

Memorandum

To: BCWMC Next Generation Plan Steering Committee
From: Karen Chandler and Greg Williams
Subject: DRAFT Gaps Analysis Document (Revised)
Date: December 13, 2012
Project: 23/27-0051.33-2012-404
c: BCWMC Commission

This document, referred to as the Gaps Analysis, includes a list of issues and/or topic areas and subsequent discussion of those issues/topic areas as they relate to the existing 2004 Bassett Creek Watershed Management Commission (BCWMC) Watershed Management Plan (2004 Plan). The Gaps Analysis will guide development of the new Plan by identifying new issues and existing topics from the 2004 Plan that may warrant updating in light of new data, priorities, or regulations. The issues discussed in the Gaps Analysis generally follow the organization of the 2004 Plan, although additional issues not discussed in the 2004 Plan are also included.

Source Documents Reviewed

Several regulatory and BCWMC documents were used to identify issues and potential gaps. Publicly available documents used in this analysis include:

- Minnesota Pollution Control Agency (MPCA) *Draft 2012 MS4 Permit*
- MPCA *Minnesota Stormwater Manual* (2008)
- MPCA National Pollution Discharge Elimination System (NPDES) Construction Stormwater Permit (2008)
- MPCA Minimal Impact Design Standards (MIDS)
 - Memoranda published from 2010 through 2012
- Watershed District and Watershed Management Organization documents
 - BCWMC *Watershed Management Plan* (2004 Plan) (2004)
 - BCWMC *Requirements for Improvements and Development Proposals* (Requirements document) (2008)
 - Shingle Creek Watershed Management Commission *Rules and Standards* (2009)

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- Elm Creek Watershed Management Commission *Watershed Management Plan – Appendix F – Standards* (2008)
- Minnehaha Creek Watershed District (MCWD) *Regulatory Rules* (2011)
- MPCA Total Maximum Daily Load (TMDL) studies and implementation plans for:
 - Sweeney Lake (2011)
 - Wirth Lake (2010)
 - Medicine Lake (2011)
- National Oceanographic and Atmospheric Administration (NOAA) Rainfall Atlas 14 – Draft (known as the TP-40 update) (October 2012)

Additional information solicited by the BCWMC and used to identify potential gaps includes:

- Comments in response to the BCWMC's notice of Watershed Management Plan update (June 2012) from:
 - Minnesota Board of Soil and Water Resources (BWSR) (letter dated 8/26/2012)
 - Minnesota Department of Natural Resources (MDNR) (letter dated 8/31/2012)
 - Metropolitan Council (letter dated 7/10/2012)
 - Three Rivers Park District (letter dated 9/4/2012)
- Issues identified by the Technical Advisory Committee (TAC) and summarized in a memorandum dated February 8, 2012
- Comments/suggestions solicited from the BCWMC Commissioners and heard at the September 24, 2012 and October 22, 2012 Steering Committee meetings.

Analysis of Gaps by Topic Area

This Gaps Analysis is organized according to the topic areas of the 2004 Plan. Topic areas within this document include Water Quality, Flooding and Rate Control, Erosion and Sediment Control, Stream and Lake Management, Wetland Management, Groundwater, Public Ditches, Public Education and Involvement, and Administration and Implementation. The Stream and Lake Management section of this document approximates the Stream Restoration section of the 2004 Plan, but includes stream and lake management topics not addressed within the 2004 Plan. While issues addressed in this document are categorized into one of the preceding sections, many of the issues have implications for other topic areas.

1.0 Water Quality

Section 4.0 of the 2004 Plan discusses water quality topics in the Bassett Creek watershed, including BCWMC goals and policies, management plans for key waterbodies, and the capital improvement plan

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(CIP) for water quality projects. The policies in this section address waterbody classification, monitoring, and project implementation. This section also references Level I water quality treatment standards and non-degradation standards for redevelopment, which are described in section 6.0 of the BCWMC *Requirements for Improvements and Development Proposals* (Requirements document). Level I standards and non-degradation standards for redevelopment are applicable to projects triggering BCWMC review; Level I standards include design criteria for BCWMC-approved BMPs.

Current Status	Identified Gap	Possible Outcome
<p><u>Level I Standards</u></p> <p>The BCWMC's Level I standards (Policy 4.2.2.4-A) are based on Nationwide Urban Runoff Program (NURP) design criteria. These standards are similar to member cities and surrounding WMOs. The water quality attained using Level I standards is based on comparison of post-project site conditions with and without BMPs. The BCWMC's non-degradation policy requires no increase in TP for redevelopment projects that result in increased impervious area.</p>	<p>The BCWMC's policy is not as stringent as the MPCA draft MS4 permit with respect to new development or redevelopment. The MPCA draft MS4 permit requires no net increase in total phosphorus (TP), total suspended solids (TSS), and volume; a reduction is required for redevelopment projects (regardless of the change in impervious area). The MPCA's draft MS4 permit requirements consider comparison of pre-project and post-project conditions, unlike Level I standards.</p>	<p>The TAC cited the importance of establishing quantifiable goals and methods to achieve them, especially with respect to water quality (see Attachment A). The BCWMC may use the planning process to consider changes to its water quality standards for new development and redevelopment, possibly to more closely align them with the MPCA draft MS4 permit. This change would likely require much discussion and therefore a higher level of effort. Changes to the BCWMC water quality standards would require changes to the Plan policy and Requirements document.</p>

