

BCWMC 5-year Capital Improvement Program: 2022 – 2026 CIP List

| Project Name | City | Number | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Totals |
|---|-----------------------|--------------|------------------------|------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------|
| Medicine Lake Rd & Winnetka Ave Long Term Flood Mitigation Plan Project (DeCola Ponds B&C Improvement Proj. + DeCola Pond F Flood Storage & Diversion Project + SEA School Flood Storage Project) | GV, Crystal, New Hope | BC-2,3,8, 10 | \$500,000 | | \$300,000 | \$1,000,000 | | \$1,100,000 | \$200,000 | \$4,131,500 |
| Water quality improvements in Bryn Mawr Meadows, Main Stem Watershed | MPLS | BC-5 | \$100,000 ¹ | \$412,000 ¹ | | | | | | \$512,000 |
| Medley Park Stormwater Treatment Facility | GV | ML-12 | | | \$200,000 | \$300,000 | | | | \$500,000 |
| Restoration and stabilization of historic Bassett Cr channel, Main Stem Watershed | MPLS | BC-9 | | | | | | | \$500,000 | \$500,000 |
| Mt. Olivet Stream Restoration Project | PLYM | ML-20 | | \$178,100 | | | | | | \$178,000 |
| Dredging of accumulated sediment in Main Stem Bassett Creek just north of Hwy 55, Wirth Park | GV/MPLS | BC-7 | | \$600,000 | \$1,400,000 | \$659,000 | \$600,000 | | | \$3,259,000 |
| Stormwater Pond in Jevne Park to alleviate flooding/improve water quality | Medicine Lake | ML-21 | \$500,000 | | | | | | | \$500,000 |
| Crane Lake Improvement Project @ Ridgedale Dr. | Minnetonka | CL-3 | \$380,000 | | | | | | | \$380,000 |
| Parkers Lake Drainage Improvement Project | Plymouth | PL-7 | | \$485,000 | | | | | | \$485,000 |
| Bassett Creek Main Stem Restoration - Regent Ave to Golden Valley Rd | Golden Valley | 2024-CR-M | | | | | \$400,000 | \$300,000 | | \$700,000 |
| Bassett Creek Park WQ Improvement Project | Minneapolis | BC-11 | | | | | \$500,000 | | | \$500,000 |
| Ponderosa Woods Stream Restoration | Plymouth | ML-22 | | | | | \$475,000 | | | \$475,000 |
| Sweeney Lake Water Quality Improvement Project (alum + carp management) | Golden Valley | SL-8 | \$20,000 ² | \$218,080 ² | | | | | | \$238,080 |
| Cost share purchase of high efficiency street sweeper | Plymouth | ML-23 | | \$81,600 | | | | | | \$81,600 |
| Crane Lake Chloride Reduction Demonstration Project at Ridgedale Mall | Minnetonka | CL-4 | | | | | | | \$300,000 | \$300,000 |
| Plymouth Creek Restoration Project Old Rockford Rd. to Vicksburg Ln. | Plymouth | 2026CR-P | | | | | | | \$500,000 | \$500,000 |
| Estimated Total Project Cost | | | \$1,500,000 | \$1,974,780 | \$1,900,000 | \$1,959,000 | \$1,975,000 | \$1,400,000 | \$1,500,000 | |
| Estimated Use of BCWMC Closed Project Account Funds | | | \$0 | \$500,000 | \$300,000 | \$200,000 | \$200,000 | \$0 | \$0 | |
| Estimated Total Levy | | | \$1,500,000 | \$1,474,780 | \$1,600,000 | \$1,759,000 | \$1,775,000 | \$1,400,000 | \$1,500,000 | |

¹Total project cost estimated at \$912,000, received \$400,000 Clean Water Fund grant.

²Total project cost estimated at \$568,080, received \$330,000 Federal 319 grant.

Project Category: Flood Reduction

Project Title: **Medicine Lake Road and Winnetka Avenue Long Term Flood Mitigation Plan Study Implementation**

Total Estimated Cost: \$4,200,000

BCWMC Project Number: BC-2, 3, 8, 10

Description:

Implementation of the Medicine Lake Road and Winnetka Avenue Long Term Flood Mitigation Plan Study prepared for the cities of Crystal, Golden Valley, and New Hope. Potential projects in this area include rate control facilities with potential water quality features, structural flood proofing and other projects as determined.

| Source of Project Funding | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|-------------|-----------|------|-----------|-------------|------|-------------|-----------|
| CIP Account – BCWMC ad valorem tax levy through | \$1,031,500 | \$500,000 | | \$300,000 | \$1,000,000 | | \$1,100,000 | \$200,000 |

Justification:

The Medicine Lake Road and Winnetka Avenue Flood Mitigation Plan Study identified over \$22M in projects that are needed to reduce the effect of repeat flooding on the roadway and adjacent properties. Projects will reduce the depth of flooding on the roadways and will lower flood elevations to help protect structures from flood damage. Flood damage reduction and improving water quality in Bassett Creek are consistent with BCWMC goals.

The DeCola Ponds B & C Improvement Project was implemented in 2019/2020. Additional identified projects include the DeCola Pond F Flood Storage and Diversion Project and the SEA School Flood Storage Project, estimated at \$1.3M each and slated for 2022/2023 and 2025/2026.

