

Wastewater Master Plan

City of Regina



REGINA
Infinite Horizons

Executive Summary

In 2013, City Council approved *Design Regina: The Official Community Plan Bylaw No. 2013-48* (OCP), providing high-level policy direction to guide growth and change in the community. The Wastewater Master Plan (WWMP) is a comprehensive wastewater service planning document designed to support the OCP Community Priorities of “achieve long term financial viability”, “promote conservation, stewardship and environmental sustainability” and “foster economic prosperity”. The WWMP sets out the long-term plans and strategies for providing wastewater service and delivers more detailed direction on nine OCP Policy Goals related to Financial Policy, Growth Plan, Environment Policy and Infrastructure Policy outlined in Sections B1, B2, B3, C2, D2, and D4 of the OCP.

Reliable wastewater service is essential to the health and safety of the community. The City of Regina (City) is committed to providing wastewater service to customers and planning for a sustainable wastewater service and system. The goals of Regina’s Water and Sewer Utility (Utility) are set out in seven Service Categories that collectively reflect the regulatory, social, economic and environmental outcomes for water, wastewater and drainage service delivery. The goals and actions of the WWMP are structured around these Service Categories and based on the guiding principles used as part of a consistent approach for all Utility services and assets, along with the concept of integrated water resource planning.

The Service Categories provide a holistic view of the wastewater service provided to Utility customers. Along with the associated Level of Service (LOS) and cost of delivering service, they enable the assessment of the sustainability of Regina’s wastewater service. The WWMP identifies 13 goals and 79 planned actions to achieve the outcomes for Regina’s wastewater service delivery. The Service Categories identified for the wastewater service align with the direction of the OCP, support the Community Priorities and move toward sustainable wastewater service delivery.

The WWMP sets out the actions and a 25-year capital upgrade plan to maintain or improve LOS, reduce risk and vulnerabilities and accommodate growth, that contribute significantly to achieving the vision of the OCP.

The WWMP will guide the way the organization plans, constructs, operates and maintains the system for the delivery of wastewater service to customers now and in

the future; however, it is not a commitment for future investment. This policy direction will help inform decisions made by Council as part of the defined budget process and over the course of their ongoing deliberations. Investments will be reviewed each year through the City's annual budget process and only when Council adopts the budget will investments be approved.

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City of Regina Policy

Title	Wastewater Master Plan
Policy Tracking #	2019-2-TU
Version	Approved by Council
Link to the Official Community Plan	<p>This master plan provides further policy direction on the following Official Community Plan Goals:</p> <ul style="list-style-type: none"> • Financial Principles (B1) <ul style="list-style-type: none"> ○ Use a consistent approach to funding the operation of the City of Regina. • Sustainable Services and Amenities (B2) <ul style="list-style-type: none"> ○ Ensure that City of Regina services and amenities are financially sustainable. • Financial Planning (B3) <ul style="list-style-type: none"> ○ Ensure the sustainability of the City by understanding and planning for the full cost of capital investments, programs and services in advance of development approval and capital procurement. • Water Protection (D2 3) <ul style="list-style-type: none"> ○ Maintain the integrity of Regina’s aquifers, surface and groundwater resources. • Efficient Servicing (C2) <ul style="list-style-type: none"> ○ Maximize the efficient use of existing and new infrastructure. • Safe and Efficient Infrastructure (D4 1) <ul style="list-style-type: none"> ○ Meet regulatory requirements and industry best practices for design, construction and operation of infrastructure. • Asset Management and Service Levels (D4 2) <ul style="list-style-type: none"> ○ Ensure infrastructure decisions result in long-term sustainability. • Planned Infrastructure for Growth (D4 3) <ul style="list-style-type: none"> ○ The infrastructure needed for growth will be planned from a long-term perspective. • Conservation and Environment (D4 4) <ul style="list-style-type: none"> ○ Design infrastructure that conserves resources and minimizes impacts on the environment.

Service Level Definition	This master plan provides further policy direction on the following City of Regina services: <ul style="list-style-type: none">• Wastewater
Policy Owner	Director of Water, Waste and Environmental Services
Next Scheduled Review	The Wastewater Master Plan is scheduled for review every five years.

Introduction

Purpose

Reliable wastewater service is vital to the health and safety of residents. The City collects and treats wastewater from customers before safely releasing it into the environment. The City is committed to planning for a sustainable wastewater service that supports growth and addresses challenges related to climate change, environmental conditions, aging and deteriorating infrastructure and funding constraints. The Wastewater Master Plan (WWMP) is an overall assessment of Regina’s wastewater service and system.

The City defines a master plan as a long-term plan of up to 25 years that describes city-wide outcomes for a service or group of services with a strong link to *Design Regina: The Official Community Plan Bylaw No. 2013-48 (OCP)*. The WWMP describes the growth and renewal plans for infrastructure that support wastewater service delivery to maintain or improve Level of Service (LOS) while minimizing risk. It considers the regulatory, social, economic and environmental outcomes expected of the wastewater service in evaluating problems and opportunities and proposing investment in the system. It is not a commitment for future investment but will help inform decisions made by the Administration and Council, especially during rate reviews and annual business plan and budget processes.



Scope

The WWMP is a comprehensive wastewater service planning document to guide the way the City plans, constructs, operates and maintains the system based on an understanding of current conditions and future demands. The WWMP sets out the long-term plans and strategies for providing wastewater service and contributes strongly to the following OCP Policy Goals:

OCP Financial Policies

Goal 1 – Financial Principles

Use a consistent approach to funding the operation of the City of Regina.

Goal 2 – Sustainable Services and Amenities

Ensure that City of Regina services and amenities are financially sustainable.

Goal 3 – Financial Planning

Ensure the sustainability of the City by understanding and planning for the full cost of capital investments, programs and services in advance of development approval and capital procurement.

OCP Growth Plan

Goal 2 – Efficient Servicing

Maximize the efficient use of existing and new infrastructure.

OCP Environment

Goal 3 – Water Protection

Maintain the integrity of Regina’s aquifers, surface and groundwater resources.

OCP Infrastructure

Goal 1 – Safe and Efficient Infrastructure

Meet regulatory requirement and industry best practices for design, construction and operation of infrastructure.

Goal 2 – Asset Management and Service Levels

Ensure infrastructure decisions result in long-term sustainability.

Goal 3 – Planned Infrastructure for Growth

The infrastructure needed for growth will be planned from a long-term perspective.

Goal 4 – Conservation and Environment

Design infrastructure that conserves resources and minimizes impact on the environment.

The City plays a key role in achieving these OCP goals by providing wastewater service to more than 220,000 customers in and around Regina through a diverse system of assets. Assets that support this service delivery include:

- Wastewater Treatment Plant (WWTP)
- McCarthy Boulevard Pump Station (MBPS)
- Hauled Wastewater Station (HWS)
- nineteen lift stations
- more than 900 km of pipes and 600 km of building service connections
- more than 10,200 manholes
- Thirty-four valves

Process and Engagement

Water Security Agency (WSA), the provincial water regulator, was consulted and engaged in the development of the WWMP and the review of the recommended plan to ensure compliance with commitments made to the WSA. The Regina and Region Homebuilders' Association was also engaged through a presentation of the WWMP process and recommended plan.

Role of the Municipality

The City provides wastewater service as a public utility service in accordance with Section 17 of *The Cities Act*. The City established the Utility to fund capital and operating requirements that support delivery of water, wastewater and stormwater services to Regina residents. Section 22.4 of *The Cities Regulations* requires Council to adopt a capital investment strategy that includes the method used for determining capital plans respecting the waterworks. The regulations are only applicable to waterworks, however the requirements have been applied to the Utility as a whole. The capital requirements (investment strategy) are determined based on studies and assessments, including the WWMP, using an asset management approach that takes into account the infrastructure needs of the Utility to provide wastewater service and meet the service goals.

Guiding Principles

The WWMP adheres to the Financial Principles of the OCP related to the benefits model by ensuring that the costs of the wastewater service are paid through user fees by customers who directly benefit from the service.

The WWMP also incorporated the following Guiding Principles that have been used for several years as part of a consistent approach for all Utility services. They should continue to be integrated into all wastewater service planning and operations.

Regulatory Compliant - The WWMP recognizes that the City's first commitment is to comply with legislation, regulatory and statutory requirements.

Customer-Focused and Risk-Based - Decisions about wastewater service delivery will be informed by understanding current performance (LOS) and the associated cost of managing assets and maintaining LOS. The WWMP will consider the risks involved with meeting LOS objectives, using root cause analysis and proactive management strategies where beneficial.

System-Focused and Whole Life Perspective - Service delivery must be assessed system-wide by the WWMP. The WWMP will consider the 'big picture' of service delivery, including the impact of managing the system throughout all stages of the asset life cycle.

Innovative and Forward-Looking & Sustainable - The WWMP will foster an innovative approach to delivering LOS objectives so they may be met in an effective and sustainable way. Due regard will be given for the long-term stewardship of assets, including resilience to climate change and environmental change, so the wastewater service will be delivered in a sustainable manner.

Needs-Driven and Robust, Repeatable & Defensible Decision Making - Utility rate recommendations will be informed by the City's asset management approach, including LOS and capital investment plan from the WWMP. Decisions and actions resulting from the WWMP will incorporate a formal, consistent and repeatable approach.