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Current Status	Identified Gap	Possible Outcome
<p><u>Approved BMPs</u></p> <p>The Requirements document includes a list of approved BMPs that meet Level I standards. Other BMPs may be used with the approval of the Commission.</p>	<p>This list does not explicitly consider “green infrastructure” BMPs such as green roofs, rainwater harvesting and reuse, etc., listed in the MPCA draft MS4 Permit and described in the MPCA’s MIDS documentation. MIDS documents provide additional detail regarding BCWMC-approved BMPs that is not present in the Requirements document (e.g., vegetated versus unvegetated infiltration basins).</p>	<p>The BCWMC may consider expanding its list of acceptable BMPs, or citing the MPCA draft MS4 permit and/or MIDS. Revisions to BCWMC water quality standards (see above) may affect this gap. Such changes may require a moderate level of effort from city/BCWMC staff to define the list. Adding BMPs would require revision to the Requirements document, but may not require changes in Plan policies.</p>
<p><u>Infiltration</u></p> <p>The 2004 Plan and Requirements document include infiltration as an approved BMP for stormwater management. However, neither document <u>requires</u> infiltration or prioritizes infiltration as a preferred method for improving water quality or reducing stormwater volume. When infiltration methods are used, the BCWMC’s Level I standards require infiltration of the first 0.5 inches of runoff from impervious surfaces.</p>	<p>The MPCA draft MS4 Permit requires permittees to develop stormwater management programs that prioritize “green infrastructure” techniques, including infiltration. MIDS recommends infiltration of the first 1.1 inches of runoff from impervious surfaces (greater than the BCWMC’s 0.5 inches). Minnetonka, St. Louis Park, and Plymouth require infiltration (or other retention) as a means of volume control, and the cities of Crystal, Golden Valley, and Minneapolis encourage infiltration. The MDNR comment letter recommends that the BCWMC evaluate the need for infiltration/abstraction standards.</p>	<p>The BCWMC may use the planning process to determine the level to which infiltration should be required. Encouraging infiltration represents a smaller level of effort, but will require changes to the Plan and Requirements document. Developing and implementing a quantitative infiltration requirement (e.g., 1.1 inches) will require more discussion and a greater level of effort. The TAC identified "encouraging responsible infiltration" as a key role of the BCWMC, but expressed mixed opinions on whether the BCWMC should establish an infiltration or abstraction requirement to address water quality (see Attachment A).</p>

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<p><u>Redevelopment</u></p> <p>The 2004 Plan includes a redevelopment policy (Policy 4.2.2.4-A) that cites the importance of maximizing the amount of stormwater treatment obtained at the time of development, to avoid costly retrofitting in the future.</p>	<p>The BWSR and MDNR comment letters emphasize the importance of maximizing redevelopment and retrofit opportunities, as well as reduced imperviousness, in order to improve water quality. Because the Bassett Creek watershed is near full development, most opportunities to improve water quality will be through redevelopment projects. The 2004 Plan policy only applies to redevelopment projects that increase impervious area, potentially missing opportunities.</p>	<p>The planning process will allow the BCWMC to identify ways to find and take advantage of redevelopment opportunities, including land use plans and TMDL implementation plans. The BCWMC may consider funding additional treatment provided by redevelopment projects (e.g., performance beyond city standards or X-percent reduction below existing conditions). This will require a moderate to high level of effort, depending on the extent of policy changes (e.g., regarding funding methods).</p>
<p><u>TMDLs</u></p> <p>The 2004 Plan includes policies regarding general BCWMC participation in TMDL studies, but is vague regarding the roles and responsibilities the BCWMC will assume.</p>	<p>Since the development of the 2004 Plan, TMDLs have been approved for Sweeney Lake, Wirth Lake, and Medicine Lake, with specific roles and responsibilities assigned to the BCWMC. There is also the potential for increased watershed monitoring (e.g., watershed loading to Medicine Lake) stemming from these TMDLs. Future TMDLs will include Northwood Lake and Bassett Creek. Three Rivers Park District identified the Medicine Lake TMDL implementation plan as a priority for the BCWMC in its comment letter. The TAC cited a need for more clarity regarding how water quality issues are being addressed (e.g., TMDLs) and identification of the responsible party or program (see Attachment A).</p>	<p>The Plan will need to be revised to reflect the BCWMC's current roles in existing TMDLs and position the BCWMC for future roles. The planning process is an opportunity for the BCWMC to clarify responsible parties for non-TMDL water quality issues. Inclusion of existing roles in the Plan will require a moderate level of effort; greater discussion (and therefore a higher level of effort) will be required to define roles related to future TMDLs and non-TMDL water quality issues.</p>

