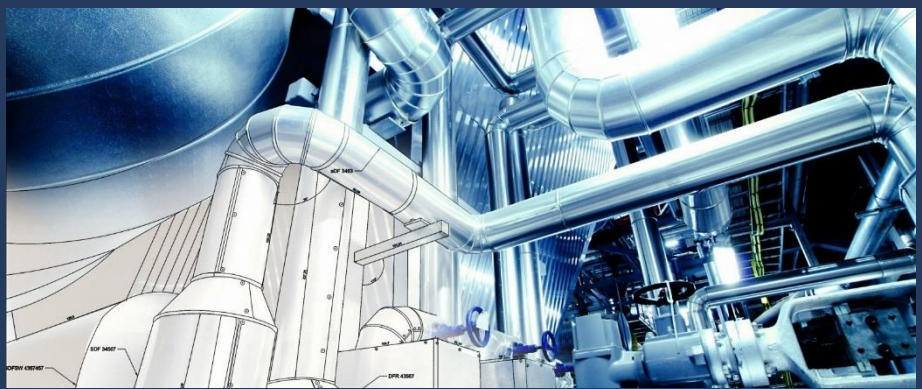
2024 WATER AND WASTEWATER BUDGET SUBMISSION



Cornwall

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List of Abbreviations

After the first occurrence, abbreviations are used in this document in order to improve readability. This list is provided in case the reader is unfamiliar with these abbreviations.

AMI ..... Advanced Metering Infrastructure

AMP..... Asset Management Plan(s)

BAF ..... Biological Aerated Filters

BOSMP..... Biosolids, Organics and Septage Master Plan

CAP ..... Climate Action Plan

CSO..... Combined Sewer Overflow(s)

GHG ..... Greenhouse Gas

EA..... Environmental Assessment

IC&I ..... Industrial, Commercial, and Institutional

ECDMP..... Energy Conservation and Demand Management Plan

LCEF ..... Low Carbon Economy Fund

LOS ..... Level(s) of Service

LTFP..... Long-Term Financial Plan

MECP ..... Ministry of the Environment, Conservation, and Parks

RFP ..... Request for Proposal

RNG ..... Renewable Natural Gas

SDWA..... Safe Drinking Water Act

SSO..... Source Separated Organics

UV ..... Ultraviolet

WCSMP..... Water Conservation and Servicing Master Plan

WPP ..... Water Purification Plant

WWTP ..... Wastewater Treatment Plant

CITY OF CORNWALL – 2024 WATER AND WASTEWATER BUDGET

The City of Cornwall is responsible for water treatment and supply, wastewater collection and treatment, and stormwater management across the City. The Water and Wastewater budget supports these services.

The Water and Wastewater budget represents the requirement to provide for the operation and maintenance of the Water Purification Plant (WPP) and the water distribution system to ensure the sourcing and delivery of clean, safe, drinking water to the community. It also provides for storm water management, the operation and maintenance of the Wastewater Treatment Plant (WWTP), and the sewer collection system (sanitary, combined, and storm) to ensure safe transportation and disposal of sewage.

Each day, clean, safe water travels from the WPP through the City's watermains for use by residents and businesses. Similarly, wastewater flows through the City's sewer collection system to the WWTP for enhanced secondary treatment before it is released into the St. Lawrence River. Stormwater is conveyed, via storm sewers, directly or indirectly, to the St. Lawrence River.

Safe drinking water and effective wastewater collection and treatment are cornerstones of a sustainable and healthy community and environment. Because of their importance to the health of the public and the environment, these services operate with specific levels of service (LOS) and infrastructure standards, as well as financial frameworks. These services are highly regulated and are provided in accordance with Provincial regulations and guidelines.

The 2024 Water and Wastewater budget strives to provide funds to support the City's water and wastewater services by continuing to move towards financial sustainability (i.e. full cost recovery) in accordance with the Safe Drinking Water Act (SDWA), Municipal Drinking-Water Licence, Water and Wastewater Financial Plan Regulation, and the Sustainable Water and Sewage Systems Act. However, many challenges exist including replacement of aging infrastructure, critical repairs, backlogs, climate change impacts, funding gaps, and public awareness.

Mission Statement

Water and wastewater services are provided through the supply of quality drinking water and treatment of wastewater as a public service to protect public health, safety, and property in an environmentally sustainable and a fiscally responsible manner.

Alignment to Strategic Plan

The Water and Wastewater budget aligns with the City's Strategic Plan in providing services that enable a financially and environmentally sustainable community which will care and provide for the needs and values of its residents. It continues to invest

in modern efficient water and wastewater infrastructure to ensure continuous safe drinking water and wastewater services.

The Strategic Plan prioritizes waters meters in its statement of "*Being leaders in sustainability and climate change impact"*. The Environmental Initiatives section of this book outlines the progress the City has made with the implementation of water meters for the community.

Conservation of natural resources is increasingly becoming more important. Conservation continuously focuses on the preservation of non-renewable resources and the proper management of renewable resources.

Regulatory Requirements and Best Practices

Ontario's Ministry of the Environment, Conservation, and Parks (MECP) provides a guide for municipal Councils to help them understand their responsibilities under the SDWA and provide them with information on how Ontario's drinking water is safeguarded. Through the Standard of Care provisions of Section 19 of the SDWA, Council has a statutory duty as the ultimate decision-making authority over municipal drinking water systems. This does not require technical oversight, but rather to be informed and vigilant.

Generally, the water and wastewater industry continues to experience increased legislative and regulatory reform. There are several requirements that steer how the municipality conducts water and wastewater treatment. As noted, water and wastewater are regulated services and must meet legislated requirements: Drinking Water Systems (Ontario Regulation 170/03); Ontario Drinking Water Quality Standards (Ontario Regulation 169/03); Drinking Water Testing Services (Ontario Regulation 248/03); Drinking Water Quality Management Standards; Ontario Water Resources Act, R.S.O 1990, C.O. 40; Wastewater Systems Effluent Regulations (SOR/2012-139); Water Works and Sewage Works (Ontario Regulation 435/93); Certification of Drinking Water System Operators and Water Quality Analyst (Ontario Regulation 128/04); Licensing of Sewage Works Operators (Ontario Regulation 129/04); and Asset Management Planning for Municipal Infrastructure (Ontario Regulation 588/17).

The purpose of the Acts and Licence are to protect human health through regulation to ensure safe drinking water is supplied and delivered to customers. It also regulates how a municipality is to conduct its wastewater treatment. Compliance must always be ensured at the minimum. Minimum LOS describe the minimum achievement the City must deliver through its water and wastewater treatment systems as directed by regulations.

At each new term of Council, the City invites the Walkerton Clean Water Centre to provide Standard of Care training for the Mayor, Councillors, and municipal staff with oversight responsibility for drinking water treatment and distribution systems. Council and Administration attended this training session on

September 11, 2023. The Standard of Care – Safe Drinking Water Act training course was developed by the MECP and the Walkerton Clean Water Centre with significant guidance and input from an Advisory Group of municipal councillors and mayors. It is designed to inform municipal councillors and officials of their oversight responsibilities under Section 19 of the Safe Drinking Water Act, effective December 31, 2012. Severe penalties are possible for municipal officials who fail to act in good faith and do not exercise honesty, competence, and integrity to ensure the protection and safety of the users of municipal drinking water systems. Several examples of waterborne disease outbreaks are examined which highlight the importance of competent oversight. The course provides general information about drinking water systems, describes the multiple barrier approach to drinking water treatment and identifies the basic risks associated with drinking water production and distribution. The presentation material provided sources for additional training along with reference materials concerning drinking water. The course is comprised of four modules:

Module 1 – Recognizing Your Duty
Module 2 – Staying Informed
Module 3 – Exercising Vigilance
Module 4 – Case Studies

The Management Review Report, Annual Drinking Water Quality Report, Long-Term Financial Plan and the annual Water and Wastewater budget are Council's most important reports to ensure Standard Duty of Care.

Cornwall's Water and Wastewater Services at a glance

- Serves more than 49,200 residents, as well as businesses in Cornwall; approximately 17,700 residential, institutional, commercial and industrial (IC&I) properties.
- Water and wastewater services are funded through the water and wastewater billing revenue from approximately 18,000 flat rate customer accounts (approximately 17,100 Residential and 900 IC&I) and approximately 275 metered accounts (high volume IC&I).
- Water and wastewater user fees (billings) and other revenue sources are used to fund water and wastewater operating and capital.
- Operates 24 hours a day, 365 days per year.
- The services provided are grouped into four service areas:

    1. Water Supply and Distribution – The water system provides water for residential, and IC&I customers, as well as for fire protection. The system serves the City's population as well as some customers from outside the city limits. Treatment, storage, and distribution of over 30,960 cubic meters of potable water is delivered daily to industrial,

commercial, institutional, and residential water users, to over 16,000 service connections.

Staff strive to develop, maintain, and operate the facilities necessary to provide a plentiful supply of high-quality drinking water for our customers. The Department continually monitors regulatory changes and adapts to ensure compliance.

2. Wastewater Collection and Treatment – The wastewater system collects wastewater from residential, and IC&I customers in the City and treats wastewater in accordance with the provincial and federal governments' environmental regulations and industry standards. Over 43,550 cubic meters of wastewater is collected and treated per day, from both residential and non-residential properties in Cornwall and returned as clean water to the St. Lawrence River.
3. Stormwater Collection and Flood Protection – The stormwater drainage system is designed to collect stormwater runoff from private and public properties which is generated from rainfall and melting snow in the City. The stormwater collection system is comprised of a network of storm sewers, culverts, roadside ditches, catch basins, maintenance holes, drains, etc., which convey stormwater to local waterways. Additionally, the City also maintains stormwater management ponds, oil/grit separators, etc., which provide stormwater quantity and/or quality control.
4. Customer Service – Customer service has two elements:
    - Utility Billing – producing and collecting utility billings in an efficient, accurate, and timely manner.
    - Communications – being responsive to customer inquiries and needs.

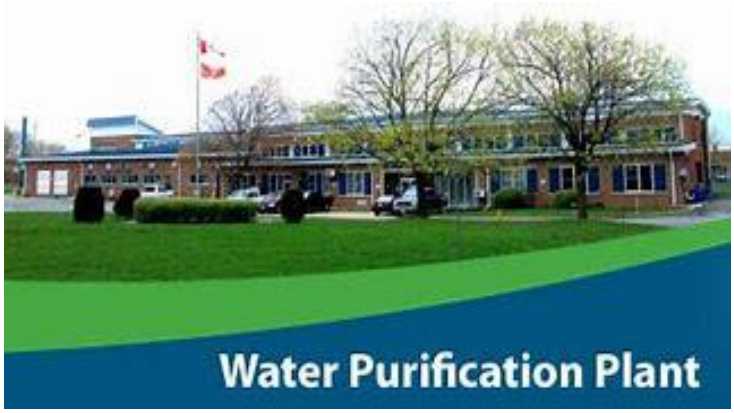
Environmental Services – Water

The primary objective in operating the water system is to provide a continuous supply of potable water to the residents and businesses of Cornwall. In doing so, all quality, quantity, and environmental standards put forth by City Council, and provincial and federal agencies must be adhered to.

The WPP draws water from the St. Lawrence River at the Robert Saunders Dam through a 3.7 km, 1,050 mm diameter reinforced concrete pipe running along Second Street West and through the Riverdale area to the WPP.

The WPP uses chemically assisted coagulation and flocculation to remove particles suspended in the raw water. These particles clump together and are allowed to settle in tanks that are automatically cleaned at regular intervals. The

water is then filtered through anthracite media and treated with ultraviolet (UV) light and chlorine to disinfect any of the remaining harmful pathogens.



The water distribution system (274 km – 2023) is maintained by the Municipal Works, Water Distribution Department. The City has completed an assessment of the water distribution system. The majority of pipes up until 1970 were primarily cast iron. Unlined cast iron watermains are problematic for a number of reasons including but not limited to: tuberculation build-up on the inside of these pipes which creates problems in maintaining minimum chlorine residual levels and reduces available fire flow and are prone to leakage and breaks due to reduced wall thickness and pipe integrity. From 1970 to 1990, ductile iron was the prevalent pipe material and beyond 1990, PVC became the preferred pipe material in most cases. The system is a complex network of pipes, storage facilities, valves, fire hydrants, reservoirs, and an elevated storage tank. In order to meet demands, sufficient pressure is maintained throughout the distribution system by pumps at the WPP and the Boundary Road Reservoir as well as static head pressure provided by the elevated water storage tank located on Tollgate Road East.

The Municipal Works Department has addressed an average of 50 watermain failures per year over the past five years (31 failures to date in 2023). When a watermain failure occurs, a repair can be lengthy and disruptive for the affected water customers, local traffic, and pedestrians. Through proactive asset renewal programs, priority areas can be identified, and steps taken to renew infrastructure to ensure a continued reliable service.

The operations of both the treatment and distributions systems are rigorously inspected annually and, in 2022, earned a 100% compliance rating from the MECP. The MECP 2023 inspection has occurred, and the City is currently awaiting the results.

Per the recommendations of the 2021 Water Conservation and Servicing Master Plan (WCSMP), the City retained Diameter Service through a Request for Proposal (RFP) process to provide their expertise and project management services for the design, procurement, and installation of a universal water metering system and advanced metering infrastructure (AMI). Diameter Services specializes in managing AMI, automated meter reading, and water meter implementations, from the feasibility study through to final system acceptance. Water treatment is a complicated and costly process. By collectively reducing the amount of water we use as a community, the City can save money by reducing

treatment costs, reserving treatment plant capacity, extending life of underground infrastructure, and limiting opportunities for untreated or partially treated wastewater to be discharged back to the St. Lawrence River.

Environmental Services - Wastewater

The main objective of the wastewater system is to collect, treat, and dispose of effluents without danger to human health or unacceptable damage to the natural environment. The City strives to maintain high standards in wastewater treatment to ensure there is minimum effect on the environment of the St. Lawrence River.

At the WWTP, primary treatment consists of temporarily holding the sewage in a quiescent basin where heavy solids can settle to the bottom while oil, grease and lighter solids float to the surface. With the assistance of chemicals, solids are separated from wastewater in four settling tanks (clarifiers). The settled and floating materials are removed and the remaining liquid is discharged to secondary treatment. The wastewater leaving the clarifiers is directed to Biological Aerated Filters (BAF) where secondary treatment occurs. The water leaving these filters is disinfected with UV radiation prior to discharge to the St. Lawrence River. The solids portion is sent to a thickening facility prior to digestion, dewatering, and disposal at the City's landfill.

A Biosolids, Organics and Septage Master Plan (BOSMP) is currently underway, which will address the long-term management of WWTP biosolids. The BOSMP is likely to recommend utilizing biosolids in a resource recovery process (i.e. to make fertilizer). This will provide multiple benefits, as it will save valuable space at the City's landfill and promote circular economy practices.

The wastewater collection system (424 km – 2023) is maintained by the Municipal Works, Wastewater Collection Department (storm, sanitary, and combined sewers) including associated appurtenances, such as: catch basins, maintenance holes and sewer laterals. This department is also responsible for pumping stations, urban drainage maintenance, and flood control.

Municipal Works has addressed an average of 76 sewer lateral repairs per year over the past five years (54 repairs to date in 2023).

The stormwater management system functions to control flooding and help filter out sediments collected by stormwater flow before it reaches waterways.

The combined sewer network is a sewer system which accepts both stormwater and sanitary sewage. Combined sewers are part of the original municipal wastewater collection system and are typically found in the oldest sections of the City. When the opportunity arises through road reconstruction, combined sewers are separated by installing a second pipe in order to provide a dedicated pipe for stormwater collection and a dedicated pipe for domestic sewage collection.

When combined sewer systems experience higher than normal flows, relief systems cause discharges containing human and industrial waste to flow untreated directly into the St. Lawrence River. These events are known as Combined Sewer Overflows (CSO). The City has experienced 11 CSO events to date in 2023 which has resulted in 147,674 cubic meters of diluted wastewater discharged directly to the St. Lawrence River.

Combined sewers can cause serious water pollution problems during CSO events when combined sewage and surface runoff flows exceed the treatment capacity of the WWTP. Although it is acknowledged that CSO events are serious concerns which can cause both negative environmental and lifestyle consequences, it must be understood that in Cornwall, CSO events only occur primarily as a result of heavy rainfall events and/or rapid snow melt occurrences when the wastewater collection system reaches storage capacity. As a result, the effluent discharged into the river is heavily diluted with stormwater. As further perspective, the WWTP treated 15,894,153 cubic meters of wastewater in 2022. During 2022, the WWTP experienced 24 CSO events comprised of a total volume of 229,338 cubic meters of effluent which represents approximately 1.44 percent of the total volume of wastewater treated. The MECP requires that each CSO event is reported to the MECP as well as made publicly available. Also, between April 1, 2023 and October 31, 2023, all dry weather flow and 90 percent of wet weather flow is treated at the WWTP. The City has met all MECP CSO requirements in 2023.

Environmental Initiatives

Biosolids, Organics, and Septage Masterplan

Ontario regulations will require that the City implement a curbside Source Separated Organics program that captures at least 50% of organics material from single family dwellings. At the October 10, 2023, meeting, Council directed Administration to include multi-residential and IC&I properties in the proposed Source Separated Organics collection program in order to maximize the potential organics material captured and diverted from the landfill and to maintain the existing collection routes and schedule. Additionally, efforts should be made to divert the biosolids generated by the WWTP from landfill disposal by 2025. The Ontario regulations and subsequent recommendations from Administration align with the Landfill Financial Sustainability Report and Landfill Closure and Post Closure Liability Report that the City had completed in 2019, which concluded that the existing landfill could reach capacity by as early as 2032. In efforts to

preserve the landfill life as well as promote a circular economy, the City hopes to divert biosolids and organics to resource recovery system(s).

The City has already invested substantial efforts into the diversion of organics, biosolids, and other waste from the landfill:

- In 2021, a Co-Digestion and Energy Generation Study was completed which analyzed the feasibility to transform the WWTP into a net zero resource recovery facility. A successful co-digestion program would see the existing anaerobic digesters at the WWTP intake source separated organics (SSO) and potentially achieving net zero energy by promoting organics diversion, production of carbon negative clean fuel such as renewable natural gas (RNG) and hydrogen. As part of the BOSMP being undertaken, co-digestion will be further reviewed as a potential alternative for managing the City's biosolids, organics, and septage. However, with private processing facilities opening in close proximity to the City, the project is not likely to be deemed feasible due to costs and other operating challenges.
- In 2021, a SSO Study was completed which analyzed the feasibility to implement a collection and processing program for SSO from Cornwall's residential waste stream. The SSO study reviewed Greenhouse Gas (GHG) emissions reduction by diverting organics from landfill to co-digestion and energy production at the WWTP. The study also evaluated a potential processing facility at the WWTP, which could convert biosolids and septage into a fertilizer product which could be utilized in agricultural applications while generating additional revenue for the City.

- The 2019 Landfill Reports recommends that the tipping fee for IC&I waste generators at the landfill be incrementally increased. Increasing the tipping fee will ensure that the City is recuperating the gross cost of disposal at the landfill from both an operational and closure/post-closure perspective. The increased tipping fee will also deflect some of the IC&I customers to alternative disposal locations that are more financially feasible for them, ultimately saving valuable landfill space in Cornwall. One of the largest IC&I waste generators at the landfill are the biosolids from the WWTP. Biosolids accounted for 16% of the total IC&I waste disposed of at the landfill in 2022 which has increased to 23% thus far in 2023 as a result of the reduction of IC&I waste disposed of at the landfill following the increase in IC&I tipping fees. The impact of increased tipping fees for biosolids will be analyzed in the BOSMP and will provide further justification for an alternative disposal method. The first tipping fee increase was approved at the August 8, 2022, Council meeting, increasing the tipping fee for IC&I waste generators from $85 per tonne to $125 per tonne effective January 1, 2023. A second

increase up to the full cost recovery of $164 per tonne, effective January 1, 2024, was approved by Council at the September 11, 2023, meeting. The tipping fees associated with the disposal of biosolids from the WWTP is paid through the Water and Wastewater budget.

A septage receiving station is currently located on the landfill property, which accepts septage into the leachate collection system and is ultimately sent to the WWTP for treatment. Recent directions from the MECP have concluded that this method of septage receiving is not acceptable moving forward and an alternate process to receive septage at a location outside of the landfill and leachate collection system must be implemented. The existing process of disposing septage at the landfill into the leachate collection system is not desirable for the City either and will potentially compromise the leachate collection system at the landfill as well as the sewer collection system downstream. The City is currently in the process of reviewing alternatives for receiving septage as part of the BOSMP; however, it is most likely that a Septage Receiving Station will be implemented at the WWTP to provide service to the community while removing septage from the leachate collection system at the landfill. Upgrades to the WWTP will be required in order to accommodate septage receiving at the WWTP as well as an analysis of the impacts of septage receiving on the WWTP treatment process.

The BOSMP will build on the previously completed studies and efforts and determine the ultimate management solution for the three constituents. The BOSMP will assess the technical and financial feasibility of in-house processing options identified in the previous studies (such as co-digestion) against private processing facilities. The preferred management of BOSMP alternative will address the following short-term and long-term goals:

- Extend the overall operating lifespan of the landfill through diversion of biosolids, source separated organics and potential other waste stream materials;
- Reduce the overall amount of GHG emissions through diversion from landfill and potential utilization of resource recovery technologies;
- Flexibility to accommodate changes in waste stream feedstock composition/tonnage over time and processing adaptability to recover additional waste process products such that the solution is easily scalable;
- Optimize operational, financial and environmental benefits of biosolids, SSO and septage from collection phases to end use/disposal phases;
- Adhere to all required and relevant environmental legislation on local, provincial and federal levels, while also taking advantage of potential grants and funding opportunities; and
- Protect public health and the environment.

Water Conservation and Water Metering

In 2021, the City completed a WCSMP. The WCSMP assessed the impacts of utilizing water demand initiatives such as the implementation of City-wide water meters, rate structure alternatives, and rebate programs to promote water conservation. Council approved the recommendations set forth in the WCSMP at its September 21, 2021, meeting.

