Nova Scotia Regulatory and Appeals Board

IN THE MATTER OF: The *Public Utilities Act,* RSNS, 1989, c 380, as amended

- and -

IN THE MATTER OF: An Application by the Halifax Regional Water Commission for Approval of a Revised Schedule of Rates and Charges, Amendments to Regulations, and a Revised Cost-of-Service Manual, with Respect to Rates and Charges for the Provision of Water, Public and Private Fire Protection, and Wastewater and Stormwater Services

APPLICATION BY HALIFAX REGIONAL WATER COMMISSION
FILED
MAY 5, 2025

CONTENTS

NOTICE OF APPLICATION 4

Overview 6

Background 7

Sustainability Framework 10
- Cost of Service 11
- Integrated Resource Plan 12
- Debt Strategy and Affordability 15

Rate Smoothing 19

Five-Year Business Plan 20

Capital Budget 20

Revenues 23

Expenses 28
- Salaries and Benefits 30
- Chemicals 30
- Energy 30
- Debt Financing 31
- Depreciation 32
- Dividend/Grant in Lieu of Taxes 33
- Pension 34

Operating Surplus (Deficit) 34

Water Demand Analysis 35

Rate Requirements 36
- Fire Protection 36
- Base Charges and Volumetric Charges 39

Stormwater Rates 48
- Impervious Area Changes 52
- Stormwater Service Expansion 53

Proposed Residential Rates for Water, Wastewater and Stormwater Services 53

Rate of Return 54

Interest on overdue accounts 54

Objectives and Criteria for Developing Revenue Requirements 54

Summary of Compliance with Orders from 2020 Rate Application M09589 55

Proposed Regulations 56

Order Sought 56

Appendices	
1	Water Rate Studies with notes to Schedules
2	Wastewater Rate Studies with notes to Schedules
3	Stormwater Rate Studies with notes to Schedules
4	Updated Cost Service Manual
5	Halifax Water 2024 Demand Analysis: Econometric Water Demand Estimation
6A	2025/26 Annual Business Plan
6B	2025-2030 Five-Year Business Plan
7	Audited Financial Statements year ended March 31, 2024
8	Unaudited Financial Statements ten months ending January 31, 2025
9	Proposed Halifax Water Schedule of Rates, Rules & Regulations

NOTICE OF APPLICATION

NOVA SCOTIA REGULATORY AND APPEALS BOARD

IN THE MATTER OF: THE *PUBLIC UTILITIES ACT,* RSNS 1989, c 380, as amended

-and-

IN THE MATTER OF: AN APPLICATION BY THE HALIFAX REGIONAL WATER COMMISSION FOR APPROVAL OF A SCHEDULE OF RATES AND CHARGES AND APPROVAL OF REGULATIONS RESPECTING RATES AND CHARGES FOR THE PROVISION OF WATER, PUBLIC AND PRIVATE FIRE PROTECTION, AND WASTEWATER AND STORMWATER SERVICES

TO: THE NOVA SCOTIA REGULATORY AND APPEALS BOARD (the "Board", or "RAB")

NOTICE OF APPLICATION

The Applicant makes this Application to the Board seeking an Order approving the following:

(a) a schedule of rates and charges for water, wastewater, and stormwater services, and for public and private fire protection for customers of the Halifax Regional Water Commission, to take effect for services rendered on and after January 1, 2026, a copy of which is attached as Appendix 9;

(b) amendments to the Schedule of Rates, Rules & Regulations for Water, Wastewater, and Stormwater Services effective October 15, 2023, such amendments to take effect on and after January 1, 2026, a copy of which is attached hereto as Appendix 9; and

(c) amendments to the Water, Wastewater, Stormwater and District Energy Systems Cost-of-Service Manual effective July 15, 2024, such amendments to become effective on and after January 1, 2026 a copy of which is attached hereto as Appendix 4.

The Applicant hereby submits the following particulars in support of this Application:

1. The Halifax Regional Water Commission ("Halifax Water") is a body corporate, incorporated under the *Halifax Regional Water Commission Act*, S.N.S. 2007, c.55, as amended, (*HRWC Act*) and has its head office and chief place of business at 450 Cowie Hill Road, Halifax, Nova Scotia.

2. Halifax Water is a public utility regulated under the *Public Utilities Act,* R.S.N.S. 1989, c. 380, as amended ("*Public Utilities Act*"), and has responsibility for the supply of municipal water services, fire protection services, municipal wastewater services and municipal stormwater services throughout the Halifax Regional Municipality ("HRM").

3. The rates charged by Halifax Water for its services were last adjusted on April 1, 2023.

4. Halifax Water is represented in this proceeding by:

James MacDuff
McInnes Cooper
Purdy's Wharf Tower II
PO Box 730
1300-1969 Upper Water Street
HALIFAX, NS, B3J 2V1
Phone: (902) 444-8619
Email : james.macduff@mcinnescooper.com

5. Contact information for Halifax Water in respect of this Application is as follows:

Liana Rintoul
General Counsel
Halifax Water
PO Box 8388 Station A
450 Cowie Hill Road
HALIFAX, NS, B3K 5M1
Phone: (902) 483-2757
E-mail: lianar@halifaxwater.ca

and

Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO
Halifax Water
PO Box 8388 Station A
450 Cowie Hill Road
HALIFAX, NS, B3K 5M1
Phone: (902) 490-3685
E-mail: louis.demontbrun@halifaxwater.ca

Filed at Halifax, Nova Scotia this 5th day of May 2025.

Signed by:

Louis de Montbrun, CPA, CA
Director, Corporate Services/CFO
Halifax Water

OVERVIEW

Halifax Water has been providing potable water and fire protection services to the residents of the former City of Halifax since 1945. Following municipal amalgamation in 1996, these services have been provided to thousands of customers within the Halifax Regional Municipality.

On August 1, 2007, municipal wastewater and stormwater facilities were transferred to Halifax Water and as a result, these services became regulated under the *Public Utilities Act.*

The current rate structure in place for all services came into effect on April 1, 2023. The current Cost-of-Service Manual in place for all water services came into effect July 15, 2024. The Halifax Water Regulations have been periodically updated, with the most recent update to the Regulations taking place on October 15, 2023.

Just like many water utilities across North America, Halifax Water is facing an increasingly urgent need to replace aging infrastructure. In order to ensure its continued ability to provide high level of service to customers, Halifax Water must invest the funds necessary to maintain, repair, and/or replace critical infrastructure. These critical infrastructure projects include, for example, upgrades to the JD Kline and Lake Major Water Supply facilities, Mill Cove Wastewater Treatment Facility, as part of delivery of an average $135 million capital program initially identified in the 2019 Integrated Resource Plan ("Integrated Resource Plan or IRP").

Beyond these forecasted capital expenditure requirements, Halifax Water must also contend with external impacts that contribute to increased operating costs. These external influences have impacted, and continue to impact, virtually all organizations, and public utilities are no exception. Such impacts include the COVID-19 pandemic, significant inflationary pressures, increased borrowing costs, and increased labour and material costs.

In addition, and most recently, there has also been a heightened level of economic uncertainty arising from volatile American trade policies, the impacts of which are potentially significant but difficult to forecast with any accuracy at this time.

In the face of all of these factors, Halifax Water remains committed to providing safe and reliable service to its customers and continuing to work towards achieving the most prudent and economical path to providing such just and reasonable service, now and into the future.

Further to the Board's decision dated February 24, 2025, in Matter M11899, Halifax Water has commenced the update to the 2019 Integrated Resource Plan and is committed to continuing closing data gaps and enhancing programs identified in past filings. As part of this work, Halifax Water will continue to incorporate activities in the 5 Year Business Plan (Appendix 6B) to support the need to address institutional capacity and increase capital delivery. All these factors are placing upward pressure on Halifax Water's costs and support the need for rate increases at this time.

Halifax Water seeks approval for the following rate increases across a two-year period, (Test Year 1 = 2025/26 and Test Year 2 = 2026/27) commencing January 1, 2026, and April 1, 2026.

The range of rate increases requested varies depending upon the size of the meter connection and the volume of water consumed. The rate increases requested for 5/8" meters, which are primarily residential

customers total 15.8% for water and wastewater on January 1, 2026, and then 17.1% for water and wastewater on April 1, 2026. Requested increases for all other meter sizes will range from 19.9% to 23.3% on January 1, 2026, and then from 20.6% to 24.5% on April 1, 2026.

The increase in the stormwater impervious area per square meter charge is from $0.173 to $0.216 on January 1, 2026, an increase of $0.043 and a further increase to $0.277 per square meter on April 1, 2026, an increase of $0.061. The annual increase in the tier rates range from $5.00 to $28.0 per year, or $0.42 to $2.33 per month, on January 1, 2026, and a further annual increase of $6.00 to $40.00 per year, or $0.50 to $3.33 per month, on April 1, 2026.

The public fire protection charge increases to $10,542,602 per year on January 1, 2026, and to $13,290,574 on April 1, 2026.

The increased rates in the private fire protection charge range between $29.00 and $967.00 per year on January 1, 2026, and between $29.00 and $967.00 per year on April 1, 2026.

The total right-of-way charge would be $7.9 million in 2025/26 and $8.9m in 2026/27. The right-of-way charge to HRM would increase to $6.4 million in 2025/26 and to $7.2 million in 2026/27. The right-of-way charge for the provincial government would increase to $1.5 million in 2025/26 and would increase to $1.7 million in 2026/27. For the Halifax Dartmouth Bridge Commission, the right-of-way charge would increase to $18,400 in 2025/26 and $20,600 in 2026/27.

Halifax Water recognizes the requested rate increases are significant. However, approval of the Application is required to allow Halifax Water to maintain and improve the current level of service to customers, recognize additions to utility plant in service, and enable the ongoing and necessary capital investments in water, wastewater and stormwater infrastructure. As in the past, Halifax Water's budgets and revenue requirements have been developed on a "break-even" basis to ensure the lowest reasonable cost for its ratepayers.

BACKGROUND

a) Utility Structure

Halifax Water is a regulated utility that operates on a cost-recovery basis. There is no profit component built into the rates, as there would be for an investor-owned utility. Halifax Water's revenue requirements are sufficient to cover operating expenses, including depreciation, and there is an imputed rate of return calculated within the cost-of-service studies equivalent to payment obligations for debt service and the payment to HRM of a dividend/grant in lieu of taxes.

As a cost-of-service utility, Halifax Water customers only pay for the services they use, and there is no cross-subsidization of services. This means that water customers pay for water service only, wastewater customers pay for wastewater service only, and it is the same for stormwater.

b) COVID-19 - Deferred Rate Increases

As a backdrop to this Application, it is important to note that in its 2020 rate application, Halifax Water intentionally suppressed rate increases, and instead tapped into its reserves and accumulated surpluses

totaling $12.2 million, in order to offset the shortfall and continue to meet its revenue requirements. On behalf of its customers, Halifax Water undertook to reduce the impact of rate increases on rate base during the pandemic.

In its 2022 rate application, as the world continued to emerge and recover from COVID-19, Halifax Water again asked for modest rate increases that did not fully cover water and stormwater deficits, which amounted to $8.4 million.

Halifax Water was able to rely on the use of its reserves and accumulated surpluses to reduce the impact on customers.

These rate-making decisions were appropriate at that time but have contributed to Halifax Water's current financial deficit.

c) **Cost Pressures**

When the Board approved the 2022 rate application (2022 NSUARB 163) which provided increases in the average residential bill of 3.6% in 2022 and 3.6% and 2023, all parties were aware that the rate increases were not sufficient to meet Halifax Water's updated revenue requirement for the Test Years. As the decision noted at para. 224:

> "*If the increased costs from these inflationary pressures were reflected in the updated revenue requirement for the test years, rates would increase above that requested in the rate application. However, Halifax Water stated in its Post Hearing Submission that it is not asking to adjust the rates above that proposed in the application. In the circumstances, the Board accepts Halifax Water's position.*"

In addition to the issues identified above, there have been other significant cost increases that Halifax Water and other organizations have been dealing with since 2022. This includes further significant increases in inflation and increases in interest rates on new debt issues. These and the ongoing challenges associated with growth, aging infrastructure, and regulatory requirements have created an environment that requires increases to rates to ensure the long-term viability of the utility.

Simultaneously, Halifax Water experienced significant turnover throughout 2023 and 2024 at the executive team level, including the positions of General Manager, Director of Engineering and Information Technology, Director of Operations, and General Counsel / Director of Governance and Human Resources.

These leadership changes, the transition to Cayenta ERP system, and other institutional capacity factors occurred at the same time that Halifax Water was experiencing increasing financial pressure. As a result, Halifax Water operated with a budgeted deficit of $18.7 million 2024/25 and has budgeted a deficit of $34.1 million for 2025/26.

The proposed rate increases requested for the next two years are designed to address the current financial shortfall and return Halifax Water's financial position to cost-neutral.

However, it is important to note that the significant capital investments required by Halifax Water over the next five to ten years will further increase debt financing, depreciation and other operating costs. These upward cost pressures on account of such spending will require further increases in rates over time beyond what is included in this Application. With a current estimated capital spend in the range of $1.36 billion, Halifax Water acknowledges that the future required rate increases will require an enhanced focus on the long-term impact on rate affordability for customers.

Figure 1 below demonstrates Halifax Water's forecasted capital investment requirements for the next 5 years.

Figure 1 – Five-Year Capital Plan for Water, Wastewater, Stormwater, and District Energy System

	Budget 2025-26	Budget 2026-27	Budget 2027-28	Budget 2028-29	Budget 2029-30	Total 2025/26 to 2029/30
Water	52,442,233	74,656,166	129,187,166	212,536,168	209,972,000	678,793,733
Wastewater	51,409,424	100,670,833	158,552,285	141,620,434	103,642,500	555,895,476
Stormwater	29,144,284	31,776,000	19,771,500	22,287,900	17,335,500	120,315,184
District Energy System		1,500,000	4,500,000	3,000,000		9,000,000
Total Expenditures	132,995,941	208,602,999	312,010,951	379,444,502	330,950,000	1,364,004,393

This required investment will increase depreciation costs and will require Halifax Water to significantly increase its debt requirements.

To address the current deficit and develop a longer-term financial strategy, Halifax Water has approached this Application as the appropriate time to "level set" rates and address the current operating deficit over the next two years. This approach avoids pushing unrecovered costs into a future period when they would only compound the rate increases that are expected in the future.

FORWARD-LOOKING STRATEGY

By addressing the deficit over the next two years, the Halifax Water can focus on developing a longer-term financial strategy. This includes working with all levels of government to find potential opportunities for governments to contribute to the over $1.36 billion in capital investment required over the next 5 years, as well as the significant capital investment required beyond the next 5 years. Pursuing such funding for key initiatives underway such as the Water Supply Enhancement Program ("WSEP") and the future upgrades to the Harbour Solution Wastewater Treatment Plants will remain a priority for Halifax Water.

Halifax Water currently offers water, wastewater and stormwater services to our residential customer that are lower than most of the benchmarked cities across Canada. However, without supplemental funding from governments to address the increase in capital investment, customers will bear these long-term financial costs alone.

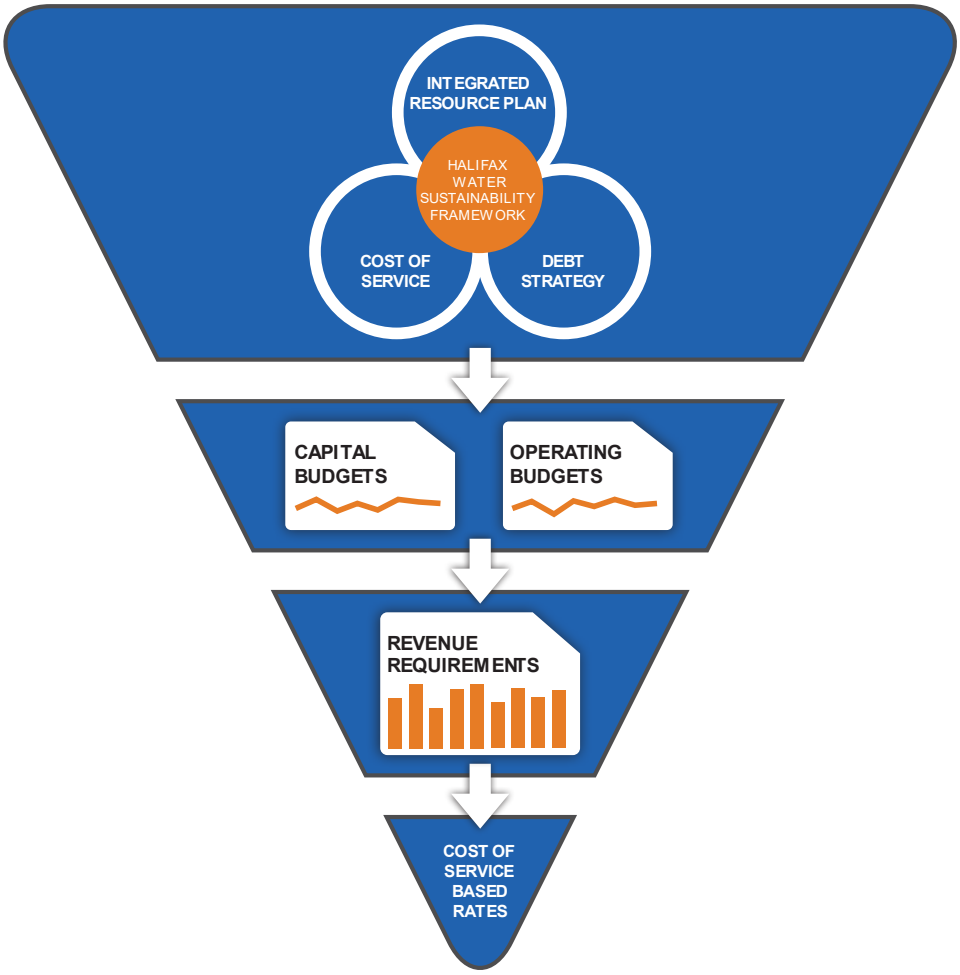
Accordingly, Halifax Water will continue to engage all levels of government on all available funding opportunities and explore alternatives for cost-sharing, financing options, and other options to reduce the burden on customers.

As noted above, Halifax Water's goal is to return to a break-even position over the next two years and establish more predictable longer-term rates. To achieve this, Halifax Water, must continue to act prudently and consider all options that can provide the best long-term value for customers.

SUSTAINABILITY FRAMEWORK

Through various hearings and orders of the Board, Halifax Water has received guidance and approvals on its long-range planning strategy. Halifax Water has developed, and periodically updated and enhanced three key strategy documents: the Cost-of-Service Manual ("COS Manual" Appendix 4), the Integrated Resource Plan, and the Debt Strategy. These three documents are often referred to as the sustainability framework for Halifax Water and serve as a touchstone for the development of rates and operating and capital budgets as indicated in Figure 2.

Figure 2 – Sustainability Framework



The COS Manual has been adjusted to reflect the most current information, which is discussed below. The IRP was updated in 2019 and is currently being updated and anticipated to be completed in 2027. Assumptions and data used in the Debt Strategy were last updated in 2018, and the underlying information is still relevant.

Cost of Service

In the 2022 rate application, Halifax Water indicated its intention to consider differentiation and peaking characteristics. An updated water demand analysis report was prepared by A & N Technical Services Inc., and reviewed by Eric Rothstein, GRG, using AMI data in 2024/25, titled Halifax Water 2024 Demand Analysis: Econometric Water Demand Estimation, ("2024 Water Demand Analysis Report") (attached as Appendix 5). The 2024 Water Demand Analysis Report statistically examined nearly two decades of consumption history, including the most recent four years of high-resolution AMI measurements. The report found minimal variation in peaking factors based on a detailed analysis of billing and AMI data. Consequently, the 2024 Water Demand Analysis Report recommends on page 2 that Halifax Water should maintain system-wide rates and charges instead of implementing class-differentiated rates.

"Based on our analysis of demand load shape and quantifies peaking factors, we anticipate that limited improvements in allocation of cost responsibilities would be realized with disaggregation of customer classes for rate setting. This preliminary conclusion is based on the limited differences in peaking factors evidenced by detailed analysis of billing and AMI data. WE also recommend that HW continue to continuously monitor demand load shape – a real time capability by HW's AMI measurement infrastructure – to determine if future changes to demand load shape warrant re-consideration of HW's system-wide rate structure""

Halifax Water agrees with this recommendation and submits this Application based on the existing COS Manual and rate structure, which includes a single unit volumetric rate with base charges increasing based on meter size.

Figure 3: Consumption by Customer Class

Consumption by Customer Class (m3)							
	Annual Consumption 2021/22	Annual Consumption 2022/23	Annual % Change in Consumption 2022/23	Annual Consumption 2023/24	Annual % Change in Consumption 2023/24	Annual Consumption 2024/25	Annual % Change in Consumption 2024/25
Commercial	5,991,985	6,605,005	10.2%	6,724,101	1.8%	6,965,719	3.6%
Industrial	1,945,000	1,757,151	(9.7%)	1,753,824	(0.2%)	1,731,636	(1.3%)
Institutional	3,667,985	3,710,173	1.2%	3,818,567	2.9%	4,095,194	7.2%
Multi-residential	7,430,058	7,806,248	5.1%	8,080,410	3.5%	8,552,146	5.8%
Residential	13,094,090	12,641,623	(3.5%)	12,943,799	2.4%	13,178,808	1.8%
Total	32,129,118	32,520,201	1.2%	33,320,701	2.5%	34,523,503	3.6%

Therefore, the requested updates to the COS Manual are more routine in nature, reflecting changes in cost allocation based on actual operating costs and updates to data such as number of customer connections and amount of impervious area. The cost-of-service methodology used to establish water, wastewater and stormwater rates has not changed.

