



TOWNSHIP OF NORTH HURON

REPORT

Item No.

REPORT TO: Reeve Vincent and Members of Council
PREPARED BY: Sean McGhee
DATE: 09/07/2018
SUBJECT: Howson Dam Delegation Summary, Funding Analysis, and Action Plan
ATTACHMENTS: Howson Dam Decision Flowchart, Infrastructure Ontario Serial Debenture Schedules.

RECOMMENDATION:

That the Council of the Township of North Huron hereby receive the report of the Director of Public Works, dated July 9, 2018 regarding the Howson Dam for information purposes;

And Further That staff be authorized to engage the services of KGS Group for initial core sampling and analysis of the concrete within the Howson Dam spillways for the purpose of determining the compressive strength, to an upset limit of \$22,000.⁰⁰ plus applicable taxes.

EXECUTIVE SUMMARY

At the May 22nd, 2018 meeting of the Township of North Huron Council, the following resolutions were passed:

M259/18

MOVED BY: B. Knott

SECONDED BY: T. Seip

THAT the Council of the Township of North Huron hereby receive the report of the Director of Public Works, dated May 22, 2018 regarding the Howson Dam for information purposes;

AND FURTHER THAT staff be directed to forward a copy of this report and the corresponding attachments to the Maitland Valley Conservation Authority, the Howson Dam Committee, the Ontario Rivers Alliance, and other stakeholders upon request.

AND FURTHER THAT a report be presented to Council summarizing the comments of any delegations received and providing further details on financing and amortization details associated with the options presented in this report.

CARRIED

The stakeholders indicated in Resolution M259/18 were contacted. As a result, a number of individuals and organizations made presentations to Council on the June 18th regular meeting. The following is a summary of points brought forward by the various delegates:

Mr. Dave Shaw:

- Noted that his family moved to Wingham 45 years ago and that the most impressive thing in Wingham at the time was the Dam. He resides within 500 meters of the Dam.
- Stated that it was not uncommon for 100's or even 1,000's of people to be on the river fishing, boating, and enjoying the river.

- Mr. Shaw claimed that the site is an embarrassment to the Community based on its existing condition and requested that the process to restore the dam be commenced immediately.

Mr. Ken Wood:

- Mr. Wood spoke of a drowning that took place as a result of their lack of education in water safety. F.E. Madill used the headwaters in the past to teach their students canoe and water safety.
- The Headwaters are required to carry forward with this practice.

Mr. Sinclair Wardop:

- Identified the Dam as a Heritage asset and noted that you have to drive these initiatives and not simply discard the heritage piece.
- The Dam is such an eyesore that it will hurt our ability to recruit new people into the community.
- Noted that there were numerous options for funding and grants.
- Was quoted saying “There is a great interest in it” and “Where there’s an interest, there are people who are willing to spend their money to make it not the eyesore that it is now”.
- Noted that Millbrook spent 2.3 million on the local dam and noted that it is owned by the local conservation authority.

Mr. Doyle Cullen:

- Recalled enjoying the dam in his childhood and enjoyed all types of recreation in the water ahead of the dam.
- He has noted youth using the head waters for fishing and recreation, and that these kids are inquiring as to the status of the stop logs.
- He now has to travel 30 minutes to enjoy recreation.

Andy McBride:

- Mr. McBride stated that he represents the over 1000 citizens within the community with regard to the Dam.
- Noted that over the past 6.5 years he had been in attendance with staff and had found Pat Newson and Kelly Church to be very cooperative.
- Mentioned that there has been no repair work done for 30 years and that in 2012 there was 195k in a reserve fund for repair and maintenance.
- Stated that the group was in favour of rehabilitation or if necessary, full replacement.
- Mr. McBride questioned that KGS Report HPC rating of high and quoted excerpts from the report. He further noted that the Dam withstood the 1 in 100-year flood last year.
- It was suggested that there is funding available, both Federal and Provincial, and noted other dams that have been rehabilitated in the area such as Delhi, Mitchell, Port Dover and Cambridge.
- Questioned the “Natural State” of the River, stating that the Dam had been in place since around 1862 and as such, could represent the natural state of the river.
- Questioned the MVCA statement that removal reduced potential upstream flooding as they have not provided any supporting evidence and that revised mapping has not been completed. Also noted that the MVCA has three other dams that they are not trying to remove.

