



Board of Directors Meeting

By Zoom

5:00 pm

September 9, 2021

AGENDA

ROLL CALL

Agenda Review

Declarations of Interest (written)

Business

1. Shabomeka Lake Dam Project Tender Results – Plan B, Report 3155/21 (Juraj Cunderlik and Sally McIntyre)

ADJOURNMENT

REPORT

3155/21

TO:	MVCA Board of Directors
FROM:	Juraj Cunderlik, Director of Water Resources Engineering and Sally McIntyre, General Manager
RE:	Shabomeka Lake Dam Project Tender Results – Plan B
DATE:	September 8, 2021 (Special meeting)

That the Board of Directors direct staff to:

- a) Cancel the tender (reject all bids received).**
- b) Adopt a phased approach for the dam reconstruction.**
- c) Tender the first phase for construction in Fall 2021.**
- d) Update the WECl funding agreement.**
- e) Secure updated permit approvals, as required.**

1.0 BACKGROUND

In March 2021, the Board approved tendering reconstruction of the Shabomeka Lake Dam pending confirmation of 50% funding from the province. Subsequently, the grant was approved in June 2021, permits were received in August 2021, and the tender closed on September 1, 2021.

MVCA’s 2021 Capital Budget estimated the cost of the project at \$1,500,000. An updated cost estimate received from the consultants in June 2021 was \$1,556,045.

2.0 TENDER BIDS

Three bids were received and opened on Wednesday September 1, 2021. All bids significantly exceeded the capital project budget, and the WECl expenditure deadline of March 15, 2022, as shown in Table 1.

Table 1: Shabomeka Bid Summary

Bidder	Price	Completion Date	Compliance (Y/N)
1.	\$2,781,352.62	September 2022	No
2.	\$4,236,098.80	January 2023	No
3.	\$5,222,464.50	October 2022	No

Key reasons for the limited number of bids, excessive costs, and the prolonged construction appear to be the following:

- COVID-19 continues to hamper supply chains resulting in inflated prices for many construction materials, particularly steel.
- Volatile construction market and continued high demand for construction services.
- Protracted permitting and WECl grant approval timelines delayed tendering of the project making a Fall 2021 start date difficult or impossible for some bidders.

It is recommended that all three bids be rejected for the following reasons:

- Bid prices seriously undermine the 10-year Capital Plan and the cost-benefit analysis previously provided to the Board.
- Any work not completed and invoiced by the March 15, 2022 WECl deadline will not be eligible for 50% funding.
- Incomplete/non-compliant submissions (missing addenda, project experience, contract schedule, etc.)

As per Tender Section B, the MVCA has the authority to reject incomplete or unqualified tenders (TC 6.2), reject tenders based on schedule submitted (TC 6.5), or reject all tenders (TC 10.1).

3.0 RISK MITIGATION

The dam structure can be divided into two main components, as shown on Figure 1:

1. The north and south earth embankments
2. The concrete water control structure comprised of a single sluice, piers, wooden deck and all metalworks including the gains that hold the logs and the overhead gantry.