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Current Status	Identified Gap	Possible Outcome
<p><u>Water Quality Project Maintenance</u></p> <p>The 2004 Plan provides limited detail regarding the BCWMC’s maintenance responsibility for water quality projects. The BCWMC uses the Creek and Streambank Trunk System Maintenance, Repair and Sediment Removal Fund (“Channel Maintenance Fund”) to finance the portion of a stream project that provides BCWMC benefits (including water quality); this definition has limited applicability (see also Flooding and Rate Control).</p>	<p>There is lack of understanding regarding the breakdown of maintenance responsibilities between the BCWMC and member cities for water quality projects.</p>	<p>The TAC recommends that the planning process address maintenance responsibilities for water quality management facilities constructed as part of the BCWMC CIP. This will require much discussion regarding policy and funding, and is therefore a high level of effort.</p>
<p><u>Water Quality Monitoring</u></p> <p>The 2004 Plan states that the BCWMC will coordinate with others to monitor water quality within the watershed.</p>	<p>There may be missed opportunities to enhance monitoring, education, or other water quality-related programs. In addition, there may be duplication of effort between multiple parties.</p>	<p>The TAC recommends that the BCWMC explore water quality programs and partnerships that build on the existing schedule of rotating monitoring efforts (see Attachment A). As part of the planning process, the BCWMC may develop a list of ongoing monitoring and other water quality programs (by BCWMC and others) to evaluate or prioritize coordination efforts. Generating this list will require a moderate level of effort. Developing coordination will require greater discussion and a high level of effort.</p>

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2.0 Flooding and Rate Control

Section 5.0 of the 2004 Plan addresses flooding and rate control within the watershed, but focuses on the Bassett Creek trunk system (defined in the 2004 Plan). This section includes description of past flooding, the Bassett Creek Flood Control Project, and other flood mitigation projects. The 2004 Plan includes policies regarding floodplain management, as well as policies specifically related to the Bassett Creek Flood Control Project. Section 5.0 of the BCWMC Requirements document includes floodplain regulations applicable to development within the Bassett Creek watershed.

Current Status	Identified Gap	Possible Outcome
<p><u>Atlas 14 (TP-40 Update)</u></p> <p>The 2004 Plan references storm events based on recurrence interval (e.g., 10-year event); these are commonly referred to as “design storms”. Table 3.2 lists TP-40 precipitation totals. Section 5.3.1 describes past flooding events with reference to TP-40 recurrence intervals. Several policies in Sections 5.2.2.1 and 5.2.2.2 related to flood protection refer to the 100-year event.</p>	<p>The draft rainfall Atlas 14 (the TP-40 update) includes updated precipitation frequency estimates for Midwestern states, including Minnesota. Although still preliminary, the results include increases in storm event precipitation totals for some storm event. For example, at the Minneapolis-St. Paul Airport, 100-yr 24-hour storm event increases from 6.0 to 7.9 inches. Member city and BCWMC stormwater management policies reference storm events that may be outdated. These changes may affect:</p> <ul style="list-style-type: none"> - Member city rate controls and other standards - Stormwater infrastructure design criteria - BCWMC policies related to the BCWMC Flood Control Project, trunk system, and floodplain management - Floodplain delineation (FEMA and BCWMC) 	<p>The planning process is an opportunity for the BCWMC to determine how it wishes to address changes to precipitation totals presented in Atlas 14. This will require a high level of effort, as the changes have broad (and potentially costly) implications to both the BCWMC and member cities. Incorporation of Atlas 14 will require updates to Plan text and tables, and possibly revised Plan policies. The BCWMC’s consideration of rate control requirements (see Rate Control gap) may also be affected by changes in rainfall amounts.</p>

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<p><u>Rate Control</u></p> <p>The 2004 Plan specifies that member cities must require “rate control in conformance with the flood control project system” (Policy 5.2.2.2-E).</p>	<p>The existing rate control requirement is vague and has limited scope. The Shingle Creek WMC, Elm Creek WMC, and Minnehaha Creek Watershed District limit post-development runoff rates to pre-project conditions for storm events of specific return intervals. Crystal, Medicine Lake, Minnetonka, and Plymouth require no increase in 2-yr, 10-yr, and 100-yr flow rates (Minneapolis requires no increase in rate from the 5-yr and 100-yr storm events). The TAC recommends that the BCWMC consider strengthening or quantifying policies regarding rate and volume control.</p>	<p>The planning process is an opportunity for the BCWMC to develop quantitative rate control requirements, if desired. Such requirements would necessitate edits to policies in the Plan and the Requirements document. This would require a high level of effort if Atlas 14 results are to be considered in the rate controls (see Atlas 14 / TP-40 Update gap).</p>
<p><u>Flood Protection</u></p> <p>The 2004 Plan cites flood protection as a goal of the BCWMC (Section 5.2.1). The TAC feels that modification to the existing flood control project is not a high priority, and that current methods are working.</p>	<p>The TAC recommends that the BCWMC monitor opportunities to incorporate flood control objectives into other projects (see Attachment A).</p>	<p>The BCWMC may consider policies encouraging the consideration or incorporation of flood control objectives into all projects. This would likely require a moderate level of effort and result in changes to the Plan policies.</p>
<p><u>Flood Elevations</u></p> <p>The 2004 Plan includes 100-year flood elevations for many locations within the Bassett Creek watershed (Table 5-3).</p>	<p>Differences exist between BCWMC-determined 100-yr flood elevations and Federal Emergency Management Agency (FEMA) 100-yr flood elevations. The TAC recommends the BCWMC continue to monitor differences between BCWMC and FEMA 100-yr flood elevations (see Attachment A).</p>	<p>The BCWMC may consider policies to specify how conflicts between FEMA and BCWMC flood levels will be identified and resolved. This would likely require a moderate level of effort and result in changes to the Plan policies.</p>

