



PORT COLBORNE

Subject: 2024 Watermain Replacement Project Update

To: Council

From: Public Works Department

Report Number: 2024-146

Meeting Date: July 23, 2024

Recommendation:

That Public Works Department Report 2024-146 be received; and

That an additional \$4,428,000 from the Water Reserve be approved for the 2024 watermain replacement capital project construction.

Purpose:

The purpose of this report is to obtain funding to complete the construction of the 2024 watermain replacement capital project which includes replacing watermains on Davis Street, West Street, Homewood Avenue, and Berkley Avenue.

Background:

As part of the 2022 capital budget, the design and construction of four watermain projects were approved for a total estimated project cost of \$5,000,000. The watermains to be replaced are located on Davis Street, West Street, Homewood Avenue, and Berkley Avenue. These watermains were prioritized for replacement due to their condition, high frequency of watermain breaks, advanced age, and the outdated pipe material used.

The City's Infrastructure Needs Study has highlighted the importance of ongoing capital replacement projects to address critical issues such as water loss and to ensure the reliability and safety of the City's drinking water supply system. Watermains are essential components of the water distribution network, and their failure can lead to significant disruptions, increased maintenance costs, and potential public health risks. Proactively replacing aging and problematic watermains is vital to maintain a resilient and efficient water infrastructure.

Associated Engineering was retained to complete the engineering designs for each of the four watermains, prepare the tender documentation, and oversee contract administration and site inspection during the construction phase of the project, which was included as a provisional item.

The watermain replacement tender for construction closed on June 4, 2024, and two tenders were submitted. Peter's Excavating was the only complete submission, and they have been tentatively awarded the project, pending the approval of additional funds. The construction bid submission from Peter's Excavating totaled \$7,983,275.31. Associated Engineering evaluated the tender submission and provided their recommendation to award the tender to Peter's Excavating.

Discussion:

The approved funding for the watermain replacement project was originally set at \$5,000,000, with approximately \$3.7 million sourced from provincial and federal grants. This budget was intended to cover the design and construction costs of replacing the four watermains. However, several factors have led to an increase in the overall project costs:

- **Scope Expansion:** The initial design phase did not include West Street, which necessitated additional design work.
- **Geotechnical Requirements:** Extensive geotechnical work was required for the four project sites to comply with the new Excess Soil Regulation from the Province. Initial soil tests indicated the need for further refined testing to better understand the soil parameters and potential contamination.
- **Soil Management:** The new Excess Soil Regulation also mandates stricter rules for soil registration, movement, and placement. Tests at the project sites revealed contamination levels, requiring proper soil management by a Qualified Person, under the Regulation. This has significantly increased the planned construction costs.

The 2024 Water Financial Plan (Council Report 2024-88) anticipated additional expenses for this project. An additional \$3.5 million was earmarked in the water budget projections to cover the increased costs associated with onsite soil removal.

Further evaluations and clearer cost estimates have identified additional provisional items, including:

- **Site Dewatering Costs:** Essential for managing groundwater during construction, additional contingency to handle contaminated groundwater.
- **Contract Administration and Site Inspection for all 4 watermains:** Necessary for ensuring project compliance and quality control. The initial design tender submitted by Associated Engineering included a provisional item for contract

administration and site inspection. However, the original scope of work submitted did not encompass the site inspection and contract administration for the West Street watermain. To maintain continuity of the project, having Associated Engineering continue with the expanded scope change of the contract administration and site inspection work will help maintain that the project stays on schedule. Full time inspection is required due to the contamination issues on site and to maintain a high standard of work.

The revised costs associated with the four watermain replacements are summarized below:

Project Item	Proposed Costs
Engineering design, geotechnical and excess soil contamination investigation	\$391,000
Anticipated contract administration and site inspection costs	\$574,000
Construction costs including additional site dewatering provision, and contingency	\$8,313,000
Qualified Person requirement for Excess Soil Regulation and material testing	\$150,000
Total Project Cost Estimate	\$9,428,000

With the approved funding of \$5,000,000 through City, Provincial, and Federal funding, staff are requesting an additional \$4,428,000 be approved to complete the construction of the four watermain projects at a cost of \$9,428,000.

Internal Consultations:

Public Works staff collaborated with Corporate Services staff on the Water Financial Plan projections and discussed the necessary budget increases to ensure comprehensive planning and financial oversight.

Financial Implications:

The original budget for the watermain projects was \$5,000,000. The additional required funding is \$4,428,000 to accommodate a total revised budget of \$9,428,000. Staff are proposing the additional funds be allocated from the Water Reserve.

Funding Source	Cost
City Funding	\$5,762,917
Provincial Funding	\$1,665,883
Federal Funding	\$1,999,200

Total Project Cost Estimate	\$9,428,000
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Public Engagement:

Residents and businesses impacted by construction will be notified before the project starts.

Strategic Plan Alignment:

The initiative contained within this report supports the following pillars of the strategic plan:

- Sustainable and Resilient Infrastructure
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Conclusion:

The need for additional funding is critical to proceed with this project, ensuring that the identified watermains are replaced in a timely manner to prevent future failures and to align with the City's commitment to improving of infrastructure. The successful completion of these replacements will contribute to reducing water loss and enhancing the overall efficiency of the City's water distribution system. Securing the additional funds will ensure the City meets all regulatory compliance requirements, which is essential for the successful execution of the project.

Respectfully submitted,

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Report Approval:

All reports reviewed and approved by the Department Director and also the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.