This Application is prepared in accordance with the COS Manual and based on the Board approved methodology. This methodology uses well-established principles developed by the American Water Works Association (AWWA) and the Water Environment Federation (WEF), which are applied to the context of the local and operational characteristics prevalent for Halifax Water. Cost allocations are tailored to reflect system characteristics, and to adapt to changing circumstances.

Integrated Resource Plan

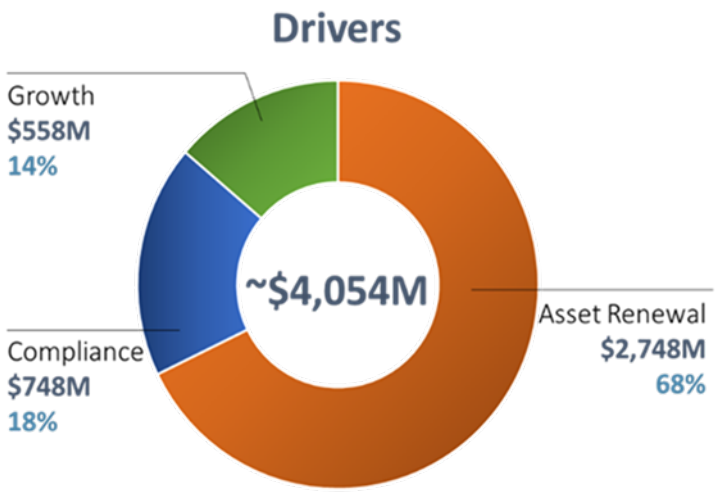
Halifax Water defines integrated resource planning as a long-term planning initiative that incorporates the key drivers of asset renewal, compliance, and growth across all its infrastructure. The last update to the IRP was in 2019 and filed with the Board as part of M09494. Halifax Water is currently working on an update to its IRP as approved through M11899.

The 2019 IRP was completed as a standalone study that brought together recommendations from Halifax Water's Infrastructure Master Plan, Compliance Plan, and Asset Management Plan, which were created to support the three separate drivers. The 2019 IRP also highlighted areas where Halifax Water would

benefit from closing data and information gaps. Over the past several years, Halifax Water has been actively working to collect data that will better enable the utility to update the IRP and reduce the uncertainty contained in project assumptions.

Asset renewal expenditures represented approximately 68% of the 2019 IRP; growth represented 14%; and regulatory compliance expenditures represented approximately 18%. The total 30-year project cost from the 2019 IRP is shown in Figure 4 below.

Figure 4 – 2019 Integrated Resource Plan 30-Year By Driver



The current project (M11899) is intended to update the 2019 IRP with new information and assumptions, in line with good planning practices. The primary goal for this IRP Update is to identify Halifax Water's most cost-effective servicing strategy to address asset renewal, compliance, and growth in an integrated manner. Further, in striving for continuous improvement, Halifax Water has decided to consolidate its master planning process to develop one overall guiding plan in this IRP Update. Unlike the 2019 IRP, the separate needs of the drivers are not intended to be assessed in separate plans and then consolidated in one IRP summary. Instead, this IRP Update will be completed as one cohesive program with all three drivers being considered throughout the development of the servicing strategies. The final deliverable will be a long-term (30-year) capital investment plan that will guide investment and infrastructure decisions and inform the 5-year capital plan. The IRP is intended to be updated regularly (goal is for 5-year cycle) to allow for Halifax Water to confirm and recalibrate planning assumptions with each iteration of the plan for the following horizon.

Utility Plant in Service

From 2019/20 to 2023/24, Halifax Water has invested $333.9 million in infrastructure. Over $73.8 million has been contributed through the development process or funded by Regional Development Charges ("RDC"), Capital Cost Contributions ("CCC") or other external funding. The remaining $260.1 million has been funded by rates.

Figure 5: Increase in Utility Plant in Service April 1, 2019 to March 31, 2027

	Infrastructure Investment					
	Actual 2019-20	Actual 2020-21	Actual 2021-22	Actual 2022-23	Actual 2023-24	Total 2019-2024
Water						
Regular Additions	35,990,957	24,685,973	8,717,211	23,931,463	25,533,737	118,859,342
Donated Additions	13,388,017	1,399,724	7,266,262	14,195,064	440,211	36,689,279
Total Water	49,378,974	26,085,698	15,983,473	38,126,527	25,973,948	155,548,620
Wastewater						
Regular Additions	22,899,657	13,694,027	16,910,270	24,069,390	23,268,666	100,842,011
Donated Additions	4,525,803	2,097,620	5,978,796	1,779,329	1,176,913	15,558,461
Total Wastewater	27,425,460	15,791,647	22,889,066	25,848,719	24,445,579	116,400,472
Stormwater						
Regular Additions	14,903,872	4,474,492	8,485,573	6,789,000	5,766,312	40,419,249
Donated Additions	2,614,098	1,298,758	1,548,858	9,142,051	6,965,962	21,569,727
Total Stormwater	17,517,970	5,773,250	10,034,431	15,931,051	12,732,274	61,988,976
Total Regular Additions	73,794,486	42,854,492	34,113,054	54,789,853	54,568,716	260,120,602
Total Donated Additions	20,527,918	4,796,103	14,793,916	25,116,444	8,583,086	73,817,467
Total	94,322,404	47,650,595	48,906,970	79,906,297	63,151,802	333,938,068

For 2024/25 to 2026/27, Halifax Water is estimating a further $508.5 million increase in utility plant in service.

	Infrastructure Investment				
	Estimated 2024-25	Estimated 2025-26	Estimated 2026-27	Total 2024-27	Total 2019-27
Water					
Regular Additions	64,727,746	75,089,074	36,287,032	176,103,853	294,963,194
Donated Additions	7,337,856	7,337,856	7,337,856	22,013,568	58,702,847
Total Water	72,065,602	82,426,930	43,624,888	198,117,421	353,666,041
Wastewater					
Regular Additions	61,791,578	71,846,572	91,376,857	225,015,008	325,857,019
Donated Additions	2,883,804	2,883,804	2,883,804	8,651,413	24,209,874
Total Wastewater	64,675,382	74,730,377	94,260,662	233,666,421	350,066,893
Stormwater					
Regular Additions	12,860,786	25,062,777	26,070,911	63,994,474	104,413,723
Donated Additions	4,257,171	4,257,171	4,257,171	12,771,512	34,341,239
Total Stormwater	17,117,957	29,319,948	30,328,081	76,765,986	138,754,962
Total Regular Additions	139,380,111	171,998,423	153,734,800	465,113,335	725,233,936
Total Donated Additions	14,478,831	14,478,831	14,478,831	43,436,493	117,253,959
Total	153,858,942	186,477,254	168,213,631	508,549,827	842,487,896

As expected, the increased investment in infrastructure has resulted in increased costs to operate and maintain the assets and finance the capital investment.

Additions to utility plant in service for the two Test Years reflect projects that will be completed and in service during the Test Years, while the capital budget reflects planned activity during the Test Years. Capital projects can span multiple fiscal years and are often multi-year in nature. A project may commence but not be completed or in service during the test period. Additions to utility plant in service are developed based on: 1) capital projects from previously approved capital budgets that are expected to be completed, plus, 2) planned future capital budgets, and less, 3) capital projects that will not be completed during the Test Year periods, which will become additions to utility plant in service in future years after the Test Years. Additions to utility plant in service for water, wastewater and stormwater are detailed within the Water, Wastewater and Stormwater Rate Studies (Appendices 1, 2 and 3 respectively). In total, $172.0 million of addition in utility plant in service have been included in the proposed rates in 2025/26 and a further $153.7 million in 2026/27.

Debt Strategy and Affordability

In 2012, Halifax Water prepared "Study of An Efficient Funding Mechanism for Halifax Water" ("Debt Strategy"). The data and assumptions were updated in 2018, as part of a Rate Affordability Study.

The Debt Strategy was developed through evaluation of funding alternatives using three general principles:

- Rate stability and affordability
- Halifax Water's long-term financial sustainability
- Intergenerational equity

The Debt Strategy concluded that appropriate financial performance ratios for Halifax Water include:

- Target debt service ratio of 35%
- Target debt/equity ratio of 40% to 60%

These two targets provide benchmarks for Halifax Water's capital financing strategy when considering future use of debt.

Additionally, the Debt Strategy addresses the issue of affordability and references industry studies which suggest an appropriate affordability measure is 2% of median household income for water (2%), and for wastewater and stormwater service (2%), *i.e.* 4% for all three services. Halifax Water is currently using the more conservative benchmark of 2% of median household income for combined services for the purpose of financial planning.

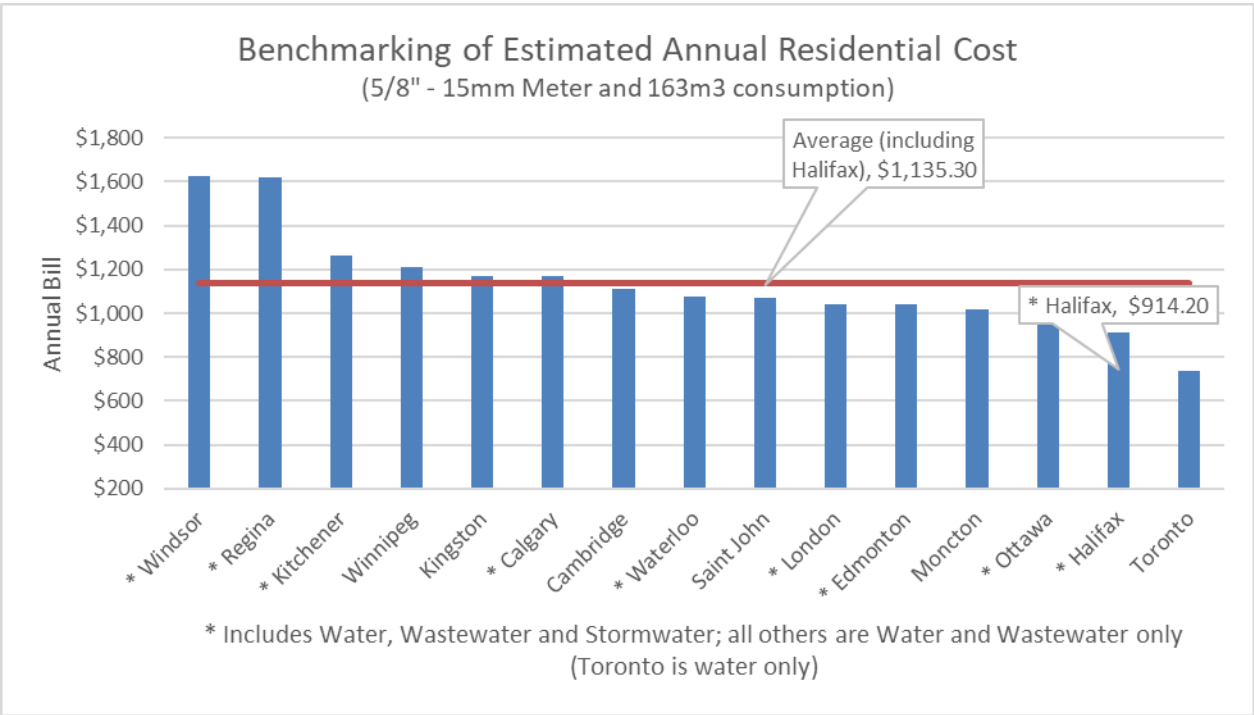
Halifax Water commissioned a more in-depth review of affordability ("Rate Affordability Study") in 2017, which concluded there is no broad affordability issue in Halifax. However, the study did identify that there are subsets of communities and populations within the service area with concerns regarding affordability. In 2018, in response to this Rate Affordability Study, Halifax Water implemented some enhancements to the customer assistance program, Help to Others ("H2O"), which is funded from non-rate revenues. Halifax Water's customer assistance program ("H2O Fund") administered by the Salvation Army assisted 47 customers in 2024/25 and in most years the program funding is not fully utilized. In addition, a new rate-funded program to provide assistance to customers was approved by the Board in 2020: the lead service line replacement program where Halifax Water will fund the replacement of the private portion

of the service connection as part of projects integrated with HRM. The lead service line replacement rebate and the private lateral replacement assistance program continue to be available to customers with a goal of removing all lead service lines both public and private by 2038. An update to the Regulations related to the limit for reimbursement is before the Board in Matter M12101.

Median household income in the Halifax Census Metropolitan Area is $83,100 based on Statistics Canada, Canadian Income Survey 2006-2022. The median household income, if increased by CPI, would be expected to be $86,788 in 2024. The average residential customer currently pays $914.20 for water, wastewater and stormwater Service. The average bill equates to 1.05% of median household income, indicating that in terms of rate affordability, Halifax Water benchmarks favourably with the rate affordability threshold. Halifax Water rates also benchmark favourably with other comparable Canadian utilities. With the proposed increase for 2025/26, the average residential bill will amount to $1,062.21, would equate to 1.22% of median household income for all services, and for 2026/27, a bill amount of $1,248.77, would equate to 1.44% of median household income. As of the most recent benchmarking in 2024/25, the average residential bill for combined water, wastewater and stormwater service for the 14 benchmark cities was $1,135.30 (including Halifax).

The benchmarking of estimated annual residential cost is shown in Figure 6 below.

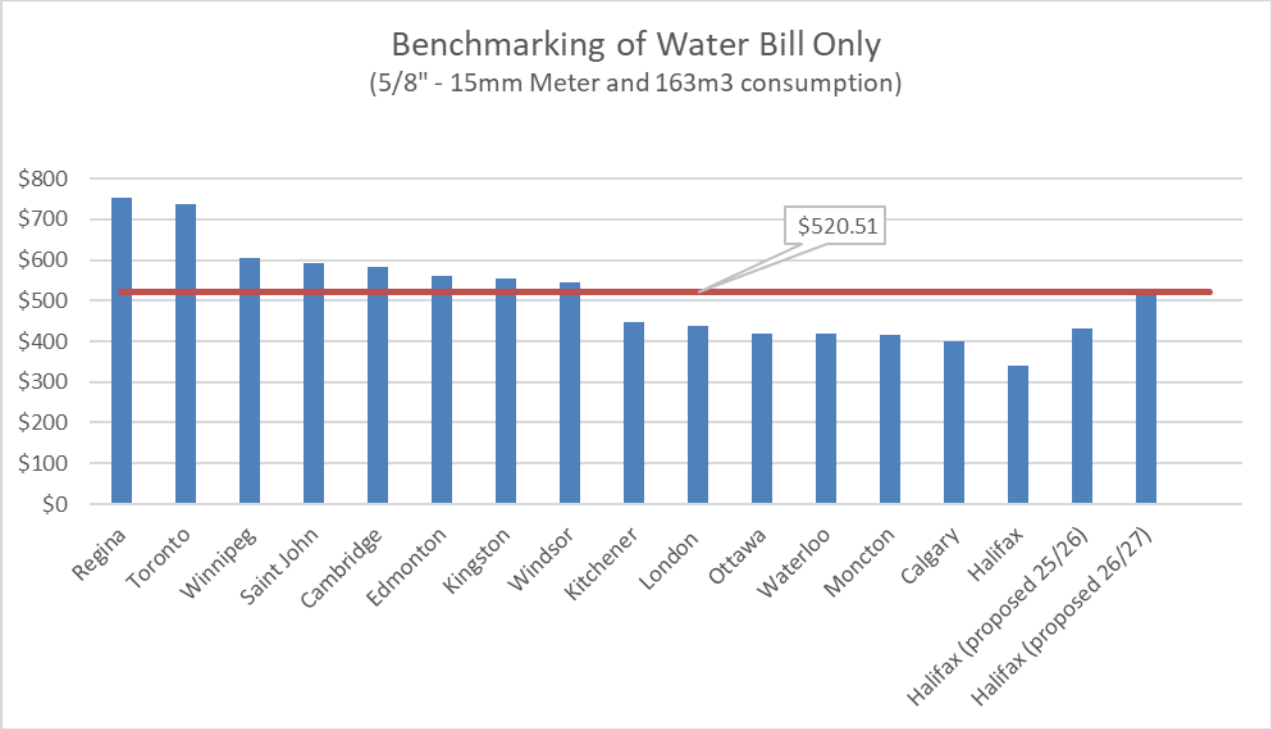
Figure 6 – Benchmarking of 2024-25 Estimated Annual Residential Costs (5/8" Meter)



The comparison based on current rates shows Halifax Water for 5/8" meters approximately 19.5% less than the average of the benchmark cities.

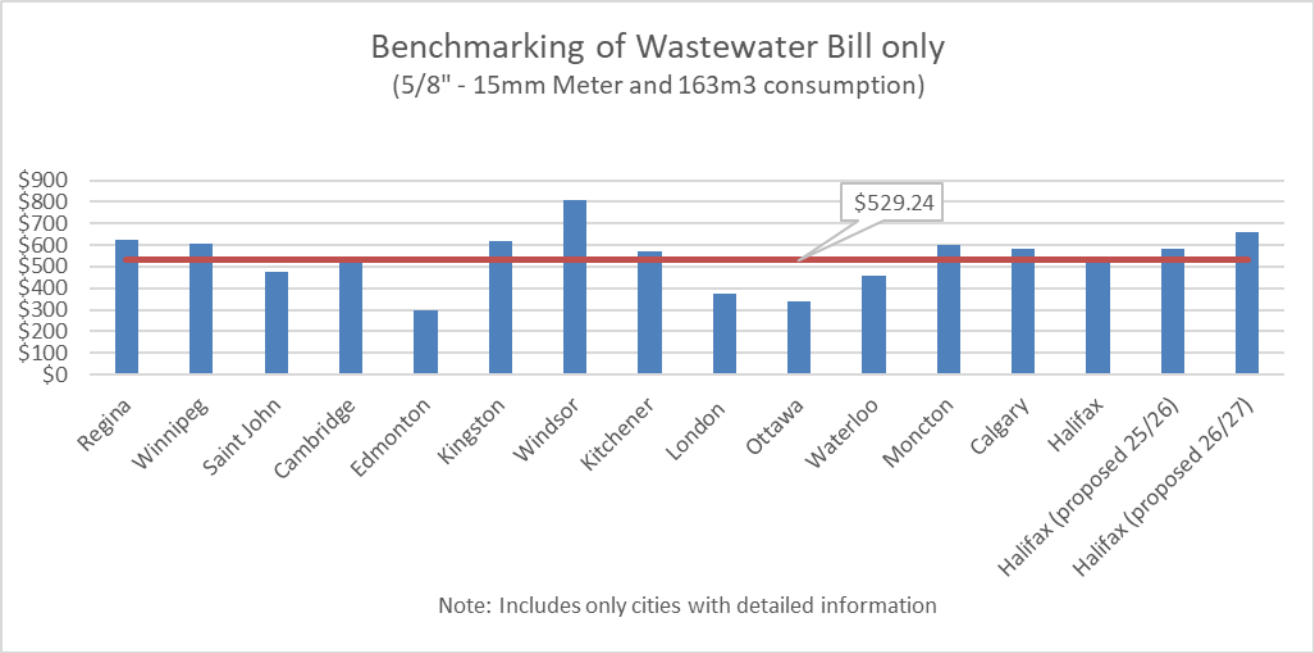
If we consider only water services, Halifax has the lowest cost to an average residential customer amongst benchmarked cities, see Figure 7. Halifax Water's analysis indicates that when the proposed rate increases are considered, the cost to the average residential customer in Halifax will be slightly above the average costs from the benchmarked cities.

Figure 7 – Benchmarking of 2024-25 Estimated Annual Residential Costs (5/8" Meter) – Water Only



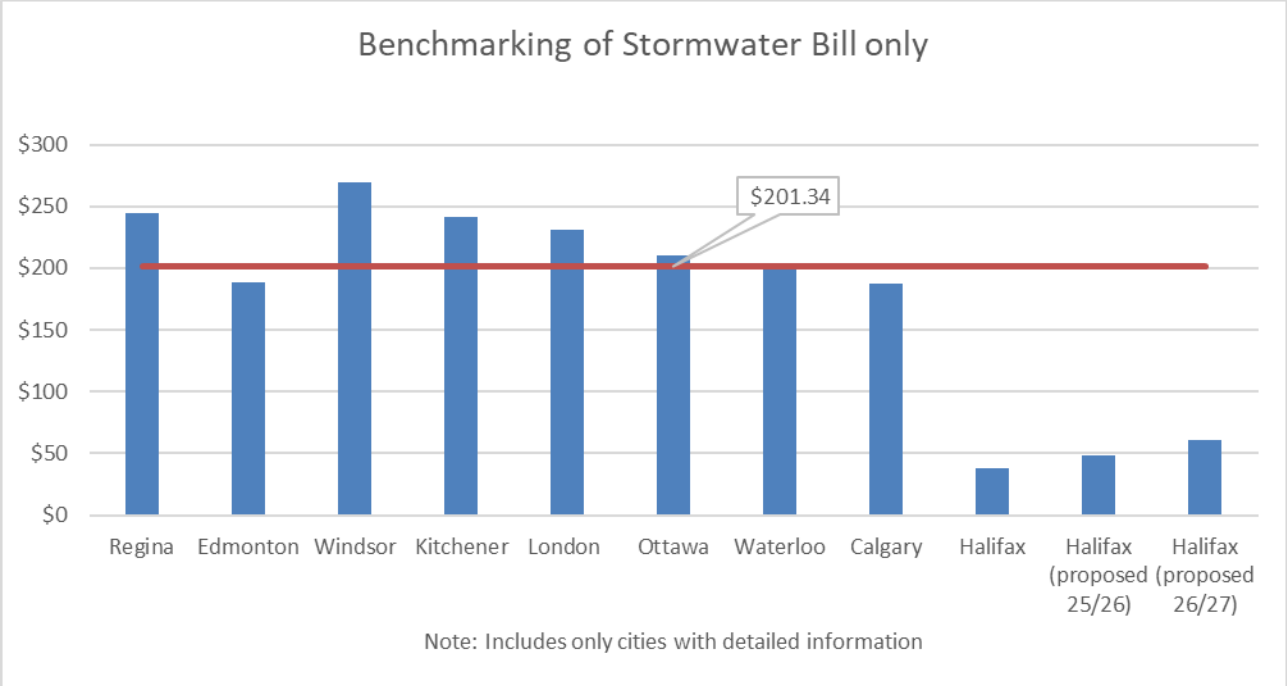
For wastewater services, Halifax Water's current costs are at the average, see Figure 8. If other cities do not increase their rates over the next two years, Halifax Water's wastewater costs will be above the average in 2025/26 and 2026/27.