Current Reality

Regina is located within the natural environment in ways unique among larger Canadian cities. Regina receives its drinking source water from Buffalo Pound Lake in the Upper Qu'Appelle River watershed, located 56 kilometers away. Wascana Creek is a seasonal stream that flows through Regina into the Qu'Appelle River near Lumsden and serves as the receiving environment for treated wastewater. Regina's WWTP is located on a sensitive waterway where flows consist entirely of discharged treated wastewater in winter months. Both the limited size of the Wascana Creek Watershed and its dependence on natural processes (e.g. rainfall) present challenges to wastewater service delivery. Wastewater collection from users and treatment, prior to release to Wascana Creek, makes up the wastewater service.



The City provides wastewater service to residential, institutional, commercial and industrial customers in Regina, as well as some extra-municipal customers in surrounding areas. Within Regina, the City provides reliable wastewater service with limited disruption to customers. For wastewater service to surrounding areas, the City provides access to the HWS to deliver wastewater for treatment at the WWTP.

Within Regina, wastewater is collected from users through service connections to buildings, totaling 600 kilometres. Collected wastewater is then transported through a 900 kilometre network using a combination of gravity and pressure sewers to the McCarthy Boulevard Pumping Station (MBPS) and delivered through three force mains to the WWTP (see Figure 1). Treated wastewater is discharged from the WWTP to Wascana Creek west of the city.

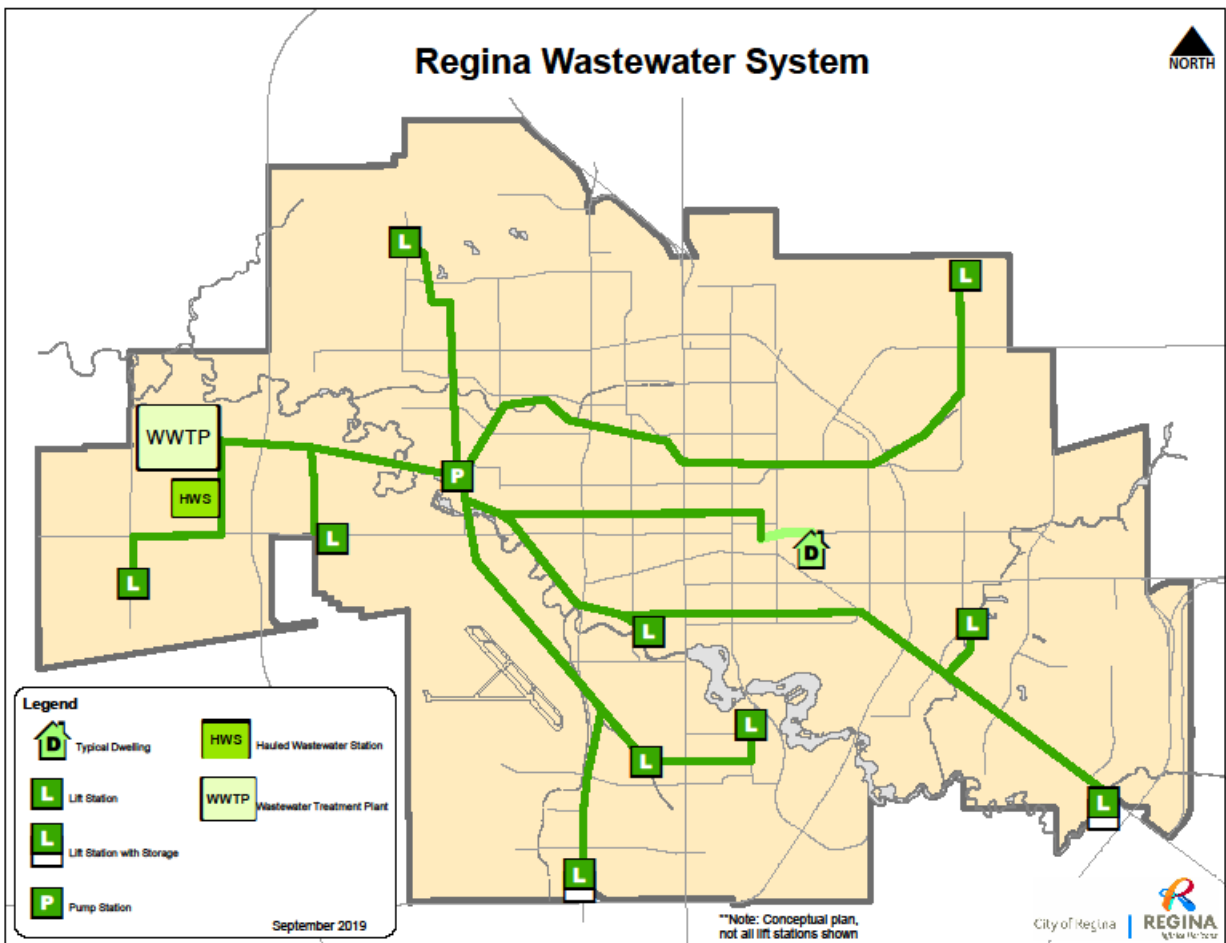


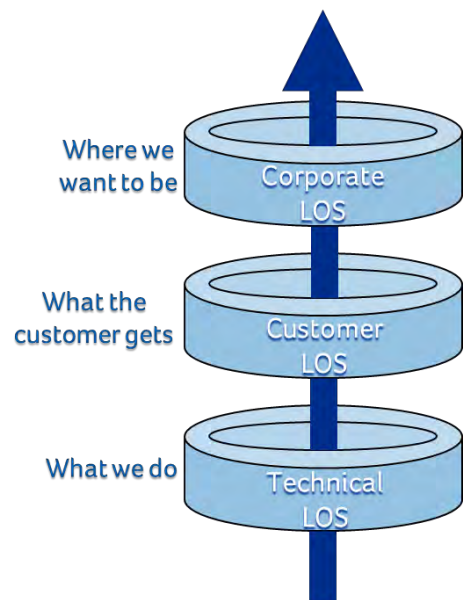
Figure 1: Regina’s Wastewater System

On July 3, 2014, the City and EPCOR Water Prairies Inc. (EPCOR) entered into a Project Agreement (PA) Design, Build, Finance, Operate, Maintain (DBFOM) of the WWTP as part of a Public-Private-Partnership (P3). The City maintains ownership of the plant while EPCOR will operate, maintain and expand the WWTP as required under the PA until 2044, at which time, operation and maintenance activities will be handed back to the City. The WWTP meets the current treatment needs of the city. Assuming no change in wastewater quality, the City anticipates wastewater treatment needs will surpass the plant capacity at a population of approximately 258,000. Once capacity is reached, expansion of certain components of the WWTP will be required.

The Hauled Wastewater Station (HWS) was designed, built and financed by the City and as of January 29, 2018 was operated and maintained by EPCOR. Users (Haulers) are charged a fee to use this site, with the intent of the site being full cost recovery.

The purpose of these assets is to support the delivery of wastewater service to our customers; therefore, realizing the most value from these assets requires an understanding of the LOS they provide and the cost of delivering service.

Levels of Service (LOS) reflect the regulatory, social, environmental and economic outcomes that the City agrees to deliver to wastewater customers. As shown, LOS are defined and connected at three levels: Corporate, Customer and Technical (asset and operational). LOS assess performance by tracking measures over time considering corporate objectives related to wastewater service delivery, what customers receive for wastewater service and what the City does to provide wastewater service to customers. LOS are also used to assess risks, identify needs and prioritize investment. They establish high level business drivers and inform decisions about directing resources to maintain or enhance LOS over the long term.



Proposed measures for wastewater service at the customer level were developed in 2012 from internal stakeholder input and updated in 2019, then tracked and

aggregated to observe any trends. Current performance of the wastewater service shows relatively stable trends, however, the expected LOS for regulatory compliance has increased as a result of the City's commitment to the Water Security Agency. In turn, LOS for reliable service has also increased. In order to meet these increased LOS, while continuing to support servicing development, the City needs to improve wastewater performance. The City is advancing planned system improvements and programs that will reduce the risk of wastewater bypasses to Wascana Creek and sewer backups.

Wastewater service delivery to Regina customers was also assessed through limited focus group surveys from Viewpoints Research in 2012. Customers felt treating wastewater and responsible disposal of sewage was a priority. Overall, the focus groups were satisfied with the reliability of the service, but some complaints were expressed about the level of communication with customers. Also, some participants had complaints about lack of notice for City work, while others found customer service was sufficient. Results from both the LOS trends and the customer survey indicate the wastewater service is generally adequate in most areas, but still has room for improvement.

Many factors can influence service delivery, impacting the LOS measures. Growth influences service delivery by placing additional demands on the wastewater system through new development and intensification. With climate change, a wider range of



extreme weather events can be expected, which could compromise the wastewater system. New regulations, as well as the availability of funding or changes in political/public expectations for improved environmental stewardship efforts, may place additional demand on service delivery. Also, other changes in expectations from customers can influence the way service is delivered; the targets and goals of service delivery will need to adapt through time. These influencers on the wastewater system can present risks to service delivery.

Risks to the wastewater system are both at the strategic level and asset level.

Strategic risks can include:

- funding shortfalls
- extreme or unforeseen weather events
- poor quality asset data
- non-compliance with regulation
- deteriorating infrastructure
- wastewater quality degradation

These are not risks pertaining to a specific asset but can affect service delivery. Specific asset risks are identified for failure of the critical infrastructure (such as the WWTP, McCarthy Boulevard Pump Station or trunk sewers), lift stations and the collection system. Mitigating measures are in place to reduce the likelihood and severity of these system and asset risks. Some of these measures include planning strategic and local capital projects, refining operational tasks and procedures, building a critical spares inventory and developing an emergency response plan. Most risk related to the operation and maintenance of the WWTP has been transferred from the City to EPCOR through the Project Agreement. Although much work has been done to mitigate risks, there are still opportunities to improve.

