2022-23 Annual Business Plan

Halifax Water

Working together with mutual trust, respect and shared values that focus on our commitment to customers, community, and the environment.

- **People**
- **Health, Safety & Environment**
- **Financial & Regulatory Accountability**
- **Operational Excellence**

Approved by the Halifax Water Board
January 27, 2022

Presented to Halifax Regional Council
February 15, 2022

One Team, One Water

GLOSSARY

AM	Asset Management
AMI	Advanced Meter Infrastructure
AMP	Asset Management Plan
BCP	Business Continuity Plan
BPF	Biosolids Processing Facility
CAD	Computer Aided Drafting
CAP	Climate Action Plan
CBS	Corporate Balanced Scorecard
CCC	Capital Cost Contribution
CCME	Canadian Council Minister of the Environment
CPI	Consumer Price Index
CSF	Critical Success Factor
CSO	Combines Sewer Overflow
DEI	Diversity, Equity, and Inclusion
DES	District Energy System
DFO	Department of Fisheries and Oceans
DLS&I	Department of Labour, Skills & Immigration
DOE	Department of Energy
EMAP	Energy Management Action Plan
EMP	Emergency Management Plan
EMS	Environmental Management System
ERM	Enterprise Risk Management
ERP	Enterprise Resource Planning
ETS	Engineering and Technology Services
GHG	Green House Gas
GIS	Geographic Information System
H2O	Help to Others (Program)
HHSP	Halifax Harbour Solutions Plant
HRWC	Halifax Regional Water Commission
I&I	Inflow and Infiltration
IC&I	Industrial, Commercial & Institutional
ICIP	Investing in Canada Infrastructure Program
IFRS	International Financial Reporting Standards
IMP	Integrated Master Plan
INFC	Infrastructure Canada Fund Programs
IRP	Integrated Resource Plan
IS	Information Services
IT	Information Technology
LED	Light-emitting Diode
LOS	Level of Service
NOM	Natural Organic Matter
NSECC	Nova Scotia Environment and Climate Change
NSERC	Natural Sciences and Engineering Research Council
NSPI	Nova Scotia Power Incorporated
NSPW	Nova Scotia Public Works
NSUARB	Nova Scotia Utility and Review Board
OI	Organizational Indicator
RDA	Regional Development Area
RDC	Regional Development Charge
RDII	Rain Derived Inflow and Infiltration
RDP	Regional Development Plan
RF	Radio Frequency
RFP	Request for Proposal
RFQ	Request for Qualifications
SCADA	Supervisory Control and Data Acquisition
SMS	Safety Management System
SSES	Sanitary Sewer Evaluation Survey
SSO	Sanitary Sewer Overflow
UV	Ultraviolet
WRWIP	West Region Wastewater Infrastructure Plan
WSEP	Water Supply Enhancement Program
WSER	Wastewater System Effluent Regulations
WSP	Water Supply Plant
WWMP	Wet Weather Management Program
WWTF	Wastewater Treatment Facility

Table of Contents

INTRODUCTION

Halifax Water is an integrated water, wastewater and stormwater utility that serves more than 106,000 customers and an estimated population of 383,000.

This document outlines the utility's business plan for fiscal 2022/23, which officially begins on April 1 of 2022.

For 2022/23, Halifax Water has developed a plan that addresses the challenges of growth, aging infrastructure, and the increasing demands of customers. In addition to addressing these challenges, this plan focuses on ensuring Halifax Water customers continue to receive quality service and that the utility's employees are supported and empowered with the resources needed to achieve this.

MISSION

To provide world-class services for our customers and our environment.

VISION

We will provide our customers with high quality water, wastewater, and stormwater services. Through adoption of best practices, we will place the highest value on public health, customer service, fiscal responsibility, workplace safety and security, asset management, regulatory compliance, and stewardship of the environment. We will fully engage employees through teamwork, innovation, and professional development.

VALUES

Relationships - We nurture relationships with our customers, our team members, and the environment. We are engaged in the neighbourhoods we serve, and we support continual learning across our team.

Innovation - We are among the top utilities across the continent and we are known on the global stage. We always ask, "how can we improve efficiency, sustainability, creativity and the customer experience?"

Accountability - We refuse to cut corners. We check in with our excellence standards regularly and look to one another for support. Safety steers our decision-making. We are driven to make our policies, decisions, and projects as clear as our drinking water.

Protection - Halifax Water protects the health and well-being of our population. We exist to guard natural resources, finding ways to sustain our communities and environment.

EXECUTIVE SUMMARY

For 2022/23, Halifax Water will focus on our overall sustainability to improve our financial position and organizational capacity to ensure that we can meet the service demands of our current and future customers. The key drivers include the challenges caused by growth, aging infrastructure, as well as the costs of environmental compliance and protection.

For this fiscal year, Halifax Water will also increase its focus on environmental sustainability. This includes the implementation of a corporate-wide Environmental Management System (EMS), the completion of a Climate Action Plan (CAP) and continuing to ensure that major initiatives anticipate future environmental requirements and changing environmental conditions. For 2022/23, these major initiatives will include the Water Supply Enhancement Program, Water Safety Plan, Wastewater Treatment Facility Study, and Biosolids project.

Many of these are multi-year initiatives, but 2022/23 will be an important year of finalizing plans, studies and programs that will impact the utility and better serve customers for years to come.

We will be increasing the sustainability and capacity of our workforce by adding several new positions in areas that support capital project delivery, climate change, and stormwater service delivery. In addition to increasing our staffing complement, we will continue to focus on the physical and psychological health of Halifax Water employees as we continue to adjust to changing risks and public health requirements related to COVID-19.

For Halifax Water, the vast majority of our activities require cooperation and collaboration from multiple business units and workgroups. This is why this year we are approaching the business plan in a more collaborative way that is more reflective of who we are and what we are trying to achieve. Instead of focusing on departments or departmental and individual goals, we are now concentrating on corporate goals that clarify what we need to work on together - as a team.

These goals are now included in our strategic initiatives and programs under four pillars:

- People
- Health, safety, and environment
- Financial and regulatory accountability
- Operational excellence

We have set ambitious goals that are designed to bring immediate and long-term value to our customers. By working as one team, with a unified approach, we are looking forward to a successful year.

Cathie O'Toole

General Manager and CEO

STRATEGIC INITIATIVES AND PROGRAMS

People

We attract and retain high-quality team members in an inclusive and respectful work environment. We are committed to our customers and the communities where we live and work, determined to provide a high level of service and sustainable future through ongoing engagement.

Enhance workforce planning (talent management, meeting staff resource requirements, training, etc.)

Goal(s)	• Increase capacity by filling new positions budgeted in 2022/23. • Ensure people moving into new roles are properly oriented and set for success by revising the onboarding process by the end of Q2.
Rationale	• Halifax Water currently does not have the staffing capacity to deliver the annual capital program and planned new initiatives. Some areas of the organization are struggling to meet required service levels or experiencing poor work-life balance. To ensure new employees, and existing employees moving into new roles are successful, we need to properly orient them, provide reference materials and virtual tools, to support their professional growth in their position.
Impact	• Increasing staffing capacity will help mitigate several organizational risks such as critical infrastructure failure, environmental and regulatory risks. A risk that may prevent achievement of this goal is the competitiveness of the labour market for some technical/specialized positions and the capacity of Human Resources to hire and onboard newly established positions while keeping up with regular workforce turnover caused by internal movements, terminations and retirements.

Build a positive and diverse workplace

Goal(s)	• Halifax Water will complete initiatives outlined in the Diversity, Equity, and Inclusion (DEI) framework for 2022/23 and establish performance measures for DEI reporting by the end of Q2. • All employees at Halifax Water will continue to receive unconscious bias training. This was initiated in 2021/22 but delayed due to COVID-19 public health restrictions. • The 2021 Employee Survey results will be discussed with employees and an action plan developed to address areas for improvement by the end of Q1.
Rationale	• Halifax Water is committed to a workforce reflective of the customers we serve. Creating a diverse workforce that values equity and inclusion also helps create an organizational culture where respect and civility are valued; and psychological health and safety is promoted. High-performing organizations typically exhibit high employee satisfaction and engagement.
Impact	• Strong employee engagement and satisfaction will mitigate risk across the business by building a committed workforce and reducing complacency and presenteeism.

Increase stakeholder and customer engagement

Goal(s)	• Develop a comprehensive stakeholder engagement plan that is mapped to key priorities for 2022/23 by April 30. • Formalize and schedule ongoing stakeholder engagement opportunities by the end of Q1. • Benchmark status of advancing relationships at the end of each quarter in 2022/23.
Rationale	• As we continue to meet the needs of our customers and our community, it is essential that we engage with our various stakeholders. It helps establish a more collaborative framework of engagement that leads to positive and productive dialogue. Staying attuned to stakeholder/customer preferences and responding to them cultivates loyalty and fosters greater trust that in turn helps Halifax Water maintain the freedom to operate and enable continued innovation.
Impact	• As a community-owned utility, we operate based on financial, regulatory, and implicit social licenses that are provided based on the services we provide. To protect

	these licenses and mitigate the associated risks attached to each, it is essential that we proactively engage stakeholders. Apart from the continuing pandemic as a risk, communication is key to the success of these goals.

Support effective governance by the Halifax Water Board

Goal(s)	• Ensure orientation of new members or members changing roles on Board subcommittees and help these subcommittees develop workplans for 2022/23 by end of Q1. • Review and refresh the Halifax Water mission, vision, and values in Q2 and Q3 through a collaborative process involving employees and the Board. • Arrange spring (Q1) and fall (Q3) visits of Board members to a selection of Halifax Water facilities.
Rationale	• It is important that the Halifax Water Board provide effective governance oversight and strategic direction on mission, vision, values, and levels of service.
Impact	• Effective governance by the Halifax Water Board helps mitigate governance risk, and risks in all other areas. The Halifax Water Board has a key role in Enterprise Risk Management (ERM) through establishing corporate risk frameworks and risk tolerance levels.

Ensure that major initiatives have communication and stakeholder engagement plans

Goal(s)	• Develop communications and engagement workplans for each major initiative, project and/or issue at least 60 days prior to execution. Based on our overarching communications framework, these workplans will address capital projects, annual service programs, stakeholder work, and other internal and external initiatives as planned for 2022/23.
Rationale	• By proactively developing strategic plans that allow us time to prepare and communicate early, it allows us to understand and adapt as required to ensure our audience is fully informed and understands the work the utility is undertaking to help serve the community and customers better.
Impact	• Proactively engaging and communicating helps the utility mitigate the risk of slowdowns and or stoppage due to

		concerns from one or more groups. Without preplanning, the ability to identify and mitigate stakeholder/community risks is eroded.

Enhance information available to customers through Customer Connect and bill redesign

Goal(s)	• Hold customer focus groups to provide insight into the redesign of the customer bill by the end of Q1. • Develop a strategy to increase utilization of Customer Connect portal and its adoption rate by the end of Q2. • Develop a customer survey that will gather metrics on a quarterly basis by the end of Q4. • Based on customer feedback from focus groups and bill redesign, develop a strategy to enhance the Halifax Water website to create a more customer-friendly experience by the end of Q4.
Rationale	• Halifax Water must continually balance the demands of customers with providing value through the products and services it provides. The most effective way to understand the customer is to engage and seek input on a regular basis. By using customer data and feedback, Halifax Water can adapt to address the changing needs of customers in a more cost-effective way.
Impact	• These goals allow the organization to stay connected with customers. By working towards longer-term communication and engagement strategies for customers, we reduce the risk of customers losing trust in Halifax Water.

Health, Safety & Environment

We are focused on a safety-first culture, working to provide healthy, safe, sustainable, and reliable services for our community.

Continue to enhance safety and security culture, starting with Safety Leadership training

Goal(s)	• Introduce and commence Health and Safety Leadership Training 101 in Q2. • Begin the transition of the current Occupational Health Safety Program Manual into a formalized Safety Management System (SMS) in Q2, as updates to the Occupational Health and Safety Program Manual are completed.
Rationale	• Halifax Water is on a journey to become an industry leader in optimizing the health and safety of its employees. This includes the belief that health and safety is more than just a priority. It is a way of life, both at work and at home every day. • A positive work culture contributes to employee health and safety, job satisfaction and engagement, while enabling employees to contribute most effectively in their role of delivering high-quality service to our customers. • As we progress on this journey, we will focus on continuous improvement. This Safety Leadership training is a solid step in updating the Health and Safety Program. It will provide the foundation for future enhancements throughout Halifax Water by supplementing the culture of "Safely Working Together"
Impact	• The formalization of an SMS will help keep safety at the forefront of Halifax Water employees as they work to minimize complacency, which is often a contributing factor to workplace incidents. The appropriate resourcing and ensuring the availability of all employees will reduce the risk of to successfully implementing the SMS.

