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## 5.0 Implementation Program

This section describes the significant components of the City's Surface Water Management Plan (SWMP) implementation program, including implementation of the City's NPDES MS4 Permit, operation and maintenance of the City's stormwater system, education and public involvement, funding, ordinance implementation and official controls, and implementation priorities. The implementation program is presented in tabular format at the end of this section. Table 5-1 through Table 5-3 summarize the different types of implementation activities as follows:

- Table 5-1 Implementation Program – Capital Improvements
- Table 5-2 Implementation Program – Programs
- Table 5-3 Implementation Program – Studies

### 5.1 NPDES MS4 Permit

Under the U.S. Environmental Protection Agency's (EPA) Storm Water National Pollutant Discharge Elimination System (NPDES) Rules, the City of Richfield is required to maintain a Municipal Separate Storm Sewer System (MS4) Permit for managing non-point source stormwater. The City last renewed its MS4 permit in 2013. As part of the permit, the City must also prepare and maintain a Storm Water Pollution Prevention Program (SWPPP) addressing all requirements of the permit.

The SWPPP outlines the appropriate best management practices (BMPs) for the City of Richfield to control or reduce the pollutants in stormwater runoff to the maximum extent practicable. The City will accomplish this through the implementation of the BMPs outlined within its SWPPP. These BMPs are a combination of education, operations and maintenance, control techniques, system design and engineering methods, and other such provisions that are appropriate to meet the requirements of the NPDES permit.

BMPs have been prepared to address each of the following six minimum control measures as outlined in the rules:

1. Public education and outreach on stormwater impacts
2. Public participation/involvement
3. Illicit discharge detection and elimination
4. Construction site stormwater runoff control
5. Post-construction stormwater management in new development and redevelopment
6. Pollution prevention/good housekeeping for municipal operations

For each of these six minimum control measures, the City identified appropriate BMPs, along with measurable goals, an implementation schedule, and the City staff responsible to complete each measure. The SWPPP BMP implementation program is incorporated by reference into the City's overall stormwater implementation program; additional detail may be found in the City SWPPP (see Appendix C).

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Prior to June 30 of each year of the five-year permit cycle, the City must hold an annual public meeting. At this meeting, the City is to distribute educational materials and present an overview of the MS4 program and the City's SWPPP. The City also receives oral and written statements and considers them for inclusion into the SWPPP. Also prior to June 30, the City must submit an annual report to the MPCA. This annual report summarizes the following:

1. Status of Compliance with Permit Conditions. The annual report contains an assessment of the appropriateness of the BMPs and the City's progress toward achieving the identified measurable goals for each of the minimum control measures. This assessment is based on results collected and analyzed, inspection findings, and public input received during the reporting period.
2. Work Plan. The annual report lists the stormwater activities that are planned to be undertaken in the next reporting cycle.
3. Modifications to the SWPPP. The annual report identifies any changes to BMPs or measurable goals for any of the minimum control measures.
4. Notice of Coordinated Activities. A notice is included in the annual report for any portions of the permit for which a government entity or organization outside of the MS4 fulfills, or assists with fulfilling, any BMP contained in the SWPPP.

## 5.2 Stormwater System Operation and Maintenance

The City of Richfield is responsible for maintaining its stormwater system, including storm sewer pipes, ponds, pond inlets and outlets, and channels. The City implements an operation and maintenance program consistent with the requirements of its MS4 SWPPP. The City's operation and maintenance program is summarized as a single line item in Table 5-2; more detailed information is available in the City SWPPP.