In 2022, the City began offering rebates of $50 towards the replacement of high-water-use toilets with high-efficiency WaterSense© labeled units (4.8 litres per flush or less). Rebates are only available for the installation of qualifying toilets in homes and businesses built prior to 1997, with a limit of two rebates per customer. This program is continuing into 2024 and the City has allocated a total of $100,000 towards the toilet rebate program including an additional $25,000 in 2024. Moreover, the City has contracted the St. Lawrence River Institute to offer free residential water-use audits to identify water saving opportunities and specific retrofit opportunities to reduce water use. Audits address indoor and outdoor water use. The audit program launched in the Fall of 2022 and will continue in 2024.

Also in 2022, the City engaged the services of a consulting firm, Diameter Services, through an RFP process to provide expertise and project management services for the design, procurement, and installation of a universal water metering system and AMI.

As part of the scope of work, Diameter Services completed the Findings and Recommendations Report which culminated Phase 1 of the project and presented Diameter's findings and recommendations, and the estimated costs to successfully implement universal water metering in the community. The Findings and Recommendations Report adopted by Council at the June 26, 2023, meeting, provided the background information and the business case to support 14 key recommendations to guide the decisions relating to the universal water metering project. The Financial Plan prepared by Diameter Services provided a summary of the anticipated capital and ongoing operating costs associated with the implementation of the project. This report provided a financial comparison of two key AMI technologies: a Standalone AMI Fixed Network (estimated $17.0 million), and a Cellular AMI Network (estimated $17.5 million).

The RFP for the implementation of universal water metering in the City has been issued and the award is expected by the end of Q1 of 2024. The RFP will retain a specialized contracting firm that will source and deploy all associated components of the system, including but not limited to, meters, meter reading equipment, software, data storage systems, and a customer information system. It is anticipated that the implementation phase of the project will occur over the course of 29 months with the City transitioning to a consumptive rate structure for the entire City in 2027.

Water metering will provide water conservation, fair and equitable billing for consumers, leak detection within the water distribution system, operational ease and cost savings at both the WPP and WWTP, capacity conservation at the WPP and WWTP, and increased government grant and funding opportunities that require water metering data as well as a system which promotes water conservation.

Water Purification Plant Secondary Raw Water Intake

In 2020 and 2021, to ensure redundancy of the raw water supply to the WPP, a Municipal Class Environmental Assessment (EA) to identify options for a second raw water intake was undertaken. EVB Engineering in collaboration with Jacobs Engineering was awarded RFP 20-P02 to undertake the EA for the determination and location of a secondary raw water intake. Currently, the City has only one (1) existing gravity raw water intake which is approaching the end of its useful life which poses a significant risk to the municipality. The existing intake to convey raw water by gravity from the St. Lawrence River to the WPP is a 3.7km long, 1,050mm diameter pipe that was constructed in 1955 and is reaching the end of its expected life. Additionally, the intake pipe has previously had blockage issues due to zebra mussels and frazil ice. As a result of not having intake redundancy, any pipe blockage or infrastructure failure would result in the City not receiving any incoming raw water and the City's reservoirs only have four to six hours of storage in this event. After this time, critical services such as hospitals and fire protection, as well as all residents, would be without water.

A long list of potential alternative solutions were developed as part of the EA process. These alternative solutions were screened to determine short listed alternative solutions for further evaluation using a multi-criteria analysis tool developed by the project steering committee.

The EA identified solutions to address the risks associated with the City's single raw water intake infrastructure. Council received the report at its November 1, 2021, meeting. The multi-criteria analysis yielded two preferred solutions for the project. A new intake near King Street and a new intake near the former Domtar site. Considering their similarities, both alternatives were recommended to move forward until supplementary studies have been undertaken and the land acquisition was completed.

The EA included a 10-year plan that the City should follow in order to see the successful completion of the project. The 10-year plan tasks have commenced, with the geotechnical study of the preferred site alternative (King Street location) currently underway. Pending those results, natural environment and archaeological studies at the King Street location will follow, as well as a financial plan to support the project, to be submitted for Council approval. Detailed design, funding applications, permits, approvals, tender and construction make up the remainder of the 10-year plan tasks.

In the 2024 Water and Wastewater budget submission, Administration is proposing to begin contributing to a reserve for the municipal component of the project with the intent of securing funding from the provincial and federal government in the future for the design and construction phase of the project.

Over the coming years, the goal is to incrementally increase the annual contribution to the reserve until it matches the expected annual financing payments associated with the municipal component of the project in order to minimize the impact to ratepayers upon completion of the project.

The Raw Water Intake Redundancy capital project is estimated at $42.3 million in 2022, and is estimated to increase to $51.6 million in 2027 and $65.9 million in 2032. The municipal component of the project, assumed to be one third of eligible project costs, is included in the 10-year financial plan. Once the EA and preferred location is finalized, the City will begin the process to lobby for senior levels of government funding to support the completion of the project. Funding for design and construction have been allocated in the 10 year capital forecast, with the intent of applying for provincial and federal grants as applicable. As noted, the purpose of a secondary raw water intake would be to provide the necessary water system redundancy of raw water supply to the WPP.

2023 Emergency Management Mandatory Training Scenario – Water Intake

The City has identified that a failure of the raw water intake would present a serious risk and have significant financial impact on the community. The City is proactively undertaking planning measures to prepare for any potential raw water intake failure. Recognizing the critical importance of a reliable water supply, the City has focused on developing contingency plans to mitigate the impact of such an event. As part of the Secondary Raw Water Intake EA, a detailed Emergency Response Plan for a Catastrophic Failure of the Raw Water Intake System was prepared. These plans involve identifying alternative water sources, implementing emergency pumping systems, and establishing communication protocols to ensure prompt response and coordination. Although an Emergency Response Plan has been developed, it is still anticipated to take a minimum of ten days before full drinking water service is restored.

In 2023, the emergency control group selected a failure of the raw water intake system as the basis of a mandatory test scenario. By investing in comprehensive planning, the City aims to safeguard the community's water needs and maintain uninterrupted access to safe and clean drinking water, even in the face of unexpected challenges. This planning is being undertaken with the long-term goal of having a secondary raw water intake available. A secondary raw water intake will ensure the redundancy of a critical piece of infrastructure and safeguard the health and safety of the citizens of Cornwall.

Climate Action Plan

The City of Cornwall declared a climate emergency in 2021. Through this, it was recommended that the City adopt a GHG reduction target and proceed with

developing a Climate Action Plan (CAP). At the June 27, 2022 Council meeting, through a RFP process, the CAP was awarded to Pinna Sustainability Consulting. The CAP was presented and endorsed by Council at the April 11, 2023 Council meeting. The CAP identifies a path forward for a zero-carbon community that is resilient to climate change. The CAP is a results-oriented policy document that identifies various projects and further policy initiatives that can be implemented to achieve climate change adaptation goals and overall GHG reductions. The CAP also provides a guide to further develop green initiatives that already exist within the city. The CAP provides a GHG reduction goal that the City can work efficiently towards. Targets are clearly defined and include a baseline year and a target year. GHG targets have been presented publicly, thus providing transparency, accountability, and credibility to the target setting process. The City will strategically implement the recommendations of the CAP, with Council approval.

Asset Management Planning for Municipal Infrastructure

The Infrastructure for Jobs and Prosperity Act, 2015 (Act) in section 6(2) sets out principles for the provincial government to regulate asset management planning for the 444 municipalities in Ontario.

In January 2018, the Province of Ontario enacted Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure. The regulation sets out minimum requirements/guidelines for municipal asset management planning and reporting for municipal Asset Management Plans (AMP) and policies. As part of this regulation, the Province mandated phased requirements for municipal AMP.

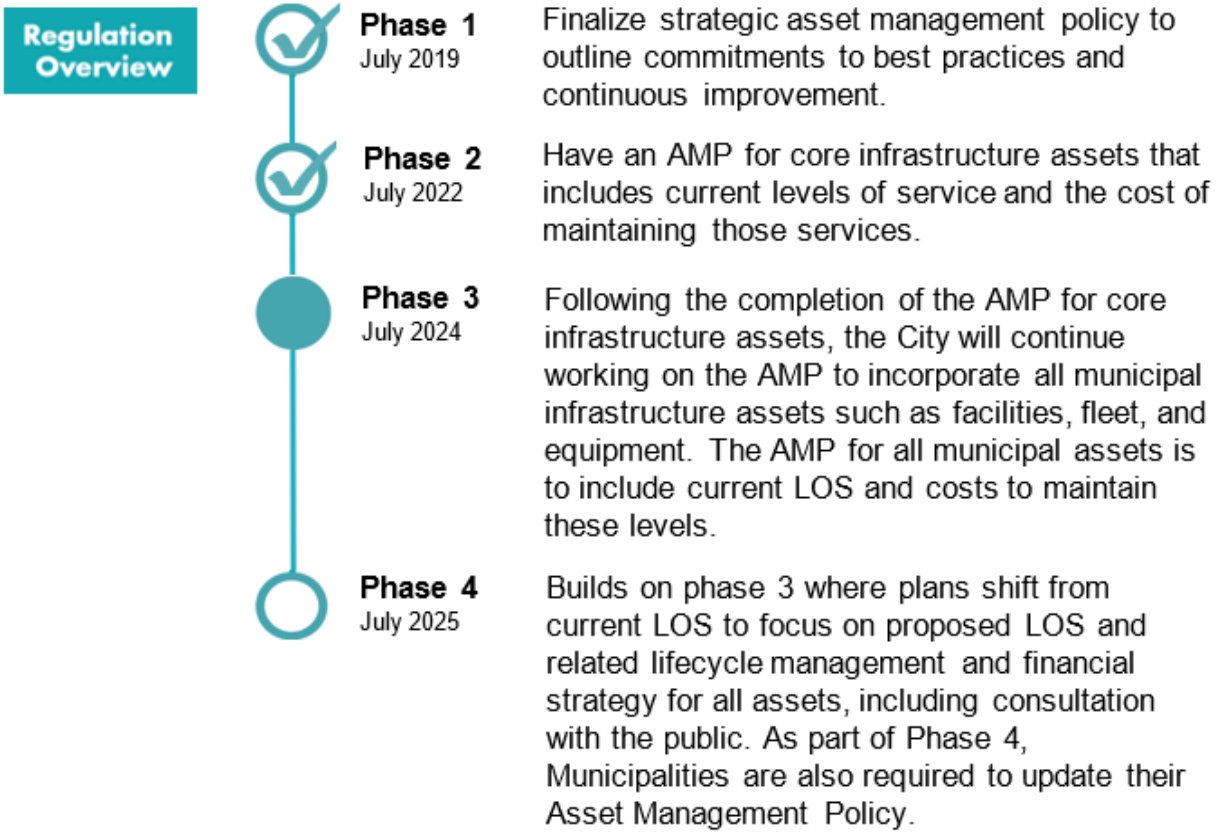
The phase-in schedule outlined in O. Reg. 588/17 states that each municipality must have an Asset Management Policy. The City's Strategic Asset Management Policy was approved by Council in July 2019. The document outlines the City's corporate commitment to the adoption of the asset management principles defined in the Infrastructure for Jobs and Prosperity Act, 2015. The Policy also illustrates how that in addition to the regulatory requirements, asset management is critical to supporting the City's Mission, Vision, and Values. This was the first step in a series of actions required under O. Reg. 588/17.

Phase 2 of the regulation mandated that each municipality have an approved AMP in place for core municipal infrastructure assets (water, wastewater and stormwater assets, roads, bridges, and culverts) that includes an analysis of asset performance and risks, as well as lifecycle and financial management strategies required to maintain current LOS.

The City's 2022 AMP for core infrastructure assets, prepared by GM BluePlan Engineering Ltd, is fully compliant with the requirements outlined in O. Reg. 588/17 and is in alignment with the City's Strategic Asset Management Policy. The AMP supports the City's plan to responsibly manage the majority of its core assets – a portfolio of over $1.25 Billion (2022). At its October 11, 2022 meeting, Council endorsed the 2022 AMP for Core Assets, as presented by GM BluePlan Engineering Ltd.

In the Summer of 2023, the City began its work on Phase 3 of the Regulation – the requirement of an AMP for all municipal infrastructure assets (facilities, fleet, and equipment). The scope of work to be completed by RothIAMS and GM BluePlan (RFP awarded at the August 14, 2023 Council meeting) includes the development of four (4) AMPs including an AMP for the Community Housing Portfolio (municipally owned), an AMP for the Water Purification Plant, an AMP for the Wastewater Treatment Plant, and an update to the Corporation's 2016 AMP for all City assets. Each AMP is to meet the legislative requirements outlined in O. Reg 588/17 for municipal assets. Included in the scope of this project are the Building Condition Assessments for all municipal buildings and community housing buildings (municipally owned and external service providers).

Ontario Regulation 588/17 also requires municipalities to discuss a process for aligning their asset management planning with their water financial plans prepared under the *Safe Drinking Water Act, 2002.*



Compliance with Ontario Regulation 588/17 is required for senior government capital funding programs like the Canada Community-Building Fund, formerly the Federal Gas Tax Fund.

Asset Management Planning

The City has an established asset management program which consists of asset management practices and integrated processes that work together to manage

the assets that provide municipal services. These processes are in place to balance the lifecycle activities that need to be performed on assets to ensure that the City provides a LOS that meets public expectation.

Asset management is a process that involves continuous monitoring of assets' condition, costs, risks, age, performance, and estimated useful lives to systematically identify and prioritize the City's investment needs.

The objective of asset management planning is to maximize benefits, manage risk, and provide satisfactory LOS to the public in a sustainable manner. It also involves strategic financial planning and priority setting to ensure that the lifespan of existing infrastructure assets is maximized, and that long-term capital plans for the rehabilitation and replacement of assets align with projected available financial resources.

Asset management plans form the cornerstone of an effective asset management system. Asset management plans enable informed decisions regarding the building, operating, maintaining, renewing, replacing, and disposing of infrastructure assets.

The basic building blocks of the step-by-step methodology are founded upon the WERF (Water Environment Research Foundation) SIMPLE (Sustainable Infrastructure Management Program Learning Environment) process. The objective of SIMPLE is "*to drive a broad range of benefits to the industry by providing a systematic rationalization for determining where the most cost-effective investment in the asset portfolio is, over the lifecycle of the asset portfolio (that is, directing limited dollars toward the optimal application in any given budget cycle)"*.

The five major, generally recognized components of an AMP include:

- Current State of Assets (perform an inventory and condition assessment of the system's assets);
- Defining LOS;
- Establishing lifecycle costs;
- Developing long-term funding strategies; and
- Implementation plan.

In future AMP, municipalities will provide the following for each year of the full 10-year period and/or 25-year period of the AMP: explain why the proposed LOS are appropriate, analyze lifecycle activities to consider the entire lifecycle and associated costs related to the assets, risks, and the financial viability, as well as, the funding available to support the plan.

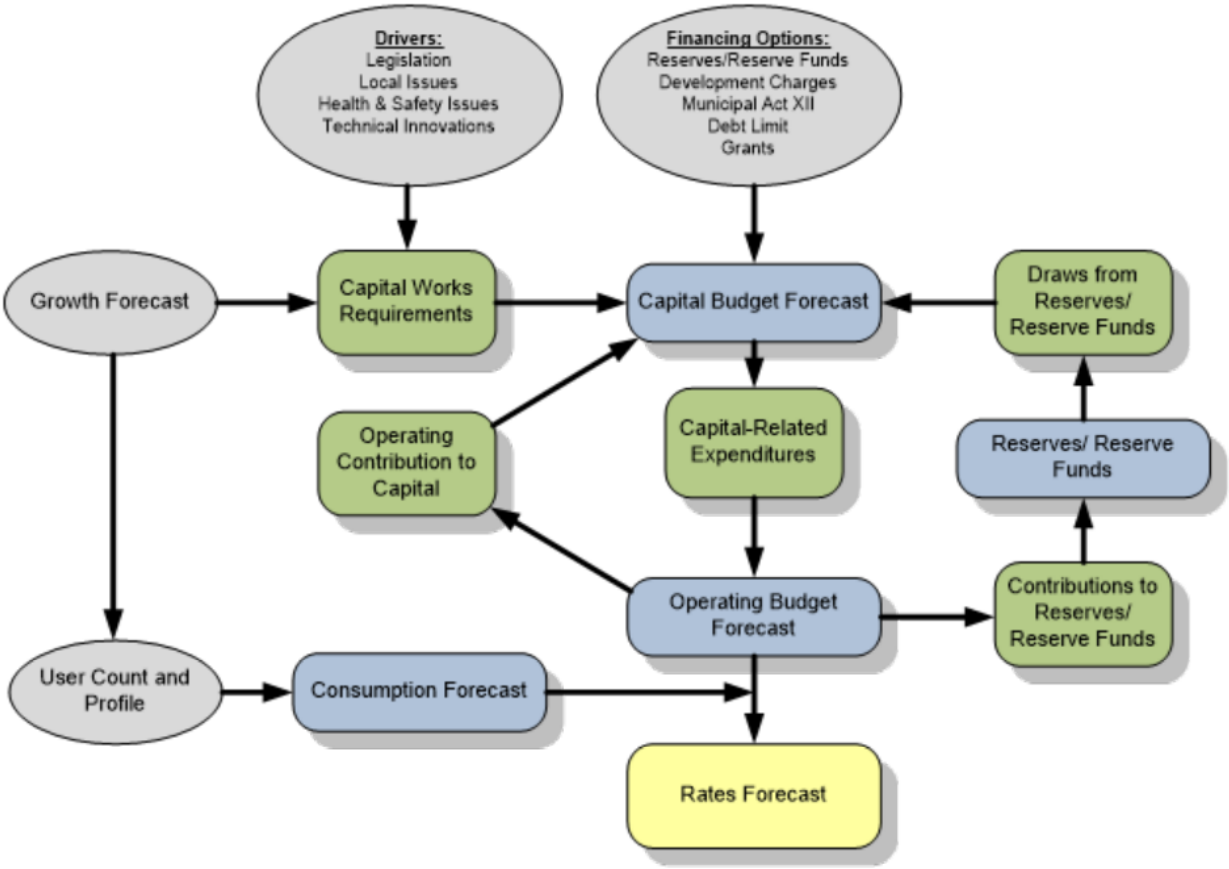
Improved municipal asset management planning is a vital step in Ontario's Municipal Infrastructure Strategy. Municipalities have been required to

demonstrate a progressively greater commitment to asset management in order to request infrastructure funding as asset management guides municipalities in making informed infrastructure investment decisions for today and the future.

Financial and Management Framework

The Water and Wastewater budget represents a component of the City's operations that are supported by user fees. The City charges water and wastewater fees to property owners based on water fixtures (residential, small commercial) as well as water consumption (non-residential metered). The annual fees are intended to ensure that there is full cost recovery to the City for providing safe drinking water and maintaining the water and wastewater infrastructure.

The 2024 budget is based on a financial framework which provides a roadmap, endorsed by City Council, to proactively ensure the long-term integrity of these essential services.



The elements of the framework are based on the Water and Wastewater Financial Plan (Watson 2020), Water Purification Plant 10-Year Asset Management Plan (AECOM, 2020), Wastewater Treatment Plant 10-Year Asset Management Plan (AECOM, 2020), Water Conservation and Servicing Master Plan (Watson, 2021), Asset Management Plan for Core Infrastructure Assets (GM BluePlan, 2022), and the Long-Term Financial Plan (KPMG, 2017).

Through the financial framework, the process is designed to address full cost recovery principles and reflects the guiding principles toward sustainable financial planning.

Financially Sustainable Water and Wastewater Systems

Water and wastewater services continue to strive towards efficient and effective systems while achieving financial sustainability. Achieving financial sustainability requires long-term planning, securing sufficient revenue to recover system costs, safeguarding against unexpected circumstances, managing service debts, and saving for future capital needs. As experienced in other municipalities, this is challenged by a significant infrastructure backlog. The term backlog refers to an accumulation of overdue capital work that has not been addressed due to resource limitations. The accumulation of backlog can lead to a decline in asset performance, increased risk of asset failures, decreased overall operational efficiencies, and reduced ability to meet public expectations and LOS.

The Long-Term Financial Plan (LTFP) and the Water and Wastewater Financial Plan established a comprehensive revenue framework which seeks to sustain continued operations and infrastructure investment while ensuring healthy Water and Wastewater Reserve balances. The key assumptions in the LTFP are reviewed and updated annually reflect changes to the financial operating environment.

The *Municipal Act, 2001* requires that all municipal user fees be established in a way that there is a transparent and direct relationship between the fees being charged and the full cost accounting of the service being provided. Revenue collected must be utilized to meet the needs of these services - and not other services.

Water and wastewater operational costs are fully funded through direct fees and service charges from water and wastewater billings. The water and wastewater billings fund both operating and capital expenditures. The City does not fund any costs associated with providing water or wastewater services from tax levies.

A detailed Water Financial Plan was endorsed by Council at the November 9, 2020 Council meeting. The Financial Plan is part of the required documentation to be submitted to the MECP and the Ministry of Municipal Affairs and Housing as part of the City’s renewal application for its Municipal Drinking Water Licence to operate the water system. The City's previous Financial Plans were filed with the Province in 2010 and 2015.

At its meeting of November 23, 2020, Council received an update of the 2019-2023 Energy Conservation and Demand Management Plan (ECDMP). A goal of the ECDMP is to continuously reduce the energy requirement of City facilities (including the WPP and the WWTP) in order to reduce our operating costs and our energy consumption. Initiatives of the ECDMP are included in the financial plan and the budget process.

Council Direction

At its meeting of September 11, 2023, Council passed Resolution 2023-09 - Budget Direction for 2024. The operative clause of the Resolution as it relates to the Water and Wastewater budget submission is as follows:

> Now therefore be it further resolved that Administration prepare a Water and Wastewater budget based on a full cost recovery ensuring the system's financial stability.

Rate Overview

Council's direction of *a full cost recovery ensuring the system's financial stability* aligns with the recommendations of the WCSMP. Through the WCSMP, the water and wastewater rates have been forecasted such that revenue will be sufficient to fund the long-term capital needs of the systems, providing for the sustainable replacement of infrastructure and the ongoing operation and maintenance of the systems.

The WCSMP forecasted the flat (per fixture) rates to increase by 5% annually over the 2022-2024 period, while the metered (consumptive) rates have been forecasted to increase by 10% in 2022 and 2023 and 5.9% in 2024.