Secure approval for new biosolids strategy and execute a

Goal(s)	• Review and evaluate submissions from the Requests for Qualifications (RFQ) process which began in 2021, to identify potential proponents for a new Biosolids Processing Facility (BPF) by Q1. • Based on the RFQ process, develop, and implement a Request for Proposals (RFP) process that culminates with the selection of a preferred proponent by Q3 2022/23 (tentative).

contract for the new BPF		• Negotiate and execute a new long-term Biosolids Processing Facility Expansion/Upgrade and Operating contract (tentative).
	Rationale	• As the existing facility approaches its processing capacity limits and its end-of-life, Halifax Water must plan to upgrade/expand. As part of this, the utility must accommodate the forecasted increase in biosolids production, due mainly to population growth within HALIFAX, and HHSP secondary treatment requirements currently required by Canadian Council Minister of the Environment regulations by 2040.
	Impact	• This project will help mitigate the following risks: ○ Environmental – ensures continuity of our Biosolids Management Program and creates an opportunity to produce renewable energy to support climate change initiatives. ○ Financial – could significantly reduce the capital and operating costs to process biosolids, which can, directly and indirectly, benefit ratepayers. ○ Infrastructure and capital assets – ensure the upgrade/expansion of an existing asset that is approaching end-of-life. ○ Regulatory – ensures continued compliance with respect to biosolids processing capacity and beneficial re-use of biosolids. ○ Stakeholders – ensures continued and long-term delivery of expected Level of Service (LOS) to HALIFAX and our ratepayers.

Develop a Climate Action Plan

Goal(s)	• Develop a Climate Action Plan (CAP) for Halifax Water for approval of the Halifax Water Board in 2023/24.
Rationale	• A CAP will guide Halifax Water's planning and investment decisions and ensure long-term resiliency of its infrastructure. It will also allow the utility to establish targets and track the progress of mitigative measures and adaptation strategies, including reductions in greenhouse gas emissions, stormwater management, flood resiliency, water treatment, and vulnerability risk assessments.

	• This plan will align with HalifACT 2050 goals that provide value to Halifax Water's ratepayers and will also support the utility's Environmental Management System (EMS).
Impact	• As climate science continues to evolve, specific targets may be difficult to define and achieve; however, there is greater risk by not acting and planning for future infrastructure requirements accordingly. • A lack of action could lead to an increased risk in all Halifax Water risk categories, including the potential inability to provide service, higher risk of rate increases to cover costs of recovery from events, and impacts to the environment from climatic changes or infrastructure failure. By anticipating and planning, Halifax Water can adapt while continuing to provide a high level of service (LOS) to customers.

Align green initiatives for fleet and buildings with Climate Action Plan

Goal(s)	• Where appropriate, incorporate energy efficient vehicles as part of Halifax Water's Fleet Capital Upgrade Program in 2022/23. Halifax Water anticipates replacing up to five gasoline-powered ¼ and ½ ton service trucks with self-charging hybrid ¼ ton service trucks. These units have been tendered and delivery is expected at the end of Q3 or early Q4 2022/23. • Upgrade lighting controls at 450 Cowie Hill building to energy efficiency in Q1/Q2.
Rationale	• This represents the first significant step to "greening" the Halifax Water fleet of vehicles. By successfully adopting these vehicles into our current inspection and supervision fleet, we reduce greenhouse gas emissions. In addition, we can develop internal support and employee buy-in for utilization of these vehicles in other business applications. • Upgrades to the existing lighting controls will improve overall building efficiencies and reduce electricity consumption.
Impact	• The introduction of more energy efficient technology allows the utility to progress towards a more environmentally sustainable business. There is a risk that these vehicles and lights could be delayed due to supply chain disruptions.

Maintain regulatory compliance and enhance reporting

Goal(s)	• Implement the rollout of the enhanced reporting requirements and procedures in Q1. • Complete rollout, monitor effectiveness and adjust as necessary in Q2 and Q3.
Rationale	• Our regulators (*e.g.*, NSECC, Environment Canada, Department of Fisheries and Oceans) require Halifax Water to provide consistent and timely reporting of non-compliance events related to Combines Sewer Overflows (CSO), Sanitary Sewer Overflows (SSO) and other water system issues. These events are generally related to planned maintenance, emergency repairs or wet weather events. Halifax Water staff addressing these situations understand the importance of reporting these events to the Regulatory Compliance team.
Impact	• Enhanced monitoring and reporting will help reduce the risk of non-compliance with regulations and environmental legislative requirements. There will be less manual process, less reliance on specific individuals, and clear methods and guidance for employees. Although the risk is low, there is the potential that this goal may not be achieved if staff are not fully engaged or participating in this process.

Launch new service compliance program

Goal(s)	• Achieve final approval of the Compliance Program Project Charter in Q1. • Conduct a comprehensive stakeholder engagement process in Q2 and Q3. • Review feedback and develop an options analysis by Q4. (Note: projected to be operational in Q4 of 2023/24).
Rationale	• The goal of this compliance program is to eliminate the majority of the private side sources of Inflow and Infiltration (I&I) entering the wastewater system. This is a long-term and sustainable approach to reduce I&I entering the wastewater system, which otherwise results in increased collection and treatment costs for Halifax Water.
Impact	• By increasing focus on compliance, it reduces the risk of wet weather overflow events and additional operational costs Halifax Water incurs for the conveyance and treatment of extraneous water in the wastewater systems. This project will involve other departments within the

	utility, which will require resource commitments from them for this to be a success.

Implement corporate Environmental Management System (EMS)

Goal(s)	• The initial rollout and general environmental awareness training commenced in Q3 of 2021/22 and should be completed by Q1. • Complete internal audits for all groups at 450 Cowie Hill Road, Water Quality, Fleet and Logistics, as well as at the Lakeside/Timberlea Wastewater Treatment Facility in Q2/Q3.
Rationale	• EMS is a system of procedures, records, and processes to manage environmental issues and assist with regulatory compliance. It also makes day-to-day operations more sustainable and engages employees in these operational activities. It is audited against ISO 14001 standards, and if compliant, achieves ISO certification. This standard focuses on organizational leadership, risk identification and the associated influences, internal and external, to an organization. • Expanding the program will provide more consistency and comprehensive strength to Halifax Water's management of risks in protection of the environment and compliance within its operating systems.
Impact	• The EMS system and ISO certification is designed to reduce the risk of events that may impact the environment and potentially non-compliant events. This project will involve various departments within the utility, which will require resource commitments from them for this to be a success.

Execute the Get the Lead Out Program

Goal(s)	• Replace 150 public and 200 private lead service line replacements in 2022/23 as outlined in Halifax Water's proposal to the Nova Scotia Utility and Review Board (NSUARB) in 2020.
Rationale	• The Get the Lead Out program was accepted by the NSUARB in August of 2020, with a goal of removing all lead service lines from the main to the meter at Halifax Water's expense by 2038 through coordination with HALIFAX on paving programs and development of targeted programs.

	• Get the Lead Out was launched in 2021, and programs have been developed to replace lead services in coordination with paving projects and through a property owner-requested replacement program. • 2022/23 sees the continuation of this program and implementation of lessons learned from 2021/22 to both reduce costs and streamline processes to meet replacement goals.
Impact	• Lead service lines can result in increased lead at customers taps. Corrosion control can reduce but not eliminate lead exposure, and orthophosphate used for corrosion control is a costly product. Therefore, removal of lead service lines in a cost-effective and timely manner both addresses the public health impact and reduces utility costs in the long run through reduced requirements for corrosion control chemicals. The continuation of the COVID-19 pandemic could impact internal and external resource availability (both human and material) and costs.

Financial & Regulatory Accountability

Ensuring that Halifax Water has capacity to fund existing and future infrastructure, we prudently manage assets and operate our business by balancing value and customer service. Improve financial position and update the long-range financial plan.

Optimize capital project planning and delivery

Goal(s)	• Develop a plan to align engineering and asset management functions to optimally deliver the Integrated Resource Plan (IRP) level capital expenditure of $130 million annually in Q1. • Implement a capital project planning and management system by Q4. • Implement a formal governance process for capital project monitoring and oversight by Q4.
Rationale	• Halifax Water's 2019 IRP identified $4 billion in capital spending over a 30-year period. This was developed to meet the infrastructure needs of the utility and is driven by asset renewal, growth, and regulatory compliance. The IRP represents a quadrupling of Halifax Water's capital spending from just ten years ago. To deliver these projects when required and at optimal cost, Halifax Water requires a greater level of planning integration with other stakeholders as well as additional human resources and new systems and processes.
Impact	• Successful delivery of IRP projects ensures Halifax Water continues to provide service and avoids the cost of infrastructure failure or a breach of environmental regulations. It also ensures Halifax Water can accommodate growth within the municipality.

Progress asset management and infrastructure planning initiatives

Goal(s)	• Update and approve Halifax Water's Asset Management policy by Q1, and initiate Asset Management strategy scope by August 31, 2022. • Confirm Sanitary Sewer Overflow (SSO)Management scope of work by June 30, 2022 and award the Request for Proposals by September 30, 2022. • Refine the methodology to calculate the benefit to existing customers by February 28, 2023. • Realign LOS initiative with Halifax Water's overall corporate strategy October 31, 2022. (NOTE: this is tied to

		the maintaining a high level of day-to-day service goal on pg. 39)
	Rationale	• Effective asset management practices are crucial to both optimal planning and execution of capital projects with a sustainable financial plan to fund them. It also helps to optimize the overall lifecycle cost of assets by conducting maintenance and renewal interventions at the right time to ensure the utility meets the accepted LOS.
	Impact	• It mitigates the risk of premature asset failure. By avoiding catastrophic failure, it also helps to ensure continuous service and avoid spending more than necessary to maintain assets.

Complete an actuarial valuation of the Halifax Water Employees' Pension Plan and implement recommendations

	Goal(s)	• Halifax Water will be conducting an actuarial valuation of the Halifax Water Employees' Pension Plan (the Plan) in Q1.
	Rationale	• The Plan is a defined benefit pension plan regulated by the Pension Act. An actuarial valuation is required every three years.
	Impact	• The actuarial valuation will provide an assessment of the pension obligations of the Plan, the assets currently available and the ongoing costs required to meet the pension obligations. Depending on results, employee and employer contribution rates may be affected.

Complete a cost-of-service and a general rate application

	Goal(s)	• An updated cost-of-service manual and a general rate application will be filed with the NSUARB in the last quarter of 2021/22 with the expectation that a Hearing will be conducted by the end of September 2022.
	Rationale	• Halifax Water continues to efficiently operate critical infrastructure in a region that continues to grow, has aging infrastructure, as well as increasingly stringent environmental compliance and protection regulations. • While utility essentially operates as a not-for-profit, it is not permitted to operate with a deficit and must recover costs from customers.

	• While the utility's costs continue to increase, its ability to recoup these costs from customers has not kept pace. As a result, Halifax Water is now at a critical point, where its financial position compels it to seek approval for rate increases. These rates can no longer be deferred.
Impact	• To maintain services and the financial health of Halifax Water, rates charged to customers must be adjusted to generate sufficient revenue to maintain the financial health of the utility. The process to change customer rates is governed and decided by the NSUARB.

Complete System Assessment Reports and Water Safety Plans for all drinking water systems

Goal(s)	• Halifax Water will complete System Assessment Reports and prepare first drafts of water safety plan risks for all drinking water systems by March 31, 2023.
Rationale	• System Assessment Reports are a regulatory compliance requirement. Halifax Water is replacing the five-year Water Quality Master Plan process with Water Safety Plans. These plans will: ○ Allow for assessing risks and vulnerabilities to both current and future compliance while tying into ERM. ○ Provide a continuous improvement approach to assessing water quality risks from source to tap that engages stakeholders across departments and at all levels. ○ Allow for proactive rather than reactive planning and response to water quality through risk-based decision making. ○ Tie water quality into asset management and capital planning processes.
Impact	• Provides a greater understanding of capacity restraints, source lake recovery, as well as aging asset/infrastructure management. This allows Halifax Water to adopt best practices and have greater control over capital management. For this to be a success, it requires buy-in from internal stakeholders that provide effective change management. It is important that the utility has the resource capacity to execute the program. Ongoing COVID-19 restrictions and potential delays could impact the timeline.

Secure Regulatory approval for:

Stormwater Service Expansion

Goal(s)	• Halifax Water will seek approval from the NSUARB to begin providing stormwater service to expanded areas on June 1, 2022. Pending approval, in 2022/23, the utility will conduct Phase 2 of its stakeholder engagement. This also includes gathering additional information regarding the assets, drainage, and areas of concern for customers within the new service areas. Pending approval by the NSUARB, the utility will launch service delivery.
Rationale	• HALIFAX Council approved the transfer of provincial roads to the municipality and directed that Halifax Water should assume ownership and responsibility for the stormwater infrastructure and provide stormwater service. It is important that Halifax Water fulfil the direction from HALIFAX Council and provide stormwater service to the new service areas in a manner that demonstrates they are receiving value. This is an opportunity to also raise broader awareness about the increasing importance of stormwater management.
Impact	• The activities being carried out in 2022/23 are critical to help mitigate the reputational risks posed by the transfer and help mitigate future operational and financial risks by providing improved information to plan service delivery and establish future rates to recover the cost of providing the service.