The wastewater service is vital to the health and safety of residents. The current state of these assets has been described in terms of the level of service they provide and risks at both the strategic and asset level. It has been found that the service is generally meeting the LOS, however, increased investments need to be made to meet the City's commitment to the WSA. Further analyses and planning can allow for a robust wastewater system that meets the needs of customers.

How we invest

The City invests steadily in the water, wastewater and stormwater systems that support service delivery. Total Utility investment for 2019 is over \$154 million as per the Utility Model. As shown in Figure 2, the average split of direct Utility investment shows over a third invested in the wastewater service. Indirect investment is split based on the same distribution as direct investment.

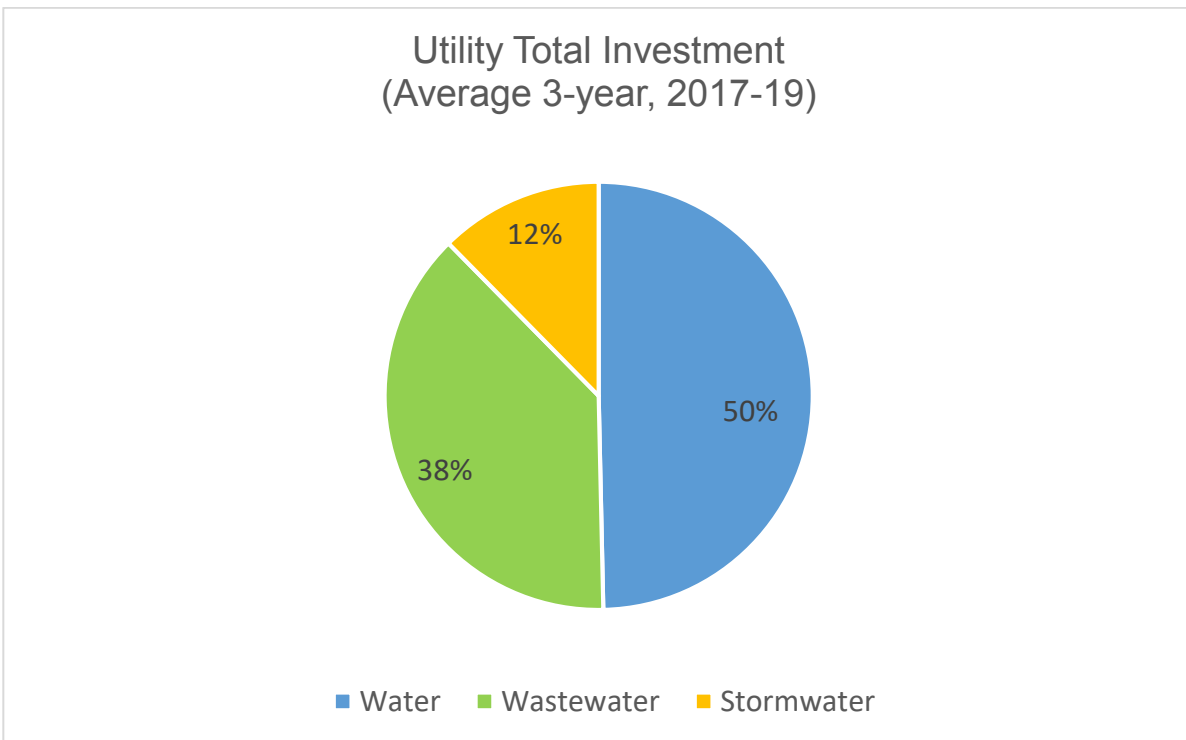


Figure 2: Direct Utility total yearly average investment

To fund capital and operating expenditures, the Utility is set to operate on a full cost recovery basis using user rates and charges. In 2019, the wastewater rate increase of three per cent funded operating costs and most of the planned wastewater capital investment needs.

The Utility plans for current and future requirements over a 25-year horizon using an investment planning approach to define the right level of investment to deliver sustainable services, while maintaining long-term financial viability. Investments in Utility services are made based on providing the greatest benefits to stakeholders within four investment drivers as follows:

1. **Maintaining LOS** – Reduce risk to maintain current LOS to customers. This takes a risk-based approach to asset failure and considers the lifecycle of assets.
2. **New Regulations and Improved Environmental Protection** – Increased demand to comply with new regulatory requirements or higher level of environmental protection. This driver also considers whether the project is intended to deliver improved environmental stewardship in terms of sustainable reductions on day-to-day environmental impacts regarding air, land, water, waste, etc.
3. **Enhancing LOS** – Increased demand due to a permanent improvement in the LOS to customers. This considers the delivery of sustained and tangible improvement to the LOS, improving resiliency, or improving staff working environment. This driver also considers whether the project improves service to meet current standards, policies or LOS.
4. **Growth** – Increased demand due to increased population or industry. This considers increasing capacity to accommodate projected growth and future demands.

Currently, the majority of Utility investments are directed towards maintaining LOS, with relatively smaller investments going towards meeting increased demand. As shown in Figure 3, the average split of direct investment in the wastewater service shows most of the investment went towards maintaining LOS. This demonstrates commitment to reduce risk and move towards a reliable service that meets current regulatory, safety and service objectives, which is paramount. Operating expenditures are included in the chart and provide for ongoing operational procedures related to wastewater collection system monitoring and routine maintenance, as well as financing and wastewater treatment at the WWTP. Meeting the increased demands of growth and improvements to service delivery are still considered, but historically have not required the same level of investment. However, to meet an increased LOS moving forward, including the City's commitment to WSA which is primarily considered new regulations and improved environmental protection, additional investment will be required.

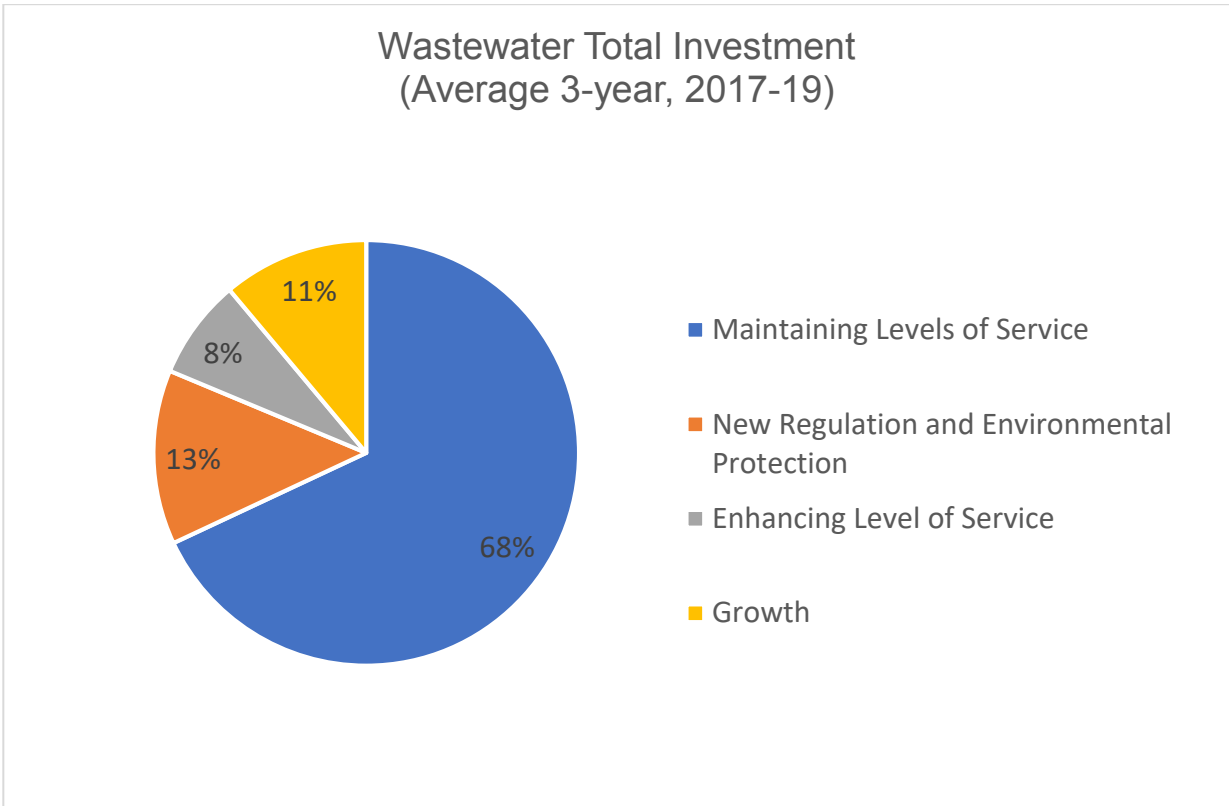


Figure 3: Direct wastewater total yearly average investment

Assumptions

The WWMP is based on the following assumptions:

- Wastewater service requirements incorporate growth in population projections (300K population) and development phasing plan (300K) as set out in the OCP.
- Financial resources available to fund the wastewater service does not include potential future grant funding.
- Growth-related wastewater infrastructure is paid for through external sources as set out in the Servicing Agreement Fees (SAF) policy.

