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Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 5A – Consider Approval of Proposal for Engineering Services for Sweeney Lake and Schaper Pond Carp Management (CIP Project SL-3)
BCWMC April 21, 2022 Meeting Agenda
Date: April 14, 2022

5A. Consider Approval of Proposal for Engineering Services for Sweeney Lake and Schaper Pond Carp Management (CIP Project SL-3)

Recommendations:

1. Consider approving the scope of work and not-to-exceed budget of $5,000 for the Commission Engineer to obtain a MnDNR permit and contract/coordinate with a fish hatchery to stock panfish in Schaper Pond.
2. Consider approving the scope of work and not-to-exceed budget of $52,000 for the Commission Engineer to contract and coordinate with Carp Solutions to perform carp removal with box nets, contingent on the preliminary results of the carp surveys showing high populations of carp.

Background

Several investigations in 2017 and 2018 identified problems with stormwater treatment in Schaper Pond and found carp populations exceeding the 100 kg/ha threshold associated with impacts on water quality (Bajer et al., 2009). In 2019, the Commission was awarded grant funding for the Sweeney Lake Water Quality Improvement Project, which included a goal to reduce carp biomass in Sweeney Lake and Schaper Pond (shown in Figure 1) during the spring and summer of 2020. In addition, this project intended to track carp movement to 1) assess the likelihood that carp from Sweeney Lake could re-populate Schaper Pond, and 2) assess the need to prevent movement of juvenile and adult carp from Schaper Pond to Sweeney Lake. The Commission Engineer hired Carp Solutions, LLC as its subconsultant on this investigation (and all previous investigations) to analyze carp impacts in the Sweeney Lake-Schaper Pond system.

In 2020, Carp Solutions conducted box netting and electrofishing in Sweeney Lake and Schaper Pond. Overall, 452 carp were removed from Sweeney Lake and 152 carp were removed from Schaper Pond, which dropped the carp populations to levels that equated to respective biomass densities of 68 and 75 kg/ha—below the critical threshold of 100 kg/ha. While the carp removals were successful, it was also learned that Schaper Pond was likely a nursery area for carp. In February 2021, the Commission directed staff to evaluate various options for long term control of carp in Schaper Pond and Sweeney Lake. Staff developed and evaluated a matrix of several different options including constructing electric and non-

electric barriers as well as stocking panfish in Schaper Pond to predate carp eggs and carp fry. After reviewing the benefits, limitations, and costs of various options, staff recommended an adaptive management approach to reassess the carp population and their movements by repeating the carp assessment performed in 2019. This action would help understand how quickly the carp population might rebound in these waterbodies to pre-removal levels and which permanent solution would be most cost effective. At their September 16, 2021 meeting, the Commission approved the adaptive management approach by gathering additional carp population data in 2022 with a budget of $8,000. At that meeting, the Commission also directed staff to prepare a scope of work with Carp Solutions or a similar company for approval at a future Commission meeting for carp removal in 2022, and to contact the Minnesota Department of Natural Resources (MnDNR) regarding panfish stocking in Schaper Pond. The Commission also suggested that, if carp numbers are found to be high in May and June, then action should switch to box netting and electrofishing to protect the investment in Sweeney Lake.

The Commission Engineer had recent communications with MnDNR staff regarding permit requirements and with Riley-Purgatory-Bluff Creek Watershed District (RPBCWD) staff regarding the efficacy of panfish stocking. RPBCWD began stocking large bluegills in several of the shallower lakes and wetlands in the Riley Lake watershed and in the Staring Lake portion of the Purgatory Creek system in 2018. Since many of these water bodies were subject to winterkill, RPBCWD continued to stock bluegills each year for up to four years. The results of RPBCWD's ongoing carp population surveys indicate that bluegill stocking has been successful at controlling carp recruitment (establishment of young carp) in the Riley Lake watershed and in Staring Lake. It is expected that the cost of obtaining the bluegills, and associated permitting, will be less than the long-term costs associated with netting and removal of adult carp. As a result, staff recommends that the Commission approve this option for managing carp in Schaper Pond this spring.

Proposed Scope of Work

In addition to the task to survey and assess the carp population in Sweeney Lake and Schaper Pond (with an $8,000 budget approved at the September 2021 meeting), below is a summary of the additional work scope components for this project in which Barr will subcontract with a fish hatchery and with Carp Solutions to complete fish stocking and box netting:

1) Panfish Stocking

The Commission Engineer will contract and coordinate with a fish hatchery to obtain a MnDNR permit and stock 1,000 adult bluegills in Schaper Pond. Depending on MnDNR permit conditions or restrictions, it is expected that some of the bluegills may need to be stocked in Sweeney Lake and/or Spring Pond or another upstream pond.

2) Box Netting (Contingent)

Contingent on the preliminary results of the carp surveys showing high populations (i.e., above the critical threshold of 100 kg/ha) in May and June, the Commission Engineer will contract and coordinate with Carp Solutions to perform carp removal with box nets as described below.