Relationship to BCWMC Plan and Other Projects:

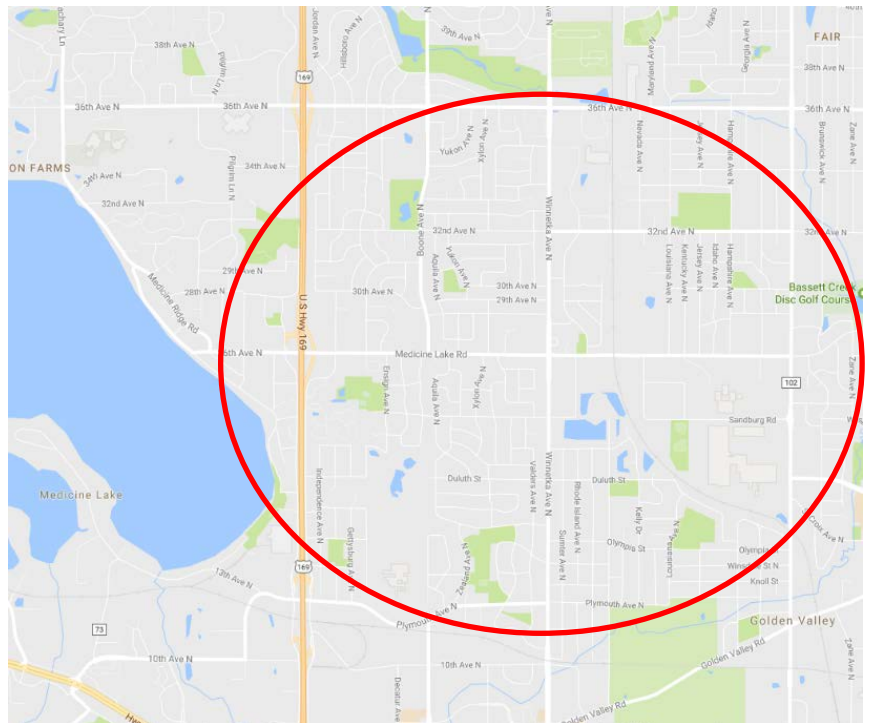
This project is consistent with the goals and policies of the BCWMC Watershed Management Plan. It meets the “gatekeeper” criteria (policy 110) of addressing flooding concerns, and may also improve water quality in a priority waterbody (Bassett Creek). This project also meets the additional criteria (policy 110): addresses an intercommunity drainage issue, the tributary sub watershed includes more than one community, and it addresses significant infrastructure or property damage concerns. The project is one of many that have been identified in the Medicine Lake Road and Winnetka Avenue Long Term Flood Mitigation Plan.

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.

Scheduling and Project Status:

A Feasibility Study will need to be prepared for this project.



Project Category: Water Quality

Project Title: Bryn Mawr Meadows Water Quality Improvement Site, Minneapolis

Total Estimated Cost: \$500,000

Project Number: BC-5

Description:
 This project was described as Option 7 in the Bassett Creek Main Stem Watershed Management Plan (June 2000). The project consists of the construction of a new stormwater Best Management Practice (BMP) in a park near the intersection of Morgan Ave and Laurel Ave, in the City of Minneapolis.

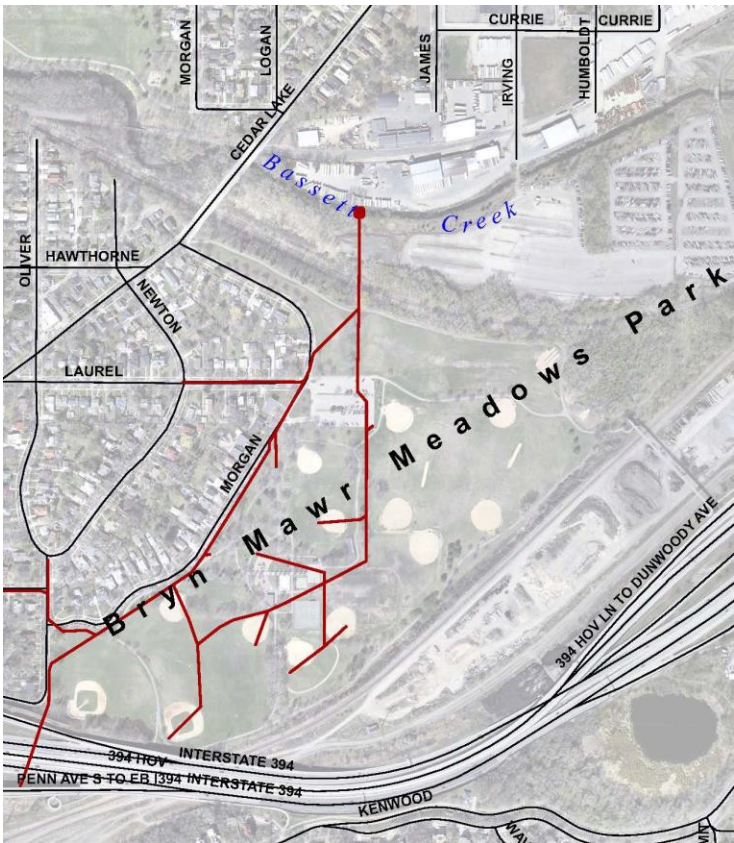
| Source of Project Funding | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|------|------|-----------|------|------|
| CIP account – BCWMC ad valorem levy through Hennepin County | | | \$500,000 | | |

Justification:
 As described in 2000, the BMP would treat runoff from 209 acres of land and would remove an estimated 22 lbs. of phosphorus per year, on average.