Figure 8 – Benchmarking of 2024-25 Estimated Annual Residential Costs (5/8" Meter) – Wastewater Only



For stormwater services, Halifax has the lowest cost to an average residential customer amongst benchmarked cities, see Figure 9. Our analysis indicates that when the proposed rate increases are considered, the cost to the average residential customer in Halifax will still be the lowest among the benchmarked cities but note that some of the cities referenced have stormwater water quality in addition to quantity management in their regulations that may influence their stormwater charges.

Figure 9 – Benchmarking of 2024-25 Estimated Annual Residential Costs (5/8" Meter) – Stormwater Only



The utilization of debt in the two Test Years of this Application is consistent with the Debt Strategy. Capital financing strategies for future infrastructure requirements are updated as required to reflect changes in key assumptions such as:

- Interest rates,
- Availability of federal/provincial infrastructure funding,
- Availability of RDC funding for specific projects, and
- Financial constraints posed by rates and affordability issues.

The Nova Scotia Department of Finance and Treasury Board requires that HRM guarantee most of Halifax Water's debt. In September 2014, HRM Council approved a blanket guarantee for Halifax Water debt subject to the utility maintaining a debt service ratio of 35% or less. As of January 31, 2025, the debt service ratio for all services is 17.46%.

RATE SMOOTHING

The Halifax Water Board approved a rate smoothing strategy on October 30, 2014, to help smooth the projected rate increases required to achieve the objectives of the IRP and meet the requirements of asset renewal, environmental compliance, and growth. The Rate Smoothing Strategy targets maintaining the total average residential utility bill at 2% of median household income or less. This strategy has been applied to the proposed rates in this Application by proposing a level of capital spend more consistent with Halifax Water's ability to deliver capital projects in 2025/26.

FIVE-YEAR BUSINESS PLAN

The current Five-Year Business Plan for Halifax Water and the 2025/26 Annual Business Plan for are attached to this Application (Appendices 6B and 6A respectively). The Five-Year Business Plan is based on fiscal years that begin on April 1 and end on March 31, 2025, to 2030. The two Test Years for this Application are within the Five-Year Business Plan (2025/26 and 2026/27). In rate making, a Test Year is a 12-month period used to calculate the revenue required to cover the eligible costs of providing the service.

Several identified challenges are drivers for Halifax Water's request to increase rates:

- **Additions to Utility Plant in Service** – There is a need to accommodate new debt servicing and depreciation.

- **Capital demands** – The current water, wastewater and stormwater rates are insufficient to meet the capital needs for sustainable infrastructure as identified in the IRP. The IRP acknowledges that water, wastewater, and stormwater assets are currently underfunded, and wastewater and stormwater have been historically underfunded. Growth in Halifax Water's customer base, changing environmental regulations, changing source water quality and the need to renew current assets are driving capital expenditures. Institutional capacity will also have to increase over the Test Years in order to deliver the required capital projects.

- **Environmental regulations** – Increased operating expenses will be incurred by Halifax Water as it conforms to the Wastewater Systems Effluent Regulations enacted under the federal *Fisheries Act* in June 2012 with recent amendments released in 2024.

- **Increasing energy and chemical costs** – electricity and chemical costs are projected to continue to increase at a rate higher than average inflation over the last five years. Increased chemical use to adjust to changing source water quality due to climate change and lake recovery for drinking water treatment is expected to continue.

- **Increasing compensation costs –** the number of employees, and wage, salary and compensation costs have increased since rates were last adjusted.

- **Inflationary adjustments for other goods and services** – the cost of many goods and services required by Halifax Water are subject to inflationary increases. CPI for Halifax is shown in Figure 20.

CAPITAL BUDGET

Halifax Water's proposed five-year capital plan is based on the delivery of the IRP and associated programs. Halifax Water is phasing in the IRP level of capital spending with investments ranging from $133.0 million in 2025/26 to $379.4 million in 2028/29 to $331.0 million in 2029/30. As Halifax Water progresses through the first years covered by the five-year capital plan, capital budgets will be adjusted to reflect Halifax Water's ability to deliver projects. Delivery of capital projects has generally been impacted by organizational capacity to deliver projects, onboarding of new personnel, transitions of

projects/portfolios across staff, construction market conditions and capacity, challenges to secure land required for projects and increasing regulatory requirements. Through these challenges, Halifax Water continues to build organizational capacity, update organizational structure and implement revised business processes to enable it to reach the recommended IRP level of spending.

The proposed five-year capital plan for the five years 2025/26 to 2029/30 is $1.36 billion ($678.8 million for water, $555.9 million for wastewater, $120.3 million for stormwater, and $9 million for District Energy System). Year-to-year capital funding details are provided in Figure 1 above.

The increasing capital funding in the Test Years to meet the IRP recommended level of capital spending is a significant driver for this Application. The capital investment budgeted in the 2025/26 fiscal year is $133.0. The details of the 2025/26 budget and the future capital investments are outlined in the capital budget, which will be filed with the Board either contemporaneous with this Application or very shortly thereafter.

The capital funding in the five-year capital plan is provided in Figure 10 and makes some assumptions about the availability of external funding. No capital from operating funding is included, depreciation on contributed assets for water and wastewater has been increased to 2% in 2025/26 and to 3% in 2026/27, and to 27% in 2025/26 and 28% in 2026/27 of the depreciation on contributed assets for stormwater is included and equity financing is either depreciation or RDC funds.

Figure 10 – Five-Year Capital Funding

	Capital Funding Projection					
	2025-26	2026-27	2027-28	2028-29	2029-30	Total from 2025/26 to 2029/30
Water						
External Funding	0	25,000	25,000	25,000	25,000	100,000
Rate Funding (Depreciation/Debt)	49,379,883	74,616,166	124,793,791	209,793,723	206,534,500	665,118,063
Regional Development Charge	3,062,350	15,000	4,368,375	2,717,445	3,412,500	13,575,670
CCC						0
Total Water	52,442,233	74,656,166	129,187,166	212,536,168	209,972,000	678,793,733
Wastewater						
External Funding	242,280	1,815,090	372,000	2,060,000	2,363,000	6,852,370
Rate Funding (Depreciation/Debt)	48,681,069	83,115,568	122,531,231	108,389,434	63,292,500	426,009,802
Regional Development Charge	2,486,075	14,187,675	35,649,054	31,171,000	37,987,000	121,480,804
CCC		1,552,500				1,552,500
Total Wastewater	51,409,424	100,670,833	158,552,285	141,620,434	103,642,500	555,895,476
Stormwater						
External Funding	3,391,360	5,631,360				9,022,720
Rate Funding (Depreciation/Debt)	25,752,924	26,144,640	19,771,500	22,287,900	17,335,500	111,292,464
Regional Development Charge						0
CCC						0
Total Stormwater	29,144,284	31,776,000	19,771,500	22,287,900	17,335,500	120,315,184
District Energy System						
Rate Funding (Depreciation/Debt)		1,500,000	4,500,000	3,000,000		9,000,000
Total DES	0	1,500,000	4,500,000	3,000,000	0	9,000,000
Total	132,995,941	208,602,999	312,010,951	379,444,502	330,950,000	1,364,004,393

Figure 11 reflects the actual capital spend for 2023/24, budgeted capital spend for 2024/25 and the budgeted capital spend for the next three years including the Test Years 2025/26 and 2026/27.

Figure 11 – Actual and Budgeted Capital Spend 2022/23 to 2026/27

	Capital Expenditure Program				
	Actual 2022-23	Actual 2023-24	Budget 2024-25	Budget 2025-26	Budget 2026-27
Water	50,458,957	52,991,000	62,625,000	55,830,733	77,738,666
Wastewater	37,563,184	32,723,422	69,940,000	48,198,624	97,874,633
Stormwater	5,476,104	12,504,257	18,902,000	28,966,584	31,489,700
DES			1,030,000		1,500,000
Total Expenditures	93,498,245	98,218,679	152,497,000	132,995,941	208,602,999

Halifax Water has identified the following key issues affecting the ability to deliver the budgeted capital spend:

- During the 2024/25 fiscal year, the utility encountered substantial impacts due to retirements and departures in senior positions. These changes necessitated staff movements, onboarding of new personnel, and transitions of projects and responsibilities. Furthermore, certain portfolios and projects transitioned to new leadership. Human resources staff and hiring managers have been occupied managing respective vacancies and hiring processes.

- Organizational capacity and staff availability – the 2025/26 budget reflect an increase of 9 full-time equivalent positions primarily related to improving the level of capital spend.

- Land management and acquisition – the capital budget has been adjusted to reflect the need to allow additional time to secure land and/or easements prior to the allocation of funds to deliver the capital project.

ACCUMULATED SURPLUS (DEFICIT)

At the beginning of April 2020, Halifax Water's accumulated surpluses were over $38.1 million. With the measures described above to reduce rates increases, the accumulated surpluses decreased significantly to an accumulated projected deficit of $7.0 million in 2024/25. By the end of March 2025, it is budgeted that water services will have an accumulated surplus of $1.3 million, wastewater services will have an accumulated deficit of $1.6 million and stormwater services will have an accumulated deficit of $6.6 million. Figure 12 shows the expected Accumulated Surplus (Deficit).

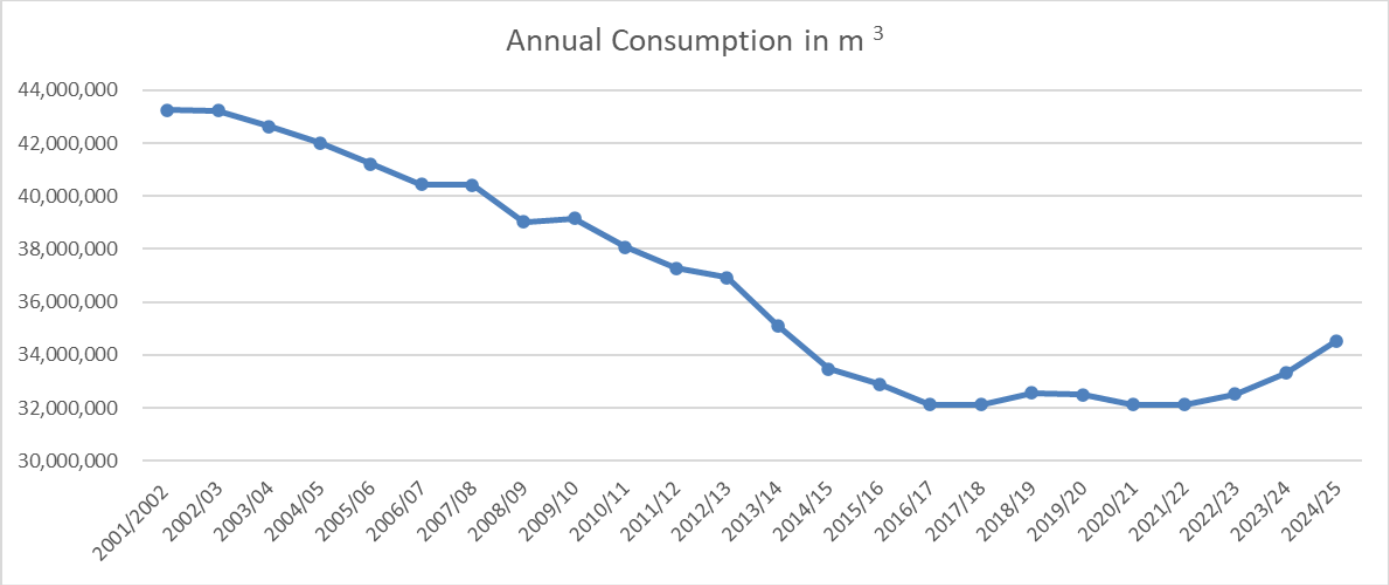
Figure 12 – Accumulated Surplus (Deficit)

Accumulated Operating Surplus (Deficit) - NSUARB (in thousands)	Total	Water	Wastewater	Stormwater
2020/21 Fiscal Year				
Balance, beginning of year	38,055	22,436	9,680	5,939
Earnings (loss) for the year	(9,884)	494	(7,958)	(2,420)
Transfer from reserve	5,040	-	5,040	-
Surplus, end of year	33,211	22,930	6,762	3,519
2021/22 Fiscal Year				
Balance, beginning of year	33,211	22,930	6,762	3,519
Earnings (loss) for the year	(6,382)	(3,428)	389	(3,343)
Surplus (deficit), end of year	26,829	19,502	7,151	176
2022/23 Fiscal Year				
Balance, beginning of year	26,829	19,502	7,151	176
Loss for the year	(7,760)	(3,069)	(1,676)	(3,015)
Surplus (deficit), end of year	19,069	16,433	5,475	(2,839)
2023/24 Fiscal Year				
Balance, beginning of year	19,069	16,433	5,475	(2,839)
Loss for the year	(7,379)	(5,960)	(88)	(1,331)
Surplus (deficit), end of year	11,690	10,473	5,387	(4,170)
2024/25 Fiscal Year				
Balance, beginning of year	11,690	10,473	5,387	(4,170)
Projected (loss) for the year	(18,683)	(9,219)	(6,986)	(2,478)
Projected surplus (deficit), end of year	(6,993)	1,254	(1,599)	(6,648)
2025/26 Fiscal Year				
Balance, beginning of year	(6,993)	1,254	(1,599)	(6,648)
Projected (loss) for the year	(37,141)	(22,708)	(10,767)	(3,666)
Projected surplus (deficit), end of year	(44,134)	(21,454)	(12,366)	(10,314)
2026/27 Fiscal Year				
Balance, beginning of year	(44,134)	(21,454)	(12,366)	(10,314)
Projected (loss) for the year	(55,846)	(30,736)	(19,061)	(6,049)
Projected surplus (deficit), end of year	(99,980)	(52,190)	(31,427)	(16,363)

REVENUES

For the last 24 years between 2001/02 and 2024/25, Halifax Water had experienced average, yearly, net-metered consumption decreases of 0.95%, as indicated in Figure 13. Halifax Water promotes water stewardship through leak detection, and investment in providing tools and information to customers through the Customer Portal to encourage monitoring and managing of consumption. Halifax Water also implemented business processes to provide earlier notification to customers about potentially high consumption and leaks.

Figure 13 – Consumption 2001 to 2025



	Since 2001/02
Average	-0.95%
Rolling 4 Year Average increase	1.82%
Median	-1.11%
Total Decrease since 2001/02	-20.2%

After the long-term trend of declining water consumption, Halifax Water has experienced increases in consumption of 1.2% and 2.5% in 2022/23 and 2023/24 respectively, and 3.6% in 2024/25, due to customer growth and conversion to new, more accurate meters.

Since 2022/23, Halifax Water has seen consumption increase in most of the customer classes, with the exception of Industrial customers. Details by customer classes are in Figure 3.

As consumption is returning to more normal patterns, overall consumption is expected to increase as a result of growth. The Test Year 1, 2025/26 includes an increase in consumption of 1.0% based and the Test Year 2, 2026/27, has an additional increase in consumption of 1.0%.

The increase in consumption affects both water and wastewater revenue as the discharge fee billed to most customers is based upon water consumption. Consumption is impacted by timing of development, form of development and new customer growth.

The projected increase in new water customer connections is 570 and 531 new wastewater connections in 2025/26 and the same in 2026/27, allocated to the various meter sizes based on a review of connection history. The breakdown of customer accounts as of March 31, 2025, is included in Figure 14.

Figure 14 – Customer Connections as of March 31, 2025

March 31, 2025 (Fiscal Year: 2024/2025) Customer Numbers by Type	Number of Accounts	Percentage of Total
Water, Wastewater and Stormwater	76,874	68.89%
Stormwater only	22,815	20.44%
Water and Wastewater	6,689	5.99%
Water and Stormwater	4,011	3.59%
Wastewater and Stormwater	528	0.47%
Water only	525	0.47%
Wastewater only	154	0.14%
Total of all Types	111,596	100%

Over the period 2022/23 to 2026/27, operating revenues have increased from $155.1 million to $175.2 million in the 2026/27 Test year, an increase of 13.0%. See Figure 15.

Figure 15 – Total Revenues – 2022/23 to 2026 /27 ($'000)

	Actual 2022-23	Actual 2023-24	Budget 2024-25	Budget 2025-26	Budget 2026-27	Total
Water						
Operating revenues	59,111	65,354	65,480	66,781	66,949	323,675
Financial and other revenues	789	692	830	772	772	3,855
	59,900	66,046	66,310	67,553	67,721	327,530
Wastewater						
Operating revenues	84,196	91,234	90,952	92,210	92,622	451,214
Financial and other revenues	563	208	296	313	313	1,693
	84,759	91,442	91,248	92,523	92,935	452,907
Stormwater						
Operating revenues	11,782	15,391	15,627	15,627	15,646	74,073
Financial and other revenues	-	-		-	-	-
	11,782	15,391	15,627	15,627	15,646	74,073
Total						
Operating revenues	155,089	171,979	172,059	174,618	175,217	848,962
Financial and other revenues	1,352	900	1,126	1,085	1,085	5,548
	156,441	172,879	173,185	175,703	176,302	854,510

The majority of Halifax Water's revenues come from rate-regulated activities. Halifax Water does have a small amount of other revenue from miscellaneous fees and financial revenue from interest income.

Financial and other revenues are budgeted to be $1.1 million in Test Year 1 (2025/26) and $1.1 million in Test Year 2 (2026/27).

582 Unregulated revenues are budgeted to be $1.6 million in Test Year 1 (2025/26) and $1.9 million in Test Year 2 (2026/27), as per Figure 16.

584

586 **Figure 16 – Regulated and Unregulated Revenues – 2022/23 to 2026/27 ($'000)**

	Actual 2022-23	Actual 2023-24	Budget 2024-25	Budget 2025-26	Budget 2026-27	Total
Regulated						
Operating revenues	153,929	170,757	170,877	173,618	173,887	843,068
Financial and other revenues	514	423	539	485	485	2,446
	154,443	171,180	171,416	174,103	174,372	845,514
Unregulated						
Operating revenues	1,160	1,222	1,182	1,000	1,330	5,894
Financial and other revenues	838	477	587	600	600	3,102
	1,998	1,699	1,769	1,600	1,930	8,996
	156,441	172,879	173,185	175,703	176,302	854,510

588

590

Unregulated business includes the following:

592 1. Septage tipping
2. Leachate facility
594 3. Biosolids processing
4. Tower leases and other property leases
596 5. Energy generation

598 The primary source of unregulated revenues is septage tipping. Unregulated revenues are used to fund specific programs such as the H2O Fund and sponsorships, and any additional surplus is used to help 600 mitigate the extent of future rate increases.

602 A more in-depth review of operating revenues by service (Figure 17) shows operating revenues for water services have been budgeted to be increased from $59.1 million in 2022/23 to $66.9 million in 2026/27, 604 an increase of 13.3%. In 2022/23, the operating revenue was generated as follows: consumption charges were 54.9%, base charges were 27.9% and the remainder 17.2% for fire protection revenues, bulk water 606 sales, late payment and interest charges. In the Test Year 2026/27, the operating revenues are generated as follows: consumption charges are 57.1%, base charges are 26.3% and the remainder 16.6% for fire 608 protection revenues, bulk water sales, late payment and interest charges.

610 Operating revenues for wastewater services have increased from $84.2 million in 2022/23 to $92.6 million 2026/27, an increase of 10.0%. In 2022/23, the operating revenue was generated as follows: consumption 612 charges were 78.6%, 20.7% were from base charges and the remaining 2.5 % were from septage tipping fees, biosolids processing and other contract services, late payment and interest charges, and other fees. 614 In the Test Year 2026/27, the operating revenues are generated as follows: consumption charges are 77.9%, 19.8% were from base charges and the remaining 2.3% were from septage tipping fees, biosolids 616 processing and other contract services, late payment and interest charges, and other fees.

618 Operating revenues for stormwater services have increased from $11.8 million in 2022/23to $15.6 million 2026/27, an increase of 32.8%. In 2022/23, the operating revenue was generated as follows: 58.8% were 620 site generated charges and 38.0% were from right-of-way charges to HRM, Province of Nova Scotia and

Halifax Dartmouth Bridge Commission. The remaining 3.2% were from late payment interest charges and other fees. In the Test Year 2026/27, the operating revenues are generated as follows: 56.8% were site generated charges and 41.6% were from right-of-way charges to HRM, Province of Nova Scotia and Halifax Dartmouth Bridge Commission. The remaining 1.6% were from late payment interest charges and other fees.

