



The Regional Municipality of Durham Report

To: Works Committee
From: Commissioner of Works
Report: #2025-W-23
Date: June 4 2025

Subject:

Tender Award, Additional Engineering Services and Additional Financing required for Regional Municipality of Durham Contract D2024-52 for the Bowmanville Water Supply Plant Disinfection and Electrical Upgrades in the Municipality of Clarington

Recommendations:

That the Works Committee recommends to Regional Council:

- A) That the lowest compliant bid of BGL Contractors Corp, in the amount of \$14,145,000*, be awarded for Regional Municipality of Durham Contract #D2024-52 for the Bowmanville Water Supply Plant Disinfection and Electrical Upgrades in the Municipality of Clarington;
- B) That contract amendment with R.V. Anderson Associates Ltd. (RVA) be authorized for consulting costs associated with additional engineering and contract administration services for the Bowmanville Water Supply Plant Upgrades project in the amount of \$970,112.57*, over the approved upset limit of \$1,750,656.41* for a revised upset limit not to exceed \$2,720,768.98*; and
- C) That the previously approved project budget of \$12,650,000 for Regional Municipality of Durham Project ID: D1814 / D1927 be increased by \$6,800,000 to a revised total project budget of \$19,450,000; and
- D) That the additional financing of \$6,800,000 be provided from the following sources:

Previously Approved Financing

Water Supply Capital Budget

Bowmanville Water Supply Plant - standby power and upgrading the uninterrupted power supply (UPS), Project ID: D1814

User Revenue \$9,350,000

Bowmanville Water Supply Plant - Disinfection upgrades,
Project ID: D1927

User Revenue \$3,300,000

Total Previously Approved Financing \$12,650,000

Additional Financing

Item #175: Whitby Water Supply Plant - Plant 1 Upgrades and Rehabilitation Works Proposed works to include but not limit to building envelope improvements, filter treatment process upgrades, rehabilitation works for electrical, mechanical and process systems (Project ID: D2419)

Water Stabilization Reserve Fund \$6,800,000

Total Additional Financing \$6,800,000

Total Revised Project Financing \$19,450,000

Report:

1. Purpose

1.1 The purpose of this report is to obtain approval from Regional Council for additional financing, contract amendment for additional engineering consulting services, and to award Regional Municipality of Durham (Durham) Contract D2024-52 for the Bowmanville Water Supply Plant Disinfection and Electrical Upgrades in the Municipality of Clarington.

1.2 All dollar amounts contained in this report are before applicable taxes.

2. Project Background

2.1 The Bowmanville Water Supply Plant (WSP) is a 36,368 m³/d capacity conventional treatment facility which services the community of Bowmanville in the Municipality of Clarington.

2.2 The upgrade works required to be completed at the Bowmanville WSP include addition of an ultraviolet (UV) system for primary water disinfection, the

modification to the chlorine application points, the replacement of the main electrical switchboard, low lift and high lift MCCs and PLCs, replacing the existing back-up diesel generator system, and repurposing the existing diesel generator/fuel tank room into a new electrical room.

- 2.3 The plant currently faces operational challenges meeting disinfection requirements with chlorine. During the cold weather months, low Lake Ontario water temperatures make chlorine disinfection less efficient. Furthermore, due to the limited water storage volume in the reservoir at the plant, the existing primary disinfection process is vulnerable during periods of high-water demand due to a watermain break or fire event. The UV disinfection treatment system is being added at the plant to reduce the reliance on chlorine for disinfection and to increase the volume of water within the existing reservoir that can be counted on to be sent out to the distribution system during periods of high demand.
- 2.4 Additionally, there are other major operational and maintenance issues at the plant, summarized as follows:

- a) The amount of chlorine required to be applied to treat water is high, which results in accelerated aging of equipment within the plant.
- b) The plant's electrical system is aging and becoming obsolete, making it difficult to service because equipment vendors are no longer manufacturing parts required for maintenance and repairs.
- c) The existing diesel generator has limited capacity to service the existing plant, and the additional load required for the UV system requires that the diesel generator to be larger in electrical capacity.
- d) The fuel storage for the existing diesel generator is indoors. The proposed relocation of the fuel storage addresses compliance related improvements that would otherwise be required at the plant for the existing configuration.
- e) The plant has very limited space to store equipment. This condition is exasperated when there is construction work occurring at the plant. The plant infrastructure is aging and aside from the current Contract #D2024-52, future construction contracts are required at the plant for asset management and operational improvements. A Class Environmental Assessment is planned for 2026 for the eventual plant expansion.