Scheduling and Project Status:
 A feasibility study will need to be prepared for this project. As the project progresses, additional information will be provided.

Relationship to General Plan and Other Projects:
 This project is consistent with the goals and policies of the BCWMC Watershed Management Plan and is included in the BCWMC's Resource Management Plan.

Effect on Annual Operations Costs:
 Not known at this time. This will be identified in the Feasibility Study.



Project Category: Water Quality/Flood Reduction

Project Title: **Medley Park Stormwater Quality Treatment Facility**

Total Estimated Cost: \$500,000

BCWMC Project Number: ML-12

Description:

This project in the City of Golden Valley will include construction of a storm water treatment pond or similar treatment facility. The BMP will be built in the City's Medley Park, the facility will treat storm water and create flood storage. The park currently has poor soils which is not conducive to recreational programming.

| Source of Project Funding | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------|------|-----------|-----------|------|
| CIP Account – BCWMC ad valorem tax levy through Hennepin County | | | \$200,000 | \$300,000 | |

Justification:

Storm water runoff from the roughly 100 acre watershed in the northwest section of Golden Valley currently flows into ponds on the western side of Medley Park. The proposed storm water quality treatment facility would add flood storage and treatment capabilities to the sub watershed. It would also increase the capacities of the downstream ponds to remove solids and phosphorous upstream of Medicine Lake. The proposed facility would help achieve the goals of the Medicine Lake TMDL.

Scheduling and Project Status:

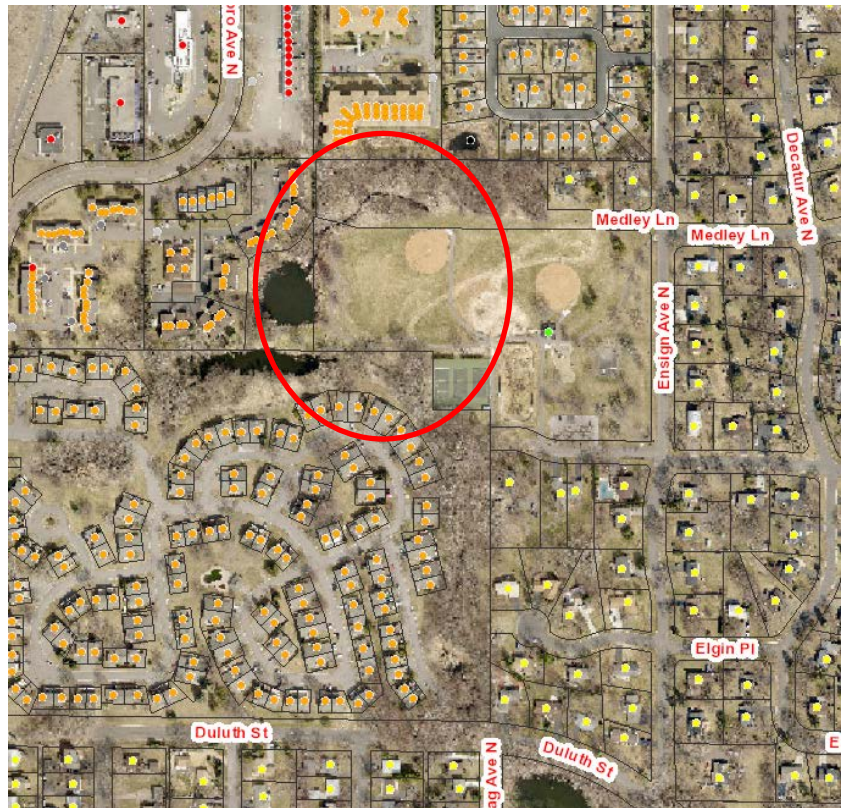
A Feasibility Study will need to be prepared for this project.

Relationship to BCWMC Plan and Other Projects:

This project is consistent with the goals and policies of the BCWMC Watershed Management Plan. It meets the "gatekeeper" criteria (policy 110) of addressing flooding concerns, and would also improve water quality in a priority waterbody (Medicine Lake). The project is also included in the City of Golden Valley CIP

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.



Project Category: Channel Restoration

Project Title: Restoration & Stabilization of Historic Bassett Creek Channel

Total Estimated Cost: \$500,000

BCWMC Project Number: BC-9

Description:

This project in the City of Minneapolis will include bank stabilization and erosion repair methods and will remove obstructions as necessary. The project aims to mitigate impacts from flooding. It's believed that work associated with the Bottineau Light Rail Line will make most of the necessary repairs, however this work proposed for 2020-2021 may also be needed.

| Source of Project Funding | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|------|------|------|------|-----------|
| CIP Account – BWCMC ad valorem tax levy through Hennepin County | | | | | \$500,000 |

Justification:

This portion of the Main Stem of Bassett Creek was cut off from the current main channel in the 1940s-50s when Highway 55 was constructed but remains part of the BCWMC Trunk System. Flows from the current main stem channel sometimes overflow into this area causing localized flooding and extreme sedimentation, along with trash and debris. There is damage to retaining walls and storm outlet structures. The City of Minneapolis cleaned up the area in 2015. Changes for the LRT project are likely to address the structural damage. This project is a placeholder in anticipation of remaining remediation after the LRT project has been constructed.