Future Vision

Vision

The City aims to provide utility services to the community that are both sustainable and affordable. The WWMP sets out the actions and 25-year capital upgrade plan to meet LOS that reflect regulatory, environmental, operational and economic outcomes, reduce risk and accommodate growth, to achieve the vision of OCP for the City.

The concept of integrated water resources planning and the Utility Service Categories, as described below, along with the Guiding Principles reflect the vision for Regina's wastewater service delivery and system.

Integrated Water Resource Planning

Provincial water resources are designated by watershed boundaries. Regina's utility services draw on water resources of two regional watersheds: Upper Qu'Appelle River Watershed and Wascana Creek Watershed. Regina's source water is Buffalo Pound Lake, located in the Upper Qu'Appelle River Watershed. Wascana Creek, located within the Wascana Creek Watershed, is a seasonal stream that originates east of Regina and flows into the Qu'Appelle River system near Lumsden. It serves as the receiving stream for treated wastewater and stormwater runoff from Regina. These conditions mean the City, as a utility service provider, contributes significantly to the sustainable stewardship of the surrounding watersheds. It also means the requirements and costs for water and wastewater are impacted by Regina's location within these watersheds. Sustainable stewardship considers managing the water, wastewater and stormwater systems in an integrated, holistic manner.

Traditionally, municipalities managed water under three general umbrellas - water, wastewater and drainage. These represent the three service areas under Regina's Water and Sewer Utility:

- **Water System** - Includes the water supply, pumping and distribution to provide potable drinking water for residential, institutional, commercial and industrial customers, as well as for fire protection and greenspace management.
- **Wastewater System** - The collection system gathers wastewater from residential, institutional, commercial and industrial customers to be treated at the wastewater treatment system. This treated water is then released to Wascana Creek.

- **Stormwater System** - Collects water from rainfall and snowmelt to be discharged to the Wascana, Pilot Butte and Chuka creeks.



To contribute to the sustainable stewardship of the watersheds and effectively manage water as a resource, all three services and systems (water, wastewater and stormwater) should be managed as an integrated system. Understanding the interactions of the three systems will help reduce future upgrade costs and provide a more sustainable service. This means considering the interactions between services including:

- **Water and Stormwater** - With Buffalo Pound Lake located a considerable distance away from Regina, water conservation is imperative. Innovative stormwater management considers runoff as a resource, rather than just a nuisance to be disposed and presents an opportunity to use runoff as a supplemental water source that lowers water consumption and peak demand. This approach also lowers peak flows from stormwater runoff in Regina to minimize erosion of receiving streams and support sustainable stewardship of the creeks.
- **Wastewater and Stormwater** - Stormwater can enter the wastewater collection system through a variety of mechanisms, collectively known as inflow and infiltration (i&i). When it rains or snows, stormwater runoff can enter wastewater pipes through manholes, cross-connections and leaks in the wastewater collection system. This can result in basement flooding and in

extreme situations, bypasses to the receiving waters and poses a risk to health and safety as well as property.

- **Water and Wastewater/Stormwater** – Water is distributed through pressurized pipes underground. On occasion these pipes can develop leaks and allow drinking water to escape. This water can enter a nearby wastewater collection system and be transported to the Wastewater Treatment Plant (WWTP), or the leaked water can enter the stormwater system which could result in chlorinated water entering Wascana Creek. This results in lost revenue for the leaking water and a potential increase in expenditure on collecting and transporting the leaked water in either the wastewater or stormwater system. By implementing leak minimization strategies, the Utility can reduce cost and further protect the surrounding environment.

Goals

The goals of Regina's Water and Sewer Utility are set out in seven Service Categories that collectively reflect the regulatory, social, economic and environmental outcomes (LOS) for water, wastewater and stormwater service delivery as follows:

1. **Reliable Service** aims to provide ongoing reliable service of a suitable quality and capacity.
2. **Regulatory Compliance** serves to protect customer interests by meeting or exceeding our regulatory obligations.
3. **Environmental Stewardship** is about acting in the best interest of our customers and the environment.
4. **Service Delivery Support** focuses on providing a prompt response to customer service appointments while minimizing the length of any service disruptions.
5. **Customer Service** fosters communication to customer inquiries and collecting on utility billings in an efficient, accurate and timely manner.
6. **Servicing Development** focuses on providing access to service when and where it's needed.
7. **Financial Sustainability** aims to recover the full cost of service delivery.

The Customer Service and Financial Sustainability Service Categories are Utility-wide outcomes that cross over the three services. The other five Service Categories are consistent across water, wastewater and stormwater, but with goals specific to each Utility service.

The WWMP is based on the seven Utility Service Categories that guide the development and evaluation of policies, service goals, LOS and strategies for the wastewater service and system. Collectively, the Service Categories and associated LOS, along with the cost of delivering service, enable the assessment of the sustainability of Regina’s wastewater service. The Service Categories identified for the wastewater service align with the direction of the OCP, support the Community Priorities and move toward sustainable wastewater service delivery.



Policy Direction

The following section provides the wastewater service goals and rationale for each of the seven Utility Service Categories described earlier. Key actions, timeframes and resources associated with these goals are outlined in Appendix A.





Reliable Service aims to provide ongoing reliable service of a suitable quality and capacity.

SERVICE CATEGORY #1: RELIABLE SERVICE

The following policies and actions support the Financial, Environment and Infrastructure Policies in the OCP and contribute to the Community Priority to “Achieve Long-Term Financial Viability”.

Reliable wastewater service and infrastructure are vital to the health and safety of residents, the community and the environment. Reliable service delivery is the hallmark of any wastewater utility and is assessed by the collection of wastewater from customers with minimal public impact. The City remains committed to providing reliable, high-quality wastewater service to customers in the city and surrounding areas.

The policies within “Reliable Service” focus on maintaining service levels related to the collection of wastewater from customers in the most cost effective manner.

Goal 1: Collect and deliver residential, commercial and industrial wastewater with minimal public impact.

Rationale

Focusing on effectively collecting the quantity and quality of wastewater from customers while enhancing service delivery as needed will be important for the City to continue providing reliable wastewater service to customers.



Regulatory Compliance serves to protect customer interests by meeting or exceeding our regulatory obligations.

SERVICE CATEGORY #2: REGULATORY COMPLIANCE

The following policies and actions support the Infrastructure Policies in the OCP and contribute to the Community Priority to “Foster Economic Prosperity”.

Wastewater service and infrastructure collects and treats wastewater from residents in Regina and some surrounding areas providing a core service which supports customer’s health, safety and quality of life. Water Security Agency (WSA) regulates wastewater collection and treatment in Saskatchewan through *The Waterworks and Sewage Works Regulations*, in line with the *Canadian Environmental Quality Guidelines*. Permits for the construction, alteration and operation of wastewater systems require specific standards to protect human health and minimize impacts to the receiving environment. The City holds two operating permits, one for collection and one for treatment, outlining requirements for treated wastewater quality, operator certification, routine facility inspections, sampling and reporting.

The policies within “Regulatory Compliance” address regulatory requirements of constructing wastewater works and of safely collecting and treating wastewater to protect human health, aquatic species and the receiving water environment.

Goal 2: Collect and deliver wastewater for treatment in compliance with the operating permit.

Rationale

Complying with Regina’s Permit to Operate (Collection Works) will ensure collection of wastewater from customers and delivery to the wastewater treatment plant meets Provincial requirements. Securing Permits for Construction will ensure wastewater collection and delivery for treatment meets established design standards.

Goal 3: Treat wastewater to a standard that meets the requirements of the operating permit.

Rationale

Complying with Regina’s Permit to Operate (Treatment Works) will ensure treatment of wastewater from customers meets Provincial requirements for safe discharge of treated wastewater to Wascana Creek. Securing Permits for Construction will ensure wastewater treatment meets established design standards.



Environmental Stewardship is about acting in the best interest of our customers and the environment.

SERVICE CATEGORY #3: ENVIRONMENTAL STEWARDSHIP

The following policies and actions support the Infrastructure and Environment Policies in the OCP and contribute to the Community Priority to “Promote Conservation, Stewardship and Environmental Sustainability”.

Water is a precious resource that is often taken for granted. Wascana Creek serves as the receiving stream for treated wastewater (effluent) from Regina’s wastewater treatment plant and joins the Upper Qu’Appelle River Watershed near Lumsden. The City, along with all communities within these watersheds, has a role to play in the health and protection of our receiving environment and stewardship of water resources in the region.

It takes energy to collect and treat wastewater from customers. Through ongoing infrastructure maintenance and renewal, wastewater service operations can become more energy efficient to reduce Green House Gas emissions and support improved environmental stewardship.

The policies within “Environmental Stewardship” promote wastewater and energy efficiency as well as best practices for environmental design to preserve water as earth’s most precious resource.

Goal 4: Ensure that constituents (byproducts ex. biosolids/effluent water/biogas) that are removed from the wastewater are treated and disposed of in an appropriate manner.

Rationale

Responsible management of byproducts from wastewater treatment supports reduced resource use. Providing access to effluent re-use as recycled water supports water conservation in the Upper Qu’Appelle River Watershed.

Goal 5: Minimize the discharge of industrial pollution and hazardous waste to the sewer system.

Rationale

Limiting discharge of deleterious substances to the wastewater system supports efficient treatment and consistent wastewater quality and protects the natural environment from substances that cannot be treated.

Goal 6: Enhance wastewater efficiency.