- 2.5 Regional Contract #D2025-36 has been awarded for a new prefabricated storage building on the plant property that will be utilized by Operators to store surplus equipment and supplies. This Regional Contract is funded from the same project account.
- 2.6 Updates to major system components incorporated into this project will make the water supply system more resilient, mitigate compliance related risks during the winter months and extend the overall life of the plant.
- 2.7 Contract #D2024-52 is one of several projects required to secure the existing WSP capacity, maintain the WSP in a state of good repair, optimize water storage at the WSP and position the WSP to ultimately increase capacity to a projected 55,000 m³/d. These projects are collectively significant to address both prudent asset management and urban growth demands for the serviced area in the Community of Bowmanville. It is paramount that these projects are implemented in a strategically sequenced and timely manner to enable the Bowmanville water distribution system to continue to serve existing and future customers. These projects include but are not limited to the following:

Bowmanville WSP

- A. Bowmanville WSP Filter Rehabilitation and Underdrain Replacement anticipated to be undertaken in 2029 after Contract #D2024-52 is completed. This is an important asset management project that requires all work within #D2024-52 to be completed first. This scope of #D2024-52 also needs to be completed before the WSP can undergo the construction of any future expansion work.
- B. Staff plan to hire a Consultant to initiate a Municipal Class Environmental Assessment (MCEA) in 2026 for the expansion of the Bowmanville WSP to increase capacity to 55,000 m³/d, which is required to support future development within Bowmanville. It is estimated that the MCEA will take two years to complete, and that detailed design will take three years to complete, after which construction of the expansion could be started.

Other Bowmanville Water Distribution Facilities

- C. Concession Street Zone 2 Pumping Station Upgrades, Contract #D2022-46, is currently under construction and scheduled to be commissioned by the end of 2025.
- D. Liberty Street Zone 1 Reservoir and Zone 2 Pumping Station, Contract #D2024-25, currently being awarded to a Contractor and target schedule is for commissioning by the end of 2027.
- E. Decommissioning of the existing elevated storage tank in downtown Bowmanville, is anticipated to be undertaken in 2028 after the Zone 1 Reservoir and all phases of the new Zone 1 Feedermain are put into service. (estimated 2028)
- F. Staff plan to hire a Consultant and to initiate a MCEA for the Bowmanville Zone 2 Reservoir Expansion from 9ML to 18ML in 2026. It is estimated that the MCEA will take 2 years to complete, and that detailed design will take 3 years to complete, after which construction of the expansion could be started. This work will be planned to be delivered to meet the needs of development.

Conveyance Improvements

- G. Bowmanville Zone 1 Feedermain Phase 1, Contract #D2023-33 (Lambs Road, Concession Street and Highway 2), construction was substantially

completed in Fall 2024.

- H. Bowmanville Zone 1 Feedermain Phase 2 Contract #D2024-62 (Liberty St from Pamela to Sydel Courts), is currently under construction and is scheduled to be completed by the end of 2025.
- I. Bowmanville Zone 1 Feedermain Phase 3 (part of Contract #D2025-29) (Liberty St from Pamela Court to Concession Road 3 150m east of Liberty St), is currently targeting a Fall 2025 construction start and is estimated to be completed by the end of 2026. This work is being implemented in concert with a major Regional Road reconstruction project.
- J. Bowmanville Zone 1 Feedermain Phase 4, Contract # to be determined, (Concession Road 3 150m east of Liberty St to Concession St E and Lambs Road intersection), is currently targeting a late 2026 construction start and is estimated to be completed by the end of 2027. This feedermain needs to be constructed for the Liberty St Zone 1 reservoir to be put into functional service and for the existing elevated tank to be decommissioned.
- K. Bowmanville Zone 2 Feedermain from Liberty St Zone 2 pumping station to the Zone 2 reservoir, Contract # to be determined and construction requires the Liberty Street Zone 1 Reservoir and Zone 2 Pumping Station to be in service. This work will be planned to be delivered to meet the needs of development potentially in 2029.

