

Appendix F

2013-2022 Capital Improvement Projects

As Amended

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**Shingle Creek and West Mississippi Watershed Management Commissions
Third Generation Watershed Management Plan
Capital Improvement Projects and Funding**

Projects proposed for the Capital Improvement Program (CIP) are described below and shown on the Implementation Plan and Capital Improvement Program in the Plan. It is the current intent of the Commissions to finance these projects using Funding Option 1, the Cost Share Policy. However, in the event cities are unable to agree on how to share the City Apportionment, or for some other reason the Commission determines that it is infeasible to go forward using Option 1, then the Commission, as authorized in the Joint Powers Agreement, may go forward using Option 2 or Option 3 as described below.

Option 1 - Cost Share Policy

[This section was revised on May 9, 2019 by MPA #9]

For capital projects that have been identified in a Commission-adopted or approved TMDL or management plan or as approved by the Commissions for cost participation. Projects constructed to meet Commission development or redevelopment requirements are not eligible for cost participation.

1. The Commission's share will be 25 percent of the final cost of the project, with a minimum share of \$25,000 ~~and a maximum share of \$250,000.~~
2. The Commission's share will be funded through the ad valorem tax method – spread across all taxpayers within the watershed.
3. If the 25 percent share of an individual project's final project cost is less than the amount certified for that project, the balance of the levy will be deposited into a segregated Closed Project Account. The Commissions will administer that account according to a Closed Account Policy.
4. Each Commission will use a maximum annual levy of ~~\$500,000~~ \$750,000 as a working guideline.
5. The project partners' share will be 75 percent of the cost of the project. This would be apportioned to the partners as follows, or in some other manner acceptable to them:
 - a. The area directly benefiting from the project should be apportioned 25 percent of the cost of the project. This would be apportioned to partners based on, for example, proportion of lake or stream frontage.
 - b. Fifty percent of the cost of the project should be apportioned based on contributing/ benefiting area. The basis of this apportionment would likely be unique to each project.
6. The partners can each decide the funding mechanism that is best suited to them for payment of their share, for example through special assessments, storm drainage utility, general tax levy, or watershed management tax district.

Option 2 - 100 Percent Ad Valorem Tax Levy

Under the authority provided by Minn Stat 103B.251 Section VIII, Subd. 5, the Commissions have the authority to certify for payment by the county all or part of the cost of an approved capital improvement. The JPA provides that if cities are unable to come to a cost sharing

agreement, then the Commission may order the project by funding 100 percent of the project cost from the Hennepin County ad valorem tax levy.

Option 3 – 100 percent Apportionment to Cities

Projects may also be 100 percent funded by cities. The JPA provides two alternates: projects may be funded through a negotiated cost share between cities having land in the affected subwatershed. Or, projects may be funded by apportioning the cost of the project across all the cities in the watershed using the same 50% land area / 50% tax capacity formula as the general assessments to cities. The latter may be amended by the Commission if it is clear that one or more of the cities receive a special benefit from the project.

SHINGLE CREEK CIP PROJECTS

[This revision was adopted 5/14/15 (MPA #4)]

Commission Fund for Retrofit Projects

This project provides cost sharing to retrofit Best Management Practices identified in Commission-prepared Intensive BMP Retrofit Studies. The Commissions’ Technical Advisory Committee will develop and recommend to the Commissions policies and procedures to administer these funds. Eligibility criteria for dispersing the funds and criteria for selecting projects will be posted and maintained on the Commissions’ website.

Funding Options Retrofit Projects	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities’ Share)	Total Estimated Project Cost
1 - Cost Share	\$50,000 \$100,000	\$50,000 \$100,000	\$100,000 \$200,000
2 – Ad Valorem Tax Levy	\$100,000 \$200,000	\$0	\$100,000 \$200,000
3 – City Apportionment	\$0	\$100,000 \$200,000	\$100,000 \$200,000

Maple Grove Pond P57

Maple Grove plans to construct a series of regional ponds to provide pollutant load reduction, volume and peak rate attenuation, and infiltration to meet Commission standards. This pond would serve 93 acres of new development in the Arbor Lakes area of Maple Grove. The proposed project would upsize the pond to provide treatment beyond the minimum required by Commission standards and would provide an estimated additional 14 pounds of annual phosphorus load reduction as well as reduction of other pollutants. The project cost here is the additional cost to upsize the pond to achieve greater pollutant removal.

