



Balfour Water System Upgrades and Universal Metering Project

Project Component Descriptions

Reservoir Replacement - \$1,011,000.00

In spring 2015, the existing welded steel treated water reservoir in Balfour developed weld cracks and started leaking. The age of the reservoir is uncertain. The Regional District believes that it was constructed in 1974 and had identified a useful service life of about 50 or 60 years. The reservoir is dented and might have been purchased used or was damaged during original construction. The existing reservoir is also undersized for fire protection and has in the past run very low during periods of high water demand in the warmer months.

The new reservoir will be sized for future growth and fire water storage.

Universal Metering - \$475,000.00

Water demand in Balfour is high and the water treatment plant constructed in 2011 operates at full capacity in the summer months. Implementation of universal metering is expected to:

- Improve water conservation
- Reduce energy, cartridge filter and treatment chemicals consumption
- Defer capacity upgrades
- Improve consumption data
- Improve leak detection
- Provide more equitable water rates

The project will encompass the installation of meters in all developed properties within the Balfour Water System. The majority of meters will be installed in the residence/building for each Balfour property. If a property has a water service which is split between two or more buildings, or if there is an outside yard hydrant or permanent irrigation, then the meter will likely be installed at the property line in a meter pit. As well, if it is determined that the meter cannot be installed within a residence, it may be decided to install the meter at the property line within a meter pit. Meter locations will be decided upon by the RDCK in consultation with the metering consultant and installation contractor.

Treatment Plant, Lake Pump Station Standby Power and Upper Zone Pump Station Relocation - \$50,000.00 + \$90,000.00 + \$59,000.00

Balfour has no standby power for the water system and experiences frequent power disruptions during storms and electrical maintenance activities. Providing standby power will ensure that water can be provided to customers during power disruptions.

In addition, the upper zone pressure pumps will be relocated to the water treatment plant thereby eliminating the need for three standby power generators. These pumps are currently located in the post office.

Distribution System Upgrade (within existing service area boundary), Looping and District Metering - \$695,000.00 + \$30,000.00 (includes Hydrant & Valve Infill)

Balfour has a number of aging galvanized steel and asbestos cement water lines that have been identified in the asset management plan for near replacement. In addition to being undersized the galvanized lines have been found to be heavily corroded and requiring upsizing to ensure fire flows can be met. In this project, priority water lines will be replaced.

The Balfour water service area is split by Highway 3A. The area on the lake side of Highway 3A is supplied by only one highway crossing. The existing crossing has limited capacity resulting in limited fire coverage and pressure concerns during high water demands and water system flushing. If the water line ever failed at the highway crossing a large portion of the water system could be without water for a long period of time. Provision of distribution system looping and a second highway crossing will greatly improve system reliability.

In addition to the water system upgrades the following will be completed:

- Additional fire hydrants will be installed
- District metering (large diameter meters) will be strategically installed to allow for improved leak detection
- Additional mainline valves will be installed which will decrease the disruptions to customers during maintenance and repair work