Secure Regulatory approval for:

Cogswell District Energy System (DES)

Goal(s)	• Halifax Water will request NSUARB approval for DES by Q1. • Complete initial cost-of-service and rate design models for the DES by Q4. • Begin development of DES corporate support systems by Q4. • Start planning for design approval and constructions of DES energy centre by Q4.
Rationale	• Through HALIFAX's HalifACT 2050, our Board, and the Investing in Canada Infrastructure Program (ICIP) funding agreement executed with Infrastructure Canada Fund Programs (INFC), Halifax Water has committed to develop the Cogswell DES. Halifax Water's goals and deliverables must align with HALIFAX's Cogswell Regional Development Plan (RDP) to ensure that the DES is built in parallel with the Cogswell RDP, and ready for operation as new

	developments (*i.e.* buildings) are completed in the Cogswell Regional Development Area (RDA). • The NSUARB has ruled that the DES will be regulated as a public utility. Halifax Council has approved a mandatory connection by-law for the Cogswell RDA.
Impact	• The Cogswell DES will help Halifax Water achieve it's environmental goals by contributing to the reduction of GHG emissions, to our CAP, and by demonstrating our commitment to sustainability.

Secure Regulatory approval for:

Burnside Operations Depot

Goal(s)	• Halifax Water will issue a Request for Proposals for the Burnside Depot in Q2. • Pending regulatory funding approvals, construction will start in Q4.
Rationale	• This project replaces four depots and supports Halifax Water's One Team, One Water strategy. This aligns the workforce in a more customer centric way and helps improve service effectiveness in the central and east regions.
Impact	• The timely delivery of the project is necessary for an effective transition of Halifax Water employees to a less siloed working approach. By effective delivery of the project, it will speed this transition and help mitigate the risk of cost escalation on a project of this scale. The current COVID-19 pandemic and its associated impact on supply chains, the labour market, and volatile construction costs, may pose risks to project estimates.

Secure Regulatory approval for:
Mill Cove Wastewater Treatment Facility (WWTF) Upgrade

Goal(s)	• Halifax Water will retain an engineering consultant to begin the process for the planned upgrade of the Mill Cove Wastewater Treatment Facility (WWTF) n Q3, with an anticipated start beginning in three to five years.
Rationale	• The Mill Cove WWTF treats wastewater from Bedford, Sackville, and nearby communities. The plant needs upgrades at an estimated cost of $90 million. This is necessary to maintain a good state of repair, ensure regulatory compliance and accommodate planned growth in the service area.

Impact	• This plan will reduce the potential for infrastructure failure, mitigate the risk of environmental non-compliance and generate capacity to accommodate growth.

Operational Excellence

We are committed to service, reliability, and quality for our customers. Focused on safely and efficiently building, operating, and maintaining our critical infrastructure, we ensure a more sustainable community.

Implement plan for expanded stormwater service in June 2022

Goal(s)	• Gather historical maintenance plans and field information on trouble spots from Nova Scotia Public Works (NSPW) in Q1. • Conduct operations and maintenance inspections on stormwater infrastructure within the new service boundary in Q1. • Generate operations and maintenance plans based on information gained from field condition assessments and information gathering from NSPW in Q1 and Q2. • Update Halifax Water's priority flood lists with assets from the new service boundary to ensure the utility is prepared to respond during storms in Q3. • Pending NSUARB approval, execution of work plans will commence at the proposed takeover date from Q2 to Q4. • Build capital renewal plans for fiscal 2023/24 in Q3-Q4.
Rationale	• A plan will help ensure appropriate levels of service are met for new customers in the new service boundary. By understanding the asset condition and maintenance requirements in advance, work planning can be completed to facilitate a preventative maintenance program that can be executed efficiently.
Impact	• By having an updated assessment of the transferred assets/infrastructure, Halifax Water can understand and manage the service needs of stormwater customers. To ensure the success of this transition, the utility will require timely and accurate information from NSPW and effective collaboration with HALIFAX to manage customer expectations. Without these relationships, Halifax Water will be challenged to meet customer demands.

Develop an operating plan for the Burnside Operations Depot

Goal(s)	• Progress the planning process in the West operations business units to bring increased cohesion to the delivery of service in the region in Q1. Based on this planning process, this can become the framework for the new Burnside Operations Center. • Implement a change management team to help guide the transition to a new organizational business model for the One Team, One Water approach by Q4. • Develop a new organizational structure through collaborative workshops with water and wastewater/stormwater operations in Q3-Q4. • Structure a coordination and planning group that will lead the development of work plans for execution across the operational workgroups in Q2-Q3.
Rationale	• Efficient service delivery under the One Team - One Water umbrella improves customer service, provides value, and allows for a more efficient use of available resources.
Impact	• It is essential that Halifax Water's infrastructure and capital assets are maintained to provide a LOS that customers expect. A failure to do so could alienate customers, increase the liability for property damage and result in regulatory non-compliance. To ensure this is avoided, Halifax Water must promote cultural changes within its teams, to avoid a territorial approach to resources and unproductive competitiveness.

Year 2: Water Supply Enhancement Program

Goal(s)	• Establish a program management office for the Water Supply Enhancement Program (WSEP) in Q1. • Sign off on clarifier pre-design in Q1. • Initiate Lake Major pumping station pre-design in Q4. • Initiate Pockwock clearwell pre-design in Q3.
Rationale	• The establishment of these milestones play a significant part in the overall WSEP. This is a key strategy for Halifax Water to mitigate the risk of lake recovery impacting water supply plant's ability to deliver high-quality water.

Impact	• The advancement of this program reduces risk of service interruption due to infrastructure failure and the risk of changes in the source water having an impact on the utility's ability to provide high-quality water and achieve regulatory compliance.

Incorporate Digital Water Strategy into Five Year Strategic Plan

Goal(s)	• Complete an updated three- to five-year IT Strategy, which focuses on digital transformation and intelligent water by Q3.
Rationale	• Utilities are rich in data that provide opportunities to improve customer service and its operations. By equipping staff with the tools to manage and analyze data, it provides Halifax Water with the ability to be more innovative. By using existing IT infrastructure and the data collected, it can provide information that is insightful in a cost-effective and sustainable way.
Impact	• This strategy document will ensure cyber security measures are more reflective of the utility's digital transformation and make sure that the utility's cyber security posture is maintained as the IT landscape evolves.

Optimize WSP & WWTF processes through Dalhousie research partnership

Goal(s)	• Pending the award of the Proposed Alliance Grant by Natural Sciences and Engineering Research Council (NSERC), Halifax Water will enter a contract and launch the next five-year research term by July 2022. • Halifax Water will work with Dalhousie to develop a plan to facilitate research required to execute the proposal, including procurement, installation, and commissioning of a pilot plant for wastewater by December 31, 2022.
Rationale	• In the fall of 2021, Dalhousie University submitted a five-year research proposal titled Partnership for Innovation in Climate Change Adaptation in Water & Wastewater Treatment to the NSERC Alliance grant program. This five-year program would mark the fourth five-year research partnership with Halifax Water; however, this program encompasses both water and wastewater where previous industrial research chairs were for drinking water alone.

	• Outcomes from the One Water research program on the drinking water side will feed directly into capital planning for the Water Supply Enhancement Program (WSEP), ensuring selection and design of robust advanced treatment technology to meet source water quality challenges and regulatory requirements for decades to come. • Outcomes from the wastewater research tasks aim to assist Halifax Water in meeting future compliance requirements of the Wastewater Systems Effluent Regulations (WSER) in a cost-effective manner. Through the exploration of UV LED technology, piloting and optimizing existing chemically enhanced primary treatment research may present innovative solutions to both reduce energy use and costs associated with present and future compliance.
Impact	• This research provides a better understanding of Halifax Water's capacity restraints, as well as source lake recovery, climate change and regulatory compliance. This partnership requires a funding decision by NSERC, and Halifax Water must ensure that its staff accept and agree to participate in and facilitate this research.

Implement corporate Enterprise Risk Management (ERM)

Goal(s)	• Develop operational risk management tools to be used by Halifax Water to manage project and operational risk by Q4. • Develop a comprehensive Business Continuity Plan (BCP) by Q4. • Finalize ERM framework document that will be used to provide guidance to internal and external stakeholders and ensure ERM is considered in all aspects of the organization in Q3/Q4. • Continue to work to ensure that ERM is integrated into all other business units throughout 2022/23. • Develop an internal audit process as an assurance tool in Q3.
Rationale	• ERM provides the risk management principles and processes required to assist Halifax Water in taking a proactive approach to managing principal risks. This approach will improve performance, encourage innovation, and support the overall achievement of the organization's strategic objectives. The ERM strategy will

	provide better communication throughout the organization. Over the long term, ERM can enhance enterprise resilience and the ability to respond to change that could impact performance and necessitate a shift in strategy.
Impact	• ERM provides risk management principles and processes that can be applied across the organization to identify, measure, assess, respond to, monitor, and report on organizational risks that affect Halifax Water's ability to meet its strategic initiatives. By developing operational risk management, it will help Halifax Water mitigate the capital management, asset management, and aging infrastructure risks. A comprehensive BCP will safeguard operations and ensure that Halifax Water continues to offer services in the event of an emergency. In addition, an internal audit process will support the entire ERM program by addressing assurance, thus, assisting in the mitigation of all organizational risks. • Lack of resources and change management may impact Halifax Water's ability to achieve these goals in 2022/23.

Implement ERP project to improve operational efficiency

Goal(s)	• Complete the transition of Halifax Water's Enterprise Resource Planning (ERP) system to Cayenta in Q3.
Rationale	• An ERP is required to effectively manage the utility, and Halifax Water was required to transition from its current ERP system, SAP. Through a rigorous procurement process, Cayenta was selected as a cost-effective alternative. As the utility's new ERP system, Cayenta will streamline many financial and customer relationship management processes and will provide for more effective reporting.
Impact	• The ERP will support the financial management and the continued financial health of the utility. The ERP is a significant, organization-wide implementation and will require support from all parts of the organization. Implementations of this scale are complex and may be affected by system technical challenges, allocation of staff resources, and the ability of the organization to effectively manage the change.

Maintaining a high level of day-to-day service

Goal(s)	• Complete LOS work through the Asset Management Plan (AMP) and with input from stakeholders. The AMP is to be presented to the Halifax Water Board by the end of Q4. • Review the customer complaint and dispute resolution processes with internal stakeholders and the new Dispute Resolution Officer in Q1. • Review measures to monitor and report on the volume of work handled by all workgroups by the end of Q3, as part of documenting the current volume of activity and support future workforce planning to maintain day-to-day service.
Rationale	• Halifax Water is focused on resolving as many customer concerns as possible. When a resolution is not possible, or the customer is dissatisfied, the utility requires a process to escalate the complaint in an effective and meaningful way. Customers must have a clear understanding of how service is provided, what it costs, and the LOS they can expect. To achieve this, Halifax Water must seek clarity on the LOS customers demand, compared to the current service levels and whether the utility is achieving these.
Impact	• These activities will help Halifax Water better manage customer expectations and deliver service. Staffing capacity and the need to focus on more urgent initiatives may prevent achieving this work.

BUDGET SUMMARY

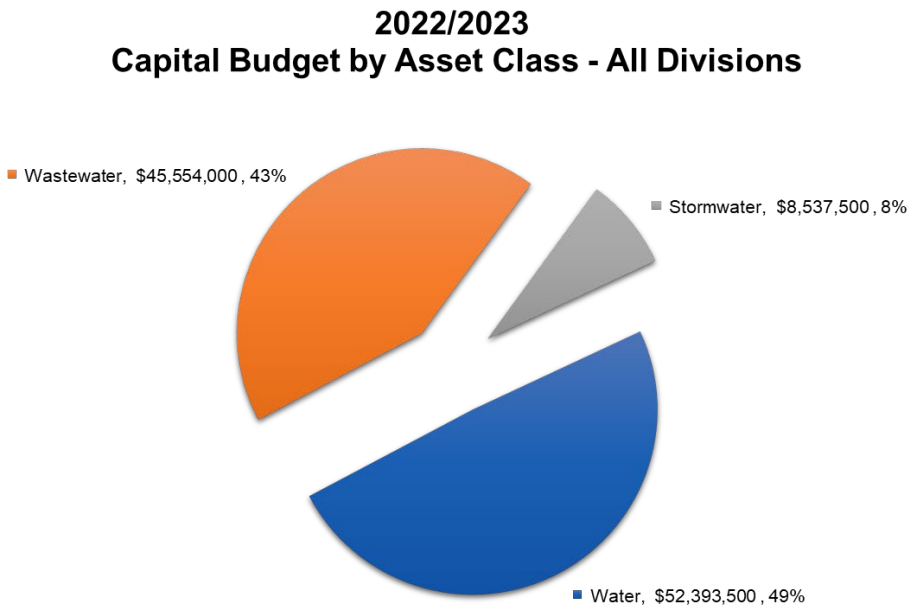
Capital Budget

Halifax Water's 2022/23 Capital Budget at a total value of $106,485,000 and detailed information on the capital budget is provided in Appendix B.