Funding Options Maple Grove Pond P57	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities’ Share)	Total Estimated Project Cost
1 - Cost Share	\$162,000	\$486,000	\$648,000
2 – Ad Valorem Tax Levy	\$648,000	\$0	\$648,000
3 – City Apportionment	\$0	\$648,000	\$648,000

Maple Grove Pond P33

One of a series of regional ponds to provide pollutant load reduction, volume and peak rate attenuation, and infiltration to meet Commission standards. This pond would serve 123 acres of new development in the Arbor Lakes area of Maple Grove. The proposed project would upsize the pond to provide treatment beyond the minimum required by Commission standards and would provide an estimated additional 17 pounds of annual phosphorus load reduction as well as reduction of other pollutants. The project cost here is the additional cost to upsize the pond to achieve greater pollutant removal.

Funding Options Maple Grove Pond P33	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$143,500	\$430,500	\$574,000
2 – Ad Valorem Tax Levy	\$574,000	\$0	\$574,000
3 – City Apportionment	\$0	\$574,000	\$574,000

Shingle Creek Reaeration Project

This project is the design, fabrication and installation of mechanical or passive stream reaeration structures that are artistic in design and appearance and practical in function. These structures will be installed in three locations in public parks on Shingle Creek where TMDL modeling determined that traditional stream roughness reaeration structures such as riffles or vanes would not be sufficient to increase dissolved oxygen above the aquatic life standard.

Funding Options Shingle Creek Reaeration	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$40,000	\$120,000	\$160,000
2 – Ad Valorem Tax Levy	\$160,000	\$0	\$160,000
3 – City Apportionment	\$0	\$160,000	\$160,000

Shingle Creek Brookdale Park Habitat Enhancement

This project is the installation of deeper backwater pools and ponds along Shingle Creek in Brookdale Park in Brooklyn Park to provide off-line refugia during times of high and low flows and over wintering. The project area is Shingle Creek from Noble Avenue North to Xerxes Avenue North.

Funding Options Shingle Creek Habitat Enhancement	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$37,500	\$112,500	\$150,000
2 – Ad Valorem Tax Levy	\$150,000	\$0	\$150,000
3 – City Apportionment	\$0	\$150,000	\$150,000

Maple Grove Pond P55

One of a series of regional ponds to provide pollutant load reduction, volume and peak rate attenuation, and infiltration to meet Commission standards. This pond would serve 96 acres of new development in the Arbor Lakes area of Maple Grove. The proposed project would upsize

the pond to provide treatment beyond the minimum required by Commission standards and would provide an estimated additional 25 pounds of annual phosphorus load reduction as well as reduction of other pollutants. The project cost here is the additional cost to upsize the pond to achieve greater pollutant removal.

Funding Options Maple Grove Pond P55	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$213,625	\$747,375	\$855,000
2 – Ad Valorem Tax Levy	\$855,000	\$0	\$855,000
3 – City Apportionment	\$0	\$855,000	\$855,000

[This revision was adopted 5/8/14 (MPA #2)]

Plymouth Bass Lake Pond

Plymouth will construct a detention basin or a combination of BMPs such as a flocculation treatment facility at the south end of Bass Lake to reduce phosphorus load to Bass Lake. The Bass Lake TMDL calls for a 33 percent reduction in load to Bass Lake to meet state water quality standards, or about 200 pounds TP annually from the watershed.

Funding Options Plymouth Bass Lake Pond	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$68,800 \$210,000	\$206,200 \$630,000	\$275,000 \$840,000
2 – Ad Valorem Tax Levy	\$275,000 \$840,000	\$0	\$275,000 \$840,000
3 – City Apportionment	\$0	\$275,000 \$840,000	\$275,000 \$840,000

Shingle Creek Restoration, Webber Park in Minneapolis

The project would construct stream corridor improvements on Shingle Creek as recommended in the Shingle Creek and Bass Creeks DO and Impaired Biota TMDL and the Webber Park Master Plan. The reach to be improved is in Webber Park in Minneapolis, from approximately the CP Rail crossing to the Mississippi River. The following improvements are proposed: streambank stabilization in eroding areas; removal of select trees to reduce canopy density; establishing or enhancing buffer vegetation; installation of rock vanes and varied substrates; and habitat enhancement.