Water Conservation and Servicing Master Plan				
Flat Rates (per fixture)				
Sample Property	**2023**	**2024**	**$ Inc**	**% Inc**
1 bath, outside tap, no pool	$750.76	$788.30	$37.54	5.00%
1-1/2 bath, outside tap, no pool	$939.36	$986.33	$46.97	5.00%
2 full bath, outside tap, pool	$1,069.91	$1,123.40	$53.50	5.00%

Metered Rates (consumptive)				
Sample Property	**2023**	**2024**	**$ Inc**	**% Inc**
5,073 m3	$7,268.34	$7,697.17	$428.83	5.90%
10,000 m3	$14,327.50	$15,172.82	$845.32	5.90%
20,000 m3	$28,654.99	$30,345.63	$1,690.64	5.90%

Aligning the budget with the WCSMP would also address the existing inequity between the flat (per fixture) customers and the metered (consumptive) customers.

Based on the 2024 budget submission, flat (per fixture) customers would see a 10.61% increase. In the sample properties illustrated in the following chart, the annual increase would range between $75.61 to $107.75 depending on the number of fixtures. The average cost would increase by 25¢ per day from $2.40 to $2.65.

In 2024, metered customers would see a 16.36% increase. In the samples properties illustrated in the chart, the increase would range between $1,143.93 to $4,575.72 depending on volume consumed. Currently, metered customers pay 59.2¢ per cubic meter plus the sewer surcharge at 136.14%. Applying the new rate would increase the charge to 68.8¢ per cubic meter. The sewer surcharge would increase to 136.48%.

2024 Budget Submission				
Flat Rates (per fixture)				
Sample Property	2023	2024	$ Inc	% Inc
1 bath, outside tap, no pool	$712.72	$788.33	$75.61	10.61%
1-1/2 bath, outside tap, no pool	$891.76	$986.37	$94.61	10.61%
2 full bath, outside tap, pool	$1,015.68	$1,123.43	$107.75	10.61%

Metered Rates (consumptive)				
Sample Property	2023	2024	$ Inc	% Inc
5,073 m3	$6,993.29	$8,137.22	$1,143.93	16.36%
10,000 m3	$13,986.57	$16,274.43	$2,287.86	16.36%
20,000 m3	$27,973.14	$32,548.86	$4,575.72	16.36%

The 2024 rates are higher than the WCSMP because in 2022 and 2023 contributions from reserves were used to reduce rate increases as presented in the charts on the following page. The 2024 budget submission realigns the annual budget with the WCSMP (shaded blue columns in both charts presented).

If Council approves Administration's recommendation, water billings would increase by $1,154,488 or 12.86% and wastewater billings would increase by $1,251,259 or 10.73%. Overall, utility billings would increase by $2,405,747 or a blended billing increase of 11.66%.

The economic recovery from the pandemic has been slow. As noted, for 2022 and 2023, the City in trying to reduce the financial impacts caused by the COVID pandemic, supported its water and wastewater budget from reserves (2022 - $600,000; 2023 - $1,200,000).

The following table provides a comparison of the total water and wastewater billings outlined in the WCSMP to the approved 2022 and 2023 budgets and 2024 and 2025 forecasted budget years.

	Water & Sewer Conservation Plan			Budgets (Approved/Forecasted)			Variance to Plan		
Year	Water	Wastewater	Total Billings	Water	Wastewater	Total Billings	Water	Wastewater	Total Variance
2022	8,997,512	11,544,260	20,541,772	8,797,512	11,144,260	19,941,772	(200,000)	(400,000)	(600,000)
2023	9,574,632	12,266,048	21,840,680	8,974,632	11,666,048	20,640,680	(600,000)	(600,000)	(1,200,000)
2024	10,190,690	12,982,269	23,172,959	10,129,120	12,917,307	23,046,427	(61,570)	(64,962)	(126,532)
2025	10,935,017	13,403,199	24,338,216	11,309,370	14,482,207	25,791,577	374,353	1,079,008	1,453,361

The following table provides the increases to billings and rates that were approved by Council for the years 2022 and 2023, and the proposed rate increases for 2024.

	Water Billings			Wastewater Surcharge		
Year	Billings	$ Change	% Change	Surcharge	$ Change	% Change
2022 Flat 2022 Meter	8,797,513	340,276	4.02%	11,144,260	237,961	2.18%
2023 Flat 2023 Meter	8,974,632	177,119	2.01%	11,666,048	521,788	4.68%
*2024 Flat *2024 Meter	*10,129,120*	*1,154,488*	12.86%	*12,917,307*	*1,251,259*	10.73%

	Combined Water and Wastewater					
Year	Combined	$ Change	Combined	Rate Inc	% Change	WCSMP
2022 Flat 2022 Meter	19,941,773	578,237	2.99%	$13-$19	1.92% 6.77%	5.00% 10.00%
2023 Flat 2023 Meter	20,640,680	698,907	3.50%	$21-$30	2.99% 7.89%	5.00% 10.00%
*2024 Flat *2024 Meter	*23,046,427*	*2,405,747*	11.66%	*$75-$108*	*10.61%* *16.36%*	*5.00%* *5.90%*

Reserves

The Water Works Reserve and the Wastewater Works Reserve were established to provide funding to mitigate the impact of significant increases or unforeseen issues in the rates charged to users and to fund any annual deficits. The effective use and management of these reserve funds is a critical aspect of the City's strategic financial plan and continued long-term financial sustainability.

The LTFP included a lifecycle costing model for the reserves in order to fund projects that are not typically funded by long-term financing. The reserves would be managed in a manner to ensure positive reserve balances during major capital spending years.

Staff have reviewed fund balances to identify potential applications of these funds to minimize debenture requirements and mitigate impacts on user rates. The following schedule illustrates the planned contributions to and from the Water Works and the Wastewater Works Reserves estimated to December 31, 2024.

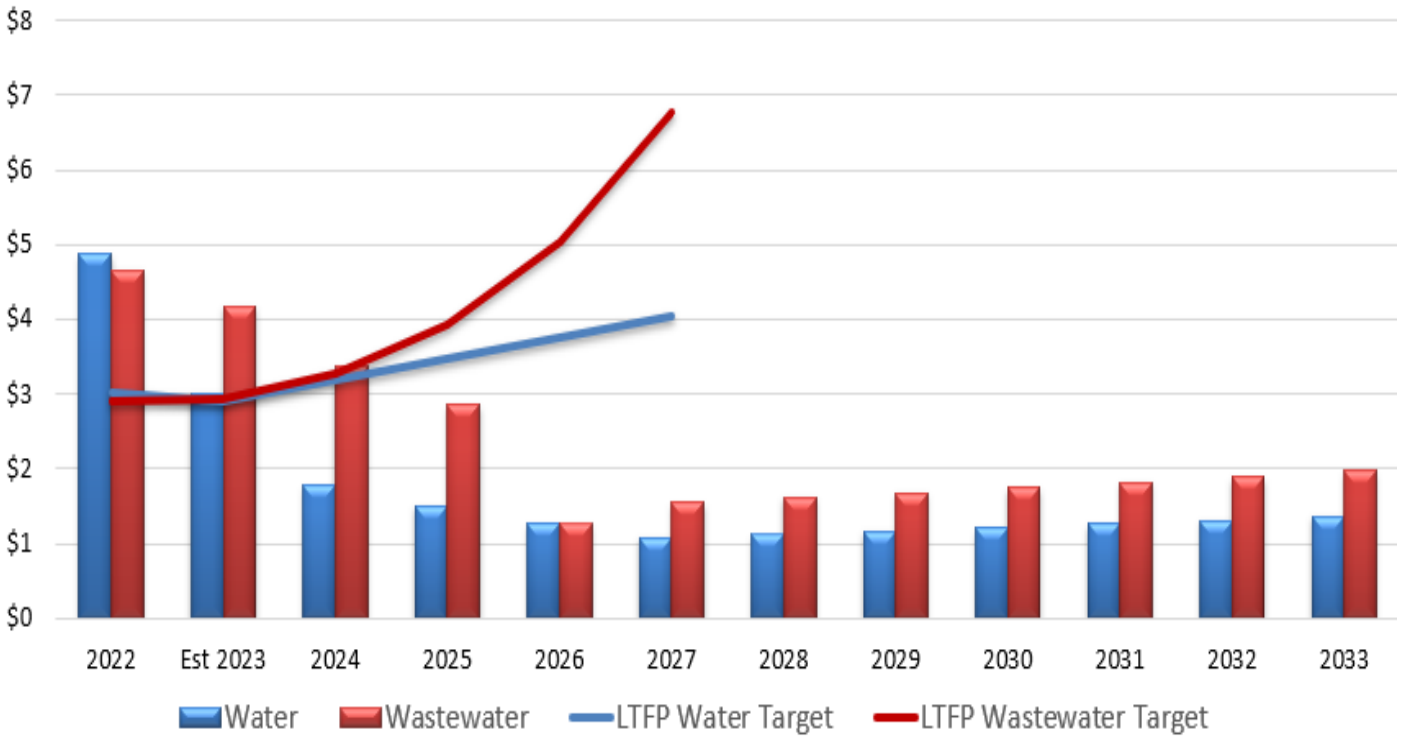
2024 Detail of Reserves
Estimated December 31, 2024

	Opening Balance	Withdrawals	Additions	Balance	Target Balance at Dec 31/23
Water Works Reserve	3,017,074				$3,518,589
Budgeted Contribution			3,647,088		
Raw Water Intake Contribution			500,000		
Interest Earned			81,100		
Watermain Rehabilitation		-2,950,000			
Watermain Growth - New Watermain		-50,000			
Raw Water Intake Valve Chamber Remediation		-100,000			
Elevated Storage Tank Upgrades		-200,000			
Remote Stations Network Upgrades		-50,000			
High Lift Pump Rehabilitation		-250,000			
Instrumentation Upgrades		-100,000			
Victoria Av Reconstruction - Marlborough St to First St East		-1,150,000			
Adolphus St - Fourth St East to Fifth St East		-615,000		**1,780,262**	
Wastewater Works Reserve	4,175,181				$3,811,969
Budgeted Contribution			3,000,000		
Interest Earned			131,500		
Sewer Network Improvements		-1,150,000			
City Wide Sewer Model		-200,000			
Combined Sewer Separation		-668,300			
Relining of Walkway Between Clarifiers 2 & 3		-150,000			
Victoria Av Reconstruction - Marlborough St to First St East		-1,150,000			
Adolphus St - Fourth St East to Fifth St East		-615,000		**3,373,381**	

Currently, both the Water Works Reserve and the Wastewater Works Reserve are trending under the target balance based on the City's Reserve and Reserve Fund Policy. Maintaining a minimum reserve balance can help a municipality manage the costs of unplanned expenditures when they arise, can mitigate increases to user rates, and could eliminate (or reduce) the municipality's use of debt to pay for capital works. City Administration will continue to monitor the reserve balances to ensure that there is sufficient funding for capital projects that are budgeted to be funded through reserves.

The following chart shows the ten–year (2024-2033) forecasted balance (shown in the millions) for the Water Works and the Wastewater Works Reserves based on the City's LTFP and updated requirements of the 10-year capital plan.

Reserve Balances (estimated 2023-2033)



(shown in the millions)

The lines on the chart illustrate the targeted reserve balances from the LTFP compared to the historic reserve balances from 2022 and the ten-year forecasted balances for the Water Works Reserve and the Wastewater Works Reserve. Based on the 10-year capital plan, it is expected that both the Water Works and the Wastewater Works Reserves will fall below targeted balances over the next several years.

As the City moves forward, financial sustainability must continue as one of the City's key priorities. Reserves are a critical component of the City's LTFP. Continued infrastructure renewal investment will ensure that water and wastewater services are sustainable in the future and meet the citizen's LOS expectations. Adequate reserves will position the City to be able to meet these future infrastructure requirements.

2023 Municipal Study

For over twenty years, BMA Management Consulting Inc. has annually completed a municipal comparative study on behalf of participating Ontario municipalities.

This report brings together a group of indicators to give an overall snapshot for each municipality. Each year, the City of Cornwall participates in this study.

Currently, the completion of the 2023 Municipal Study is in draft format and currently being reviewed by the participating municipalities. The following information is from the draft 2023 Municipal Study.

In 2023, over 115 Ontario municipalities participated, representing in excess of 85% of the Province's population.

The draft 2023 Municipal Study indicates that annual user fees for water and wastewater services in Cornwall are among the lowest when compared to the other participating municipalities:

- Residential - Cornwall: $864; BMA average $1,302
- Commercial - Cornwall: $13,987; BMA average $43,144
- Industrial 30,000 m^3 - Cornwall: $41,960; BMA average $125,034

Further comparative information can be found in Appendix A.

Long-Term Debt

Borrowing allows the City to spread out a capital cost over an asset's useful life and allows infrastructure costs to be paid not just by today's ratepayer, but by future users of the asset as well.

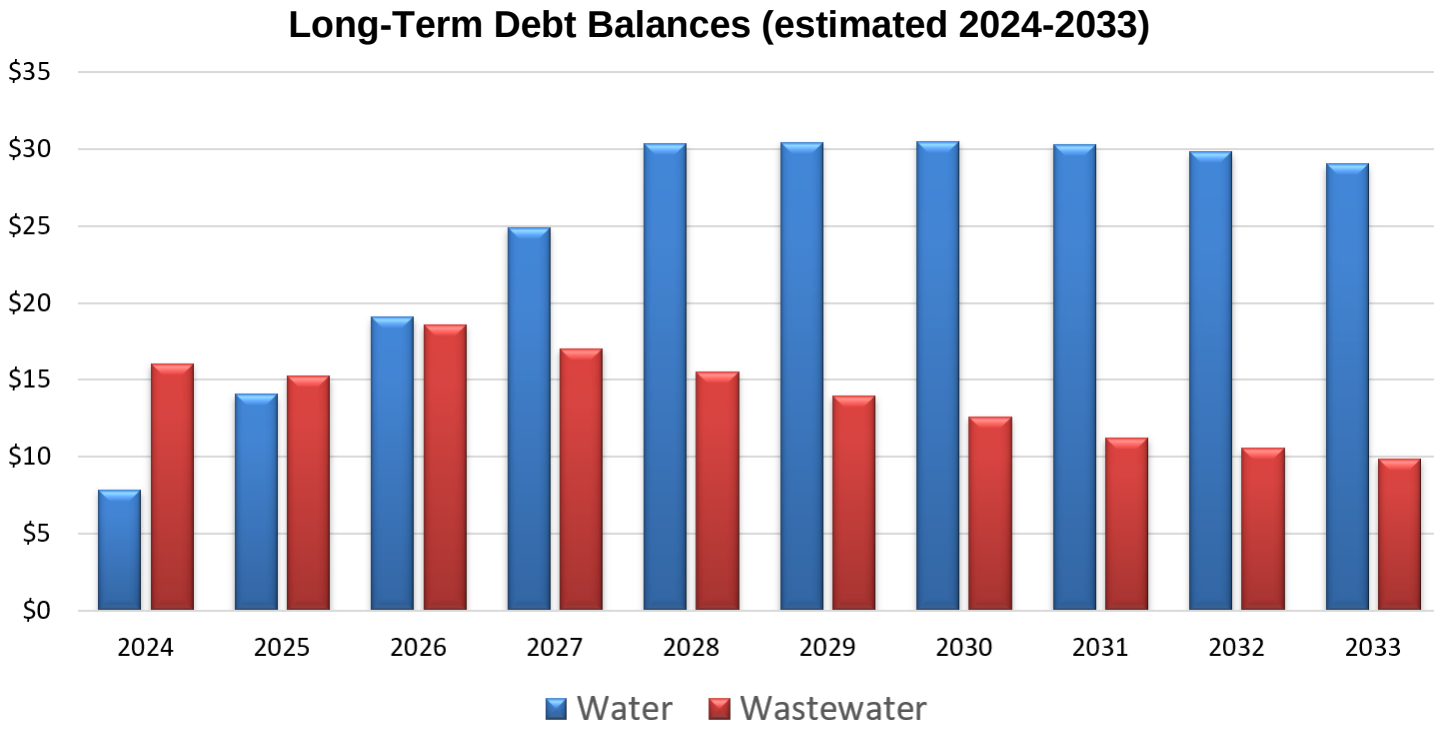
The City's LTFP recommends the types of projects the City should borrow for. One of the principles in the LTFP states that debt financing should be used where appropriate. More specifically, debt financing should only be considered for new, non-recurring infrastructure requirements, programs and facilities which are self-supporting and projects where the cost of deferring expenses exceeds debt servicing costs. The LTFP recommends that the City only borrow for assets where costs are greater than $2.5 million and have a useful life of more than 20 years.

Debt is an important part of the City's strategy for investment in assets. It is important to note that while debt is a funding source for capital, debt charges (principal and interest) have an impact on future operating budgets.

To support wastewater infrastructure needs, in prior years the City has borrowed for flood reduction initiatives, the Brookdale North Channel Bridge project, underground infrastructure during a road reconstruction project, and the Secondary WWTP.

The outstanding debt at the beginning of the 2024 fiscal year for Water and Wastewater is estimated at $20.2 million, with an additional $19.4 million of approved financing not yet borrowed for infrastructure projects.

The 10-year financial plan includes borrowing for various infrastructure projects. The following chart shows the ten–year (2024-2033) forecasted balance (shown in the millions) of long-term debt.



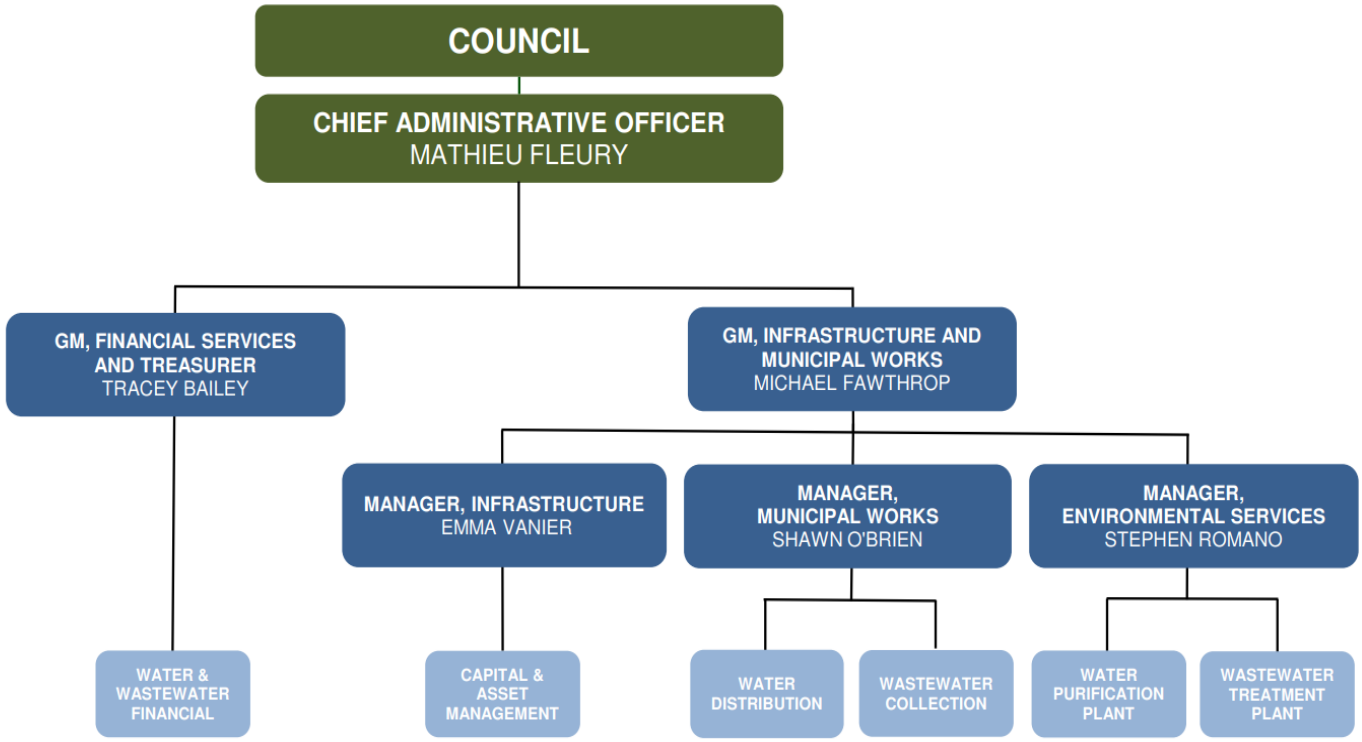
(shown in the millions)

The 10-year capital plan includes two large water distribution projects. The estimated cost of Phase 2 of the Pitt Street – Tollgate Road to Cornwall Centre Road project is $3.0 million, currently planned for 2025. The estimated cost of Vincent Massey Drive – Tollgate Road to City Limits project is estimated at $10 million, currently planned for 2025 and 2026.

Both watermain projects are for the rehabilitation of large diameter trunk watermains which have been failing prematurely. Due to the size of the watermain, pipe material, etc., the cost to repair each break is very high.

Although the City would like to complete both projects soon, projects will require senior levels of government funding and/or financing to proceed. The City budgeted for Phase 1 (of 2) of the Pitt Street North Watermain Relining project from Cornwall Centre Road to the McKenzie Street ($3 million) in 2023. The City received funding from senior levels of government for Phase 1 of the Pitt Street project through the ICIP Green Infrastructure funding program. An additional $400K is budgeted in 2024 in order to complete Phase 1 of the project. It is hoped that the City will receive further grant funding to support the completion of both projects, but until funding is approved, we have included funding from debt financing in the 10-year financial plan.