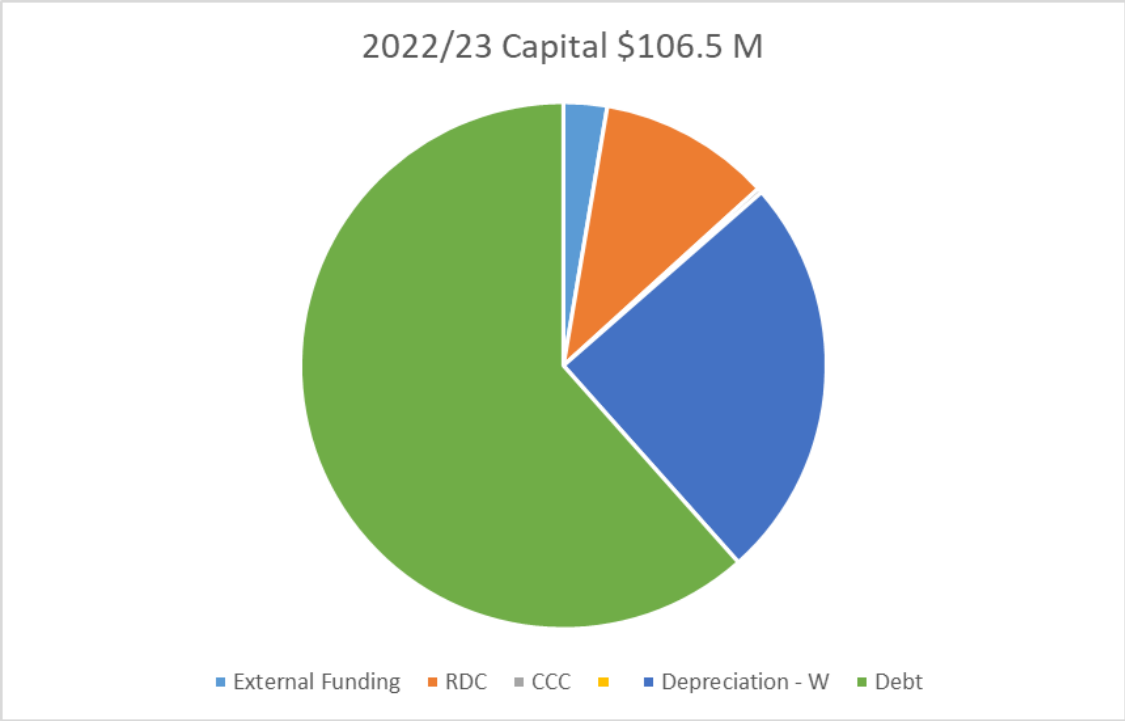
Halifax Water's 2019 IRP identifies a 30-year capital investment plan valued at $2.7 billion (net present value), and a requirement to achieve an average level of spend of $130 million per year. In relation to the IRP, the capital budget program focuses on providing required infrastructure for asset renewal, regulatory compliance, and growth.

This year's capital budget also recognizes the significant challenge Halifax Water faces in increasing a capital budget that was approximately $30 million just ten years ago to an average IRP spend of $130 million per year, including some years in excess of $200 million. Staff have reviewed Halifax Water's capacity to deliver our capital budget and determined significant changes are required in the areas of human resources, tools, and business processes. Accordingly, this year's proposed capital budget has been reduced compared to last year's budget of $126 million, and from the planned amount for this year in the most recent five-year capital budget of $153 million. The proposed budget of $106,485,000 is intended to achieve critical projects with well advanced planning while respecting the current capacity to deliver, augmented by some human resource additions.

The funding plan for the capital budget is comprised of the following funding sources; depreciation, debt, regional development charge reserve, capital cost contribution, Federal/Provincial infrastructure funding, HALIFAX cost sharing and energy rebates.



The funding plan for the proposed Capital Budget is shown below:



Water		**Wastewater**		**Stormwater**	
Depreciation	9,279,000	Depreciation	15,906,000	Depreciation	1,281,000
Debt	33,620,000	Debt	24,807,000	Debt	7,147,000
RDC	9,041,000	RDC	2,237,000	External Funding	110,000
External Funding	453,000	CCC	315,000		$8,538,000
	$ 52,393,000	External Funding HRM	2,289,000		
			$45,554,000		
Total Capital Funding	**$ 106,485,000**				

Operating Budget

The operating budget for 2022/23 reflects a projected deficit of $10.9 million and requirements to maintain current LOS and is based on rates approved by the NSUARB. The water rates were effective April 1, 2016, stormwater rates were effective July 1, 2017, base charges for wastewater effective April 1, 2016, while approved wastewater consumption rates by the NSUARB were effective April 1, 2021.

The main cost drivers of Halifax Water's operating budget are salaries and wages, energy, chemicals, depreciation, and debt servicing. Operating expenses are proposed to increase by $3.4 million or 2.7% compared to the budget for last year. Full details of the operating budget are provided in Appendix C.

Operating Budget Summary (in thousands)

	Actual 2020/21	Approved Budget 2021/22	Proposed Budget 2022/23	Change
Operating revenues	$ 136,569	$ 150,466	$ 152,765	$ 2,298
Operating expenditures	113,689	125,379	128,788	3,409
Earnings from operations	22,880	25,087	23,977	(1,110)
Financial and other revenues	963	722	733	11
Financial and other expenditures	33,726	37,461	35,598	(1,863)
Deficit	$ (9,883)	$ (11,651)	$ (10,888)	$ 764

All three services – water, wastewater and stormwater are currently operating at a deficit and Halifax Water will be making an application in 2022/23 to the NSUARB to adjust rates for services to reflect the current costs of providing service. As noted above, the majority of Halifax Water's rates are based on operating costs from several years ago and do not reflect current costs or recognize general inflation.

Operating Budget Key Assumptions

Revenue budgets have been developed based on the current rates for service. Net consumption is projected to increase by 1% in 2022/23 as decreasing consumption from existing customers is projected to be less than consumption increases caused by growth. Halifax Water is budgeting for 680 new customers connections, an increase from 638 in prior years.

The Consumer Price Index (CPI) in Halifax is currently running at 3.68%. The increase in Halifax Water's total operating expenses is less than this. Specific assumptions regarding some of Halifax Water's most significant expenses are shown below.

Chemicals	5%
Electricity	3%
Furnace oil	15%
Natural gas	15%
Salaries	2.25-3%**

** Halifax Water has three employee groups governed by 2 collective agreements and 1 compensation policy. This range provides allowance for step increases as employees move through various salary bands.

The budgets for depreciation expense, and non-operating expenses such as debt servicing and grant in lieu of taxes paid to the municipality are developed based on capital spending and additions to utility plant in service.

PERFORMANCE MEASUREMENT

At the end of the 2022/23 fiscal year, Halifax Water's overall performance will be assessed against the Corporate Balanced Scorecard (CBS). Halifax Water has been utilizing a CBS to measure utility performance since 2001. Each year the Halifax Water Board sets organizational indicators and reviews performance results. The CBS targets for 2022/23 will be presented for approval at the March 2022 meeting of the Halifax Water Board.

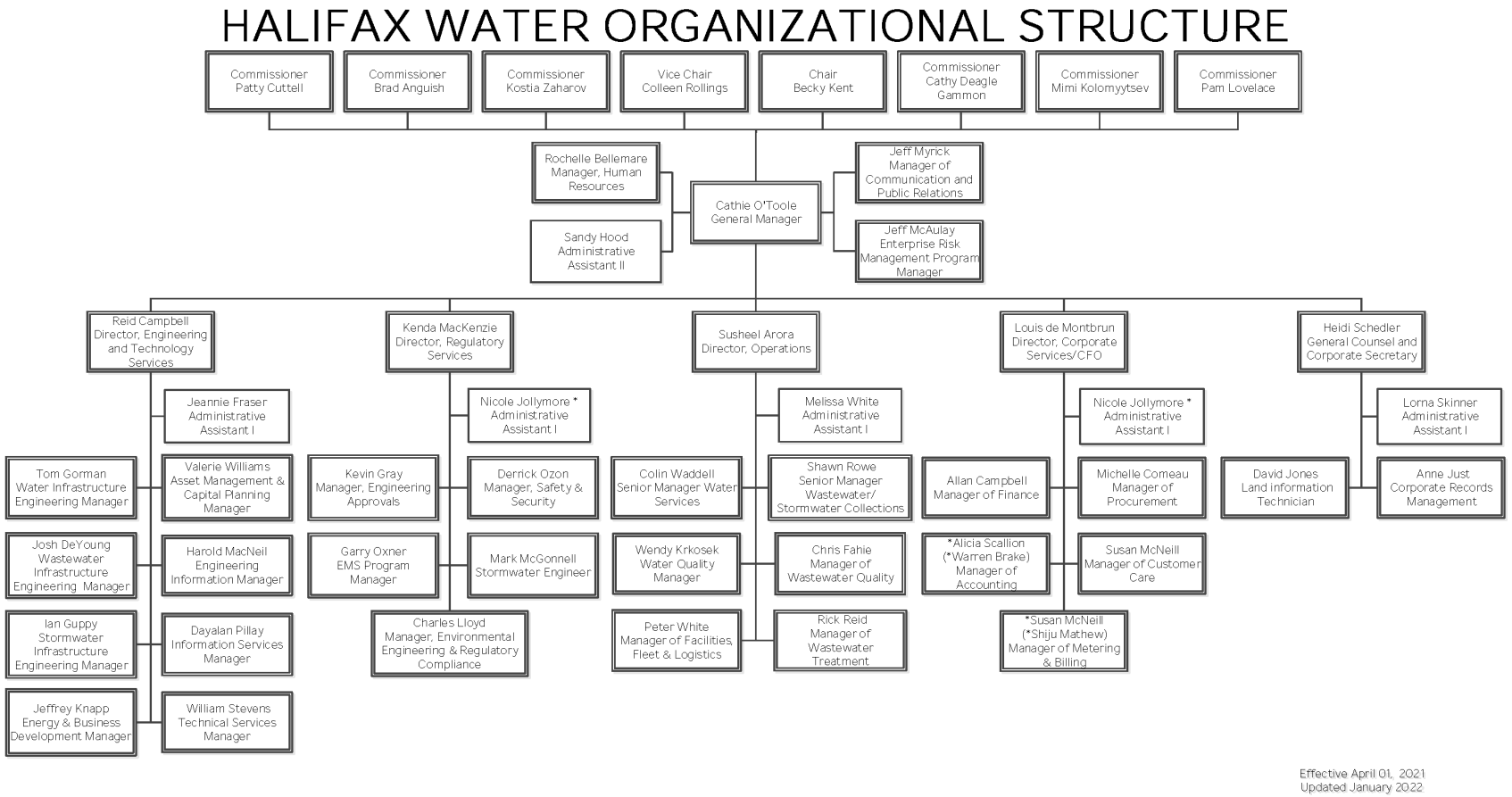
There are eight Critical Success Factors (CSFs) derived from Halifax Water's vision statement and under each of the CSFs, there are organizational indicators to track performance and allow for the establishment of targets. This year the eight critical success factors will be organized based on the four pillars:

People	**Health, Safety and Environment**
Employee satisfaction survey result Average number of days absenteeism % of grievances resulting in arbitration % of jobs filled with internal candidates Customer satisfaction about water quality - % from customer survey Customer satisfaction with service - % from customer survey	Average score on internal safety audits Lost time accidents - # of accidents resulting in lost time per 100 employees Safe driving - # of traffic accidents per 1,000,000 km driven Training - # of employees trained or re-certified before due date % of completed safety talks # of IC&I properties inspected by Pollution Prevention each year Energy management kwh/m^3 reduction associated with capital projects Adherence with Water Quality Master Plan - % of sites achieving targets Bacteriological tests - % free from total coliform Bio-solids residual handling - % of sludge meeting bio-solids concentration targets

Financial and Regulatory Accountability	**Operational Excellence**
Operating expense/revenue ratio percentage Annual cost per customer connection – water Annual cost per customer connection – wastewater Capital budget expenditures - % of budget spent by end of fiscal-year Department of Labour, Skills (DLS&I) and Immigration compliance - # of incidents with written compliance orders % of public health and environmental regulatory infractions resulting in an environmental warning report, summary offense ticket, ministerial order, or prosecution % of WWTFs complying with NSECC approval permits	Water leakage control – target leakage allowance of 160 litres per service connection per day I&I reduction - # of inspections on private property for discharge of stormwater into the wastewater system Peak flow reduction from wet weather management capital projects Hours of unplanned outages in GIS and Cityworks Water service outages - # of connection hours/1000 customers Wastewater service outages – # of connection hours/1000 customers Average speed of answer – % of calls answered within 20 seconds

Appendix A: Organizational Structure and Service Overview

ORGANIZATIONAL STRUCTURE



SERVICE OVERVIEW

Operations

The Operations Department provides water, wastewater and stormwater service and activities are organized functionally in a way that ensures that respective services are managed as systems.

