

Service Level for Water Utility

Scope

Service Level (SL) documents are prepared to allow customers of the City of Saskatoon (City) to review and understand the services *currently* provided. This document includes activities completed under the Water Utility service line. This service is completed by various divisions in the City.

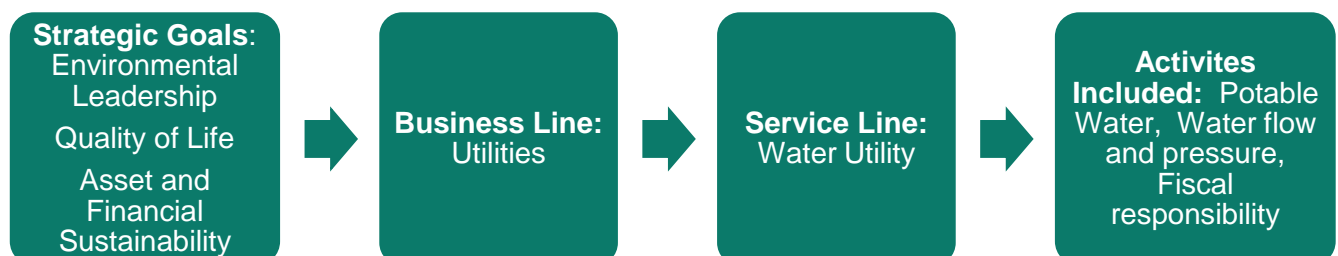
Service Overview *what we do*

Saskatoon has one of the safest water supplies in North America. The Water Utility takes pride in the quality of the water supplied, and are committed to ensuring all precautions are taken to keep citizens safe when work or construction is occurring on the water supply system.

Raw Water is taken directly from the South Saskatchewan River through the raw water intake facility located upstream of the Water Treatment Plant. The water is screened, treated, (softened and flocculated), settled, filtered, disinfected and distributed to almost 300,000 Saskatchewan residents via a network of water mains and three potable water storage reservoirs with capacity of 114 million litres. The stored water allows the Water Treatment Plant to be more efficient by running at a constant rate. The City's water treatment and distribution systems are regulated by a "Permit to Operate a Waterworks" issued by the Water Security Agency. Drinking water quality is further regulated by Health Canada's *Guidelines for Canadian Drinking Water Quality* and Saskatchewan Environment's *The Water Regulations, 2002, The Environmental Management and Protection Act, 2010 (EMPA)* and *The Waterworks and Sewage Works Regulations*. Saskatoon Water operates the Water Treatment Plant and reservoirs. The Water and Waste streams division (Water and Sewer section) operates the distribution system from the treatment plant and reservoirs to homes and businesses. Water quality is monitored 24 hours a day, 365 days a year which is in part why Saskatoon's Water has consistently received the highest Saskatoon citizen satisfaction rating of all civic services.

Purpose: *why we do it*

Water Utility services are provided to give residents and businesses a clean and safe water supply and is deemed one of the top priorities of the citizens of Saskatoon. Treated drinking water is one of the largest contributors to human health increases in Saskatoon.



Programs within Service Line	Service Attributes or Values	Service Level Outcomes	Customer Performance Measures
<p>Provide Potable Water for Consumption.</p>	<p>Safe, Quality of Life, Aesthetic</p>	<p>From the treatment of source water at the Water Treatment Plant to its distribution to homes and businesses, the objective of the City of Saskatoon is to ensure high quality of water is distributed. Water is cool odourless, safe to drink and aesthetically pleasing.</p> <p>Our various treatment and monitoring activities ensure The City of Saskatoon exceeds regulatory standards and expectations set out in their Permit to Operate issued by the Water Security Agency (WSA).</p> <p>The Lead Water pipes in the system will be replaced to meet immediate priorities for clean water and a healthier City of Saskatoon.</p>	<p>Saskatoon currently meets or exceeds provincial and federal water standards. A copy of the standards can be found on Saskatchewan Water Security Agency's website using this link.</p> <p>All remaining lead service lines in water distribution system will be replaced by 2026.</p> <p>Any disruption in the system will result in a Drinking Water Advisory (DWA) and lab testing before the advisory can be lifted.</p> <p>80% of water quality enquiries are addressed over the phone. The water lab will work with the customer to establish the cause of the issue and provide awareness on ways to prevent reoccurrence.</p> <p>If an enquiry is not resolved over the phone, a home visit will be arranged to test the water within 48hours. A sample is collected and tested within 48 hours to ensure water is safe for consumption.</p>

<p>Provide Water to Saskatoon Fire Department for fire Suppression Purposes.</p>	<p>Reliable, Responsible</p>	<p>The pressure in the Water Distribution System is operated to maintain adequate pressure in the system for fire suppression purposes.</p> <p>Water Hydrants are inspected to ensure they are operating at capacity, highly visible and accessible in the case of an emergency.</p>	<p>The minimum water pressure recommended by the American Water Works Association (AWWA) is maintained when the hydrants are in operation.</p> <p>We currently inspect 80% to 100% of over 7,100 Hydrants in the system on an annual basis.</p> <p>Our annual goal is to ensure:</p> <ul style="list-style-type: none"> • 100% Hydrant inspection occurs in the winter season. • 50% Hydrant inspection occurs in the summer season.
<p>Provide sufficient pressure and flow for residential and commercial use.</p>	<p>Reliable, Responsible</p>	<p>Saskatoon's home and business water demands will be met at a sustained normal operating pressure.</p> <p>The provision of high and reliable water pressure at all parts in the Water Distribution System is generally achieved by meeting Fire Flow requirements for those areas.</p> <p>Sufficient water pressure is used to clean the sewer lines across the city.</p>	<p>Adequate water pressure and flow for home and business use is maintained in periods of peak demand.</p> <p>Following an interruption in service that can affect water flow and pressure:</p> <ul style="list-style-type: none"> • A Drinking Water Advisory will be provided to all homes and businesses affected. • Alternate water supply is provided to those affected within 8 hours if the issue remains unresolved. • Water will be restored in 1-2 days except for extenuating cases.
<p>Protect the Environment</p>	<p>Environmental Stewardship</p>	<p>Proactively protect and preserve the City's primary source of raw water. The South Saskatchewan River and its surrounding watershed (drainage area) is protected to ensure Saskatoon's water</p>	<p>Water conservation initiatives will be made available to engage the public through communications on the website, YouTube Videos,</p>