Stormwater pond maintenance is a significant element of the City's overall maintenance program. The program includes sediment removal in many of the stormwater treatment ponds in the city. Levels of pond management activities include:

- **Pond Cleanout:** General routine clean out activities to remove debris or sediment. This work is generally done by City crews without construction plans.
- **Minimal maintenance:** Removing sediment deltas near storm sewer outfalls and complete other obvious work that would allow the basin to continue to function in a manner consistent with its intended function.
- **Expanded maintenance:** Remove sediment deltas and deepen the pond throughout its footprint to bring it back to a condition that was present when it was originally constructed. Some bank shaping and vegetation establishment work could also be included in this maintenance.
- **Full restoration:** Significantly deepen the pond, undertake grading near the shoreline to enhance the aquatic and upland vegetation, define buffer areas, create areas where sediment can be easily trapped and removed in the future, and complete landscaping and vegetation management for the ponding area.

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The City plans to use water quality model results and possibly pond bathymetric measurements to identify those ponds that may require more frequent inspection and maintenance and identify opportunities to implement water quality enhancements as funding is available.

Along with the stormwater pond sediment removal program, the City of Richfield also has an active catch basin cleaning program. The City cleans sump catch basins, and many other catch basins that collect sediment, as needed.

The City recognizes the benefits of sweeping streets—sweeping removes pollutants and litter from the pavement surface before the pollutants are carried away by stormwater runoff into lakes and streams. The City has maintained an active street sweeping program for many years. The City currently performs major street sweeping efforts in the spring and in the fall, and completes more routine efforts through the summer. Areas where there is a high degree of deposition of organics and soils onto the street are swept more often. The City monitors its streets and sweeps as often as needed to prevent the accumulation of sediment on the street.

The City performs additional inspection and maintenance activities as required by its MS4 permit and outlined in the City's SWPPP (see Appendix C). The City periodically reviews its operations and maintenance program to determine its adequacy to meet the requirements of its MS4 permit and SWPPP. The City will adjust its program, as needed, to meet these requirements and ensure the City's stormwater system functions as designed.

Generally, the City performs maintenance of privately owned stormwater infrastructure as specified by maintenance agreements between the City and property owners, including maintenance of sump manholes and grit chambers. The City also maintains stormwater infrastructure located within the City that is under the jurisdiction of other public entities, including Hennepin County and the Minnesota Department of Transportation (MnDOT). In limited instances, owners of private stormwater management infrastructure are responsible for maintaining those facilities. The City requires the submittal of stormwater infrastructure maintenance plans as part of the project review and approval process. The City reviews these plans to ensure that acceptable access for inspection and maintenance is provided. The City's ordinances and official controls detail the City's enforcement procedures related to violations of private stormwater facility maintenance agreements.

As part of the City's ongoing efforts to improve the performance of the stormwater system, the City has reviewed opportunities for new and retrofit BMP implementation and maintains a current list of such opportunities. The City will continue to seek to implement these new and retrofit BMPs as funds become available.

### **5.3 Watershed Management Organization Roles and Responsibilities**

This section summarizes the roles and responsibilities of the watershed management organizations (WMOs) with jurisdiction in the city (see Figure 2-1).

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### 5.3.1 Minnehaha Creek Watershed District Roles and Responsibilities

Much of the City of Richfield is located with the jurisdiction of the Minnehaha Creek Watershed District (MCWD). The MCWD adopted its fourth generation recent Watershed Management Plan (MCWD Plan) in 2018. The MCWD Plan details how the watershed district will interact with cities, including Richfield, to accomplish its goals, including:

- **Water Quantity** - To manage the volume and flow of stormwater runoff to minimize the impacts of land use change on surface and groundwater.
- **Water Quality** - To preserve and improve the quality of surface and groundwater.
- **Ecological Integrity** - To restore, maintain, and improve the health of ecological systems.
- **Thriving Communities** - To promote and enhance the value of water resources in creating successful, sustainable communities.

The previous MCWD Plan (*MCWD, 2006*) delegated specific actions to the City of Richfield, including a phosphorus load reduction from the area of the city tributary to Minnehaha Creek. The current draft MCWD Plan promotes a collaborative approach through the MCWD's Balanced Urban Ecology policy. The policy prioritizes partnership with the land use community (e.g., city planners) to integrate policy, planning, and implementation i to maximize the value of integrated natural and constructed landscapes.