Scheduling and Project Status:

A Feasibility Study should be completed in 2021. This project is anticipated for construction during the winter of 2022 - 2023.

Relationship to General Plan and Other Projects:

This project is consistent with the goals and policies of the 2015 BCWMC Watershed Management Plan.

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.



Project Category: Water Quality/Water Capacity

Project Title: Mount Olivet Stream Restoration

Total Estimated Cost: \$400,000

BCWMC Project Number: ML-20

Description:

This project in the city of Plymouth will reduce erosion, total suspended solids, and phosphorous loading to Medicine Lake, a State listed impaired water with an approved total maximum daily load plan, and a Priority 1 water body of the Bassett Creek Watershed.

| Source of Project Funding | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|------|------|------|-----------|------|
| CIP Account – BCWMC ad valorem tax levy through Hennepin County | | | | \$400,000 | |

Justification:

This project meets two gatekeeper criteria including improving/protecting water quality in a priority water body and addressing an approved TMDL. In addition to gatekeeper criteria, this project also protects previous investments in Medicine Lake by the Commission, addresses erosion and sedimentation issues, and addresses multiple Commission goals of improved water quality, aesthetics, and wildlife habitat.

Scheduling and Project Status:

This project will require a feasibility study to begin in 2019.

Relationship to BCWMC Plan and Other Projects:

Medicine Lake is regarded as a Priority 1 Deep Lake and receives surface water runoff from Plymouth, Golden Valley, New Hope, Minnetonka, and Medicine Lake. Capital Improvement partnerships between Plymouth and the Commission to the benefit of Medicine Lake include:

1. East Medicine Lake Water Quality Ponds (1)
2. West Medicine Lake Water Quality Ponds (2)
3. Plymouth Creek Stream Restoration (Medicine Lake to ~26th Ave.) (3)

In addition, the City of Plymouth has completed additional capital improvements:

- A. Wood Creek Stream Restoration (A)
- B. Timber Creek Erosion Repair (Phase I & II) (B)
- C. County Roads 9/61 Stream Restoration in partnership with TRPD and BWSR. (C)

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.



Project Category: Water Quality

Project Title: Dredging Accumulated Sediment In Main Stem Bassett Creek, Wirth Park

Total Estimated Cost: \$400,000

BCWMC Project Number: BC-7

Description:

This project in Theodore Wirth Park in the city of Golden Valley consists of dredging sediment that has accumulated over decades within the Main Stem of Bassett Creek just north of Hwy 55. During the winter (on frozen ground), equipment such as backhoes will be used to remove sediment within the channel. The removal of sediment improves stream flow and habitat, will reduce in-stream erosion and will improve stream water quality.

| Source of Project Funding | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|------|------|------|-----------|-----------|
| CIP Account – BWCMC ad valorem tax levy through Hennepin County | | | | \$100,000 | \$300,000 |

| | |
|--|--|
| <p>Justification: The removal of accumulated sediment will improve stream flow and reduce in-stream erosion, ultimately improving stream water quality. Additionally, habitat for fish and macroinvertebrates in the stream should improve as layers of sediment are removed, possibly exposing rock or cobble for spawning beds and interstitial micro-habitats.</p> <p>Scheduling and Project Status: A Feasibility Study should begin on or about April 1, 2020. Project implementation is anticipated during the winter 2021 - 2022.</p> | <p>Relationship to General Plan and Other Projects: This project is consistent with the goals and policies of the 2015 BWCMC Watershed Management Plan.</p> <p>Effect on Annual Operations Costs: This project has no effect on BCWMC Annual Operations Costs.</p> |
|--|--|

Project Category: Water Quality/Water Capacity

Project Title: Water Retention Pond in Medicine Lake’s Jevne Park

Total Estimated Cost: \$500,000

BCWMC Project Number: ML-21

Description:
 This project in the City of Medicine Lake will increase the capacity of an existing pond and wetlands located within the city’s Jevne Park to collect and store stormwater runoff during heavy rainfall to improve the water quality of Medicine Lake and reduce flooding of properties.

| Source of Project Funding | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|------|-----------|-----------|------|------|
| CIP Account –BCWMC ad valorem tax levy through Hennepin County | | \$200,000 | \$300,000 | | |

Justification:

As the city of Medicine Lake is nearly surrounded by Medicine Lake, maintaining and improving the quality of the lake itself is paramount. **IMPORTANT:** When Medicine Lake levels are abnormally high, water from the lake flows back onto the peninsula. *This project does not seek to remedy backflow.* Rather, the construction of an improved water retention pond in Jevne Park will result in:

- better management of storm water runoff as the city has no municipal storm sewer system
- increased capacity for stormwater storage within the pre-existing natural pond and swale in Jevne Park
- better way to route, carry and store excess stormwater which can minimize flooding within Jevne Park and on adjacent residential properties (approximately 15)
- reduced sediment and phosphorus loading to Medicine Lake therefore *improved water quality of Medicine Lake*
- reduced city of Medicine Lake capital and maintenance expenditures associated with road and culvert repair caused by excessive volumes and rates of runoff
- sustainability of existing waterfowl and wildlife habitats

Project Specifications & Estimated Cost: \$284,250

The improved and reclaimed water retention pond envisioned for Jevne Park mirrors the three already-functioning holding ponds in Plymouth located on the West Beach, the East Beach and near the At-the-Lake Apartments. At this time, possible wetland impacts resulting from the project and groundwater levels are unknown. There are many technical aspects of a potential project that need study. A future feasibility study will determine what, if any project can be located with the park to improve water quality and reduce flooding of roads and properties.