Water Services

- *Source Water Protection:* responsible for managing and protecting watershed land, developing and maintaining source water plans, enforcement of Protected Water Areas and other relevant source water regulations, source water community relations including working with and developing watershed advisory boards, real property maintenance of source water lands, and forestry management of watershed lands.
- *Water Quality Management*: responsible for water quality planning, water quality monitoring, process support to treatment plants, customer inquiries and investigations, water quality support to capital projects, policy development, research and management of the Halifax Water – Natural Sciences and Engineering Research Council (NSERC) Industrial Research Chair at Dalhousie University.
- *Water Supply Plant Operations*: responsible for operation and maintenance of three large water supply plants (Pockwock, Lake Major and Bennery Lake), six small systems, six dams, two emergency water supplies and 35 chlorine monitoring devices and re-chlorination stations.
- *Distribution System Operations*: responsible for operation and maintenance of the water distribution and transmission systems. The system is managed according to three geographic regions with responsibility for over 1563 km of transmission and distribution mains, 8450 fire hydrants, 85,500 service connections, 141 pressure control/flow metering facilities, 21 pumping stations, 16,000 valves and 16 water storage facilities. This also includes responding to third party requests for buried infrastructure locates.

Wastewater Services

The Wastewater and Stormwater Services division activities include operating and maintaining municipal systems from “drains back to the source again.” In this regard, the Wastewater and Stormwater Services division has a mandate to protect the environment while providing essential collection and treatment services to its customers. These essential services are delivered in sections that are responsible for both stormwater and wastewater activities in three regions and 14 treatment facilities. The supervisors and the field crews carry out both wastewater and stormwater related duties.

Wastewater Services strives to provide uninterrupted delivery of the following services:

- *Wastewater Treatment Facility Operations:* responsible for operation and maintenance of 14 WWTFs and associated infrastructure, regulatory reporting, and implementing and coordinating capital upgrades with other Halifax Water departments. As per the WSER, two

plants are classified as very large, three are large, two are medium and nine are small capacity. The department also operates four additional small treatment facilities under contract from HALIFAX and the province.

- *Biosolids Processing:* responsible for liquid transport, dewatering and processing of sludge, operation, and maintenance of various dewatering equipment at WWTFs, administering trucking contracts for dewatered biosolids and BPF operations contract, and processing of biosolids from on-site septic systems. The BPF, located at the Aerotech Industrial Park, produces a soil amendment for beneficial use in agriculture.
- *Collection System Operations:* responsible for operation, repair and maintenance of the wastewater collection and trunk sewer system. The system is managed according to three geographic regions with responsibility for over 1,425 km of collection pipes, 164 pump stations, 21 combined sewer overflow facilities, and 82,464 service connections.
- *Septage Treatment Services:* This is an unregulated activity for Halifax Water, but it provides an essential service to residents who do not have a centralized wastewater service. The septage from septic hauling companies who service these users was accepted at strategic locations within the core sewer service area and at the Aerotech WWTF. With the completion of the upgrade of Aerotech WWTF in 2019, most of the septage has been diverted to the Aerotech WWTF from the core service area.
- *Facilities, Fleet & Logistics Services:* responsible to supply, maintain and repair approximately 270 pieces of mobile equipment and vehicles ranging from trailers and small utility service vehicles to large excavation, construction, and transportation equipment. Replacement of vehicles and equipment on a life cycle costing basis and vehicles records management and regulatory compliance. This section also operates and maintains corporate facilities at the Cowie Hill campus and provides logistical and services support to operations and treatment facilities to facilitate efficient operations.

Stormwater Services

The Stormwater Services division is responsible for operation and maintenance of stormwater infrastructure within the public right-of-way and within easements. This service has undergone significant changes over the past few years and continues to progress to achieve a higher LOS.

- *Collection System Operations:* provides operation, repair and maintenance of the stormwater collection and trunk sewer system. The system is managed by shared crews within the three geographic regions with responsibility for approximately 900 km of stormwater collection pipes, 46 stormwater retention facilities, over 600 km of ditches, 2,495 cross culverts and 15,061 driveway culverts. This section provides proactive maintenance of the pipes, ditches, and other systems with a goal to ensure uninterrupted flow within Halifax Water infrastructure. Staff also replace a driveway and cross culverts on a priority basis to manage the infrastructure with sound asset management practices.

- *Service Review:* Operations provide support to the Stormwater Engineer within the Regulatory Services department, and allocates resources to drainage investigations, stormwater billing exemption requests, and operations support. Drainage investigations may be triggered by a customer inquiry on private property or an operational issue on Halifax Water owned infrastructure. The Stormwater Engineer reviews the drainage issues and renders a finding which may involve an operational fix or a capital improvement. Complaints stemming from stormwater billing are vetted through the Stormwater Engineer.

Engineering and Technology Services

The Engineering & Technology Services (ETS) Department is responsible for the provision of engineering and technical services relating to the planning, design, construction, and maintenance of water, wastewater and stormwater infrastructure and related asset information. It is also responsible all of Halifax Water's digital infrastructure services including information management, geographic information systems and operational technology.

The ETS Department has six core areas of responsibility with eight specific operational sections delivering programs.

- *Asset Management*: responsible for development of the AM program; including the overall strategy, inventories, condition and performance assessments, and the development and delivery of annual AMP. The section is also responsible for modelling and flow monitoring, long-term infrastructure master planning (including implementation of the IRP, and the development of the five-year and one-year capital budget).
- *Infrastructure Engineering:* contains four sections that are responsible for the design, construction and project management for water, wastewater, and stormwater capital projects, respectively. These four sections also provide support for capital project prioritization, master planning and asset management relating to the core infrastructure.
- *Energy Efficiency*: responsible for the provision of engineering services related to energy management and energy efficiency of water, wastewater, and stormwater infrastructure. This section is responsible for the development and implementation of two exciting new corporate initiatives. The first, the Cogswell District Energy System, is planned as a new regulated business unit to provide energy to proposed new buildings within HALIFAX's Cogswell RDA based on energy extracted from the warm wastewater effluent that discharges from Halifax Water's Halifax WWTF. The second, the new BPF, is being strategically developed to efficiently manage the conversion of the utility's wastewater sludge into commercially viable soil amendment product and recoverable energy.
- *Engineering Information:* responsible for the corporate GIS, including the maintenance and distribution of all record information. The section is also responsible for ongoing GIS development including both desktop and mobile GIS applications. This section also supports capital projects and other initiatives through Computer Aided Drafting (CAD) and map production.

- *Information Services (IS):* responsible for administration of services relating to network resources (storage, servers, printers, etc.), users, access control and network security, server hardware and operating systems, all computer equipment (including desktops, laptops, monitors, printers, and servers), corporate desktop software, and updating and delivery of the information technology(IT) Strategic Plan including all IT project delivery services. The IS section is the first line of support for all IT related problems or requirements.
- *Technical Services:* responsible for operation and maintenance of the SCADA system and the process communications network; implementation of the SCADA master plan, process control, cyber security, instrumentation maintenance, electrical maintenance, maintenance of water pumping stations, and operation and development of the process data warehouse.

Regulatory Services

The Regulatory Services Department continues to support the utility through the delivery of programs such as Environmental Engineering, Engineering Approvals, Regulatory Compliance, Safety and Security, Stormwater Engineering and EMS.

- *Environmental Engineering:* responsible for two key programs, Pollution Prevention (P2) and the private side I&I reduction. The section also provides support for updating NSECC permits to operate and to withdraw water and oversee projects related to contaminated sites and impacts to Halifax Water's infrastructure.
    - *Pollution Prevention:* responsible for promoting compliance of waste discharges with the Rules and Regulations, through education and inspections.
    - *Inflow and Infiltration* assists the WWMP in locating and addressing private side sources of I&I.
    - *Regulatory Compliance:* responsible for sampling of the water treatment and distribution systems for bacteria and residual chlorine, ensuring compliance with Canadian Drinking Water Guidelines and operational permits issued by NSECC. Similar sampling is completed for wastewater effluent parameters for compliance with permits issued by NSECC, consistent with federal regulations. The group is also tasked with compiling and submitting reports associated with the sampling results to NSECC. Regulatory Compliance is completing work with the Water Quality Management section to implement new permit tracking and data management and reporting software, Klir® to replace WaterTrax® as part of the IT Strategic Program.
    - *NSECC Permits:* coordinates permit renewals and/or amendments.
- *Engineering Approvals:* The Engineering Approvals group is focused on adherence to the Halifax Water Design Specifications, the Supplementary Standard Specification, and the Halifax Water Regulations with respect to connections to, and expansions of, the Halifax Water system. In addition, the group oversees the administration of the Backflow Prevention Program which provides a layer of protection to the water distribution system from potential contamination events (cross connections) from medium to high-risk

customers. The group also administers new service connections including the inspection of the new services and renewals and the administration of RDCs and CCCs.

- *Safety & Security:* Provides the overall support and delivery of the Halifax Water's safety program, as well as oversight of the security systems and programs to protect Halifax Water's critical infrastructure.
- *Stormwater Engineering:* Conducts drainage investigations, stormwater billing exemption requests, and operations support. Drainage investigations may be triggered by a customer inquiry on private property or an operational issue on Halifax Water owned infrastructure. The Stormwater Engineering team reviews the drainage issues and renders a position which may involve an operational fix or a capital improvement. Complaints stemming from stormwater billing are vetted through the Stormwater Engineer and a decision is provided to the customer.
- *Environmental Management System (EMS)***:** a system of procedures, records, and processes to manage environmental issues and assist with regulatory compliance. It also makes day-to-day operations more sustainable and engages employees in these operational activities. The EMS program can be audited against ISO 14001 standards, and if found to comply, receives a certification through ISO. The ISO standard places a focus on organizational leadership and identification of risks and the associated influences, both internal and external to an organization.

Corporate Services

Corporate Services consists of five sections, with service to internal and external customers.

- *Finance:* responsible for development of operating budgets, funding plans for the capital budget, rate applications and financial modeling for business plans. This group assists in preparing the capital budgets and confirms the availability of funding sources. The group is responsible for forecasting revenues and expenditures, including associated trend analysis, administering the pension plan, internal control testing, and quality assurance activities around financial transactions including payroll.
- *Accounting:* responsible for timely and accurate financial reporting, financial accounting, fixed asset accounting, financial analyses, and preparing the financial statements. This group is also responsible for revenue; budgeting and forecasting; predicting cash flows; developing and implementing accounting procedures; internal controls; managing the billing and collection of non-customer charges; and coordinating and supporting the annual external financial statement audit. Accounting also assists in preparing the capital budgets.
- *Procurement:* responsible for planning and delivering procurement services to the organization ensuring compliance with corporate policies, legislation, and trade agreements. This section develops and implements reporting and monitoring systems, programs and procedures for inventory and procurement. Procurement also supports and guides internal departments in the acquisition of goods, services, and construction to meet Halifax Water’s objectives and capital programs.

- *Customer Care*: responsible for managing customer contacts, establishing corporate customer service standards, goals, and objectives, and coordinating the improvement of business processes in Customer Care and other departments.
- *Metering and Billing*: responsible for installing, maintaining, reading, sampling, and testing meters, establishing standards, and billing customers for Water, Wastewater and Stormwater Services in a timely and accurate manner.

Administration

- *General Manager's Office*: responsible for overall administration of the utility. Some initiatives led by the General Manager's Office include governance, business planning, public and stakeholder relationships, and employee relations. Communications, Legal Services and Human Resources fall directly under the General Manager's Office.
- *Communications*: responsible for external and internal communications, maintaining the internet and intranet sites, media relations, social media, and providing support to operations and capital delivery to ensure the public is kept informed of significant projects, service disruptions, and initiatives.
- *Legal Services*: includes the legal function, corporate records management, FOIPOP administration as well as land administration. The General Counsel acts as the Corporate Secretary to the Halifax Water Board and helps ensure that board governance processes function smoothly.
- *Human Resources*: responsible for the effective delivery of all human resource initiatives including effective workforce planning, organizational change and development, recruitment functions, disability management, health and wellness initiatives, labour/employee relations, compensation and benefit functions, pension administration, and employment equity.

Unregulated Business

Halifax Water conducts some lines of business that are ancillary to the core water, wastewater, and stormwater services. These activities constitute approximately 1% of the utility's business and include leasing of land for telecommunications, cell phone and radio towers, and some energy related initiatives such as leasing land for wind turbines and generating electricity through in-line turbines in the water system. The most material lines of un-regulated business are treatment of septage from waste haulers dealing with private septic systems, and treatment of airline effluent. Halifax Water also can provide some services such as contract operations, consulting or leak detecting on a fee for service bases. Currently, Halifax Water is providing some consulting services to the Atlantic First Nations Water Authority. Unregulated business is conducted for the benefit of the regulated rate base.