To this end, the MCWD will work with the City of Richfield to understand land use and redevelopment opportunities within the city and pursue collaborative action when opportunities arise (areas of potential redevelopment within the City are included in Figure 2-3). Targeted areas of collaboration include:

- Land use policy development and its implementation through planning activities including long-range land use and infrastructure plans, area-wide plans, recreation and open-space plans, and reduced area of imperviousness plan.
- Capital improvement feasibility planning for public infrastructure including roads, sewer, drinking water, and localized power generation.
- Land use and development regulation, from initial development feasibility through ongoing inspection and facility maintenance functions.
- City operations and facility maintenance

MCWD spending and use of resources are likely to depend in part on local water plan focus and City commitment to collaborative efforts as identified in the local water management plans (e.g., this Plan) and the City's implementation of it. Examples of possible MCWD activities that could be performed in collaboration with the City of Richfield include:

- Joint grant applications: Coordination to seek funding for work that serves aligned interests of the District and City.
- District incentive programs: Grant or cost-share funds awarded at the discretion of the Board of Managers to an LGU, or to institutional or individual property owners within an LGU.

- Technical assistance: Services of the District staff or engineer to assist LGUs and their residents in resolving water resource issues or pursuing opportunities in areas such as flood management, wetland banking and others.
- Education initiatives and coordination of education activities for MS4 compliance and other purposes.
- Conservation: Helping cities and their property owners achieve mutual conservation goals by serving as easement holder for conservation development, assuming wetland bank maintenance obligations, and similar roles.
- Watershed management district: Using watershed district authority to establish localized taxing district to allow lake associations or other groups with common, geographically defined interests to raise funds in order to pursue community goals.

To facilitate these cooperative actions, the MCWD expects that the City of Richfield's local water management plan (this document) include elements that promote LGU/MCWD coordination. The goal of coordination efforts is to maintain mutual awareness of needs and opportunities to develop and implement programs and projects that:

- develop out of coordinated, subwatershed-based planning;
- reflect the cooperation of other public and private partners;
- align investments; and
- secure a combined set of District, LGU and partner goals. The coordination plan provides for ongoing and periodic communications as to land use planning, infrastructure programming, and development regulation.

Many of the policies included in Section 4.3 of this Plan identify collaborative action with watershed management organizations, including the MCWD. The City will continue to engage the MCWD in land use planning, where appropriate, and consider cooperative roles with the MCWD in developing and implementing programs and capital improvements (see Table 5-1, Table 5-2, and Table 5-3). Note that the City's fully developed condition and preference for regional treatment limits opportunities to collaborate with the MCWD to implement on-site stormwater practices as part of development and redevelopment. When redevelopment opportunities are brought to the City, City staff will assess the potential for MCWD partnership and contact MCWD staff to evaluate such opportunities as early in the process as possible. Coordination activities between the City and MCWD are identified in the LGU/MCWD Coordination Plan included as Appendix E and include reporting of relevant past activity to the MCWD every year.

The City cooperated with the MCWD to implement the Taft-Legion Lake Volume and Load Reduction Project. The City is generally responsible for ongoing operation, maintenance, repair, monitoring, and reporting of the project, as defined in a cooperative agreement (see Appendix A). City roles and responsibilities relative to the project are summarized in the City of Richfield/MCWD Coordination Plan (see Appendix E).

The City has assumed local permitting authority for projects located within the jurisdiction of the MCWD through an agreement with the MCWD (see Appendix A). This permitting authority is in addition to any

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required state or federally mandated permits (e.g., NPDES). To maintain this authority, the City maintains local performance standards and a project review process that is consistent with, or more stringent, than those included in the MCWD Rules (as amended). The City informs project applicants of potential MCWD permit requirements and performance standards when first contacted by project proposers and provides contact information for the MCWD, if applicable.

The MCWD requires that cities prepare and submit annual reports to the MCWD detailing actions performed in the previous year relevant to the requirements and goals of the MCWD. The implementation program presented in Table 5-2 includes this task.

