Watershed Management Commission  
 Laura Jester, Administrator (contract/project manager and coordinator)  
 c/o Keystone Waters LLC; 16145 Hillcrest Lane, Eden Prairie 55346  
 952-270-1990 – [laura.jester@keystonewaters.com](mailto:laura.jester@keystonewaters.com)  
[www.bassettcreekwmo.org](http://www.bassettcreekwmo.org) - <https://www.facebook.com/BCWMC/>

BCWMC Mission Statement: Stewardship of water resources to protect and enhance our communities.  
BCWMC Goal: Minimize the spread and manage the adverse impacts of harmful aquatic invasive species.  
BCWMC Policy 79: The BCWMC will support and collaborate with other entities to manage and prevent the spread of aquatic invasive species; BCWMC services may include point-intercept surveys of aquatic vegetation, feasibility studies, technical analysis, education, exploring funding options, and applying for grants. The BCWMC will not manage increased growths of native aquatic vegetation resulting from improved water quality.

- Contracting Organization Information (*The organization that will sign the contract.*)
  - Contracting organization (*if different than above*): BCWMC
  - Designated contract signatory: BCWMC Chairperson
  - Address and phone number: Same as administrator above
  - Has the organization received funding from the county in the last three years?  
 \_\_ Yes \_\_X\_\_ No \_\_ I don't know
- List the staff and volunteers who will implement the project and briefly describe their role in the project and their qualifications. Please include the person who will manage financial reporting for the project. Are these leaders part of an existing team, such as a green team or a student group?

Commissioners on the BCWMC will review, approve, and the chairperson will sign any official agreements and documents. Commissioners will also be kept apprised of the project and will receive the final project report. Staff with the BCWMC will implement the project. Technical aspects of the project will be conducted by the BCWMC engineers: Barr Engineering Co., including Karen Chandler, Meg Rattei, and Kelly Wild. Additional technical assistance may be provided by Three Rivers Park District staff, including Brian Vlach, and by city staff including Derek Asche with Plymouth and Tom Hoffman with Golden Valley. Water quality analyses will be performed by Pace Laboratories and/or Three Rivers Park District. Assistance with inventory/monitoring may be provided by staff from Wenck Associates and/or staff from Endangered Resource Services, LLC, including Matthew Berg. The BCWMC administrator, Laura Jester, will

perform financial and project reporting. Volunteers may be used to check rusty crayfish traps and zebra mussel samplers.

#### **4. Budget (10%)**

Find the **Budget Form** at [www.hennepin.us/aisprevention](http://www.hennepin.us/aisprevention) and submit it with your application.

- Why do you need this funding and what project work will not happen without AIS Prevention funding?
- Identify other funding sources and their respective contributions.

AIS Prevention Grant funding from Hennepin County is needed to begin addressing the problem of AIS, holistically, in the Bassett Creek watershed. Currently AIS issues are addressed only sporadically and typically only on an “as-needed” basis in the watershed. The BCWMC recently convened an AIS/APM Committee that has been working to determine an appropriate role for the BCWMC in these issues. One recommendation by the committee is for the BCWMC to collect and analyze the critical AIS data and to develop plans to address the current and possible future AIS infestations such that the BCWMC or other groups can plan for, budget for, and implement necessary actions.

The 2017 BCWMC budget includes some funding to address nuisance aquatic plants and/or AIS. The BCWMC will contribute \$5,000 as a match towards this project. Further, the BCWMC already collects much of the water quality and plant data that are needed to inform this project through its routine monitoring program (see Table 2). Expenses for this regular monitoring can be considered as “in-kind.”

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**AIS Prevention Grant Budget Form**

**DRAFT**

Bassett Creek Watershed Management  
Commission

AIS Inventory, Pathways Analysis, and Prevention/Management Plan for Three Lakes

Expense Category	Description/ Role	Hourly Rate/ Cost per Item	Number Hours/Items	Funds Requested	In-kind/ Matching*	Total Project Costs
<b>(A) Staff and Personnel</b>					(*if any)	
Administrative staff				\$0.00	\$840.00	\$840.00
Project management staff				\$0.00		\$0.00
Volunteers				\$0.00		\$0.00
Consultants (See Below for Details)		\$129.00	260	\$28,540.00	\$5,000.00	\$33,540.00
Other				\$0.00		\$0.00
<b>SUBTOTAL =</b>				<b>\$28,540.00</b>	<b>\$5,840.00</b>	<b>\$34,380.00</b>
<b>(B) Reimbursable Expenses</b>						
<b><u>1. Project Supplies/Materials</u></b>						
Rusty crayfish traps				\$450.00		\$450.00
Zebra mussel samplers				\$360.00		\$360.00
<b><u>2. Professional Services</u></b>						
Laboratory Analyses				\$650.00		\$650.00
				\$0.00		\$0.00
<b><u>3. Incentives</u></b>						
				\$0.00		\$0.00
<b><u>4. Marketing and Communications</u></b>						
Printing				\$0.00		\$0.00
Mailing				\$0.00		\$0.00
Distribution				\$0.00		\$0.00
<b><u>5. Other Expenses</u> (add rows below as needed)</b>						
				\$0.00		\$0.00
				\$0.00		\$0.00
<b>SUBTOTAL =</b>				<b>\$1,460.00</b>	<b>\$0.00</b>	<b>\$1,460.00</b>
<b>TOTAL =</b>				<b>\$30,000.00</b>	<b>\$5,840.00</b>	<b>\$35,840.00</b>

