

Technical Advisory Committee MINUTES | August 10, 2023

A meeting of the Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions was called to order by Chairman Richard McCoy at 11:06 a.m., Thursday, August 10, 2023, at the Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN.

Present: James Soltis, Brooklyn Center; Mitchell Robinson, Brooklyn Park; Ben Perkey, Crystal; Mark Lahtinen, Maple Grove; Nick Macklem, New Hope; Amy Riegel, Plymouth; Richard McCoy, Robbinsdale; Diane Spector, Todd Shoemaker, and Dendy Lofton, Stantec; and Judie Anderson, JASS.

Not represented: Champlin, Minneapolis and Osseo.

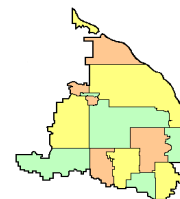
Also present: Andy Polzin, Plymouth, and Mike Sorenson, Robbinsdale.

- I. Motion by Robinson, second by Riegel to **approve the agenda**. *Motion carried unanimously.*
- II. Motion by Robinson, second by Riegel to **approve the minutes*** of the July 13, 2023, meeting. *Motion carried unanimously.*
- III. **Gaulke Pond Subwatershed Assessment.** The Shingle Creek Commission requested Stantec to evaluate opportunities to reduce stormwater runoff volume to Gaulke Pond. As part of this effort, they reviewed the available data, conducted a field reconnaissance visit, and conducted a desktop-based evaluation of potential sites within the Gaulke Pond subwatershed that could be retrofitted to include a volume-reduction best management practice (BMP). Staff's August 4, 2023, memo* summarizes the project background, watershed changes, opportunity locations and BMPs considered, and preliminary results for discussion.

The Gaulke Pond watershed is located within the cities of Crystal, New Hope, and Robbinsdale, spanning south to north from 38th Avenue to 49th Avenue; and west to east from Boone Avenue to Welcome Avenue. It is the most downstream in a series of four ponds including Hagemeister, Brownwood, and Memory Lane ponds within the City of Crystal. Gaulke Pond collects runoff from 883 acres of residential, institutional, and commercial properties upstream and discharges via a pump system east into storm sewer, and ultimately to Twin Lake. Staff reviewed a substantial number of reports and sources regarding the Commission and cities of Crystal and New Hope's management of stormwater and floodplains. The goal was to develop a holistic understanding of the watershed, its history, existing issues, and future work.

During a project kickoff meeting with city staff from New Hope and Crystal the group determined that the sites would be selected as a potential opportunity location if they met the following criteria:

1. City-owned land, including street right-of-way.
2. City priorities from previously identified flooding concerns and priority areas from the 2021 Central Core Stormwater Project, as well as upcoming street and utility projects.
3. Suitable soils for infiltration (i.e., hydrologic soil group A or B).



Of the total 1,938 parcels within the Gaulke Pond subwatershed, 47 were public and quasi-public parcels encompassing 159 acres.

At that meeting the cities provided a list of upcoming municipal projects that would result in excavation and/or replacement of existing utilities within the public right-of-way and ranked them for potential political backing and support from councils. Eleven sites/projects were identified and described in Staff's memo. Using the information and feedback provided by the cities as well as the site constraints observed, Stantec narrowed the potential BMPS down to five feasible options and one option in need of more data. Stantec then estimated conceptual-level capital costs for each of the five and ranked them by the cost to infiltrate a single acre-foot of stormwater runoff. The whole-life analysis results indicate that the best option to reduce costs over the lifetime of the project would be Opportunity A2, the Colorado Avenue Infiltration Trench just south of 42nd Avenue. Capital costs would be \$130,326; lifetime maintenance costs over 30 years would be \$36,855.

It was a concurrence of the members to recommend to the Shingle Creek Commission that they proceed to 30% design with Opportunity A2.

IV. CLEAN WATER FUND GRANT.* The Board of Water and Soil Resources (BWSR) opened the annual solicitation for Clean Water Fund Grants on June 29, 2023. Grant applications are due by August 24. This \$8.5 million is funding from the ongoing Legacy Amendment and is one of the primary funding sources for surface water improvements in Minnesota. At the July meeting the Shingle Creek Commission directed Staff to draft a 2024 CWF grant application for internal loading treatments on Eagle and Pike lakes, located in Maple Grove and Plymouth, respectively. The application would also include aquatic invasive species (AIS) management, monitoring, public engagement, and project management.