Rationale

Efficient use of energy reduces Green House Gas emissions.

Goal 7: Support environmental conservation and sustainable wastewater management.

Rationale

Incorporating environmental design standards into wastewater projects and operations supports conservation efforts and environmental sustainability for future generations. Continued collaboration between the City and watershed groups supports sound water resource management and watershed protection practices.



Service Delivery Support focuses on providing a prompt response to customer service appointments while minimizing the length of any service disruptions.

SERVICE CATEGORY #4: SERVICE DELIVERY SUPPORT

The following policies and actions support the Financial and Infrastructure Policies in the OCP and contribute to the Community Priority to “Achieve Long Term Financial Viability”.

Effective and efficient customer support is important for continued collection and delivery of wastewater for treatment from our customers, particularly when there is a disruption to service. The City is committed to fostering customers’ trust and confidence in wastewater service delivery by ensuring the resources are available to meet customers’ needs for timely and responsive service delivery.

The policies within “Customer Service Delivery” support effective and efficient service-related interactions with customers and timely return to service when disruption occurs.

Goal 8: Be responsive to service requests.

Rationale

Being responsive to service appointments with customers is central to providing good service to our wastewater customers.

Goal 9: Minimize length of service disruption.

Rationale

Being responsive to service disruptions through timely restoration of wastewater service is key to providing good service delivery to our customers.



Customer Service fosters communication to customer inquiries and collecting on utility billings in an efficient, accurate and timely manner.

SERVICE CATEGORY #5: CUSTOMER SERVICE

The following policies and actions support the Financial Policies in the OCP and contribute to the Community Priority to “Achieve Long Term Financial Viability”.

Good customer service is central to the collection and treatment of wastewater from our customers. The City is committed to delivering consistent customer service and fostering positive relationships with Utility customers by providing timely response to inquiries and efficient, accurate billing services. In line with the benefits model referred to in *Design Regina*, customers pay for wastewater service through user fees.

The policies within “Customer Service” support good customer communication and service experiences as well as reliable Utility billing services.

Goal 10: Be responsive to customer inquiries and needs.

Rationale

Being responsive to Utility customer inquiries is important to providing good customer service.

Goal 11: Produce and collect on utility billings in an efficient, accurate and timely manner.

Rationale

Reliable, accurate utility billing services will encourage customer’s awareness of their water use and associated fees for the wastewater services. In addition, these services ensure revenues are collected to fund ongoing delivery of wastewater service.



Servicing Development focuses on providing access to service when and where it's needed.

SERVICE CATEGORY #6: SERVICING DEVELOPMENT

The following policies and actions support the Growth Plan, Financial Policies and Infrastructure Policies in the OCP and contribute to the Community Priority to “Achieve Long-Term Financial Viability”.

Wastewater service and infrastructure are required in growth areas to provide a fundamental core service to Regina’s new neighbourhoods. The majority of this infrastructure is funded and built by the development community with some system-wide assets built by the City. There is a need to plan wastewater infrastructure for growth considering the interaction with the existing system. The benefit of optimizing use of the existing infrastructure must be balanced with the requirements and impacts on existing service delivery. Taking an integrated approach when planning wastewater infrastructure balances the requirements for growth with the impact on existing areas.

The policies within “Servicing Development” address accessibility of the wastewater service for growth areas in a safe and effective way while considering the entire system, current design standards and future costs.

Goal 12: Accommodate growth and redevelopment within planning policy by providing wastewater service.

Rationale

Expansion of the wastewater system will be needed to service new neighbourhoods as well as upgrades to the existing system to manage the increased wastewater flows from new customers. The future operating costs of new infrastructure will be considered as well as potential to optimize use of existing infrastructure to decrease the overall cost of ownership.



Financial Sustainability aims to recover the full cost of service delivery.

SERVICE CATEGORY #7: FINANCIAL SUSTAINABILITY

The following policies and actions support the Financial Policies in the OCP and contribute to the Community Priority to “Achieve Long Term Financial Viability”.

The financial sustainability of the wastewater service is about making sure the City collects enough Utility revenues from wastewater user fees to recover the full costs of providing wastewater infrastructure and service that achieve the service goals and future demand requirements as described in the preceding six Service Categories. Utility rates will be established considering revenue requirements over the 25-year planning horizon, affordability and inter-generational equity. The City is committed to ensuring the wastewater service is financially sustainable now and in the future and that customers pay for wastewater service through user fees in accordance with the benefits model referred to in the OCP.

The policies within “Financial Sustainability” support the full cost recovery, user-pay basis to providing wastewater service to customers.

Goal 13: Ensure wastewater service is financially sustainable.

Rationale

Provide wastewater service to residential and business customers on a full-cost recovery, user-pay basis in line with the financial principles outlined in the OCP. Future rate recommendations will be sustainable and move towards achieving inter-generational equity.

Implementation Plan

To move the City towards achieving the goals and policies of this plan, the following section outlines the strategy to guide implementation over time and ultimately realize the plan. More detailed strategies will be developed to advance specific elements of the plan based on the timing and context detailed in this section.

Master Plan Ownership

Delivery of wastewater service to customers requires collaboration across and within various teams, both internal and external, involved in planning, constructing, operating and maintaining the wastewater collection and treatment systems and associated service activities. Collectively, these teams are responsible for implementing the plan.

Water, Waste & Environmental Services led the development of the WWMP and will continue to lead the implementation of many of the plan policies and actions. The City Planning and Community Development Division manages new growth areas and will lead the implementation of policies and actions to service development. The City will



continue to provide reliable treatment of wastewater through its Project Agreement with EPCOR until 2044. The Project Agreement ensures that the WWTP will be operated, maintained and expanded to effectively meet treatment requirements. The Project Agreement also ensures that the WWTP is maintained so that it is handed back to the City in good condition.

Water, Waste & Environmental Services also leads the development of the Utility capital investment planning process to prioritize investment in water, wastewater and drainage services. The capital planning process with financial analysis which includes using the 25-year Utility Model, forms the basis of budget recommendations to Council. The WWMP and the Utility capital investment plan are not a commitment for future investment. This policy direction will help inform decisions that are made by Council as part of the defined budget process and over the course of their ongoing deliberations.

Investments will be reviewed each year through the City's annual budget process where Administration's proposed budgets are vetted through a public consultation process. Only when Council adopts the budget will investments be approved.

Implementation Phasing

The WWMP goals are intended to be realized over the next 25 years through staged implementation of the policies and actions outlined in this document; however, the WWMP is not a commitment for future investment. It is also important to note that several factors, including changing operating conditions, changes in regulation, risks, financial capacity, and the pace of growth, will influence the implementation of planned actions and capital investments. Planned actions will require further development through the implementation phases and capital investment forecasts will continue to be adjusted annually through the Utility investment planning process to reflect additional information on risks, LOS and cost. The planned actions, timeframes and investment to maintain current LOS and address future demand are identified in Appendix A and summarized below.

Planned Actions, Timeframe and Resources

The planned actions help the City make informed decisions about the wastewater system and infrastructure that support service delivery to customers. Due to the systemic nature of the wastewater system, projects typically address more than one increased demand (new regulations and improved environmental protection, enhancing LOS, and growth) as well as contribute to maintaining current LOS. In

general, satisfying increased demand requires additional operating efforts going forward.

Efforts that support maintaining current LOS include ongoing operating and infrastructure renewal works. Operational procedures provide for the routine monitoring, operating and maintenance needs to keep delivering reliable wastewater service to customers on a daily basis. Infrastructure renewal involves the repair, replacement and improvement of assets to support ongoing reliable wastewater service delivery to customers over time. Environmental stewardship is also improved through projects that support maintaining current LOS including ongoing infrastructure renewal and replacement, as well as those needed to meet regulatory requirements.

Most operational activities will be maintained at current levels in the short term but may be refined as a result of continuous improvement efforts. Wastewater infrastructure renewal work that supports maintaining the current LOS includes:

- proactive monitoring
- assessment and renewal of critical system assets such as the wastewater treatment plant, McCarthy Boulevard Pump Station, trunk sewers and lift stations
- renewal of local sewers, manholes and service connections

Also included are renewal of control systems, as well as operations and customer billing systems and equipment. Maintaining the current LOS also involves system upgrades, including projects and programs such as the Wastewater Capacity Upgrades (see Appendix B for a more detailed project list from the Proposed Wastewater Capital Plan 2020-2024).

Efforts that address future demand include system infrastructure upgrades to support new regulatory requirements and greater environmental protection, improved LOS and growth. Some proposed projects address multiple demands such as new regulations and improved environmental protection, enhanced LOS and growth, as well as contribute to maintaining current LOS.

Works to address new regulations and improved environmental protection, enhanced LOS, as well as contribute to maintaining current LOS include the Trunk Relief Initiative and the Wastewater Capacity Upgrades (South Trunk, Linear Relief and East Central Storage). In addition, the Fleming Road Pumping Station Screens Project will support enhanced LOS through improvements to wastewater delivered for treatment.

Projects to support growth include planning and building additional system infrastructure to provide adequate wastewater capacity to new development areas in the near term considering existing system conditions. Proposed projects include the Trunk Relief Initiative, Wastewater Capacity Upgrades and specific lift station upgrades.

