

Appendix E

Implementation Program Descriptions

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Elm Creek WMC Fourth Generation Watershed Management Plan Capital Improvement Projects Descriptions

Projects proposed for the Implementation Plan and the Capital Improvement Program (CIP) are described below and shown on the Implementation Plan and Capital Improvement Program in the Plan. It is the intent of the Commission to finance these projects using its most current Cost Share Policy. Additional funding options are set forth in the Joint Powers Agreement.

Special Studies

Both by itself and in partnership with member cities the Commission will undertake special studies to target implementation and to perform feasibility analyses to develop grant applications. These special studies will be solicited and identified each year through the annual work plan and the budget/CIP review process. Some examples of these are:

Special Study-Flood Resiliency Modeling. A key component of the Commission's four phase approach to understanding and enhancing climate resiliency, this special study would use the Commission's hydrologic and hydraulic (H & H) model, which was recently updated as part of a reevaluation of flood hazards in the watershed and will eventually be the basis of updated flood insurance program mapping. This special study will test various land cover and precipitation scenarios for 2050 and future years to identify risks of future flooding and infrastructure impacts. It will also be used to identify areas in the watershed where reducing or holding back runoff might mitigate that risk and limit erosion in streams and other conveyances.

Subwatershed Storage and Infiltration Subwatershed Assessments (SWAs). One of the expected outcomes of the flood resiliency modeling is the identification of key areas in the watershed for more intensive analysis of storage and infiltration opportunities. The SWAs will identify options for practices to reduce the risk of future flooding or impacts to infrastructure and property, evaluate feasibility, and develop cost-benefit assessments of recommended practices.

Subwatershed Assessments (SWAs). Subwatershed assessments are detailed studies to identify nutrient and sediment load reduction BMPs. The Commission completed three SWAs in high priority developing areas (Ruch Creek Headwaters, South Fork Rush Creek, and Diamond Creek) and shared in the cost of two SWAs in urban areas (Fish Lake and Rice Lake) as part of the Third Generation Plan. Those results have led to the ongoing implementation of BMPs. Additional SWAs may be completed during this ten year period as interest arises.

Fifth Generation Watershed Management Plan. This Fourth Generation Plan presents goals, policies, and actions to be undertaken 2025-2034. While there will likely be amendments to this Fourth Generation Plan over that period, state statute does require that the management plan be updated in full at least every ten years. In approximately 2032 the Commission will begin planning for its Next Generation Watershed Management Plan, with the expectation that it will be complete and approved prior to this Plan's expiration in 2034.

Stream Restoration Projects

The 2007 Elm Creek Channel Study identified a number of locations on Elm, Rush, North Fork Rush, and Diamond Creeks experiencing streambank erosion and mass wasting. This erosion not only threatens the structural integrity of the creek channels but also contributes to in-stream and downstream water quality issues, including impairments to the biologic communities.

Since that time the member cities have completed several priority stream restoration projects, including several called out in the Channel Study, including 8,700 feet of Elm Creek in Plymouth, Hwy 55 to Peony Lane; 9,100 feet of Elm Creek in Champlin, from Hayden Lake to the Mill Pond; 7,000 feet of Rush Creek between Territorial Road and Fernbrook Lane in Maple Grove; and 5,100 feet of South Fork Rush Creek from 101st to its confluence with Rush Creek, also in Maple Grove.

Rush Creek, Rush Creek Hollow to Fernbrook Lane. Stream restoration and erosion repair of Rush Creek downstream of Rush Hollow to Fernbrook Lane for 1,600 linear feet. The MPCA has identified altered hydrology, altered physical habitat, and excess phosphorus as primary stressors in this reach. Improvements include bank stabilization, buffer enhancement and habitat enhancement. Estimated phosphorus reduction of 100 lbs per year, improved riparian environment, improved floodplain connectivity, improved recreation and access to the creek, improved education.

South Fork Rush Creek south of 101st. Stream restoration from 101st Avenue south to County Road 30, appx. 5,200 LF. The MPCA has identified altered hydrology, altered physical habitat, and excess phosphorus as primary stressors in this reach. Improvements include bank stabilization, buffer enhancement and habitat enhancement. Estimated phosphorus reduction of 450 lbs per year, improved riparian environment, improved floodplain connectivity, improved recreation and access to the creek, improved education. City parkland sits adjacent to half of the creek with planned trails. Future development will likely dedicate additional space for parks/trails.