Funding Options Shingle Creek Restoration, Webber Park	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$100,000	\$300,000	\$400,000
2 – Ad Valorem Tax Levy	\$400,000	\$0	\$400,000
3 – City Apportionment	\$0	\$400,000	\$400,000

Shingle Creek Restoration, Regent to Brooklyn Boulevard

The project would construct stream corridor improvements on Shingle Creek as recommended in the Shingle Creek and Bass Creeks DO and Impaired Biota TMDL. The reach to be improved is from Regent Avenue to Brooklyn Boulevard. The following improvements are proposed: streambank stabilization in eroding areas; removal of select trees to reduce canopy density;

establishing or enhancing buffer vegetation; installation of rock vanes and varied substrates; and habitat enhancement.

Funding Options Shingle Creek Restoration, Regent to Brooklyn Boulevard	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$100,000	\$300,000	\$400,000
2 – Ad Valorem Tax Levy	\$400,000	\$0	\$400,000
3 – City Apportionment	\$0	\$400,000	\$400,000

Minneapolis Flood Area 5 Water Quality Projects

Minneapolis' Flood Area 5 is generally located between Lowry and Dowling Avenue N, from Knox Avenue N and Victory Memorial Drive. This area outlets through a storm sewer on 38th Avenue N to Crystal Lake. It frequently experiences significant street flooding during 100-year or more frequent events, and there is minimal water quality treatment. Minneapolis has an ongoing program to upgrade storm sewers and undertake other improvements to reduce flooding, increase infiltration and biofiltration, and add water quality treatment. A recently completed project removed the pavement on a street and replaced it with a greenway and bicycle/pedestrian trail with underground flood storage and biofiltration basins. The City proposes at least two more significant projects that may incorporate biofiltration, underground storage, underground treatment, or other water quality practices. Commission participation is limited to the water quality components; the City is responsible for the flood mitigation.

Project 1: 2016

Funding Options Minneapolis Flood Area 5 Water Quality Project	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$250,000	\$5,750,000	\$6,000,000
2 – Ad Valorem Tax Levy	\$6,000,000	\$0	\$6,000,000
3 – City Apportionment	\$0	\$6,000,000	\$6,000,000

Project 2: 2018-2022

Funding Options Minneapolis Flood Area 5 Water Quality Project	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$250,000	\$5,750,000	\$6,000,000
2 – Ad Valorem Tax Levy	\$6,000,000	\$0	\$6,000,000
3 – City Apportionment	\$0	\$6,000,000	\$6,000,000

Shingle or Bass Creek Restoration Projects

Other stream corridor improvements on Shingle Creek or Bass Creek are recommended in the Shingle Creek and Bass Creeks DO and Impaired Biota TMDL. Potential reaches to be improved include the following, in rough priority order:

1. Bass Reach 1. (Brooklyn Park) Cherokee Drive to Eagle Creek.
2. Upper Reach 3. (Brooklyn Park) Brooklyn Boulevard (w of CSAH 81) to Candlewood.
3. Upper Reach 5&6 (Brooklyn Park).

4. Upper Reach 11. (Brooklyn Park). Brookdale Park Drop Structure to Xerxes.
5. Lower Reach 7. (Minneapolis) USGS station at Queen Avenue to Webber Park.
6. Other reaches set forth in the TMDL Implementation Plan.

The following improvements may be considered for those reaches: streambank stabilization in eroding areas; removal of select trees to reduce canopy density; establishing or enhancing buffer vegetation; installation of rock vanes and varied substrates; and habitat enhancement.

Funding Options Shingle/Bass Creek Restoration, Various Projects	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$500,000	\$1,500,000	\$2,000,000
2 – Ad Valorem Tax Levy	\$2,000,000	\$0	\$2,000,000
3 – City Apportionment	\$0	\$2,000,000	\$2,000,000

[\[†This revision was adopted 5/14/15 \(MPA #4\)\]](#)

[\[‡This revision was adopted 5/10/18 \(MPA #8\)\]](#)

[\[§This revision was adopted 5/9/19 \(MPA #9\)\]](#)