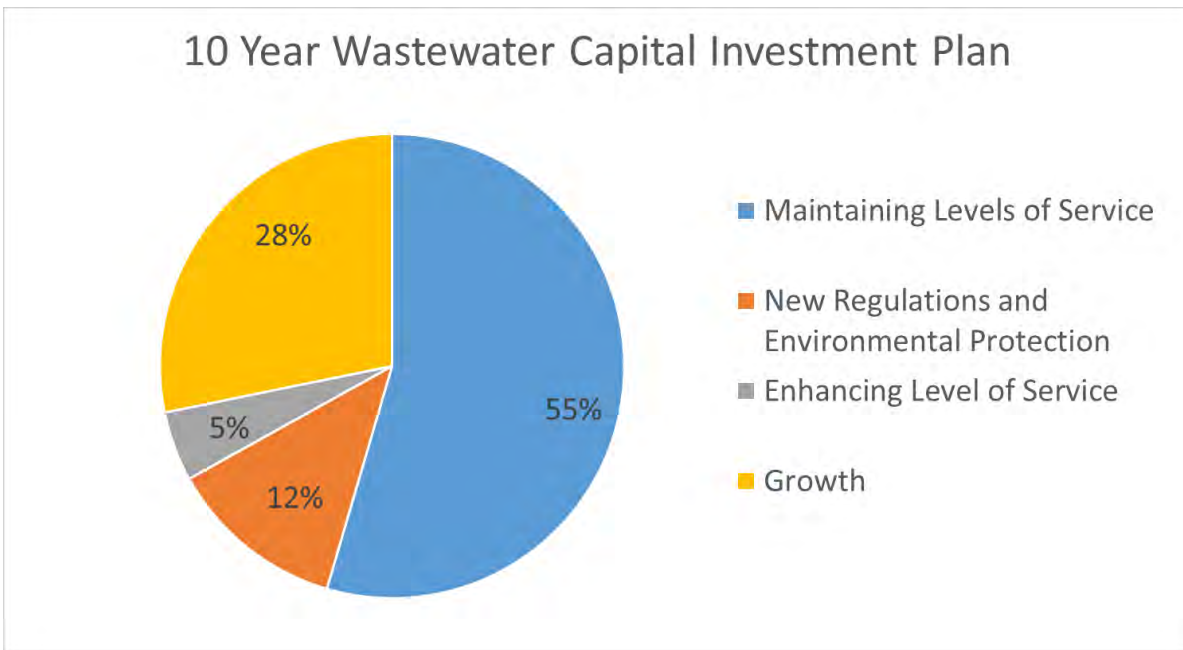
Implementation Investment Summary

The investment strategy for the wastewater service is developed in the Utility investment planning process. The approach starts with the development of business cases to describe service needs and propose solutions, including those identified in the WWMP. The submissions are reviewed and evaluated consistently to identify the benefits of investment and to prioritize projects and programs within the 10-year plan that support water, wastewater and stormwater service goals, aligned with corporate and LOS objectives. Investments in the remainder of 25-year plan are less defined; however, it is expected that much of the need is defined through long-term planning and asset renewal. Preliminary funding constraints are applied to the proposed plan and the residual risk of unfunded or deferred projects and programs are assessed. Scenarios are also developed to finance the plan with varying rates, debt issuance and reserve balances using the 25-year Utility Model. Together, the prioritized plan and financing scenarios form the recommended investment plan and budget to Council.

The WWMP sets out the capital investment needed to meet LOS that reflect regulatory, operational and economic outcomes, reduce risk and accommodate growth, to achieve the vision of the OCP. The proposed 25-year Wastewater Capital Plan is identified in Appendix C. Financing scenarios with a mix of rate increases and debt were evaluated with the Utility Model to assess financial sustainability in line with the WWMP goals and principles. Financial analysis of the proposed 25-year Wastewater Capital Plan using the Utility Model, indicates that low to moderate rate increases along with some debt issuance will be needed to fund the full plan. In general, operating expenditures are expected to increase, primarily due to new infrastructure added to the system and further program implementation. The WWMP outlines the Wastewater Capital Investment Plan; however, it is not a commitment for future investment and is subject to annual budget deliberations by Council.

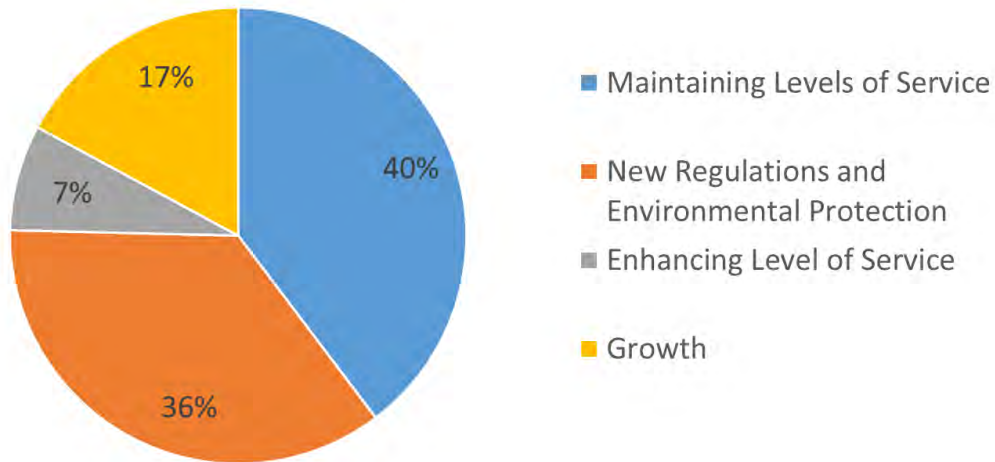
The following charts show the proposed 10-year (short to mid-term) and total 25-year (long-term) capital investment profile, illustrating that the majority of investment is focused on maintaining LOS through renewal, replacement and upgrade of

infrastructure that supports current service delivery to customers. The 25-year plan also shows significant investment toward new regulations and improved environmental protection. Capital and operating expenditures to maintain current LOS and increased demand are provided by wastewater user fees, with the exception of most growth-related capital investment which is funded by external sources through SAF.



Note: The majority of overall capital investment is funded by wastewater rates with most growth-related projects funded by SAFs.

25 Year Wastewater Capital Investment Plan



Note: The majority of overall capital investment is funded by wastewater rates with most growth-related projects funded by SAFs.

Monitoring and Evaluation

Wastewater service delivery is dynamic by nature and subject to changing conditions. The WWMP will continue to be reviewed and updated on a regular basis as follows:

- Review and progress reporting to Public Works & Infrastructure Committee on the status of implementing planned actions and strategies.
- Full review of the WWMP every five years to Council to ensure it is effective at meeting LOS, reducing risk and accommodating growth.

An important part of plan implementation is to monitor and report progress on the effectiveness of policies and actions to achieve goals. Tracking key performance measures and trends over time will inform updates to the strategies and actions of the plan. The performance measures should be reviewed every five years during the full WWMP review.

Some measures will require additional data collection and some may be adjusted based on resource availability and data management requirements. The following table sets out the measures in line with the defined Service Categories.

<p>Reliable Service</p> <ul style="list-style-type: none"> • Number of sewer backup inquiries • Number of logged (system and treatment plant) odour inquiries
<p>Regulatory Compliance</p> <ul style="list-style-type: none"> • Number of reportable discharges from the system and McCarthy Boulevard Pumping Station to the environment, regardless of cause • Number of notifications to downstream user group
<p>Environmental Stewardship</p> <ul style="list-style-type: none"> • Amount of biogas used at the WWTP • Percent of treated effluent where access is sold to allow use as recycled water • Number of bylaw violations issued • Electricity consumed to collect and treat wastewater • Number of active wastewater management installations incorporating conscious environmentally-friendly design
<p>Service Delivery Support</p> <ul style="list-style-type: none"> • Per cent of customer appointments attended on time • Average length of service disruptions
<p>Customer Service</p> <ul style="list-style-type: none"> • Per cent compliance with the Corporate Customer Service Standards providing contact to those who request it within 48 hours • Number of properties with at least one estimated meter read within the year • Number of properties (accounts) with at least one billing adjustment within the year • Customer debt outstanding to Utility
<p>Servicing Development</p> <ul style="list-style-type: none"> • Number of properties (development requests) rejected for utility wastewater servicing
<p>Financial Sustainability</p> <ul style="list-style-type: none"> • Per cent of capital investment funding shortfall over 10 years • Per cent wastewater charge of household income

Appendix A:

Planned Actions, Timeframes and
Resources

Planned Actions, Timeframes and Resources

The following symbols are used to outline the resources required.

	Capital:	Operating:
\$	<\$500 000	<\$100 000
\$\$	\$500 001 to \$2 000 000	\$100 001 to \$500 000
\$\$\$	>\$2 000 000	>\$500 000
Int	Internal costs only	

Policies and Recommended Actions		Timeframe	Initial Resources (subsequent annual maintenance costs are not reflected)		
			Level of Effort	Capital	Operating
Service Category #1: Reliable Service					
Goal 1: Collect and deliver residential, commercial and industrial wastewater with minimal public impact.					
Rationale: Focusing on effectively collecting the quantity and quality of wastewater from customers while enhancing service delivery as needed will be important for the City to continue providing reliable wastewater service to customers.					
Risk of not doing: LOS for wastewater quality and capacity will not be met.					
1.1	Develop and adopt the revised evaluation criteria (including LOS and design criteria) for Regina's wastewater collection and treatment system.	Short			
1.1.1	Continue to define and collect data to build out the evaluation criteria (including LOS) related to wastewater system performance and objectives, as well as develop and refine associated systems and processes for data collection as required, to better understand current performance and inform decision making.	Short, Medium	Med	Int	Int
1.1.2	Continue to collect data and undertake analyses (including wastewater system modeling and flow monitoring) related to wastewater system performance (quantity, extraneous flow sources, quality of wastewater), to inform decisions on the timing and prioritization of system improvements.	Short, Medium, Long	Low	Int	Int
1.1.3	Provide revised design criteria as input for update to the City of Regina's Development Standards Manual (2010).	Short	Low	Int	Int
1.1.4	Review and update evaluation criteria at least every five years to reflect changing conditions and	Medium, Long	Low	Int	Int

	identify any required adjustments to the planned system improvements.				
1.2	Implement and monitor the recommended wastewater infrastructure plan, including new infrastructure for growth areas where synergies can be realized, required to meet LOS and reduce risks related to service delivery (See Goal 12).	Short, Medium, Long			
1.2.1	Continue to develop and implement an asset management strategy for wastewater infrastructure and service using a risk-based approach as part of continuous improvement.	Short, Medium	Low	\$	Int
1.2.1.1	Continue to invest in the effective and efficient preservation and improvement of Regina's wastewater collection and treatment system.	Short, Medium, Long	High	\$\$\$	Int
1.2.1.2	Continue to review and refine operational and maintenance procedures in line with best practices as part of continuous improvement.	Short, Medium, Long	Low	Int	Int
1.2.1.3	Continue to develop a risk assessment and management strategy for supporting wastewater service delivery, including strategic risks and those associated with assets, particularly critical infrastructure, in the existing system.	Short, Medium, Long	Med	\$	Int
1.2.1.4	Continue to assess the performance of assets to support wastewater service delivery to maintain LOS and develop performance forecasts.	Short, Medium, Long	Med	\$\$	Int
1.2.1.5	Develop a life cycle management strategy for system assets that support wastewater service delivery.	Short	Low	Int	Int
1.2.1.5.1	Develop and apply a whole life cost approach to ensure the full costs of the assets from acquisition to disposal are included and service is provided at the lowest overall cost of ownership (See Goal 12).	Short	Low	Int	Int
1.2.1.6	Assess new and innovative technology and methods for constructing and renewing wastewater infrastructure (See Goal 7).	Short, Medium, Long	Low	Int	Int
1.2.1.7	Identify opportunities to coordinate wastewater projects with other infrastructure projects, including those required to support growth areas where synergies can be realized.	Short, Medium, Long	Med	Int	Int
1.2.1.8	Continue to explore opportunities to optimize use of the system taking into account system-wide effects by assessing residual capacity and use of existing infrastructure (See Goal 12).	Short, Medium, Long	Med	Int	Int
1.2.1.9	Continue to develop and implement an extraneous flow reduction program to reduce sources of inflow and infiltration to the wastewater system where effective and assess impacts on the recommended wastewater infrastructure plan.	Short, Medium, Long	Med	Int	Int
1.2.1.9.1	Evaluate current extraneous flow reduction practices and update inflow and infiltration targets.	Short, Medium	Low	Int	Int
1.2.1.10	Continue to develop and implement the source control program and associated bylaws (see Goal 5).	Short, Medium, Long			

1.2.1.10.1	Update and enhance targeted source control information to businesses.	Short, Medium	Low	\$,Int	Int
1.2.1.10.2	Update and enhance source control information available to the public.	Short, Medium	Low	Int	Int
1.2.1.10.3	Work with schools and local businesses to support source control educations and a sewer abuse awareness campaign.	Short, Medium, Long	Low	Int	Int
1.2.1.10.4	Explore the development and implementation of weeping tile disconnection into bylaw to ban existing inflow from the wastewater system.	Short, Medium	Low	Int	Int
1.2.1.10.5	Encourage customers to investigate sewer backup risks around their home and promote backup protection practices in line with industry and best practice.	Short, Medium, Long	Low	Int	Int
1.2.1.10.6	Review and update bylaws at least every five years to reflect changing conditions and identify any required adjustments to the planned system improvements (see Goal 5).	Medium, Long	Low	Int	Int
1.3	Continue to work with EPCOR to monitor the HWS and ensure compliance with the Project Agreement (see Goal 5).	Short, Medium, Long	Med		\$\$\$

Service Category #2: Regulatory Compliance

Goal 2: Collect and deliver wastewater for treatment in compliance with the operating permit.

Rationale: Complying with Regina's Permit to Operate (Collection Works) will ensure collection of wastewater from customers and delivery to the wastewater treatment plant meets Provincial requirements. Securing Permits for Construction will ensure wastewater collection and delivery for treatment meets established design standards.

Risk of not doing: Wastewater collection is not meeting regulatory requirements; may lead to fines or other action.

2.1	Ensure design, construction and operation of Regina's wastewater collection and delivery system complies with relevant legislative and regulatory requirements.	Short, Medium, Long			
2.1.1	Obtain all necessary permits and ensure adherence to conditions.	Short, Medium, Long	Med	Int	Int
2.1.2	Continue to work with the WSA to ensure operating permit requirements are met, including addressing additional sampling, monitoring and reporting requirements when wastewater is discharged to the environment.	Short, Medium, Long	Low	Int	Int
2.1.2.1	Continue to develop the Emergency Response Plan in line with industry emergency response planning standards and best practices and periodically update the plan to incorporate changed conditions as part of continuous improvement.	Short, Medium, Long	Low	Int	Int
2.1.3	Work with the WSA to monitor potential changes in wastewater regulations in the future.	Short, Medium, Long	Low	Int	Int

Service Category #2: Regulatory Compliance

Goal 3: Treat wastewater to a standard that meets the requirements of the operating permit.

Rationale: Complying with Regina's Permit to Operate (Treatment Works) will ensure treatment of wastewater from customers meets Provincial requirements for safe discharge of treated wastewater to Wascana Creek. Securing Permits for Construction will ensure wastewater treatment meets established design standards.

Risk of not doing: Wastewater treatment is not meeting regulatory requirements; may lead to fines or other action.

3.1	Continue to work with EPCOR and ensure compliance with the Project Agreement and regulations.	Short, Medium, Long			
3.1.1	Develop and participate in governance activities related to the WWTP.	Short, Medium, Long	Low		Int
3.1.2	Review monthly activities, performance and other events at the WWTP.	Short, Medium, Long	Med		Int
3.1.3	Investigation of complaints or influent wastewater quality concerns.	Short, Medium, Long	Med		Int, \$
3.1.4	Participate in hand back activities, including inspections and evaluations, beginning 7 years prior to the end of the contract.	Long	Med		Int
3.1.5	Work with the WSA to monitor potential changes in effluent quality and wastewater regulations in the future.	Short, Medium, Long	Low	Int	Int

Service Category #3: Environmental Stewardship

Goal 4: Ensure that constituents (byproducts ex. biosolids/effluent water/biogas) that are removed from the wastewater are treated and disposed of in an appropriate manner.

Rationale: Responsible management of byproducts from wastewater treatment supports reduced resource use. Providing access to effluent re-use as recycled water supports water conservation in the Upper Qu'Appelle River Watershed.

Risk of Not Doing: Conservation of resources may be limited if constituents from wastewater treatment are not appropriately managed or access to effluent re-use is limited.

4.1	Monitor and evaluate the amount of biogas generated and beneficially re-used at the wastewater treatment plant.	Short, Medium, Long	Low	Int.	Int.
4.2	Continue to support access to treated effluent as recycled water.	Short	Low		
4.2.1	Continue to evaluate treated effluent accessible for re-use as recycled water.	Short, Medium, Long	Low	Int, \$	Int
4.2.2	Continue to evaluate recycled water demand and explore re-use opportunities with customers.	Short, Medium, Long	Low	Int, potential revenue	Int

Service Category #3: Environmental Stewardship

Goal 5: Minimize the discharge of industrial pollution and hazardous waste to the sewer system.

Rationale: Limiting discharge of deleterious substances to the wastewater system supports efficient treatment and consistent wastewater quality, and protects the natural environment from substances that cannot be treated.

Risk of Not Doing: Wastewater system may be more vulnerable and treatment less efficient.