Appendix B: 2022/23 Capital Budget

HALIFAX WATER

Capital Budget 2022/23

Summary

Asset Category	Project Costs
Water - Land -- T O T A L	$240,000
Water - Transmission -- T O T A L	$15,999,000
Water - Distribution -- T O T A L	$8,490,000
Water - Structures -- T O T A L	$11,773,000
Water - Treatment Facilities -- T O T A L	$3,165,000
Water - Energy -- T O T A L	$200,000
Water - Security -- T O T A L	$125,000
Water - Equipment -- T O T A L	$135,000
Water - Corporate Projects - T O T A L	$12,266,500
TOTAL - Water	$52,393,500

Wastewater - Collection System -- T O T A L	$11,823,000
Wastewater - Forcemains -- T O T A L	$820,000
Wastewater Structures -- T O T A L	$8,620,000
Wastewater - Treatment Facility -- T O T A L	$10,872,000
Wastewater - Energy -- T O T A L	$600,000
Wastewater - Security -- T O T A L	$275,000
Wastewater - Equipment -- T O T A L	$157,000
Wastewater - Corporate Projects -- T O T A L	$12,387,000
TOTAL - Wastewater	$45,554,000

HALIFAX WATER

Capital Budget 2022/23

Summary

Asset Category	Project Costs
Stormwater - Pipes -- T O T A L	$3,406,000
Stormwater - Culverts -- T O T A L	$2,366,000
Stormwater - Corporate Projects -- T O T A L	$2,765,500
TOTAL - Stormwater	$8,537,500
G R A N D T O T A L	$106,485,000

HALIFAX WATER

Capital Budget 2022/23

Summary

Asset Category	Project Costs
Stormwater - Pipes -- T O T A L	$3,406,000
Stormwater - Culverts -- T O T A L	$2,366,000
Stormwater - Corporate Projects -- T O T A L	$2,765,500
TOTAL - Stormwater	$8,537,500
G R A N D T O T A L	$106,485,000

HALIFAX WATER

Capital Budget 2022/23

Water

Project Number	Project Name	Project Cost
	Water - Land	
3.033	Watershed Land Acquisition	$100,000
3.656	Lake Major Road - Safety and Grading Improvements	$140,000
	Water - Land -- T O T A L	**$240,000**
	Water - Transmission	
3.042	Critical Valve Replacement Program	$200,000
3.587	Prince Albert Road Transmission Main Replacement	$100,000
3.554	North End Feeder Replacement - Design	$200,000
3.571	Highway 118 Crossing - Shubie Park to Dartmouth Crossing	$120,000
3.631	Transmission Main Upgrades - Churchill Drive Corridor	$9,420,000
3.293	Peninsula Low North Transmission Main Replacement - Maritime Life and CN Crossing	$75,000
3.553	Peninsula Intermediate Looping - Quinpool Rd to Young Street (Dublin St 2022)	$1,622,000
3.679	Extension of Fall River to Bennery Lake - Concept Design Work	$200,000
3.399	Cogswell Interchange - Water Transmission Main Realignments	$2,530,000
3.657	Bedford to Burnside Transmission Main Phase 1 - Road Crossings/Casings Culvert Extension	$880,000
3.550	Bedford to Burnside Transmission Main Phase 2 - Rock Trench Preparations	$420,000
3.045	Bedford West CCC - Various Phases	$30,000
3.261	Lakeside Timberlea CCC	$7,000
3.343	Northgate Oversizing	$145,000
3.232	MacIntosh Estates Phase 1 Oversizing	$50,000
	Water - Transmission -- T O T A L	**$15,999,000**
	Water - Distribution	
3.022	Water Distribution - Main Renewal Program	$4,900,000
3.661	Watermain Rehabilitation Structural Lining Program	$75,000
3.067	~ Valves Renewals	$200,000
3.068	~ Hydrants Renewals	$75,000
3.069	~ Service Lines Renewals	$100,000
3.390	Lead Service Line Replacement Program	$2,000,000
3.294	Automated Flushing Program	$20,000
3.296	Water Sampling Station Relaocation Program	$30,000
3.652	Jubilee Road CN Bridge Replacement - Watermain	$400,000
3.670	Standardization of Hydrant Front Pumper Nozzles	$175,000

HALIFAX WATER

Capital Budget 2022/23

Water

Project Number	Project Name	Project Cost
3.584	Silversands WSP - Linear Main Extension Cow Bay Road	$150,000
3.649	Silver Sands Water Meter Installation	$250,000
3.687	Robie Control Chamber - Peninsula High PRV Installation	$85,000
3.688	Little Salmon River Bridge Watermain Replacement	$30,000
	Water - Distribution -- T O T A L	**$8,490,000**

HALIFAX WATER

Capital Budget 2022/23

Water

Project Number	Project Name	Project Cost
	Water - Structures	
3.601	PRV Valve Replacement Program	$100,000
3.602	PRV Chamber - Electrical Panel Replacement Program	$40,000
3.603	DMA - Meter Replacement Program	$50,000
3.263	District Metered Areas (DMA) Program	$100,000
3.455	Reservoir Mixing and Residuals Management Upgrade Program	$300,000
3.623	Booster Station Building Envelope	$30,000
3.606	Highway #7 Booster Station - Fire Pump Replacement	$100,000
3.662	Fairview Clayton High Pressure Management Upgrades	$150,000
3.663	Peninsula High Zone Pressure Management Upgrades	$27,000
3.664	Robie 2 PRV Chamber Valve Replacement	$25,000
3.667	Dartmouth - New Meter Replacement	$110,000
3.358	Blue Mountain Meter Replacement	$20,000
3.672	Pinehill Drive PRV Chamber Replacement	$445,000
3.665	Removal of Underground Fuel Tanks - Leiblin, Parkdale and Rockmanor Booster Stations	$50,000
3.681	Lake Lemont Back Up Supply Facility - Hazardous Material Assessment and Removal	$90,000
3.477	Aerotech Booster Station Capital Upgrades	$200,000
3.607	Condition Assessment - Miscellaneous Structures	$75,000
3.583	PRV Chamber - Gallery Crescent - Sackville	$295,000
3.528	Beaver Bank Booster Station - Pump Upgrade	$250,000
3.590	Larry Uteck PRV Chamber - CSE Retrofit	$60,000
3.591	Starboard Drive PRV Chamber - CSE Retrofit	$60,000
3.592	Mount Edward PRV - CSE Retrofit	$66,000
3.288	Akerley Reservoir Rehabilitation	$7,430,000
3.453	Geizer 123 Reservoir Rehabilitation	$200,000
3.641	Dam Safety Review - Chain Lake Dam - Capital Work	$150,000
3.642	Dam Safety Review - Pockwock Lake Dam - Capital Work	$950,000
3.640	Dam Safety Review - Capital Implementation Program	$150,000
3.110	Mount Edward Gunite Reservoir Rehabiliation	$150,000
3.605	Silverside Pumping Station Upgrades Construction	$100,000
	Water - Structures -- T O T A L	**$11,773,000**
	Water - Treatment Facilities	

HALIFAX WATER

Capital Budget 2022/23

Water

Project Number	Project Name	Project Cost
	J D Kline Water Supply Plant:	
3.604	JD Kline WSP - Pretreatment and Clarification - WSEP JDK-800.10	$604,000
3.633	Program Management Fess and Expenses - WSEP JDK-MAJ	$479,000
3.673	JD Kline WSP - Purchase Fluorescence Excitation Emission Matrix (FEEM) Analyzer	$60,000
3.680	JD Kline WSP - Lime System Renewal	$60,000
3.671	JD Kline WSP - Install In-Line Flow Cytometer	$150,000
	Lake Major Water Supply Plant:	
3.618	Lake Major WSP - Clarification/Pretreatment - WSEP MAJ 800.15	$500,000
3.158	Lake Major WSP - HVAC at the Low Lift Pumping Station	$36,000
	Bennery Lake Water Supply Plant:	
3.692	Bennery Lake WSP - Lagoon Maintenance Study and Improvements	$50,000
	Non-Urban Core WSP	
3.678	Groundwater Assessment - New Water Source for Middle Musquodoboit System	$100,000
3.685	Collins Park WSP - New Chemical Storage Building	$26,000
3.669	Purchase Algae Particle Counter	$200,000
3.674	Pockwock Lake and Lake Major Stream gaging	$250,000
3.682	Purchase Mobile Sonde Equipment	$250,000
3.690	WSP Plants - Instrumentation and Controls Equipment Program	$100,000
3.691	Pump and Equipment Overhauls Program for WSPs	$200,000
3.694	Bayers Diversion Site Improvements	$100,000
	Water - Treatment Facilities -- T O T A L	**$3,165,000**
	Water - Energy	
3.635	Energy Management Capital Program (Water)	$100,000
3.107	Chamber HVAC Retro-Commissioning Program	$100,000
	Water - Energy -- T O T A L	**$200,000**
	Water - Security	
4.009	Security Upgrade Program	$50,000
3.683	Safety Equipment (Water)	$75,000
	Water - Security -- T O T A L	**$125,000**
	Water - Equipment	
3.101	Miscellaneous Equipment Replacement	$50,000
3.689	Valve Maintenance Trailer - Purchase	$85,000

HALIFAX WATER

Capital Budget 2022/23

Water

Project Number	Project Name	Project Cost
	Water - Equipment -- T O T A L	$135,000
	Water - Corporate Projects - T O T A L	$12,266,500
	GRAND TOTAL - WATER	**$52,393,500**

HALIFAX WATER

Capital Budget 2022/23

Wastewater

Project Number	Project Name	Project Cost
	Wastewater - Collection System	
2.168	Wastewater System - Trenchless Rehabilitation Program	$2,410,000
2.839	Eastern Passage Gravity Pressure Sewer	$300,000
2.107	Pier A Pumping Station - Gravity Maintenance Bypass	$125,000
2.103	Jubilee Road CN Bridge Replacement - Wastewater	$900,000
2.357	Manhole Renewals WW	$60,000
2.358	Lateral Replacements WW (non-tree roots)	$1,785,000
2.563	Lateral Replacements WW (tree roots)	$570,000
2.223	Wet Weather Management Program	$350,000
2.074	Bedford West Collection System CCC	$25,000
	Integrated Projects - HRM	
2.052	Integrated Wastewater Projects - Program	$1,420,000
2.692	Cogswell Redevelopment - Sewer Relocation	$1,070,000
2.948	Meadowlands PS Elimination	$90,000
2.356	Auburn Avenue PS Elimination	$60,000
2.946	SSP - Bayers Road Pocket - Engineering Analysis	$500,000
2.675	Bayers Road Phase 1 - Sewer Separation	$55,000
2.835	LoWSCA: Canal Street Separation	$184,000
2.982	Young Street Pocket - Sewer Separation - Route to Harbour	$900,000
2.830	Eastern Passage RDII Reduction Program FMZ24	$55,000
2.831	Eastern Passage RDII Reduction Program FMZ37	$64,000
2.832	Mill Cove RDII Reduction Program FMZ07 & FMZ40	$475,000
2.833	Mill Cove RDII Reduction Program FMZ10	$50,000
2.834	Ellenvale area RDIi Reduction Program	$80,000
2.585	Gottingen Cogswell: Linear Upgrade - Gottingen & Cogswell Area 2_GOT_G2	$295,000
	Wastewater - Collection System -- T O T A L	**$11,823,000**
	Wastewater - Forcemains	
2.887	Majestic Avenue Forcemain Replacement & Twinning	$200,000
2.945	390 Waverley Road Forcemain Upgrades	$420,000
2.993	Dingle FM Replacement & Twinning	$75,000
2.102	Bissett Pumping Station - Force Main Section Replacement	$125,000
	Wastewater - Forcemains -- T O T A L	**$820,000**

HALIFAX WATER

Capital Budget 2022/23

Wastewater

Project Number	Project Name	Project Cost
	Wastewater - Structures	
2.42	Emergency Pumping Station Pump replacements	$250,000
2.442	Wastewater Pumping Station Component Replacement Program - West Region	$200,000
2.443	Wastewater Pumping Station Component Replacement Program - East Region	$200,000
2.444	Wastewater Pumping Station Component Replacement Program - Central Region	$250,000
2.920	Herring Cove Pumping Station - Pump Replacements	$900,000
2.1005	Roach's Pond Pumping Station - Storage Tank Condition Assessment	$65,000
2.1009	Sackville Street CSO - Screen Rebuild	$110,000
2.101	Upper Water Street CSO - Screen Rebuild	$110,000
2.101	CSO Screens - PLC and HMI Upgrades	$260,000
2.1013	Harbour Solutions Pumping Stations - PLC and HMI Upgrades	$355,000
2.1014	Main Street Pumping Station (Golf View Drive) Upgrade	$200,000
2.459	William's Lake PS Rehabilition	$440,000
2.66	Bissett PS Component Upgrade	$4,000,000
2.665	CSO Upgrade Program	$300,000
2.1004	Pier A Pumping Station VFD Replacement	$120,000
2.74	Duffus Pumping Station Replacement and CSO Modification	$210,000
2.1006	Duffus Street Pumping Station - Pump Replacement	$135,000
2.819	Pumping Station Oil Tank Replacements	$60,000
2.654	PS Control Panel / Electrical Replacement	$100,000
2.827	Wastewater Pumping Station Generator Plug/Switch Installations	$105,000
2.005	Autoport Pleasant Street PS Replacement	$250,000
	Wastewater Structures -- T O T A L	**$8,620,000**
	Wastewater - Treatment Facility	
2.056	Plant Optimization Program	$125,000
2.522	Emergency Wastewater Treatment Facility equipment replacements	$500,000

