

BCWMC 5-year Capital Improvement Program: Update to 2021 CIP List and Development of 2022 – 2026 CIP List

Item 5Eii.
BCWMC 4-16-20

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	\$400,000 \$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		\$400,000						\$400,000
Dredging of accumulated sediment in Main Stem Bassett Creek just north of Hwy 55, Wirth Park	GV/MPLS	BC-7		\$100,000	\$300,000					\$400,000
Westwood Lake WQ Improvement Project	St. Louis Park	WST-2								\$300,000
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							\$300,000
Parkers Lake Drainage Improvement Project	Plymouth	PL-7		\$100,000	\$300,000					\$400,000
Bassett Creek Main Stem Restoration - Regent Ave to Golden Valley Rd	Golden Valley	2024-CR-M					\$300,000 \$400,000 ⁶	\$200,000 \$300,000 ⁶		\$500,000 \$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	\$200,000 \$218,080 ²						\$238,080
Cost share purchase of high efficiency street sweeper ³	Plymouth	ML-23		\$75,000 ³						\$75,000
Crane Lake Chloride Reduction Demonstration Project at Ridgedale Mall ⁴	Minnetonka	CL-4							\$300,000 ⁴	\$300,000
Plymouth Creek Restoration Project Old Rockford Rd. to Vicksburg Ln. ⁵	Plymouth	2026CR-P							\$500,000 ⁵	\$500,000
TOTAL Estimated Project Cost			\$1,500,000 (final levy amt)	\$1,305,080	\$1,100,000	\$1,300,000	\$1,375,000	\$1,400,000	\$1,500,000	

¹ Total project cost estimated at \$912,000, minus \$400,000 Clean Water Fund grant. Previous 5-year CIP had incorrect total amount needed for this project.

² Total project cost estimated at \$568,080, minus \$330,000 Federal 319 grant. Final grant work plan included curly leaf pondweed control, increasing the total project budget.

³⁻⁵ Added per TAC recommendations. See project fact sheets attached. Requires minor plan amendment.

⁶ Golden Valley staff recommend adding funds for this project to better align with actual likely costs

BCWMC Project Prioritization Scoring Matrix																	
		Primary Benefit Factors					"Jurisdiction" Factors			Opportunity Factors		Secondary Benefit Factors					
Project Name		Protects/improves water quality of priority waterbody (reduces phosphorus loading)	Located in a total phosphorus loading "hot spot": 0 pt for <0.15 mg/L 1 pt for 0.15 - 0.20 mg/L 2 pt for 0.20 - 0.25 mg/L 3 pt for 0.25 - 0.30 mg/L 4 pt for >0.3 mg/L	Protects/improves WQ of priority waterbody by reducing chloride loading 1 point = reduction of impervious surface; 2 points = significant reduction of impervious surface; 3 points = project with the aim of reducing chlorides	Addresses approved TMDL or WRAPS	Addresses a flooding concern: 1 pt reduces local flooding <5 structures 2 pt reduces local flooding >5 structures 3 pt reduces intercommunity flooding <5 structures 4 pt reduces intercommunity flooding >5 structures	Part of Trunk System	Protects/restores previous BCWMC investments in infrastructure (CIP projects and Flood Control Project)	Intercommunity watershed	Partnership with significant stakeholders	Coordinated with redevelopment or City/agency infrastructure projects	Protect and enhance riparian or upland wildlife habitat as a secondary benefit	Increase quality and quantity of wetlands	Reduce runoff volume	Public education or demonstration value is emphasized through specific project elements	Minimize the spread and impact of AIS as a secondary benefit	Total Score
Score	Range	2	0-4	1 - 3	2	1-4	1	1	1	1	1	0.5	0.5	0.5	0.5	0.5	
DeCola Pond F flood storage and diversion	2025 & 2026 Portions of BC-2, 3, 8, 10	2	2	2	0	3	0	0	1	1	0	0.5	0	0	0	0	11.5
SEA School flood storage		2	1	1	0	3	0	0	1	1	1	0.5	0	0	0.5	0	11
Medley Park Stormwater Treatment Facility	ML-12	2	4	0	2	1	0	0	1	0	1	0.5	0.5	0	0.5	0	12.5
Mt. Olivet Stream Restoration Project	ML-20	2	0	0	2	0	0	0	0	1	0	0.5	0	0	0.5	0	6
Dredging of accumulated sediment in Main Stem Bassett Creek just north of Hwy 55, Wirth Park	BC-7	2	0	0	0	1	1	1	1	0	0	0	0	0	0.5	0	7.5
Parkers Lake Drainage Improvement Project	PL-7	2	4	0	0	0	0	0	0	1	0	0.5	0	0	0.5	0	8
Bassett Creek Main Stem Restoration - Regent Ave to Golden Valley Rd	2021-CR_M	2	3	0	0	0	1	1	1	1	0	0.5	0	0	0.5	0	10
Bassett Creek Park Water Quality Improvement Project	BC-11	2	0	0	0	0	0	0	0	1	1	0.5	0.5	0	0.5	0	5.5
Ponderosa Woods Stream Restoration	ML-22	2	3	0	2	0	0	1	0	0	0	0.5	0.5	0	0.5	0	9.5
Sweeney Lake Alum/Carp Mgmt	SL- 8	2	0	0	2	0	1	1	1	1	0	0	0	0	0	0.5	8.5
Crane Lake Improvement Project	CL-3	2	0	0	0	0	0	0	0	1	1	0.5	0	0.5	0.5	0	5.5
Jevne Park Stormwater Improvement Project	ML-21	2	0	0	2	1	0	0	0	0	0	0.5	0.5	0	0.5	0	6.5
Bryn Mawr Meadows Water Quality Improvement Project	BC-5	2	4	0	0	0	0	0	0	1	1	0	0	0	0.5	0	8.5
Plymouth Enhanced Street Sweeper	ML-23	2	4	0	2	0	1	1	0	1	0	0	0.5	0	0.5	0	12
Crane Lake Chloride Study	CL-4	2	0	3	2	0	1	1	0	0	0	0.5	0.5	0	0.5	0.5	11
Plymouth Creek Resto	2026CR-P	2	0	0	2	2	1	1	0	1	0	0.5	0.5	0	0.5	0	10.5

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.