Image 1) Medicine Lake plat map and Jevne Park delineation
Image 2) Aerial view of Medicine Lake, Jevne Park. Blue = probable wetland. Yellow = potential wetland.
 SOURCE: Hennepin County GIS Interactive Maps, Natural Resources division.

Project Category: Water Quality/Water Capacity

Project Title: Crane Lake Water Quality and Capacity Improvements

Total Estimated Cost: \$300,000

BCWMC Project Number: CL-3

Description:

The city of Minnetonka is in the planning phase of the reconstruction of Ridgedale Drive from Plymouth Road to I-394. This project will include the installation of water quality best practices to protect and improve the water quality of Crane Lake. Improvements may be located in adjacent park space, boulevards, or upstream basins.

| Source of Project Funding | 2019 | 2020 | 2021 | 2022 | 2022 |
|--|------|-----------|------|------|------|
| CIP Account –BCWMC ad valorem tax levy through Hennepin County | | \$300,000 | | | |

Justification:

Storm water runoff from approximately 250 acres south and west of Crane Lake currently flows into Crane Lake via the storm sewer system and a series of ponds adjacent to and south of Ridgedale Drive. The drainage area to Crane Lake is nearly developed and includes the Ridgedale Center shopping mall and associated parking lot. The reconstruction of Ridgedale Drive will include the net reduction of impervious surfaces in the project area and installation of water quality best practices to protect/improve the water quality of Crane Lake.

Scheduling and Project Status:

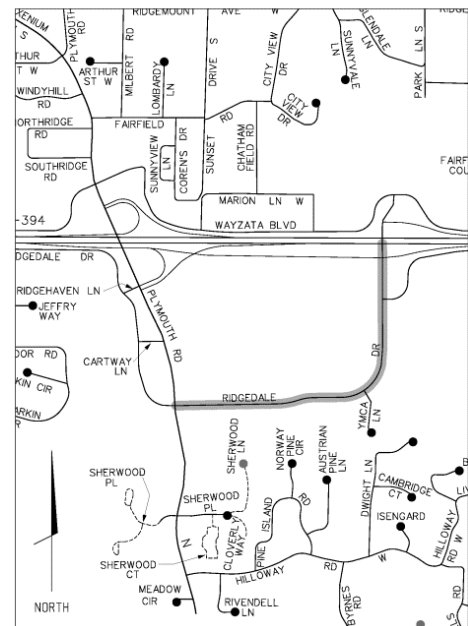
A concept plan should be completed in May 2018. The project is scheduled for construction in 2019 – 2020.

Relationship to BCWMC Plan and Other Projects:

Crane Lake is a shallow 30-acre lake in the Bassett Creek Watershed that drains northerly into Medicine Lake. Crane Lake is designated as a Priority 2 lake. This project meets the gatekeeper criteria of improving/protecting water quality in a priority water body and is likely to address additional Commission goals including improved wildlife habitat. Education components are also being evaluated and may be included in the project. The project is also included in the city of Minnetonka CIP but would require a minor amendment to the Bassett Creek Watershed Management Plan.

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.



Project Category: Water Quality/Water Capacity

Project Title: Parkers Lake Drainage Improvement

Total Estimated Cost: \$400,000

BCWMC Project Number: PL-7

Description:

This project in the city of Plymouth will reduce erosion, total suspended solids, and phosphorous loading to Parkers Lake, a Priority 1 water body of the Bassett Creek Watershed.

| Source of Project Funding | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|------|------|------|-----------|-----------|
| CIP Account – BCWMC ad valorem tax levy through Hennepin County | | | | \$100,000 | \$300,000 |

Justification:

This project meets the gatekeeper criteria of improving/protecting water quality in a priority water body and will help protect water quality in Parkers Lake. In addition to gatekeeper criteria, this project also enhances previous investments intended to protect Parkers Lake by the Commission as well as addressing erosion/sedimentation issues and the Commission goals of improved water quality, aesthetics, and wildlife habitat.

Scheduling and Project Status:

This project will require a feasibility study to begin in 2019.

Relationship to BCWMC Plan and Other Projects:

Parkers Lake is the second largest lake in the Bassett Creek Watershed and is regarded as a Priority 1 Deep Lake. Parkers receives surface water runoff from Plymouth and small portion of Minnetonka and eventually drains to Medicine Lake. Previous capital improvement partnerships between Plymouth and the Commission to the benefit of Parkers Lake include:

- 1. Circle Park Pond Improvement

In addition, the City of Plymouth has completed additional capital improvements:

- A. Parkers Lake Rock Weir
- B. South Parkers Lake Tributary Stream Restoration
- C. 9th & Niagara Stream Restoration

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.