HALIFAX WATER

Capital Budget 2022/23

Wastewater

Project Number	Project Name	Project Cost
	Halifax Wastewater Treatment Facility:	
2.765	Raw Water Pump Refurbishment	$55,000
2.773	Industrial Water System - Replacement	$205,000
2.776	Sludge Dewatering - Fournier Press Upgrades	$1,900,000
2.952	Replace Hydraulic System Controls	$120,000
2.953	Wet Well - Stop Log Lifting System	$50,000
2.954	Raw Water Pumps - VFD Replacement	$120,000
2.955	VFD Replacement Program	$100,000
2.956	Chemical Storage Area - Epoxy Floor	$50,000
2.957	Fibre Optic System Upgrade	$15,000
	Dartmouth Wastewater Treatment Facility:	
2.871	SS Pipe Work Replacement Program	$200,000
2.790	Fournier Press - Sludge Dewatering Upgrade	$100,000
2.959	UV Disinfection System - Replace Hydraulic System Controls	$30,000
2.960	AHU Intake Heating Coil Replacement	$55,000
2.961	AHU Fan Timing Belts	$30,000
2.962	Garage Door Replacement	$50,000
2.963	Fixed Gas Detector System Replacement	$150,000
2.964	Hypo Storage Tank	$20,000
2.965	Course Screens Replacement	$500,000
2.958	Carbon Scrubber - FRP Exhaust Damper Replacement	$60,000
	Herring Cove Wastewater Treatment Facility:	
2.801	Fine Screens - New Perforated Plate Screens	$1,350,000
2.966	UV Disinfection System - Replace Hydraulic System Controls	$30,000
2.967	Garage Door Refurbishment	$30,000
2.968	Chemical Storage Areas - Epoxy Floors	$30,000
2.968	Chemical Storage Area Upgrades	$75,000
2.970	New Sludge Extraction Solids Analyzers	$150,000
2.971	Replace Fournier Press Flywheel Covers	$25,000
2.972	Grease Sprayers Integration into SCADA	$50,000
2.973	Carbon Scrubber FRP Exhaust Damper Replacement	$50,000
	Mill Cove Wastewater Treatment Facility:	

HALIFAX WATER

Capital Budget 2022/23

Wastewater

Project Number	Project Name	Project Cost
2.505	Asset Renewal Program	$100,000
2.903	Dewatering - Centrifuge Rebuild Program	$30,000
2.989	Headworks Splitter Box Valve Actuators	$35,000
	Eastern Passage Wastewater Treatment Facility:	
2.808	New Yard Tractor	$12,000
2.974	UV System UPS	$80,000
2.975	Polymer Bay Heater Upgrades	$15,000
2.976	Spare Centrifuge Conveyor Gear Box	$10,000
2.977	Headworks Compressor & Air Dryer Replacement	$20,000
	Aerotech Wastewater Treatment Facility:	
2.912	Lagoon - Fencing Repairs	$20,000
2.983	Carbon Scrubbers - Media Repalcement	$80,000
2.984	Dewatering - HVAC System Improvements	$60,000
2.985	Centrate Diversion - Phase 2	$270,000
	Timberlea Wastewater Treatment Facility:	
2.509	Asset Renewal Program	$125,000
	Community Wastewater Treatment Facilities:	
2.05	Asset Renewal Program	$175,000
2.986	Middle Musquodoboit WWTF - Electrical Upgrades	$400,000
2.987	Middle Musquodoboit WWTF - Refurbish Polishing Pond Berms	$75,000
	Biosolids Processing Facility:	
2.919	Gas Sensor Upgrade Program	$15,000
2.924	CS1 - Screw & Liner Replacement	$75,000
2.930	Facility Upgrade - Preliminary and Detailed Design	$3,000,000
2.988	Biofilter - Slatted Floor Replacement	$50,000
	Wastewater - Treatment Facility -- T O T A L	**$10,872,000**
	Wastewater - Energy	
2.362	Energy Management Capital Program (Wastewater)	$500,000
2.491	Pump Station HVAC Retro-Commissioning Program	$100,000
	Wastewater - Energy -- T O T A L	**$600,000**
	Wastewater - Security	
4.008	Security Upgrade Program	$200,000

HALIFAX WATER

Capital Budget 2022/23

Wastewater

Project Number	Project Name	Project Cost
2.951	Safety Equipment (Wastewater)	$75,000
	Wastewater - Security -- T O T A L	**$275,000**
	Wastewater - Equipment	
2.451	Miscellaneous Equipment Replacement	$120,000
2.1011	Video Nozzle - Sewer Jet	$37,000
	Wastewater - Equipment -- T O T A L	**$157,000**
	Wastewater - Corporate Projects -- T O T A L	**$12,387,000**
	GRAND TOTAL - WASTEWATER	**$45,554,000**

HALIFAX WATER

Capital Budget 2022/23

Stormwater

Project Number	Project Name	Project Cost
	Stormwater - Pipes	
1.038	Integrated Stormwater Projects - Program	$1,200,000
1.102	Manhole Renewals SW	$16,000
1.103	Catchbasin Renewals SW	$65,000
1.135	Lateral Replacements SW	$25,000
1.204	National Disaster Mitigation Program	$50,000
1.145	Sullivan's Pond Storm Sewer System Replacement - Phase 2 Irishtown Rd to Harbour	$150,000
1.247	Penhorn Lake Stormwater System Renewal	$1,000,000
1.188	Cogswell Redevelopment - SW Sewer Relocation	$900,000
	Stormwater - Pipes -- T O T A L	**$3,406,000**
	Stormwater - Culverts/Ditches	
1.104	Driveway Culvert Replacements	$1,200,000
1.279	Corss Road Culvert Replacement Program - Field discovery and operations construction	$100,000
	Street Specific Culvert Replacements:	
1.260	43 Flat Lake Drive	$25,000
1.261	39 Flat Lake Drive	$30,000
1.262	9 Flat Lake Drive	$30,000
1.263	1 Windsor Drive	$25,000
1.264	51 Buckingham Drive	$35,000
1.265	1 Cambridge Court	$30,000
1.266	73 Kingsway Drive	$30,000
1.267	22 Kingsway Drive	$25,000
1.268	1 Arbutus Avenue	$27,000
1.269	6 Iris Avenue	$25,000
1.270	2 Primrose Avenue	$25,000
1.214	Bundy Lane, near civic 79	$66,000
1.215	Parkway Dr at Atholea Dr	$65,000
1.216	Fredrick Dr at Dyke Rd	$93,000
1.217	Millers Rd, near civic 1	$81,000
1.271	Seabreeze Dr at Caldwell Rd	$94,000
1.272	Shore Rd, near civic 2269	$62,000
1.274	Riley Rd, near civic 135	$87,000

HALIFAX WATER

Capital Budget 2022/23

Stormwater

Project Number	Project Name	Project Cost
1.275	Wilfred Joseph Dr at Simmonds Rd	$76,000
1.276	Old German Rd, near civic 10	$70,000
1.278	Sime Crt, near civic 5	$65,000
	Stormwater - Culverts/Ditches -- T O T A L	**$2,366,000**
	Stormwater - Corporate Projects -- T O T A L	**$2,765,500**
	GRAND TOTAL - STORMWATER	**$8,537,500**

HALIFAX WATER

Capital Budget 2022/23

Corporate Projects

Project Number	Project Name	Project Cost
	Corporate - Information Technology	
4.157	Asset Condition	$190,000
4.151	Capital Planning	$1,000,000
1.011	Computer Replacement Program	$400,000
4.147	Document Management Sharepoint Rollout	$300,000
4.149	Electronic Content Management Linkage	$200,000
4.126	Full Enterprise Data Warehouse	$300,000
4.153	General Analytic Tool	$100,000
4.012	Network Upgrades	$280,000
4.101	Mobile Devices and Applications	$800,000
4.095	New CRM with Integration	$500,000
4.048	SAP Rate Structure Support	$220,000
4.15	Enterprise Resource Planning Solution	$2,100,000
4.107	Customer Portal	$200,000
4.152	Security Awareness	$420,000
4.152	Vulnerability and Patch Management	$190,000
4.152	Data Protection and Classification	$900,000
4.152	Asset and Configuration Management	$245,000
4.152	Identity and Access Management	$150,000
4.152	Policy and Standards	$135,000
4.152	Change Management	$120,000
4.152	Authentication and Authorization	$40,000
4.152	Risk Management	$460,000
4.152	Third Party Risk Management	$310,000
4.152	Continuity and Resilience	$180,000
4.194	Explore Intelligent Water	$260,000
4.195	New Service Account Compliance Program	$430,000
	Corporate - Information Technology -- T O T A L	**$10,430,000**
	Corporate - GIS	
4.04	GIS Data Program	$250,000
4.115	GIS Data Build - Services (ICI)	$150,000
4.01	Sewer Service Entry	$150,000
4.116	GIS Data Project (CAD schematic retirement)	$100,000
4.038	GIS Hardware/Software Program	$50,000

HALIFAX WATER

Capital Budget 2022/23

Corporate Projects

Project Number	Project Name	Project Cost
4.039	GIS Application Support Program	$150,000
4.105	GIS/Cityworks Upgrade Program	$50,000
4.059	GIS Data Modelling	$50,000
4.155	Stormwater Billing Imagery Acquisition and Analysis	$150,000
4.198	Intelligent Water (GIS Initiatives)	$50,000
	Corporate - GIS -- T O T A L	**$1,150,000**
	Corporate - Asset Management	
2.872	Wastewater Sewer Condition Assessment	$285,000
1.254	Storm Sewer Condition Assessment	$125,000

HALIFAX WATER

Capital Budget 2022/23

Corporate Projects

Project Number	Project Name	Project Cost
2.043	Corporate Flow Monitoring Program	$1,200,000
4.158	Condition Assessment Program	$400,000
4.163	Annual Asset Management Plan Update	$10,000
4.165	Asset Management Awareness Program	$20,000
4.168	Model Enhancements	$50,000
4.113	Climate Change Management Program	$200,000
4.183	Annual Unit Rates Review	$10,000
4.184	Institutional Capacity Assessment Update	$50,000
4.185	Regional Development Charge Program Implementation	$300,000
4.178	Model Update and Calibration	$75,000
2.878	Wastewater Treatment Facilities Compliance Plan	$150,000
4.197	CSO Management Study	$50,000
1.496	Water Safety Plan	$500,000
	Corporate - Asset Management -- T O T A L	**$3,425,000**
	Corporate - Facility	
4.187	Burnside Operations Centre	$9,000,000
4.077	Building Capital Improvements	$230,000
3.221	Energy Management Capital Program	$100,000
	Corporate - Facility -- T O T A L	**$9,330,000**
	Corporate - SCADA & Other Equipment	
4.093	GPS Units - Replacement	$45,000
4.189	Central Spread Spectrum Radio Network Replacement Program	$40,000
4.191	ICS Cyber-Security Enhancements 2022-2023	$105,000
4.192	PI System Enhancements 2022-2023	$150,000
4.193	AMI Communications Upgrade 2022/2023	$30,000
4.190	SCADA Equipment Renewals 2022-2023	$48,000
4.188	Wastewater Community Plant Scada Enhancements	$26,000
4.154	Customer Meters - New and Replacement	$530,000
	Corporate - SCADA & Other Equipment -- T O T A L	**$974,000**
	Corporate - Fleet	
4.006	Fleet Upgrade Program Stormwater	$351,000
4.006	Fleet Upgrade Program Wastewater	$1,404,000
4.007	Fleet Upgrade Program Water	$355,000
	Corporate - Fleet -- T O T A L	**$2,110,000**

HALIFAX WATER

Capital Budget 2022/23

Corporate Projects

Project Number	Project Name	Project Cost
	GRAND TOTAL - Corporate Projects	**$27,419,000**
	ALLOCATION BREAKDOWN:	
	Water - Corporate Projects - T O T A L	$12,266,500
	Wastewater - Corporate Projects -- T O T A L	$12,387,000
	Stormwater - Corporate Projects -- T O T A L	$2,765,500
	GRAND TOTAL - Corporate Projects	**$27,419,000**

HALIFAX WATER

Capital Budget 2022/23

Summary of Routine Capital Expenditures included within Capital Budget

Project Number	Project Name	Project Cost	Asset Class
3.067	Valves Renewals	$200,000	Water
3.068	Hydrants Renewals	$75,000	Water
3.069	Service Lines Renewals	$100,000	Water
3.390	Lead Service Line Replacement Program	$2,000,000	Water
3.101	Miscellaneous Equipment Replacement (W)	$50,000	Water
4.007	Fleet Upgrade Program Water	$355,000	Water
2.357	Manhole Renewals WW	$60,000	Wastewater
2.358	Lateral Replacements WW (non-tree roots)	$1,785,000	Wastewater
2.563	Lateral Replacements WW (tree roots)	$570,000	Wastewater
2.451	Miscellaneous Equipment Replacement (WW)	$120,000	Wastewater
4.006	Fleet Upgrade Program Wastewater	$1,404,000	Wastewater
1.102	Manhole Renewals SW	$16,000	Stormwater
1.103	Catchbasin Renewals SW	$65,000	Stormwater
1.135	Lateral Replacements SW	$25,000	Stormwater
4.006	Fleet Upgrade Program Stormwater	$351,000	Stormwater
4.011	Desktop Computer Replacement Program	$400,000	Corporate
4.093	GPS Units - Replacement	$45,000	Corporate
4.154	Customer Meters - New and Replacement	$530,000	Corporate
4.012	Network Upgrades	$280,000	Water & Wastewater
	GRAND TOTAL - Routine Capital Projects	**$8,431,000**	

Appendix C: 2022/23 Operating Budget

HALIFAX WATER
STATEMENT OF EARNINGS - ALL SERVICES - NSUARB
PROPOSED OPERATING BUDGET
APRIL 1, 2022 to MARCH 31, 2023
(in thousands)

	ACTUAL APR 1/20 MAR 31/21	APPROVED BUDGET (1) APR 1/21 MAR 31/22	**PROPOSED BUDGET APR 1/22 MAR 31/23**
Operating revenues	$ 136,569	$ 150,466	**$ 152,765**
Operating expenditures	113,689	125,379	**128,788**
Earnings from operations before financial and other revenues and expenditures	22,880	25,087	**23,977**
Financial and other revenues			
Interest	215	173	**105**
Other	748	549	**628**
	963	722	**733**
Financial and other expenditures			
Interest on long term debt	7,118	7,603	**6,669**
Repayment on long term debt	20,379	22,717	**21,846**
Amortization of debt discount	209	258	**233**
Dividend/grant in lieu of taxes	5,951	6,836	**6,804**
Other	69	46	**46**
	33,726	37,461	**35,598**
Loss for the year	$ (9,883)	$ (11,651)	**$ (10,888)**

1. 2021/22 Operating Budget approved by the Halifax Water Board of Commissioners, January 28, 2021.

