

The City of Terrace Annual Water System Report for 2020

The City of Terrace Community Water System serves a population of approximately 12,700 people with 3,981 water connections and draws its` water from the Frank Street Aquifer. This is a confined aquifer from which the City can pump water via three wells at the Frank St. Pump Facility.

There are three sources of water that the system can draw from: Frank St. Wells, Deep Creek and the Skeena River. The Frank St. Wells provide 100% of the water delivered to its customers with Deep Creek and the Skeena River serving as emergency backup sources. Storage is provided at two reservoir sites; Wilson Street reservoirs which services most of the community as well as Brauns Island and the Halliwell Reservoir that services the bench neighborhoods and some areas of the Regional District to the north of town. The Halliwell reservoir which is located on the side of Terrace Mountain is the largest of the three with a capacity of 2,727m³ and a maximum winter turnover of 48hrs. The two reservoirs at Wilson Street operate conjointly and have a combined volume of 2,712m³ with a maximum winter turnover rate of 30hrs.

Wilson Reservoir/Pump Campus





The City of Terrace operates under Permit conditions set by the Environmental Health Officer (Northern Health Authority) and as such requires the system to maintain free chlorine residuals to ensure disinfection capabilities within the potable water system. Fluoride is also added to the water to provide dental care for the City of Terrace's younger residents.

To measure ongoing water quality The City of Terrace collects Bacteriological samples at four representative sites within the system each week and delivers them to Northern Health for analysis. A total of 204 Bacteriological samples were taken in 2020, as well as daily free chlorine tests done. There were no positive results for the presence of Coli form or E. coli bacteria in 2020. Bacteriological results can be viewed at www.healthspace.ca/nha . The City of Terrace also gauges water quality by measuring turbidity (NTU~s) units, with a maximum allowable NTU of one. The water system averages 0.15 NTU, well below permit levels.

A chemical analysis of the Frank St. Wells was done on June 17, 2020 and is attached to this report. A July 13, 2020 re-test of well 2 is also attached.

The flushing of water main dead ends is another practice that promotes refreshing of potable water. This exercise is done twice a year in the spring and the fall. The City of Terrace has been working at removing dead ends whenever possible when street construction is being done. The City has also been replacing older blow offs with hydrants to allow for improved water flow when flushing.

In 2020 the City of Terrace undertook several improvements to its water system. A Cascade Valve project was undertaken, this new control valve system will enable water from the upper grid (Main Bench) reservoir to flow back into the lower grid. This will give the City increased Fire Flow capacity for the much larger lower grid part of the system.



Cascade Valve

Water infrastructure was also upgraded/replaced on one street improvement project, 3600/3770 Block of Munroe had 400m of 150mm water main replaced along with 3 new Canada Valve Hydrants installed.

Another small project was The Park Ave. Pump House electrical up-grade. Electrical components were removed out of the Mechanical room and placed in a new addition separating the electrical from water infrastructure. In the past water leaks spraying on electrical hardware/drives has caused potable water delivery issues and safety concerns.



In addition Wirtl St. subdivision phase two was built by a developer and was accepted by the City in the fall 2020

In 2020 the Environmental Services Department continued with a leak detection project which started in 2018. Environmental Operators use specialty equipment to listen for water leaks



street by street during times of low traffic in the summer months. Results showed that many leaks can go un-detected by simply flowing into porous ground and not showing on the road surface. Leak detection is now done annually, and the Terrace Community Water system is showing the lowest consumption rates in many years even with growth in the community.

The City of Terrace's community water system is a safe, reliable source of potable water that meets its needs, in addition providing fire protection capabilities.

The City of Terrace and its Water System operators accept the challenge and responsibility of providing a Community Water System that will always be transforming due to technical improvements and increasing demands on the system.

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