### 5.3.2 Nine Mile Creek Watershed District Roles and Responsibilities

Approximately 540 acres in the southwest corner of the city is located within the jurisdiction of the Nine Mile Creek Watershed District (NMCWD). The NMCWD updated its Water Management Plan (NMCWD Plan) in 2017. The NMCWD Plan sets the vision, guidelines, and proposed tasks for managing surface water within the boundaries of the NMCWD.

The NMCWD exercises some regulatory responsibilities within the city. NMCWD serves as the local governmental unit (LGU) responsible for administering the wetland conservation act (WCA) in the portion of the city within its jurisdiction (with the exception of MnDOT projects). The NMCWD has also adopted District Rules that apply to proposed land-disturbing activities that meet specific criteria. Any person or entity undertaking an activity that triggers one or more District regulatory thresholds must obtain the required NMCWD permit prior to commencing the activity. The District rules specify the requirements and performance standards applicable to these activities, and the process for obtaining District permits.

Generally, the NMCWD expects cities to address water resource management issues that are more local in nature. However, the NMCWD may provide assistance in solving local issues when requested by the cities. The District will work closely with the cities to continue to provide support in the areas of water quality, natural resources, and wetlands management. Collaborative actions emphasized in the 2017 NMCWD Plan include, but are not limited to:

- Working with local governments in identifying high-priority areas, planning, and development of regional stormwater management facilities to enhance treatment and provide flexibility for stormwater management compliance as redevelopment occurs.
- Working with cities and other public or private partners to evaluate opportunities for and implement stormwater reuse projects.
- Working with cities and developers to provide access to water resources through the development/redevelopment process or in conjunction with NMCWD water management projects, while protecting and conserving natural areas.
- Assisting cities in addressing increased flood potential identified using Atlas 14 precipitation frequency estimates including:
  - Identifying and prioritizing flooding problems.

- Identifying improvement alternatives to address regional flooding problems.
- Implementing infrastructure improvements to address regional flooding problems.
- Working with cities to incorporate flood risk information into local land use controls.
- Working with local governments and stakeholders to educate and assist in development and implementation of city-specific climate change adaptation strategies

Given that the portion of watershed that the City lies within is almost entirely developed, a critical element to NMCWD's approach to project implementation will be the integration of water-resource management improvements into redevelopment efforts. Early in the process of implementing this Plan, the NMCWD will engage planning and community development staffs and boards in the watershed cities to plant seeds for the development of such collaborative approaches. Cities and others also may approach the NMCWD with ideas.

The NMCWD will communicate with cities on an ongoing basis to ensure cohesive and coordinated implementation of the goals, policies, and actions in this plan and city local water management plans. The NMCWD will work with watershed cities to review (at least every 2 years) city implementation of local water management plans as part of the NMCWD's evaluation of its own progress.

### 5.3.2.1 City Requirements

The NMCWD Plan includes only a few requirements for the cities within the NMCWD imposed by the NMCWD, but it provides many opportunities for collaboration and partnership. The NMCWD's intention is to work cooperatively with its cities and to limit imposition of requirements on local units of government as much as possible while still accomplishing the NMCWD's purposes. Specifically, the NMCWD requires that local water plans include the City's commitment to:

- Providing any updates to the City's wellhead protection plan (see Section 4.3.5, policy 40).
- Consideration, in collaboration with the NMCWD, of the necessary controls to prevent flooding caused by changes in land use or re/development of specific properties (see Section 4.3.2, policy 17 and item 5.2-13 in Table 5-2).
- Adoption and implementation of groundwater-conservation policy (see Section 4.3.5, policy 4 and policy 5).
- Coordination with the NMCWD in developing floodplain information and setting consistent flood elevations (see Section 4.3.2, policy 18).
- Maintaining critical 100-year flood storage volumes (see Section 4.3.2, policy 11 and policy 12).

The City's commitment to these activities is demonstrated by the implementation items and policies cross-referenced above.