5.1	Continue to develop and implement the Wastewater and Storm Water Bylaw (Bylaw No. 2016-24) and ensure compliance by users.	Short, Medium, Long			
5.1.1	Continue to inspect, monitor and enforce acceptable use of the wastewater system by customers in line with the Bylaw.	Short, Medium, Long			
5.1.1.1	Continue to sample, monitor and evaluate discharges to the wastewater system for deleterious substances.	Short, Medium, Long	Low	Int	Int
5.1.1.2	Continue to ensure compliance with bylaw restrictions and associated fines.	Short, Medium, Long	Low	Int	Int
5.1.2	Continue to develop and implement the source control program and associated bylaws (see Goal 1).	Short, Medium, Long			
5.1.2.1	Update and enhance targeted source control information to businesses.	Short, Medium	Low	Int	Int
5.1.3	Review and update bylaws at least every five years to reflect changing conditions and identify any required adjustments to the planned system improvements (see Goal 1).	Medium, Long	Low	Int	Int
5.2	Continue to work with EPCOR to monitor the HWS and ensure compliance with the Project Agreement (see Goal 1).	Short, Medium, Long	Med		\$\$\$
5.2.1	Develop and participate in governance activities related to the HWS.	Short, Medium, Long	Low		Int
5.2.2	Review monthly activities, performance and other events at the HWS.	Short, Medium, Long	Med		Int
5.2.3	Investigation of complaints or influent wastewater quality concerns.	Short, Medium, Long	Med		Int, \$
5.2.4	Management of Haulers, including registration and corrective actions, for the HWS.	Short, Medium, Long	Low		Int
5.2.5	Participate in hand back activities, including inspections and evaluations, beginning 7 years prior to the end of the contract.	Long	Med		Int

Service Category #3: Environmental Stewardship					
Goal 6: Enhance wastewater efficiency.					
Rationale: Efficient use of energy reduces Green House Gas emissions.					
Risk of Not Doing: Targeted energy efficiency improvements will not advance.					
6.1	Monitor and evaluate the efficiency of energy use including reductions realized through implementing the wastewater infrastructure plan, including the extraneous flow reduction program and wastewater infrastructure renewal, replacement and upgrade.	Short, Medium, Long			
6.1.2	Continue to evaluate current energy consumption and examine opportunities to conserve energy and reduce Green House Gas emissions from wastewater operations.	Short, Medium, Long	Low	\$	Int
Service Category #3: Environmental Stewardship					
Goal 7: Support environmental conservation and sustainable wastewater management.					
Rationale: Incorporating environmental design standards into wastewater projects and operations supports conservation efforts and environmental sustainability for future generations. Continued collaboration between the City and watershed groups supports sound water resource management and watershed protection practices.					
Risk of Not Doing: Environmental conservation may be limited and targeted enhancement of environmental protection through design will be limited.					
7.1	Implement the application of environmental design standards and best practices into wastewater projects and operations, where feasible (See Goal 1).	Short, Medium, Long	Low	\$	Int
7.2	Continue to collaborate with the province and watershed associations to support source water protection and sound watershed management.	Short, Medium, Long			
7.2.1	Continue City participation in the Wascana Upper Qu'Appelle Watersheds Association Taking Responsibility (WUQWATR) to support source water protection including sound watershed stewardship.	Short, Medium, Long	Low	Int	Int
7.2.2	Continue to support the implementation of key priority action items in the local watersheds Source Water Protection Plan.	Short, Medium, Long	Low	Int	Int
Service Category #4: Service Delivery Support					
Goal 8: Be responsive to service requests.					
Rationale: Being responsive to service appointments with customers is central to providing good service to our wastewater customers.					
Risk of Not Doing: Customer service appointments will be ad hoc.					
8.1	Continue to develop and maintain systems and processes as well as explore new technology to support effective, efficient and responsive customer service practices.	Short, Medium, Long			
8.1.1	Continue to implement upgrades to customer information systems used for service bookings to support reliability of service bookings with customers.	Short, Medium, Long	Low	\$	Int

8.1.2	Continue to review and refine customer service procedures in line with best practices as part of continuous improvement.	Short, Medium, Long	Low	Int	Int
Service Category #4: Service Delivery Support					
Goal 9: Minimize length of service disruption.					
Rationale: Being responsive to service disruptions through timely restoration of wastewater service is key to providing good service delivery to our customers.					
Risk of Not Doing: Customer communications during service disruption will be ad hoc.					
9.1	Develop and maintain systems and processes to support effective and efficient customer service and communications, internally and externally, during wastewater service issues and disruptions.	Short, Medium, Long			
9.1.1	Continue to review and refine service request processes and systems used for identifying wastewater service issues and backups.	Short, Medium	Low	Int	Int
9.1.2	Develop and implement process to track and report response times to service disruption.	Short, Medium	Low	Int	Int
Service Category #5: Customer Service					
Goal 10: Be responsive to customer inquiries and needs.					
Rationale: Being responsive to Utility customer inquiries is important to providing good customer service.					
Risk of Not Doing: Customer service and satisfaction are low.					
10.1	Continue to ensure Corporate Customer Service Standards are maintained to promote good customer service interactions.	Short, Medium, Long			
10.1.1	Continue to review and refine customer service procedures in line with best practices as part of continuous improvement.	Short, Medium, Long	Low	Int	Int
Service Category #5: Customer Service					
Goal 11: Produce and collect on utility billings in an efficient, accurate and timely manner.					
Rationale: Reliable, accurate utility billing services will encourage customer's awareness of their water use and associated fees for the wastewater services. In addition, these services ensure revenues are collected to fund ongoing delivery of wastewater service.					
Risk of Not Doing: Utility billings and revenue collection will be less reliable.					
11.1	Continue to develop and maintain systems and processes to charge for and collect on billings to Utility customers for the wastewater services provided, as well as explore new technology to support effective, efficient and responsive customer service practices.	Short, Medium, Long			
11.1.1	Continue to implement upgrades to customer information systems used for generating utility bills to customers.	Short, Medium, Long	Low	\$	Int
11.1.2	Continue to review and refine customer service and operational procedures in line with best practices as part of continuous improvement.	Short, Medium, Long	Low	Int	Int

Service Category #6: Servicing Development					
Goal 12: Accommodate growth and redevelopment within planning policy by providing wastewater service.					
Rationale: Expansion of the wastewater system will be needed to service new neighbourhoods as well as upgrades to the existing system to manage the increased wastewater flows from new customers. The future operating costs of new infrastructure will be considered as well as potential to optimize use of existing infrastructure to decrease the overall cost of ownership.					
Risk of not doing: Wastewater system capacity will not meet increased demand.					
12.1	Implement and monitor the recommended wastewater infrastructure plan, including improvements to the existing system where synergies can be realized, required to support growth areas (See Goal 1).	Short, Medium, Long			
12.1.1	Undertake predesign, design and construction of system infrastructure to provide capacity upgrades to new development areas and address impacts on the existing system.	Short, Medium	Low	\$\$\$	\$
12.1.2	Develop and apply a whole life cost approach to ensure the full costs of the assets from acquisition to disposal are included and service is provided at the lowest overall cost of ownership.	Short	Low	\$, Int	Int
12.1.3	Continue to explore opportunities to optimize use of the system considering system-wide effects by assessing residual capacity and use of existing infrastructure (See Goal 1).	Short, Medium, Long	Med	\$, Int	Int
Service Category #7: Financial Sustainability					
Goal 13: Ensure wastewater service is financially sustainable.					
Rationale: Provide wastewater service to residential and business customers on a full-cost recovery, user-pay basis in line with the financial principles outlined in the OCP. Future rate recommendations will be sustainable and move towards achieving inter-generational equity.					
Risk of Not Doing: Wastewater service is insufficiently financed and customers pay less than it costs to provide the wastewater service.					
13.1	Continue to undertake capital investment planning and financial analysis for the wastewater service and develop holistic service-based costing to better understand the full cost of providing the Wastewater Service.	Short, Medium, Long			
13.1.1	Develop and implement systems and processes to track cost of service (including operating costs) aligned with LOS, to ensure wastewater service is provided on a full-cost recovery basis.	Short, Medium	Low	\$, Int	Int
13.1.2	Continue to improve the Utility investment planning and financial analysis in line with best practices as part of continuous improvement.	Short, Medium, Long	Low	Int	Int
13.1.3	Adopt the principle of inter-generational equity to establish future rate increases for users who benefit from the capital improvements.	Short	Low	Int	Int

* All proposed actions will require staff time and resources

Appendix B:

City of Regina Proposed Wastewater
Capital Plan 2020-2024

Proposed Wastewater Capital Plan

Project Program Name	2020	2021	2022	2023	2024	Total
Trunk Relief Initiative	2000	0	0	0	0	2000
Wastewater Flow Monitoring	120	120	120	120	120	600
Wastewater Capacity Upgrades - South Trunk	0	1700	0	15600	0	17300
Wastewater Lift Station Renewal	300	300	300	300	300	1500
Fleming Road Pumping Station Screens	0	0	0	0	200	200
Wastewater Infrastructure Renewal	10310	10310	10310	8480	8480	47890
Creeks Wastewater Pump Station Expansion	2500	0	0	0	0	2500
Total Capital Plan	15230	12430	10730	24500	9100	71990
Capital investment for WWTP and HWS Renewal Payments considered in operating budget	246	89	3634	189	925	5083
Total						77073

All dollars in thousands. Includes SAF funded projects.

Appendix C:

City of Regina Preliminary 25-year
Wastewater Capital Plan

City of Regina Preliminary 25-year Wastewater Capital Plan

Investment Driver	2020-2024	2025-2029	2030-2034	2035-2039	2040-2044
Maintaining LOS Projects and programs include: <ul style="list-style-type: none"> - Wastewater Infrastructure Renewal - Wastewater Capacity Upgrade Projects - WWTP and HWS Renewal Payments 	\$57M	\$49M	\$48M	\$43M	\$43M
New Regulations and Environmental Protection Projects and programs include: <ul style="list-style-type: none"> - Wastewater Capacity Upgrade Projects 	\$9M	\$15M	\$67M	\$97M	\$29M
Enhancing LOS Projects and programs include: <ul style="list-style-type: none"> - Fleming Road Pumping Station Screens 	\$3M	\$7M	\$16M	\$12M	\$8M
Growth Projects and programs include: <ul style="list-style-type: none"> - Wastewater Treatment Plant Capacity Upgrade - Wastewater Capacity Upgrade Projects 	\$8M	\$47M	\$29M	\$16M	\$4M
Total	\$77M	\$118M	\$160M	\$168M	\$84M

Includes SAF funded projects.

Includes WWTP Renewal Payments and HWS Renewal Payments as set out in the PA, however these items are considered within the operating budget.