



# Bassett Creek Watershed Management Commission

## Technical Advisory Committee Meeting

Wednesday October 4, 2023

10:30 a.m. – 12:00 p.m.

Wirth Lake Room, Brookview

1. CALL TO ORDER
2. COMMUNICATIONS
3. BUSINESS

### A. Considerations for Future Dredging Projects

As a follow-up to our Lagoon Dredging discussion at the September TAC meeting, below are the Commission Engineer's recommendations for future dredging projects. Most of these recommendations were included in the September TAC agenda. Some additional thoughts are noted in purple:

- Final design, construction drawings and quantities should be based on recent (within one year) bathymetric surveys to establish existing (pre-dredge) sediment depths; depending on schedule, this could be performed or performed again immediately before construction/dredging.
- Do not accept contractor surveys performed in dewatered frozen conditions, due to ice and frost heave. Increase level of effort of survey required (licensed surveyor, grid size, tolerances) in the specs both to deter contractors and assure quality if they want to dispute bid quantities.
- Use sonar or extra wide foot on the survey rod because normal foot will sink in soft sediment.
- During sediment exploration as part of feasibility study or design, Engineer could obtain several samples to determine in-situ unit weight of sediment and include that information in the bid documents.
- Consider requiring interim surveys by a licensed surveyor for progress payments.
- Continue with Measurement and Payment based on plan quantity Cubic Yards (CY) as the preferred method for dredging projects to avoid paying for hauling and disposal of water/ice.
- Consider requiring as-built surveys at project completion, and add specifications that allow for reduction of plan quantity if contractor is outside of allowable tolerances.

The TAC could consider officially recommending these actions to the Commission for future dredging projects and/or using them for city dredging projects.

### B. Recommendations for Next Steps on Lagoon Dredging Project

Should the Commission complete the project of dredging to 6-foot design depth? When the current project is completely closed out, there will be approximately \$1.56M remaining in the project budget (pending approval of settlement agreement by the Commission). See Table 1 for cost benefit analyses from feasibility study compared to completed project and potential future project.

#### i. Options

- a. Accept project as-is (approx. 3.7 ft. depth consistent with Feasibility Study Option 1)
- b. Complete project by re-bidding and retaining new contractor to dredge to 6 ft. depth
- c. Consider dredging Lagoon G

#### ii. Project elements for new project

- a. Data collection (site survey, collect sediment data if Lagoon G is included)

- b. Contract documents
  - c. Bid Project
  - d. Permitting (including EAW if Lagoon G is included)
  - e. Construction
- iii. **Construction options to complete the project**
- a. Option A: construct earth berm into lagoons and use long reach backhoe to excavate to remaining depth. Load into trucks similar to 2023/2024 project. Remove berm as dredging retreats.
  - b. Option B: investigate options to excavate in the dry; divert flows into pipe, use dam or berm to separate excavation area from channel; load into trucks similar to 2023/2024 project. It would likely be challenging to fully dewater.
  - c. Option C: Hydraulic dredging and discharge to geotubes; excavate geotubes/dewatered sediment and load into trucks and haul to landfill (sediment may need to dewater for a year or so). A larger staging area would be needed.
  - d. Option D: Mechanical excavation from barge, load into trucks or load onto barge and transfer into trucks similar to 2023/2024 project.

Table 1. Cost benefits from feasibility study compared to completed project and potential future project.

Project costs, benefits	Feasibility Study Alternative:		Completed Project	Future Project
	6-foot depth	4-foot depth	Approx. 3.7-foot depth	Complete to 6-foot depth
<b>Dredged volume</b>	39,600 cubic yards	27,800 cubic yards	25,650 cubic yards	13,950 cubic yards
<b>Project cost*</b>	\$3,145,000	\$2,247,000	\$1,428,000	\$1,200,000
<b>Total phosphorus load reduction</b>	600 lb/year	390 lb/year	360 lb/year	Incremental: 240 lb/year
<b>Cost/benefit</b>	\$270/lb TP/year	\$300/lb TP/year	\$210/lb TP/year	\$260 lb/TP/year

Notes:

- “Project cost” includes engineering, design, permitting, legal. No other expenses are expected for a future project.
- The estimated cost for a future project does not include dredging Lagoon G (noted as an option above).
- The estimated cost for a future project is conservative but may be low if contractors bid the project using special equipment like a hydraulic dredge. However, even if the project cost was \$1.5M, the cost benefit is still low: \$320/lb/TP/year

**C. Recommendations on Sampling Protocol for Suspected Blue Green Algae Blooms**

As noted at the September TAC meeting, this summer, the BCWMC was alerted to multiple potential blue green (BG) algae blooms in lakes and ponds. Because some BG algae blooms could pose health threats to humans and pets, there is often a request from a resident for the BCWMC to sample and confirm/deny the bloom. It's likely unsustainable (financially and staffing-wise) to sample every suspected BG algae bloom. It was noted at the September meeting that BG algae blooms are ephemeral, spotty, and unpredictable. And, that

Please review the attached draft protocol for sampling/analyzing potential blooms. Please note that member cities can request that BCWMC monitoring staff make a special trip to a lake or pond to sample and then analyze potential BG algae blooms. However, the protocol proposes that it would be at the city's own expense (through a reimbursement to the BCWMC). Estimated cost for one sampling trip and analysis = \$750.

**D. Options for Use of New WMWA Education Coordination**

Through a new Hennepin County position (filled by Grace Barcelow), the West Metro Water Alliance has a half time education coordinator to significantly augment WMWA's capacity for education and outreach programming. Each of WMWA's four partner watersheds, including BCWMC, can receive time from the coordinator to concentrate on a project or workshop of the watershed's choosing. Some watersheds are using Grace's time to coordinate a special project (like raingarden installation) with a multi-family housing complex. Others are using Grace's time to coordinate a workshop (like a shoreline restoration workshop). Another possibility that likely fits BCWMC best, is to provide outreach to targeted properties using the Low Salt, No Salt MN campaign materials and tools. This work could be concentrated in the watershed of a specific waterbody and would work best with faith based communities, homeowners associations, schools, residential treatment facilities, etc.

Whatever special project is chosen; an expected water quality impact should be one outcome due to grant funding requirements. The TAC should discuss and provide input to the Administrator on potential special projects.

**E. Next Meeting – November 1<sup>st</sup> @ 10:30 a.m. Wirth Lake Room, Brookview**

**4. ADJOURN**