With approximately 70.0% of water and wastewater revenues coming from volumetric rates and 20.6% from fixed charges (see Figure 17), Halifax Water understands that it is important to balance the revenues from fixed charges, which provide rate stability, and consumption charges. As shown in Figure 2, the trend of declining consumption has changed, and Halifax Water has had increases and is budgeting for consumption growth in 2025/26 and 2026/27. Halifax Water expects that consumption will stabilize and therefore it is proposing to maintain the fixed charges and to allocate any increases in rates to consumption charges.

Halifax Water understands that any increase in rates could be challenging for customers. By applying rate increases to consumption charges only, customers may be able to reduce their water bills by adjusting their consumption.

Figure 17 – Revenues from Base and Consumption Charges – for All Services 2022/23 to 2026/27 ($'000)

	Actual 2022-23	Actual 2023-24	Budget 2024-25	Budget 2025-26	Budget 2026-27	Total
Water						
Consumption	32,433	37,971	38,033	38,125	38,221	184,783
Base	16,514	16,785	16,744	17,594	17,638	85,275
Other	10,164	10,598	10,703	11,062	11,090	53,617
	59,111	65,354	65,480	66,781	66,949	323,675
Wastewater						
Consumption	66,199	73,270	73,300	73,706	74,160	360,635
WW Rebate	(1,529)	(1,999)	(1,708)	(1,867)	(2,000)	(9,103)
Base	17,408	17,691	17,738	18,290	18,372	89,499
Other	2,118	2,272	1,622	2,081	2,090	10,183
	84,196	91,234	90,952	92,210	92,622	451,214
Stormwater						
Site generated	6,927	8,676	8,865	8,865	8,884	42,217
Right-of-way	4,475	6,520	6,515	6,515	6,515	30,540
Other	380	195	247	247	247	1,316
	11,782	15,391	15,627	15,627	15,646	74,073
Total						
Consumption	98,632	111,241	111,333	111,831	112,381	545,418
WW Rebate	(1,529)	(1,999)	(1,708)	(1,867)	(2,000)	(9,103)
Base	33,922	34,476	34,482	35,884	36,010	174,774
Other	24,064	28,261	27,952	28,770	28,826	137,873
	155,089	171,979	172,059	174,618	175,217	848,962

Fees and Charges

Halifax Water reviewed its fees and charge's structure to consider the current wages, salaries, equipment, time and employees needed to provide the services. As with other rates, many of the fees and charges are expected to increase.

Halifax Water is proposing to add stormwater complaint process fees. Additional details are contained in the Stormwater Rates Section below.

EXPENSES

Halifax Water's operating budgets are shown on an accrual basis, which provides better information for decision making and aligns with accounting standards. As indicated in Figure 18, the largest components of Halifax Water's consolidated operating budgets are operating costs for water, wastewater and stormwater services which include salaries and benefits (excluding accrued pension costs), electricity, and chemicals. Other major expense categories are debt service and depreciation.

662

Figure 18 – 2022/23 to 2026/27 Expenses ($'000)

	Total Expenses					
	Actual 2022-23	Actual 2023-24	Budget 2024-25	Budget 2025-26	Budget 2026-27	Total
Water						
Operating expenses	36,387	43,756	45,217	53,430	57,085	235,875
Depreciation	12,186	13,212	12,959	16,638	17,761	72,757
Debt interest	2,434	2,833	4,109	5,486	7,155	22,017
Debt principal	6,148	6,164	6,997	8,316	9,659	37,285
Dividend	5,608	5,824	6,005	6,158	6,551	30,145
Miscellaneous	206	217	243	234	245	1,145
	62,969	72,006	75,529	90,262	98,457	399,223
Wastewater						
Operating expenses	51,144	55,435	60,134	64,261	67,796	298,770
Depreciation	16,698	17,809	18,396	22,776	23,838	99,517
Debt interest	3,668	3,581	4,122	5,286	7,350	24,007
Debt principal	14,021	13,954	14,587	9,929	11,917	64,407
Dividend	778	630	844	898	942	4,093
Miscellaneous	126	121	149	141	153	689
	86,435	91,530	98,233	103,289	111,996	491,484
Stormwater						
Operating expenses	8,913	10,047	11,079	11,391	12,363	53,792
Depreciation	2,710	3,065	3,050	3,899	4,080	16,804
Debt interest	802	965	1,272	1,520	2,168	6,727
Debt principal	2,210	2,486	2,493	2,269	2,857	12,316
Dividend	138	135	182	180	190	826
Miscellaneous	24	24	28	34	38	148
	14,797	16,722	18,105	19,293	21,695	90,613
Total						
Operating expenses	96,444	109,238	116,429	129,082	137,244	588,437
Depreciation	31,594	34,086	34,406	43,312	45,680	189,077
Debt interest	6,904	7,379	9,503	12,291	16,673	52,750
Debt principal	22,379	22,604	24,078	20,514	24,433	114,008
Dividend	6,524	6,589	7,031	7,236	7,683	35,064
Miscellaneous	356	362	420	409	435	1,983
	164,201	180,258	191,868	212,844	232,148	981,320

664

666 As noted in Figure 18, Halifax Water's total operating expenses are forecast to increase from $96.4 million in 2022/23 to $137.2 million in 2026/27, an increase of 42.3%.

668

Other expenses, such as depreciation, the dividend/grant in lieu of taxes paid to HRM and principal and 670 interest payments are forecast to increase from $67.8 million in 2022/23 to $94.9 million in 2026/27, a total increase of 40.1%.

672

The increase in the Consumer Price Index (CPI) is one of the key drivers of operating costs. Depreciation, 674 the dividend/grant in lieu of taxes, and principal and interest payments increase at levels different from CPI, as they are driven by the level of capital activity, new additions to utility plant in service and the 676 assessed value of assets and the municipal tax rates.

Figure 19 shows that the historical average for CPI in Halifax from 2015 to 2024 is 2.73 % per year. The compounded impact of inflation is 27.21%. For 2024, the CPI has increased by 2.64 %. The trend appears to be decreasing throughout 2024 after the peak in 2022. It should be noted that the current impact of tariffs or the potential for tariffs, has increased financial uncertainty and the full-, short- and long-term impacts on costs cannot be accurately predicted or quantified at this time. Halifax Water has not attempted to quantify the financial impact of this situation.

Figure 19 – Consumer Price Index 2015 to 2024

Halifax, Nova Scotia											
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Average
	2002=100										
All-items	128.20	129.80	131.20	134.00	136.00	136.70	142.00	152.40	158.90	163.10	142.68
Difference		1.60	1.40	2.80	2.00	0.70	5.30	10.40	6.50	4.20	3.88
Change		1.25%	1.08%	2.13%	1.49%	0.51%	3.88%	7.32%	4.27%	2.64%	2.73%
Compounded Inflation	$ 1.0000	$ 1.0125	$ 1.0234	$ 1.0452	$ 1.0608	$ 1.0662	$ 1.1076	$ 1.1887	$ 1.2394	$ 1.2721	

Salaries and Benefits

Reasonable provisions for salary increases are provided for in the Test Years. These increases are based on four year (2023-2027) Collective Agreements signed with CUPE Locals 227 and 1431 in October of 2024 and on market information for non-union compensation. Halifax Water has budgeted for the impact of step increases within salary bands or reclassification of positions and increases in benefits. Halifax Water is also adding additional staff to increase institutional capacity to enable it to deliver the capital spending required under the IRP, to address increasing regulatory requirements, enhancing operational resiliency, to mitigate the increasing cybersecurity risks, to maintain additional infrastructure, and to respond to increasing service requests. This approach is reflected in the 2025/26 and 2026/27 operating budgets for the Test Years.

Chemicals

Chemicals are a significant expense for Halifax Water. Halifax Water negotiates yearly contracts for key chemicals. Historically, chemical prices increase above CPI. In Test Year 1 (2025/26) and Test Year 2 (2026/27), chemical prices are budgeted to increase by 5% per year.

Energy

The budgets for the Test Years were established based on assumptions of increases in the cost of electricity, oil and natural gas rate in each year covered by the Application.

The projected increases are:

- Electricity – 5.0 % in year 2025/26 and 5.0 % in 2026/27;
- Furnace Oil – 15.0% in 2025/26 and 5.0% in 2026/27; and,
- Natural Gas – 5.0 % in 2025/26 and 5.0 % in 2026/27.

720 *Debt Financing*

722 Over the course of 2025/26 and 2026/27, debt payments for water, wastewater and stormwater services
are budgeted to decrease from $33.6 million in 2024/25 to $32.8 million in 2025/26 and increase to $41.1
724 million in 2026/27. Principal and interest payments are affected by the total amount of new debt required,
interest rates and the amortization period for new debt.
726
New debt is driven by the timing of the completion of projects. As the capital budget has increased, the
728 expected amount of debt to finance new assets is expected to increase. In 2025/26 Halifax Water
budgeted to issue new debt $68.0 million. In 2026/27, based on the increase in assets expected to be
730 brought into service, new debt is estimated to be $150.0 million. At an estimated interest rate of 4%,
Halifax Water anticipates that the principal and interest payments for the new debt will be $3.1 million in
732 2025/26 and $7.3 million in 2026/27.

734 In the future, as capital spend increases, the amount of new debt will increase. Prior to issuing new debt,
Halifax Water reviews its expected cashflow to determine the timing of new debt. Higher cash balances
736 in the short-term due to RDCs collected allows Halifax Water to defer the issuance of new debt and results
in savings in debt service costs.
738
Halifax Water accounts for the RDC funds separately and pays interest to the RDC fund for any cash utilized
740 to cashflow capital or operating requirements. This approach to treasury management is most cost
effective for the utility and the RDC fund is not affected. The delayed issuance of debt saves Halifax Water
742 interest charges of approximately 1.0% to 1.5% per year. Debt will be required to be issued in future years
as capital spend increases. Halifax Water has budgeted to issue $83.4 million in debt in 2025/26 ($68
744 million in new debt related to new assets and an additional $15.4 million to refinance balloon payments).

746 In the Application, Halifax Water is proposing to change the timing of the collection of the RDC to be in
advance of establishing service as opposed to at the time of permit application. In 2023, Halifax Water
748 requested that the date of payment be changed to before meter installation, service provision. The Board
in Matter M11159, issued a decision declining the change. The decision stated ….
750

> *Finally, the RDCs are designed to account for the timing of collection. As noted in Halifax Water's*
> 752 *Rebuttal Submission, the RDC is designed to provide sufficient funds to build the growth-related*
> *infrastructure, and the timing of when the funds are received is considered in the calculation of*
> 754 *the RDCs. As such, it appears to the Board that a change in timing of collection of RDC funds could*
> *impact the amount of the RDC charges themselves. In the Board's view, this would be best*
> 756 *addressed in the next RDC hearing where a more fulsome and comprehensive analysis, based on*
> *all the elements used to develop RDC charges, will be completed. This would include "one-off"*
> 758 *changes of the type proposed in the current application, and possibly other changes to Halifax*
> *Water's Regulations which could impact the administration of the RDCs, including for developers.*
> 760 *The Board notes that in its letter to Halifax Water dated August 4, 2021 (M09494), the Board*
> *directed the utility to manage its regulatory schedule so that the next RDC application is filed with*
> 762 *the Board no later than October 31, 2025.*

764 One of the key factors considered by the Board, was the impact of the change to the rate base, In the
decision, the Board indicated the cash balance in the RDC account allows Halifax Water to reduce the debt
766 required to be issued.

While this has been the case, Halifax Water is of the opinion that as the cash balance in the RDC account is a result of payments made by developers, and any changes proposed should first and foremost be to the benefit of the developers paying the charge. While there is a potential; benefit to the general rate base, it should not trump the benefit to the developers making the payments, nor should one customer group subsidize another.

Interest rates – the most recent all-in interest cost for debt is 4.27% based on the latest Fall debenture. Halifax Water has budgeted the all-in interest rate on new debt issued at 4.0% in 2025/26 and 4.0% in 2026/27. Halifax Water's weighted average cost of debt is 3.79% as of March 2025.

Amortization period – Since 2022/23, Halifax Water has amortized new debt over 30 years. This practice is continued in 2025/26 and 2026/27 Test Years.

As capital investment increases, Halifax Water will investigate using a longer amortization period to more closely match the estimated useful life of the assets. This will result in the annual principal payments related to new debt decreasing. However, as is the case whenever the repayment period is extended, the total amount of interest paid will increase.

Issuing debt over a longer amortization period could be an effective strategy to smooth the financing costs of these assets. Halifax Water will continue to work with the Nova Scotia Department of Finance and Treasury Board to investigate issuing debt over longer periods.

Debt Service Ratio - Halifax Water's current capital financing strategy is designed to maintain a debt service ratio of 35% or less, and to use a mixture of infrastructure funding, development related charges (reserves), depreciation, and debt. As capital spend increases, an increase to the debt service ratio may be a means of reducing the impact on rates.

Depreciation

As Halifax Water's assets and future capital budgets increase, so does depreciation expense. Depreciation is an integral funding source to support rehabilitation of the existing infrastructure and new infrastructure and upgrades to meet future capital requirements necessitated by both service demands and changing environmental regulations.

The current rates for water, wastewater and stormwater services include $34.4 million in depreciation allocated as follows: water $13.0 million, wastewater $18.4 million and stormwater $3.0 million. Over the two Test Years, the depreciation expense for water, wastewater and stormwater is budgeted to increase to $ 43.3 million in 2025/26 and $45.7 million in 2026/27. Projected depreciation reflects the anticipated completed utility plant in service during the test period and is consistent with depreciation methods and rates prescribed by the Handbook or as otherwise approved by the Board.

Depreciation on contributed assets – Currently, Halifax Water's stormwater costs include 25% of the depreciation on contributed stormwater assets. There is no depreciation on contributed assets for water and wastewater services built into the current rates. Halifax Water has determined that to include 100% of depreciation on contributed assets in its rates would increase the annual depreciation costs by approximately $3.2 million for water, by $8.6 million for wastewater and by $1.7 million for stormwater (see Figure 20).

Figure 20 – Increase in Annual Depreciation Costs to Include Full Depreciation on Contributed Assets 2025/26

2025/26	Depreciation on Contributed Assets (Rounded to nearest thousand)			
	Water	Wastewater	Stormwater	Total
Already Included	66,000	176,000	616,000	858,000
100%	3,291,000	8,790,000	2,282,000	14,363,000
Increase	3,225,000	8,614,000	1,666,000	13,505,000

As proposed in the previous rate application, Halifax Water has increased the depreciation on contributed assets.

Figure 21 – Increase in Annual Depreciation Costs on Contributed Assets 2025/26

2025/26	Depreciation on Contributed Assets (Rounded to nearest thousand)			
Increase	Water	Wastewater	Stormwater	Total
1% increase	33,000	88,000	23,000	144,000
2% increase	66,000	176,000	46,000	288,000
5% increase	165,000	440,000	115,000	720,000
10% increase	330,000	880,000	230,000	1,440,000
25% increase	825,000	2,200,000	575,000	3,600,000

In the previous rate application, Halifax Water proposed to increase the percentage of depreciation on contributed assets by 1% starting in fiscal year 2024/25. In this Application, in Test Year 1, (2025/26), Halifax Water has included a 2% increase in the depreciation on contributed assets. The cost of this inclusion is $288,000 (water $66,000, wastewater $176,000 and stormwater $46,000). In Test Year 2, (2026/27), Halifax Water has included a further 1% increase in the depreciation on contributed assets in depreciation costs.

Halifax Water intends to continue to increase the depreciation on contributed assets, by 1% per year to 2028/29 and to increase the percentage to 2% per year from 2029/30 to 2033/34.

At the end of this period, water and wastewater costs would include 15% of depreciation on contributed assets and stormwater costs would include 40% of depreciation on contributed assets.

Dividend/Grant in Lieu of Taxes

Halifax Water does not pay municipal property taxes and instead pays a dividend/grant in lieu of taxes to HRM. Halifax Water and HRM signed an agreement in February 2023, which covers the period of April 1, 2023, through March 31, 2028. The annual payment is calculated based on the assessed value of Halifax Water properties as assessed by the Property Valuation Service Corporation (PVSC) for that fiscal year and the yearly tax rate set by HRM. For the 2025/26 fiscal year, based on the methodology in the agreement, the total dividend of $7.2 million is to be paid to the municipality. Figure 18 above shows that the dividend/grant in lieu of taxes for all services is projected to grow from $6.6 million in 2023/24 to $7.7 million in 2026/27.

852 The current Dividend/Grant in Lieu Agreement was filed with the Board in March of 2023. The Board issued its decision in Matter M11034 in May of 2023. The Board approved "the methodology to calculate
854 the grant in lieu of taxes/dividend payment, as set out in the Agreement". The Board also stated that they believed "that an appropriate time to review these percentages and the dividend payment is during the
856 general rate application process". Halifax Water is not proposing any adjustments to the percentage allocation of the dividend to each service.
858

Pension

860

Pension contribution rates for 2024/25 are 9.60% for employees and 9.60% for Halifax Water. At the end
862 of 2023, the Pension Plan's audited financial statements showed a surplus of $26.9 million and a funded ratio of 116.4%. Since 2019/20, Halifax Water has not been required to make special payments to the
864 pension plan, resulting in savings of over $0.8 million per year.

866 There will be an actuarial valuation conducted as of January 1, 2025, which may result in contribution rate changes as future funding requirements are determined through this process. During collective
868 bargaining, the unions indicated that they will be initiating a review of the pension benefits based on the results of the actuarial valuation.
870

In addition, in the recently signed Collective Agreements, a new clause has been added to allow employees
872 to contribute to a defined contribution pension plan on overtime earnings. This optional participation may be extended to the non-union group as well. Employees who elect to participate in the Defined
874 Contribution plan will contribute 6% of all overtime earnings, which will be matched at 100% by Employer contributions.
876

OPERATING SURPLUS (DEFICIT)

878

On a consolidated basis, the projected revenue requirements are shown in Figure 22. Operating expenses
880 (including depreciation) are projected to increase from $128.0 million in 2022/23 to $172.4 million in 2025/26 and to $182.9 million in 2026/27, or 42.9% over the five years. Over the same period, operating
882 revenues are projected to increase from $155.1 million in 2022/23 to $174.6 million in 2025/26 and $175.2 million in 2026/27, or 13.0% over the five years. Non-operating revenues are expected to decrease
884 by $0.3 million over the period, primarily as a result of lower interest earned on cash balances and reductions in unregulated revenues. However, non-operating expenses are expected to increase by $4.3
886 million or 11.9% due to increased debt-servicing costs and grants in lieu of taxes.

Figure 22 – Pro Forma Income Summary (All Services)

Pro Forma Income Summary	Actual 2022-23	Actual 2023-24	Budget 2024-25	Budget 2025-26	Budget 2026-27
Operating revenues	155,089	171,979	172,059	174,618	175,217
Operating expenses	128,038	143,324	150,835	172,394	182,924
Operating surplus	27,051	28,655	21,224	2,224	(7,707)
Financial and other revenues	1,352	900	1,126	1,085	1,085
Financial and other expenses					
Long term debt interest	6,904	7,379	9,503	12,291	16,673
Long term debt principal	22,379	22,604	24,078	20,514	24,433
Dividend/grant in lieu of taxes	6,524	6,589	7,031	7,236	7,683
Miscellaneous	356	362	420	409	435
	36,163	36,934	41,033	40,451	49,225
Net deficit	(7,760)	(7,379)	(18,683)	(37,141)	(55,846)
Percentage increase in revenue to cover deficit				*21.3%*	
Incremental percentage increase in operating revenue					*10.7%*

Note:
Amounts reported above include regulated and unregulated activities. Revenue increases are for illustrative purposes only and do not represent actual revenue requirements of future rate applications for regulated activities.

Without further rate increases, the 2025/26 and 2026/27 operating budgets are projected to yield operating deficits of $37.1 million and $55.8 million, respectively.

WATER DEMAND ANALYSIS

Halifax Water has completed installation of approximately 83,000 Advanced Meter Infrastructure (AMI) meters. There are approximately 597 customers, as of February 2025, that have not converted to AMI meters and are being charged the meter read fee of $50 per reading.

An updated Water Demand Analysis was conducted using AMI data, by A&N Technical Services Inc. in 2024/25, which is attached as Appendix 5. The Water Demand Analysis statistically examined almost 2 decades of consumption history (including the most recent 4 years of high-resolution AMI measurements).

The 2024 Demand Analysis – Econometric Demand Estimation by Customer Class ("2024 Demand Analysis Report") report recommends on page 2 of the report that Halifax Water expand its empirical, scenario-based demand forecasting by incorporating recent advancements in risk-aware forecasting and budgeting, as advocated by the Government Finance Officers Association (GFOA). The 2024 Demand Analysis Report advises Halifax Water to continuously monitor demand load shape - a capability enabled by its AMI measurement infrastructure—to assess whether future shifts in demand patterns may justify reconsideration of the system-wide rate structure.

Halifax Water agrees with this recommendation and submits this Application based on the existing COS Manual and rate structure (single unit volumetric rate with base charges increasing based on meter size).

RATE REQUIREMENTS

This Application is focused on eliminating the deficit by the end of Test Year 2. The operating budget reveals that rate increases will be required to avoid an ongoing operating deficit if Halifax Water is to maintain its current levels of service, complete projects already in progress and approved, and meet stricter environmental regulations.