3. Tender Information Contract #D2024-52

- 3.1 Tenders for Regional Contract #D2024-52 for the Bowmanville Water Supply Plant Disinfection and Electrical Upgrades in the Municipality of Clarington closed on Feb 18, 2025. The following four compliant bids were received:

Bidder	Total Tender Amount (excluding applicable taxes)
BGL Contractors Corp	\$14,145,000
Baseline Constructors Inc.	\$14,383,000
ASCO Construction (Toronto) Ltd.	\$14,435,914
Peak Construction Group Ltd.	\$15,601,900

- 3.2 The total approved budget for the project is \$12,650,000. The lowest compliant bid amount for the project plus consulting engineering and contract administration services, Regional internal costs, and contingencies total \$19,450,000. Therefore, the project will require additional financing of \$6,800,000. The difference between the tendered and budgeted amounts is due to the continued market volatility and uncertainty caused by supply chain issues, the volume of water and wastewater capital works projects being tendered by Municipalities across the province, cost increases for labour and equipment and increase in unit costs for materials such as diesel engine generators, electrical systems, stainless-steel pipe and fittings, and ultraviolet disinfection equipment.
- 3.3 It is recommended that the lowest compliant bidder, BGL Contractors Corp, be awarded Regional Contract #D2024-52.

4. Contract Amendment for RFP-1110-2020

- 4.1 The Bowmanville WSP Disinfection Upgrades project was originally scoped within Request for Proposal #1110-2020 issued for competitive bidding by the Regional Municipality of Durham (Region) in 2020. RVA was previously awarded the detailed design assignment for the work through the execution of a Consulting Services Agreement. The Terms of Reference (ToR) for RFP-1110-2020 and subsequent contract amendments were based on a total estimated construction duration of 14 months, with construction set to begin in 2022.
- 4.2 In 2024, RVA was directed by the Region to prepare a separate Contract package for the design and tendering of a prefabricated storage building on the plant site. The scope of work for the prefabricated storage building did not include contract administration and inspection services for the separate Contract.
- 4.3 The Region issued the tender documents for contract D2024-52 on December 23, 2024, and the tender was closed on February 19, 2025.
- 4.4 The current industry lead delivery times for specialized electrical power supply equipment required as part of the upgrades is up to two years after a purchase order is issued to an equipment vendor. This has had a major impact on the project schedule which is now extended to approximately 33 months from award with an estimated completion date of 2028.
- 4.5 Complexities in the design of the SCADA communications system has resulted in the need for additional design reviews and workshops which were required to

ensure a seamless integration with the existing plant processes and systems and will be required through the construction phase of the project.

- 4.6 As a result of the extension in the project schedule and the complexities involved with the design, an amendment to RFP-1110-2020 is required to allow the Region to continue to utilize the consultant's design and contract administration services for the project.
- 4.7 Retaining the services of RVA would ensure continuity of the capital project. Without this amendment the Region would need to coordinate multiple consultants resulting in additional time and resources, which would cause operational challenges as well as challenges during commissioning the work.
- 4.8 It is recommended that a contract amendment with RVA be approved for additional engineering and contract administration services outside of the original scope of work for the replacement of the existing electrical systems including standby power and associated instrumentation and control system upgrades in the amount of \$970,112.57*, over and above the approved upset limit of \$1,750,656.41* resulting in a revised upset limit not to exceed \$2,720,768.98*.