Carp removal with baited box nets in Sweeney Lake and Schaper Pond

Carp Solutions will conduct carp removal with baited box nets, which assumes installation of at least 3 nets in near-shore areas throughout Sweeney Lake and two nets installed in Schaper Pond. The nets will be installed in July. Following box net installation, the nets will be baited for approximately 7 days. The carp will be captured, euthanized, and removed. Captured fish will be examined for fin clips to estimate percent of population removed. The carp removal process will occur twice, with a break of several weeks between each round. Baiting will cease during the break and carp removal activities will be conducted in July and September.

The Commission Engineer will manage project scheduling and budgeting, in close coordination with the Commission Administrator, and prepare and send project email updates that correspond with invoicing.

Cost Estimate

The table below summarizes our not-to-exceed cost estimate for the scope of work outlined above.

Tasks	Estimated Total
Carp Population Surveys (approved Sept. 2021)	$8,000
1) Panfish Stocking	$5,000
2) Box Netting (Contingent)	$52,000
Total	**$65,000**

Schedule

The Commission Engineer will complete the tasks and milestones outlined in the scope of work on the following schedule.

Tasks	Estimated Schedule
Carp Population Surveys (approved Sept. 2021)	Spring/Summer 2022
Panfish Stocking	Spring/Summer 2022
Box Netting (Contingency)	Summer/Fall 2022

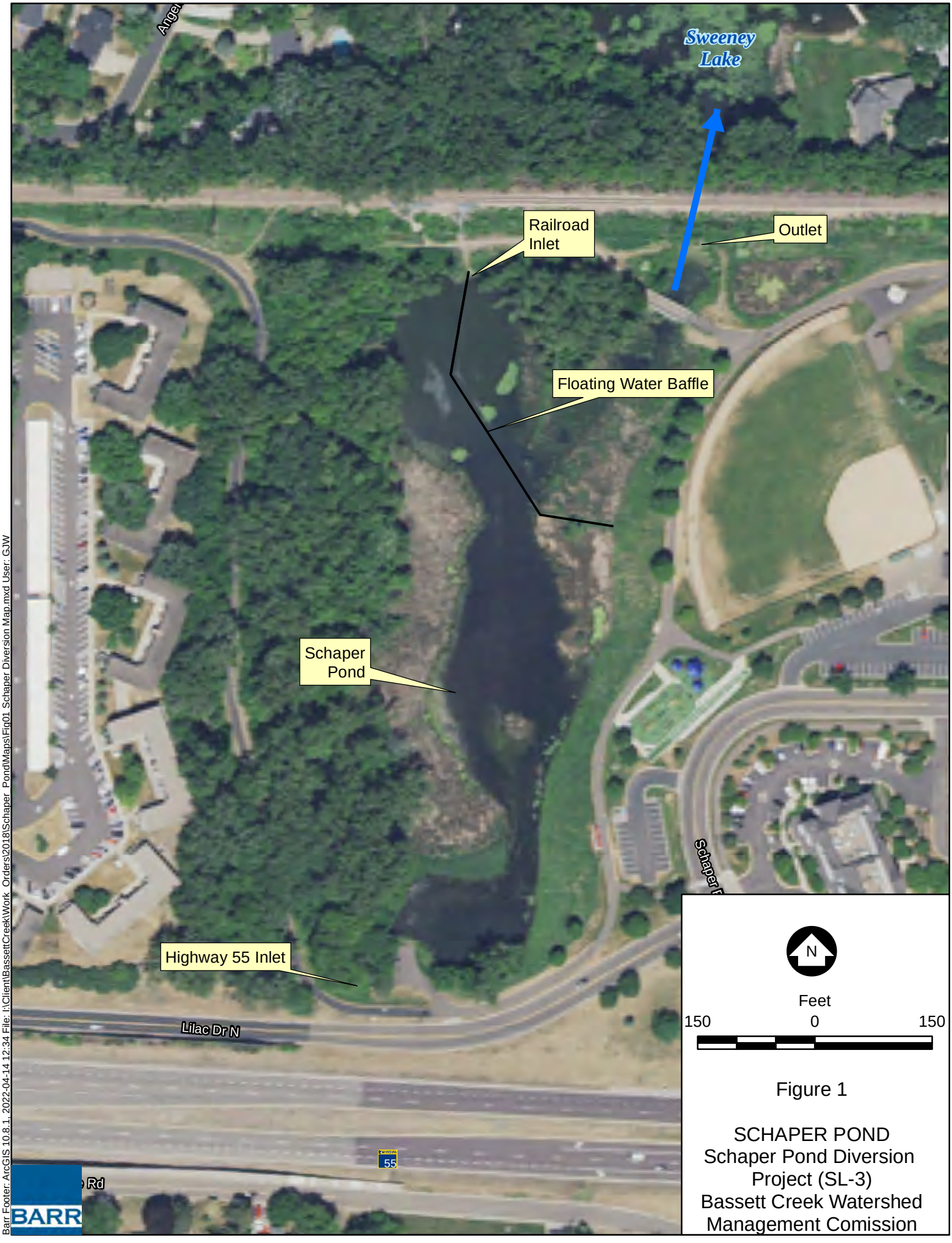

Figure 1

SCHAPER POND
Schaper Pond Diversion Project (SL-3)
Bassett Creek Watershed Management Comission

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