Organizational Chart - Leadership



Staffing Complement

	Water Financial	Engineering & Municipal Works		Environmental Services	
	Full Time	Full Time	Part Time	Full Time	Part Time
2023	3.0	26.5	1,639	22.0	0
2024	4.0	26.5	1,639	22.0	0
Change	1.0	0.0	0	0.0	0

Operating and Capital Financial Summary

	2023 Budget	2024 Submission	$ Variance	% Variance	Plan 2025	Plan 2026	Plan 2027
EXPENDITURES							
Salaries and Benefits	$4,921,060	$5,195,248	$274,188	5.57%	$5,325,129	$5,458,257	$5,594,714
Purchase of Goods	$3,151,987	$3,371,778	$219,791	6.97%	$3,540,367	$3,717,385	$3,903,255
Services & Rent	$2,539,750	$2,881,565	$341,815	13.46%	$2,968,012	$3,057,052	$3,148,764
Financial	$321,740	$309,248	($12,492)	(3.88%)	$318,525	$328,081	$337,924
Contribution to Reserves	$6,555,832	$7,147,088	$591,256	9.02%	$9,300,000	$11,420,000	$13,465,000
Total Expenditures	**$17,490,369**	**$18,904,927**	**$1,414,558**	**8.09%**	**$21,452,033**	**$23,980,776**	**$26,449,656**
REVENUE							
User Fees & Misc Revenue	$377,300	$351,300	($26,000)	(6.89%)	$351,300	$351,300	$351,300
Net Operating Expenditures	**$17,113,069**	**$18,553,627**	**$1,440,558**	**8.42%**	**$21,100,733**	**$23,629,476**	**$26,098,356**
Financing LTD Principal & Interest	$2,109,160	$2,879,676	$770,516	36.53%	3,004,072	3,281,765	3,736,504
Corporate Costs	$1,110,448	$1,252,351	$141,903	12.78%	$1,289,922	$1,328,619	$1,368,478
Insurance Premiums	$308,003	$360,773	$52,770	17.13%	$396,850	$436,535	$480,189
Operating Water & Wastewater Billings	**$20,640,680**	**$23,046,427**	**$2,405,747**	**11.66%**	**$25,791,577**	**$28,676,395**	**$31,683,527**
Gross Capital	$29,200,000	$14,480,000	($14,720,000)	(50.41%)	$18,300,000	$24,420,000	$19,465,000
Capital Funding							
Government Grants	$2,200,000	$0	($2,200,000)	(100.00%)	$5,000,000	$9,000,000	$4,000,000
Financing	$17,700,000	$5,000,000	($12,700,000)	(71.75%)	$3,000,000	$2,000,000	$2,000,000
Development Charges	$30,500	$81,700	$51,200	167.87%	$0	$0	$0
Other Recoveries	$125,000	$0	($125,000)	(100.00%)	$0	$0	$0
Water Works Reserve	$5,450,000	$5,465,000	$15,000	0.28%	$6,500,000	$6,000,000	$6,975,000
Wastewater Works Reserve	$3,694,500	$3,933,300	$238,800	6.46%	$3,800,000	$7,420,000	$6,490,000
Capital Water & Wastewater Billings	**$0**	**$0**	**$0**	**0.00%**	**$0**	**$0**	**$0**
WATER AND WASTEWATER BILLINGS	**$20,640,680**	**$23,046,427**	**$2,405,747**	**11.66%**	**$25,791,577**	**$28,676,395**	**$31,683,527**

The City currently budgets on an annual basis. However, over the past several years the City has adopted several long-term strategic plans. The annual budgeting process may no longer be sufficient for the City to achieve its long-term strategic priorities. Thus, a fully integrated multi-year budget may be an optimal way to better link longer-term plans and resources. Appendix B provides keys assumptions for the years 2025-2027.

The table above details the 2024 operating budget of $23.0 million in net expenditures and $14.5 million in capital works.

The 2024 budget submission is compared to the 2023 Council approved budget. Together, the Water and Wastewater budget increased by $2,405,747 or 11.66%.

2024 Operating Budget

The 2024 budget for operating expenditures was prepared with management's projections and cost estimates to deliver existing service levels to the ratepayers.

Salaries and Benefits: The increase in salaries and benefits of $274,188 or 5.57% is related to incremental and contractual increases for staff. To support the implementation of water meters project, the City will recruit a Customer Service Representative, This position is budgeted in Water Financial at a hire date of April 1, 2024.

Purchase of Goods: The increase in purchase of goods of $219,791 or 6.97% is related to the increase costs in chemicals (liquid aluminium sulfate, coagulant, polymer). The City is seeing an increase of over 28% or $185,000 when compared to 2023. The budget includes $8,000 for an education and public awareness program related to the benefits of prudent water usage and water conservation as the City continues the implementation of universal metering for the community. The cost for utilities (electricity, natural gas) is budgeted to increase by $27,600.

Services and Rents: The increase in services and rents of $341,815 or 13.46% includes an increase of $275,000 for disposal costs. This is related to biosolids generated by the WWTP that is disposed of at the City's landfill. The budget also includes $17,000 for training (Millwright certifications) necessary for TSSA compliance and an additional $14,800 for MECP renewals.

Financial: The decrease in Financial is $12,492 or 3.88%. The 2024 budget for the toilet rebate and residential home water audits programs was decreased from a budget of $50,000 to a budget of $25,000. Through its continued conservation efforts, Administration believes there will be greater uptake in the years to come.

Contributions to Reserves: The increase in contributions to reserves of $592,256 or 9.02% is related to a contribution to the Water Works Reserve in the amount of $500,000. This initial contribution is being recommended to support the future secondary raw water intake.

It should be noted that it is forecasted that the City will have less funds it its Water and Wastewater Reserves at the end of 2024 and through its 10-year planning period. Additional contributions to both the Water Works Reserve and Wastewater Works Reserve should be considered in future budget years. The practice of planning through reserves will ensure that the City does not find itself in a situation in which it has limited funds available to address infrastructure requirements and is forced to borrow, increase billings, or reduce service levels.

Revenue: Revenue has decreased by $26,000 or 6.89% as a customer paying to use the City's sanitary sewer and wastewater treatment system has adjusted their internal process to meet the City's Sewer-Use By-Law.

Financing LTD Principal & Interest: The City's financing costs for principal and interest charges, related to the financing of capital projects, has increased by $770,515 or 36.53%. This change is the net of taking on more debt than debt maturing. In 2024, the City will begin to borrow for its water meter project.

Insurance Premiums: Insurance costs across the City will increase by approximately 15%. This is a further correction in the insurance industry. The increase for insurance for water and wastewater is $52,770 or 17.13%.

2024 Capital Budget and Plan

The 2024 capital budget includes the cost to purchase, construct, repair and renew assets that support service delivery. The 2024 gross capital budget is $14,480,000 (2023 - $29,200,000). The 2024 capital budgeted is funded from reserves ($9,398,300), financing ($5,000,000), and development charges ($81,700).

In 2023, Council approved funds in the amount of $1.1 million (funded through the Wastewater Works Reserve) as an initial investment to begin the required upgrade work to the WWTP's two digesters. The 2024 budget submission includes the remaining funds required for the project at $5 million. The $5 million is being funded through borrowing. Because the reserve is trending under budget, Administration is recommending that City borrow for the full cost of the project and transfer the $1.1 million back to the reserve.

The City's long-term infrastructure requirements have been planned through a fully funded 10-year capital plan. The 2024-2033 10-year capital plan, updated annually, has been developed for the water and wastewater systems to address capital maintenance, replacement, and expansionary needs across the systems.

The 10-year capital budget is based on the City's AMPs which forms the foundation for prioritizing long-term capital project requirements. Capital priorities and spending are forecasted through the preparation of lifecycle management strategies, taking factors such as risk, condition, and service levels into account. This mirrors many of the decisions made when preparing a capital budget and long-term forecast each year as part of the budget process.

As in prior years, the 2024 capital budget is focused on the maintenance and replacement of current infrastructure and addressing the backlog. Major capital projects in 2024 include regular on-going watermain rehabilitation improvements, WPP upgrades, sewer network improvements, combined sewer separation, and WWTP system upgrades. The 2024 capital projects are summarized on page 40, followed by capital projects sheets describing each project in detail and its recommended funding source.

As noted, the proposed funding sources that are anticipated for 2024 water and wastewater capital needs includes financing of $5 million. The capital funding plan developed to fund the long-term annual needs of water and wastewater systems took into consideration the anticipated debt assessed against the Provincial and City borrowing limits (25% and 10% of own-source revenues, respectively).

Rising inflation, and material and labour shortages have led to increases in construction costs. The City has seen increases in tender costs for certain types of work and purchases of goods, such as architectural and engineering services, material, labour, and transportation. Current tenders are being closely monitored.

Capital works projects at the WPP and the WWTP are managed by the Environmental Services department and are determined by:

- A preventative maintenance program;
- Regulatory requirements for the Drinking Water Works Permit for the Treatment Section of the Cornwall Drinking Water System;
- Regulatory requirements for the Environmental Certificate of Approval at the WWTP;
- Maintaining effluent quality below Provincial effluent limits;
- Maintaining drinking water quality requirements of the Safe Drinking Water Act;
- Combined Sewer Overflow volume and time;
- Risk management through the Drinking Water Quality Management System;
- Project management for capital improvement projects.

Linear capital works projects are managed by the Infrastructure Planning department and are determined by:

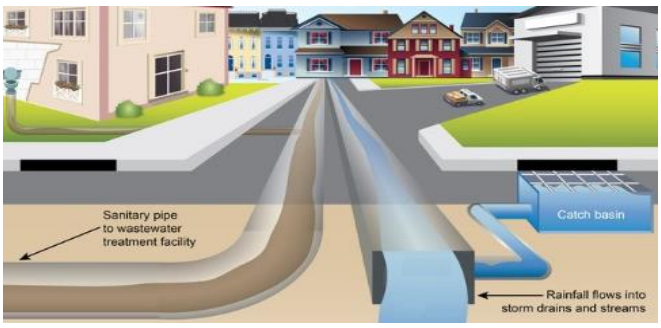
- Detailed designs for municipal infrastructure projects including road, streetscaping, watermain, sanitary and storm sewers, culverts, and bridges;
- Pre-engineering surveying services for detailed design projects;
- Project management and inspection services for the construction of approved capital projects;
- Cost estimates;
- Liaison with regulatory agencies and utilities to obtain permits and approvals and to coordinate design and construction activities;
- Review services for Ministry of the Environment approvals relating to the design and construction of watermains, sanitary sewers, and storm sewers.

Capital Assets to Deliver Services

The City's water and wastewater services has stewardship of an inventory of capital assets valued at $1.25 billion (based on the City's 2022 AMP – replacement value).

WASTEWATER - $600.39 million

- Wastewater Treatment Plant
- 214 km of sanitary sewers
- 53 km of combined sewers
- 3,399 maintenance holes
- 6 lift stations
- Approximately 15,000 sewer laterals



STORM SYSTEMS - $207.50 million

- 157 km of storm sewers
- 2,174 maintenance holes
- 5,155 catch basins and ditch inlets
- 9 storm water retention ponds
- 15 oil and grit separators

WATER - $441.89 million

- Water Purification Plant
- 2 reservoirs and 1 elevated storage tank
- 274 km of distribution watermains
- 2,048 valves
- 1,319 hydrants
- More than 16,000 water laterals

- Asset values based on 2022 AMP and will be updated following conclusion of 2023 construction season and 2024 AMP for the Wastewater Treatment Plant and Water Purification Plant
- Core infrastructure asset quantities as of November 21, 2023

As presented in the City's 2022 AMP for Core Assets, generally the City's utility assets are in good condition. Although the majority of these assets are in good condition, expenditures are required for lifecycle strategies to address poor and very poor assets, prevent other assets from reaching poor condition, and to maintain service levels.

Effective and resilient water, storm, and wastewater infrastructure is critical to the public and the environment. Maintenance and proper asset management are crucial to maintaining and sustaining the services.

Asset Management for Core Infrastructure (addressing the backlog)

As part of the development of the 2022 AMP for Core Infrastructure Assets, various forecasting analyses were completed which provided insight on the City's spending needs with respect to asset renewals. The forecasting analyses included a backlog analysis for each asset class, where a backlog is considered to be the amount of immediate work that is required (not including additional work that may occur over the forecast periods) to meet LOS targets. The backlog analyses evaluated the cost to address all asset needs, including existing backlogs, assuming unlimited funding is available. These analyses assist the City in understanding infrastructure needs based on asset lifecycles.

The backlog analyses identified that although the City has made considerable progress in addressing various backlogs, additional investments will be required to meet established LOS targets.

The results of the backlog analyses from the 2022 AMP for water and wastewater assets are summarized in the following tables. Each table summarizes replacement values, current backlogs and backlogs as a percentage of replacement values for each asset class.

Replacement Value and Backlog Summary – Wastewater

Asset Subservice	Replacement Value	Current Backlog	Backlog as % of Replacement Value
Sanitary Linear	$224,900,000	$7,300,000	3%
Sanitary Vertical	$8,500,000	$0	0%
Combined Linear	$197,000,000	$14,000,000	7%
Storm Linear	$204,500,000	$1,400,000	1%
Storm Vertical	$3,000,000	$16,000	1%
Total Wastewater	**$637,900,000**	**$22,716,000**	**4%**

Replacement Value and Backlog Summary – Water

Asset Subservice	Replacement Value	Current Backlog	Backlog as % of Replacement Value
Linear	$345,900,000	$59,247,000	17%
Total Water	**$345,900,000**	**$59,247,000**	**17%**

In recent years, the City has incrementally increased funding for water and wastewater renewal projects in each budget year to reach the recommended allocations indicated in the 2016 AMP for addressing backlogs over the long term. However, although progress in funding the renewal of water and wastewater assets has been made, further investments will be required to meet established LOS targets.

The 2022 AMP included updated recommendations to address backlogs for water and wastewater assets, as further described below.

Water Assets

Water Distribution

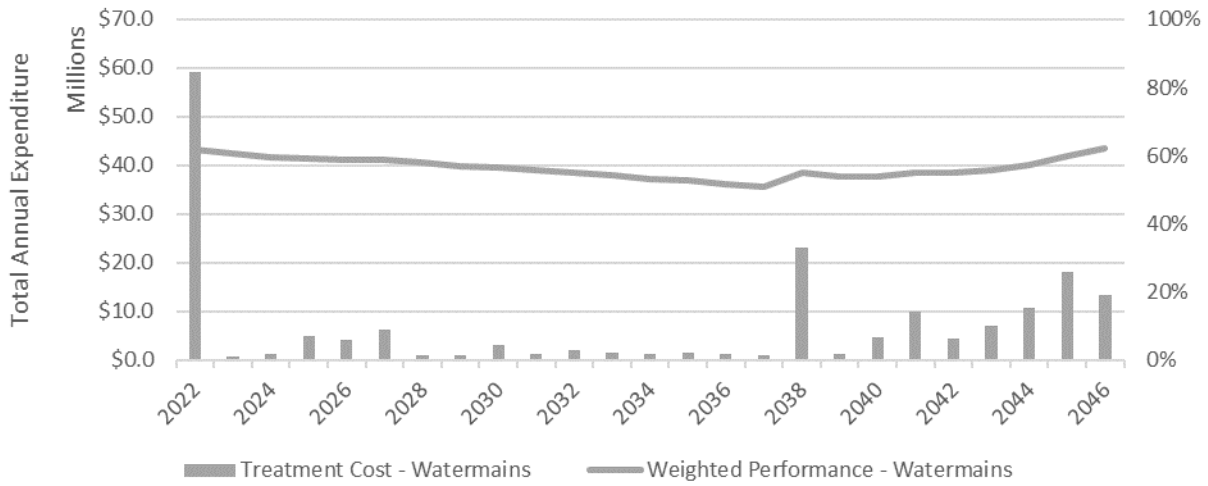
The City's goal is to provide a reliable, high quality, and safe water distribution network to all its residents and businesses. This is achieved by minimizing service disruptions, ensuring the water is safe for consumption by complying with water quality regulations, and being able to protect the communities with adequate fire flow. This corresponds with an established LOS target of 100% of assets in fair or better condition.

The backlog analysis indicated that in 2022, a 52 km ($59.3 million) backlog was present in Water Distribution assets. It also revealed that additional assets will require intervention over the 25-year forecast period. It should be noted that the City has succeeded in reducing the watermain backlog by 20 km over a six-year period, as a backlog of 72 km was indicated in the 2016 AMP.

The backlog analysis that was completed for the 2022 AMP for Water Network assets resulted in the expenditure distribution and average performance illustrated in the graph below.

Note that the following graph indicates that the weighted average performance decreases over time. Average performance is calculated as the average condition (performance) rating of all assets, weighted by replacement value. Average performance declines in this scenario due to the fact that the ratio of very good/good assets to fair assets is decreasing. More assets in fair condition will result in the average performance value declining, even though service levels are improving since poor and very poor assets are being replaced.

Water Distribution Backlog Analysis



- 2022 Watermain Rehabilitation Projects reflected only
- Next database update to be completed following conclusion of 2023 construction season
- Chart originally generated for 2022 Asset Management Plan for Core Infrastructure Assets

The results of the forecasting analyses indicate that the City's current planned budget will result in an improvement in service levels over the next 10 years. Nevertheless, to meet established LOS targets of 100% of assets in fair or better condition, the City will require additional investment over the 10 and 25-year forecast periods.

The recommendations included in the 2022 AMP indicate that the City should proceed with meeting established LOS targets over a 25-year period, which is an investment of $6.1 million annually (2024 budget submission - $3.79 million). This will ensure that service levels are sustained in both the medium and long-term. It will also address the backlog in the forecast period.

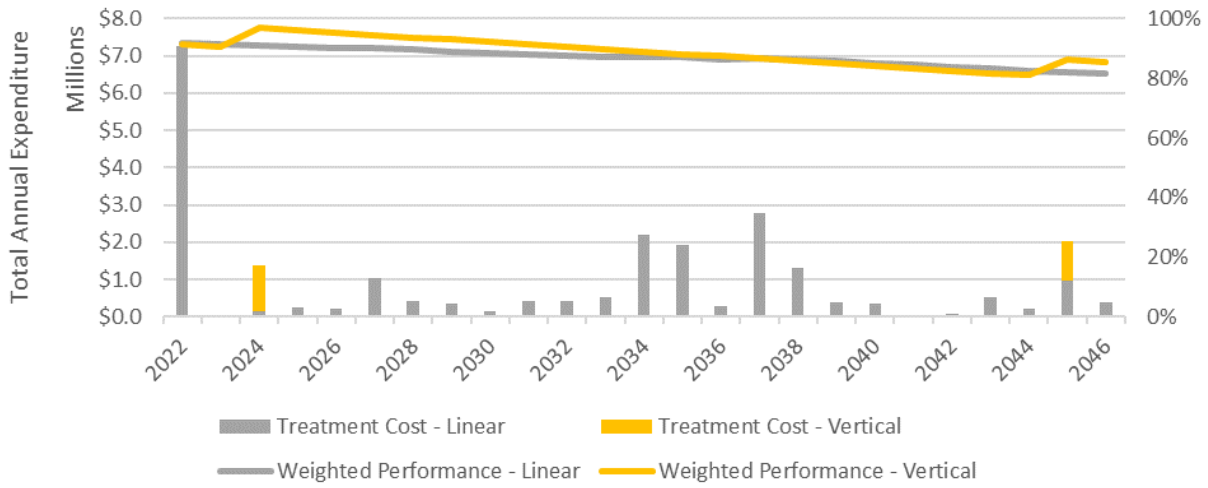
Wastewater Assets

Sanitary Sewer Collection:

The City's goal is to provide reliable, operational, and environmentally sustainable sanitary collection services to all its residents and businesses. This means ensuring minimal service disruptions, ensuring all assets remain in a state of good repair by performing regular maintenance, and minimizing environmental impacts on the St. Lawrence River, all while optimizing lifecycle costs. This corresponds with an established LOS target of 100% of assets in fair or better condition.

The backlog analysis in the 2022 AMP indicated that a 7.0 km ($7.3 million) backlog was present for Sanitary Sewer Collection assets. It also revealed that additional assets will require intervention over the 25-year forecast period. The backlog analysis resulted in the expenditure distribution and average performance illustrated in the graph below.

Sanitary Sewer Collection Backlog Analysis



- 2022 Sanitary Sewer Projects reflected only
- Next database update to be completed following conclusion of 2023 construction season
- Chart originally generated for 2022 Asset Management Plan for Core Infrastructure Assets

The results of the forecasting analyses indicate that the City's current planned budget over the next 10 years is slightly lower than the budget needed to meet its proposed LOS target of 100% of assets in fair or better condition over the next 10-years. To meet established LOS targets of 100% of assets in fair or better condition, the City will require additional investment over the 10-year forecast period.

The recommendations included in the 2022 AMP indicate that the City should proceed with meeting established LOS targets over a 10-year period, which is an investment of $1.0 million, annually (2024 budget submission - $980,000). This will ensure that service levels are sustained in both the medium and long-term. It will also address the backlog in the forecast period.

Combined Sewer Collection:

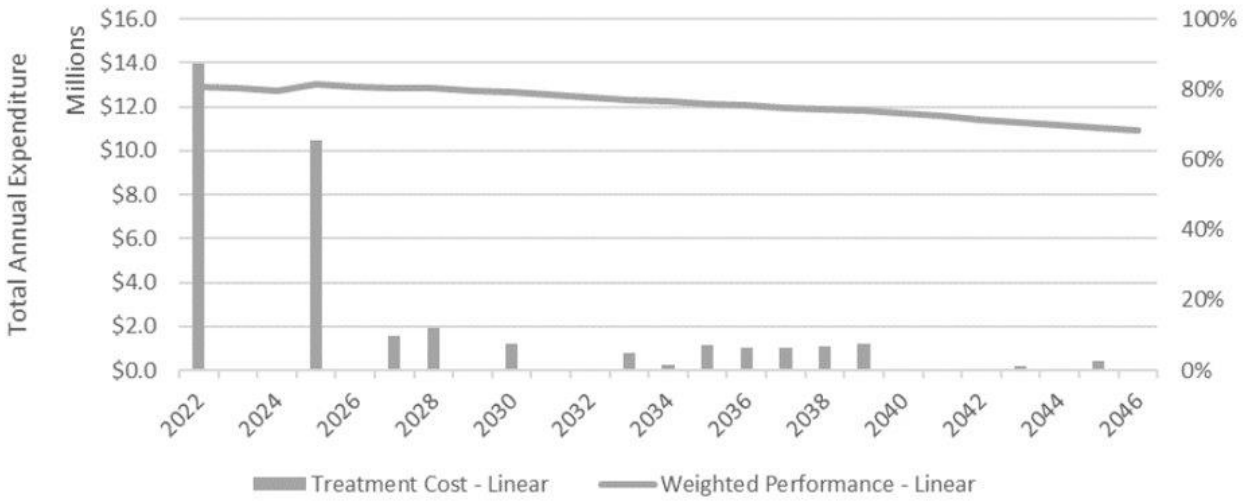
The City's goal is to provide fair or better wastewater collection services to all its residents and businesses. This is achieved by minimizing odours and sewer backups, ensuring all assets remain in a state of good repair by performing regular maintenance, and minimizing environmental impacts by meeting MECP requirements, all while optimizing lifecycle costs. This corresponds with established LOS targets of 100% of assets in fair or better condition and separating all combined sewers over the long term.

