



Title of Request:	Cockburn Subdivision Watermain Construction – Additional Funds	Business Case Type: Capital Initiative
Department:	Operations & Infrastructure	Business Case number: 23-CI-WAT-03
Division:	Capital Delivery	Date: November 30, 2022
Budget Request:	\$1,900,000	Funding Source: Long-term Debt

Project Description:

Watermains in the Cockburn Subdivision on Faircrest Avenue, Sunnidale Boulevard, Grew Boulevard, and Meadowlea Avenue require replacement and upsizing from the existing 150 mm ductile iron watermain to PVC watermains in order to accommodate for maximum day demand and fire flow conditions.

Ductile iron watermains have an expected lifecycle of 50-65 years. The watermains in the subdivision were installed between 1965 – 1967 and are approaching 60 years in age and the end of their lifecycle.

Residents in the area, particularly on Faircrest Avenue, have reported persistent discoloured water (rusty water) and sediment in the drinking water. Staff observations confirm that the watermain is heavily corroded on the interior of the pipe. This corrosion and tubercles can break off leading to discolouration and sediment discharge. Staff have attempted to resolve this issue through flushing the watermain to attempt to maintain chlorine residual and improve water quality. Despite daily flushing, these efforts have proven to be insufficient.

The Cockburn Watermain project commenced with Capital Project 20-WAT-6. The 20-WAT-6 project approved \$2,014,000 for the detailed design, contract administration, inspection, and construction of the watermains. After undertaking an engineering analysis, the detailed design indicated that the ideal solution is to replace all the watermains within the subdivision. The initial budget of \$2,014,000 is insufficient to cover the full cost of reconstructing the watermains. In order to construct the watermains in the Cockburn Subdivision, an additional \$1,900,000 is required.

It is recommended to install all of the watermains in one construction project. This is due to economies of scale, remobilization costs for the contractor, and the additional costs of installing temporary infrastructure and restoration works.

1. Proposed Year of Initiative (Start date and End Date): Q1 2023 – Q4 2023

2. Nature of Initiative/Review Factors (check and explain all that apply):

- Legislative, Growth Risk Management, Service Level Change, Strategic Priority, Efficiency, Adopted Plan/Study
 Other (please specify)

- Risk Management: Replacing the watermains in this area will mitigate many water quality issues such as discoloured water, taste and odour issues, and low chlorine residual.
- Efficiency: Town staff have continued to 'flush' this area of watermain on a daily to weekly basis for exceptionally long durations. Flushing allows water to move through the watermain such that older water can be replaced by fresh, clean, and chlorinated water. This process not only uses staff time and effort, it also wastes significant amounts of treated water. If the watermain is flushed too aggressively, the sediment and tuberculation in the pipes can be stirred up, leading to additional taste and odour issues, and discolouration.

3. Brief Links to Strategic Plan Departmental Business Plans or Other Plans:

Priority: "Deliver Exceptional Service" – Manage our finances and assets proactively.

4. Main/Desired Goal or Outcomes/Benefits:

- 1) Reduce or eliminate taste, odour, and discoloured water.
- 2) Reduce or eliminate watermain breaks and leaks.
- 3) Increase efficiency through reduced pumping costs, reduced water usage, and reduced staff effort spent repairing leaks, flushing, and processing resident concerns.
- 4) Increase design efficiency to reduce future stagnant water while increasing fire flows.

5. Cost/ Financial Impact, Recovery and Net impact:

Budget type	Funding Source	Net Impact
<input type="checkbox"/> Operating one-time (2023 only) <input type="checkbox"/> Operating re-occurring (2023 and future) <input checked="" type="checkbox"/> Capital one-time <input type="checkbox"/> Staffing one-time (2023 only) <input type="checkbox"/> Staffing re-occurring (2023 and future)	<input type="checkbox"/> Tax Levy <input type="checkbox"/> Assessment Growth <input checked="" type="checkbox"/> Reserves <input type="checkbox"/> User Fees <input type="checkbox"/> Water/Wastewater <input type="checkbox"/> Other:	<p>Total Cost: \$ 1,900,000 _____</p> <p>Recovery:</p>

6. Other Considerations or Efficiency Options:

Can the request be deferred? No.

Is it more efficient to contract out the initiative? Yes.

Can this initiative be combined with other present functions? Yes. This work will be coordinated with the Road Rehabilitation Program to ensure economies of scale.

Can the services model be changed to reduce this demand without reducing service levels? No.

Can technology be leveraged? No.

Can the service delivery be shared with other Town Departments/Agencies or municipalities? No.

7. Other Comments / Gallery:

