

2019-2022 INDICATIVE RATES: WATER, WASTEWATER AND STORMWATER LINES OF SERVICE

2018 APRIL 25



MAKING LIFE BETTER EVERY DAY



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1.0 EXECUTIVE SUMMARY

Provided in this report are Administration's recommendations for the 2019-2022 indicative rates for Calgary's Water Treatment and Supply (Water), Wastewater Collection and Treatment (Wastewater) and Stormwater Management (Stormwater) lines of service, collectively known as the Water Utility. In development of the 2019-2022 indicative rates, the Water Utility considered drivers and priorities related to operating and capital expenditures, expectations of customers around availability, quality, reliability and responsiveness of services, requirements to meet financial plan compliance to improve financial sustainability, and supporting the needs of a growing city.

The indicative rates in this report are the annual percentage rate increases, proposed for the 2019-2022 timeframe. The table below summarizes the proposed indicative rate increases for 2019-2022.

Table 1: 2019-2022 indicative rates summary for the Water, Wastewater and Stormwater lines of service

Line of Service	Indicative Rates 2019-2022
Water Treatment and Supply	0% per year
Wastewater Collection and Treatment	4.5% - 5.5% per year
Stormwater Management	3.5% - 5.0% per year

These indicative rates align with what has been shared with Council previously and are, in fact, a touch lower. Achieving this outcome has been possible due to operational efficiencies and operating budget reductions. These increases will enable the delivery of capital investments identified in the Water Infrastructure Investment Plan (WIIP), and accommodate increases in operating expenditures that are necessary for the Water Utility to continue to deliver high quality services to Calgarians, while meeting regulatory requirements and providing infrastructure that supports the needs of a growing city. The proposed indicative rates will also guide the Water Utility in preparing for the 2019-2022 service plans and budgets which will be presented to Council as part of One Calgary. Additionally, the indicative rates will support compliance with the Council approved 2019-2022 financial plans for the Water, Wastewater and Stormwater lines of service (UCS2018-0223 and UCS2018-0230).

2.0 SERVICES PROVIDED BY THE WATER UTILITY

The City of Calgary (The City) is focused on providing services that are of value to citizens. For 2019-2022 service plans and budgets, the Water Utility will work with partners within The City to provide service value for citizens, customers and communities. The Water Utility provides services to 1.25 million Calgarians, as well as to municipalities outside of Calgary. Common expectations of customers include availability, quality, reliability and responsiveness of the services they receive.

The Water Utility, as part of One Calgary, has defined three lines of service – Water, Wastewater, and Stormwater. The service plans and budgets for each line of service will be developed through 2018 for Council consideration in November. Preliminary overviews of anticipated initiatives and strategies, as well as operating and capital investment are provided in the following sections. The strategies and investments identified below will be funded by the range of indicative rates proposed. These investments will be further developed and refined as part of developing the One Calgary service plans and budgets and will be informed by the indicative rates endorsed by Council.

The Water Treatment and Supply Line of Service

The Water Treatment and Supply line of service treats and delivers water to customers. It protects public health and ensures long-term sustainability of water resources. The following characteristics outline what customers expect / value from this service:

- Reliability: Drinking water is available easily and with few disruptions
- Responsiveness: The City responds quickly to any interruptions to water service
- Quality: Drinking water is of high quality and safe to drink
- Sustainability: The City works to protect the water supply

To facilitate future growth and long-term sustainability, the Water Utility models and manages source (raw) water and treated water storage, optimizes water treatment plant production and continues to work with the community to reduce per capita water demands through water conservation programs. These initiatives have made Calgary more resistant to the impacts of drought and allow for the population to continue to grow without drawing additional water from the rivers.

The Wastewater Collection and Treatment Line of Service

The Wastewater Collection and Treatment line of service collects wastewater from customers, treats it, and returns it to the river. This service protects public health, property and the environment.

The following characteristics outline what customers expect / value from this service:

- Reliability: The City works to reduce sanitary sewer backups in homes, businesses and the community
- Responsiveness: The City responds quickly to a sanitary sewer back-up in homes, businesses and the community
- Public Health: The City protects public health for Calgarians and other river users through wastewater treatment
- Environmental: The City manages wastewater from toilets, sinks and drains in a way that protects the environment

The Stormwater Management Line of Service

The Stormwater Management line of service collects and manages stormwater and surface water that originates during periods of rain or snow / ice melt to protect public safety, reduce damage to property and ensure our watersheds are healthy. The following value characteristics outline what customers expect from this service:

- Reduces risk / resilient: The City works to reduce flooding from rain and snow melt that impacts homes, businesses and the community
- Reduces risk / resilient: Calgary is prepared for flooding and recovers quickly
- Environmental: The City works to keep our rivers and surrounding natural areas healthy by reducing the impact of urban activities and development

For 2019-2022, the Stormwater line of service will set a new direction for how the Water Utility approaches stormwater management, engages with citizens and stakeholders and establishes priority investment areas for stormwater. Work will also be required to support the assessment of a variable rate funding model for stormwater services which will increase equity and fairness, while also connecting customer and citizen behaviors with outcomes.

3.0 FINANCIAL MODEL

The Water, Wastewater and Stormwater lines of service are provided under a self-sustaining, public utility model. All costs are recovered through user rates, levies, fees and sources other than the municipal tax base.

The key components of the self-supported utility business model include:

- **Revenues** – Revenues for Water and Wastewater lines of service consist primarily of rate revenue approved by Council, which is generated through basic service charges and volumetric rates that are applied by customer class and are calculated to reflect the cost of providing services to customers. Revenue for the Stormwater line of service is generated from the Council approved flat stormwater drainage service charge.
- **Off-site levy revenue** – Off-site levies on development of new and existing areas are charged based on water, wastewater and stormwater system investments required for growth. Current levies are collected based on the revised Off-Site Levy (OSL) Bylaw and rates for 2016-2020 (2016 January C2016-0023). These revenues are intended to pay 100 per cent of the principal and interest charges for infrastructure to service new growth. There are significant risks and uncertainty with the current model of recovering growth related costs through levies, especially in volatile economic conditions.
- **Cost of Service basis** – This is a process, by which the cost of providing a service is distributed in a fair and equitable manner, in proportion to the demand on the systems derived by each customer class. Implementation means that different customer classes will pay their fair share in using the services. This ensures costs are being recovered appropriately from each customer class and that the right mix of fixed and volumetric charges are in place to balance the interests of fairness and equity, financial sustainability and water resource management.

In providing Water, Wastewater and Stormwater services to customers, The City incurs ongoing operating and capital expenses, which are subject to the combined effects of growth, inflation, and the need to repair, replace and extend existing service facilities to deliver services to customers and meet regulatory requirements. It is critical for the Water Utility to recover all the costs of providing these services for customers. The Cost of Service Study recommendations will be presented to Council in 2018 June.

- **Financial policies** – 2018 March 19, Council endorsed financial plans 2019-2022 for the Water and Wastewater lines of service (UCS 2018-0223) and the Stormwater line of service (UCS 2018-0230), and approved the recommended financial plan policies, measures and targets. As part of their respective financial plans, the Water, Wastewater and Stormwater lines of service have financial policies, measures and targets that specifically focus on cash and debt financing, as well as the use of debt for long-term assets. These financial policies help to manage obligations and mitigate financial risks, especially in the area of financing long-term assets. For the Water and Wastewater lines of service, financial policies also direct a fixed return on equity and franchise fee on revenues. Compliance to each policy,

measure and target in the financial plans by the end of 2022 will set the foundation for indicative rate scenarios articulated in this report.

4.0 DRIVERS

The indicative rate scenarios incorporate funds needed to deliver and maintain service levels to customers. The scenarios leverage efficiencies and service reductions while maintaining capital investment required to build, upgrade, and maintain infrastructure to provide Water, Wastewater and Stormwater lines of service to customers.

4.1 OPERATING

Operating Priorities in the Next Business Cycle

Building on operational efficiencies identified and implemented through the current business cycle, Administration has continued to identify efficiencies and service reductions that can be achieved to reduce operating expenditures. These are predominately efficiencies that have a limited impact to the services delivered to customers.

Specific to each of the three services the Water Utility provides, operating drivers have been identified that will be considered as the 2019-2022 plan is developed. There are also operating drivers identified that span all lines of service.

The Water Treatment and Supply Line of Service

Reliable, secure, high quality water supplies are essential for Calgary and the region. The Water Utility continues to focus on delivering high quality and safe drinking water to customers through improvements in restoring service to customers, working on water efficiency programs to reduce peak day demands, evaluating the feasibility of employing Advanced Meter Infrastructure, and exploring opportunities to find energy savings by changing operational practices, or through spend to save initiatives. Additional actions include source water protection planning, increasing water supply certainty and enhancing regional relationships, drought management, and maintaining safe reliable drinking water. Work continues with various watershed stakeholders to ensure a focus on source water protection to ease pressures on water treatment. The Water Utility continues to produce high quality drinking water that complies with all water quality regulations, which is reflected in the rates customers pay.

In support of the quality and reliability service characteristics that citizens value, the Water Utility has updated operating practices and processes to reduce the number of annual main breaks, defer costly water treatment plant upgrades, and improve electrical efficiency at treatment plants. This has allowed the Water Utility to reduce service interruptions to customers and has played a role in maintaining the zero per cent increase in water rates for 2017 and 2018.

The Wastewater Collection and Treatment Line of Service

Wastewater treatment plants continue to be a significant investment focus to ensure regulatory requirements are met and to support population growth. Enhanced relationships with major customers to develop innovative, cost effective solutions to ensure regulatory compliance and service value will be imperative to addressing wastewater loading at the treatment plants. In addition, the Water Utility will continue to work on: wastewater loading management program, changing the approach to working with customers on service back-ups, continuing to advance the use of trenchless technologies in repairing and maintaining aging infrastructure, and exploring changes to how we work with customers that produce high strength wastewater. How The City recovers the costs to treat high strength wastewater, and deliver plant upgrades and optimization to ensure sufficient capacity to respond to customer needs, economic activity and growth will also be a focus.

The collection network will also be expanded to accommodate the servicing of new communities and densification of established communities. Investments are also planned to improve the treatment of un-ionized ammonia found in wastewater from toilets, sinks and drains, to continue to protect the ecological integrity of the Bow River.

The Stormwater Management Line of Service

Within the next business cycle, investments will continue to support community drainage improvements so that targeted communities will become more resilient to flooding. As stormwater management practices and standards evolve and new issues emerge, the Water Utility must progress on stormwater management to continue to meet water quality regulations. Over the next cycle, customer and stakeholder engagement, including with the development industry, will be crucial to inform new stormwater strategies in order to protect Calgary's rivers today and into the future.

Improving stormpond design and maintenance, continued implementation of the Riparian Action Program and advancing innovative approaches to stormwater management such as Green Stormwater Infrastructure (e.g. green roofs, rain gardens, etc.) help to prevent pollutants from entering the rivers. Understanding how citizens interact with naturalized (e.g. wetlands, ponds, rain gardens, etc.) and gray infrastructure in public spaces (e.g. catch basins in roadways) will improve coordinated efforts for operational and maintenance practices.

Cross Lines of Service Operating Drivers

Service priorities that cross three lines of service include:

- ***Increased opportunities to integrate customer input into service planning:*** Over the next four-year cycle, the Water Utility will enhance customer focus by gaining a better understanding of customer needs and priorities, as well as improving the customer experience. Through improved customer insights and advancing our levels of

service understanding, the Water Utility will be better positioned to make informed choices on future investments to deliver utility services.

- ***Changes in regulatory expectations:*** The City has a Water Approval to Operate and a Wastewater Approval to Operate that specify regulatory requirements under the Government of Alberta's Environmental Protection and Enhancement Act (EPEA). Ongoing investments will be required to ensure continued compliance to this and other regulations. As well, increasing attention to changing expectations and interpretations of regulations and policies requires operational attention.
- ***Acting on climate change:*** Climate change will alter how and when we receive precipitation in Calgary's watershed, affecting both water quantity and water quality. The intensity and volume of extreme precipitation events will increase beyond the current design capacity of many of Calgary's drainage systems, leading to increased risk of localized flooding. Water management practices, land use planning and storage capacity for both extreme flood and drought are priorities in preparing for climate change. Implementing and updating various strategies and plans is essential to plan for climate change. Some of the specific actions include:
 - Incorporation of future climate parameters into new stormwater management infrastructure design to proactively manage future conditions.
 - Priorities over the next business cycle will include further technical analysis on climate impacts including collaboration with the Province to analyze long term river flows in the Bow and Elbow Rivers to support changes to how water infrastructure and programs are designed and prioritized.
- ***The Calgary Metropolitan Region Growth Board (CMRB):*** CMRB has been established to develop long term plans for managed, sustainable regional growth and servicing. Over the next three years, the Utility will participate in developing the regional servicing plans for water, wastewater and stormwater management. The development of these plans will likely require the Water Utility to divert staff and consultant resources with respect to CMRB engagement, infrastructure planning, and water resource management. One of the CMRB's mandates is to develop and implement policies for the sharing of costs for regional projects in the Calgary region. What impacts this will have on The City's operating expenditures, capital plans and rate setting for regional customers has yet to be determined.
- ***Improvements to data and analytics:*** In the next business cycle, the Water Utility will improve access to and the quality of various data sources and analyses. The focus will be on migrating from crucial aging and obsolete systems to a modern integrated system of tools and databases. This will result in better ability to prioritize operations, improve decision making and the customer experience. Integral to this improvement is the prioritization of cost controls for technology used throughout our operations. A strong data and technology foundation will enable revenue assurance, proactive customer communications, accurate service delivery performance analytics, access to cost of service information, as well as service consumption and delivery information.

- **Operating cost of capital:** The operating cost of capital investments will continue to be considered as part of planning for 2019-2022. There will be continued focus on maintenance planning and asset lifecycle planning with additional pressure expected in the Wastewater Collection and Treatment line of service to operate the growing inventory of infrastructure.

4.2 CAPITAL

The Water Infrastructure Investment Plan (WIIP) is a strategic, long range capital plan that underpins the delivery of Water, Wastewater, and Stormwater lines of service. Capital investments are needed to maintain assets, meet increasingly stringent regulatory requirements, provide reliable and high quality services, and keep pace with growth.

The Water Utility operates in a dynamic environment and the factors on which the WIIP is built (e.g. Council priorities, population forecasts, regulatory changes, level of service objectives) need to be revisited from time to time. The capital investments are reprioritized regularly through a rigorous capital portfolio management process (stage gating) to ensure the overall capital budget is maintained within the approved rates.

Service Delivered via Infrastructure

The Water Utility manages and operates infrastructure with a current replacement value of approximately \$52 billion across three lines of service: Water, Wastewater and Stormwater. The infrastructure takes water from river to tap and back again within an integrated system that includes the Water, Wastewater and Stormwater lines of service.

Capital investments in each of the three lines of service are required to address various needs and requirements primarily driven by:

- **Aging infrastructure**, which impacts the ability to operate efficiently and effectively without service interruptions;
- **Changes to regulatory and environmental requirements**, which necessitate infrastructure upgrades or the construction of additional infrastructure;
- **Introduction of new services or service levels**, which require new or upgraded infrastructure; and
- **Continued population growth**, which triggers capacity upgrades and expansions.

The proposed capital investment plan for the 2019-2022 business cycle averages \$350 million in investments in projects and programs annually for all three lines of service.

A large proportion of investments in these utility systems are required to meet the needs of growth. These growth investments are funded from developer paid off-site levies. Based on the revised OSL bylaw (C2016-0023) in 2016 January, OSL revenue is intended to cover 100 per cent of principal and interest related to growth projects, however, the revenue varies based on hectares of development as well as timing of capital investment to support growth. Since the

new bylaw was approved, actual land development and current forecasts have been lower than the historical average. The forecasts indicate there will be a sizeable shortfall in OSL revenue relative to the cost of growth investments to be funded by Utility rate revenues from Utility customers.

The Water Treatment and Supply Line of Service

The proposed 2019-2022 capital budget for the Water line of service includes an average investment of approximately \$90 million annually in projects and programs for both the Water Treatment Plants and Water Distribution Network:

- **Water Treatment Plants:** the Water Utility supports making life better every day through convenience, reliability and availability of drinking water. Investments in this program include the completion of the Glenmore Dam Infrastructure Improvements to improve communities' resiliency to flooding and drought; annual capital maintenance programs to maintain aging infrastructure upgrades to pump stations; energy efficiency and plants capacity optimization to optimize the use of existing infrastructure.
- **Water Distribution Network:** water availability is critical to support a growing and prosperous city. Investments in this program are primarily focused on annual programs for ongoing maintenance, replacement and expansion of water pipes and valves, hydrants, and pump stations to distribute high quality drinking water with few disruptions, as well as to support growth in new communities. The Water Utility continues to employ and advance the use of technology to monitor, access and repair damaged infrastructure. For example, the Water Utility uses new trenchless technology for watermain repairs has led to significant cost savings and resulted in far less intrusive watermain repairs.

The Wastewater Collection and Treatment Line of Service

The proposed 2019-2022 capital budget for the Wastewater line of service includes an average of approximately \$200 million annually in projects and programs for both the Wastewater Treatment Plants and Wastewater Collection Network programs:

- **Wastewater Treatment Plants:** Wastewater treatment is critical in protecting public health and safety and the health of the river and the environment. Two-thirds of the planned investments are driven by growth. This includes the continuation of the capacity expansion program at the Bonnybrook Wastewater Treatment Plant (Plant D and associated projects), and planning for additional capacity for the Fish and Pine Creek Wastewater Treatment Plants (south catchment). Other investments in this program address capital maintenance needs and projects to meet regulatory requirements.
- **Wastewater Collection Network:** The majority of the investments in this program are driven by major trunk upgrades required to accommodate growth. This includes the

Inglewood and Nose Creek sanitary trunks. The reminder of the investments are dedicated to capital maintenance programs and infrastructure upgrades.

The Stormwater Management Line of Service

The proposed 2019-2022 capital budget for the Stormwater line of service includes an average of approximately \$65 million annually in projects and programs for the Drainage Facilities and Network Program, of which a large portion is funded through external grants such as the Provincial Alberta Community Resiliency Program (ACRP). Investments in this program can be categorized as follows:

- **Community Drainage Improvements (CDI):** this program delivers stormwater infrastructure upgrades in older communities that were built prior to the use of modern drainage techniques and standards.
- **Flood resiliency:** these investments are required to reduce impacts of future flood events, and include flood barriers in the low-lying areas along the river.
- Additional investments are required to address capital maintenance needs, monitor water flow and quality, and rehabilitate or upgrade wetlands, ponds, and stormwater outfalls.

The capital investments within the WIIP are categorized using four investment drivers as shown in the table below. Each driver addresses one of the factors identified as placing additional pressure on the infrastructure programs.

Table 2: Investment Drivers

Investment Driver	Objective	Percentage of WIIP
Maintain assets	Maintaining, protecting and extending the life of infrastructure investments.	20% - 25%
Regulatory & Environmental Protection	Continuing to meet increasingly stringent regulatory and environmental protection requirements.	15% - 20%
Service	Continuing to provide reliable and high quality services to meet the needs of citizens.	10% - 20%
Growth	Providing infrastructure to meet the needs of a growing city.	45% - 60%

5.0 PROPOSED INDICATIVE RATES

The indicative rates in this report are the annual percentage rate increases, proposed for the 2019-2022 timeframe. These increases will enable the delivery of priority capital investments and accommodate increases in operating expenditures that are necessary to deliver high quality services to Calgarians, while meeting regulatory requirements and providing infrastructure that meets the needs of a growing city.

The magnitude of utility rate increases is determined by the level of service provided for Calgarians, priority initiatives for 2019-2022, capital investments to maintain services, operating cost of capital, and operating cost escalation. The recommendations for the 2019-2022 indicative rates for these three lines of service are at or below forecasts that have been shared with Council previously.

Additional factors include the following:

- **Growth and off-site levy revenue:** The offsite levy methodology and rate calculation intends to recover 100 per cent of growth related infrastructure costs through levies. However, when this is not possible, due to fluctuations in the pace of development, the utility rates absorb shortfalls. A shortfall is expected to occur through the 2019-2022 business cycle.
- **The off-site levy shortfall in 2017 (from 2016 growth)** was partially absorbed in the utility rates through efficiencies and service reductions that resulted in a nine per cent reduction in the Water Utility's operating budget, but also put pressure on 2019-2022 rate increases.
- **Revised rate increases in 2017 and 2018:** The reductions of rate increases for these lines of service in 2017 and 2018 from their Action Plan approved rate increases put pressure on 2019-2022 rate increases.
- **Compliance with financial plans:** In addition to new measures, targets and timelines in the financial plans, and the steps being taken to achieve financial sustainability, a key driver is meeting the sustainment reserve balance for each line of service by the end of 2022.

Indicative Rates for the Water Treatment and Supply Line of Service

The rate increase for the Water line of service has been maintained at zero per cent since 2017 and is proposed to continue at zero per cent per year for 2019-2022. This is in line with previous forecasts. Overall, the Water line of service is able to absorb inflationary pressures and adverse fluctuations in off-site levies for growth related costs due to a moderate capital program and declining debt, which translates to decreasing interest expense in 2019-2022.

Indicative rates for the Wastewater Collection and Treatment Line of Service

The effect of growth is substantial and compounding in the Wastewater line of service due to new facilities, capacity expansions, and more stringent regulatory requirements. It also means

the Wastewater line of service is more at risk to adverse fluctuations in levies for growth related costs. All this has a significant impact on wastewater rates. In an effort to maintain wastewater rates at reasonable and affordable levels, the Water Utility continues to work on efficiencies and enhanced levels of service to partially offset a substantial capital program and growing debt, inflationary pressures, and shortfalls in levies for growth related costs.

When the Action Plan approved wastewater rate increases for 2017 and 2018 were reduced to around 5.0 per cent per year at Mid-Cycle Adjustments (MCA), the indicative rate increases for 2019-2022 were expected to extend at approximately the same magnitude of 4.0 to 5.0 per cent per year. The off-site levy shortfall in 2017 based on slower than anticipated development occurred was partly mitigated in the utility rates. As such, the wastewater rate increases for 2019-2022 were expected to be higher, in the range of 6.0 to 7.0 per cent per year.

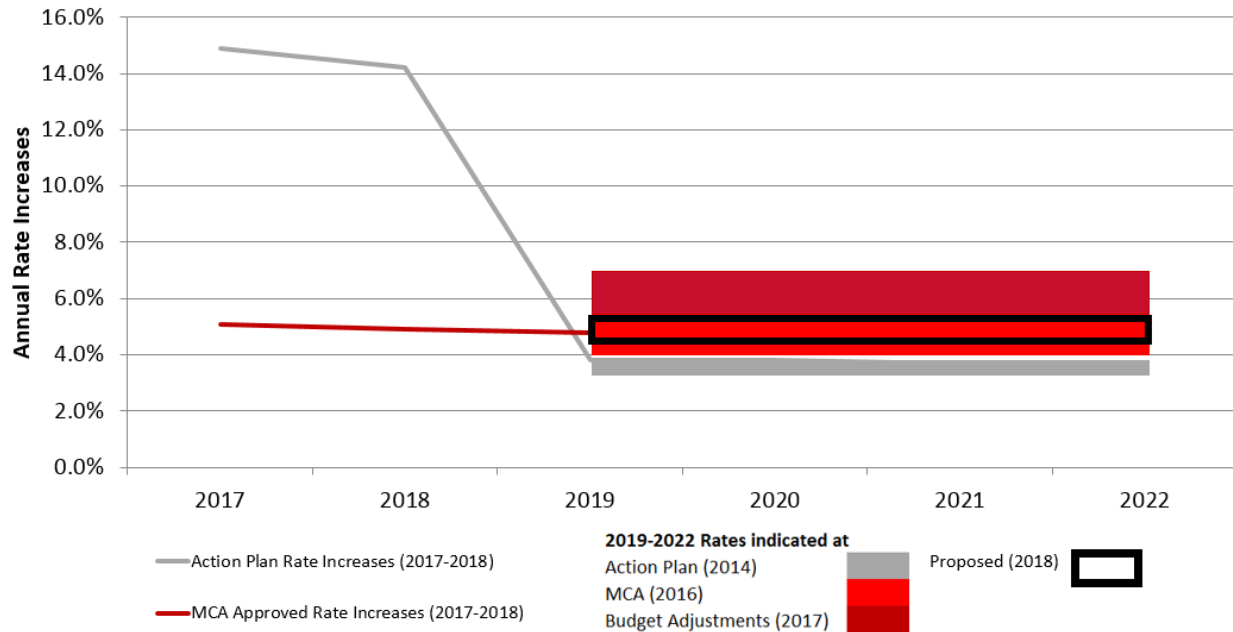
The annual wastewater rate increase proposed for 2019-2022 is in the range of 4.5 to 5.5 per cent per year. These proposed indicative rates are within the ranges of previous forecasts.

The table and figure below summarize previous reported and current proposed wastewater indicative rates for 2019-2022.

Table 3: Indicative wastewater rate increases (2019-2022)

	2017	2018	2019	2020	2021	2022
Action Plan (2014)	14.9%	14.2%	3.8%	3.8%	3.8%	3.8%
Mid Cycle Adjustment (2016)	5.1%	4.9%	4.0-5.0%	4.0-5.0%	4.0-5.0%	4.0-5.0%
Budget Adjustment (2017)	—	—	6.0-7.0%	6.0-7.0%	6.0-7.0%	6.0-7.0%
Indicative Rates (2018)	—	—	4.5-5.5%	4.5-5.5%	4.5-5.5%	4.5-5.5%

Figure 1: Indicative wastewater rate increases (2019-2022)



Indicative rates for the Stormwater Management Line of Service

The Stormwater line of service continues to experience upward pressure to mitigate the environmental, social and economic risks of river and localized flooding while considering climatic variability.

When the Action Plan approved stormwater drainage charge increases for 2017 and 2018 were reduced to 7.4 per cent per year at MCA, the rate increases for 2019-2022 were expected to extend at approximately the same magnitude of 7.4 per cent per year.

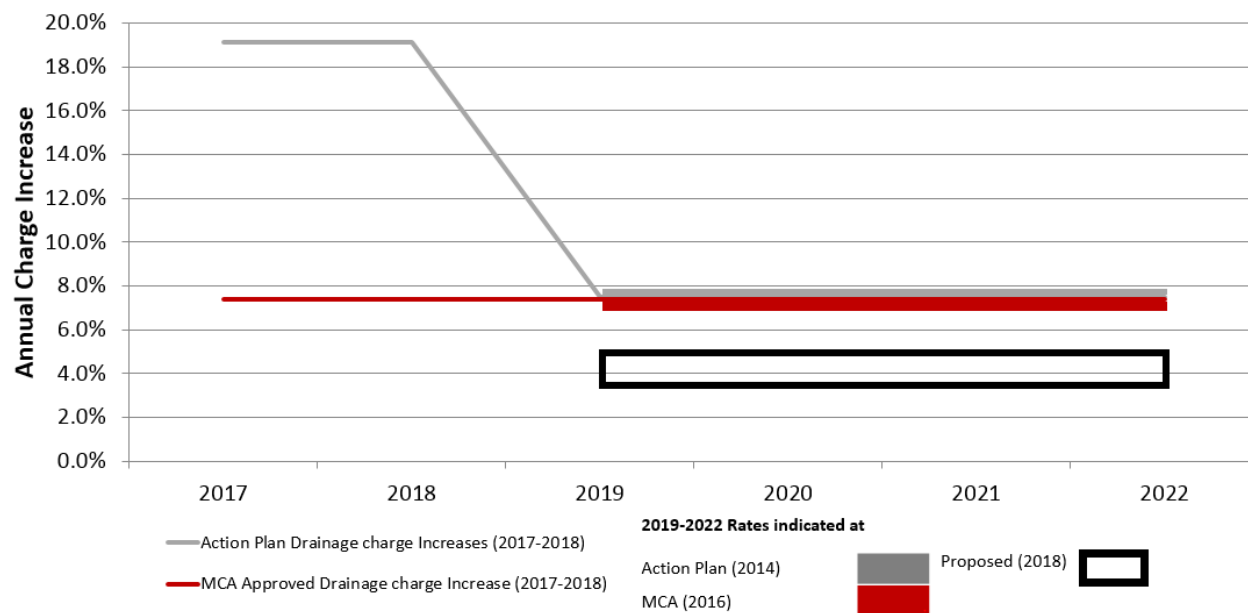
To deliver the proposed capital and operating programs amidst inflationary pressures, the annual stormwater drainage charge increase proposed for 2019-2022 is now in the range of 3.5 to 5.0 per cent per year. These proposed indicative rates compare favourably to ranges provided in previous forecasts due in part to ongoing efforts in realizing efficiencies.

The table and figure below summarize previous reported and current proposed stormwater drainage charge indicative rates for 2019-2022.