HALIFAX WATER
STATEMENT OF EARNINGS - WATER - NSUARB
PROPOSED OPERATING BUDGET
APRIL 1, 2022 to MARCH 31, 2023
(in thousands)

	ACTUAL APR 1/20 MAR 31/21	APPROVED BUDGET (1) APR 1/21 MAR 31/22	**PROPOSED BUDGET APR 1/22 MAR 31/23**
Operating revenues			
Water	$ 47,631	$ 48,424	**$ 48,771**
Public fire protection	7,336	7,628	**7,628**
Private fire protection	1,001	1,312	**1,335**
Bulk water stations	318	337	**334**
Late payment and other connection fees	155	236	**264**
Miscellaneous	204	276	**296**
	56,645	58,212	**58,629**
Operating expenditures			
Water supply and treatment	9,987	10,778	**11,246**
Water transmission and distribution	12,031	11,876	**12,441**
Engineering and technology services	3,654	5,654	**4,667**
Regulatory services	1,091	1,201	**1,465**
Corporate services	2,614	4,565	**3,985**
Administration	3,619	2,511	**2,986**
Depreciation and amortization	10,879	12,052	**12,171**
	43,875	48,637	**48,961**
Earnings from operations before financial and other revenues and expenditures	12,770	9,576	**9,667**
Financial and other revenues	699	495	**545**
Financial and other expenditures	12,974	15,292	**14,387**
Earnings (loss) for the year	$ 495	$ (5,221)	**$ (4,175)**

1. 2021/22 Operating Budget approved by the Halifax Water Board of Commissioners, January 28, 2021.

HALIFAX WATER
STATEMENT OF EARNINGS - WASTEWATER - NSUARB
PROPOSED OPERATING BUDGET
APRIL 1, 2022 to MARCH 31, 2023
(in thousands)

	ACTUAL APR 1/20 MAR 31/21	APPROVED BUDGET (1) APR 1/21 MAR 31/22	**PROPOSED BUDGET APR 1/22 MAR 31/23**
Operating revenues			
Wastewater	$ 69,605	$ 80,619	**$ 81,608**
Leachate and other contract revenue	416	484	**491**
Septage tipping fees	486	505	**475**
Overstrength surcharge	1	15	**0**
Airplane effluent	33	76	**76**
Late payment and other connection fees	118	221	**247**
Miscellaneous	163	247	**253**
	70,822	82,166	**83,149**
Operating expenditures			
Wastewater collection	14,467	12,604	**13,096**
Wastewater treatment	20,623	22,071	**23,395**
Engineering and technology services	4,187	5,881	**7,109**
Regulatory services	1,385	1,587	**1,674**
Corporate services	2,189	3,840	**3,480**
Administration	2,965	2,079	**2,582**
Depreciation and amortization	15,019	16,775	**16,093**
	60,835	64,838	**67,429**
Earnings from operations before financial and other revenues and expenditures	9,987	17,329	**15,721**
Financial and other revenues	231	197	**176**
Financial and other expenditures	18,176	19,043	**18,167**
Loss for the year	$ (7,958)	$ (1,518)	**$ (2,270)**

1. 2021/22 Operating Budget approved by the Halifax Water Board of Commissioners, January 28, 2021.

HALIFAX WATER
STATEMENT OF EARNINGS - STORMWATER - NSUARB
PROPOSED OPERATING BUDGET
APRIL 1, 2022 to MARCH 31, 2023
(in thousands)

	ACTUAL APR 1/20 MAR 31/21	APPROVED BUDGET (1) APR 1/21 MAR 31/22	**PROPOSED BUDGET APR 1/22 MAR 31/23**
Operating revenues			
Stormwater site generated service	$ 5,127	$ 6,051	**$ 6,790**
Stormwater right of way service	3,835	3,835	**3,996**
Late payment and other connection fees	38	104	**104**
Miscellaneous	102	97	**97**
	9,102	10,087	**10,987**
Operating expenditures			
Stormwater collection	4,762	5,885	**5,281**
Engineering and technology services	440	1,396	**2,165**
Regulatory services	1,505	1,684	**1,727**
Corporate services	278	555	**349**
Administration	482	338	**287**
Depreciation and amortization	1,512	2,046	**2,588**
	8,979	11,905	**12,398**
Earnings from operations before financial and other revenues and expenditures	123	(1,817)	**(1,411)**
Financial and other revenues	33	31	**12**
Financial and other expenditures	2,576	3,126	**3,043**
Loss for the year	$ (2,420)	$ (4,912)	**$ (4,442)**

1. 2021/22 Operating Budget approved by the Halifax Water Board of Commissioners, January 28, 2021.

HALIFAX WATER
STATEMENT OF EARNINGS - REGULATED AND UNREGULATED ACTIVITIES - NSUARB
PROPOSED OPERATING BUDGET
APRIL 1, 2022 to MARCH 31, 2023
(in thousands)

	ACTUAL APR 1/20 MAR 31/21	APPROVED BUDGET (1) APR 1/21 MAR 31/22	**PROPOSED BUDGET APR 1/22 MAR 31/23**
REGULATED ACTIVITIES			
Operating revenues			
Water	$ 47,631	$ 48,424	$ **48,771**
Wastewater	69,605	80,619	**81,608**
Stormwater	8,962	9,886	**10,785**
Public fire protection	7,336	7,628	**7,628**
Private fire protection	1,001	1,312	**1,335**
Other	1,061	1,495	**1,557**
	135,596	149,363	**151,684**
Operating expenditures			
Water supply and treatment	9,970	10,740	**11,208**
Water transmission and distribution	12,031	11,876	**12,441**
Wastewater collection	14,421	12,503	**13,000**
Stormwater collection	4,762	5,885	**5,281**
Wastewater treatment	20,060	21,274	**22,634**
Engineering and technology services	8,281	12,910	**13,934**
Regulatory services	3,981	4,471	**4,866**
Corporate services	5,026	8,887	**7,799**
Administration	7,028	4,859	**5,706**
Depreciation and amortization	27,392	30,872	**30,852**
	112,952	124,278	**127,721**
Earnings from operations before financial and other revenues and expenditures	22,644	25,086	**23,963**
Financial and other revenues			
Interest	215	173	**105**
Other	88	31	**32**
	303	204	**137**
Financial and other expenditures			
Interest on long term debt	7,118	7,592	**6,669**
Repayment on long term debt	20,379	22,693	**21,846**
Amortization of debt discount	209	258	**233**
Dividend/grant in lieu of taxes	5,951	6,836	**6,804**
Other		1	**1**
	33,657	**37,381**	**35,553**
Loss for the year	$ (10,710)	$ (12,091)	$ **(11,452)**
UNREGULATED ACTIVITIES			
Operating revenues			
Septage tipping fees	$ 486	$ 505	$ **475**
Leachate and other contract revenue	416	484	**491**
Airplane effluent	33	76	**76**
Miscellaneous	38	38	**38**
	973	1,103	**1,080**
Operating expenditures			
Water supply and treatment	17	32	**32**
Wastewater collection	46	88	**82**
Wastewater treatment	563	798	**762**
Sponsorships and donations	93	73	**73**
Depreciation and amortization	18	0	**0**
Administration	0	110	**119**
	737	1,101	**1,067**
Earnings from operations before financial and other revenues and expenditures	236	2	**13**
Financial and other revenues			
Other	660	518	**596**
Financial and other expenditures			
Other	69	80	**45**
	69	80	**45**
Earnings for the year	$ 827	$ 440	$ **564**
Total earnings (loss) for the year (Regulated and Unregulated)	$ (9,883)	$ (11,651)	$ **(10,888)**

1. 2021/22 Operating Budget approved by the Halifax Water Board of Commissioners, January 28, 2021.

Appendix D: 2022/23 Business Plan on a Page

Halifax Water

2022/23 Business Plan

One Team, One Water

Our Mission
To provide world-class services for our customers and our environment.

Our Vision
We will provide our customers with high quality water, wastewater, and stormwater services. Through adoption of best practices, we will place the highest value on public health, customer service, fiscal responsibility, workplace safety and security, asset management, regulatory compliance, and stewardship of the environment. We will fully engage employees through teamwork, innovation, and professional development.

Our Values

Relationships
We nurture relationships with our customers, our team members and the environment. We are engaged in the neighbourhoods we serve and we support continual learning across our team.

Innovation
We are among the top utilities across the continent and we are known on the global stage. We always ask, "how can we improve efficiency, sustainability, creativity and the customer experience?"

Accountability
We refuse to cut corners. We check in with our excellence standards regularly and look to one another for support. Safety steers our decision-making. We are driven to make our policies, decisions and projects as clear as our drinking water.

Protection
Halifax Water protects the health and well-being of our population. We exist to guard natural resources, finding ways to sustain our communities and environment.

People

We attract and retain high-quality team members in an inclusive and respectful work environment. We are committed to our customers and the communities where we live and work, determined to provide a high level of service and sustainable future through ongoing engagement.

- Enhance workforce planning (talent management, meeting staff resource requirements, training, etc.).
- Build a positive & diverse workplace.
- Increase stakeholder & customer engagement.
- Support transition of Halifax Water Board with new members.
- Ensure that major initiatives have communication and stakeholder engagement plans.
- Enhance information available to customers through Customer Connect & bill redesign.

Health, Safety & Environment

We are focused on a safety-first culture, working to provide healthy, safe, sustainable, and reliable services for our community.

- Continue to enhance safety & security culture, starting with Safety Leadership training.
- Gain approval for new biosolids strategy & execute a contract for the new Biosolids Processing Facility (BPF).
- Develop a Climate Action Plan.
- Align green initiatives for fleet and buildings with Climate Action Plan.
- Maintain regulatory compliance & enhance reporting.
- Execute the Get the Lead Out program.
- Launch new service compliance program.
- Implement corporate Environmental Management System (EMS).

Financial & Regulatory Accountability

It is fundamental to ensure that Halifax Water has capacity to fund existing and future infrastructure. We prudently manage assets and operate our business by balancing value and customer service.

- Improve financial position & update the long-range financial plan.
- Optimize capital project planning & delivery.
- Progress asset management & infrastructure planning initiatives.
- Complete an actuarial valuation of the Halifax Water Employees' Pension Plan & implement recommendations.
- Complete a cost-of-service hearing & file a general rate application.
- Complete System Assessment reports & Water Safety Plans.
- Secure Regulatory approval for:
  - Cogwell District Energy System (DES)
  - Burnside Operations Depot
  - Cogswell Redevelopment Infrastructure Relocation
  - Biosolids Processing Facility (BPF)
  - Mill Cove WWTF Upgrade

Operational Excellence

We are committed to service, reliability, and quality for our customers. Focused on safely and efficiently building, operating, and maintaining our critical infrastructure, we ensure a more sustainable community.

- Implement expanded stormwater service in June 2022.
- Develop an operating plan for the Burnside Operations Depot.
- Year 2: Water Supply Enhancement Program.
- Optimize Water Supply Plant (WSP) & Wastewater Treatment Facility (WWTF) processes through Dalhousie research partnership.
- Incorporate Digital Water Strategy in the Five Year Strategic Plan.
- Implement corporate Enterprise Risk Management (ERM) & improve cyber security maturity.
- Implement Enterprise Resource Planning (ERP) project to improve operational efficiency.
- Maintain a high level of day-to-day service that our customers have come to expect.

STRAIGHT from the SOURCE

Halifax Water

STRAIGHT from the SOURCE

Halifax Water