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### 5.3.3 Richfield-Bloomington Watershed Management Organization Roles and Responsibilities

Most of Richfield is located within the Richfield-Bloomington Watershed Management Organization (RBWMO) which covers approximately 4.3 square miles of the city. The RBWMO adopted its most recent watershed management plan (RBWMO Plan) in 2018. The RBWMO Plan identifies the following duties of the RBWMO, as enacted by its Board of Commissioners:

- Prepare and adopt a watershed management plan meeting the requirements of Minnesota Rules Chapter 8410.
- Review and approve local water management plans as defined in Minnesota Rules Chapter 8410.
- Exercise the authority of a Watershed District or Watershed Management Organization under Minnesota Statutes Chapter 103B to regulate the use and development of land when:
  - A local water management plan has not been approved and adopted.
  - A local permit requires an amendment to or variance from the local water management plan.
  - The Board has been authorized by the local government to require permits for land use.

Generally, the RBWMO defers all responsibilities for addressing storm water runoff water quality issues to the City, provided that the issues are wholly contained within a given community and the local community is in conformance with the approved local plan. Should a water quality problem that transcends municipal boundaries be identified, the RBWMO shall review the problem and issue directives to the member communities to take action to address the problem

The RBWMO performs other roles in pursuit of its water resource management goals, as described in the policies and implementation tasks included in the RBWMO Plan. The RBWMO is also responsible for reviewing and approving local water management plans consistent with Minnesota Statutes 103B.

## 5.4 Education and Public Involvement Program

The goal of the City's education and public involvement program is to foster responsible water resource management practices by educating residents, business owners, City Staff, City Council, and developers about appropriate storm water management practices. The results of the City's surface water management survey (see Section 1.4) suggests that some residents are already performing, or would be willing to perform, responsible water resource behaviors in their personal lives.

The City performs various education and communication activities to further promote awareness of water resource issues and develop community capacity for watershed stewardship. The City's education and public involvement program is closely tied with the City's implementation of its NPDES MS4 permit and has been designed to be in conformance with the City's NPDES MS4 permit.

The City communicates information to promote water resource stewardship through a variety of media including, but not limited to:

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- City website: [www.richfieldmn.gov](http://www.richfieldmn.gov)
  - Newsletters
  - Targeted mailings
  - Social media
  - Cable Channel articles
  - Utility Bill Inserts

Social media and mailings were identified as preferred communication methods in the results of the City's surface water management survey (see Section 1.4). Educational materials distributed to residents and businesses may include, but are not limited to:

- Wetland buffers
- Infiltration, filtration, and groundwater protection
- Management of aquatic invasive species
- Water conservation and reuse
- Pollution prevention (including proper hazardous waste disposal and illicit discharge)
- Yard waste management
- Pet waste disposal

The City also maintains a Community Services Commission (CSC). The CSC is an advisory group, appointed by the City Council to discuss and provide feedback on City issues relating to recreation, parks, public works and any other issues as directed. The Commission also acts as the RBWMO Citizen Advisory.

The WMOs within the city also have strong education and public involvement programs. The City will continue to work with the WMOs within the city to coordinate education and public involvement efforts to maximize impact and minimize redundancy.

The City's education and public involvement program is incorporated into the City's SWPPP and included, by reference, in Table 5-2.

## 5.5 Ordinances and Official Controls

The City has instituted regulatory controls and a corresponding permit program to limit negative impacts to water and natural resource resulting from development, redevelopment, and other land-disturbing activities.

City regulations include the following surface water and stormwater-related ordinances:

- Wetland Protection (Richfield City Code, Section 427)
- Erosion and Sediment Control Regulations (Richfield City Code, Section 428)
- Water Resource Management Regulations (Richfield City Code, Section 429)
- Shoreland Ordinance (Richfield City Code, Section 430)
- Floodplain Management Regulations (Richfield City Code, Section 550)
- Stormsewer System (Richfield City Code, Section 720)

- Zoning Code (Richfield City Code, Appendix B).
- Prohibition regarding phosphorous-containing fertilizers (Richfield City Code Section 911)

Generally, the City requires erosion control measures for all land disturbing activities with 5,000 or more square feet of disturbance, 50 cubic yards or more of cut or excavation or fill, or more than 300 linear feet of trenching (see City Code, Section 428). Project proposers must submit an erosion control plan to the City for approval prior to construction.

