



**CITY OF HAMILTON**  
**PUBLIC WORKS DEPARTMENT**  
**Hamilton Water Division**

<b>TO:</b>	Chair and Members Public Works Committee
<b>COMMITTEE DATE:</b>	November 1, 2021
<b>SUBJECT/REPORT NO:</b>	Garner Road Pumping Station (HD018) Upgrades (PW21062) (Ward 12)
<b>WARD(S) AFFECTED:</b>	Ward 12
<b>PREPARED BY:</b>	Stuart Leitch (905) 546-2424 Ext. 7808 Trevor Marks (905) 546-2424 Ext. 6025
<b>SUBMITTED BY:</b>	Mark Bainbridge Director, Planning & Capital, Hamilton Water Public Works Department
<b>SIGNATURE:</b>	

**RECOMMENDATION**

- (a) That the single source procurement, pursuant to Procurement Policy #11 – Non-Competitive Procurements, for additional consultancy services including project management, contract administration during construction, site inspection and commissioning/warranty services for the Garner Road Pumping Station (HD018) upgrades, at the upset limit of \$750,000 be awarded to R.V. Anderson and Associates and funded from Project ID No. 5141667421; and,
- (b) That the General Manager of Public Works, or their designate, be authorized and directed to negotiate, enter into and execute a contract and any ancillary documents required to give effect thereto with R.V. Anderson and Associates in a form satisfactory to the City of Hamilton Solicitor.

**EXECUTIVE SUMMARY**

In April of 2020, R.V. Anderson and Associates was competitively procured through a Request for Proposal (C11-61-19) to provide Design and Contract Administration services for a capital upgrade to the Garner Road Pumping Station (HD018). The scope of work for the assignment was determined from a facility Condition Assessment

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Report, which indicated urgent electrical and process mechanical replacement and ancillary equipment based on very poor condition.

In the early stages of the design with the R.V. Anderson and Associates, the team examined constructability, sequencing, and hydraulic constraints to determine a list of options to address the pumping station needs. In addition, opportunities for increasing the capacity at the station were discussed to maximize station water output. This opportunity presents synergies that allow for a capital approach that combines the originally scoped project and increasing station capacity. The proposed solution allows for an increase in station capacity by replacing key station piping with a larger diameter, which enables the installation of larger pumps for enhanced station capacity and reliability for the medium term.

The constructability review highlighted the need to design a temporary pumping bypass system to supply Pressure District 18 during construction. A temporary bypass system is required due to Pressure District 18 being a closed district. As such, permitted station shutdown periods are very limited and therefore too risky to accommodate the major work required to complete the upgrade. It is anticipated that temporary bypass equipment and two (2) live-tap isolation 750 mm valves (line-stops) will be required to be onsite throughout the majority of the construction period. This scope was not included in the original design assignment with R.V. Anderson and Associates.

In order to construct the Garner Road Pumping Station (HD018) upgrades, this report recommends single source procurement for the consultant R.V. Anderson and Associates, whom are already procured for the design and contract administration services for this project. The value of this additional work is estimated to be \$750,000. Considering the proposed additional scope for this project, it is anticipated the project schedule will achieve the following milestones:

- Design complete Q1 - 2022
- Construction commencement Q3 - 2022
- Construction substantial performance Q1 - 2024

**Alternatives for Consideration – See Page 4**

**FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

Financial: This report is recommending that \$750,000 be added to the consultant R.V. Anderson and Associates Contract C11-61-19 from Project ID No. 5141667421 (Capital Upgrade to the Garner Road Pumping Station HD018) for project management, contract administration during construction, site inspection and commissioning/warranty services. The current Project ID No. 5141667421 includes sufficient budget to accommodate the additional design

and construction administration services, therefore no additional funds are required.

It is anticipated that the proposed enhanced scope for this project will increase the original construction estimate from \$2.5M to \$7.6M. The current Project ID No. 5141667421 includes sufficient budget to accommodate the additional construction costs, therefore no additional funds are anticipated.

Staffing: N/A

Legal: N/A

## **HISTORICAL BACKGROUND**

The Garner Road Pumping (HD018) Station is located at 1131 Rymal Road, in the former Municipality of Ancaster. The pumping station draws water from Pressure District 6 (PD 6) to supply water to Pressure District 18 (PD 18). PD 18 also provides water to Pressure Districts 13 (PD 13), 14 (PD 14), and 15 (PD 15) via pressure-reducing valves (PRV), and to Pressure District 22 (PD 22) via the Lee Smith reservoir.

The pumping station houses four (4) high lift pumps, HLP01 and HLP02 (installed in 1979), and HLP03 and HLP04 (installed in 1983). The current station capacity is 23 ML/d. The reservoir consists of two (2) cells where the water level is controlled by an altitude valve located within the pumping station.

Upgrades for the original project scope, currently in design included replacing pumps HLP01 and HLP04 and ancillary equipment to improve the reliability of service.

The remaining two (2) existing pumps (HLP02 and HLP03) are sized at 22.5 ML/d each and will be replaced under a future competitive contract. With a phased approach, the station will be upgraded to move toward the water demand projections as identified in the 2020 Hydratek and Associates study.

## **POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

This report is in accordance with By-law 20-205 Procurement Policy #11 – Non-Competitive Procurements.

## **RELEVANT CONSULTATION**

- Finance and Administration, Corporate Services
- Procurement, Corporate Services has provided guidance as to adherence to the Procurement Policy.

## **ANALYSIS AND RATIONALE FOR RECOMMENDATION**

A 2020 hydraulic analysis by Hydratek and Associates confirmed station capacity at 46.6 ML/d water demand projections to the year 2031. As such, the original scope for the upgrades is proposed to be expanded as follows:

- Replace HLP01 and HLP04 – capacity increase from 23 ML/d up to 45 ML/d.
- Replace aging piping and station suction header – in order to achieve 45 ML/d capacity a larger diameter suction header is required.
- Replace Motor Control Center and other electrical components – in order to support larger capacity pump motors.

The station upgrades are required to replace aging pumps, valves, piping and ancillary equipment and to increase station capacity for growth in the community. The increased consultant design and construction administration costs associated with the enhanced scope identified in this report and the temporary bypass system with 750 mm live-tap isolation valves are necessary to safely facilitate the construction of the pumping station upgrades.

## **ALTERNATIVES FOR CONSIDERATION**

Several alternatives for depressurizing the suction and discharge header to allow for construction were evaluated by R.V. Anderson and Associates. Installing the temporary bypass system using 750 mm live-tap valves (line stops) to isolate the suction and discharge lines to the facility offers the safest means of ensuring pressure is maintained to PD 18. Therefore, alternative solutions are not recommended.

## **ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN**

### **Built Environment and Infrastructure**

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## **APPENDICES AND SCHEDULES ATTACHED**

N/A