

# INFRASTRUCTURE REPORT CARD

## Water System

November 2016



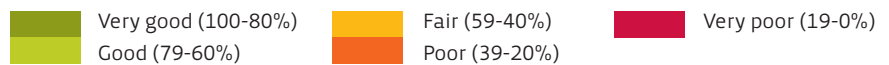
### Quick facts

- The City of Kelowna water utility serves approximately 65,000 of its 125,000 residents.
- Water system assets are valued at \$417 million.
- The City of Kelowna has not had a water quality advisory in 20 years.
- The City Water Utility is a resilient and robust system that is maintained in a state of good repair.
- The condition of the water infrastructure is fair to good depending on the asset component, except for water meters, which are nearing the end of their service life and will be replaced within 10 years.
- Water assets are depreciating faster than they are being renewed or replaced. This funding short fall is acceptable in the short-term because the water system is relatively new.
- Asset renewal funding will increase in the next 20-years to address long-term renewal expenditures.
- The City of Kelowna Water Utility has an affordable and sustainable plan to ensure customers will continue to receive safe reliable water long-term.

### Water system score card

Asset component	Quantity	Replacement value (\$ million)	Expected remaining life	Age rating
Watermain	413 km	306.4	60%	Good
Booster Stations & PRV's	53	18.2	51%	Fair
Source Pump Stations	4	17.3	61%	Good
UV Treatment Facilities	4	19.3	87%	Very good
Reservoirs	24	44.6	60%	Good
Meters	17,036	11.0	20%	Poor
<b>Total</b>		<b>417</b>		

Rating scale (remaining service life)



### The City system

The City is one of five water purveyors operating within Kelowna's municipal boundaries. The City provides water to approximately 65,000 of its 125,000 residents. The remainder of Kelowna is serviced primarily by four independent irrigation districts and 27 small, private suppliers. During the summer, when peak water demand occurs, the City delivers 90 million litres of water per day to its customers. This report card covers the infrastructure assets that serve the City of Kelowna's Water Utility customers.

quality source water is disinfected by two processes: treatment with ultraviolet light that neutralizes protozoa like cryptosporidium and giardia, and then it receives a low concentration of chlorine to ensure bacteria is destroyed and does not re-grow in the distribution system. Rigorous testing of both raw and treated water is performed at lake intakes and numerous locations throughout the distribution system. Online monitoring equipment records continuous data to show water quality trends and aid in early detection of any deviation in quality.

### Water quality

Protection of Kelowna's water sources is important to sustain a healthy society and economy. The City of Kelowna has adopted a source-to-tap management program that is considered to be one of the best in Canada. The plan collectively addresses water issues at several levels to ensure that the quality of drinking water meets provincial and federal drinking water guidelines.

Since 1996, City of Kelowna drinking water has continually met Canadian Drinking Water Guidelines and the City of Kelowna has not had a water quality advisory in 20 years.

### Water system condition

The City Water Utility is a resilient and robust system that is maintained in a state of good repair.

The condition of the water infrastructure is fair-to-good depending on the asset component, except for meters, which are nearing the end of their service life and planned for replacement in the next ten years.

### Source & treatment

Source water for the City of Kelowna Water Utility is Okanagan Lake, where water is pumped from four lake intakes. This high

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The water system currently has \$19 million worth of assets with less than 20 percent of their service life remaining. This represents 5 percent of the total water system replacement value (\$417 million). Over the next 20 years, given the proposed investment level, the water system will age and the value of water assets with less than 20 percent service life will increase to \$76 million or about 14 percent of the total system replacement value.

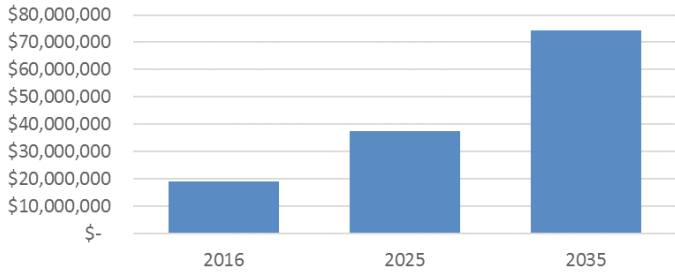
The Province is considering regulation of water filtration as a requirement for water treatment. This would require investment of approximately \$134 million in filtration infrastructure. This expenditure is not part of the City’s asset management plan. The City has worked with provincial regulators and has achieved “Filtration Exclusion” but this is reviewed annually and is contingent on source water quality.

### Response

The infrastructure required to support the City’s water service has a replacement value of \$417 million. Managing this vital infrastructure now and into the future will ensure the economic, social and environmental well-being of Kelowna. The 20-year funding needs for the Water Utility (shown below) forecast future cost pressures for system operation and maintenance, infrastructure renewal and infrastructure to support growth and improve serve levels. These costs are accounted for in the Water Utility financial model and indicate that on average a 2% annual rate increase is required to support service delivery for the next 20-years.

By using sound asset management practices, Council and the community can be confident that there is an affordable, and sustainable plan to maintain, operate and renew assets and that the City Water Utility customers will continue to receive safe reliable water long-term.

Replacement Cost of Assets with <20% Remaining Service Life



### Water system risks

Water assets are depreciating faster than they are being renewed. This funding short fall is acceptable in the short-term because the water system is relatively new. As the City’s system ages, asset renewal funding will need to increase to replace aging infrastructure (see 20-year funding needs below).

### 20-year funding needs