The City is generally working towards eliminating combined sewers, as they present some risks that are not present in a separated system. The main risks include increased chance of flooding during heavy precipitation events, as well as CSO which cause excess stormwater and sanitary flows to be discharged into water bodies.

The backlog analysis in the 2022 AMP indicated that a 4.5 km ($14.0 million) backlog was present in Combined Sewer Collection assets. It also revealed that additional

assets will require intervention over the 25-year forecast period. The backlog analysis resulted in the expenditure distribution and average performance illustrated in the graph below.

Combined Sewer Collection Backlog Analysis



- 2022 Combined Sewer Separation Projects reflected only
- Next database update to be completed following conclusion of 2023 construction season
- Chart originally generated for 2022 Asset Management Plan for Core Infrastructure Assets

The results of the forecasting analyses indicate that based on current anticipated budget forecasts, the City is projected to achieve the proposed LOS target of separating (i.e. eliminating) all combined sewers over a 56-year period. The equivalent annual costs increase drastically if the time required to meet these targets is accelerated to 10 or 25 years.

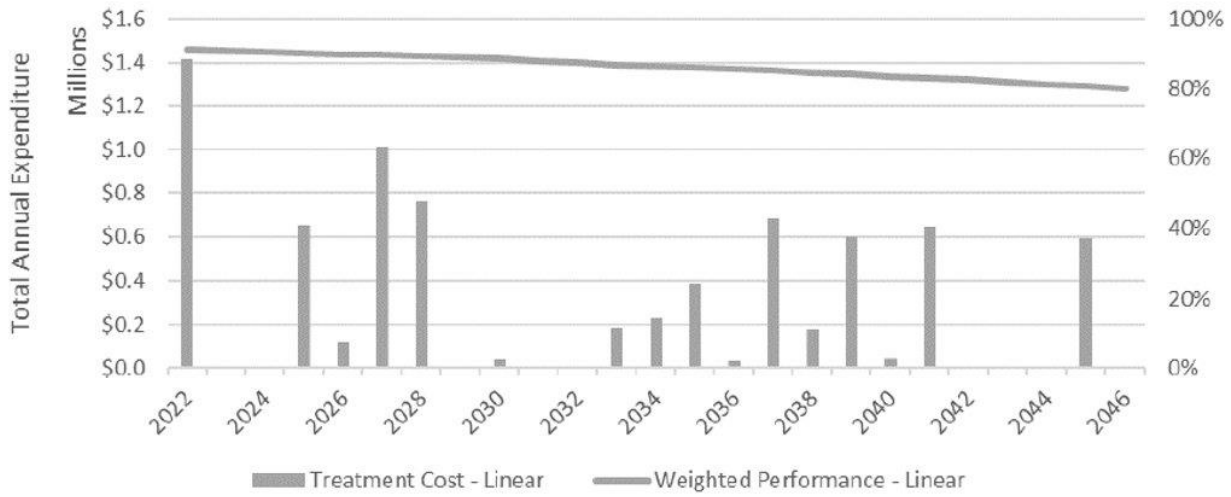
The recommendations included in the 2022 AMP indicate that the City should continue with its current planned spending of $1.5 million annually to separate combined sewers, which will allow the City to continue to separate combined sewers as part of its corridor replacement program.

Storm Sewer Collection:

The City's goal is to provide a reliable, operational, and environmentally sustainable storm sewer collection system to all its residents and businesses. This means protecting all properties from flood waters, ensuring all assets remain in a state of good repair by performing regular maintenance, and minimizing environmental impacts, all while optimizing lifecycle costs. This corresponds with an established LOS target of 100% of assets in fair or better condition.

The backlog analysis in the 2022 AMP indicated that a 1.5 km ($1.4 million) backlog was present for linear Storm Sewer Collection assets. It also revealed that additional assets will require intervention over the 25-year forecast period. The backlog analysis resulted in the expenditure distribution and average performance illustrated in the graph below.

Storm Sewer Collection Backlog Analysis



- 2022 Storm Sewer Collection Projects reflected only
- Next database update to be completed following conclusion of 2023 construction season
- Chart originally generated for 2022 Asset Management Plan for Core Infrastructure Assets

The results of the forecasting analyses indicate that the City's current planned budget over the next 10 years is slightly lower than the budget needed to meet its proposed LOS target of 100% of assets in fair or better condition over the next 10-years. To meet established LOS targets of 100% of assets in fair or better condition, the City will require additional investment over the 10-year forecast period.

The recommendations included in the 2022 AMP indicate that the City should proceed with meeting established LOS targets over a 10-year period, which is an investment of $400K annually (2024 budget submission – $0). This will ensure that service levels are sustained in both the medium and long-term. It will also address the backlog in the forecast period.

Note that over time, storm sewer replacement will become a major part of the City's budget, as the proportion of combined sewers further decreases in favour of dedicated storm sewers. As a result, the portion of the City's budget currently committed to combined sewer separation will transfer to stormwater to address these anticipated increased needs.

Project Name: **SECONDARY RAW WATER INTAKE – RESERVE CONTRIBUTION**

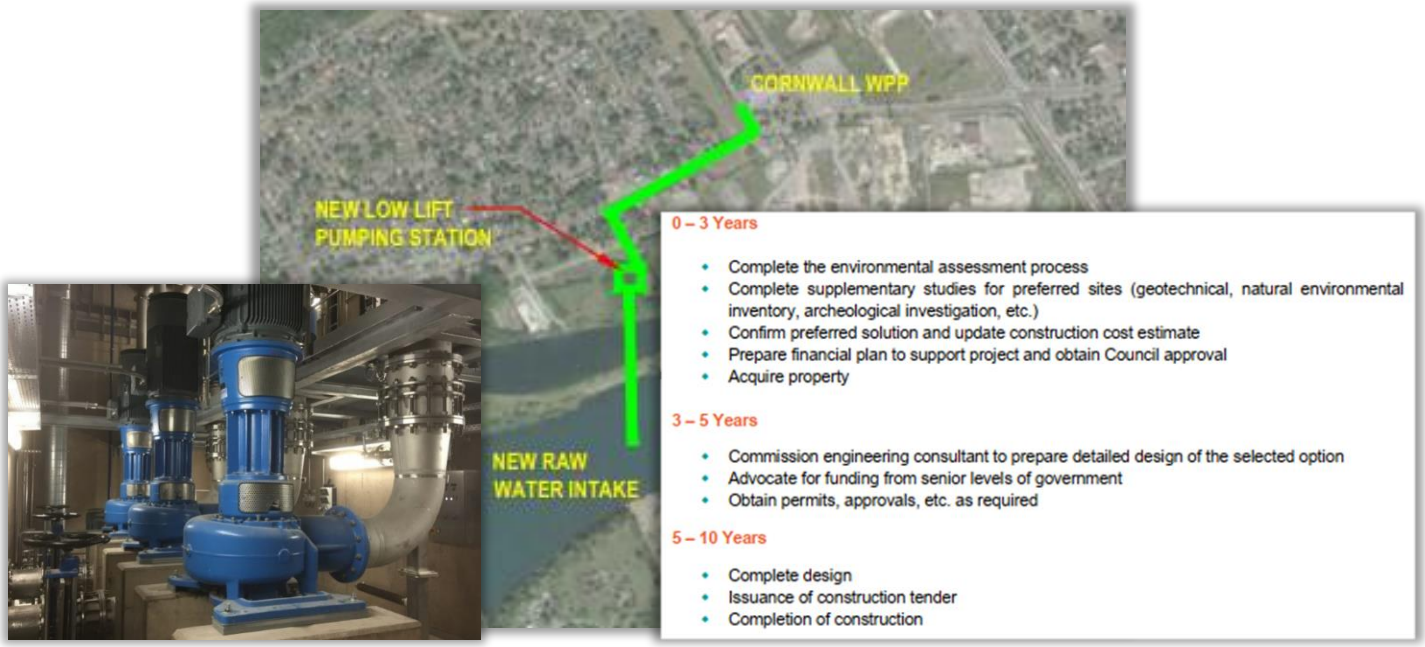
Funding: $ 500,000 Water Billings

In 2020, EVB Engineering in collaboration with Jacobs Engineering was awarded RFP 20-P02 to undertake a Municipal Class Environmental Assessment (EA) for the determination and location of a secondary raw water intake supply for the Cornwall Drinking Water System. Currently, the City has only one (1) existing gravity raw water intake which is approaching the end of its useful life which poses a significant risk to the municipality. A long list of potential alternative solutions were developed as part of the EA process and evaluated using a multi-criteria analysis tool developed by the EA project steering committee.

The multi-criteria analysis yielded two preferred solutions for the project: a new intake near King Street and a new intake near the former Domtar site. Considering their similarities, both alternatives were recommended to move forward until supplementary studies had been undertaken and the land acquisition process was completed. The EA included a 10-year plan that the City should follow in order to see the successful completion of the project.

The 2024 allocation of funds will begin contributing to a reserve for the municipal component of the project with the intent of securing funding from the provincial and federal governments in the future for the design and construction phase of the project.

Over the coming years, the goal is to incrementally increase the annual contribution to the reserve until it matches the expected annual financing payments associated with the municipal component of the project in order to minimize the impact to rate payers upon completion of the project.



2024 CAPITAL BUDGET SUBMISSION

*Please note all figures are in 000s of dollars

DESCRIPTION	2023 GROSS BUDGET	2024 GROSS SUBMISSION	EXTERNAL FUNDING		OTHER REVENUE	RESERVES		
			GRANTS	FINANCING		DEV. CHARGES	WASTE WATER	WATER
WATER CAPITAL								
Water Distribution								
Watermain Rehabilitation	1,650.0	**2,950.0**						2,950.0
Watermain Growth - New Watermain	350.0	**50.0**						50.0
Watermain Rehabilitation - Pitt St.	3,000.0							
Backflow Prevention for Fire Protection Engineering Services	125.0							
Water Purification Plant								
Raw Water Intake Valve Chamber Remediation		**100.0**						100.0
Elevated Storage Tank Upgrades		**200.0**						200.0
Remote Stations Network Upgrades		**50.0**						50.0
High Lift Pump Rehabilitation		**250.0**						250.0
Instrumentation Upgrades		**100.0**						100.0
Water Meter Installation Program	15,800.0							
Backwash System Redundancy	100.0							
UV Disinfection System Replacement	2,000.0							
Raw Water Intake Redundancy/Technical Studies	50.0							
WASTEWATER CAPITAL								
Sewer Collection Program								
Sewer Network Improvements - Various Locations	1,100.0	**1,150.0**					1,150.0	
City Wide Sewer Model		**200.0**					200.0	
Combined Sewer Separation	725.0	**750.0**				81.7	668.3	
2024 Projects								
Riverdale Av - Sugar Stick Dr to Grant Av								
Bedford St - Eighth St to Ninth St								
Bergin Av - Race St to Water St								
Lauber Av - Cumberland St to Bedford St								
Carleton St - Montreal Rd to Easton Av								
Riverdale Av - Queen St to Second St W								
Guy St – Easton Av to Walton Av								
Wastewater Treatment Plant								
Digesters Relining, Roof Replacement, Gas Train Upgrades	1,100.0	**5,000.0**		5,000.0				
Relining of Walkway Between Clarifiers 2 & 3		**150.0**					150.0	
Primary Header Expansion and Joint Rehabilitation	300.0							
JOINT INFRASTRUCTURE CAPITAL								
2024 Projects								
Victoria Av Reconstruction - Marlborough St to First St East		**2,300.0**					1,150.0	1,150.0
Adolphus St - Fourth St East to Fifth St East		**1,230.0**					615.0	615.0
2023 Projects								
Third St. - Cumberland St. to York St.	1,900.0							
Gloucester St. - Water St. to First St. E.	1,000.0							
Water, Wastewater, and Joint Infrastructure Capital	29,200.0	14,480.0	0.00	5,000.0	-	81.7	3,933.3	5,465.0

COUNCIL APPROVED CAPITAL BUDGETS FROM PRIOR YEARS

DESCRIPTION	GROSS BUDGET	EXTERNAL FUNDING		RESERVES		BILLINGS/RESERVES	
		GRANTS	FINANCING	DEV. CHARGES	SPECIFIC RESERVE	WASTE WATER	WATER
2023 Council Approved Capital	29,200.0	2,200.0	17,700.0	125.0	30.5	3,694.5	5,450.0
2022 Council Approved Capital	11,085.0	350.0	3,400.0	29.4		3,005.6	4,300.0
2021 Council Approved Capital	9,120.0		1,100.0	500.0	1,020.0	3,200.0	3,300.0
2020 Council Approved Capital	8,825.0		1,600.0	550.0	100.0	3,275.0	3,300.0
2019 Council Approved Capital	8,547.0		1,384.0	250.0	704.0	2,964.0	3,245.0

Project Name: **WATERMAIN REHABILITATION**

Funding: $ 2,950,000 Water Works Reserve

The objectives of the watermain rehabilitation program are to improve water quality and system reliability. Numerous cast iron unlined watermains throughout the City require improvements in order to maximize water quality in the distribution system. Tuberculation build-up on the inside of these pipes creates problems in maintaining minimum chlorine residual levels. It also reduces available fire flow because the inside diameter is reduced and has a rough texture which increases energy loss. In addition, some portions of the system are prone to leakage and breaks which, if reduced, will decrease operational costs.

The annual watermain rehabilitation program is aligned with the City's ongoing Infrastructure Strategy and Linear Asset Management Plan and is an ongoing annual capital program.

The proposed Watermain Rehabilitation projects for 2024 are as follows:

1) Bedford St – Eighth St E to Ninth St E - New Watermain ($380K)
2) Bergin Ave – Race St to Water St - New Watermain ($460K)
3) Anthony St – First St to Montreal Rd - Relining ($967K)
4) Dover Rd – North Limits to Edythe Ave - Relining ($233K)
5) Wallrich Ave – Queen St to Edythe Ave - Relining ($140K)
6) Pitt St – Cornwall Centre Road to McKenzie St - Relining ($400K)
7) Guy St – Easton Ave to Walton St – New Watermain ($287K)
8) Lawrence St – Montreal Rd to Second St – New Watermain ($83K)

Project Name: **WATERMAIN GROWTH – NEW WATERMAIN**

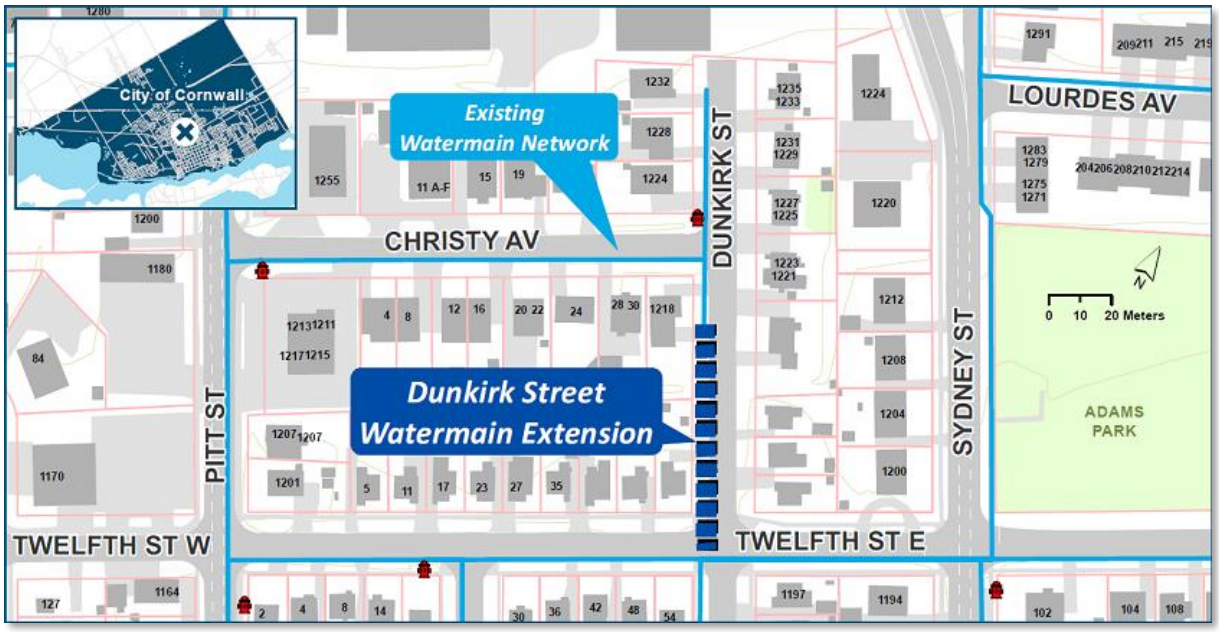
Funding: $ 50,000 Water Works Reserve

$ 170,000 budgeted in previous years

In order to provide the necessary system reliability and redundancy, all major watermains are required to be looped such that water can be supplied from two separate directions. In addition to increasing the flow rate, water network looping also ensures a reliable system by providing redundancy in the event of a watermain break or another problem. In the event of a break, a section of the watermain can be isolated for repair without interrupting the water supply and service for most of the serviced area. Additionally, water network looping is beneficial for fire protection as it provides greater water supply and pressure, as well as ensures an adequate water supply can be provided in the event of a break.

Watermain network extensions for water system growth and security is an ongoing capital program. The watermain extension candidate for 2024 is as follows:

- Dunkirk Street from Christy Avenue to Twelfth Street ($50K)



Project Name: **RAW WATER INTAKE VALVE CHAMBER REMEDIATION**

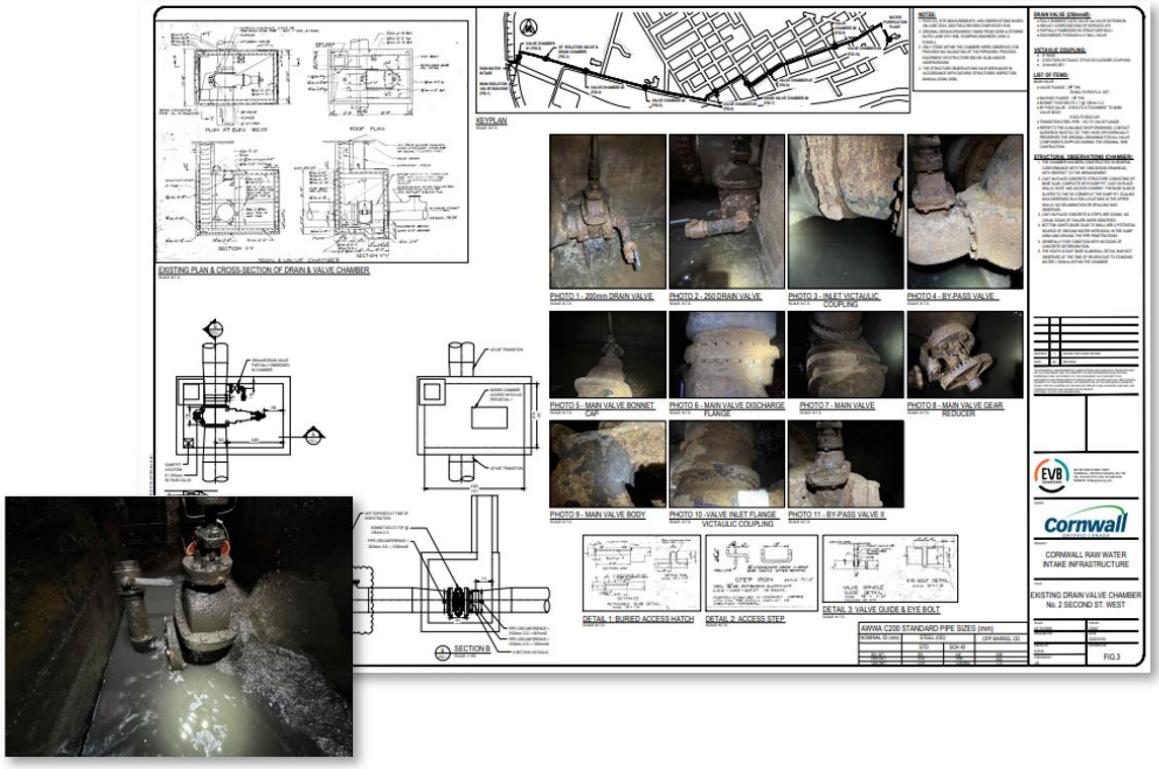
Funding: $ 100,000 Water Works Reserve

Raw water is conveyed to the Water Purification Plant for treatment via 3.7km long reinforced concrete supply main. Along this transmission main are several large valve chambers, drain chambers, and access manholes.

In 2022, the City engaged a consultant to perform a condition assessment of the valve chambers associated with the single raw water intake transmission main. The study concluded with recommendations for rehabilitation of the valves and chambers.

The bulk of the proposed remediation recommendations revolve around refurbishment of the main 48" isolation valve located just east of the dam and the 36" isolation valve just down stream of the main isolation valve.

This project would include the procurement of a specialized refurbishment company that would reinstate the valves and chamber components.



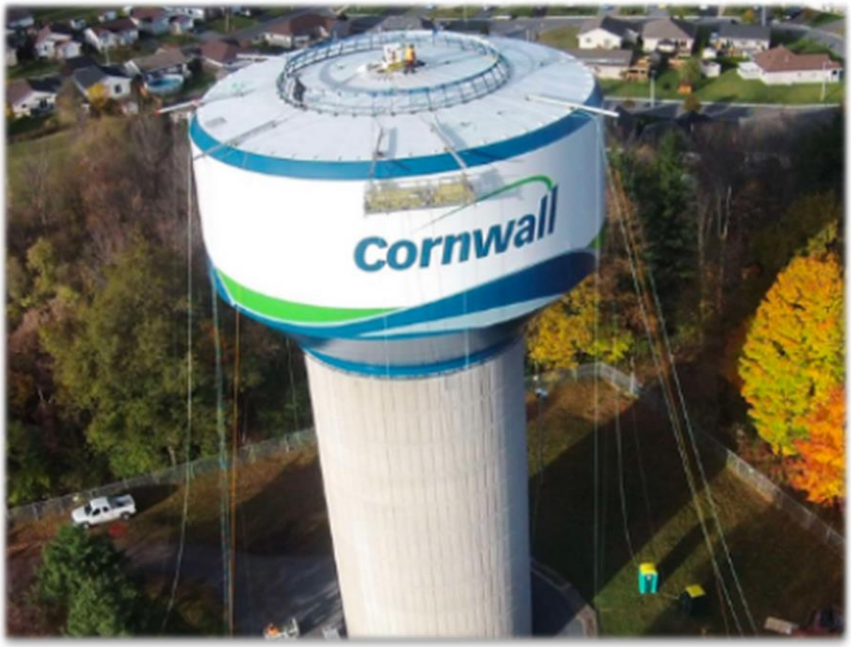
Project Name: **ELEVATED STORAGE TANK UPGRADES**

Funding: $ 200,000 Water Works Reserve

Drinking water pumped from the Water Purification Plant enters the distribution system and flows to the elevated storage tank located at 401 Tollgate Road, between McConnell Avenue and Pitt Street in Cornwall. The elevated storage tank is a composite tower comprised of a 15.4-metre-tall steel bell with the capacity to hold 4,545,000 litres of treated water.