Linda Herron, Ontario Rivers Alliance:

- The ORA mandate is to Protect, Conserve and Restore rivers within the Province of Ontario.
- Stated that they had partnered with the MNRF to have a dam removed in the previous year.
- Noted that they are advocating for the removal of several dams that are currently unsafe.
- During the presentation, Ms. Herron spoke of climate uncertainty and cited a number of statistics indicating changes in global temperatures which will have impact on climate and apply greater pressure on our infrastructure.
- It was suggested that despite the 1 in 100-year flow rating of the Dam, that communities should prepare for the 1 in 1000-year storm due to climate changes.
- After reviewing the costing models presented by KGS, she noted that these costs represent a huge burden on tax payers.
- Noted that it was critical to consider the life cycle costs if any repair or replacement model is adopted.
- The ORA requested that Council consider the financial, environmental, safety and liability aspects surrounding the Dam and that those aspects clearly favour the decommissioning of the Howson Dam.

MVCA (via correspondence):

“MVCA recommends that North Huron fully explore the potential for reducing the risk to its residents upstream of the dam from flooding by either removing the dam or replacing it with a structure that minimizes the potential for flooding of development or lands located upstream of the structure. Repairing the existing structure would not reduce the risk of flooding of lands located upstream of the dam.”

DISCUSSION

The issues and concerns surrounding the aesthetics and public safety were raised by some of the delegates speaking on behalf of the Howson Dam. These concerns are shared by staff. This asset has degenerated to the point that it can no longer be ignored. The Howson Dam represents a liability to the municipality.

It is the recommendation of staff that a systematic phased approach be taken towards addressing this liability. The direction taken will determine the complexity of the project which potentially involves numerous decisions in order to fully work through the process. These decisions and some of the associated sub-processes, many of which will require external resources, are identified in the attached flowchart.

The first decision is the most significant and sets the direction for staff. The recommendation identified by staff in this report will greatly assist Council in the identification of available options and may streamline the process if maintaining a dam is the preferred course of action. It is absolutely critical that some preliminary concrete testing be carried out if rehabilitation is to be considered. Although the testing will not confirm the viability of rehabilitation, it may eliminate it as an acceptable course of action.

In keeping with a phased approach, investigations into funding options for repair or replacement of the structure can be carried out over time. If the Dam is to be replaced the existing structure should be removed as soon as practicable in order to mitigate exposure on the part of the municipality.

If removal and naturalization of the area is the preferred approach the Recommendation found in this report should be defeated.

Although there has been criticism over the funds that have been spent to date on engineering, we as a municipality are now positioned to meet many of the permitting requirements under the Lakes and Rivers Improvement Act (LRIA).

FINANCIAL IMPACT

This asset is not area rated and as such, the financial implications surrounding every course of action will be borne by all of the ratepayers within the municipality.

In order to understand the cost associated with borrowing for the replacement or rehabilitation of the dam, Infrastructure Ontario was contacted to provide a debenture schedule for each of the scenarios presented by KGS Group. The data provided by Infrastructure Ontario for this exercise was based on 30 years of borrowing at 3.46% interest. The approach and associated costings were as follows:

Repair Option:

1. Pinning of existing structure – Principal and Interest - \$4,383,426.⁰⁷
2. Additional Mass to existing structure – Principal and Interest - \$6,999,120.⁰¹

Replacement Option:

1. Earthen Embankment Type – Principal and Interest - \$6,050,319.⁸⁶
2. Full Width Overflow Weir – Principal and Interest - \$9,486,473.⁸¹

If an amortization schedule beyond thirty years is desired, an alternate source for the funds may be required. These schedules represent the cost associated borrowing the full amount as presented in the KGS Group estimates and do not take into account potential grants or other funding sources. The schedules are based on the AACE Class 4 estimate which has a high margin for error built in to the calculation.

How the Howson Dam ended up in the condition it is in today is germane to the conversation only in that it underscores the fact that any new structure will require immediate and ongoing financial commitment. The annual cost associated with upkeep and replacement of the asset has been estimated at an additional 1% of the overall asset cost and must be considered as part of any costing model.

FUTURE CONSIDERATIONS

Regardless of preferred course of action, engineering services will be required to navigate the permitting processes required under LRIA. Once direction is set, staff will prepare a report identifying options for the procurement of the appropriate service provider(s).

RELATIONSHIP TO STRATEGIC PLAN

This project relates to **Goal No. 2** of the Strategic Plan in that our residents are engaged and well informed, **Goal No.3**, the Township is healthy and safe. **Goal No. 4**, the administration is fiscally responsible and strives for operational excellence, and **Goal No. 5** in that our natural environment is valued and protected.



Sean McGhee, Director of Public Works



Dwayne Evans, CAO