



To: Mayor and Council
From: Paul McMunn, Director of Public Works and Utilities
Date: November 1, 2023
Committee of the Whole Date: November 6, 2023
Title: Water Tower and Trunk Watermain Extension Update

- For Direction
- For Information
- For Adoption
- Attachment

Recommendation: THAT Council of the Corporation of the Town of Smiths Falls receive the Water Tower and Trunk Watermain Extension Update report for information.

Purpose: The purpose of the report is to update Council on the anticipated associated construction costs for the installation of the new Water Tower and associated Trunk Watermain prior to 2024 Capital Budget deliberations.

Background: The Municipal Class Environmental Assessment (MCEA) conducted between June 2017 and January 2019 suggested an engineering estimate of \$4.8M for a new 5,050 m³ water tower and \$1.2M for site servicing and electrical works which rounded out the water tower component of the works to \$6.0M. The second part of the project includes the upgrade of an existing 12" trunk watermain to a 16" trunk watermain which routes through approximately 1.7 km of roadway corridors (from Chambers Street at Empress Avenue to Rideau Avenue at Lorne Street and then to the water tower site located across from the Public Works garage). The original MCEA engineering estimate for that portion of work was \$1.8M bringing the total MCEA engineering estimate to 7.8M. The trunk watermain is proposed for upgrade to provide the adequate volume of potable water from the Water Treatment Plant to the new tower to service the distribution system and provide adequate fire flows throughout town.

EVB were awarded the contract for detailed design in January 2023. EVB continues to advance the detailed design of the water tower to completion, anticipating tendering for construction early in the new year. EVB has also been advancing investigative works to inform on a detailed design for the installation of the new 16" trunk watermain.

Analysis and Options: While EVB works through the detailed design they have been in close communication with Landmark Structures as they are the manufacturer and installer of elevated water storage applications in Ontario. Landmark Structures has provided a budgetary price to EVB for the tower itself and associated site servicing works. A 5,050 m³ water tower is estimated at \$7.65M with \$2.2M being estimated for associated site servicing works, which totals \$9.85M. This increased cost from the original MCEA cost of \$6.0M is attributed to inflationary costs over the last 4-5 years.

The route for the 16" trunk watermain navigates streets that have aged original infrastructure (roads, sidewalk, curbs, sanitary sewer mains, watermains, and services to properties). The Public Works Department completed camera inspections (CCTV) of the combined sewers this past summer and the sewers and structures are exhibiting characteristics that suggest

they should be replaced as part of this project. A Geotechnical Investigation (bore holes) was conducted within the right of way through the route to determine the soil characteristics and the presence of rock. Rock was evidenced throughout the route, and it is generally shallow. In order to install a new 16" trunk watermain, rock would have to be removed by means of mechanical rock excavation. The process of hoe-ramming creates vibration through the adjacent trenches and will likely further degrade the integrity of the adjacent servicing (water and sanitary sewers). The sanitary collection system through the route is a combined system, meaning that surface water runoff within the urban sections of roadway is collected in catch basins which are connected to the sanitary sewer. This additional water is conveyed to the Water Pollution Control Plant where it must go through the same treatment process as the sewage.

Given the aforementioned concerns, the route for the trunk watermain should be considered for full reconstruction which would include the following;

- new 16" trunk watermain to replace the existing 12" trunk watermain
- new 8" domestic watermain (services and hydrants connected)
- new sanitary sewer and structures
- new dedicated separated storm sewer and structures
- new roads, curbs, and sidewalks (that are AODA compliant)
- associated landscaping

EVB has prepared a Class D Construction Cost Estimate for the works as described above which totals approximately \$14.7M.

Budget/Financial Implications: The recent estimate for the water tower portion of the project paired with the recent estimate for the trunk watermain work (assuming full reconstruction) amounts to \$24,550,000. Accordingly, the trunk watermain portion of the project would be substantially less than \$14.7M (estimated) if full reconstruction wasn't considered.

The town was successful in securing funding from the Investing in Canada Infrastructure Program (ICIP) – Green Infrastructure Funding Stream in the amount of \$3,666,500. Although the grant funding will reduce the municipal share towards this project it still leaves a significant funding gap, especially in consideration of contemplating a full reconstruction of the trunk watermain route. This report is not aimed at determining a funding strategy for this project, rather to make Council aware of the significant rise in costs for the water tower as well as present the rationale to consider full reconstruction of the trunk watermain route. This information will serve to assist Council in 2024 Capital Budget deliberations.

Link to Strategic Plan (2023-2026): NA

Existing Policy:

Asset Management Plan – 2016
Utilities Long Term Financial Plan

Consultation: EVB, Manager of Water and Wastewater, Director of Corporate Services/Treasurer

Attachment: NA

Notes/Action (space for Council Member's notes):

Respectfully Submitted:

Approved for agenda by:

Original Copy Signed
Paul McMunn, C.E.T.
Director of Public Works and Utilities

Original Copy Signed
Malcolm Morris, CMO
CAO