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3.0 Erosion and Sediment Control

Section 6.0 of the 2004 Plan focuses on erosion and sediment control and includes applicable BCWMC policies. The BCWMC reviews projects for compliance with erosion and sediment control standards. Requirements for developers are included in Section 7.0 of the BCWMC Requirements document and reference the MPCA's NPDES Construction Stormwater Permit and *Protecting Water Quality in Urban Areas* (superseded by the Minnesota Stormwater Manual).

Current Status	Identified Gap	Possible Outcome
<p><u>NPDES Construction Stormwater Permit</u></p> <p>The Requirements document references the current NPDES Construction Stormwater Permit (MPCA, 2008)</p>	<p>The current NPDES Construction Stormwater Permit is scheduled to be updated in 2013 and will likely include new monitoring requirements consistent with federal regulations (more information pending December 17 MPCA informational meeting). This schedule, if it lags, may make it difficult to align the new BCWMC Plan with the permit changes, if desired.</p>	<p>The BCWMC may revise language in the Plan and Requirements document to generally require compliance with the NPDES Construction Stormwater Permit with limited specificity. This will require a moderate level of effort.</p>
<p><u>Erosion Control Thresholds</u></p> <p>BCWMC sediment and erosion control standards are triggered by greater than 200 cubic yards of cut or fill or disturbed area greater 10,000 square feet.</p>	<p>Member city thresholds for sediment and erosion control standards are similar to or more stringent than the BCWMC. Similar triggers provide potential opportunity for coordinating inspection efforts with member cities.</p>	<p>The planning process is an opportunity for the BCWMC to revise its erosion and sediment control triggers, if desired. This will require a high level of effort and will require revisions to the Plan policies and Requirements document.</p>
<p><u>Sediment Deltas</u></p> <p>The 2004 Plan includes policies describing the use of the Channel Maintenance Fund, which includes removal of accumulated sediment within the trunk system. However, the Plan but does not address sediment accumulation in lakes.</p>	<p>Sediment deltas have accumulated in lakes within the Bassett Creek watershed. Roles, responsibilities and funding sources for addressing sediment accumulation are not defined.</p>	<p>The TAC recommends that the planning process address roles, responsibilities and funding sources for removing these sediment deltas (see Attachment A). This will require a moderate level of effort and will include revisions to Plan policies.</p>

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Current Status	Identified Gap	Possible Outcome
<p><u>Erosion Control Inspections</u></p> <p>Member cities and the BCWMC both perform erosion control inspections of development projects.</p>	<p>This process provides BCWMC oversight and helps maintain consistency among all members, but may represent a duplication of effort.</p>	<p>The TAC recommends that the planning process review the purpose and responsibilities for conducting erosion control inspections (see Attachment A). This will require a high level of effort and will include revisions to Plan policies.</p>

4.0 Stream and Lake Management

Section 7.0 of the 2004 Plan addresses stream restoration and includes policies regarding the establishment and use of a Creek and Streambank Trunk System Maintenance, Repair, and Sediment Removal Fund (“Channel Maintenance Fund”). The 2004 Plan and later member city inventories identify areas of bank erosion and sedimentation within Bassett Creek. Other policies emphasize the preservation of habitat and aesthetics. Requirements for streambank erosion and streambed degradation control measures are listed in Section 8.0 of the BCWMC Requirements document. Elements of lake management not directly associated with water quality or flooding are not addressed in the 2004 Plan.

Current Status	Identified Gap	Possible Outcome
<p><u>Stream Restoration</u> <u>Prioritization Factors</u></p> <p>The 2004 Plan includes factors for prioritization of stream restoration projects, such as severity of erosion, stability of the site, quantity and quality of affected resources, cost, water quality benefits, and input from member cities.</p>	<p>The MDNR comment letter suggests specific prioritization factors representing a more holistic, ecological approach, including (but not limited to): extent to which the project addresses a systemic problem, breadth of benefits (e.g., habitat, water quality, and channel evolution), location within the watershed, and potential for controversy.</p>	<p>The planning process is an opportunity for the BCWMC to reassess factors for prioritization of stream restoration projects. This will require a moderate level of effort and may result in changes to Plan policies.</p>