Lake Internal Load Improvement Projects

The 13 lake TMDLs now in implementation in the Shingle Creek watershed recommend internal load improvements for several of the lakes. These projects could include rough fish removal and installation of fish barriers, chemical treatment such as alum, drawdowns, whole-lake aquatic vegetation treatment, etc. Typically implementation emphasizes reducing the load from external sources before completing internal load reductions. Some lakes not shown here may require internal load reductions if external load reduction is insufficient to meet state water quality goals. Potential lakes to be improved include the following (not in priority order):

1. Twin Lake. (Crystal, Brooklyn Center, Robbinsdale) [†2015 Project: Rough fish †tracking and removal, fish barriers, †and aeration system: Future Project: aquatic vegetation treatment.](#)
2. Pomerleau. (Plymouth) [‡2018 Project: Chemical treatment.](#)
3. Cedar Island (Maple Grove) Rough fish removal, fish barriers, drawdown.
- [4. Eagle Lake \(Maple Grove\) Aquatic vegetation treatment.](#)
- [5. ‡Bass Lake \(Plymouth\). 2018 Project: Chemical treatment, aquatic vegetation management.](#)
- [4-6. §Crystal Lake. 2019 Project: Chemical treatment, rough fish management, aquatic vegetation management.](#)

Funding Options Lake Internal Load Reduction, Various Projects	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$500,000	\$1,500,000	\$2,000,000
2 – Ad Valorem Tax Levy	\$2,000,000	\$0	\$2,000,000
3 – City Apportionment	\$0	\$2,000,000	\$2,000,000

Meadow Lake Drawdown

The Meadow Lake TMDL requires an 83 percent reduction in internal phosphorus load. The proposed drawdown will expose and consolidate the lake sediments and provide an opportunity for the native seed bank to reestablish a more beneficial aquatic vegetation community. A partial drawdown was completed in 2006 as part of an outfall dredging project. Lake residents indicate that the year following that partial drawdown aquatic vegetation was noticeably improved. While the project is included in this CIP, at this time it has been postponed indefinitely.

Funding Options Meadow Lake Drawdown	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$25,000	\$75,000	\$100,000
2 – Ad Valorem Tax Levy	\$100,000		\$100,000
3 – City Apportionment		\$100,000	\$100,000

[This revision was adopted 5/14/15 (MPA #3)]

45th Avenue Pond Retrofit.

This project would retrofit a MnDOT pond at TH 100 and CSAH 81 with an iron-enhanced sand filter bench and a modified outlet to maximize storage and treatment. This Middle Twin Lake subwatershed pond is in a series of ponds that treats runoff from TH 100 and 221 acres of untreated residential property in Robbinsdale.

Funding Options 45 th Avenue Pond Retrofit	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$67,500	\$202,500	\$270,000
2 – Ad Valorem Tax Levy	\$270,000		\$270,000
3 – City Apportionment		\$270,000	\$270,000

Kilmer Pond Retrofit.

This project would maximize storage in one of a series of City of Crystal ponds treating runoff from a 560 acre drainage area in Crystal, adding an iron-enhanced filter bench to remove dissolved phosphorus.

Funding Options Kilmer Pond Retrofit	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$31,250	\$93,750	\$125,000
2 – Ad Valorem Tax Levy	\$125,000		\$125,000
3 – City Apportionment		\$125,000	\$125,000

Lions Park Pond Retrofit.

This project would retrofit a City of Crystal pond at 62nd Avenue and CSAH 81 with an iron-enhanced sand filter bench and a modified outlet to maximize storage and treatment. This Upper Twin Lake subwatershed pond treats runoff from about 250 acres of mostly untreated residential property in Crystal and Brooklyn Park.

Funding Options Lions Park Pond Retrofit	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$40,000	\$120,000	\$160,000
2 – Ad Valorem Tax Levy	\$160,000		\$160,000
3 – City Apportionment		\$160,000	\$160,000

Priority BMP Retrofits.

Phosphorus load-reduction BMPs would be constructed in priority areas as identified in subwatershed assessments or as opportunities arise. These BMPs might be additional pond retrofits, channel stabilization, bioinfiltration basins, and porous pavement.