The City requires proposers of residential projects with land-disturbing activities of one acre or commercial, industrial, institutional, or mixed-use projects to submit a stormwater management plan to the City for approval prior to construction (see City Code, Section 429). The stormwater management plan must demonstrate compliance with performance standards identified in City Code, the City's Engineering Design Standards, and this SWMP (see policies included in Section 4.3).

The City of Richfield is the local governmental unit (LGU) responsible for administering the Wetland Conservation Act (WCA) in portions of the City within the RBWMO and MCWD (NMCWD serves as the LGU within its jurisdiction). This includes requiring and verifying that all projects impacting wetlands meet the requirements of the Minnesota WCA.

The City also actively works with the MCWD, NMCWD, and RBWMO toward accomplishing common goals and adhering to the policies of these watershed organizations. The City coordinates its project review and permitting process with the MCWD, NMCWD, and RBWMO, where applicable. The City informs project applicants of potential WMO permit requirements and performance standards when first contacted by project proposers and provides contact information for the WMO, if applicable.

To improve the City's stormwater management effectiveness, the City periodically reviews its stormwater and surface water-related ordinances for consistency with the City goals and policies and other local, state, and federal requirements. The implementation of City ordinances and official controls is incorporated into Table 5-2.

## 5.6 Implementation Priorities and Coordination

The projects, programs, and activities related to the City's surface water and stormwater management responsibilities are summarized in Table 5-1, Table 5-2, and Table 5-3. Many of the implementation responsibilities described in this SWMP are required per the City's NPDES MS4 permit and described in greater detail in the City's SWPPP. These tasks will be addressed per the schedule presented in the SWPPP.

The City carries out its implementation program with the intent to achieve the City's goals while promoting efficiency and minimizing cost. The items included in Table 5-1, Table 5-2, and Table 5-3 are prioritized as high, medium, or low priority according to the following factors:

**High Priority:** Projects meet one or more of the following criteria:

- Flood problem areas with structures inundated during events with greater than a 1% chance of annual occurrence (i.e., events smaller than the 100-year event).
- Projects with high benefit relative to project cost.
- Projects necessary to meet regulatory or permit requirements (e.g., MS4 permit requirements).
- Projects to address public safety concerns.
- Updates of the City's storm water infrastructure system planned for immediate implementation to meet long-term improvement plans.

**Medium Priority:** Projects meet one or more of the following criteria:

- Flood problem areas with structures that are not inundated during events with greater than a 1% chance of annual occurrence (i.e., events smaller than the 100-year event) but have limited freeboard.
- Projects with a moderate benefit relative to project cost.
- Projects that must be completed on a future timeline to meet regulatory or permit requirements.
- Updates of the City's storm water infrastructure system planned for future implementation to meet long term improvement plans.

**Low Priority:** Projects not meeting the above criteria are considered lower priority. Low priority projects may be delayed until funding, coordination or volunteer opportunities create favorable circumstances for their implementation.

To maximize efficiency, the City will seek opportunities to coordinate stormwater system maintenance, repair and/or replacement or enhancement with its Pavement Management Program, redevelopment opportunities, or other coordinated projects (e.g., park improvements, other utility upgrades). The City may also prioritize projects based on the availability of grant funding, cost-share opportunities, or availability of other funding sources or manpower that may reduce the City's financial responsibility.