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<p><u>Stream Stabilization Methods</u></p> <p>The 2004 Plan does not require or encourage specific methods for stream stabilization.</p>	<p>The MNDR comment letter discourages the use of “highly-engineered, hard-control solutions” for stream stabilization (e.g., riprap, checkdams) in favor of methods that promote natural functions and reduce maintenance requirements (MDNR draft restoration guidelines are available from Nick Proulx).</p>	<p>The planning process is an opportunity for the BCWMC to encourage natural methods for stream restoration. This will likely require a moderate level of effort and may require changes in Plan policy.</p>
<p><u>Aquatic Invasive Species (AIS)</u></p> <p>The 2004 Plan does not address AIS. The role of the BCWMC in AIS management is limited to curlyleaf pondweed control.</p>	<p>The MDNR comment letter identifies aquatic invasive species (AIS) as a significant threat to Minnesota’s lakes and rivers. The Three Rivers Park District comment letter also cites this issue. The Association of Medicine Lake Area Citizens (AMLAC) has also requested BCWMC support of AIS management efforts. The role of the BCWMC in addressing AIS is not well defined.</p>	<p>The planning process provides an opportunity for the BCWMC to define its role with respect to AIS. Roles of the BCWMC could include:</p> <ul style="list-style-type: none"> - Continued monitoring of waterbodies - Public education and outreach - Financial sponsorship of other groups’ efforts - Management of AIS to preserve or improve recreational uses - Capital projects incorporating AIS control or prevention elements <p>This will require a high level of effort and may require changes to Plan policies.</p>
<p><u>Rare and Endangered Species</u></p> <p>Section 3.7 of the 2004 Plan generally describes rare and endangered species within the Bassett Creek watershed.</p>	<p>Protection of rare and endangered species is not addressed within the policies of the 2004 Plan. The MDNR comment letter recommends including goals and policies to address how these resources will be protected.</p>	<p>The planning process is an opportunity for the BCWMC to define policies aimed at the protection of rare and endangered species. This will likely require a moderate level of effort.</p>

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5.0 Wetland Management

Section 8.0 of the 2004 Plan describes wetland management in the Bassett Creek watershed. Member cities act as the local governmental units (LGUs) responsible for administering the wetland conservation act (WCA) with the exceptions of Medicine Lake, Robbinsdale, and St. Louis Park; for those communities, the BCWMC acts as the LGU. The BCWMC Requirements document does not explicitly include requirements for wetlands other than requiring compliance with WCA and “other wetland regulations” (e.g., member city standards).

Current Status	Identified Gap	Possible Outcome
<p><u>Buffer Widths</u></p> <p>The 2004 Plan does not include a minimum wetland buffer policy or requirement. The 2004 Plan requires member cities to include a buffer policy in local water management plans.</p>	<p>The Shingle Creek WMC, Elm Creek WMC, and MCWD have created buffer policies for wetlands. In some cases, specific buffer widths are defined for individual waterbodies. Buffer widths vary amongst the BCWMC member cities.</p>	<p>The planning process is an opportunity for the BCWMC to evaluate support for, and the benefits of, a watershed-wide buffer policy for wetlands and other resources (e.g., lakes and Bassett Creek) (see Attachment A). This will require a moderate amount of effort and changes to Plan policies and the Requirements document.</p>
<p><u>Wetland Regulation</u></p> <p>Section 8.0 of the 2004 Plan describes BCWMC’s role in wetland management. The BCWMC acts as the LGU for administering WCA in three member cities.</p>	<p>The TAC identified concerns regarding the adequacy of existing regulatory controls and programs.</p>	<p>The TAC recommends that the planning process evaluate the BCWMC’s role regarding wetland issues (see Attachment A). Reassessment of BCWMC’s role will require a moderate level of effort, and may require changes to Plan policies.</p>

6.0 Groundwater

Section 9.0 of the 2004 Plan addresses groundwater issues in the Bassett Creek watershed. The policies in this section require the use of liners or other engineering controls to prohibit undesirable infiltration from detention ponds, but otherwise avoid being prescriptive. The BCWMC reviews all MDNR groundwater appropriation permits within the BCWMC. The BCWMC Requirements document indirectly addresses groundwater protection via design criteria for water quality BMPs.

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<p><u>Groundwater Management Role</u></p> <p>The 2004 Plan encourages actions by member cities, Hennepin County, and state agencies, but assigns few roles to the BCWMC regarding groundwater management. The 2004 Plan describes the role of other agencies in limited detail.</p>	<p>The BWSR comment letter identifies groundwater as a subject of increasing concern. The BCWMC's role in groundwater management is vague.</p>	<p>The planning process presents an opportunity for the BCWMC to assess and define its role in groundwater management, especially as related to the interaction of groundwater and surface water resources. Roles for the BCWMC could include:</p> <ul style="list-style-type: none"> - Groundwater level monitoring - Cooperation and coordination with other regulatory entities (e.g., Hennepin County) - Establishing requirements through policies. <p>The TAC recommends that the planning process review the Hennepin County Groundwater Plan for implications to existing or potential future BCWMC policies (see Attachment A). Assessment of the BCWMC's groundwater management role will require a high level of effort and may require changes to Plan policies.</p>
<p><u>Groundwater Protection/MIDS</u></p> <p>Section 9.0 of the 2004 Plan contains information about state agency roles pertaining to groundwater protection, including the MPCA.</p>	<p>The recent MPCA's Minimal Impact Design Standards (MIDS) project includes information regarding the protection of groundwater resources as related to infiltration practices. This information is not included in the Plan or Requirements document.</p>	<p>The planning process is an opportunity to incorporate (or reference) site considerations and decision-making tools for groundwater protection developed as part of the MIDS project. This will require a moderate level of effort and may require changes to the Plan policies and Requirements document.</p>