<u>Funding Options</u> <u>Priority BMP Retrofits</u>	<u>Ad Valorem Tax</u> <u>Levy (Commission</u> <u>Share)</u>	<u>City</u> <u>Apportionment</u> <u>(Cities' Share)</u>	<u>Total Estimated</u> <u>Project Cost</u>
<u>1 - Cost Share</u>	<u>\$200,000</u>	<u>\$200,000</u>	<u>\$400,000</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$400,000</u>		<u>\$400,000</u>
<u>3 – City Apportionment</u>		<u>\$400,000</u>	<u>\$400,000</u>

[This revision was adopted 6/9/16 (MPA # 6)]

Becker Park Infiltration Project

This project would construct an underground storage and treatment system in Becker Park in the City of Crystal to infiltrate runoff from a 147 acre, 51% impervious subwatershed to the west and south. The project will also help alleviate occasional street flooding on Bass Lake Road (County Road 10). A portion of the project will be funded from a Clean Water Fund Grant.

<u>Funding Options</u> <u>Retrofit Projects</u>	<u>Ad Valorem Tax</u> <u>Levy (Commission</u> <u>Share)</u>	<u>City</u> <u>Apportionment</u> <u>(Cities' Share)</u>	<u>Total Estimated</u> <u>Project Cost</u>
<u>1 - Cost Share</u>	<u>\$250,000</u>	<u>\$2,250,000</u>	<u>\$2,500,000</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$2,500,000</u>	<u>\$0</u>	<u>\$2,500,000</u>
<u>3 – City Apportionment</u>	<u>\$0</u>	<u>\$2,500,000</u>	<u>\$2,500,000</u>

Iron and Biochar-Enhanced Sand Filters

This research project would retrofit three ponds in Shingle Creek and one pond in West Mississippi with iron and biochar-enhanced sand filter benches to remove soluble phosphorus and bacteria in the ponds. It also includes installing storm sewer catch basin iron and biochar enhanced sand filter inserts at two locations and an iron and biochar-enhanced sand filter to directly treat streamflow on Shingle Creek at Webber Park in Minneapolis. Effectiveness monitoring will be performed post-construction to quantify removal efficiencies in the field. As this is a research project, the Commissions will use Option 2 to fund 100% of this cost since all the cities will benefit from the research that is being conducted to design and quantify the reductions achieved. The Commissions received an MPCA Section 319 grant to help fund the project; the Commissions' share represents the required grant match.

<u>Funding Options</u>	<u>Ad Valorem Tax</u> <u>Levy (Commission</u> <u>Share)</u>	<u>City</u> <u>Apportionment</u> <u>(Cities' Share)</u>	<u>Total Estimated</u> <u>Project Cost</u>
<u>1 - Cost Share</u>	<u>\$31,725</u>	<u>\$95,175</u>	<u>\$126,900</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$126,900</u>	<u>\$0</u>	<u>\$126,900</u>
<u>3 – City Apportionment</u>	<u>\$0</u>	<u>\$126,900</u>	<u>\$126,900</u>

[This revision was adopted 5/11/17 (MPA#7)]

Shingle Creek Reaeration Project Phase 2

The overall project is the design, fabrication and installation of mechanical or passive stream reaeration structures that are artistic in design and appearance and practical in function. These structures are being installed in three locations in public parks on Shingle Creek where TMDL modeling determined that traditional stream roughness reaeration structures such as riffles or vanes would not be sufficient to increase dissolved oxygen above the aquatic life standard. This phase of the project would add solar power energy sources to power the mechanical aspects of the systems and to increase the ad valorem tax levy share to 100%.

<u>Funding Options Shingle Creek Reaeration</u>	<u>Ad Valorem Tax Levy (Commission Share)</u>	<u>City Apportionment (Cities' Share)</u>	<u>Total Estimated Project Cost</u>
<u>1 - Cost Share</u>	<u>\$36,250</u>	<u>\$108,750</u>	<u>\$145,000</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$145,000</u>	<u>\$0</u>	<u>\$145,000</u>
<u>3 – City Apportionment</u>	<u>\$0</u>	<u>\$145,000</u>	<u>\$145,000</u>

Palmer Creek Estates Bass Creek Stream Restoration

This project is proposed to restore approximately 1250 linear feet of streambank along Upper Bass Creek/drainageway within the Palmer Creek Estates subdivision. Erosion is causing drainage to leave the existing easement and is contributing nutrients to downstream Bass Lake, a state listed impaired water. This proposed stream restoration would repair erosion, ensure drainage is within designated easements, and would reduce nutrient loading to Bass Lake.