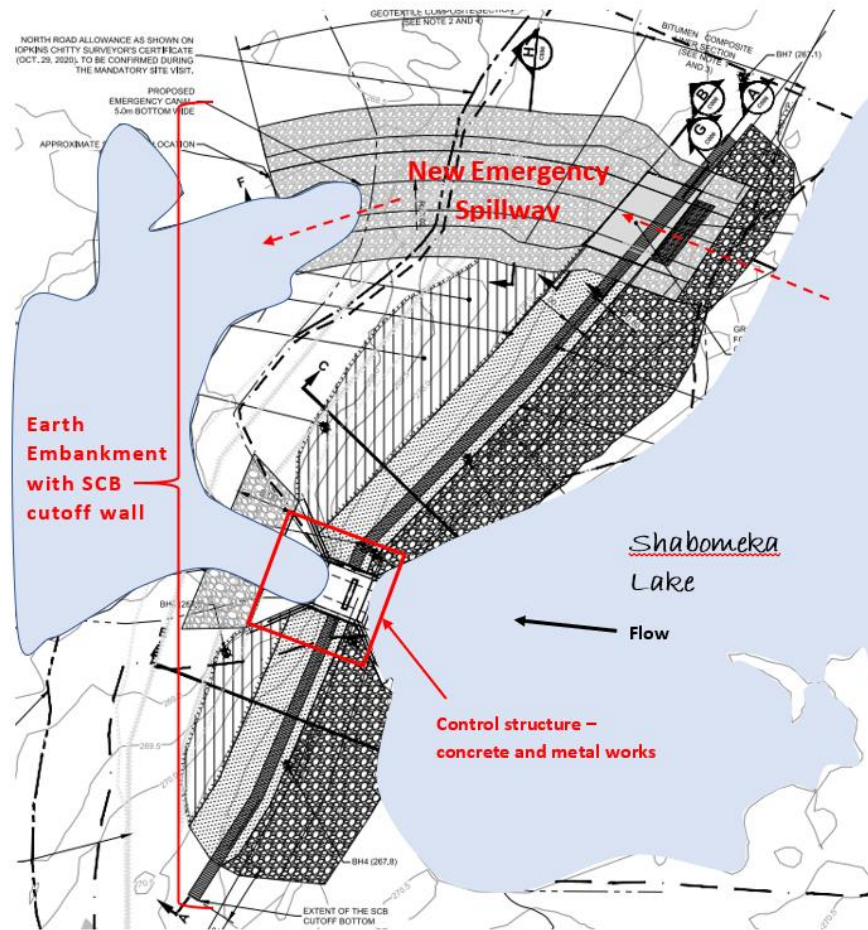
The 2015 Dam Assessment completed by Houle Chevrier identified the greatest risk with the earth embankment, which showed significant evidence of seepage, settlement and sloughing at the toe of the slope due to vehicles crossing below the dam. The lack of an emergency by-pass within the embankment was identified as a risk to the embankment due to overtopping under an extreme rain event.

Plan B - Risk of dam failure could be significantly mitigated by revising and reissuing the tender to rehabilitate the earth embankments and installing the emergency spillway. Due to the relative simplicity of this reduced scope of work, a greater number of contractors would likely respond to the tender call, resulting in more competitive and affordable pricing. And, assuming specialty materials are available, it should be feasible to complete the revised scope of work by the WECl deadline (approximately 16-week construction period).

Completion of these works this fall-winter would allow deferral of remaining components until:

- prices normalize,
- an infrastructure grant becomes available for “shovel-ready” projects, or
- the Capital Plan identifies the residual risk as requiring immediate attention.

Figure 1: Dam Structure components



4.0 CONSULTATION WITH FUNDERS AND APPROVAL AGENCIES

Staff have discussed this matter with NDMNRF and with the City of Ottawa with the following results:

- The WECI Committee is amenable to reducing the scope of the project to the rehabilitation of the earth embankments and emergency spillway. Any future work would be subject to the annual evaluation process and there is no guarantee future works will receive funding.
- The City of Ottawa indicates that it can provide a loan for an amount above the requested \$750,000, but that Council approval would be needed for anything more than \$1 million. Infrastructure Ontario is also able to provide an increase in the loan amount.

5.0 CAPITAL LEVY

The current *10-year Capital Plan* and *Interim Financial Plan* show the capital levy increasing as shown in Table 2:

Table 2: Planned Levies under the Current 10-Year Capital Plan

Year	% incr.	Amount
2022	5	\$590,791
2023	5	\$617,376
2024	6	\$651,332
2025	7	\$693,669
2026	7	\$738,757
2027	6	\$779,389
2028	6	\$822,255
2029	4	\$851,034
2030	4	\$880,820

If MVCA were to proceed with a project valued at \$3.5 million (instead of \$1.5 million as assumed by the Capital Plan), the capital levy would need to increase by 6.5%¹ every year to meet debt payments on this project while funding the balance of the 10-year capital program.

6.0 RECOMMENDATION

It is recommended that staff reject the current set of bids and reissue the tender with a reduced scope of work for construction this fall/winter. This approach mitigates the critical risks of dam failure and provides an opportunity to receive bids within the 2021 Capital Budget for this project.

Each year’s delay increases the likelihood of dam failure due to continued degradation of the structure and increased likelihood of an extreme wet weather event overtopping the dam due to climate change.

7.0 CORPORATE STRATEGIC PLAN

This is a priority project of the organization and is being carried out in accordance with the following goal and objective:

Goal 1: Asset Management – revitalize watershed management activities and invest in our legislated mandate.

- a) Implement the five-year capital program.
- b) Strengthen our risk analysis and management capacity to include climate change and development impacts.
- e) Plan for the next phase of asset development and management.

¹ Assumes 50% funding by WECl.