## 5.7 Funding Considerations

Planning-level costs to implement this Plan are included in Table 5-1, Table 5-2, and Table 5-3. The City anticipates funding these projects, studies, and programs primarily through the storm water utility fund and grants, if awarded. Under the City's system, a stormwater utility fee is charged against all parcels based on acreage and property types (i.e., higher fees for property types that generate more runoff). Because of the dedicated funding from the storm water utility, the funding for this Plan does not significantly affect the City's general fund. The City periodically reviews its stormwater utility program to determine its adequacy for funding the projects and programs needed.

Over the next several years, the City will be challenged with needing to replace an increasing amount of stormwater infrastructure that is at or beyond the end of its design life. In some years, the City's stormwater utility may be insufficient to fully fund all planned stormwater activities. It is possible the City may need to explore alternative funding options. In the past, the City has used bonds to fund some stormwater projects paid off by the use of stormwater utility funds. Other funding options available to the City of Richfield include:

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- Ad valorem taxes (i.e., City general fund)
  - Special Assessments (Minnesota Statutes 429)
  - Cost-share opportunities
  - Grants

To date, the City has chosen not use ad valorem or special assessments for funding water resource projects. The City will continue to work with the MCWD, NMCWD, and RBWMO in pursuit of grant and cost-share opportunities. Regardless of the funding sources used, the City will continue to use this Plan for consistency in how it selects and the order in which it will perform its stormwater management work. The City will also seek other available resources to ensure that the City carries out its stormwater and surface water management roles in a financially responsible manner.

**Table 5-1 Implementation Program – Capital Improvements**

ID	Priority	Project Description	Cost Estimate (\$)*	Proposed Funding Source	Estimated Expenses by Year						Notes	
					2018	2019	2020	2021	2022	2023-2027		
1-1	High	Implement projects to address flood risk and/or structural deficiencies as identified by the results of City-wide modeling and subsequent feasibility studies	\$1,000,000	Storm Water Utility; WMO cost share; grants							\$1,000,000	Projects identified by City-wide modeling (see Table 5-3)
1-2	Medium	Perform drainage improvements in conjunction with redevelopment, street reconstruction, or other improvements to address broad based flood concerns near Wilson Pond to the west of 15th Avenue between 73rd and 75th Streets.	\$500,000	Storm Water Utility							\$500,000	Improvements may include additional retention ponds, storm sewer modifications, or expanding capacity of existing ponds in the Washington Park area See Appendix G of the 2008 SWMP
1-3	Medium	Perform stormwater system improvements to address flood risk and water quality issues in coordination with redevelopment and/or street reconstruction	\$500,000-\$1,000,000	Stormwater Utility, WMO cost share, grants	Cost and implementation schedule TBD based specific project opportunities not yet identified						Locations and schedule to be determined as opportunities are identified.	

\* Costs are presented in 2018 dollars and are intended for planning purposes only.

**Table 5-2 Implementation Program – Programs**

ID	Priority	Project Description	Cost Estimate (\$)*	Proposed Funding Source	Estimated Expenses by Year						Notes
					2018	2019	2020	2021	2022	2023-2027	
5.2-1	High	Implement the City's project review and permitting program	\$200,000	Stormwater utility	\$20,000	\$20,000	\$20,000	\$20,000	\$10,000	\$100,000	
5.2-2	High	Perform water quality and/or quantity management and routine pond cleanout to maintain intended water quality performance	\$2,000,000	Stormwater utility	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000	Includes Adam's Hill, Augsburg, Christian Park, Milner's, Norby's, Sheridan, Washington Park, and Taft ponds
5.2-3	High	Conduct erosion control inspections of construction sites	\$100,000	Stormwater utility	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000	
5.2-4	High	Maintain and update GIS database, storm sewer map	\$50,000	Stormwater utility	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000	
5.2-5	High	Perform surface water and stormwater education and public involvement activities (e.g., website, newsletters, annual report)	\$150,000	Stormwater utility	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000	City coordinates with WMOs in performing education activities, where appropriate
5.2-6	High	Sweep streets at least twice per year and additionally as needed	\$1,600,000	Stormwater utility	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$8,000,000	Meets MCWD TMDL requirement
5.2-7	High	Perform storm sewer system inspection activities as prescribed by the City's NPDES permit and SWPPP.	\$100,000	Stormwater utility	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000	
5.2-8	High	Conduct water quality monitoring for major water bodies	\$250,000	Stormwater utility	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$125,000	
5.2-9	High	Complete and maintain an inventory of stormwater facilities pursuant to the City's SWPPP	\$14,000	Stormwater utility	\$5,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000	Inventory includes data about maintenance and responsible party
5.2-10	High	Prepare and submit annual SWPPP report and report City SWMP progress to WMOs, as required	\$80,000	Stormwater utility	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$40,000	
5.2-11	High	Continue to perform operation, maintenance, monitoring, and reporting tasks for Legion-Taft Lake Volume and Load Reduction Project	Included with other tasks	Stormwater utility	Project costs are included with other operations, maintenance, and monitoring activities						City roles are defined in cooperative agreement (see Appendix A)
5.2-12	High	Continue management of Wood Lake Perimeter Treatment System	\$75,000	Stormwater utility	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$50,000	