Reconstruct Bridge at Cartway and Elm Creek. Reconstruction of a bridge to maintain transportation network, as this is a major roadway crossing of Elm Creek within the City of Champlin. Elm Creek will temporarily be impacted during construction. Maintain and improve hydraulic flow in Elm Creek.

Other high priority stream restorations. Other opportunities may be identified on Elm, Rush, Diamond, and South Fork Rush Creeks during the life of this Plan for additional stream restoration to improve water quality and restore ecological integrity.

Lake Projects

Reducing lake internal loading is an essential component of achieving lake water quality standards. This may include options such as chemical treatment with alum, rough fish management aquatic and vegetation management.

Fish and Rice Lakes Carp Management. In 2025-26 the Commission is partnering with Maple Grove, Three Rivers Park District, and the Fish and Rice Lake associations to undertake a carp management strategic plan. This study will follow up on previous work to estimate the number of carp in each lake, movement between the two lakes and adjacent spawning areas, and methods to better control immigration and recruitment. This strategic plan will set forth a systematic plan of actions that may include installation of permanent barriers to carp movement and additional carp harvesting and fish management.

Diamond Lake Neighborhood Improvements. The Diamond Creek SWA identified numerous potential BMPs, and in 2025 the Commission and City of Dayton are collaborating on three: two locations where runoff could be provided further treatment in basins prior to discharge into French or Grass Lakes, and the installation of devices in two storm sewer manholes to reduce sediment discharge into Diamond Lake.

Diamond Lake Internal Load Management. The Diamond Lake TMDL Identifies a significant amount of internal load in Diamond Lake due to sediment release. 405 acres of Diamond Lake would be treated by a series of alum treatments, and the potential nutrient reduction is conservatively estimated to be 449 lbs/year. This project will also include invasive vegetation control, and ongoing monitoring to verify water quality improvements.

Rice Lake Trail and Shoreline Restoration. Approximately 3000 LF of shoreline restoration around Rice Lake. In conjunction with trail improvements, this project will restore degraded shoreline. Shoreline restoration improves water filtration improving water quality and improves habitat essential to aquatic environments. A feasibility study would need to be completed to document the extent of the improvements, however, erosion repair, native habitat, and pollinator enhancements are anticipated.

Other High Priority Lake Internal Load Projects. The Elm Creek TMDL identified Rice, Diamond, Goose, Cowley, Sylvan, and Henry Lakes as in need of substantial internal load reductions through actions such as aquatic vegetation management, rough fish control, and chemical treatment of lake sediments. While not included in the TMDL, French and Grass Lakes, which are classified as wetlands, also contribute nutrient load to impaired lakes and may be considered for actions to reduce that discharge.

Other BMPs

Street Sweepers. Street sweeping is one of the most cost-effective best management practices for improving water quality and reducing TP and TSS pollutant loading to receiving waters.

Corcoran is developing a street sweeping program as the city is growing at a rapid pace. On average the City has added about two centerline miles per year over the last decade. The Commission will provide cost share towards the purchase of state of the art equipment to sweep for water quality, with the primary benefits to Rush Creek and South Fork Rush Creek.

Maple Grove will purchase a high-efficiency street sweeper to increase swept miles per year and improve street sweeping efficiency to reduce pollutant loading to Elm Creek, Fish Lake, Rice Lake, Edward Lake and Weaver Lake. The estimated load reductions per year are 900 pounds of phosphorus, 6,000 pounds of nitrogen, and 150 pounds of chloride per year.

Storage/Infiltration Projects. The flood resilience modeling study and subsequent SWAs are likely to identify projects to enhance resilience in the watershed. These may include practices to store runoff, provide infiltration in area where soils are conducive, or capture and reuse projects.

Agricultural BMPs Cost Share

Agricultural fields are a significant source of sediment and nutrient loading to impaired waters. Modeling being conducted for the TMDL identified areas at highest risk, based on soil type, slope, and other factors, for erosion and sediment transport.

Ag BMP Technical Assistance and Cost Share. The Commission will provide cost-share to Hennepin County, who will provide technical assistance to property owners and leverage other funding to implement such priority BMPs as:

- Cover crops
- Grassed waterways
- Manure bunkers
- Water control basins
- Buffers
- Wetland restoration