

Grand River Conservation Authority

Report number: GM- 10- 24- 96

Date: October 25, 2024

To: Members of the Grand River Conservation Authority

Subject: Water Control Structures Asset Management Plan

Recommendation:

THAT Report Number GM- 10- 24-96 – Water Control Structures Asset Management Plan be received as information.

AND THAT the Water Control Structures Asset Management Plan be approved and implemented.

Summary:

The GRCA owns and operates 28 dams. Eight of the dams are used to manage flows within the watershed and are classified as multi-purpose dams. The multi-purpose dams serve two key functions: managing floods and supplying water to the river during periods of low flow (flow augmentation) .

Under *Ontario Regulation 686/21- Mandatory Programs and Services*, the Grand River Conservation Authority (GRCA) is required to complete an asset management plan to support the mandatory programs and services for flood control, low flow augmentation and erosion control infrastructure.

Report:

As the owner of water control infrastructure, GRCA is accountable for its safe operation and maintenance. An asset management plan has been prepared for eight (8) flood control and/ or flow augmentation dams, and six dike and floodwall systems. This includes completing condition assessments and providing recommendations for major maintenance and replacement of components for the eight (8) dams. This work was completed by engineering consultant Hatch Ltd., approved by the GRCA as outlined in report GM- 09- 23- 65 with input from GRCA staff.

The plan provides clear documentation and support for the decision-making process for prioritizing maintenance and managing the water control infrastructure assets. The plan will assist the GRCA in deciding when and how much will be required to invest in existing water control infrastructure assets to maintain the required level of service to provide flood control and low flow supply functions. Auxiliary benefits such as hydro-production and recreation are not prioritized in this asset management planning process.

The project to complete this Asset Management Plan included the following:

- Describes the required levels of service for each water control structure.
- Documents the GRCA asset management and dam safety management strategy.
- Updates the existing inventory of dam and dike asset components (e.g., electrical, mechanical, and structural components).
- Completes condition assessments for eight (8) dams (7 large dams and 1 flow augmentation dam) , including the expected service life and estimated remaining life of

electrical and mechanical components, replacement value of electrical and mechanical components, and major maintenance costs for structural components.

- Develops a template to monitor the asset management plan for future modifications and improvement, particularly as engineering inspections or dam and dike safety assessments identify new priorities.
- Provides the anticipated 20-year capital expenditures for maintaining GRCA's water control structures to provide the required levels of service.

This Asset Management Plan will be a living document and will be updated as new information and priorities arise following engineering inspections, conditions assessment and updates to dam safety assessments. The Water Control Structures 5 Year Capital Forecasts will continue to be presented to the Members of the Grand River Conservation Authority annually, and adjustments in priorities will be reflected in the 5 Year Capital Forecasts and Annual Budget.

This Asset Management Plan does not include the remaining 20 small dams which are typically run-of-the-river or structures associated with historic mill ponds and are important community features. GRCA will continue to include these small dams in regular capital budgeting and dam safety management processes to address maintenance, refurbishment and replacement as required to safely maintain and operate these structures.

Financial Implications:

The budget to complete the Asset Management Plan as approved by the board was \$216,964 and was funded from the Land Sale Reserve. The Water Control Structures Asset Management Plan will be implemented to inform the GRCA Dam Safety Management program and associated capital budgeting process.

Other Department Considerations:

Staff from Conservation Area Operations, Accounting and Information Systems have provided support to the Hatch Team and Water Infrastructure Department in completing this plan.

Prepared by:

Katelyn Lynch
Manager of Water Infrastructure

Approved by:

Samantha Lawson
Chief Administrative Officer