In determining the proposed base and volumetric rates for this Application, principles of revenue stability and rate affordability. were considered. When considering how quickly to phase-in the cost of service-based rates, there are three rate design components to consider: fire protection, base charges and volumetric charges.

Fire Protection

In the 2015 rate hearing, the Board accepted a model recommended by Mr. Scott Rubin, the consultant for the Consumer Advocate. The fire protection rates proposed in this Application are based on that model.

The cost-of-service studies produced a result that would see private fire protection revenue increase from $1.7 million in 2024/25 to $2.4 million in 2025/26, an increase of $0.7 million or 38% and to $3.1million in 2026/27, an increase of $0.7 million or 28% (see Figure 22).

The cost-of-service studies produced a result that would see public fire protection revenue increase from $8.1 million in 2024/25 to $10.9 million in 2025/26, an increase of $2.8 million or 35% and to $11.4 million in 2026/27, an increase of $0.5 million or 4% (see Figure 23).

The cost-of-service studies produced a result that would see total fire protection revenue increase from $9.8 million in 2024/25 to $13.3 million in 2025/26, an increase of $3.5 million or 35% and to $14.4 million in 2026/27, an increase of $1.1 million or 9% (see Figure 23).

The rates above were calculated to provide the full year's revenue requirement. With the timing of the Application and an anticipate start date for the adjusted rates of January 1, 2026, there will be an approximately 9-month period (April 1, 2025, to December 31, 2025) where rates will not be sufficient to offset the operating deficit. Halifax Water is proposing to recover this shortfall in the revenue requirements in Test Year 2 – 2026/27. The impact will increase the rate increases proposed for 2026/27 and are presented as Proposed 26/27 with Deficit Elimination.

Figure 23 – Public and Private Fire Protection

Summary of Proposed Fire Protection	Current	Scenario 1: Rate Studies 2025/26	Scenario 1: Rate Studies 2026/27	Scenario 2: Proposed 2025/26 (With Deficit Elimination)	Scenario 2: Proposed 2026/27 (With Deficit Elimination)
Proposed Public Fire Protection	$8,083,080	$10,874,419	$11,357,271	$10,542,602	$13,290,574
Proposed Private Fire Protection	$1,742,625	$2,411,423	$3,079,957	$2,743,240	$3,741,756
Totals per the Rate Studies	**$9,825,705**	**$13,285,842**	**$14,437,228**	**$13,285,842**	**$17,032,330**

Figure 24 and Figure 25 respectively provide information regarding fire protection rates and revenue per rate model and the proposed rates that are required to offset the operating deficit as described above.

Figure 24 – Private Fire Protection Rates per Rate Model

Calculation of Maximum Rates Permitted based on the model of Mr. Scott Rubin	Diameter mm	Units	Current Rates	Rates based on Cost of Service	Actual % Increase	Maximum Increase Allowed (%)	Maximum Increase Allowed ($)	Proposed Charge per year	Total $ Change
Reference size	25	0	$50.00	$25.62	(48.8%)	0.0%	$0.00	$50.00	$0.00
Fire Lines	50	22	$69.00	$102.49	48.5%	202.2%	$208.52	$102.49	$33.49
Fire Lines	75	0	$170.00	$230.59	35.6%	202.2%	$513.74	$230.59	$60.59
Fire Lines	100	96	$275.00	$409.94	49.1%	202.2%	$831.05	$409.94	$134.94
Fire Lines	150	1225	$619.00	$922.37	49.0%	202.2%	$1,870.62	$922.37	$303.37
Fire Lines	200	874	$904.00	$1,639.77	81.4%	202.2%	$2,731.89	$1,639.77	$735.77
Fire Lines	250	168	$904.00	$2,562.14	183.4%	202.2%	$2,731.89	$2,562.14	$1,658.14
Fire Lines	300	16	$904.00	$3,689.48	308.1%	202.2%	$2,731.89	$2,731.89	$1,827.89

Proposed Rate with Deficit Elimination

Calculation of Maximum Rates Permitted based on the model of Mr. Scott Rubin (With Deficit Elimination)	Diameter mm	Units	Current Rates	Rates based on Cost of Service	Actual % Increase	Maximum Increase Allowed (%)	Maximum Increase Allowed ($)	Proposed Charge per year	Total $ Change
Reference size	25	0	$50.00	$31.66	(36.7%)	0.0%	$0.00	$50.00	$0.00
Fire Lines	50	22	$69.00	$126.64	83.5%	213.9%	$216.57	$126.64	$57.64
Fire Lines	75	0	$170.00	$284.94	67.6%	213.9%	$533.57	$284.94	$114.94
Fire Lines	100	96	$275.00	$506.56	84.2%	213.9%	$863.13	$506.56	$231.56
Fire Lines	150	1225	$619.00	$1,139.76	84.1%	213.9%	$1,942.82	$1,139.76	$520.76
Fire Lines	200	874	$904.00	$2,026.24	124.1%	213.9%	$2,837.34	$2,026.24	$1,122.24
Fire Lines	250	168	$904.00	$3,166.00	250.2%	213.9%	$2,837.34	$2,837.34	$1,933.34
Fire Lines	300	16	$904.00	$4,559.04	404.3%	213.9%	$2,837.34	$2,837.34	$1,933.34

Figure 25 – Public and Private Fire Protection Revenue per Rate Model

Summary of Proposed Rates and Revenue for Fire Protection									
	Diameter mm	Units	Current Rates	2025/26 Private Fire Rates	2026/27 Private Fire Rates	2025/26 Rates (rounded)	2026/27 Rates (rounded)	2025/26 Fire Protection Revenue	2026/27 Fire Protection Revenue
Reference size	25	0	$50.00	$50.00	$50.00	$50.00	$50.00	$0	$0
Fire Lines	50	22	$69.00	$85.74	$102.49	$86.00	$103.00	$1,892	$2,266
Fire Lines	75	0	$170.00	$200.30	$230.59	$201.00	$231.00	$0	$0
Fire Lines	100	96	$275.00	$342.47	$409.94	$343.00	$410.00	$32,928	$39,360
Fire Lines	150	1225	$619.00	$770.68	$922.37	$771.00	$923.00	$944,475	$1,130,675
Fire Lines	200	874	$904.00	$1,271.88	$1,639.77	$1,272.00	$1,640.00	$1,111,728	$1,433,360
Fire Lines	250	168	$904.00	$1,733.07	$2,562.14	$1,734.00	$2,563.00	$291,312	$430,584
Fire Lines	300	16	$904.00	$1,817.94	$2,731.89	$1,818.00	$2,732.00	$29,088	$43,712
Revenue recoverable from Private Fire Protection								$2,411,423	$3,079,957
Total Fire Protection Revenue per the Rate Application								$13,285,842	$14,437,228
Balance due from Public Fire Protection								**$10,874,419**	**$11,357,271**

Proposed Rate with Deficit Elimination

Summary of Proposed Rates and Revenue for Fire Protection (With Deficit Elimination)									
	Diameter mm	Units	Current Rates	2025/26 Private Fire Rates	2026/27 Private Fire Rates	2025/26 Rates (rounded)	2026/27 Rates (rounded)	2025/26 Fire Protection Revenue	2026/27 Fire Protection Revenue
Reference size	25	0	$50.00	$50.00	$50.00	$50.00	$50.00	$0	$0
Fire Lines	50	22	$69.00	$97.82	$126.64	$98.00	$127.00	$2,156	$2,794
Fire Lines	75	0	$170.00	$227.47	$284.94	$228.00	$285.00	$0	$0
Fire Lines	100	96	$275.00	$390.78	$506.56	$391.00	$507.00	$37,536	$48,672
Fire Lines	150	1225	$619.00	$879.38	$1,139.76	$880.00	$1,140.00	$1,078,000	$1,396,500
Fire Lines	200	874	$904.00	$1,465.12	$2,026.24	$1,466.00	$2,027.00	$1,281,284	$1,771,598
Fire Lines	250	168	$904.00	$1,870.67	$2,837.34	$1,871.00	$2,838.00	$314,328	$476,784
Fire Lines	300	16	$904.00	$1,870.67	$2,837.34	$1,871.00	$2,838.00	$29,936	$45,408
Revenue recoverable from Private Fire Protection								$2,743,240	$3,741,756
Total Fire Protection Revenue per the Rate Application								$13,285,842	$17,032,330
Balance due from Public Fire Protection								**$10,542,602**	**$13,290,574**

Base Charges and Volumetric Charges

Halifax Water prepared three scenarios for the calculation of the water and wastewater rates proposed in this Application:

- Scenario 1 – Rate studies: this scenario is based on the rates calculated using the COS Manual, without any adjustments.
- Scenario 2 – No change in current base charges/change in consumption rate only: this scenario maintains the current base charge and adjusts only the volumetric charge.
- Scenario 3 – No change in base charge/change in consumption only plus deficit elimination: this scenario uses the rates calculated in scenario 2 and increases the revenue requirement in 2026/27 to recover the 2025/26 expected shortfall.

Scenario 1 – Rate Studies

This scenario (see Figure 26) uses the rates as calculated by the Rate Studies. In this scenario, there would be adjustments to base charges and volumetric charges.

The water rate increases range from an increase of 24.3% to an increase of 49.9% for 2025/26 and 7.1% to 9.2% for 2026/27.

The wastewater rate changes range from an increase of 4.3% to an increase of 16.5% for 2025/26 and an increase of 6.6% to an increase of 8.5% for 2026/27.

The combined water and wastewater rate changes range from an increase of 17.3% to an increase of 20.6% for 2025/26 and increases of 6.8% to 8.6% for 2026/27.

Figure 26 – Scenario 1 Bill Comparison

Scenario #1: Cost of service per rate studies, with base rates rounded to nearest dollar

Halifax Regional Water Commission
Consolidated Rate Studies - Water and Wastewater Services
Bill Comparisons
2025/26

	Monthly Base Charge			Monthly Commodity Charge			Monthly Combined Bill			Quarterly Combined Bill		
Meter Size	Current	2025/26 Proposed Rates	% Change	Current	2025/26 Proposed Rates	% Change	Current	2025/26 Proposed Rates	% Change	Current	2025/26 Proposed Rates	% Change
5/8" - 15mm	$27.00	$30.00	11.1%	$46.02	$57.28	24.5%	$73.02	$87.28	19.5%	$219.05	$261.83	19.5%
3/4" - 20mm	$38.00	$37.00	(2.6%)	$152.30	$189.37	24.3%	$190.30	$226.37	19.0%	$570.89	$679.11	19.0%
1" - 25mm	$62.00	$52.00	(16.1%)	$304.49	$379.12	24.5%	$366.49	$431.12	17.6%	$1,099.46	$1,293.35	17.6%
1.5" - 40mm	$119.00	$89.00	(25.2%)	$716.79	$890.97	24.3%	$835.79	$979.97	17.3%	$2,507.36	$2,939.92	17.3%
2" - 50mm	$188.00	$134.00	(28.7%)	$1,752.24	$2,179.75	24.4%	$1,940.24	$2,313.75	19.3%	$5,820.72	$6,941.26	19.3%
3" - 80mm	$376.00	$253.00	(32.7%)	$3,732.15	$4,658.58	24.8%	$4,108.15	$4,911.58	19.6%	$12,324.45	$14,734.74	19.6%
4" - 100mm	$585.00	$388.00	(33.7%)	$6,566.48	$8,165.35	24.3%	$7,151.48	$8,553.35	19.6%	$21,454.44	$25,660.05	19.6%
6" - 150mm	$1,168.00	$761.00	(34.8%)	$18,555.52	$23,029.09	24.1%	$19,723.52	$23,790.09	20.6%	$59,170.57	$71,370.28	20.6%
8" - 200mm	$2,100.00	$1,358.00	(35.3%)	$17,000.67	$21,159.26	24.5%	$19,100.67	$22,517.26	17.9%	$57,302.01	$67,551.78	17.9%
10" - 250mm	$3,498.00	$2,254.00	(35.6%)	$36,670.87	$45,632.98	24.4%	$40,168.87	$47,886.98	19.2%	$120,506.62	$143,660.93	19.2%

Halifax Regional Water Commission Consolidated Rate Studies - Water and Wastewater Services Bill Comparisons 2026/27												
	Monthly Base Charge			Monthly Commodity Charge			Monthly Combined Bill			Quarterly Combined Bill		
Meter Size	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change
5/8" - 15mm	$30.00	$33.00	10.0%	$57.28	$61.81	7.9%	$87.28	$94.81	8.6%	$261.83	$284.43	8.6%
3/4" - 20mm	$37.00	$40.00	8.1%	$189.37	$203.67	7.6%	$226.37	$243.67	7.6%	$679.11	$731.02	7.6%
1" - 25mm	$52.00	$56.00	7.7%	$379.12	$409.09	7.9%	$431.12	$465.09	7.9%	$1,293.35	$1,395.26	7.9%
1.5" - 40mm	$89.00	$96.00	7.9%	$890.97	$950.71	6.7%	$979.97	$1,046.71	6.8%	$2,939.92	$3,140.12	6.8%
2" - 50mm	$134.00	$143.00	6.7%	$2,179.75	$2,334.41	7.1%	$2,313.75	$2,477.41	7.1%	$6,941.26	$7,432.24	7.1%
3" - 80mm	$253.00	$270.00	6.7%	$4,658.58	$5,049.37	8.4%	$4,911.58	$5,319.37	8.3%	$14,734.74	$15,958.11	8.3%
4" - 100mm	$388.00	$414.00	6.7%	$8,165.35	$8,865.08	8.6%	$8,553.35	$9,279.08	8.5%	$25,660.05	$27,837.24	8.5%
6" - 150mm	$761.00	$811.00	6.6%	$23,029.09	$25,000.91	8.6%	$23,790.09	$25,811.91	8.5%	$71,370.28	$77,435.72	8.5%
8" - 200mm	$1,358.00	$1,446.00	6.5%	$21,159.26	$22,973.22	8.6%	$22,517.26	$24,419.22	8.4%	$67,551.78	$73,257.67	8.4%
10" - 250mm	$2,254.00	$2,399.00	6.4%	$45,632.98	$49,544.74	8.6%	$47,886.98	$51,943.74	8.5%	$143,660.93	$155,831.23	8.5%

The impact on the average residential bill for water and wastewater services as calculated in the rate studies is an increase of 19.5% in 2025/26 and 8.6% in 2026/27, as per Figure 27.

Figure 27 – Scenario 1 Impact on Average Residential Bill

Scenario #1: Cost of service per rate studies, with base charges rounded up to the nearest dollar							
		Proposed Rates		Change 2025/26		Change 2026/27	
	Current Rates	2025/26	2026/27	$	%	$	%
Water							
Base charges	$156.00	$132.00	$144.00	($24.00)	(15.4%)	$12.00	9.1%
Consumption	$184.25	$290.88	$316.18	$106.63	57.9%	$25.30	8.7%
	$340.25	$422.88	$460.18	$82.63	24.3%	$37.30	8.8%
Wastewater							
Base charges	$168.00	$228.00	$252.00	$60.00	35.7%	$24.00	10.5%
Consumption	$367.95	$396.44	$425.53	$28.49	7.7%	$29.09	7.3%
	$535.95	$624.44	$677.53	$88.49	16.5%	$53.09	8.5%
Annual total	$876.20	$1,047.32	$1,137.71	$171.12	19.5%	$90.39	8.6%

Consumption is based on 163 m^3 in 2025/26 and 164 m^3 in 2026/27.

Scenario 2 – No change in current base charges/change in consumption rate only

This scenario (see Figure 28) maintains the base rate at the current level and applies all required rate adjustments to the volumetric rate.

The water rate increases range from 26.5% to 45.1% for 2025/26 and 7.1% to 11.2% for 2026/27.

The wastewater rate increases range from 8.9% to 12.3% for 2025/26 and an increase of 6.8% to an increase of 9.8% for 2026/27.

The combined water and wastewater rate increases range from 15.8% to 23.3% for 2025/26 and 7.0% to 10.4% for 2026/27.

Figure 28 – Scenario 2 Bill Comparison

Scenario #2 - No change in current base charges/change in consumption rate only

Halifax Regional Water Commission
Consolidated Rate Studies - Water and Wastewater Services
Bill Comparisons
2025/26

Meter Size	Monthly Base Charge			Monthly Commodity Charge			Monthly Combined Bill			Quarterly Combined Bill		
	Current	2025/26 Proposed Rates	% Change	Current	2025/26 Proposed Rates	% Change	Current	2025/26 Proposed Rates	% Change	Current	2025/26 Proposed Rates	% Change
5/8" - 15mm	$27.00	$27.00	0.0%	$46.02	$57.52	25.0%	$73.02	$84.52	15.8%	$219.05	$253.55	15.8%
3/4" - 20mm	$38.00	$38.00	0.0%	$152.30	$190.22	24.9%	$190.30	$228.22	19.9%	$570.89	$684.67	19.9%
1" - 25mm	$62.00	$62.00	0.0%	$304.49	$380.68	25.0%	$366.49	$442.68	20.8%	$1,099.46	$1,328.03	20.8%
1.5" - 40mm	$119.00	$119.00	0.0%	$716.79	$895.06	24.9%	$835.79	$1,014.06	21.3%	$2,507.36	$3,042.19	21.3%
2" - 50mm	$188.00	$188.00	0.0%	$1,752.24	$2,189.27	24.9%	$1,940.24	$2,377.27	22.5%	$5,820.72	$7,131.82	22.5%
3" - 80mm	$376.00	$376.00	0.0%	$3,732.15	$4,674.41	25.2%	$4,108.15	$5,050.41	22.9%	$12,324.45	$15,151.23	22.9%
4" - 100mm	$585.00	$585.00	0.0%	$6,566.48	$8,201.93	24.9%	$7,151.48	$8,786.93	22.9%	$21,454.44	$26,360.80	22.9%
6" - 150mm	$1,168.00	$1,168.00	0.0%	$18,555.52	$23,144.96	24.7%	$19,723.52	$24,312.96	23.3%	$59,170.57	$72,938.89	23.3%
8" - 200mm	$2,100.00	$2,100.00	0.0%	$17,000.67	$21,248.62	25.0%	$19,100.67	$23,348.62	22.2%	$57,302.01	$70,045.86	22.2%
10" - 250mm	$3,498.00	$3,498.00	0.0%	$36,670.87	$45,828.00	25.0%	$40,168.87	$49,326.00	22.8%	$120,506.62	$147,977.99	22.8%

Halifax Regional Water Commission
Consolidated Rate Studies - Water and Wastewater Services
Bill Comparisons
2026/27

Meter Size	Monthly Base Charge			Monthly Commodity Charge			Monthly Combined Bill			Quarterly Combined Bill		
	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change
5/8" - 15mm	$27.00	$27.00	0.0%	$57.52	$63.40	10.2%	$84.52	$90.40	7.0%	$253.55	$271.19	7.0%
3/4" - 20mm	$38.00	$38.00	0.0%	$190.22	$208.97	9.9%	$228.22	$246.97	8.2%	$684.67	$740.90	8.2%
1" - 25mm	$62.00	$62.00	0.0%	$380.68	$419.56	10.2%	$442.68	$481.56	8.8%	$1,328.03	$1,444.68	8.8%
1.5" - 40mm	$119.00	$119.00	0.0%	$895.06	$975.60	9.0%	$1,014.06	$1,094.60	7.9%	$3,042.19	$3,283.80	7.9%
2" - 50mm	$188.00	$188.00	0.0%	$2,189.27	$2,395.11	9.4%	$2,377.27	$2,583.11	8.7%	$7,131.82	$7,749.34	8.7%
3" - 80mm	$376.00	$376.00	0.0%	$4,674.41	$5,174.64	10.7%	$5,050.41	$5,550.64	9.9%	$15,151.23	$16,651.92	9.9%
4" - 100mm	$585.00	$585.00	0.0%	$8,201.93	$9,095.40	10.9%	$8,786.93	$9,680.40	10.2%	$26,360.80	$29,041.21	10.2%
6" - 150mm	$1,168.00	$1,168.00	0.0%	$23,144.96	$25,664.33	10.9%	$24,312.96	$26,832.33	10.4%	$72,938.89	$80,496.98	10.4%
8" - 200mm	$2,100.00	$2,100.00	0.0%	$21,248.62	$23,564.14	10.9%	$23,348.62	$25,664.14	9.9%	$70,045.86	$76,992.41	9.9%
10" - 250mm	$3,498.00	$3,498.00	0.0%	$45,828.00	$50,821.64	10.9%	$49,326.00	$54,319.64	10.1%	$147,977.99	$162,958.92	10.1%

Maintaining the existing base charges and adjusting volumetric rates provides more opportunity and incentive for customers to manage their consumption and bills and provides customers with a means of offsetting the proposed rate increases through reducing their water use.

The impact on the average residential bill for water and wastewater services is an increase of 15.8% in 2025/26 and 7.0% in 2026/27, as per Figure 29.

1054 **Figure 29 – Scenario 2 Impact on Average Residential Bill**

Scenario #2 - No change in current base charges/change in consumption rate only							
		Proposed Rates		Change 2025/26		Change 2026/27	
	Current Rates	2025/26	2026/27	$	%	$	%
Water							
Base charges	$156.00	$156.00	$156.00	$0.00	0.0%	$0.00	0.0%
Consumption	$184.25	$274.58	$305.26	$90.33	49.0%	$30.68	11.2%
	$340.25	$430.58	$461.26	$90.33	26.5%	$30.68	7.1%
Wastewater							
Base charges	$168.00	$168.00	$168.00	$0.00	0.0%	$0.00	0.0%
Consumption	$367.95	$415.63	$455.51	$47.68	13.0%	$39.88	9.6%
	$535.95	$583.63	$623.51	$47.68	8.9%	$39.88	6.8%
Annual total	$876.20	$1,014.21	$1,084.77	$138.01	15.8%	$70.56	7.0%

1056

1058

Consumption is based on 163 m^3 in 2025/26 and 164 m^3 in 2026/27.