In 2022, a condition assessment of the elevated storage tank was undertaken. Recommendations for improvements to the internal ladder and platform system, safety components, aircraft warning system, as well as touch ups to the interior and exterior coatings were recommended.

This project would include the procurement of a specialized general contractor to complete the recommendations as stated in the report.



Project Name: **REMOTE STATIONS NETWORK UPGRADES**

Funding: $ 50,000 Water Works Reserve

The Drinking Water System is comprised of the Water Purification Plant and three remote stations. The three remote stations are the elevated water storage tower, Boundary Road reservoir, and the zebra mussel control facility. Continuous communication between all sites for process control and reporting requirements to the main Supervisory, Control and Data Acquisition (SCADA) system located at the Water Purification Plant is critical.

The networking equipment that comprises this local network is nearing the end of its service life and requires replacement.

This project will see the redesign and deployment of new networking equipment, ensuring safe and reliable communication between the main Water Purification Plant and the three remote stations.

Project Name: **HIGH LIFT PUMP REHABILITATION**

Funding: $ 250,000 Water Works Reserve

Pumping is a vital part of the Drinking Water System. These prime movers supply water to the distribution system, ensuring there is suitable flow and pressure for the adequate supply of water for residents, businesses, and essential services.

In accordance with the Drinking Water Quality Management System (DWQMS), all the pumps are inspected regularly by the Water Purification Plant staff and deficiencies are noted and repaired. Large costly items such as bearings, mechanical seals, wear rings, impellers and electric motors must also be replaced as they wear.

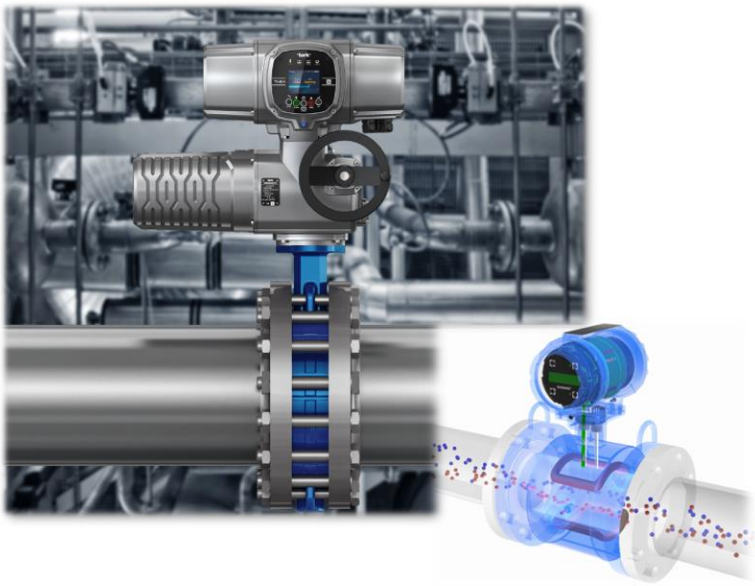
This capital funding would be allocated to a multi year pump rehabilitation plan that would serve to purchase and install high value pump parts as required.

Project Name: **INSTRUMENTATION UPGRADES**

Funding: $ 100,000 Water Works Reserve

In 2005, the Water Purification Plant underwent an upgrade project that saw the installation and replacement of various processes. During this upgrade, instruments were installed throughout the plant. The instruments serve to indicate, measure, and record variables such as flow, pressure, PH, turbidity and UV transmittance. These variables are displayed and recoded on the SCADA system. Automated valves are also utilised throughout the process and serve to start, stop, and throttle the flow of water.

Many of the instruments and automated valves installed in 2005 have reached their end of life. A replacement program in accordance with the Asset Management Plan is required. This multi-year program would see the replacement of obsolete instruments and actuators throughout the Water Purification Plant, thus ensuring the plant can supply continuous water at the high quality that our residents are accustomed to.



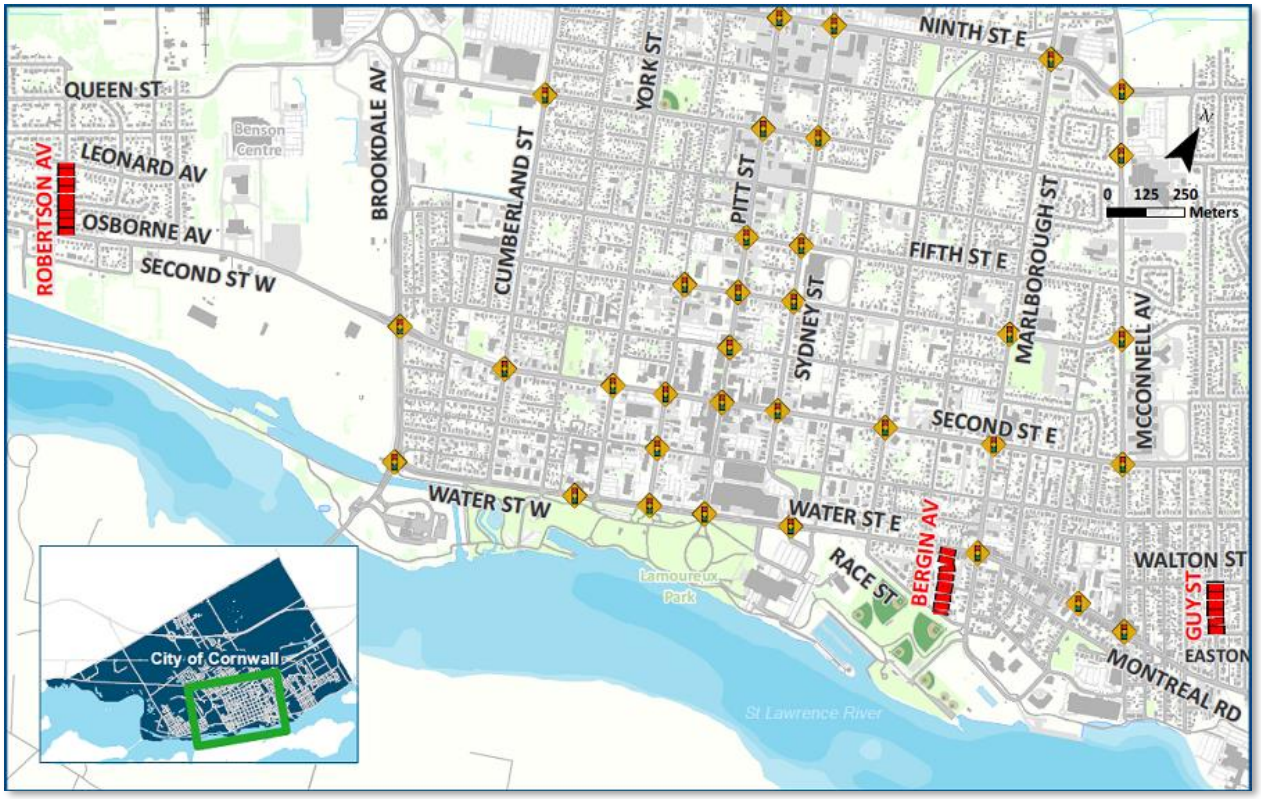
Project Name: **SEWER NETWORK IMPROVEMENTS – VARIOUS LOCATIONS**

Funding: $ 1,150,000 Wastewater Works Reserve

The objective of the annual Sanitary Sewer Network Improvements program is to replace/repair deficient storm and sanitary sewers in various locations throughout the City, which have been identified through closed-circuit television (CCTV) sewer inspections to have broken, collapsed or have other structural deficiencies.

The following Sewer Network Improvement projects are proposed for 2024:

1) Bergin St – Race St to Water St – New Sanitary Sewer ($310K)
2) Robertson Ave – Second St W to Leonard Ave – New Sanitary Sewer ($365K)
3) Guy St – Easton Ave to Walton St – New Sanitary Sewer ($305K)
4) CCTV Sewer Inspections – Various locations ($70K)
5) Sewer Spot Repairs – Various locations ($100K)



ENVIRONMENTAL SERVICES - WASTEWATER

2024 Budget

Capital Project Sheet

Project Name: **CITY WIDE SEWER MODEL**

Funding: $ 200,000 Wastewater Works Reserve

A City-wide Sewer Model Report (SMR), will be a comprehensive report that will model the entire sewer infrastructure network for both the sanitary sewers and storm sewers. The sewer model report will outline the analysis, design, and management of the system within the city. The proposed report will include: Hydraulic modeling, System characterization, Maintenance, Rehabilitation, Cost estimations and Regulatory compliance.

The SMR will evaluate results and recommend solutions to correct problematic areas, review future capacity needs, address potential environmental impacts, and review compliance documentation. Completing a City-wide sewer model is a requirement from the Ministry of the Environment, Conservation and Parks, for the City's Consolidated Linear Environmental Compliance Approval (CLI-ECA) that applies to the City's sewer network.

The SMR will serve as a valuable tool for the Infrastructure department and others to make informed decisions about improving the City's sewer network infrastructure and planning for future projects.

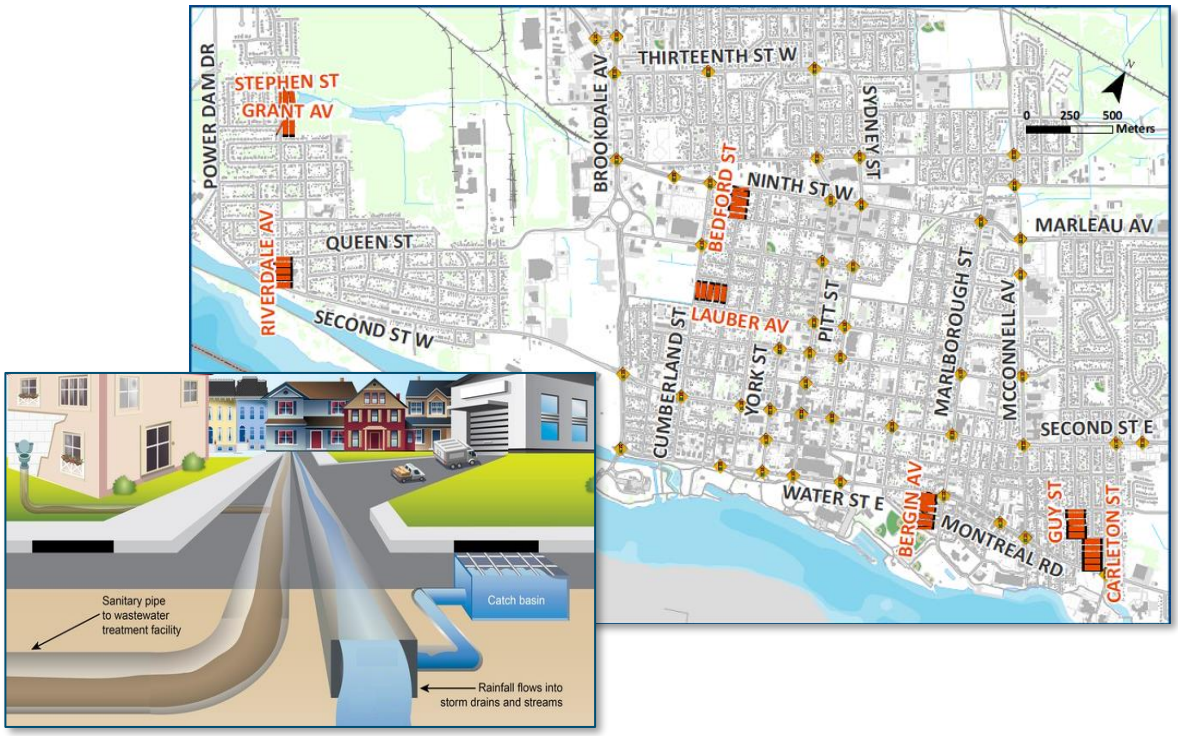
Project Name: **COMBINED SEWER SEPARATION**

Funding: $ 668,300 Wastewater Works Reserve
$ 81,700 Development Charges
$ 750,000

The separation of combined sewers has the objective of reducing wet weather flows in the sewage system and to the Wastewater Treatment Plant. It reduces the potential for basement flooding because flows are lowered in the pipe that houses are directly connected to. Sewer separation also reduces Combined Sewer Overflow (CSO) volumes and the potential for bypasses from the Wastewater Treatment Plant to the St. Lawrence River. It is achieved by constructing new storm sewers so that the combined sewer can be converted into a sanitary sewer. Projects are prioritized based on the roadway surface condition so that the sewer works can be completed before resurfacing the roadway.

The following Combined Sewer Separation projects are proposed for 2024:

1) Riverdale Ave – Sugar Stick Dr to Grant Ave – Cross Connection Disconnect ($85K)
2) Bedford St – Eighth St E to Ninth St E – New Storm Sewer ($95K)
3) Bergin Ave – Race St to Water St – New Storm Sewer ($115K)
4) Lauber Ave – Cumberland St to Bedford St – New Storm Sewer ($100K)
5) Carleton St – Montreal Rd to Easton Ave – New Storm Sewer ($150K)
6) Riverdale Ave – Queen St to Second St W – New Storm Sewer ($150K)
7) Guy St – Easton Ave to Walton St – New Storm Sewer ($55K)



Project Name: **DIGESTERS: RELINING, ROOF REPLACEMENT, AND METHANE GAS TRAIN UPGRADES**

Funding: $ 5,000,000 Financing
$ 1,100,000 budgeted in previous years

At the core of our Wastewater Treatment Plant are two anerobic mesophilic digesters. The two digesters are critical to the treatment process and are original to the facility having been in continuous service since 1965. The digesters are internally lined with a coal tar epoxy coating. This coating, along with other digester process components have reached the end of their useful life.

In 2023, the City procured a Consultant to complete the engineering for the rehabilitation work that is required for the two digesters. As part of their scope, a full code compliance review of the entire system was completed, including the methane gas train which is downstream of the digester process. Due to the age of the digesters and associated process components, there is significant work required to bring all components up to current code, including a full waste gas burner replacement, gas train upgrade, and roof replacements on the two digesters.

This funding will supplement the previous year's funding to undertake all the required upgrade work to both digesters and appurtenances, including the increased scope to meet Technical Standards and Safety Authority (TSSA) compliance, in the multiple year construction project.

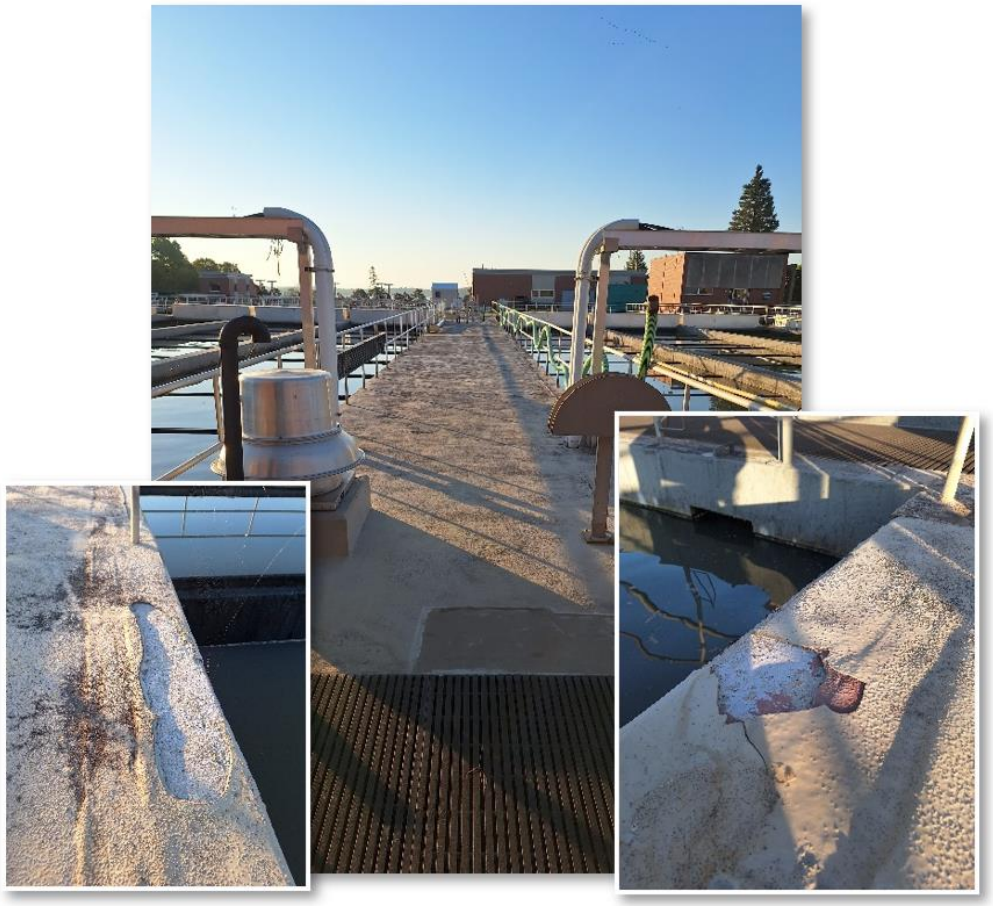
Project Name: **RELINING OF WALKWAY BETWEEN CLARIFIERS 2 & 3**

Funding: $ 150,000 Wastewater Works Reserve

Concrete walkways at the Wastewater Treatment Plant are subject to environmental and chemical degradation. Coating systems are designed to help protect the concrete by providing a barrier to moisture penetration and various chemicals, such as sulfuric acid, sodium sulfates, ammonium, etc.

The walkway between Clarifiers Two and Three has an epoxy coating system that has many cracks and missing patches. As such a new coating is required to protect the concrete structure bellow.

This project will see the hiring of a specialized general contractor that will remove and dispose of the existing coating. They will then prepare the surface and re-apply a specialized epoxy that will provide environmental and chemical protection, ensuring the concrete structure below is protected for years to come.



ENVIRONMENTAL SERVICES
JOINT INFRASTRUCTURE

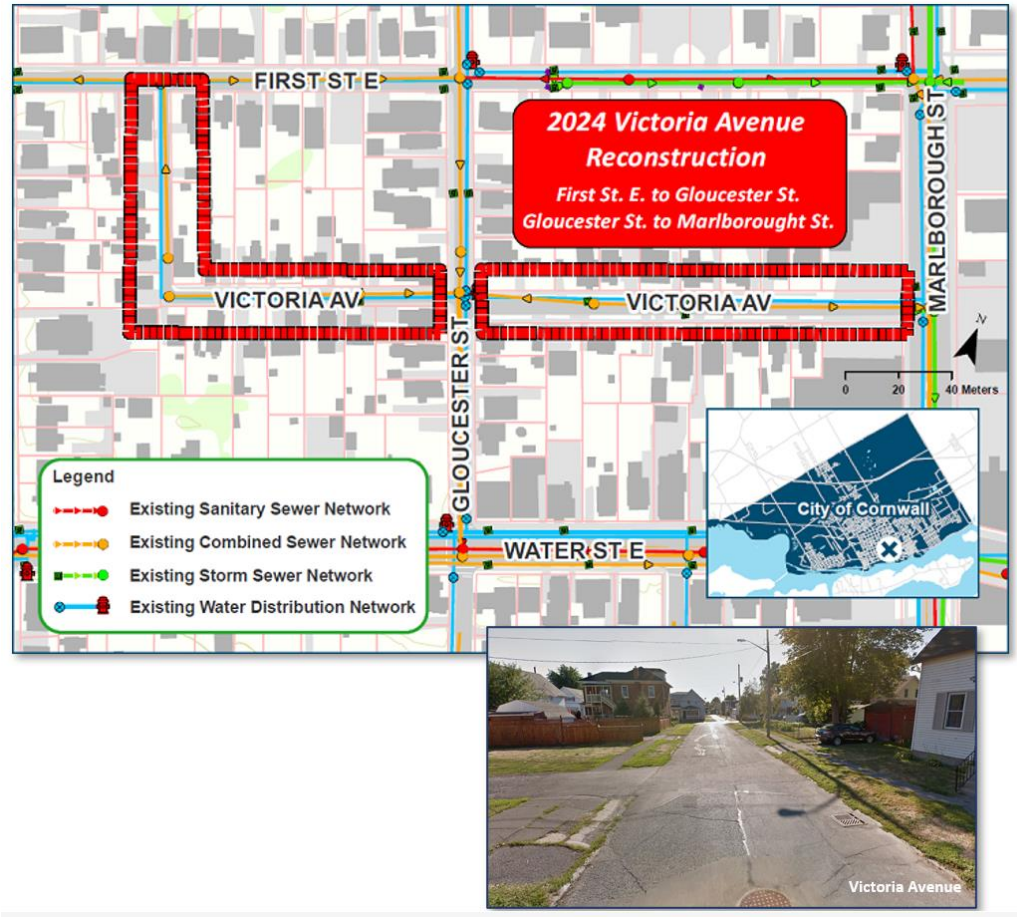
2024 Budget
Capital Project Sheet

Project Name: **VICTORIA AVE RECONSTRUCTION – MARLBOROUGH ST TO FIRST ST E.**

Funding: $ 1,150,000 Water Works Reserve
$ 1,150,000 Wastewater Works Reserve
$ 2,300,000

Joint infrastructure projects typically include the rehabilitation of sewer, water and roadway infrastructure. Project candidates are selected based on the state of underground infrastructure; locations where sewer separation is required and watermain improvements are necessary are considered priorities. Project candidates are further narrowed based on locations where the road corridor is also in poor condition, as the roadway will be rehabilitated as part of the restoration works following the replacement of all buried infrastructure.

The reconstruction of Victoria Ave from Marlborough St to First St E is recommended as a joint infrastructure project as the underground infrastructure has reached the end of its service life and is in poor condition. The existing watermain was constructed in 1925 and is in need of replacement. The street is currently serviced with combined sewers which require separation through the installation of new dedicated storm and sanitary sewers as part of the City's long-term sewer separation plan. In addition, the road corridor has a pavement condition rating of 45 or "Poor" and requires rehabilitation.