Project Category: Water Quality

Project Title: **Bassett Creek Main Stem Restoration - Regent Ave to Golden Valley Rd**

Total Estimated Cost: \$500,000

BCWMC Project Number: 2024 CR-M

Description:

This project in the City of Golden Valley will include bank stabilization measures and erosion repair methods. Consideration will be given to a variety of best management practices. Per BCWMC policy, the Commission will strive to utilize soft armoring techniques as much as possible and where feasible, including bio-logs, erosion control blanket, live stakes and fascines, and native vegetation buffers.

| Source of Project Funding | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|------|------|------|-----------|-----------|
| CIP Account – BCWMC ad valorem tax levy through Hennepin County | | | | \$300,000 | \$200,000 |

Justification:

The City of Golden Valley's annual creek inventory identified significant erosion in this reach of the creek. Continued erosion along the stream will result in increased sediment and pollutant loading downstream. Restoration and repair of the Main Stem in this area will reduce phosphorus and is consistent with BCWMC goals regarding water quality.

Scheduling and Project Status:
 A Feasibility Study should be completed in 2024. The project is anticipated for construction during the winter of 2025-2026.

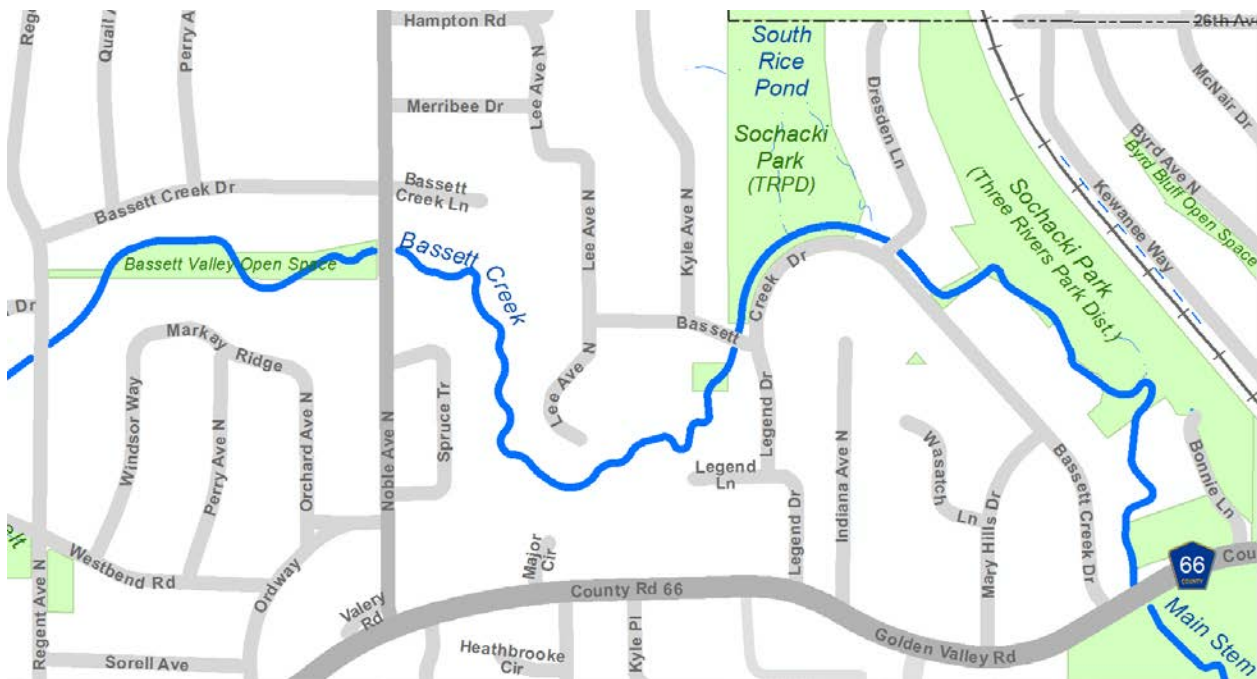
Relationship to BCWMC Plan and Other Projects:

This project is consistent with the goals and policies of the BCWMC Watershed Management Plan. It meets the criteria (policy 111) of protecting and improving water quality in a priority waterbody (Bassett Creek) and addressing erosion and sedimentation issues.

Three Rivers Park District has an interest in Sochacki Park and has been identified as a potential funding partner in this project.

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.



Project Category: Water Quality

Project Title: Bassett Creek Park Water Quality Improvement Project

Total Estimated Cost: \$500,000

BCWMC Project Number: BC-11

Description:
 This project will include construction of water quality treatment facilities benefitting the main stem of Bassett Creek in cooperation with the MPRB park renovation. There is an opportunity for a wetland restoration component on the south side of Bassett Creek. Providing a better neighborhood connection to the creek and educational signage will also be considered as components of this project.

| Source of Project Funding | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------|------|------|------|-----------|
| CIP Account – BWCMC ad valorem tax levy through Hennepin County | | | | | \$500,000 |

Justification:
 This water quality improvement project will remove sediment and pollutants from storm water runoff in the residential and park areas that discharge into Bassett Creek through Bassett Creek Park. The project meets gatekeeper criteria by Improving water quality in a priority waterbody and is consistent with BCWMC goals.

Scheduling and Project Status:
 A feasibility study will need to be prepared for this project. A minor plan amendment will also be required. Construction of the project is anticipated for 2024.