Table 4: Indicative stormwater drainage charge increases (2019-2022)

	2017	2018	2019	2020	2021	2022
Action Plan (2014)	19.1%	19.1%	7.5%	7.5%	7.5%	7.5%
Mid Cycle Adjustment (2016)	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%
Budget Adjustment (2017)	—	—	—	—	—	—
Indicative Rates (2018)	—	—	3.5-5.0%	3.5-5.0%	3.5-5.0%	3.5-5.0%

Figure 2: Indicative stormwater drainage charge increases (2019-2022)



Estimated customer impacts

The tables below summarize 2019-2022 indicative rate drivers for Water, Wastewater and Stormwater lines of service.

Table 5: Water treatment and supply drivers / impacts

WATER	Estimated total	Increased operating costs	Capital related costs	OSL shortfall	Reserves	Franchise fee
Impact on typical monthly utility bill* \$46.97 in 2018	0.0%	3.1%	-6.5%	2.3%	1.2%	0.0%

*Approximate only – Impacts will vary based on cost of service recommendations to be presented June 2018

Table 6: Wastewater collection and treatment drivers / impacts

WASTEWATER	Estimated total	Increased operating costs	Capital related costs	OSL shortfall	Reserves	Franchise fee
Impact on typical monthly utility bill* \$53.91 in 2018	5.0%	0.9%	3.0%	0.2%	0.5%	0.3%

*Approximate only – Mid-point of rate impact. Impacts will vary based on cost of service recommendations to be presented June 2018

Table 7: Stormwater management drivers / impacts

STORMWATER	Estimated total	Increased operating costs	Capital related costs	OSL shortfall	Reserves
Impact on typical monthly utility bill* \$15.05 in 2018	4.3%	2.2%	-0.4%	2.2%	0.2%

*Approximate only – Mid-point of rate impact. Impacts will vary based on cost of service recommendations to be presented June 2018

The tables below summarize the approximate impacts on typical monthly utility bill for 2019-2022 for Water, Wastewater and Stormwater lines of service.

Table 8: Approximate impact on typical residential monthly utility bill

Line of Service	2019	2020	2021	2022
Water Treatment and Supply \$46.97 monthly in 2018	\$0.00	\$0.00	\$0.00	\$0.00
Wastewater Collection and Treatment \$53.91 monthly in 2018	\$2.43 - \$2.96	\$2.54 - \$3.13	\$2.65 - \$3.30	\$2.77 - \$3.48
Stormwater Management \$15.05 monthly in 2018	\$0.53 - \$0.75	\$0.55 - \$0.79	\$0.56 - \$0.83	\$0.58 - \$0.87
Incremental monthly change	\$2.96 - \$3.71	\$3.09 - \$3.92	\$3.21 - \$4.13	\$3.35 - \$4.35
Total* \$115.93 monthly in 2018	\$118.89 - \$119.64	\$121.98 - \$123.56	\$125.19 - \$127.69	\$128.54 - \$132.04

*Approximate only, impacts will vary based on cost of service recommendations to be presented June 2018

2019-2022 indicative rates summary for the Water, Wastewater and Stormwater lines of service

The table below summarizes the proposed indicative rate increases for 2019-2022. These indicative rates align with what has been shared with Council previously and are, in fact, a touch lower. Achieving this outcome has been possible due to operational efficiencies and operating budget reductions, including in the areas of vehicle and equipment expenditures, consulting and salary and wage through intentional workforce management.

Table 9: 2019-2022 indicative rates summary for the Water, Wastewater and Stormwater lines of service

Line of Service	Indicative Rates 2019-2022
Water Treatment and Supply	0% per year
Wastewater Collection and Treatment	4.5% - 5.5% per year
Stormwater Management	3.5% - 5.0% per year

The Water Utility is currently conducting a Cost of Service Study to ensure costs are being recovered appropriately and equitably through rates from each customer class according to their specific demands on the system. Recommendations from the Cost of Service Study will be presented to Council in 2018 June. Implementing the recommendations of the Cost of Service Study will mean that different customer classes will be impacted differently and that not all customer classes will see the same increase to their utility rates, but that overall the utility revenue will change according to the rate increases indicated above. Proposed rates will be brought to Council for approval as part of the November budget deliberations.