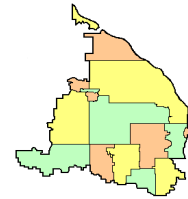
The Commissions' Fourth Generation Watershed Management Plan contains a lake internal load improvement project for Eagle and Pike Lakes. Based on the 5-year TMDL update in 2019, efforts to restore water quality in Eagle Lake will require improvements in loading from the watershed, from upstream lakes, and from in-lake sediment.

The TMDLs specify that sediment and phosphorus loads from Pike and Eagle lakes need to be reduced by approximately 57% and 22%, respectively. Additional load reductions are required from external sources in order to satisfy the overall TMDL requirements to meet water quality standards with the ultimate objective of delisting impairment status on both lakes.

Aluminum sulfate (alum) treatment is a widely implemented in-lake nutrient management technique that reduces internal anoxic sediment P release by up to 90%. Conservatively, assuming a 75% reduction in internal sediment P release, alum treatments would reduce the internal phosphorus load from sediments in Pike and Eagle Lakes by approximately 143 lbs/yr and 164 lbs/yr, respectively. An estimated additional 28 lbs/yr and 164 lbs/yr reduction would be needed from external sources to Pike and Eagle Lakes, respectively, in order to meet the TMDL goals and attain water quality standards.

Two alum treatments are proposed for each lake to seal the sediments and significantly reduce internal phosphorus load. Invasive curly-leaf pondweed will be treated to help restore and enhance the native submerged aquatic vegetation communities. Eagle Lake is a highly popular 290-acre recreational lake with an active lake association and public access. The 58-acre Pike Lake, which is connected to Eagle via a short channel and fringing wetlands, is a natural environment lake, and about two thirds of its shoreline is located within Eagle Lake Regional Park.

Stantec has conservatively estimated aluminum sulfate treatment costs on both lakes, in addition to the other management tasks described above. Total project cost is estimated to be \$680,000, with



\$610,000 being requested from the CWF. The match requirement for the CWF Project and Practices grant fund is 10%. Spector suggested that the TAC consider recommending to the Commission that the proposed match be \$190,000, which is the amount in the CIP set aside for the Eagle Lake part of the project. This would reduce the grant request to an estimated \$490,000.

Motion by Riegel, second by Robinson to recommend this application with a \$190,000 match to the Commission at their meeting today. *Motion carried unanimously.* Any additional feedback should be forwarded to Staff by August 18, 2023.

V. OTHER BUSINESS.

A. Storm Sewer Surcharge.* The Minnesota Plumbing Board has formed an Ad Hoc Committee to discuss the Department of Labor and Industry's recent interpretation of plumbing code. Their first meeting was held August 4, 2023. Shoemaker and Soltis attended the meeting.

Last April, Stantec staff summarized a new plumbing code interpretation by the Department of Labor and Industry at the Commission and TAC meetings. The interpretation states that storm sewer surcharge is not allowed in the design event and, therefore, the Plumbing Board is requiring that any storm sewer inlets into a stormwater basin are set at or above the 100-year High Water Level. This interpretation likely requires additional fill on the site to elevate parking lots and buildings, and, in turn, may then cause the building to be elevated higher than allowed by city ordinance above the adjacent street. There is also greater potential for erosion or the need for more significant erosion protection between the storm sewer outlet and the pond normal water level. Following current design practice, designers usually locate the storm sewer outlet at or just above the pond normal water level, which enables the water in the pond to provide some energy dissipation along with riprap.

Both Shoemaker and Soltis noted that several groups responded negatively to the information that was provided. The Committee, however, gave no indication of immediately revising their interpretation. Therefore, each public or private project impacted by the rule will be subject to applying for a variance.

B. The next TAC meeting is scheduled for Thursday, September 14, 2023, at 11:00.

There being no further business, the TAC meeting was adjourned at 11:54 a.m.

Respectfully submitted,

Judie A. Anderson
Recording Secretary
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