<u>Funding Options Retrofit Projects</u>	<u>Ad Valorem Tax Levy (Commission Share)</u>	<u>City Apportionment (Cities' Share)</u>	<u>Total Estimated Project Cost</u>
<u>1 - Cost Share</u>	<u>\$112,500</u>	<u>\$337,500</u>	<u>\$450,000</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$450,000</u>	<u>\$0</u>	<u>\$450,000</u>
<u>3 – City Apportionment</u>	<u>\$0</u>	<u>\$450,000</u>	<u>\$450,000</u>

[This revision was adopted 5/10/18 (MPA#8)]

SRP Reduction Project

The purpose of this project is to field evaluate the effectiveness of three types of filter media at reducing soluble reactive phosphorus (SRP) concentrations in discharge from altered wetlands, and to permanently install the best-performing filter at the outlets of two wetlands that currently discharge high concentrations of SRP in outflow to downstream impaired waterbodies

The proposed project is the installation of filter media at the outlet of two flow-through wetlands. Wetland 639W is just upstream of Upper Twin Lake in Crystal. The second location is at the outlet of Cherokee Wetland, on Bass Creek at Cherokee Drive in Brooklyn Park. Both these wetlands export high concentrations of SRP into impaired waters. Inflow and outflow monitoring would be completed post construction to document filter effectiveness.

<u>Funding Options</u> <u>SRP Reduction Project</u>	<u>Ad Valorem Tax</u> <u>Levy (Commission</u> <u>Share)</u>	<u>City</u> <u>Apportionment</u> <u>(Cities' Share)</u>	<u>Total Estimated</u> <u>Project Cost</u>
<u>1 - Cost Share</u>	<u>\$31,170</u>	<u>\$93,510</u>	<u>\$124,680</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$124,680</u>	<u>\$0</u>	<u>\$124,680</u>
<u>3 – City Apportionment</u>	<u>\$0</u>	<u>\$124,680</u>	<u>\$124,680</u>

[This revision was adopted 10/10/19 (MPA#11)]

Plymouth Enhanced Street Sweeper

Plymouth will purchase and operate a regenerative air street sweeper to enhance its street sweeping program to four full city sweeps per year. Enhanced street sweeping has been identified in the Bass, Schmidt & Pomerleau TMDL, the Cedar Island, Pike and Eagle Lake TMDL and the Pike Lake Subwatershed Assessment as a cost-effective BMP for nutrient reductions.

<u>Funding Options</u> <u>Enhanced Street Sweeper</u>	<u>Ad Valorem Tax</u> <u>Levy (Commission</u> <u>Share)</u>	<u>City</u> <u>Apportionment</u> <u>(Cities' Share)</u>	<u>Total Estimated</u> <u>Project Cost</u>
<u>1 - Cost Share</u>	<u>\$75,000</u>	<u>\$275,000</u>	<u>\$350,000</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$350,000</u>	<u>\$0</u>	<u>\$350,000</u>
<u>3 – City Apportionment</u>	<u>\$0</u>	<u>\$350,000</u>	<u>\$350,000</u>

WEST MISSISSIPPI CIP PROJECTS

Mississippi Crossings Phase A Rain Gardens

This improvement project would construct two large bioinfiltration basins to treat runoff in the old town center area in the vicinity of TH 169 and West River Road. This area is slated for redevelopment as Mississippi Crossings, which is a planned district accommodating a realignment of TH 169. The area currently discharges untreated into the Mississippi River.

<u>Funding Options</u> <u>Miss Crossings Phase A</u>	<u>Ad Valorem Tax</u> <u>Levy (Commission</u> <u>Share)</u>	<u>City</u> <u>Apportionment</u> <u>(Cities' Share)</u>	<u>Total Estimated</u> <u>Project Cost</u>
<u>1 - Cost Share</u>	<u>\$54,800</u>	<u>\$164,200</u>	<u>\$219,000</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$219,000</u>		<u>\$219,000</u>
<u>3 – City Apportionment</u>		<u>\$219,000</u>	<u>\$219,000</u>

Mississippi Crossings Phase B Infiltration Vault

The Mississippi Crossings redevelopment area also provides for a potential expansion of the Mississippi River Trail through the redevelopment area. The proposed infiltration vault would provide treatment for trail and parking facilities. The area currently discharges untreated into the Mississippi River.