ID	Priority	Project Description	Cost Estimate (\$)*	Proposed Funding Source	Estimated Expenses by Year						Notes
					2018	2019	2020	2021	2022	2023-2027	
5.2-13	High	Perform annual evaluation of SWMP implementation progress	\$10,000	Stormwater utility	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000	
5.2-14	High	Implement the City/MCWD Coordination Program (see Appendix E)	\$10,000	Stormwater utility	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000	
5.2-15	High	Update, as needed, City ordinances, Engineering Design Standards, and other regulatory documents for consistency with this SWMP and applicable WMO requirements	\$25,000	Stormwater utility		\$5,000				\$20,000	Planned for 2019, with future updates as needed; City will coordinate with WMOs and provide updates to WMOs, as requested.
5.2-16	Low	Construct improvements to address low priority drainage issues, as requested by residents.	\$100,000	Stormwater Utility	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000	May include low priority problem areas identified in Appendix G of the 2008 SWMP and/or other identified problem areas.

\* Costs are presented in 2018 dollars and are intended for planning purposes only.

**Table 5-3 Implementation Program – Studies**

ID	Priority	Project Description	Cost Estimate (\$)*	Proposed Funding Source	Estimated Expenses by Year						Notes
					2018	2019	2020	2021	2022	2023-2027	
5.3-1	High	Develop City-wide hydrology and hydraulic model and identify areas of potential flood risk	\$150,000	Stormwater utility	\$150,000						
5.3-2	High	Develop targeted water quality model and identify critical sources of pollutant loading to be addressed by future feasibility studies	\$25,000	Stormwater utility		\$10,000	\$10,000	\$10,000			
5.3-3	Medium	Feasibility studies to address pollutant loading issues identified by City-wide water quality modeling	TBD	Stormwater utility, cost-share, grants	Estimated costs and implementation schedule TBD based on results of City-wide water quality modeling and future opportunities						Pending results of City-wide water quality modeling
5.3-4	Medium	Feasibility studies to address potential flood risk and water quantity issues identified by hydrology and hydraulic modeling	TBD	Stormwater utility, cost-share, grants	Estimated costs and implementation schedule TBD based on results of City-wide water quality modeling and future opportunities						Pending results of City-wide hydrologic and hydraulic modeling
5.3-5	Medium	Update the City's SWMP ahead of the City's 2028 Comprehensive Plan update	\$50,000	Stormwater utility						\$50,000	Planned for 2027-2028
5.3-6	Medium	Coordinate with the MPCA, MCWD, NMCWD, and RBWMO as necessary in the development of TMDL and/or WRAPS studies and implementation plans, as needed	TBD	Stormwater utility, cost-share, MPCA grants	Estimated costs and implementation schedule TBD based on need for future studies not yet identified						

\* Costs are presented in 2018 dollars and are intended for planning purposes only.