

March 9, 2021

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Lil'wat Nation
82 IR #10 Road
Mount Currie, BC V0N 2K0

Attention: Tom Laviolette, Director of Infrastructure**RE: Lil'wat Nation – Proposed Main Street Mixed-Use Development**

Introduction

The purpose of this letter is to outline key water servicing considerations pertaining to the proposed mixed-use commercial / residential development on Main Street in Mount Currie Village. Specifically, water system capacity and water quality monitoring details are summarized in response to inquiries from Vancouver Coastal Health (VCH).

Water Source

The Mount Currie Village community water system is supplied by two groundwater production wells located near the Birkenhead River. Recent hydrogeological assessment suggests that these wells are capable of sustaining pumping rates of 20 – 20 L/s with additional aquifer capacity beyond. This far exceeds the current observed maximum day water demand, which is in the order of 15 L/s. The projected future community water demands include provisions for expansion of the Mount Currie Village commercial core (reflecting developments such as this proposed Main Street mixed-use development) and source capacity design based on such.

Treatment / Disinfection

The water pumped from the Mount Currie Village groundwater production wells has been determined to be at low risk of being GARP (groundwater at risk of containing pathogens). As such, the current disinfection procedure using sodium hypochlorite is deemed appropriate, as primary disinfection for 4-log removal of viruses and secondary disinfection providing at least 0.2 mg/L residual chlorine concentration is in place. We recommend installing a sampling station (frost-free yard hydrant or similar) within the proposed development so that the residual chlorine concentrations can be monitored. This would also allow for collection of samples for bacteriological / chemical analysis. Alternatively, samples could be collected via an outside hose bib.

Storage

The Mount Currie Village reservoir has a capacity of 900,000 L. This includes fire protection, balancing, and emergency storage volume. The fire protection storage is based on a fire flow of 60 L/s for a duration of 1.5 hours. Additional reservoir storage is being considered to increase fire protection volumes, but this is being tempered against water quality / water age considerations.

Distribution

The Mount Currie Village distribution system is gravity supplied by the reservoir. The proposed mixed-use development site is fronted by a 150 mm diameter ductile iron watermain, so a proximate new water service (or looped service) is available. Lil'wat Nation is advancing distribution system upgrades to the south and east portions of the service area via increased watermain sizes and improved looping. These proposed upgrades will further improve the available fire flow conveyance and residual pressures available throughout the water system.

Closure

Lil'wat Nation has recently completed a comprehensive assessment of the Mount Currie Village community water system. Projected future water demands consider proposed development within the Village core, such as this proposed mixed-use development. The available surplus capacity within the existing community water system infrastructure is considered adequate for this proposed development. The proposed water system upgrades are expected to further improve levels of service and system reliability / robustness. Design water demands and servicing details for this proposed mixed-use development should be reviewed and considered in the broader water system upgrade design so that levels of service and performance can be maximized.

Sincerely,

URBAN SYSTEMS LTD.



Jacob Scissons, P. Eng.