ENVIRONMENTAL SERVICES
JOINT INFRASTRUCTURE

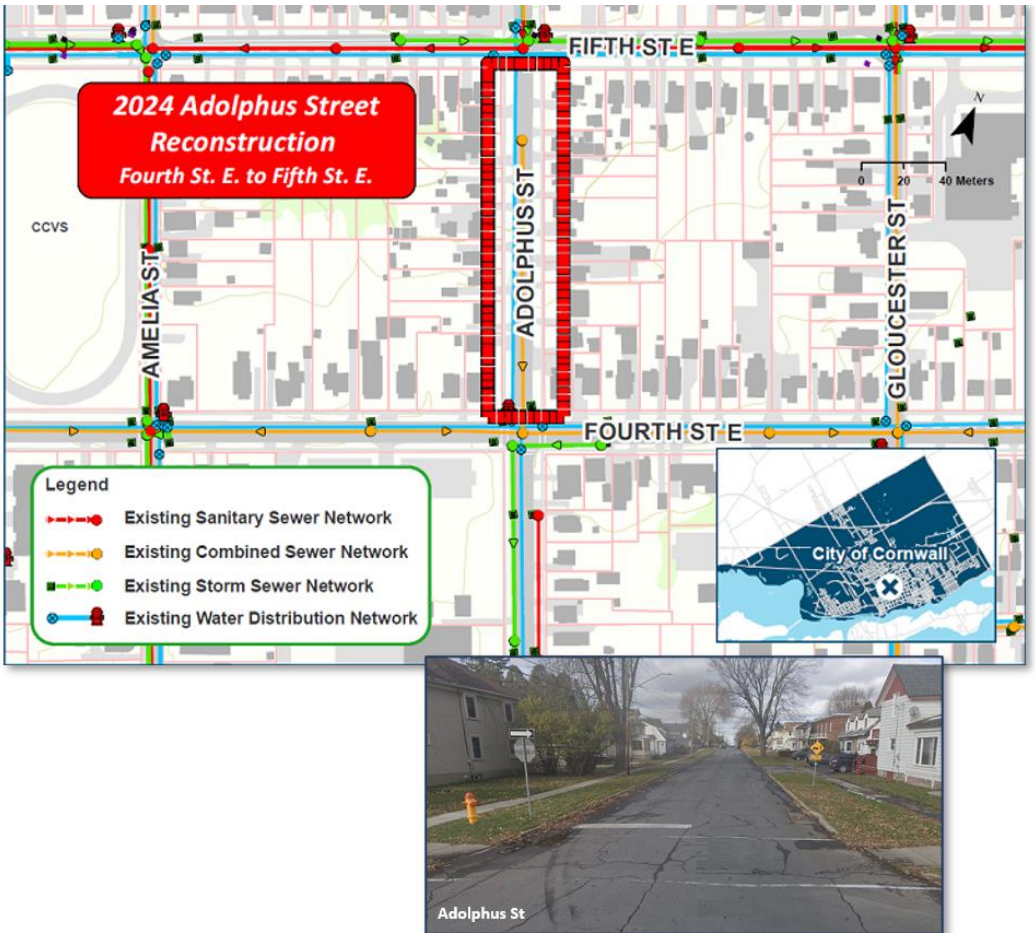
2024 Budget
Capital Project Sheet

Project Name: **ADOLPHUS ST FROM FOURTH ST E. TO FIFTH ST E.**

Funding:
$ 615,000 Water Works Reserve
$ 615,000 Wastewater Works Reserve
$ 1,230,000

Joint infrastructure projects typically include the rehabilitation of sewer, water and roadway infrastructure. Project candidates are selected based on the state of underground infrastructure; locations where sewer separation is required and watermain improvements are necessary are considered priorities. Project candidates are further narrowed based on locations where the road corridor is also in poor condition, as the roadway will be rehabilitated as part of the restoration works following the replacement of all buried infrastructure.

The reconstruction of Adolphus St from Fourth St E. to Fifth St. E. is recommended as a joint infrastructure project as the underground infrastructure has reached the end of its service life and is in poor condition. The existing watermain was constructed in 1925 and is in need of replacement. The street is currently serviced with a combined sewer that was constructed in 1930 and requires separation through the installation of new dedicated storm and sanitary sewers as part of the City's long-term sewer separation plan. In addition, the road corridor has a pavement condition rating of 38 or "Very Poor" and is in need of rehabilitation.



2024 TEN YEAR CAPITAL FORECAST

CAPITAL FORECAST
FOR THE YEARS 2024 - 2033

WATER DISTRIBUTION

LOCATION	FROM	TO	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
WATER DISTRIBUTION												
Watermain Rehabilitation	Various Locations	Various Locations	2,950	2,550	2,600	2,650	2,700	2,750	2,800	2,800	2,850	2,900
Pitt Street	Tollgate Road	Cornwall Centre Road		3,000								
Vincent Massey Drive	Tollgate Road	City Limits		5,000	5,000							
Waterrmain Growth - New Watermain			50	500	500	500	500	500	500	500	500	500
Total Capital			3,000	11,050	8,100	3,150	3,200	3,250	3,300	3,300	3,350	3,400

2024 TEN YEAR CAPITAL FORECAST

CAPITAL FORECAST
FOR THE YEARS 2024 - 2033

WATER PURIFICATION PLANT

LOCATION	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Raw Water Intake Valve Chamber Remediation	100									
Elevated Storage Tank Upgrades	200				400			250		
Remote Stations Network Upgrades	50									
High Lift Pump Rehabilitation	250	50	50							
Instrumentation Upgrades	100	100	100	100				150		
Raw Water Intake Redundancy		150	6,000	6,000	6,000	6,000	6,000	6,000	6,000	
High Lift Pump Replacement		1,000		1,000		1,000				1,000
Boundary Road Booster Pump Replacements		150	150	150						
Valve Replacement Program		50	50	50			250	250		
Submersible Filter Backwash Pump and Valve Replacement		400								
Building and Grounds Project		50	50	50	50					
Concrete Rehabilitation/Renewal			200	200	200		200			
Roof Repairs			150				500			
Concrete Storage Tanks Condition Assessment			50					150		
Filter 1 & 2 Media Replacements			600							
Filter 3 &4 Media Replacements				600						
Clearwell Sluice Gate Replacement				150						
SCADA Equipment					300	500		150		
Expansion Joint Repairs					400					
Building Exterior Brickwork						800				
Replacement of Chemical Storage Tanks								150		
Removal of Hydrogen Peroxide System								300		
Intake Structure Engineering and Rehabilitation									700	
Electrical System Upgrades									700	
Total Capital	700	1,950	7,400	8,300	7,350	8,300	6,950	7,400	7,400	1,000

2024 TEN YEAR CAPITAL FORECAST

CAPITAL FORECAST
FOR THE YEARS 2024 - 2033

WASTEWATER COLLECTION

LOCATION	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Wastewater Collection Program										
Sewer Network Improvements	1,150	1,150	1,175	1,200	1,225	1,250	1,275	1,275	1,300	1,300
City Wide Sewer Model	200									
Storm & Combined Sewer Separation	750	750	770	790	810	830	850	850	875	875
See the following chart for street listing										
Total Capital	2,100	1,900	1,945	1,990	2,035	2,080	2,125	2,125	2,175	2,175

2024 TEN YEAR CAPITAL FORECAST

CAPITAL FORECAST
FOR THE YEARS 2024 - 2033

WASTEWATER COLLECTION

LOCATION	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Storm and Combined Sewer Separation at Various Locations										
Riverdale Av - Sugar Stick Dr to Grant Av	85									
Bergin - Race St to Water St	115									
Bedford - Eighth St to Ninth St	95									
Lauber St - Bedford St to Cumberland St	100									
Carleton St - Montreal Rd to Easton Av	150									
Riverdale Av - Queen St to Second St W	150									
Guy St - Easton Av to Walton St	55									
Bedford St. - Water St. to Second St.		380								
Yates Av. - Second St. to Third St.		370								
Seymour St. - Water St. to Second St.			275							
Anthony St. - Easton Av. to Montreal Rd.			195							
Bedford St. - First St. W to Second St. W.			155							
Victoria Av. - Gloucester St. to Marlborough St.			145							
First St. - McConnell Av. To Alice St.				360						
Sixth St E - Gloucester St. to Marlborough St.				350						
First St. - Baldwin Av. To McConnell Av.				80						
Roy St. - Eleventh St. to Roy St.					290					
Sewer Separation TBD Locations					520	830	850	850	875	875
WASTEWATER COLLECTION	750	750	770	790	810	830	850	850	875	875

2024 TEN YEAR CAPITAL FORECAST

CAPITAL FORECAST
FOR THE YEARS 2024 - 2033

WASTEWATER TREATMENT PLANT

LOCATION	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Digesters Relining, Roof Replacement, and Gas Train Upgrades	5,000									
Relining of Walkway Between Clarifiers 2 & 3	150									
Outfall Repairs or New (Engineering & Construction)		150	1,650							
Obsolete MCC/VFD Replacements		50	50	50	50	50	50			
Roof Replacement for All Buildings		200	200	225	70		110		350	200
Odour Control Unit Construction			2,000							
BAF Backwash Header Modifications			75							
Brookdale Gate Replacement				1,000						
Primary Clarifiers 1&2, Header Rehabilitation				1,700						
Primary Clarifiers 3&4, Header Rehabilitation					1,750					
BAF Cells Conversion to Duostyr					600					
Pumphouse Suction/Discharge Header Rehabilitation						1,800				
UV System Replacement							1,600		1,600	
Pumphouse Spare Forcemain to Main Plant								1,550		
Exterior Building Rehabilitation								550		
Pumphouse Pump Replacement										1,900
Total Capital	5,150	400	3,975	2,975	2,470	1,850	1,760	2,100	1,950	2,100

2024 TEN YEAR CAPITAL FORECAST

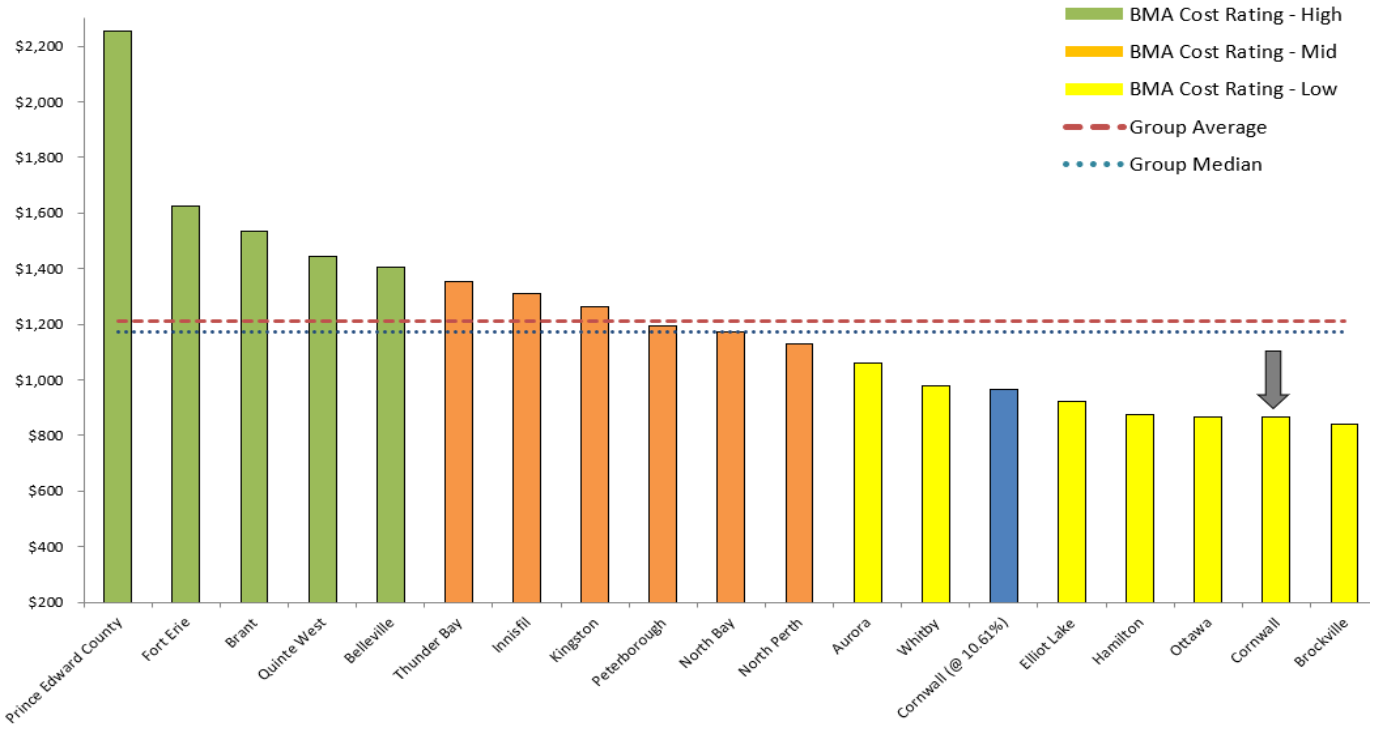
CAPITAL FORECAST
FOR THE YEARS 2024 - 2033

JOINT INFRASTRUCTURE PROJECTS - (WATER / WASTEWATER)

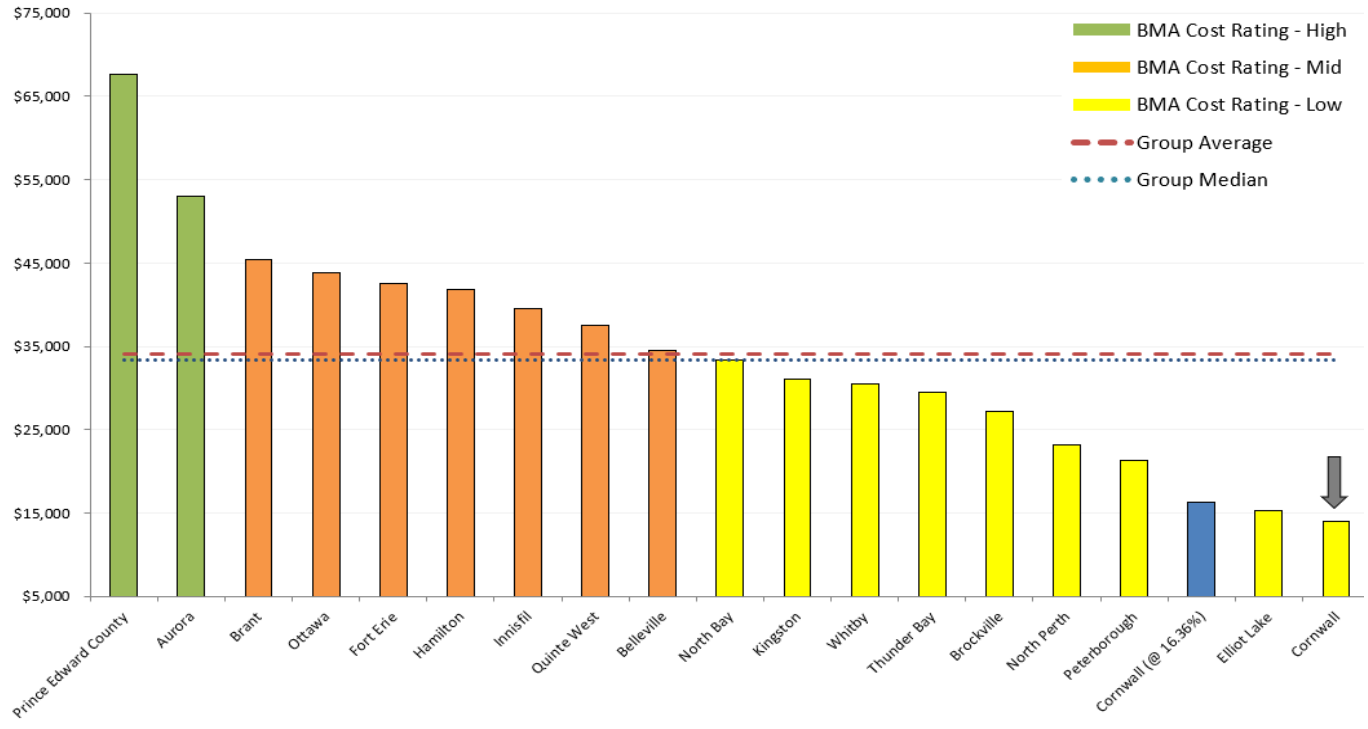
LOCATION	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Victoria Av - Marlborough St to Frist St E	2,300									
Adolphus St. - Fourth St. to Fifth St.	1,230									
Ninth St E - Marlborough St to Adolophus St		3,000								
Ninth St E - Adolophus St to Sydney St			3,000							
Sixth St. - Augustus St. to Sydney St.				2,300						
Timothy Av. - Cumberland St. to Bedford St.				750						
Bedford St. - Fourth St. to Fifth St.					1,050					
Eighth St. - Adolphus St. to Marlborough St.					2,000					
Gloucester St. - Second St. to Aberdeen Ave.						2,000				
Future Projects						1,100	3,100	3,150	3,150	3,200
JOINT INFRASTRUCTURE	3,530	3,000	3,000	3,050	3,050	3,100	3,100	3,150	3,150	3,200

Municipal Comparators

Residential Water / Wastewater Costs per 200m³



Commercial Water / Wastewater Costs per 10,000m³



Source: 2023 Draft BMA Municipal Study (based on 2022 FIRs)

Comparison of Water/Wastewater Costs – Residential (sorted lowest to highest)

Volume Meter Size	Residential 200 m^3 5/8"	Residential 200 m^3 Ranking
Mississauga	$ 672	Low
Caledon	$ 672	Low
Brampton	$ 672	Low
Brockville	$ 840	Low
Cornwall	$ 864	Low
Ottawa	$ 865	Low
Hamilton	$ 873	Low
Toronto	$ 877	Low
Grimsby	$ 880	Low
Hanover	$ 917	Low
Elliot Lake	$ 921	Low
Tillsonburg	$ 947	Low
Markham	$ 959	Low
Stratford	$ 963	Low
Oshawa	$ 977	Low
Whitby	$ 977	Low
Clarington	$ 977	Low
Scugog	$ 977	Low
Brock	$ 977	Low
Ajax	$ 977	Low
Pickering	$ 977	Low
Oakville	$ 991	Low
Milton	$ 991	Low
Burlington	$ 991	Low
Halton Hills	$ 991	Low
London	$ 991	Low
Aylmer	$ 1,000	Low
Brantford	$ 1,003	Low
Vaughan	$ 1,003	Low
Guelph	$ 1,009	Low
Sault Ste. Marie	$ 1,010	Low
Richmond Hill	$ 1,012	Low
Waterloo	$ 1,014	Low
New Tecumseth	$ 1,016	Low
Aurora	$ 1,060	Low
Collingwood	$ 1,072	Low
Timmins	$ 1,076	Low
Haldimand	$ 1,082	Low
Orangeville	$ 1,090	Low
Pelham	$ 1,107	Mid
Orillia	$ 1,107	Mid
Essex	$ 1,116	Mid
Sarnia	$ 1,127	Mid
Niagara Falls	$ 1,128	Mid
North Perth	$ 1,130	Mid
St. Catharines	$ 1,143	Mid
St. Thomas	$ 1,143	Mid
Kincardine	$ 1,166	Mid
North Bay	$ 1,173	Mid
Kitchener	$ 1,178	Mid
Ingersoll	$ 1,191	Mid
Peterborough	$ 1,193	Mid
Barrie	$ 1,197	Mid
Whitchurch-Stouffville	$ 1,201	Mid
The Blue Mountains	$ 1,203	Mid
Lakeshore	$ 1,229	Mid
Espanola	$ 1,229	Mid
Strathroy-Caradoc	$ 1,232	Mid
Chatham-Kent	$ 1,237	Mid
Cambridge	$ 1,245	Mid
Niagara-on-the-Lake	$ 1,250	Mid
Kingston	$ 1,262	Mid
Wilmot	$ 1,278	Mid
Wellington North	$ 1,284	Mid
Lincoln	$ 1,286	Mid
Georgina	$ 1,298	Mid
Huntsville	$ 1,304	Mid
Bracebridge	$ 1,304	Mid
Gravenhurst	$ 1,304	Mid
Innisfil	$ 1,308	Mid
Thorold	$ 1,310	Mid
West Lincoln	$ 1,316	Mid
Woolwich	$ 1,326	Mid
Tay	$ 1,346	Mid
Thunder Bay	$ 1,354	Mid
Newmarket	$ 1,363	Mid
Centre Wellington	$ 1,383	High
North Dumfries	$ 1,400	High
Wellesley	$ 1,400	High
Saugeen Shores	$ 1,402	High
Belleville	$ 1,405	High
Windsor	$ 1,427	High
Amherstburg	$ 1,438	High
Quinte West	$ 1,444	High
East Gwillimbury	$ 1,446	High
Southgate	$ 1,447	High
Welland	$ 1,469	High
Port Hope	$ 1,506	High
Owen Sound	$ 1,520	High
Greater Sudbury	$ 1,533	High
Brant	$ 1,533	High
West Grey	$ 1,553	High
Guelph-Eramosa	$ 1,576	High
Springwater	$ 1,597	High
King	$ 1,604	High
Fort Erie	$ 1,623	High
Norfolk	$ 1,675	High
Port Colborne	$ 1,695	High
Grey Highlands	$ 1,743	High
Minto	$ 1,743	High
Dryden	$ 1,748	High
North Middlesex	$ 1,790	High
Lambton Shores	$ 1,799	High
Middlesex Centre	$ 1,813	High
Mapleton	$ 1,865	High
Kenora	$ 1,873	High
Parry Sound	$ 2,011	High
Greenstone	$ 2,095	High
Central Elgin	$ 2,132	High
South Bruce Peninsula	$ 2,187	High
Prince Edward County	$ 2,253	High
Meaford	$ 2,280	High
Ramara	$ 2,497	High
North Grenville	$ 2,844	High

Average	**$ 1,302**
Median	**$ 1,231**

Comparison of Water/Wastewater Costs - Commercial (sorted lowest to highest)