**Consultant Details for BCWMC AIS Prevention Grant Budget**

Description/Role	Hourly Rate*	Number of Hours
Inventory/Monitoring	\$126	42
Suitability Analyses	\$130	22
Pathways Analyses	\$130	15
Vulnerability Analyses	\$130	15
Management Plan	\$122	144
Meetings/Project Management	\$137	22
Overall Average Billing Rate	\$129	
<b>Total Hours</b>		<b>260</b>

\*Average billing rate when multiple team members

HENNEPIN COUNTY  
MINNESOTA

Item 5G.  
BCWMC 1-19-17

January 6, 2016

Laura Jester  
Bassett Creek Watershed Management Commission

Dear Laura,

As required by the State's Buffer Legislation, I have completed my preliminary review of the buffers in your watershed. Due to the nature of using aerial photography for this review, I will need to do some additional follow up work in the field. Prior to that, I will send out letters to all the landowners that are not in compliance or that require further review.

In your watershed, no parcels were found to be out of compliance, thus I will not require any additional follow up work.

There is no action required on your part, this simply serves as notice that letters are going out in case questions come in from landowners.

If you have any questions, please feel free to contact me any time.

Thank you,

Kirsten Barta  
Rural Conservationist  
612-543-3373  
[Kirsten.barta@hennepin.us](mailto:Kirsten.barta@hennepin.us)







## Bassett Creek Watershed Management Commission

# MEMO

Date: January 11, 2017  
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.>)

**2017 Plymouth Creek Restoration Project, Annapolis Lane to 2,500 feet Upstream (2017CR-P):** The final feasibility study is available online at <http://www.bassettcreekwmo.org/index.php?cid=284>. The Hennepin County Board approved the 2017 maximum levy request at their meeting on July 28<sup>th</sup>. At the September meeting, the Commission held a public hearing on the project and adopted a resolution ordering the project and certifying a final levy to Hennepin County. Also at that meeting, the Commission entered an agreement with the City of Plymouth to design and construct the project. At their meeting on October 11<sup>th</sup>, the city council approved the agreement. The BCWMC recently received a \$400,000 Clean Water Fund grant from BWSR for this project. A work plan for the grant will be developed soon. Also, Hennepin County staff reported their recommendation to the County Board to provide a \$50,000 opportunity grant for the project. The County Board is expected to approve that recommendation this month. A request for proposals was developed and distributed by the City to design and construct the project; proposals are due January 13<sup>th</sup>. The project will be designed in the next few months, with construction likely next winter.

**2017 Main Stem Bassett Creek Streambank Erosion Repair Project (2017CR-M):** 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 County Board approved the 2017 maximum levy request at their meeting on July 28<sup>th</sup>. At the September meeting, the Commission held a public hearing on the project and adopted a resolution ordering the project and certifying a final levy to Hennepin County. Also at that meeting, the Commission entered an agreement with the City of Minneapolis to design and construct the project. The Commission was recently informed that the Environmental Response Fund grant application to Hennepin County for \$150,300 is recommended for approval by staff to the County Board. Board approval is expected this month.

**2013 Four Season Area Water Quality Project (NL-2) (See Item 5D):** Since November 2015, the City of Plymouth has considered different options for this area including the original stream restoration, using only rock to stabilize the channel, and a flocculation facility. The City received comments on these options at a public meeting in January. Recently, a developer has proposed a redevelopment project (Agora) for the site that includes several innovative stormwater management features for the site. At their meeting in December, the Commission took action to contribute up to \$830,000 of Four Seasons CIP funds for stormwater management at the Agora development. An agreement for construction is expected to be presented at the February meeting.