5. Financial Implications

- 5.1 Section 15.3 of Durham Region's Budget Management Policy states that the approval of the applicable Standing Committee and Regional Council for additional project financing requirements exceeding \$250,000 prior to the award of the applicable contract is required.
- 5.2 Section 17.1 of Durham Region's Budget Management Policy states that the approval of the applicable Standing Committee and Regional Council for additional project expenditures exceeding \$250,000 beyond project funding prior to the approval of the additional commitments.
- 5.3 Financing for the award of Regional Contract D2024-52 for the Bowmanville Water Supply Plant Disinfection and Electrical Upgrades in the Municipality of Clarington (Bowmanville) will be provided from the following sources:

Previously Approved Financing

Water Supply Capital Budget

Bowmanville Water Supply Plant - standby power and upgrading the

uninterrupted power supply (UPS), Project ID:D1814
 User Revenue \$9,350,000

Bowmanville Water Supply Plant - Disinfection upgrades, Project ID:D1927

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Total Additional Financing \$6,800,000

Total Revised Project Financing \$19,450,000

- 5.4 The Whitby Water Supply Plant 1 Upgrades and Rehabilitation Works project (project ID:D2419) is being advanced while staff and consultants continue working on the deliverables for the project. The deliverables for that project are currently scheduled to be ready for tender issue in January 2026. Financing to offset the reallocated funding will be requested as part of the 2026 Business Plans and Budget process.

6. Previous Reports

- 6.1 On February 24, 2021, Regional Council approved [Report #2021-W-8](#) 'Project Update and Sole Source of Additional Engineering Services for Upgrades at the Bowmanville WSP, in the Municipality of Clarington'.

7. Relationship to Strategic Plan

- 7.1 This report aligns with/addresses the following Strategic Direction(s) and Pathway(s) in Durham Region's 2025-2035 Strategic Plan:

a) Connected and Vibrant Communities:

- C1. Align Regional infrastructure and asset management with projected growth, climate impacts, and community needs.

b) Environmental Sustainability and Climate Action:

- E3. Prepare for and respond to severe weather impacts.

c) Strong Relationships:

- S5. Ensure accountable and transparent decision-making to serve community needs, while responsibly managing available resources.

7.2 This report aligns with/addresses the following Foundation(s) in Durham Region's 2025-2035 Strategic Plan:

- Processes: Continuously improving processes to ensure we are responsive to community needs.
- Technology: Keeping pace with technological change to ensure efficient and effective service delivery.

8. Conclusion

8.1 It is recommended that:

- a) Regional Council grant approval to award the Regional Municipality of Durham Contract #D2024-52 to the lowest compliant bidder, BGL Contractors Corp, the Bowmanville Water Supply Plant Disinfection and Electrical Upgrades in the Municipality of Clarington (Bowmanville).
- b) A contract amendment with RVA be approved for additional engineering and contract administration services outside of the original scope of work resulting in a revised upset limit not to exceed \$2,720,768.98*.
- c) Additional financing of \$6,800,000 be approved.

8.2 This contract is one of several projects required to secure the existing Bowmanville WSP capacity, maintain the WSP in a state of good repair, increase water storage capacity and ultimately increase the existing plant capacity to support future development. It is paramount that these projects are implemented in a strategically sequenced and timely manner. Any delays to any of these projects could impact the ability of the Bowmanville water distribution system to continue to serve existing and future residents and businesses.

- 8.3 This report has been reviewed by the Finance Department and the Commissioner of Finance concurs with the financial recommendations.
- 8.4 For additional information, please contact Michael Harris, P.Eng., Manager, Water and Wastewater Infrastructure Design Division at 905-668-4113, extension 3458 or Dan Waechter, P. Eng., Director, Capital Projects Delivery at 905-668-4113, extension 3550.

Respectfully submitted,

Original signed by:

Ramesh Jagannathan, MBA, M.Eng., P.Eng., PTOE
Commissioner of Works

Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
Chief Administrative Officer