1060

Scenario 3 – No change in base charge/change in consumption only plus deficit elimination

1062

Halifax Water has developed rate studies that calculate the rates that will provide the full years revenue
1064 requirement. With the timing of the Application and an anticipate start date for the adjusted rates, there will be an approximately 9-month period (April 1, 2025, to December 31, 2025) where rates will not be
1066 sufficient to offset the operating deficit. Halifax Water is proposing to recover this shortfall in the revenue requirements in Test Year 2 – 2026/27 – Scenario 3 (see Figure 30).

1068

The water rate increases range from 26.5% to 45.1% for 2025/26 and 22.8% to 34.6% for 2026/27.

1070

The wastewater rate increases range from 8.9% to 12.3% for 2025/26 and an increase of 12.9% to an
1072 increase of 18.0% for 2026/27.

1074 The combined water and wastewater rate increases range from 15.8% to 23.3% for 2025/26 and 17.1% to 24.5% for 2026/27.

1076

1078

Figure 30 – Scenario 3 Bill Comparison

Scenario #3 - No change in Base charge/change in consumption only plus deficit elimination

Halifax Regional Water Commission
Consolidated Rate Studies - Water and Wastewater Services
Bill Comparisons
2025/26

	Monthly Base Charge			Monthly Commodity Charge			Monthly Combined Bill			Quarterly Combined Bill		
Meter Size	Current	2025/26 Proposed Rates	% Change	Current	2025/26 Proposed Rates	% Change	Current	2025/26 Proposed Rates	% Change	Current	2025/26 Proposed Rates	% Change
5/8" - 15mm	$27.00	$27.00	0.0%	$46.02	$57.52	25.0%	$73.02	$84.52	15.8%	$219.05	$253.55	15.8%
3/4" - 20mm	$38.00	$38.00	0.0%	$152.30	$190.22	24.9%	$190.30	$228.22	19.9%	$570.89	$684.67	19.9%
1" - 25mm	$62.00	$62.00	0.0%	$304.49	$380.68	25.0%	$366.49	$442.68	20.8%	$1,099.46	$1,328.03	20.8%
1.5" - 40mm	$119.00	$119.00	0.0%	$716.79	$895.06	24.9%	$835.79	$1,014.06	21.3%	$2,507.36	$3,042.19	21.3%
2" - 50mm	$188.00	$188.00	0.0%	$1,752.24	$2,189.27	24.9%	$1,940.24	$2,377.27	22.5%	$5,820.72	$7,131.82	22.5%
3" - 80mm	$376.00	$376.00	0.0%	$3,732.15	$4,674.41	25.2%	$4,108.15	$5,050.41	22.9%	$12,324.45	$15,151.23	22.9%
4" - 100mm	$585.00	$585.00	0.0%	$6,566.48	$8,201.93	24.9%	$7,151.48	$8,786.93	22.9%	$21,454.44	$26,360.80	22.9%
6" - 150mm	$1,168.00	$1,168.00	0.0%	$18,555.52	$23,144.96	24.7%	$19,723.52	$24,312.96	23.3%	$59,170.57	$72,938.89	23.3%
8" - 200mm	$2,100.00	$2,100.00	0.0%	$17,000.67	$21,248.62	25.0%	$19,100.67	$23,348.62	22.2%	$57,302.01	$70,045.86	22.2%
10" - 250mm	$3,498.00	$3,498.00	0.0%	$36,670.87	$45,828.00	25.0%	$40,168.87	$49,326.00	22.8%	$120,506.62	$147,977.99	22.8%

Halifax Regional Water Commission
Consolidated Rate Studies - Water and Wastewater Services
Bill Comparisons
2026/27

	Monthly Base Charge			Monthly Commodity Charge			Monthly Combined Bill			Quarterly Combined Bill		
Meter Size	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change	2025/26 Proposed Rates	2026/27 Proposed Rates	% Change
5/8" - 15mm	$27.00	$27.00	0.0%	$57.52	$71.98	25.1%	$84.52	$98.98	17.1%	$253.55	$296.94	17.1%
3/4" - 20mm	$38.00	$38.00	0.0%	$190.22	$237.17	24.7%	$228.22	$275.17	20.6%	$684.67	$825.52	20.6%
1" - 25mm	$62.00	$62.00	0.0%	$380.68	$476.41	25.1%	$442.68	$538.41	21.6%	$1,328.03	$1,615.23	21.6%
1.5" - 40mm	$119.00	$119.00	0.0%	$895.06	$1,107.04	23.7%	$1,014.06	$1,226.04	20.9%	$3,042.19	$3,678.12	20.9%
2" - 50mm	$188.00	$188.00	0.0%	$2,189.27	$2,718.38	24.2%	$2,377.27	$2,906.38	22.3%	$7,131.82	$8,719.13	22.3%
3" - 80mm	$376.00	$376.00	0.0%	$4,674.41	$5,881.31	25.8%	$5,050.41	$6,257.31	23.9%	$15,151.23	$18,771.94	23.9%
4" - 100mm	$585.00	$585.00	0.0%	$8,201.93	$10,323.26	25.9%	$8,786.93	$10,908.26	24.1%	$26,360.80	$32,724.77	24.1%
6" - 150mm	$1,168.00	$1,168.00	0.0%	$23,144.96	$29,109.92	25.8%	$24,312.96	$30,277.92	24.5%	$72,938.89	$90,833.75	24.5%
8" - 200mm	$2,100.00	$2,100.00	0.0%	$21,248.62	$26,753.38	25.9%	$23,348.62	$28,853.38	23.6%	$70,045.86	$86,560.15	23.6%
10" - 250mm	$3,498.00	$3,498.00	0.0%	$45,828.00	$57,696.56	25.9%	$49,326.00	$61,194.56	24.1%	$147,977.99	$183,583.68	24.1%

The impact on the average residential bill as calculated in the rate studies is an increase of 15.8% in 2025/26 and 17.1% in 2026/27, as per Figure 31.

Figure 31 – Scenario 3 Impact on Average Residential Bill

Scenario #3 - No change in Base charge/change in consumption only plus deficit elimination							
		Proposed Rates		Change 2025/26		Change 2026/27	
	Current Rates	2025/26	2026/27	$	%	$	%
Water							
Base charges	$156.00	$156.00	$156.00	$0.00	0.0%	$0.00	0.0%
Consumption	$184.25	$274.58	$372.71	$90.33	49.0%	$98.13	35.7%
	$340.25	$430.58	$528.71	$90.33	26.5%	$98.13	22.8%
Wastewater							
Base charges	$168.00	$168.00	$168.00	$0.00	0.0%	$0.00	0.0%
Consumption	$367.95	$415.63	$491.06	$47.68	13.0%	$75.43	18.1%
	$535.95	$583.63	$659.06	$47.68	8.9%	$75.43	12.9%
Annual total	$876.20	$1,014.21	$1,187.77	$138.01	15.8%	$173.56	17.1%

Consumption is based on 163 m^3 in 2025/26 and 164 m^3 in 2026/27.

In summary, the rates calculated under the three scenarios are presented in Figure 32.

Figure 32 – Quarterly Bill Comparison for Scenarios 1, 2 and 3

Halifax Regional Water Commission Consolidated Rate Studies - Water and Wastewater Services Quarterly Bill Comparisons 2025/26							
Meter Size	Current	Scenaio 1 Rate Studies	% Change	Scenario 2 Volumetric only	% Change	Scenario 3 Volumetric with Deficit Elimination	% Change
5/8" - 15mm	$219.05	$261.83	19.5%	$253.55	15.8%	$253.55	15.8%
3/4" - 20mm	$570.89	$679.11	19.0%	$684.67	19.9%	$684.67	19.9%
1" - 25mm	$1,099.46	$1,293.35	17.6%	$1,328.03	20.8%	$1,328.03	20.8%
1.5" - 40mm	$2,507.36	$2,939.92	17.3%	$3,042.19	21.3%	$3,042.19	21.3%
2" - 50mm	$5,820.72	$6,941.26	19.3%	$7,131.82	22.5%	$7,131.82	22.5%
3" - 80mm	$12,324.45	$14,734.74	19.6%	$15,151.23	22.9%	$15,151.23	22.9%
4" - 100mm	$21,454.44	$25,660.05	19.6%	$26,360.80	22.9%	$26,360.80	22.9%
6" - 150mm	$59,170.57	$71,370.28	20.6%	$72,938.89	23.3%	$72,938.89	23.3%
8" - 200mm	$57,302.01	$67,551.78	17.9%	$70,045.86	22.2%	$70,045.86	22.2%
10" - 250mm	$120,506.62	$143,660.93	19.2%	$147,977.99	22.8%	$147,977.99	22.8%

Halifax Regional Water Commission Consolidated Rate Studies - Water and Wastewater Services Quarterly Bill Comparisons 2026/27						
Meter Size	Scenaio 1 Rate Studies	% Change from Prior Year	Scenario 2 Volumetric only	% Change from Prior Year	Scenario 3 Volumetric with Deficit Elimination	% Change from Prior Year
5/8" - 15mm	$284.43	8.6%	$271.19	7.0%	$296.94	17.1%
3/4" - 20mm	$731.02	7.6%	$740.90	8.2%	$825.52	20.6%
1" - 25mm	$1,395.26	7.9%	$1,444.68	8.8%	$1,615.23	21.6%
1.5" - 40mm	$3,140.12	6.8%	$3,283.80	7.9%	$3,678.12	20.9%
2" - 50mm	$7,432.24	7.1%	$7,749.34	8.7%	$8,719.13	22.3%
3" - 80mm	$15,958.11	8.3%	$16,651.92	9.9%	$18,771.94	23.9%
4" - 100mm	$27,837.24	8.5%	$29,041.21	10.2%	$32,724.77	24.1%
6" - 150mm	$77,435.72	8.5%	$80,496.98	10.4%	$90,833.75	24.5%
8" - 200mm	$73,257.67	8.4%	$76,992.41	9.9%	$86,560.15	23.6%
10" - 250mm	$155,831.23	8.5%	$162,958.92	10.1%	$183,583.68	24.1%

Halifax Water proposes to maintain the current base charges and to apply all required increases to the volumetric rate only (see Figure 33). This approach is consistent with the last two rate applications filed in 2020 and 2022.

The proposal to recover this shortfall in the revenue requirements has increased the rate increases required for in Test Year 2 – 2026/27. As identified earlier, as Halifax Water no longer has accumulated surpluses and reserves to cover the shortfall, the proposed rate increases are required.

Figure 33 – Proposed Rates for Water and Wastewater Service for Residential Customers

Summary of residential rates and monthly base charges			
	Current	2025/26	2026/27
Base			
Water	$13.00	$13.00	$13.00
Wastewater	$14.00	$14.00	$14.00
Consumption rates			
Water	$1.128	$1.681	$2.273
Wastewater	$2.259	$2.552	$3.003

Percentage split between annual base and consumption charges						
	Current		2025/26		2026/27	
Base charges	$324.00	37.0%	$324.00	31.9%	$324.00	27.3%
Consumption	$552.20	63.0%	$690.21	68.1%	$863.77	72.7%
	$876.20		$1,014.21		$1,187.77	

Figures 34 and 35 illustrate the revenue requirements for water and wastewater services respectively, the sources of revenue and comparison between the three Scenarios discussed above.

Figure 34 – Comparison of Recommended Alternative for Water Rates to the Cost of Service Revenue Requirements

WATER	2025/26					2026/27				
	Scenario 1	Scenario 2	Scenario 3			Scenario 1	Scenario 2	Scenario 3		
	Cost of Service Revenue	Volumetric Only	Volumetric plus Deficit Elimination	Scenario 1 to Scenario 3 Difference		Cost of Service Revenue	Volumetric Only	Volumetric plus Deficit Elimination	Scenario 1 to Scenario 3 Difference	
	$	$	$	$	%	$	$	$	$	%
Calculated Revenues										
Unmetered 5/8"	$121,366	$123,576	$123,593	$2,226	1.8%	$132,072	$132,383	$151,737	$19,666	14.9%
Unmetered 1"	$15,185	$15,184	$15,186	$2	0.0%	$16,443	$16,609	$19,740	$3,296	20.0%
5/8" - 15mm	$35,131,923	$35,771,583	$35,776,377	$644,453	1.8%	$38,465,488	$38,556,111	$44,193,089	$5,727,600	14.9%
3/4" - 20mm	$1,204,338	$1,198,401	$1,198,604	($5,734)	(0.5%)	$1,314,926	$1,315,209	$1,554,128	$239,202	18.2%
1" - 25mm	$3,544,506	$3,544,299	$3,544,925	$418	0.0%	$3,861,862	$3,900,636	$4,635,965	$774,103	20.0%
1.5" - 40mm	$6,268,591	$6,254,078	$6,255,215	($13,377)	(0.2%)	$6,847,168	$6,912,167	$8,249,199	$1,402,031	20.5%
2" - 50mm	$10,381,023	$10,172,723	$10,174,670	($206,353)	(2.0%)	$11,342,348	$11,286,658	$13,576,143	$2,233,795	19.7%
3" - 80mm	$8,273,240	$8,102,556	$8,104,119	($169,121)	(2.0%)	$9,034,483	$8,984,255	$10,821,658	$1,787,175	19.8%
4" - 100mm	$3,187,755	$3,112,773	$3,113,378	($74,377)	(2.3%)	$3,481,317	$3,454,087	$4,165,363	$684,046	19.6%
6" - 150mm	$4,263,868	$4,127,383	$4,128,203	($135,665)	(3.2%)	$4,658,116	$4,589,812	$5,553,484	$895,368	19.2%
8" - 200mm	$2,849,798	$2,818,419	$2,818,951	($30,846)	(1.1%)	$3,109,966	$3,118,974	$3,745,311	$635,346	20.4%
10" - 250mm	$484,599	$474,602	$474,694	($9,905)	(2.0%)	$529,112	$526,398	$634,338	$105,226	19.9%
	$75,726,192	$75,715,577	$75,727,914	$1,722	0.0%	$82,793,299	$82,793,299	$97,300,154	$14,506,855	17.5%
Fire Protection	$13,285,842	13,285,842	$13,285,842	$0	0.0%	$14,437,228	14,437,228	$17,032,330	$2,595,103	18.0%
Total	$89,012,034	$89,001,419	$89,013,755	$1,722	0.0%	$97,230,526	$97,230,526	$114,332,484	$17,101,958	17.6%
Revenue Requirement per Rate Application	$89,013,755	$89,013,755	$89,013,755			$97,230,526	$97,230,526	$97,230,526		
Adjustment To Revenue Requirement						$0	$0	$17,101,958		

Figure 35 – Comparison of Recommended Wastewater Rates to the Cost of Service Revenue Requirements

WASTEWATER	2025/26					2026/27				
	Scenario 1	Scenario 2	Scenario 3			Scenario 1	Scenario 2	Scenario 3		
	Cost of Service Revenue	Volumetric Only	Volumetric plus Deficit Elimination	Scenario 1 to Scenario 3 Difference		Cost of Service Revenue	Volumetric Only	Volumetric plus Deficit Elimination	Scenario 1 to Scenario 3 Difference	
	$	$	$	$	%	$	$	$	$	%
Calculated Revenues										
Unmetered 5/8"	$578,857	$541,026	$541,026	($37,832)	(6.5%)	$628,069	$577,992	$610,946	($17,123)	(2.7%)
Unmetered 3/4"	$3,186	$3,242	$3,242	$55	1.7%	$3,418	$3,496	$3,732	$314	9.2%
Unmetered 1"	$27,038	$28,287	$28,287	$1,249	4.6%	$29,088	$30,655	$32,769	$3,681	12.7%
Unmetered 3"	$33,639	$35,826	$35,826	$2,188	6.5%	$36,204	$39,133	$41,994	$5,790	16.0%
5/8" - 15mm	$49,125,457	$45,914,830	$45,914,830	($3,210,627)	(6.5%)	$53,627,096	$49,351,308	$52,165,048	($1,462,048)	(2.7%)
3/4" - 20mm	$1,667,878	$1,696,930	$1,696,930	$29,052	1.7%	$1,806,207	$1,847,698	$1,972,099	$165,892	9.2%
1" - 25mm	$4,797,679	$5,019,384	$5,019,384	$221,705	4.6%	$5,193,789	$5,473,583	$5,851,091	$657,302	12.7%
1.5" - 40mm	$8,602,619	$9,130,253	$9,130,253	$527,634	6.1%	$9,314,605	$9,983,740	$10,686,477	$1,371,872	14.7%
2" - 50mm	$13,975,631	$14,840,415	$14,840,415	$864,785	6.2%	$15,098,068	$16,265,754	$17,450,482	$2,352,414	15.6%
3" - 80mm	$10,562,497	$11,249,509	$11,249,509	$687,012	6.5%	$11,404,280	$12,326,866	$13,228,115	$1,823,835	16.0%
4" - 100mm	$4,348,058	$4,626,646	$4,626,646	$278,588	6.4%	$4,694,203	$5,072,624	$5,446,559	$752,356	16.0%
6" - 150mm	$5,345,292	$5,667,392	$5,667,392	$322,101	6.0%	$5,771,225	$6,223,780	$6,690,290	$919,065	15.9%
8" - 200mm	$3,749,165	$4,018,721	$4,018,721	$269,555	7.2%	$4,047,169	$4,397,056	$4,714,276	$667,107	16.5%
10" - 250mm	$664,688	$709,221	$709,221	$44,533	6.7%	$717,538	$777,273	$834,331	$116,793	16.3%
Total	$103,481,682	$103,481,682	$103,481,682	($0)	(0.0%)	$112,370,959	$112,370,959	$119,728,210	$7,357,251	6.5%
Revenue Requirement per Rate Application	$103,481,682	$103,481,682	$103,481,682			$112,370,959	$112,370,959	$112,370,959		
Adjustment To Revenue Requirement						$0	$0	$7,357,251		

Figure 36 illustrates the combined revenue requirements for water and wastewater, the sources of revenue and comparison between Cost of Service and the recommended alternative.

Figure 36 – Comparison of Recommended Combined Water and Wastewater Rates to the Cost of Service Revenue Requirements

COMBINED WATER AND WASTEWATER	2025/26					2026/27				
	Scenario 1	Scenario 2	Scenario 3			Scenario 1	Scenario 2	Scenario 3		
	Cost of Service Revenue	Current Base Rate	Volumetric plus Deficit Elimination	Scenario 1 to Scenario 3 Difference		Cost of Service Revenue	Current Base Rate	Volumetric plus Deficit Elimination	Scenario 1 to Scenario 3 Difference	
	$	$	$	$	%	$	$	$	$	%
Calculated Revenues										
Unmetered 5/8"	$700,224	$664,602	$664,618	($35,605)	(5.1%)	$760,141	$710,375	$762,683	$2,543	0.3%
Unmetered 3/4"	$3,186	$3,242	$3,242	$55	1.7%	$3,418	$3,496	$3,732	$314	9.2%
Unmetered 1"	$42,222	$43,471	$43,473	$1,251	3.0%	$45,531	$47,263	$52,509	$6,977	15.3%
Unmetered 3"	$33,639	$35,826	$35,826	$2,188	6.5%	$36,204	$39,133	$41,994	$5,790	16.0%
5/8" - 15mm	$84,257,380	$81,686,413	$81,691,207	($2,566,174)	(3.0%)	$92,092,584	$87,907,420	$96,358,137	$4,265,553	4.6%
3/4" - 20mm	$2,872,216	$2,895,330	$2,895,534	$23,318	0.8%	$3,121,133	$3,162,907	$3,526,227	$405,094	13.0%
1" - 25mm	$8,342,185	$8,563,683	$8,564,309	$222,123	2.7%	$9,055,651	$9,374,219	$10,487,057	$1,431,405	15.8%
1.5" - 40mm	$14,871,211	$15,384,331	$15,385,468	$514,257	3.5%	$16,161,772	$16,895,907	$18,935,676	$2,773,903	17.2%
2" - 50mm	$24,356,653	$25,013,138	$25,015,085	$658,431	2.7%	$26,440,415	$27,552,412	$31,026,625	$4,586,209	17.3%
3" - 80mm	$18,835,737	$19,352,065	$19,353,628	$517,891	2.7%	$20,438,763	$21,311,121	$24,049,774	$3,611,011	17.7%
4" - 100mm	$7,535,812	$7,739,419	$7,740,024	$204,212	2.7%	$8,175,520	$8,526,711	$9,611,922	$1,436,402	17.6%
6" - 150mm	$9,609,159	$9,794,776	$9,795,595	$186,436	1.9%	$10,429,341	$10,813,593	$12,243,774	$1,814,433	17.4%
8" - 200mm	$6,598,963	$6,837,139	$6,837,672	$238,709	3.6%	$7,157,135	$7,516,030	$8,459,587	$1,302,452	18.2%
10" - 250mm	$1,149,287	$1,183,824	$1,183,916	$34,628	3.0%	$1,246,650	$1,303,671	$1,468,669	$222,020	17.8%
	$179,207,874	$179,197,259	$179,209,596	$1,722	0.0%	$195,164,258	$195,164,258	$217,028,364	$21,864,108	11.2%
Fire Protection	$13,285,842	$13,285,842	$13,285,842	$0	0.0%	$14,437,228	$14,437,228	$17,032,330	$2,595,103	18.0%
Total	$192,493,716	$192,483,101	$192,495,437	$1,722	0.0%	$209,601,486	$209,601,486	$234,060,694	$24,459,211	11.7%
Revenue Requirement per Rate	$192,495,437	$192,495,437	$192,495,437			$209,601,486	$209,601,486	$209,601,486		
Adjustment To Revenue Requirement	($1,722)	($12,337)	$0			$0	$0	$24,459,209		

STORMWATER RATES

Stormwater services have been operating at a deficit since 2017/18. In the 2025/26 Test Year, the deficit for stormwater services is budgeted to be $3.7 million. The revenues generated by stormwater services would need to increase by 21.9 % to offset the budgeted deficit in 2025/26. In 2026/27, the operating deficit is budgeted to be $6.0 million. Revenues in 2026/27 generated from stormwater services would need to increase by 37.1% from current levels to offset the budgeted deficit. As a result of the operating deficits, the accumulated deficit at the end of the 2025/26 Test Year is budgeted to be $10.3 million.