**2014 Schaper Pond Diversion Project, Golden Valley (SL-3):** In August, the Commission Engineer reported that the structure had been vandalized and repair was needed. The City executed a change order with Sunram

Construction (the contractor for the project) to add weights to some of the baffle anchors. The weights will provide more support against wind loading on the baffle. Ice formed on the pond before the contractor could perform the work. It is expected that the contractor will add the weights soon after ice-out, which would allow some time to observe how the system/baffle functions before the Schaper Pond monitoring project begins in June. The contractor performed more seeding in the two access areas, which improved vegetation coverage, but more coverage is required to achieve final stabilization. Erosion control will be removed once the final stabilization is completed.

**2014 Twin Lake In-lake Alum Treatment, Golden Valley (TW-2):** 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 this summer will help determine if a second dose of alum is needed to retain water quality.

**2015 Main Stem Restoration Project 10th Avenue to Duluth Street, Golden Valley (2015CR) (See Item 4D):** Aside from a reimbursement request from Golden Valley (Item 4D), there are no changes since the November report: The restoration project is being constructed in two phases, each under separate contract. Phase one includes 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.

The City assessed the condition of the bank stabilization practices following the large rain events in July and August and found a handful of isolated areas where rocks and bio-logs were displaced enough where repairs are necessary. Repairs are scheduled for early December, weather dependent. It is anticipated that the project will enter the one-year warranty period following the completion of these repairs.

Phase two of the project includes the establishment of native vegetation along the stream, including grasses, wildflowers, shrubs, live stakes and fascines, and cordgrass plugs. The second phase of the contract, Native Buffer Vegetation installation is underway. The project has been seeded and stabilized and maintenance mowing and spot treatments have been completed. Applied Ecological Services (AES) will complete the tree and shrub planting in spring 2017 and 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.

**2016 Northwood Lake Improvement Project, New Hope (NL-1):** No update since November. A final reimbursement request and final report are expected at the February meeting. Construction on this project began this spring. Photos and construction progress are available at: <http://www.ci.new-hope.mn.us/departments/publicworks/2016infrastructure.shtml>

Northwood Lake Improvement Project is nearing completion with all major work complete. Minor punch list items remain and the tank will be left dry until next spring when it is started up for the season.

- The storm tank is complete, along with all pretreatment structures.
- The overflow rain gardens are complete and functional and planted, minor work remains on a clogged drain tile pipe in one rain garden bed.
- The irrigation box was installed in November.

- Mulch and seed were installed across the entire site and grass is established. The park was opened to the public in October. The official park opening event will be held spring of 2017.
- Jordan Pond and the overflow structure to Basset Creek at Hwy 169 is complete and established. Trees were planted to help screen neighboring properties.

**2016 Honeywell Pond Expansion Project, Golden Valley (BC-4):** Design plans for this project were approved by the Commission in November 2015. 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. To date, the contractor has cleared and graded the area near Douglas Drive and completed temporary stabilization. The diversion structure and outlet pipes were constructed from the pond to the street. Dewatering and excavation of the pond began recently and will continue for the next several weeks. It is expected that work on the water reuse system will begin next week.

**2018 Bassett Creek Park Pond & Winnetka Pond Dredging, Crystal (BCP-2):** At their July meeting the Commission approved a [proposal](#) from the Commission Engineer to complete the feasibility study which is now underway. The field investigations are complete, including bathymetric surveys, wetland delineations, and sediment sampling. Winnetka Pond West was dropped from further investigation when review of the bathymetric survey data indicated very little sediment accumulation. Sediment sample results indicate that all material at Winnetka Pond East is Level 1, indicating the excavated sediment can be reused at most sites. One sample at Bassett Creek Park Pond is a Level 2 and three samples are Level 1, which indicates limitations to reuse of the excavated sediment. The wetland type and boundary report was recently completed and approved. A technical stakeholder/permitting agency meeting is scheduled for January 17<sup>th</sup> and will include BCWMC staff, city staff, USACE, MN DNR, and MPCA. BCWMC and city staff will also begin planning a public input/open house meeting for residents.

## Other Projects

### Education Tasks:

I recently met with Dawn Pape, a.k.a. the Lawn Chair Gardener, to receive and review the new educational display materials she created. These will be presented at the February meeting along with a proposal for Dawn to continue coordinating some of the Commission's outreach efforts and communications

I continue to participate in the West Metro Water Alliance consortium at their monthly meetings, including gathering and editing articles for their quarterly electronic newsletter. I will also help WMWA coordinate with native plant growers to help promote the organization's Pledge to Plant campaign.

### Additional Activities:

I spent time preparing for and attending a meeting on the Agora development and preparing for and coordinating the Bassett Creek Park Pond Dredging Project. I also prepared the first draft of the AIS prevention grant, drafted and submitted the solicitation for legal and technical services, developed a webpage for the Bassett Creek Park Pond Dredging Project, communicated with the new Plymouth commissioners, and worked with the Commission Engineer to plan for 2017 activities.