		<p>supply is sustainable and impact to the environment is reduced.</p> <p>The City of Saskatoon is a partner in the South Saskatchewan River Watershed Stewards Inc. This organization works within the watershed to implement programs and initiatives that will protect the water resource.</p>	<p>conservation education and water week awareness.</p> <p>Systems are operated, inspected and maintained so that no Permit to Operate violations occur.</p>
Fiscal Responsibility	Asset preservation, Reliable, Responsive	<p>Provide cost effective asset maintenance solution, including preventative maintenance programs. The asset preservation efforts are geared towards risk mitigation, longevity of the water system including: Water Treatment Plant, Water Mains, Valves, and Hydrants.</p> <p>Saskatoon's water rates are designed to encourage conservation which defers the need for high capital intensive capacity projects.</p> <p>Rates are appropriate based on long term financial plan.</p>	<p>With current approved funding levels for water main replacement, the number of water mains in poor condition is getting smaller over time.</p> <p>Based upon the observed life cycle of water mains in Saskatoon, a water main is considered in poor condition when it meets certain criteria;</p> <ul style="list-style-type: none"> • It has had 6 or more breaks in the last 25 years • It does not meet current capacity standards. <p>Water main replacement is prioritized based on capacity (volume of water), the number of people serviced and the number of historic breaks (last 25 years), the number of recent breaks (last 5 years), as well as optimizing the use of our resources by working with Roadways and Operations and other service areas.</p>

Resource Allocation: *what does it cost*

Service Line	Number of Services	2016 Budgeted Cost	2016 Actual Cost	Variance
Water Utility	5	\$68,917,600.00	\$67,091,893.64	\$1,825,706.36

Service Line	Number of Services	2016 Actual Revenue	2016 Actual Cost	Variance
Water Utility	5	\$70,504,000.00	\$67,091,893.64	\$3,412,106.36
				The positive balance is transferred to the stabilization and capital reserve.

Some of the cost to provide these service levels broken down by activity in the previous year are:

Service Activity	Total Cubic Meters of Water Produced in 2016	Budgeted Cost per activity	Actual Cost per Activity	Variance
Water treatment, pumping and Storage	44.1 million cubic meters in 2016	\$0.34	\$0.30	\$0.04
Water Distribution to homes and businesses (includes metering services)	44.1 million cubic meters in 2016	\$0.37	\$0.36	\$0.01

Financial Assumption

- In 2016, the Water Utility Service Line paid a Return on Investment of \$1,740,000 which was transferred to the City of Saskatoon's general fund as well as \$5,291,000 grant in lieu of taxes.
- Unit costs include a prorated portion of Water Administration, General and Corporate Service charges.

Supporting Information

- The revenue from the water utility funds the Infrastructure Services Capital Reserve for water distribution and wastewater collection system rehabilitation and replacement projects needed to address aging infrastructure. In 2013, a Redevelopment Levy was added to the Infrastructure Levy, with a four-year phase-in period to generate \$4.0 million annually by 2016. In 2014, a Roadway Levy was added to the Infrastructure Levy with a three-year phase-in period to generate \$6.0 million annually by 2016.

Constraints

- Increased demand on infrastructure entered into a “replacement era” where asset sustainability and reliability will be at risk if not properly managed. Some of the infrastructure is over 100 years old and does not meet design standards for new development areas. Monitoring and assessing the physical condition and capacity of the infrastructure has been initiated as a foundation for an asset management program to better maintain our assets, prolong life, and increase resiliency.
- Cumulative impacts of infill development are placing higher demands on the carrying capacity of existing water and sewer infrastructure. More infill reduces greenspace and increases surface runoff so appropriate policies are needed to minimize surface flooding.

Supporting References:



Optional Service Levels:

The table below provides service level options and associated costs should there be a need or desire to adjust the service level.

No.	Service Level Option	Description of Change in Service Level Outcome	Estimated Annual Cost 2016	Annual Budget Allocation 2016	Overall Funding Result
1	Introduce 'Peak Shaving' initiative (odd/even watering of lawns).	Represents the offset to Operating expenditures which in turn will impact rate structure.	\$68,899,600	\$68,917,600	Savings of \$18,000 annually.
2	Change guidelines for water main replacement from 6 breaks in 25 years to 9 breaks in 25 years. The average number of breaks in a year would increase from 240 to 275.	Annual capital funding for replacement would reduce in the short-term. Over the long-term, replacement costs would increase due to a built-up backlog of failed water mains requiring replacement. Short-term and long-term maintenance costs would increase due to increased water main breaks.	\$69,442,600	\$68,917,600	Shortfall of \$525,000 annually.
3	Change Watermain break response time from 48 hours to 72 hours.	Reduced reliance on contractor repairs will result in an estimated reduction in contractor calls to 12 calls per year at \$3,000 per repair.	\$68,881,600	\$68,917,600	Savings of \$36,000 annually.