<u>Funding Options</u>	<u>Ad Valorem Tax</u>	<u>City</u>	<u>Total Estimated</u>
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Miss Crossings Phase A	Levy (Commission Share)	Apportionment (Cities' Share)	Project Cost
1 - Cost Share	\$54,800	\$164,200	\$219,000
2 – Ad Valorem Tax Levy	\$219,000		\$219,000
3 – City Apportionment		\$219,000	\$219,000

Woods Trail Rain Gardens

Champlin proposes to construct a series of rain-gardens and lineal wetlands along the woods trail north of 109th Avenue and east of Elm Creek Parkway to improve water quality and provide a visual experience to those using the park trails. This project will include restoration of two wetlands.

Funding Options Woods Trail Rain Gardens	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$45,000	\$135,000	\$180,000
2 – Ad Valorem Tax Levy	\$180,000		\$180,000
3 – City Apportionment		\$180,000	\$180,000

Wetland Restoration Project

Over the past few decades, wetlands in northern Brooklyn Park and Champlain have experienced hydrologic and hydraulic changes that have either impacted their functions and values or reduced or eliminated their sources of hydrology. A variety of causal factors have been suspected regarding these “disappearing wetlands,” but no definitive cause or causes have been identified. In 2012 and 2013 the West Mississippi Commission will partner with the USGS and other agencies to try to better understand the reasons for these impacts. If the causes can be identified, then the Commission intends to begin restoring sustainable functions and values to replace those lost.

Funding Options Wetland Restoration Various Projects	Ad Valorem Tax Levy (Commission Share)	City Apportionment (Cities' Share)	Total Estimated Project Cost
1 - Cost Share	\$250,000	\$750,000	\$1,000,000
2 – Ad Valorem Tax Levy	\$1,000,000		\$1,000,000
3 – City Apportionment		\$1,000,000	\$1,000,000

[This revision was adopted 6/9/16, MPA # 6]

Iron and Biochar-Enhanced Sand Filters

This research project would retrofit three ponds in Shingle Creek and one pond in West Mississippi with iron and biochar-enhanced sand filter benches to remove soluble phosphorus and bacteria in the ponds. It also includes installing storm sewer catch basin iron and biochar enhanced sand filter inserts at two locations and an iron and biochar-enhanced sand filter to directly treat streamflow on Shingle Creek at Webber Park in Minneapolis. Effectiveness

monitoring will be performed post-construction to quantify removal efficiencies in the field. As this is a research project, the Commissions will use Option 2 to fund 100% of this cost since all the cities will benefit from the research that is being conducted to design and quantify the reductions achieved. The Commissions received an MPCA Section 319 grant to help fund the project; the Commissions' share represents the required grant match.

<u>Funding Options Biochar Filter Project</u>	<u>Ad Valorem Tax Levy (Commission Share)</u>	<u>City Apportionment (Cities' Share)</u>	<u>Total Estimated Project Cost</u>
<u>1 - Cost Share</u>	<u>\$10,000</u>	<u>\$30,000</u>	<u>\$40,000</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$40,000</u>	<u>\$0</u>	<u>\$40,000</u>
<u>3 – City Apportionment</u>	<u>\$0</u>	<u>\$40,000</u>	<u>\$40,000</u>

This revision was adopted 10/10/1019 (MPA#11)

River Park Stormwater Improvements

Brooklyn Park's River Park Master Plan includes stormwater improvements that will provide water quality treatment for 250 acres of mixed-use lands that currently discharge into the Mississippi River with no treatment. The stormwater improvements are also intended to provide an improved habitat for animals and insects and an educational space for the residents of the community to learn about water quality.

<u>Funding Options River Park Project</u>	<u>Ad Valorem Tax Levy (Commission Share)</u>	<u>City Apportionment (Cities' Share)</u>	<u>Total Estimated Project Cost</u>
<u>1 - Cost Share</u>	<u>\$121,250</u>	<u>\$363,750</u>	<u>\$485,000</u>
<u>2 – Ad Valorem Tax Levy</u>	<u>\$485,000</u>	<u>\$0</u>	<u>\$485,000</u>
<u>3 – City Apportionment</u>	<u>\$0</u>	<u>\$485,000</u>	<u>\$485,000</u>