Relationship to General Plan and Other Projects:
 While this project is consistent with the goals and policies of the BWCMC Watershed Management Plan it is not included in the current BCWMC CIP. A minor plan amendment will be required to add this project to the CIP. This project would be phased to take advantage of the MPRB park reconstruction. The overall project will improve water quality within Bassett Creek and will provide improved wildlife habitat and access to recreation in the creek.

Effect on Annual Operations Costs:
 This project has no effect on BCWMC Annual Operations Costs.



Project Category: Water Quality

Project Title: Ponderosa Woods Stream Restoration

Total Estimated Cost: \$475,000

BCWMC Project Number: ML-22

Description:

This project will restore a stream near Medicine Lake and which drains directly into the Plymouth Creek Water Quality ponds.

| Source of Project Funding | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|------|------|------|-----------|------|
| CIP Account – BWCMC ad valorem tax levy through Hennepin County | | | | \$475,000 | |

Justification:

This stream restoration project will remove sediment from storm water runoff in the residential and park areas. Improving water quality in the Medicine Lake watershed is consistent with BCWMC goals.

Scheduling and Project Status:

A feasibility study will need to be prepared for this project. A minor plan amendment will also be required. Construction of the project is anticipated to begin in 2022 or 2024.

Relationship to General Plan and Other Projects:

This project is consistent with the goals and policies of the BCWMC Watershed Management Plan. This project would assist in meeting the goals of the Medicine Lake Total Maximum Daily Load project. A minor plan amendment will be required to add this project to the BCWMC CIP.

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.



Project Category: Water Quality

Project Title: **Sweeney Lake Water Quality Improvement Project**

Total Estimated Cost: **\$550,000**

BCWMC Project Number: ML-20

Description:

This project in the city of Golden Valley will be partially funded with a Federal 319 grant from the MPCA. This project includes carp removal and management in Schaper Pond to reduce phosphorus entering Sweeney Lake from the pond, and an alum treatment in Sweeney Lake. Estimated total project cost is \$550,000. 40% local match is required or \$220,000.

| Source of Project Funding | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|------------------------------------|-----------|------|------|------|------|
| CIP Account – BCWMC ad valorem tax levy through Hennepin County | \$20,000 (+ \$330,000 grant funds) | \$200,000 | | | | |

Justification:

This project has the real potential to effectively “flip” the lake from a eutrophic, algae dominated system, to a healthy, clear water system that can fully support aquatic recreation and a balanced ecosystem for aquatic biota. More than 35 watershed BMPs were constructed or improved between the mid-1980s and 2011. The city of Golden Valley recently inventoried more than 17 BMPs that have been implemented within the direct drainage to Sweeney Lake, alone. Watershed modeling completed for the TMDL study confirmed that the Schaper Pond outflow is the most critical source of watershed phosphorus entering Sweeney Lake and in-lake water quality modeling confirmed that the internal phosphorus load (from sediment phosphorus release) accounts for approximately 320 pounds of the summer phosphorus budget for the lake. Implementation of the proposed improvement options will address the final critical sources of internal and external phosphorus loads needed to meet the TMDL wasteload and load allocation objectives, and attain the State and BCWMC goals and standards for Sweeney Lake.

Scheduling and Project Status:

If awarded, the grant funding must be spent between spring 2020 and August 2023.



Project Category: Water Quality

Project Title: High Efficiency Street Sweeper Purchase

Total Estimated Cost: \$75,000 in CIP funds to share total cost of \$300,000 - \$350,000

BCWMC Project Number: ML-23

Description:

This project would provide some funding for the city of Plymouth to purchase a high efficiency regenerative air street sweeper. The new street sweeper will collect more fine materials that often do not get picked up by traditional sweepers. The new sweeper would be used in targeted areas around lakes and streams throughout Plymouth.

| Source of Project Funding | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|----------|------|------|------|------|
| CIP Account – BCWMC ad valorem tax levy through Hennepin County | \$75,000 | | | | |

Justification:

The City of Plymouth plans to purchase a high-efficiency regenerative air street sweeper to improve program effectiveness and reduce pollutant loading to waterbodies including Plymouth Creek, Medicine Lake, and other lakes and streams in the city. Street sweeping is one of the most cost-effective best management practices for improving water quality and reducing pollutant loading to streams and lakes. This new sweeper uses a different mechanism than older sweepers and is more effective at collecting fine material. In addition to targeting high priority areas around waterbodies, it will sometimes be operated behind the mechanical broom sweeper in the spring and fall and will be used during the city’s mill and overlay projects to collect debris before it’s washed into storm sewers.



In recent years, the city has annually tested the debris collected from their street sweeping efforts (with the older sweeper) and measured approximately 0.75 to 1 lbs phosphorus and 0.18 - 0.25 lbs chloride removal per mile swept annually. The city has 182 centerline or 365 curb line miles of streets within the BCWMC which equates to 274 – 365 lbs phosphorus and 65 – 91 lbs of chloride reduced annually. Pollutant removals are expected to be considerably higher with the new sweeper. Data on pollutant removals will continue to be collected by the city.

Currently, the city sweeps streets each spring as early as possible in order to capture and remove winter debris including left over deicers. This new sweeper has the ability to be used during the winter. The city will explore options for starting a winter sweeping program.