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Current Status	Identified Gap	Possible Outcome
<p><u>Minnesota Department of Health (MDH) Guidance</u></p> <p>Section 9.3 of the 2004 Plan references the MDH’s Wellhead Protection Program.</p>	<p>The MDH addresses groundwater protection through administration of the Wellhead Protection Program, which requires public water suppliers who obtain water from wells to prepare and enforce wellhead protection plans (WHPPs). The MDH provides a guidance document <i>Evaluation Proposed Stormwater Infiltration Projects in Vulnerable Wellhead Protection Areas</i> (2007); this document is not referenced by the BCWMC Plan.</p>	<p>The planning process provides an opportunity for the BCWMC to evaluate or incorporate MDH guidance regarding groundwater protection and infiltration. This will require a moderate level of effort and may result in changes to Plan policies and the Requirements document (see above Groundwater Protection/MIDS gap and Infiltration gap in Section 1.0).</p>

7.0 Public Ditches

Section 10.0 of the 2004 Plan contains information and policies regarding public ditches within the Bassett Creek watershed. The BCWMC manages public ditches that are part of the trunk system, while member cities are responsible for the management of public ditches within their municipal drainage systems. The BCWMC was asked by Hennepin County to support legislation (passed in 2008) which streamlines the abandonment of public ditches and the transfer of management responsibility.

Current Status	Identified Gap	Possible Outcome
<p><u>Public Ditch Management</u></p> <p>Public ditches within the Bassett Creek watershed remain under the management of Hennepin County, but are not actively managed by the county.</p>	<p>The lack of active management of public ditches by the county results in complications/delays for projects that involve these ditches.</p>	<p>The BCWMC could assume a more active role in the process to abandon these ditches and transfer management authority to the BCWMC and/or member cities. This will require a high level of effort and may result in changes to Plan policies.</p>

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8.0 Public Involvement and Education

Section 11.0 of the 2004 Plan addresses public involvement and education efforts of the BCWMC. The 2004 Plan focused on goals of conveying information regarding the BCWMC and its role, increasing public involvement in the planning process, and affecting public behaviors with water resource impacts. The 2004 Plan identifies specific key messages related to the aforementioned goals.

Current Status	Identified Gap	Possible Outcome
<p><u>City Staff Training</u></p> <p>Section 11.0 of the 2004 Plan cites local governmental staff as a target audience for key BCWMC messages.</p>	<p>The MPCA draft MS4 permit’s minimum control measures require permittees to implement and document “employee training” programs. The 2004 Plan does not specify training programs targeted at member city staff.</p>	<p>The BCWMC could consider implementing city staff training programs and recordkeeping practices to educate member city staff regarding significant BCWMC issues and best practices. This will require a moderate level of effort.</p>
<p><u>Evaluation Metrics</u></p> <p>The 2004 Plan identifies specific metrics to evaluate success of education and outreach programs, as recommended in the BWSR comment letter.</p>	<p>The 2004 Plan includes many key messages and respective target audiences. Specific metrics are not defined for some educational goals, or may be outdated.</p>	<p>The planning process presents an opportunity to evaluate existing metrics and consider ways the BCWMC can demonstrate to the public that it is operating effectively. This will require a moderate level of effort.</p>
<p><u>Information Distribution</u></p> <p>The 2004 Plan identifies media and distribution methods used to distribute information (e.g., BCWMC website, fact sheets, television).</p>	<p>The 2004 Plan does not include recent developments in communication technology and behaviors (e.g., social media, mobile computing).</p>	<p>The planning process is an opportunity to incorporate new technologies or methods of interacting with the public. This will require a moderate level of effort and may include revisions to Plan policies.</p>

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Current Status	Identified Gap	Possible Outcome
<p><u>Project-based Educational Programs</u></p> <p>Section 11.2.2.4 of the 2004 Plan includes some educational policies linked to specific projects (e.g., before and after project photos, signage at projects). Most educational policies, however, are not linked to specific projects or types of projects.</p>	<p>The BWSR comment letter strongly recommends implementing education and public involvement efforts in support of real actions or projects.</p>	<p>The BCWMC may consider methods to identify and take advantage of public education opportunities associated with specific projects. This will require a moderate amount of effort and may require changes to Plan policies.</p>
<p><u>Educational Program Topics</u></p> <p>Section 11.0 of the 2004 Plan identifies several “key messages” and educational topics that the BCWMC prioritized for public broadcast, although the list is not exhaustive.</p>	<p>The TAC expressed interest in expanding education programs subject to available funding (see Attachment A). The TAC suggested educational efforts to address issues including TMDLs, citizen concerns regarding the value of studies versus projects, and concerns of citizens living near low priority waterbodies.</p>	<p>The planning process is an opportunity to identify topics not adequately addressed in the current education program. This will require a moderate level of effort and may require changes to the Plan policies.</p>
<p><u>Joint Education Programs</u></p> <p>Policy 11.2.2.4-A of the 2004 Plan addresses the use of joint education/outreach programs and partnerships</p>	<p>The TAC believes there are greater opportunities for partnership between the BCWMC and member cities in developing educational materials, but recommended more clarity of BCWMC and member city roles regarding education and public involvement.</p>	<p>The planning process is an opportunity to reassess potential partnership opportunities and define roles for educational efforts. Identifying opportunities will require a moderate level of effort. Creating partnerships with defined roles may require a high level of effort.</p>

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9.0 Administration and Implementation

Section 12.0 of the 2004 Plan describes administration of the BCWMC and presents the BCWMC implementation program. This section identifies the responsibilities of the BCWMC, including the trunk system, review of improvements, development proposals, and other permits, intercommunity planning and design, and dispute resolution. This section also describes the roles of the member cities and other agencies.