Volume / Meter Size	Commercial 10,000 m³ 2"	Commercial 10,000 m³ Ranking
Cornwall	$ 13,987	Low
Elliot Lake	$ 15,259	Low
Espanola	$ 16,381	Low
West Grey	$ 17,629	Low
Collingwood	$ 20,376	Low
Peterborough	$ 21,387	Low
North Perth	$ 23,243	Low
Tillsonburg	$ 26,026	Low
Kincardine	$ 26,411	Low
Ingersoll	$ 26,718	Low
Sarnia	$ 26,953	Low
Grey Highlands	$ 27,050	Low
Brockville	$ 27,171	Low
Hanover	$ 27,888	Low
Grimsby	$ 28,026	Low
London	$ 29,038	Low
Thunder Bay	$ 29,543	Low
Chatham-Kent	$ 29,579	Low
Stratford	$ 29,928	Low
Scugog	$ 30,462	Low
Pickering	$ 30,462	Low
Whitby	$ 30,462	Low
Clarington	$ 30,462	Low
Oshawa	$ 30,462	Low
Brock	$ 30,462	Low
Ajax	$ 30,462	Low
Essex	$ 30,614	Low
Kingston	$ 31,046	Low
St. Thomas	$ 31,210	Low
Niagara-on-the-Lake	$ 31,296	Low
Haldimand	$ 32,055	Low
Niagara Falls	$ 32,252	Low
Mapleton	$ 32,637	Low
North Bay	$ 33,299	Low
Oakville	$ 33,501	Low
Milton	$ 33,501	Low
Burlington	$ 33,501	Low
Halton Hills	$ 33,501	Low
Mississauga	$ 33,587	Mid
Brampton	$ 33,587	Mid
Caledon	$ 33,587	Mid
Belleville	$ 34,494	Mid
Pelham	$ 34,769	Mid
Lakeshore	$ 35,039	Mid
Port Colborne	$ 36,310	Mid
Kenora	$ 37,272	Mid
Toronto	$ 37,283	Mid
Saugeen Shores	$ 37,340	Mid
Quinte West	$ 37,584	Mid
Amherstburg	$ 38,155	Mid
Thorold	$ 38,305	Mid
Sault Ste. Marie	$ 39,403	Mid
St. Catharines	$ 39,478	Mid
Innisfil	$ 39,511	Mid
Southgate	$ 39,615	Mid
West Lincoln	$ 40,434	Mid
Aylmer	$ 40,763	Mid
Orillia	$ 40,852	Mid
Hamilton	$ 41,792	Mid
Guelph	$ 41,829	Mid
Fort Erie	$ 42,594	Mid
Orangeville	$ 43,052	Mid
Ottawa	$ 43,871	Mid
Owen Sound	$ 44,339	Mid
Timmins	$ 44,452	Mid
Brantford	$ 44,736	Mid
Minto	$ 45,132	Mid
Brant	$ 45,437	Mid
Barrie	$ 46,257	Mid
Strathroy-Caradoc	$ 46,660	Mid
Markham	$ 47,937	Mid
Gravenhurst	$ 47,977	Mid
Bracebridge	$ 47,977	Mid
Huntsville	$ 47,977	Mid
Wellington North	$ 48,639	Mid
Waterloo	$ 49,083	High
Newmarket	$ 49,086	High
The Blue Mountains	$ 49,203	High
Dryden	$ 49,343	High
Greater Sudbury	$ 49,461	High
Norfolk	$ 49,573	High
Vaughan	$ 50,160	High
Richmond Hill	$ 50,605	High
New Tecumseth	$ 50,800	High
Woolwich	$ 52,212	High
Windsor	$ 52,259	High
Wilmot	$ 52,355	High
Welland	$ 52,786	High
Aurora	$ 53,000	High
Cambridge	$ 53,301	High
East Gwillimbury	$ 53,438	High
Lincoln	$ 54,477	High
Whitchurch-Stouffville	$ 55,323	High
Centre Wellington	$ 55,747	High
South Bruce Peninsula	$ 55,892	High
North Dumfries	$ 57,652	High
Wellesley	$ 57,652	High
Kitchener	$ 58,901	High
Georgina	$ 60,200	High
Springwater	$ 60,274	High
Central Elgin	$ 62,347	High
Parry Sound	$ 64,389	High
Meaford	$ 64,630	High
Guelph-Eramosa	$ 64,688	High
Tay	$ 67,300	High
Prince Edward County	$ 67,604	High
Ramara	$ 67,718	High
Port Hope	$ 68,456	High
King	$ 71,428	High
Lambton Shores	$ 72,005	High
Middlesex Centre	$ 72,293	High
North Middlesex	$ 74,012	High
Greenstone	$ 77,595	High
North Grenville	$ 108,936	High
Average	**$ 43,144**	
Median	**$ 40,807**	

Key Financial Assumptions

Following the key assumptions outlined for the City's LTFP, the financial forecast for the years 2025-2027 (multi-year budget) encompasses a number of key assumptions that are used to project the City's anticipated financial performance, including the following:

Operating expenses

Salary and benefit related costs are projected to increase at an average rate of 2.5% per year based upon our financial model. This reflects settlements under the City's collective bargaining agreements, corresponding increases for non-union personnel, and increases in benefit costs and other staffing adjustments.

Costs for materials and goods are projected to increase at a rate of 5.0% per year, which represents an assumed increase due to inflation and the impact of saving initiatives undertaken by the City.

Other operating expenses are projected to increase at a rate of 3.0% per year, which represents the assumed general rate of increase in operating costs due to inflation and the impact of regulatory changes.

Insurance is projected to increase by 10% per year.

Capital

Projected capital expenditures and associated funding (based on financial policy recommendations) for the years 2025 to 2033 are based on the City's AMP, which is reviewed annually.

Appendix C

City of Cornwall

2022 AMP – State of Infrastructure Report Cards

City of Cornwall

State of Infrastructure Report Card

Service: Utilities

Sanitary Sewer Collection System

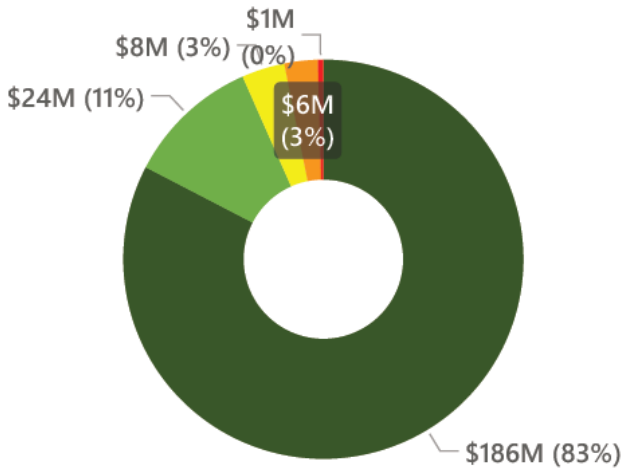
Linear

Asset Inventory:

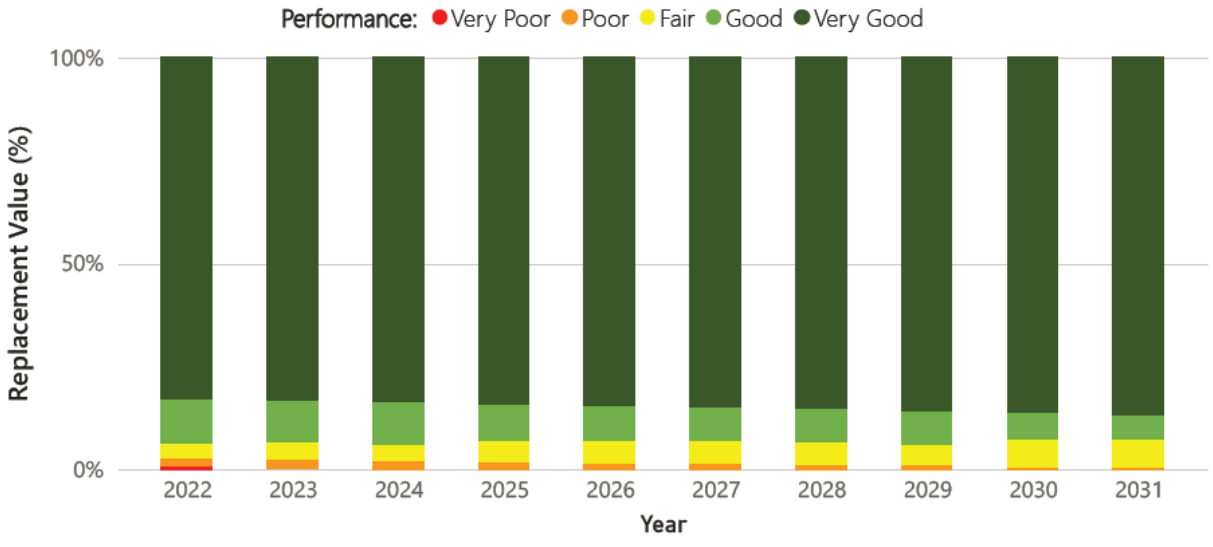
Asset Class	Inventory	Unit
Forcemains	4.92	KM
Sanitary Sewers	199.50	KM

Replacement Cost:	$224.94M
Overall Condition:	**Very Good**
Annual Average Funding:	$946K
Annual Funding required to meet Target Performance:	$1.02M

Current Condition by Replacement Cost ($)



Performance Forecast with Anticipated Budget



City of Cornwall

State of Infrastructure Report Card

Service: Utilities

Sanitary Sewer Collection System

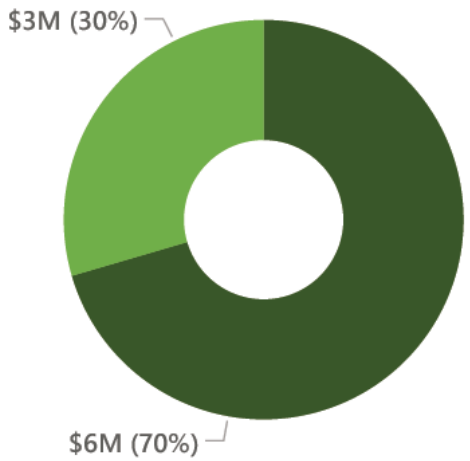
Vertical

Asset Inventory:

Asset Class	Inventory	Unit
Sanitary Pumping Stations	6.00	Structures

Replacement Cost:	$8.47M
Overall Condition:	**Very Good**
Annual Average Funding:	$0
Annual Funding required to meet Target Performance:	$0

Current Condition by Replacement Cost ($)



Performance Forecast with Anticipated Budget

City of Cornwall

State of Infrastructure Report Card

Service: Utilities

Combined Sewer Collection System

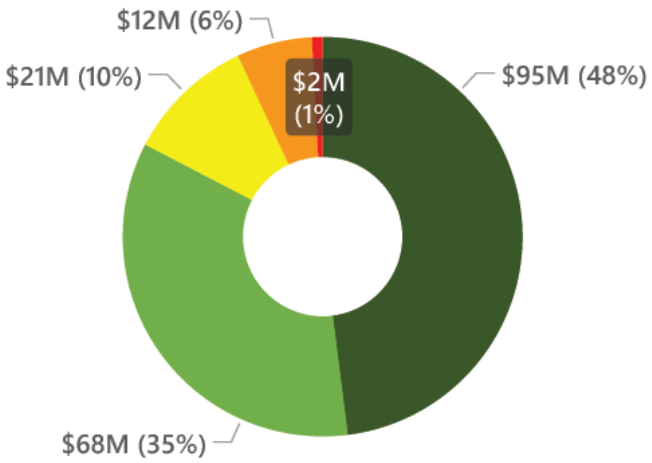
Linear

Asset Inventory:

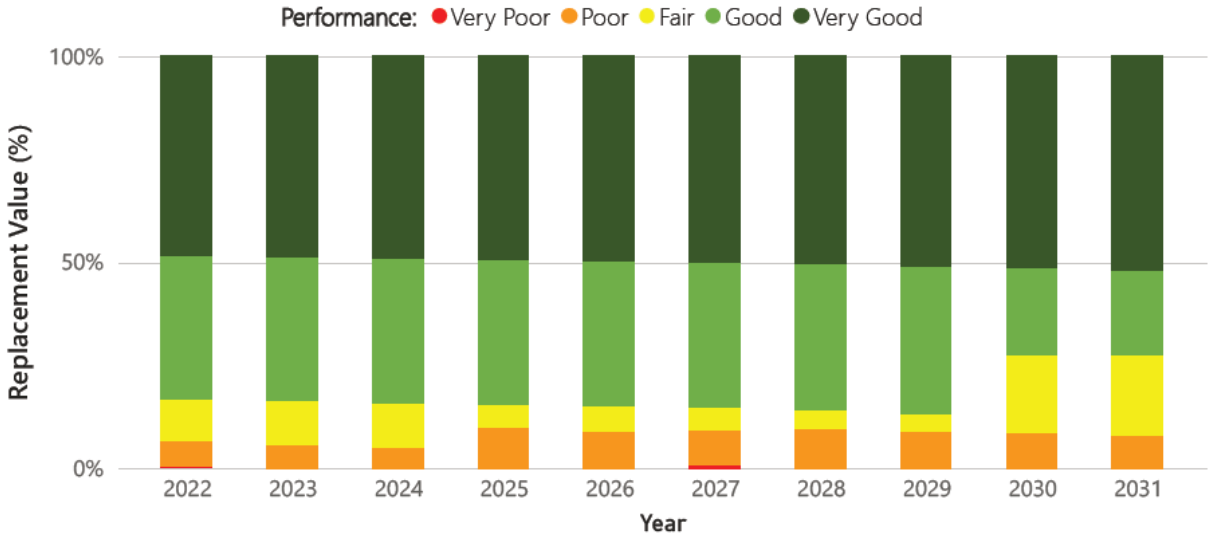
Asset Class	Inventory	Unit
Combined Sewers	56.40	KM

Replacement Cost:	$196.98M
Overall Condition:	Good
Annual Average Funding:	$1.52M
Annual Funding required to meet Target Performance:	$1.5M

Current Condition by Replacement Cost ($)



Performance Forecast with Anticipated Budget



City of Cornwall

State of Infrastructure Report Card

Service: Utilities

Storm Sewer Collection System

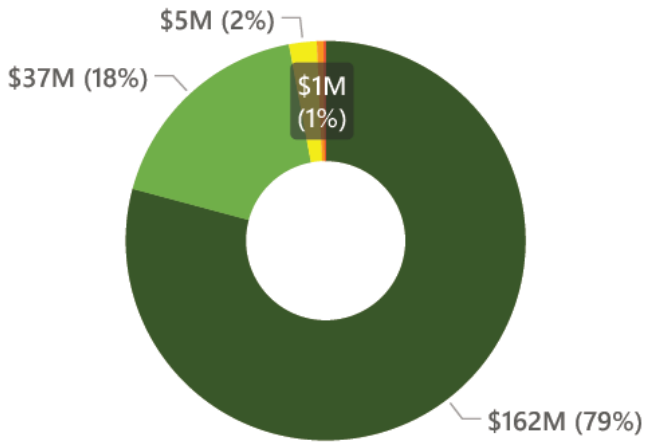
Linear

Asset Inventory:

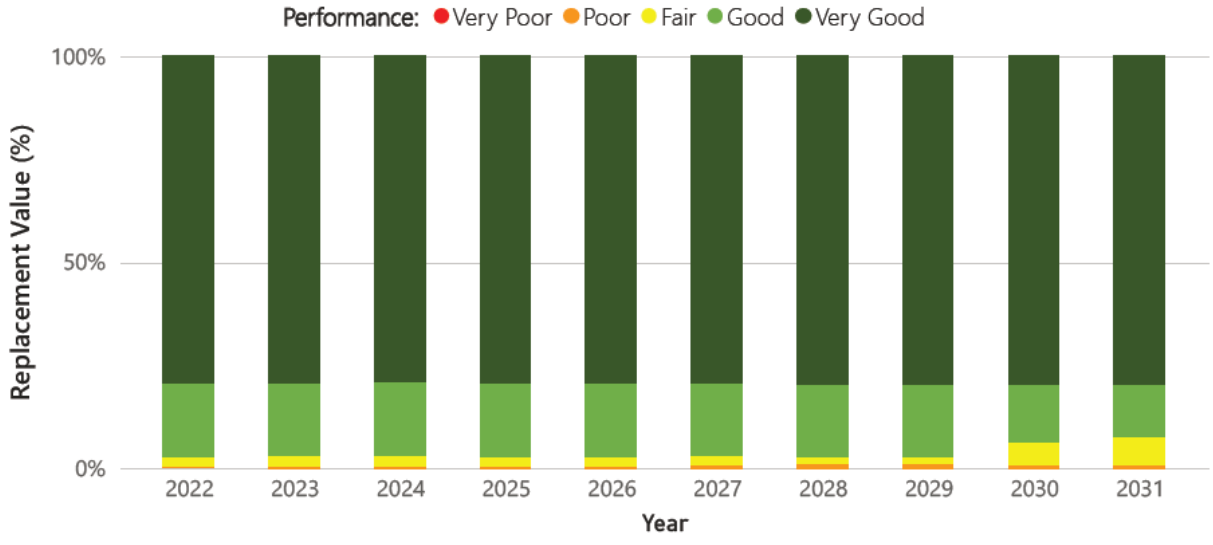
Asset Class	Inventory	Unit
Storm Sewers	145.58	KM

Replacement Cost:	$204.53M
Overall Condition:	**Very Good**
Annual Average Funding:	$251.3K
Annual Funding required to meet Target Performance:	$416.29K

Current Condition by Replacement Cost ($)



Performance Forecast with Anticipated Budget



City of Cornwall

State of Infrastructure Report Card

Service: Utilities

Storm Sewer Collection System

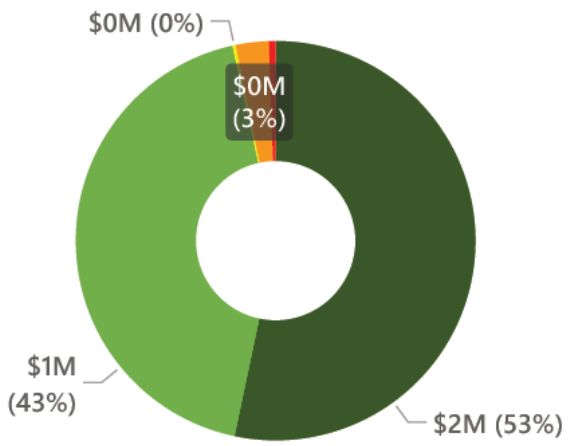
Vertical

Asset Inventory:

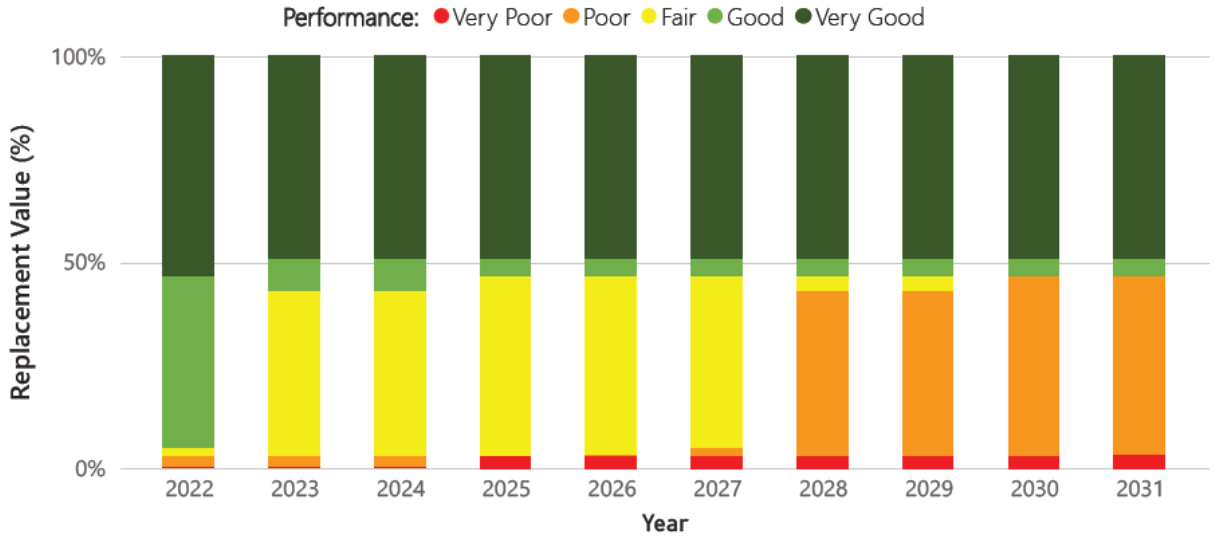
Asset Class	Inventory	Unit
Oil Grit Separators	15.00	Structures
Stormwater Retention Ponds	9.00	Structures

Replacement Cost:	$2.96M
Overall Condition:	Good
Annual Average Funding:	$0
Annual Funding required to meet Target Performance:	$11.76K

Current Condition by Replacement Cost ($)



Performance Forecast with Anticipated Budget



City of Cornwall

State of Infrastructure Report Card

Service: Utilities

Water Distribution Network

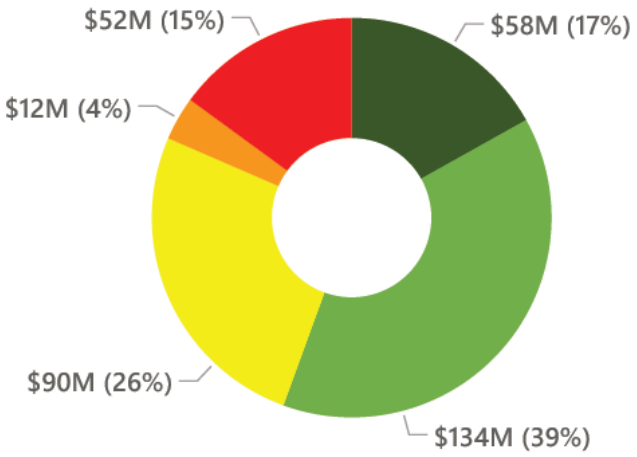
Linear

Asset Inventory:

Asset Class	Inventory	Unit
Watermains	271.47	KM

Replacement Cost:	$345.87M
Overall Condition:	Fair
Annual Average Funding:	$3.76M
Annual Funding required to meet Target Performance:	$9.21M

Current Condition by Replacement Cost ($)



Performance Forecast with Anticipated Budget