Scheduling and Project Status:

Adding this project to the 2021 CIP list requires a minor plan amendment as it is not currently included in the 10-year CIP list. The city already received 2020 levy funding from Elm Creek WMC and Shingle Creek WMC to share the cost of this equipment. To best align with purchase of the equipment, 2021 BCWMC CIP funding is most appropriate.

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.

Project Category: Water Quality

Project Title: Crane Lake Chloride Reduction Demonstration Project

Total Estimated Cost: \$300,000

BCWMC Project Number: CL-4

Description:

This project in the city of Minnetonka aims to reduce chlorides entering Crane Lake and Bassett Creek from the Ridgedale Mall area. The project includes a thorough feasibility study to identify opportunities or innovative mechanisms and practices for reducing chloride levels from the stormwater ponds that capture Ridgedale area runoff. Results of the study would be implemented as a demonstration project to advance chloride reduction measures in other parts of the watershed.

| Source of Project Funding | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|------|------|------|------|-----------|
| CIP Account – BCWMC ad valorem tax levy through Hennepin County | | | | | \$300,000 |

Justification:

Bassett Creek is listed on the Twin Cities Metro Area Chloride TMDL and Management Plan. Chlorides are also a growing concern in Crane Lake, which is a part of the Bassett Creek Trunk System, as recent monitoring suggests that chlorides are on the rise and may pose a risk to aquatic life. Additionally, the Ridgedale Center treatment ponds located along Ridgedale Drive overflow to Crane Lake, and recent samples collected have shown high chloride concentrations.

The goal of this project is to study and implement innovative techniques for addressing these concerns.

Relationship to BCWMC Plan and Other Projects:

The BCWMC 2019-2020 Crane Lake Water Quality Improvement Project, constructed in conjunction with the reconstruction of Ridgedale Drive from Plymouth Road to I-394, had the goal of improving water quality and addressing chlorides. The project included water quality improvements and now all drainage areas within the Ridgedale Drive and Ridgedale Mall area



will be treated with a BMP before draining to Crane Lake. Unfortunately, while the project does reduce total phosphorus and solids, it was preliminarily unsuccessful in identifying a feasible solution to address the chloride levels in Crane Lake. The city of Minnetonka explored several chloride management options including working with

the Metropolitan Council Environmental Services (MCES) to dispose the chloride contaminated effluent. Despite the extensive review of chloride management options, no solution was found and the project schedule required moving forward without the chloride management component.

This project would further study chloride removal and reduction practices, and would implement a demonstration project which could be used to advance chloride reduction practices in other parts of the watershed or the Metro Area. For example, the feasibility study would include researching options such as salt reuse. The city owns brining equipment for winter maintenance practices, and this study could explore the feasibility of capturing winter/spring runoff from Ridgedale Mall for reuse in deicing practices. This project would continue coordination with the MCES to further explore chloride contaminant removal options. This project would also explore options and methods for salt application and materials used, removal of chlorides prior to going to Crane Lane, and partnerships with Ridgedale Center and other agencies.

In 2020, the city will be sampling and monitoring chloride concentrations for the Ridgedale Center south and north ponds as shown in the image above. The monitoring results will provide an understanding on seasonal chloride levels for potential storm water reuse, as well as potential future chloride treatment and improvement options.

Effect on Annual Operations Costs: This project has no effect on BCWMC Annual Operations Costs.

Project Category: Water Quality/Water Capacity

Project Title: Plymouth Creek Stream Restoration Old Rockford Rd. to Vicksburg Ln.

Total Estimated Cost: \$500,000

BCWMC Project Number: 2026CR-P

Description:

This project in the city of Plymouth will repair erosion and reduce sedimentation along 1,600 linear feet of Plymouth Creek from Old Rockford Road to Vicksburg Lane. The project will likely include various erosion repair and buffer restoration techniques, removal of accumulated sediment, reduction of flood potential, and enhancement of riparian wetlands.

| Source of Project Funding | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|------|------|------|------|-----------|
| CIP Account – BCWMC ad valorem tax levy through Hennepin County | | | | | \$500,000 |

Justification:

This stream restoration project along 1,600 feet of Plymouth Creek will remove accumulated sediment from the stream channel and adjacent wetlands between Yuma Lane N. and the walking path at 41st Ave. North. Removing accumulated sediment in this area will result in lowering the flood potential for homes and stormwater infrastructure. Additionally, private landowners along this stretch will be contacted with the goal of expanding buffers along backyards.

From the walking path to Vicksburg Lane (to the west and south of Plymouth Creek Elementary School), erosion along the stream channel would be repaired, reducing pollutants like total phosphorus and total suspended solids, and possibly improving riparian and in-stream habitats. Various methods of repairing erosion will be investigated including installing of storm sewer pipe, bioengineering techniques, rip rap, and gabion installation.



As a part of the stream restoration project, educational outreach will be made with the Wayzata School district to engage the students and staff at Plymouth Creek Elementary school which is directly adjacent to this proposed project area.

Relationship to BCWMC Plan and Other Projects:

This project is consistent with the goals and policies of the BCWMC Watershed Management Plan. This project would assist in meeting the goals of the Medicine Lake Total Maximum Daily Load study.

Effect on Annual Operations Costs:

This project has no effect on BCWMC Annual Operations Costs.