

DATE: July 7, 2022
TO: Ken McIlwain, CCRD Operations Manager
CC: Curtis Slingerland, CCRD Chief Administrative Officer
FROM: Jacob Scissons
FILE: 3383.0005.02
SUBJECT: **HAGENSBORG COMMUNITY WATER SYSTEM**

1.0 PROJECT OVERVIEW / RECAP

The Hagensborg Community Water System is in need of repair and upgrade. Aging and leaking distribution pipes require replacement to address pressure issues and water wastage. Also, the system has been on a long-standing Boil Water Notice issued by Vancouver Coastal Health (VCH) and treatment of the source water is needed to ensure the water is safe for consumption. A new reservoir is also proposed to provide fire protection, water quality, and emergency storage improvements.

The water system was historically owned and operated by the Hagensborg Waterworks District (HWD). However, sponsorship from the Central Coast Regional District (CCRD) was required in order to secure grant funding to advance the required capital improvements. The grant covers 73% of the capital costs with the other 27% of funds sourced from available water utility reserve funds. A conversion process was subsequently completed, whereby the water system ownership and operation has been transferred from HWD to the CCRD. The conversion process was completed in December 2020 and the CCRD is now managing the water system.

2.0 PROJECT STATUS

The existing water distribution network has been mapped with a focus on identifying the sections of pipe that are most vulnerable (undersized, leaking, etc.). New watermains are proposed in several areas generally following the same alignment as the existing pipes (north shoulder of Highway #20 and edge of various side roads). Preliminary designs have been prepared and environmental approvals are in place to cross the various creeks along the new watermain route using a trenchless (horizontal directional drilling) approach.

The project team has had extensive dialogue with VCH to understand the treatment / water quality expectations and ongoing system monitoring / testing requirements. Part of this process was to explore the pros / cons of the existing Snootli Creek surface water source compared to a new groundwater well source. The groundwater option appears favourable based on the following:

- The treatment requirements are significantly less for groundwater than that of a surface water source. Provided that the new wells are rated as low risk of contamination, treatment could be limited to disinfection via chlorination.
- VCH has made it clear that chlorination is required for either a surface water or groundwater source. But again, if the new wells are rated as low risk of contamination, the amount of chlorine required could be minimized to a concentration lower than surface water would require.
- The estimated costs to construct new wells with a pumphouse and chlorinator is notably lower than the cost to construct a new surface water treatment plant with filtration, UV, chlorination, and similar equipment. This would allow grant funding to be used to construct the proposed reservoir and other work that would otherwise need to be part of a separate future phase 2 project.

- VCH is amenable to keeping the Snootli Creek surface water intake available as an emergency backup supply for fire fighting or other applicable events. This would provide beneficial flexibility and robustness for the water system.

In order to advance the design, the water source needs to be confirmed with water quality tested. As such, well drilling is a key next step that is discussed below.

3.0 NEXT STEPS

The project team has had preliminary discussions with Nuxalk Nation regarding archaeological protocols associated with the proposed work, as some activities will require digging in areas that were previously undisturbed. Upcoming discussions will focus on fieldwork including geotechnical test pit digging and well drilling. The archaeological protocol for the broader construction contract will then be developed.

Another topic being navigated by the team is the pending installation of buried fibre optic cables throughout Hagensborg. Coordination is required to ensure that the new fibre optic cables do not conflict with the existing or new watermains. This process is underway with the team from CityWest / WCI Corporation.

The intent is to have the designs complete and permits in place by fall 2022. This will allow the tender to be issued in early 2023. Tendering in the late winter / early spring has typically been a strategic way to seek competitive pricing from multiple contractor proponents. Contractors tend to be keener to secure work for the upcoming construction season than they are to bid additional work once the construction season is underway. In this current climate of supply chain issues and long delivery times, the team will strive to issue the tender by January 2023 providing an additional few months to work through project / equipment delivery logistics.

The intent is to leverage the grant funding to construct as much of the required water system upgrades as possible under this initial contract, limiting what work needs to be deferred to a future phase. Minimizing system complexity, including treatment steps, is also a priority so that the system will be easier and less costly to operate.

Sincerely,

URBAN SYSTEMS LTD.



Jacob Scissons, P.Eng.
Project Manager

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