Current Status	Identified Gap	Possible Outcome
<p><u>Performance Goals</u></p> <p>The 2004 Plan includes many quantifiable goals and policies (especially those related to water quality, flood control, and public education).</p>	<p>Many goals and policies in the 2004 Plan are presented without a corresponding strategy to quantify performance. The BWSR and Metropolitan Council comment letters cite the need for quantifiable goals and policies related to all water management topics (in addition to water quality).</p>	<p>The TAC suggests that the planning process should explore the need for and purpose of quantifiable goals for water management topics outside of water quality (see Attachment A). This will require a high level of effort.</p>
<p><u>Financial Impacts of Regulatory Controls</u></p> <p>BCWMC member cities are subject to regulatory controls stemming from the MPCA draft MS4 permit, WMO requirements, and other agency requirements.</p>	<p>Regulatory controls applicable to BCWMC member cities have financial impacts. The financial impact of such regulation is not adequately defined.</p>	<p>The TAC supports analyzing the financial impact of regulatory controls on member cities (see Attachment A). This will require a high level of effort by the BCWMC and member cities.</p>

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Current Status	Identified Gap	Possible Outcome
<p><u>Flood Control Project Inspection and Maintenance</u></p> <p>The BCWMC's <i>Operation and Maintenance Manual for the Bassett Creek Flood Control Project</i> (O&M Manual) requires annual inspection of the flood control project. The BCWMC performs inspections of the flood control project, but member cities are responsible for MS4 reporting.</p>	<p>The MPCA draft MS4 permit includes revised inventory, inspection, and maintenance requirements for stormwater systems. Although the BCWMC is not an MS4, the BCWMC O&M Manual generally satisfies the requirements of the draft MS4 permit. Alignment of the O&M Manual with MS4 requirements may reduce member city inspection efforts. Revisions to the O&M Manual may be required to incorporate elements of the pond assessment included in the draft MS4 permit. The TAC also cited a need for more clarity regarding maintenance policies (see Attachment A).</p>	<p>The planning process is an opportunity for the BCWMC to assess opportunities for streamlining inspections and add clarity regarding maintenance responsibilities. These actions will require a high level of effort and coordination between the BCWMC and member cities.</p>
<p><u>Flood Control Project Replacement</u></p> <p>The BCWMC Flood Control Project is aging. Portions of the project may need to be replaced in the future. Funding mechanisms currently exist for maintenance of the Flood Control Project.</p>	<p>It is unclear whether existing funding mechanisms (e.g., Long Term Fund) will be adequate to address increased maintenance and/or eventual replacement of the Flood Control Project system components in the future.</p>	<p>The planning process is an opportunity to re-evaluate the financial considerations for maintenance and replacement for the flood control project. These actions will require a high level of effort and coordination between the BCWMC and member cities, especially if additional funding mechanisms are deemed necessary.</p>

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Current Status	Identified Gap	Possible Outcome
<p><u>Minnesota Statute 103B</u></p> <p>The 2004 Plan references Minnesota Statute 103B, which describes the regulatory process for the development and revision (amendment) of watershed management plans.</p>	<p>Minnesota Statute 103B has been revised since the 2004 Plan; the 2004 Plan contains outdated information regarding the Plan amendment process.</p>	<p>The planning process should reference the updated statute and revised plan review process. This will require a minor level of effort.</p>
<p><u>Member City Responsibilities</u></p> <p>Section 12.1.2 of the 2004 Plan lists responsibilities for member cities. Section 12.4.2 describes BCWMC review of local water management plans, but does not describe any auditing process.</p>	<p>BWSR requires watershed management plans to clearly define the roles of WMOs and member cities and recommends a “mandatory checklist” for member cities. The TAC cites a need for more clarity regarding the division of responsibilities between the BCWMC and member cities (see Attachment A).</p>	<p>BWSR recommends that the BCWMC develop a defined auditing process for “spot-checking” municipalities for compliance, as well as assessing implementation of local water management plans. This will require a moderate level of effort.</p>
<p><u>Multi-City Issues</u></p> <p>Sections 12.1.1.2 and 12.1.1.3 of the 2004 Plan describe the BCWMC’s role regarding intercommunity stormwater planning and dispute resolution, respectively. Section 12.4 of the 2004 Plan states that the BCWMC will review changes to an intercommunity stormwater system that are inconsistent with a city’s approved plan or the BCWMC Plan.</p>	<p>The TAC cited a need for more clarity in determining whether an issue is a BCWMC issue versus member city issue, but expressed little support for expanding the responsibility and oversight of the BCWMC (see Attachment A). Policy changes may be necessary to address multi-city water management issues.</p>	<p>The planning process is an opportunity for the BCWMC to examine multi-city issues and assess whether the BCWMC is the best entity to resolve inter-governmental issues. This will require a moderate level of effort by the BCWMC and member cities.</p>