Operating stormwater services at the current rates is not sustainable and the necessary increases in revenues are significant.

Halifax Water has updated the stormwater rate studies using the methodology approved by the Board and utilized the most current impervious area data. This impervious area data includes more accurate information concerning property ownership than was available in 2016 and includes additional information on the ownership of streets throughout the municipality. Significant updates were made in 2022 to the stormwater service expansion areas. In 2025, there will be significant updates to the impervious area to all areas of growth in the stormwater service boundary that have occurred over the past 5 years.

Appendix 3, worksheet SW4 shows the results of the additional information, including the allocation of the right-of-way charge to HRM, the provincial government and the Halifax Dartmouth Bridge Commission. This allocation of impervious area (see Figure 37) has been included in the calculation of the stormwater rates.

Figure 37 – Impervious Area Allocation Based on Improved Ownership Data

Billable impervious area breakdown as follows:		
Halifax (HRM)	25,518,872	
Province of Nova Scotia	6,024,549	
Halifax Dartmouth Bridge Commission	73,230	31,616,651

In rendering its decision for Matter M11932, the Board directed Halifax Water to consider whether its rate design could be improved to mitigate against potential inequities that may result from circumstances where only a small portion of a residential property drains into Halifax Water owned and maintained stormwater infrastructure. As the Board rightfully pointed out

> *"exempting properties on the basis that only small amounts of water enter its system is not insignificant to Halifax Water. A substantial re-assessment of the properties that receive stormwater service would be required. The associated costs would be recoverable from all service recipients and the impact to the rate structure if this approach were to be applied consistently could be significant".*

Halifax Water expects this type of change to increase the number of appeals, which would increase the overall stormwater revenue requirement to respond to additional appeals. Halifax Water will need to analyze the data available to understand the impact of this change both in terms of requirements to set up a different rate structure and the additional resources required to maintain and update the data to support the rate structure moving forward. This will require time, and both internal and external

resources. Analyzing the data requires a thorough quality control of the catchment boundary that was generated using software tools and the help of an external contractor. Staff would then need to combine the catchment boundary with all the properties and generate information that can then be used for the rate calculation using both impervious area and percentage of the property draining towards Halifax Water stormwater infrastructure. This is expected to require 2 FTEs over a period of at least six months to analyze and perform quality control. In 2015, Halifax Water conducted a rate design study (M07147) using an external subject matter expert who assisted Halifax Water design the current stormwater rate structure for both residential and non-residential properties. Re-designing the rate structure may require similar support. Considering the time, financial and staffing requirements, Halifax Water is recommending that such a rate design exercise be conducted outside of this Application, if the Board requests additional details.

Since the introduction of stormwater billing in 2013, Halifax Water has regularly updated the process for impervious area delineation and identification of properties that receive service. Initially, 2013-2017, Halifax Water used a manual process of delineating service boundaries (watershed boundaries) that identified properties that received service. From 2017 onwards, Halifax Water used software to identify flow delineation patterns, ditches, and possible culvert location. The semi-automated data analysis was further augmented with field verification and confirmations of existing ditches and culverts. This resulted in a more accurate dataset. Lesson learned from the 2013-2017 appeals process allowed Halifax Water to incorporate more rigorous quality control process which increased the accuracy of the analysis.

Since the process improvements in 2017, Halifax Water has received approximately 300 notice of objections ("Notice of Objection") per year from Customers disputing the fact that they receive storm water service. Of the filed Notice of Objections s, approximately 15% result in a change to the stormwater billing outcome. The estimated cost for Halifax Water, for staff to respond to each Notice of Objection is $900, for an average annual cost of $270,000. If a Customer is unsatisfied with the result of the Notice of Objection, they can file a complaint with the Dispute Resolution Officer (DRO). Approximately 31 stormwater billing complaints per year are referred to the DRO and on average 5% of these referrals result in a change to the stormwater billing outcome. The estimated cost per complaint referred to the DRO, including both Halifax Water staff time and DRO fees, is approximately $2,500, for an annual total cost of $77,500. The third stage in the stormwater billing complaint process is an appeal to the Board. Approximately four stormwater billings complaints are appealed to the Board per year. Only one appeal to the Board, since 2018 has resulted in a change in a determination of service outcome to the Customer. Halifax Water was unable to develop a total cost including Board fees for this process but estimates that the cost to appeal to the Board is at least equivalent to the cost of complaints referred to the DRO, therefore $2,500 per appeal. Therefore, the cost of the stormwater billing complaint process is estimated at $357,500 per year.

The number of Notice of Objections continues to increase as the stormwater boundaries are changed and bills are sent out annually. The stormwater engineering team is also tasked to deal with non-emergency drainage inquiries which tend to spike during significant weather events as experienced during the major rain events of July and August 2023. Both tasks have resulted in a backlog within the stormwater engineering team. In several recent Decisions, including M11743, the Board has reminded Halifax Water that it should seek improvements that ensure its handling of Customers' complaints is done promptly. Halifax Water has added two FTE's to the stormwater team since 2023 and is working on establishing a level of service that will set a standard for future stormwater Notice of Objections, including response timelines. There are currently over 300 outstanding Notice of Objections and over 1000 non-emergency drainage inquiries.

With the accuracy of the stormwater billing analysis increasing, better processes in place for quality control, and creation of a service level agreement, Halifax Water is looking to establish a fee structure, similar to a meter test fee, for each stage of the stormwater billing complaint process. The intention is to reduce frivolous appeals, freeing up staff time to optimize use of resources to ensure prompt response to both appeals and non-emergency drainage inquiries.

There are several ways in which to structure fees, including using cost causer pay principles to cover the full cost for each stage of the stormwater billing complaint process , or using a flat fee. Halifax Water is proposing a $100 fee to be applied for each stage of the stormwater billing complaint process, including three (3) stages. For greater clarity, the first stage starts when a Customer submits a Notice of Objection, contemporaneously with a fee of $100. If a Customer is dissatisfied with Halifax Water's determination on stormwater billing, the customer may refer the Notice of Objection to the DRO, contemporaneously with a fee in the amount of $100. If the Customer is dissatisfied with the DRO determination, the customer may appeal to the Board, contemporaneously with a fee in the amount of $100. If at any stage, a determination is made that the property does not receive stormwater service, Halifax Water will reimburse the fee.

Halifax Water has recognized the need for a documented stormwater maintenance activities plan to ensure the effective operation of the stormwater system. This will include guidelines relating to operations and maintenance activities and related standards and developing expected levels of service for the infrastructure. These are included in the Five-Year Business Plan and will be in place prior to the next general rate application.

<u>Scenario 1 - Stormwater charge Rate Studies</u>

Based on this scenario (see Figure 38), in 2025/26, the annual charges for residential customers would increase in each tier ranging from $5.00 for tier 2 to $28.00 for tier 5. In 2025/26, the annual charges for residential customers would increase further in each tier ranging from $3.00 for tier 2 to $19.00 for tier 5. The total revenue to be received from customers in Tiers 2 and 3 would be approximately $3.0 million in 2025/26 and $3.4 million in 2026/27.

In 2025/26, the charges per m^2 for non-residential customers would increase from $0.173 to $0.216, an increase of $0.043 per m^2. In 2026/27, charges for non-residential customers would increase to $0.245 per m^2. The total revenue to be received from non-residential customers would be approximately $6.9 million in 2025/26 and $7.8 million in 2026/27.

The total right-of-way charge would be $7.9m in 2025/26 and $8.9m in 2026/27. The right-of-way charge to HRM would increase to $6.4 million in 2025/26 and to $7.2 million in 2026/27. The right-of-way charge for the provincial government would increase to $1.5 million in 2025/26 and would increase to $1.7 million in 2026/27. For the Halifax Dartmouth Bridge Commission, the right-of-way charge would increase to $18,400 in 2025/26 and $20,600 in 2026/27.

1290

Figure 38 - Scenario 1 - Stormwater charge Rate Studies

Scenario #1 (Stormwater): Cost of service per rate studies, with tier rates rounded to nearest dollar								
Halifax Regional Water Commission Stormwater Services Rate Study Bill Comparisons								
	2025/26 Annual Charges				**2026/27 Annual Charges**			
	Current	**2025/26 Proposed Rates**	**$ Change**	**% Change**	**2025/26 Proposed Rates**	**2026/27 Proposed Rates**	**$ Change**	**% Change**
Industrial, Commercial, Institutional	0.173	0.216	0.043	24.9%	$0.216	$0.245	$0.029	13.4%
Residential								
Tier 1 (exempt)	$0.00	$0.00	$0.00	0.0%	$0.00	$0.00	$0.00	0.0%
Tier 2 [1]	$19.00	$24.00	$5.00	26.3%	$24.00	$27.00	$3.00	12.5%
Tier 3 [1]	$38.00	$48.00	$10.00	26.3%	$48.00	$54.00	$6.00	12.5%
Tier 4	$76.00	$95.00	$19.00	25.0%	$95.00	$108.00	$13.00	13.7%
Tier 5	$115.00	$143.00	$28.00	24.3%	$143.00	$162.00	$19.00	13.3%
Culvert only customers	$19.00	$24.00	$5.00	26.3%	$24.00	$27.00	$3.00	12.5%

1: Tiers 2 and 3 represent 83% of the Residential parcels, and individually represent 38% and 45% respectively.

1292

Scenario 2 – Cost of Service Rates plus deficit elimination

1294

As with water and wastewater rates, Halifax Water has developed rate studies that calculate the rates
1296 that will provide the full year's revenue requirement. With the timing of the Application and an anticipate start date for the adjusted rates, there will be an approximately 9-month period (April 1, 2025, to
1298 December 31, 2025) where rates will not be sufficient to offset the operating deficit. Halifax Water is proposing to recover this shortfall in the revenue requirements in Test Year 2 – 2026/27 – Scenario 2 –
1300 Stormwater (see Figure 39).

1302 The proposal to recover this shortfall in the revenue requirements has increased the rate increases required for in Test Year 2 – 2026/27. As identified earlier, as Halifax Water no longer has accumulated
1304 surpluses and reserves to cover the shortfall, the increases are required.

1306 Based on this scenario, in 2025/26, the annual charges for residential customers would increase in each tier ranging from $5.00 for tier 2 to $28.00 for tier 5. In 2026/27, the annual charges for residential
1308 customers would increase further in each tier ranging from $6.00 for tier 2 to $40.00 for tier 5. The total revenue to be received from customers in Tiers 2 and 3 would be approximately $3.0 million in 2025/26
1310 and $3.9 million in 2026/27.

1312 In 2025/26, the charges per m^2 for non-residential customers would increase from $0.173 to $0.216, an increase of $0.043 per m^2. In 2026/27, charges for non-residential customers would increase to $0.277
1314 per m^2. The total revenue to be received from non-residential customers would be approximately $6.9 million in 2025/26 and $8.8 million in 2026/27.

1316

The total right-of-way charge would be $7.9 million in 2025/26 and $10.0 million in 2026/27. The right-
1318 of-way charge to HRM would increase to $6.4 million in 2025/26 and to $8.1 million in 2026/27. The right-of-way charge for the provincial government would increase to $1.5 million in 2025/26 and would increase
1320 to $1.9 million in 2026/27. For the Halifax Dartmouth Bridge Commission, the right-of-way charge would increase to $18,400 in 2025/26 and $23,226 in 2026/27.

Figure 39 - Scenario 2 – Cost of Service Rates plus deficit elimination

Scenario #2 (Stormwater): Cost of Service Rates plus deficit elimination								
Halifax Regional Water Commission Stormwater Services Rate Study Bill Comparisons								
	2025/26 Annual Charges				**2026/27 Annual Charges**			
	Current	**2025/26 Proposed Rates**	**$ Change**	**% Change**	**2025/26 Proposed Rates**	**2026/27 Proposed Rates**	**$ Change**	**% Change**
Industrial, Commercial, Institutional	$0.173	$ 0.216	$0.043	24.9%	$ 0.216	$0.277	$0.061	28.1%
Residential								
Tier 1 (exempt)	$0.00	$0.00	$0.00	0.0%	$0.00	$0.00	$0.00	0.0%
Tier 2 [1]	$19.00	$24.00	$5.00	26.3%	$24.00	$30.00	$6.00	25.0%
Tier 3 [1]	$38.00	$48.00	$10.00	26.3%	$48.00	$61.00	$13.00	27.1%
Tier 4	$76.00	$95.00	$19.00	25.0%	$95.00	$122.00	$27.00	28.4%
Tier 5	$115.00	$143.00	$28.00	24.3%	$143.00	$183.00	$40.00	28.0%
Culvert only customers	$19.00	$24.00	$5.00	26.3%	$24.00	$30.00	$6.00	25.0%

1: Tiers 2 and 3 represent 83% of the Residential parcels, and individually represent 38% and 45% respectively.

Figure 40 provides a comparative summary of the revenue requirements for Test Years 2025/26 and 2026/27 for each of the stormwater scenarios 1 and 2.

Figure 40 – Revenue Requirement Comparison of Stormwater Scenarios 1 and 2

STORMWATER								
	2025/26				**2026/27**			
	Cost of Service Revenue	**Deficit Elimination**	**Change**		**Cost of Service Revenue**	**Deficit Elimination**	**Change**	
	$	**$**	**$**	**%**	**$**	**$**	**$**	**%**
Site Related Flow								
Industrial, Commercial, Institutional	6,876,598	6,876,598	-	0.0%	7,799,845	8,806,025	1,006,180	12.9%
Residential								
Tier 1 (exempt)	-	-	-	0.0%	-	-	-	0.0%
Tier 2	855,888	855,888	-	0.0%	962,874	1,069,860	106,986	11.1%
Tier 3	2,071,632	2,071,632	-	0.0%	2,330,586	2,632,699	302,113	13.0%
Tier 4	969,475	969,475	-	0.0%	1,102,140	1,245,010	142,870	13.0%
Tier 5	298,155	298,155	-	0.0%	337,770	381,555	43,785	13.0%
Culvert only customers	18,168	18,168	-	0.0%	20,439	22,710	2,271	11.1%
	$11,089,916	$11,089,916	$0	0.0%	$12,553,654	14,157,859	1,604,205	12.8%
Street Right-of Way (ROW)								
Halifax (HRM)	6,416,300	6,416,300	-	0.0%	7,168,900	8,093,760	924,860	12.9%
Province of Nova Scotia	1,514,800	1,514,800	-	0.0%	1,692,500	1,910,792	218,292	12.9%
Halifax Dartmouth Bridge Commission	18,400	18,400	-	0.0%	20,600	23,226	2,626	12.7%
Street Right-of Way (ROW)	7,949,500	7,949,500	-	0.0%	8,882,000	10,027,778	1,145,778	12.9%
Total	$19,039,416	$19,039,416	$0	0.0%	$21,435,654	$24,185,637	$2,749,983	12.8%
Revenue Requirement per Rate Application	19,041,947	$19,041,947			$21,443,663	$21,443,663		
Rounding difference	($2,531)				($8,009)			
Adjustment To Revenue Requirement						$2,749,983		

Impervious Area Changes

As shown, in Appendix 3, worksheet SW4, the overall impervious area associated with site related flow and road right of ways reduced. The main reasons for this reduction are the use of better quality imagery,

updated software tools, and use of lidar data to better delineate the stormwater catchment boundary. Halifax Water also conducted an iterative manual quality check was conducted to identify and remove anomalous impervious area such as those attributed to shadows, shorelines and image registration. Customer appeals resulted in some impervious area being reduced or removed. The impervious area within the HRM owned right of way reduced primarily because of better road ownership data.

Stormwater Service Expansion

Halifax Water has no stormwater boundary expansions planned. The most recent stormwater expansion took place in 2022 (Matter M10295). Should the Province provide HRM with notice of the province's intent to transfer roads to HRM, as per the provisions of Agreement HRM-01, it may result in the amendment of stormwater service boundary resulting in Halifax Water expanding its stormwater services. If this were to happen, Halifax Water will follow the process it undertook during the most recent stormwater expansion, it is not anticipated within the two Test Years.

PROPOSED RESIDENTIAL RATES FOR WATER, WASTEWATER AND STORMWATER SERVICES

Based on this Application's proposed water, wastewater and stormwater rates, in 2025/26 the total residential bill would increase by 16.2% from $914.20 to $1,062.21, an increase of $148.01 per year or $12.33 per month; in 2026/27, it would further increase by 17.6%, from $1,062.21 to $1,248.77, an increase of $186.56 per year or $15.55 per month (see Figure 41).

Figure 41 – Impact of Proposed Rates on Total Residential Bill

Total Average Residential Bill (including Stormwater)							
		Proposed Rates		Change 2025/26		Change 2026/27	
	Current Rates	2025/26	2026/27	$	%	$	%
Water							
Base charges	$156.00	$156.00	$156.00	$0.00	0.0%	$0.00	0.0%
Consumption	$184.25	$274.58	$372.71	$90.33	49.0%	$98.13	35.7%
	$340.25	$430.58	$528.71	$90.33	26.5%	$98.13	22.8%
Wastewater							
Base charges	$168.00	$168.00	$168.00	$0.00	0.0%	$0.00	0.0%
Consumption	$367.95	$415.63	$491.06	$47.68	13.0%	$75.43	18.1%
	$535.95	$583.63	$659.06	$47.68	8.9%	$75.43	12.9%
Annual Water and Wastewater Total	$876.20	$1,014.21	$1,187.77	$138.01	15.8%	$173.56	17.1%
Stormwater (Tier 3)	$38.00	$48.00	$61.00	$10.00	26.3%	$13.00	27.1%
Total Average Residential Bill	$914.20	$1,062.21	$1,248.77	$148.01	16.2%	$186.56	17.6%

RATE OF RETURN

Section 45 of the NSRAB Water Utility Accounting and Reporting Handbook - "Amount utility entitled to earn annually" states that every public utility shall be entitled to earn annually such return as the Board deems just and reasonable on the rate base as fixed and determined by the Board for each type or kind of service furnished. These earnings are in addition to such expense as the Board may allow as reasonable and prudent. Halifax Water's current and proposed rates do not include any rate of return in addition to operating expenses (including depreciation) other than the amount required to fund debt servicing and dividend/grant in lieu of taxes.

INTEREST ON OVERDUE ACCOUNTS

The vast majority of customers pay their Halifax Water bills by the due date and do not incur any interest charges. When a Customer is experiencing difficulty paying their bill, Halifax Water will work with the Customer to develop payment plans to help and will delay charging interest while there is a payment plan in place.

Halifax Water will maintain the interest on overdue accounts to 14.0% per annum or 1.1% per month.

OBJECTIVES AND CRITERIA FOR DEVELOPING REVENUE REQUIREMENTS

As indicated above, a number of factors require Halifax Water to file this Application. Halifax Water is projecting an operating deficit for 2021/22 and increasing deficits in 2022/23 and 2023/24. Expenses, particularly those to support an increased level of capital spending (depreciation and debt servicing), are increasing.

In summary, this Application addresses the following objectives:

1) Provide sufficient operating revenue for the two Test Years to cover the operating and non-operating costs for water, wastewater and stormwater.

2) Provide sufficient operating revenue to accommodate depreciation for additions to utility plant in service.

3) Provide sufficient operating revenue to accommodate debt servicing requirements.

4) Provide sufficient operating revenue for 2025/26 and 2026/27 to enable Halifax Water to continue to address the infrastructure deficit and regulatory compliance issues facing the utility.

5) Adjust rates to recognize increased utility plant in service, increased number of customers and connections, and changes in factors such as impervious area, as well as a 1.0% increase in water consumption in 2025/26 and a further 1.0% increase in 2026/27.

6) Approve updates to the COS Manual (Appendix 4) and the Halifax Water Regulations (Appendix 9).

OTHER 2022 RATE APPLICATION ISSUES:

The Board's 2022 decision directed Halifax Water to address the following issue:

Further to the Board's letter dated April 3, 2023, following the last GRA (M10468) relating to High-Strength Wastewater Discharges and non-Regulated Waste Streams, Halifax Water offers the following:

Halifax Water maintains there are adequate processes and Regulations in place to address high-strength wastewater discharges. The existing Regulations allow Halifax Water to enter into an agreement with a Customer that sets out a procedure for determining the appropriate rate for the extra-strength discharge based on known treatment costs. The current approach allows for the setting of site-specific fees that could be dependent on a number of factors including volumes, timing and specific parameters. This is inclusive of the non-regulated activities, of accepting landfill leachate and septage from residential septic systems at a specified wastewater treatment facility. The fee for all of these activities is based on a cost recovery model such that the additional operational costs at the wastewater treatment facilities to treat this waste are not subsidized by the ratepayer as well as ensuring the acceptance of all high-strength sources do not create system compliance issues.