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Current Status	Identified Gap	Possible Outcome
<p><u>Project Review Triggers</u></p> <p>The BCWMC’s thresholds and triggers for project review are similar to surrounding WMOs, although Minnehaha Creek Watershed District’s threshold is lower.</p>	<p>Within the BCWMC, Crystal and Minnetonka have lower thresholds for review. There may be opportunities to revise review and inspection processes to avoid duplication of efforts, while maintaining an appropriate level of oversight.</p>	<p>The planning process provides an opportunity for the BCWMC to assess whether its existing triggers for project review are appropriate. This will require a moderate level of effort from the BCWMC and member cities.</p>
<p><u>Cooperative Resource Protection</u></p> <p>The 2004 Plan does not address ecological corridor, open space or greenway preservation (outside of Bassett Creek itself).</p>	<p>The BWSR comment letter recommends collaboration with other WMOs to pursue programs using bonds for purchasing of ecological corridors, resource protection, easement acquisition or other water management purposes.</p>	<p>The planning process represents an opportunity to analyze and recommend opportunities to maximize cooperative relationships with other regulatory agencies, including adjacent WMOs. Identification of opportunities will require a moderate level of effort.</p>
<p><u>CIP Oversight</u></p> <p>Section 4.0 of the 2004 Plan includes policies related to CIP implementation, but is limited to water quality projects. The recently completed CIP process flow chart adds clarity to the existing project implementation process, including Commission oversight.</p>	<p>Section 12.0 of the 2004 Plan does not include policies regarding CIP implementation or funding of BCWMC projects outside of water quality projects. The TAC expressed strong support for an annual review of the CIP and process documentation (see Attachment A).</p>	<p>The planning process is an opportunity to evaluate and refine procedures for inclusion and subsequent implementation of projects in the CIP, including the level of Commission oversight during the process. This will require a moderate level of effort.</p>

Outcomes and Next Steps

Changes in regulations, available data, BCWMC priorities, agency expectations and public perceptions all affect the next generation planning process. This document identifies gaps between the 2004 Plan and the drivers to be resolved in the next generation planning process. The issues described herein should be considered during subsequent steps in the next generation planning process. The Gaps Analysis has identified these issues, but does not contain the necessary information to resolve them. Instead, this

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document should guide discussion by the next generation plan steering committee, commissioners, or other groups during the plan update process.

Attachment A

Technical Advisory Committee Identified Issues

The Technical Advisory Committee (TAC) completed five questionnaires addressing several topics between August 2010 and February 2012. A Barr Engineering memorandum dated February 8, 2012 and presented to the BCWMC at its February 16, 2012 meeting describes the results of those questionnaires. This section provides a summary of those results, listing items that warrant consideration by the BCWMC in the planning process. This list is not comprehensive; additional detail regarding each topic is available in the original memo.

Public Education and Involvement

- Existing programs are working, but there is support for expanding programs subject to funding availability
- There are opportunities for increased partnership between the BCWMC and member cities; greater clarity of city roles is needed

Erosion and Sediment Control

- The new Plan should address roles, responsibilities and funding for removal of sediment deltas in Bassett Creek and lakes
- The BCWMC should review the function and responsibilities for conducting erosion inspections

Flooding and Rate Control

- The BCWMC should monitor opportunities to incorporate flood control objectives into other projects
- Differences between BCWMC and FEMA floodplain elevations should continue to be monitored
- The new Plan should consider strengthening or quantifying policies regarding rate and volume control

Funding

- There is support for analyzing the financial impact of regulatory controls on member cities

Groundwater

- A key role of the BCWMC is to encourage responsible infiltration
- The BCWMC should review the Hennepin County Groundwater Plan for implications on existing or potential future BCWMC policies.

Attachment A

Planning Process

- More clarity is needed on what defines a BCWMC issue versus member city issue
- There is strong support for an annual review of the CIP (and process documentation)
- The planning process should explore the need for and purpose of quantifiable goals for water management topics outside of water quality

Water Quality

- More clarity is needed regarding how water quality issues are being managed and who or what process is responsible for addressing them
- The planning process should address quantifiable water quality goals and methods to achieve them
- The new Plan should address maintenance responsibilities for water quality projects

Wetlands

- The BCWMC's role regarding wetland issues should be considered in the planning process
- The BCWMC should assess whether there is support for stronger buffer requirements

BCWMC/City Evaluation, Accountability, and Enforcement

- There is agreement that the BCWMC and member cities cooperate to establish quantifiable goals and policies for each topic area and monitor them for success

BCWMC/City Responsibilities

- More clarity is needed regarding the division of responsibilities
- There is little support for increasing the responsibility and oversight by the BCWMC

New Issues (Identified since June 2010)

- More clarity is needed regarding maintenance policies
- Opinions are mixed on whether the BCWMC should establish an infiltration or abstraction requirement to address water quality