Halifax Water notes that there are many different types of commercial/industrial users across the customer base with extra strength discharge ranging from high concentrations for fat oil and grease (FOG) and/or some specified parameters within their effluent outside of limits within the Regulations.

The discharge limits in the Regulations are based on come largely from the Model Sewer Use Bylaw Guidance Document ("Sewer Guidance Document") prepared for the Canadian Council of Ministers of the Environment. This Sewer Guidance Document establishes the guiding principles for many municipalities and utilities across Canada and therefore could be considered best practice. In some other jurisdictions including the United States, industrial dischargers are regulated through the use of industrial discharge permits. These permits could be considered industry best practice as they provide for tracking *all* dischargers. The Halifax Water Regulations are sufficient in that we could issue Directives to all industrial users to monitor and report on discharges. Nevertheless, the resources to implement this across our entire industrial user base does not currently exist, nor is it required by Nova Scotia Environment and Climate Change.

The focus with these Customers is to have them establish private pretreatment systems ranging from grease-oil interceptors to full-scale onsite waste treatment systems. Extra strength discharges are regulated through the use of Compliance agreements or Directives. A Directive is an instruction mandated by Halifax Water to take action to become compliant with the Regulations that does not require the signature of the discharger. Halifax Water is proposing changes to the Regulations to strengthen the use of Directives as a mechanism to achieve compliance when working with dischargers.

Currently, there are three dischargers with Compliance Agreements or Directives in place, for the purpose of either bridging the time until the Customer has pretreatment installed and/or to address potential upsets with their existing pretreatment system.

PROPOSED REGULATIONS

The proposed Regulations included in Appendix 9 reflect the proposed amendments outlined in this Application, as well as proposed rate and fee adjustments, and other administrative amendments, proposed for greater clarity. Halifax Water also acknowledges that the Halifax Water Regulations, as amended, and the proposed amendments will need to align with Summary Offence Ticket Regulations, Schedules 38 and 38A, made under Sections 8, 8A and 8B of the *Summary* P*roceeding*s *Act*, R.S.N.S. 1989, c.450., N.S. Reg. 58/2025 (effective March 14, 2025). Halifax Water will seek to address the alignment in the most efficient way, including developing a table of concordance.

ORDER SOUGHT

Halifax Water requests an order approving the Halifax Water Regulations to become effective for services rendered on and after January 1, 2026, a copy of which is attached as Appendix 9.

Halifax Regional Water Commission

(“Halifax Water”)

Water Rate Study

2025/26

Prepared By: Halifax Water Staff

Notes on Worksheet

Worksheet W-1 System Data

Worksheet W-1 provides Water Services related data including:

- Water plant production for the three previous fiscal years, and 3-year average water plant production.
- Average day and maximum day production with related percentages and ratios for the plants.
- Budgeted service connections, system equivalents, and billed consumption for test year 2025/26.
- Average water consumption history by customer class for the five fiscal years spanning 2018/19 to 2023/24 inclusive, including a reallocation of estimated commercial consumption from the residential 15 mm (5/8) meter size. The fiscal year 2020/21 has been excluded due to the probable effects COVID-19 had on consumption patterns.
- For Fiscal Years 2021 thorough 2025 the following allocations were in place:
    - Engineering and technology services - renamed "Engineering and Capital Infrastructure". All Technology service-related cost centres (see COS Manual for listing) are grouped with Corporate Services beginning in fiscal 2025/26.
    - Anywhere within the Rate Study file, the former descriptions remain, but the changes are reflected within the values beginning in fiscal 2025/26.

Assumptions – 2025/26 (Test Year #1):

1. After a long-term trend of declining water consumption, Halifax Water has been experiencing modest increases recently. Consumption in 2025/26 is budgeted to grow at a rate of 1% based on the assumption related to customer growth noted below, and having consumption patterns among customer classes return to pre-COVID-19 levels.

2. Customer connections are projected to increase by 570 connections in 2025/26, based on customer growth in the last five years.

3. Depreciation on contributed assets for 2025/26 for Water included at 2%, (1% for 2024/25 and a further 1% in 2025/26) as per the proposal Halifax Water included in the 2022 Rate application. Further annual increases of 1% are proposed to 2028/29.

Worksheet W-1

Halifax Water
Water Rate Study

Water Plant Production and User Characteristics Data

Water Production

	2021/22	2022/23	2023/24	Average
Average Day Production (in cubic meters)				
Lake Major	31,756	32,270	33,906	32,644
Lake Pockwock	84,039	91,583	94,244	89,955
Bennery Lake	705	806	903	805
System	116,500	124,660	129,052	123,404
Maximum-Day Production (in cubic meters)				
Lake Major	45,560	41,310	43,560	43,477
Lake Pockwock	97,960	109,210	110,270	105,813
Bennery Lake	2,250	4,003	5,296	3,850
System	145,770	154,523	159,126	153,140

	2021/22	2022/23	2023/24	Average
Average Day as a Percent of Maximum Day				
Lake Major	70%	78%	78%	75%
Lake Pockwock	86%	84%	85%	85%
Bennery Lake	31%	20%	17%	21%
System	80%	81%	81%	81%
Max-Day / Average Day Ratio				
Lake Major	1.43	1.28	1.28	1.33
Lake Pockwock	1.17	1.19	1.17	1.18
Bennery Lake	3.19	4.96	5.87	4.78
System	1.25	1.24	1.23	1.24

Usage Characteristics

Date	**November 30, 2024**
Test Years	
	2024/25
1	**2025/26**
2	**2026/27**
Current Year	**2024/25**
Historical Year	**2023/24**

Customer Classes

Residential	Non-Residential
Single Family Residential	Commercial
Multi-Family	Industrial
	Institutional
	Unmetered

Service Connections, Equivalents and Billed Usage

Meter Size		2025/26 Number of Services	Capacity Ratio	System Equivalents		Estimated Consumption (Cubic Meters)
Unmetered 5/8"		287	1	287		46,879
Unmetered 3/4"		0	1.5	0		0
Unmetered 1"		7	2.5	18		7,583
Unmetered 3"		0	16.0	0		0
15 MM - 5/8"		83,078	1	83,078		13,570,096
20 MM - 3/4"		1,072	1.5	1,608		575,158
25 MM - 1"		1,634	2.5	4,085		1,770,186
40 MM - 1.5"		1,278	5	6,390		3,218,683
50 MM - 2"		890	8	7,120		5,511,558
80 MM - 3"		327	16	5,232		4,423,246
100 MM - 4"		74	25	1,850		1,712,279
150 MM - 6"		36	50	1,800		2,319,881
200 MM - 8"		25	90	2,250		1,507,804
250 MM - 10"		2	150	300		259,847
TOTAL		88,710		114,018		**34,923,201**

Halifax Water
Consumption Summary

Class	Consumption m3: 2018 - 2024 (1)	Realloc. of 5/8"	Revised Total	Share: Calculated	Loudon	Peaking Factors(2): Max Day	Max Hour	Distrib. Design Factors: Max Day	Max Hour	Extra-Capacity: Max Day	Max Hour
Commercial	6,523,060	1,923,520	8,446,580	25.85%	19%	1.17	1.67			4,049	478
Industrial	1,916,765		1,916,765	5.87%	8%	1.22	1.33			1,176	22
Institutional	3,928,497		3,928,497	12.02%	14%	1.25	1.76			2,691	229
Multi-Family	7,421,721		7,421,721	22.72%		0.96	1.21			(813)	212
Single Family Residential	12,823,465	(1,923,520)	10,899,945	33.36%		1.05	1.39	1.66	2.50	1,493	423
Subtotal Res				*56%*	*59-66%*						
Unmetered	55,944		55,944	0.17%							
Total	**32,669,453**		**32,669,453**								

(1) Water Consumption based on 5 year average spanning fiscal years 2018/19 to 2023/24 inclusive. The fiscal year 2020/21 has been excluded due the probable effects of COVID-19.
(2) As per Halifax Water 2024 Demand Analysys report from Thomas Chestnutt (A & N Technical Services Inc.) - Page 34 Table A-3

	Commercial	Industrial	Institutional	Total Non-Residential	Multi-Family	Single Family Residential	Total Residential	Unmetered	Total System
Avg Use	**6,523,060**	**1,916,765**	**3,928,497**	**12,368,322**	**7,421,721**	**12,823,465**	**20,245,186**	**55,944**	**32,669,453**

Worksheet W-2 Operations

Worksheet W-2 provides a comparative Statement of Operations for Water Services for fiscal years as follows:

- Actual results for the fiscal years 2021/22, 2022/23, and 2023/24 for Water Services.
- Budgets approved by Halifax Water's Board of Commissioners for 2024/25 and 2025/26, with 2025/26 representing Test Year #1 for the purposes of the Rate Study.
- Projections for 2026/27, representing Test Year #2 for the purposes of the Rate Study.

Revenues are budgeted/projected based on current rates, and revenues and expenditures have been segregated between regulated and unregulated activities. This worksheet details the budgeted deficits at current rates in Water Services for the two test years.

Water Services had a cumulative surplus of $10.5 million as of March 31, 2024, however, with budgeted deficits in 2024/25 and 2025/26 of $9.2 million and $22.7 million respectively, and a projected deficit of $30.7 million in 2026/27, the projected accumulated deficit as at March 31, 2027, is estimated at $52.2 million. Of note, the current 10-months actuals for the 2024/25 fiscal year is reporting a year to date loss of $8.3 million.

Unregulated revenues and expenditures have been identified on Worksheet W-2 and are excluded in the determination of revenue requirements for rate making purposes. The calculation of revenue requirements is reported on Worksheet W-3.

Depreciation in Test Year #1 is $3.7 million higher than 2024/25, mostly as a result of new projects that came into service. Corporate projects for the test year data are amortized based on useful life and asset class. The inclusion of depreciation of donated assets has minimal impact on the total depreciation amount.

Worksheet W-2

Halifax Water
Water Rate Study
Comparative Statement of Operations

Fiscal Years ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating revenues						
Regulated activities						
Water	$48,189,135	$49,133,796	$54,938,147	$54,832,433	$56,209,968	$56,358,704
Public fire protection	$7,627,560	$7,744,055	$8,083,080	$8,083,080	$8,083,080	$8,083,080
Private fire protection	$1,270,383	$1,398,221	$1,698,375	$1,720,934	$1,711,088	$1,751,884
Bulk water stations	$317,232	$355,757	$256,636	$369,100	$340,153	$334,402
Late payment and other connection fees	$274,803	$156,645	$191,407	$205,300	$202,000	$202,000
Miscellaneous	$295,593	$294,800	$187,361	$268,851	$234,451	$219,111
Sub-total	$57,974,706	$59,083,273	$65,355,006	$65,479,698	$66,780,740	$66,949,181
Unregulated activities						
Contract Revenue	$37,615	$28,961	$0	$0	$0	$0
Total	**$58,012,321**	**$59,112,234**	**$65,355,006**	**$65,479,698**	**$66,780,740**	**$66,949,181**
Operating Expenditures						
Regulated activities						
Supply and treatment	$10,720,704	$11,619,651	$14,781,183	$13,662,318	$16,146,183	$17,266,027
Transmission and distribution	$11,328,159	$11,759,124	$13,763,632	$14,066,134	$16,909,783	$17,713,905
Engineering and technology services*	$4,959,442	$3,570,154	$4,745,283	$5,079,867	$2,016,840	$2,112,686
Technical services (SCADA)	$1,265,517	$1,152,685	$1,255,817	$1,330,605	$1,568,475	$1,598,947
Regulatory services*	$1,220,017	$1,446,210	$2,052,976	$1,647,334	$1,576,139	$1,657,571
Corporate services*	$1,453,951	$1,621,790	$1,544,445	$1,909,134	$8,667,577	$9,831,834
Customer service	$2,504,685	$2,218,068	$2,453,861	$2,298,634	$2,644,924	$2,785,452
Administration*	$3,430,670	$2,969,479	$3,158,694	$5,222,636	$3,900,163	$4,118,869
Calculated depreciation - funded assets	$11,488,977	$12,186,000	$13,212,237	$12,959,400	$16,571,846	$17,662,749
Calculated depreciation - donated assets	$0	$0	$0	$0	$65,821	$98,732
Sub-total	$48,372,123	$48,543,163	$56,968,128	$58,176,063	$70,067,752	$74,846,772
Unregulated activities						
Contract Systems	$39,531	$26,739	$4,464	$0	$0	$0
Total	**$48,411,654**	**$48,569,902**	**$56,972,592**	**$58,176,063**	**$70,067,752**	**$74,846,772**
Earnings from operations	**$9,600,667**	**$10,542,332**	**$8,382,413**	**$7,303,635**	**($3,287,012)**	**($7,897,591)**
Financial and other revenues						
Regulated activities						
Investment Income	$122,765	$342,924	$299,536	$372,090	$295,488	$295,488
Miscellaneous	$23,067	$31,154	$5,136	$24,000	$12,000	$12,000
Sub-total	$145,832	$374,077	$304,672	$396,090	$307,488	$307,488
Unregulated activities						
Tower Leases	$200,689	$192,996	$201,492	$231,169	$227,921	$227,921
Energy Projects	$173,213	$163,462	$183,198	$182,639	$210,672	$210,672
Rental Income	$8,400	$8,400	$2,100	$8,400	$8,400	$8,400
Contract Revenue	$55,859	$49,973	$0	$12,000	$18,000	$18,000
Miscellaneous	$5,796	$0	$0	$0	$0	$0
Total	**$589,789**	**$788,908**	**$691,462**	**$830,298**	**$772,481**	**$772,481**
Financial and other expenditures						
Regulated Activities						
Interest on long term debt	$2,112,630	$2,434,334	$2,832,768	$4,108,720	$5,485,627	$7,155,190
Repayment on long term debt	$5,807,549	$6,148,277	$6,164,113	$6,997,197	$8,315,922	$9,659,420
Amortization of debt discount	$81,279	$86,814	$87,699	$112,354	$119,207	$129,712
Dividend/ grant in lieu of taxes	$5,552,613	$5,608,140	$5,823,660	$6,004,784	$6,157,790	$6,550,883
Sub-total	$13,554,071	$14,277,565	$14,908,241	$17,223,055	$20,078,546	$23,495,205
Unregulated activities						
Miscellaneous	$114,086	$118,492	$128,919	$130,244	$115,244	$115,244
Total	**$13,668,157**	**$14,396,057**	**$15,037,160**	**$17,353,299**	**$20,193,790**	**$23,610,449**
Earnings (loss) for the year	**($3,477,701)**	**($3,064,816)**	**($5,963,284)**	**($9,219,366)**	**($22,708,320)**	**($30,735,559)**
Surplus, beginning of year	**$22,978,077**	**$19,500,376**	**$16,435,560**	**$10,472,276**	**$1,252,910**	**($21,455,411)**
Surplus, end of year	**$19,500,376**	**$16,435,560**	**$10,472,276**	**$1,252,910**	**($21,455,411)**	**($52,190,970)**

Worksheet W-3 – Revenue Requirements

Worksheet W-3 takes the operating and financial expense information from Worksheet W-2 to develop revenue requirements for the test years 2025/26 and 2026/27.

Financial and other operating revenues, excluding those related to unregulated activities, are deducted from the expenditures to determine the revenue required from Water Services customers and public and private fire protection.

Worksheet W-3

Halifax Water
Water Rate Study

Statement of Operating Expenses and Revenue Requirements
Fiscal Years ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating expenditures						
Supply and treatment	$10,720,704	$11,619,651	$14,781,183	$13,662,318	$16,146,183	$17,266,027
Transmission and distribution	$11,328,159	$11,759,124	$13,763,632	$14,066,134	$16,909,783	$17,713,905
Engineering and technology services*	$4,959,442	$3,570,154	$4,745,283	$5,079,867	$2,016,840	$2,112,686
Technical services (SCADA)	$1,265,517	$1,152,685	$1,255,817	$1,330,605	$1,568,475	$1,598,947
Regulatory services*	$1,220,017	$1,446,210	$2,052,976	$1,647,334	$1,576,139	$1,657,571
Corporate services*	$1,453,951	$1,621,790	$1,544,445	$1,909,134	$8,667,577	$9,831,834
Customer service	$2,504,685	$2,218,068	$2,453,861	$2,298,634	$2,644,924	$2,785,452
Administration*	$3,430,670	$2,969,479	$3,158,694	$5,222,636	$3,900,163	$4,118,869
Sub-total	$36,883,146	$36,357,163	$43,755,891	$45,216,663	$53,430,085	$57,085,291
Calculated depreciation - funded assets	$11,488,977	$12,186,000	$13,212,237	$12,959,400	$16,571,846	$17,662,749
Calculated depreciation - donated assets	$0	$0	$0	$0	$65,821	$98,732
Total	**$48,372,123**	**$48,543,163**	**$56,968,128**	**$58,176,063**	**$70,067,752**	**$74,846,772**
Add: non-operating expenditures						
Interest on long term debt	$2,112,630	$2,434,334	$2,832,768	$4,108,720	$5,485,627	$7,155,190
Repayment on long term debt	$5,807,549	$6,148,277	$6,164,113	$6,997,197	$8,315,922	$9,659,420
Amortization of debt discount	$81,279	$86,814	$87,699	$112,354	$119,207	$129,712
Dividend/ grant in lieu of taxes	$5,552,613	$5,608,140	$5,823,660	$6,004,784	$6,157,790	$6,550,883
Miscellaneous	$0	$0	$0	$0	$0	$0
	$13,554,071	$14,277,565	$14,908,241	$17,223,055	$20,078,546	$23,495,205
Total	**$13,554,071**	**$14,277,565**	**$14,908,241**	**$17,223,055**	**$20,078,546**	**$23,495,205**
Less: other revenues						
Bulk water stations	$317,232	$355,757	$256,636	$369,100	$340,153	$334,402
Late payment and other connection fees	$274,803	$156,645	$191,407	$205,300	$202,000	$202,000
Miscellaneous	$318,660	$325,953	$192,497	$292,851	$246,451	$231,111
Investment Income	$122,765	$342,924	$299,536	$372,090	$295,488	$295,488
Total	**$1,033,460**	**$1,181,279**	**$940,076**	**$1,239,341**	**$1,084,092**	**$1,063,001**
Less: other adjustments						
Sponsorships and donations	$1,879	$22,952	$5,304	$20,400	$20,400	$20,400
Help to others (H20) program	$17,538	$17,538	$17,538	$20,400	$20,400	$20,400
Administration	$65,926	$65,824	$71,309	$7,650	$7,650	$7,650
Total	**$85,343**	**$106,315**	**$94,152**	**$48,450**	**$48,450**	**$48,450**
Revenue required from customers	**$60,807,391**	**$61,533,134**	**$70,842,141**	**$74,111,327**	**$89,013,755**	**$97,230,526**

Worksheet W-4 Operating Expenditure Analysis

Worksheet W-4 details the operating expenditures by cost element group for each of the functional areas within the Water Services, consisting of the following:

- Water Supply and Treatment,
- Transmission and Distribution,
- Technical Services (SCADA),
- Engineering and Capital Infrastructure,
- Regulatory Services,
- Customer Services,
- Corporate Services, and
- Administration.

Data provided as part of the review and analysis includes:

- Actual results for 2021/22, 2022/23, and 2023/24,
- Approved budgets for 2024/25 and 2025/26 (Test Year #1), and
- Projected results for 2026/27 (Test Year #2).

For operating expenditures related to 2026/27 (Test Year #2), the key assumptions regarding projected increases are as follows:

- Salaries and benefits: 2.5% to 3.0% (as per Union agreement) and 2.75% for non-union
- Chemicals: 5.0%
- Electricity: 5.0%
- Other: 2.0%
- Software: 19.0%

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

Software increases encompass an additional 70 users license necessary for the ERP, along with projects that include Vendor and Contract Management modules, property management, and HR modules for Talent Management, Recruitment, Health and Safety.

On subsequent pages within this section, operating expenditures are reported for the core cost element groups within each functional area. As part of the analysis, variances have been provided with changes expressed as both dollar and percentage values, comparing year-over-year changes for the fiscal years 2022/23 through 2026/27. Commentary is provided for each of the cost elements groups falling within the functional areas, with additional details provided in situations where variances have increased over $100 thousand.

Water Supply and Treatment

- Salaries and Benefits – Costs are reflective of increases for unionized staff in accordance with the respective collective agreements that were ratified in 2024. A Joint Job Evaluation for local 227 was completed in 2024 and resulted in increased costs. Two new full-time equivalents were included in the 2025/2026 budget, a Lead Water Treatment Plant Operator and a Millwright. In 2024/25, there were four new full-time equivalents added to meet operational needs of Water Operations.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – Planning and attendance for conferences and training are typically impacted by the content of the offering and the expiration of certifications of staff.

In 2025/26 and 2026/27, the training and development costs were removed from Operations budgets and consolidated in the corporate Administrative Budget. These costs are allocated to services based on the allocation in the Cost of Service Manual.

- Contract Services – This would include the costs associated with hiring contractors to support the operation of the facilities and would include mechanical contractors for equipment maintenance and repair and hired equipment for managing water treatment plants residuals. The increase in budget for 2025/26 is for planned work to clean the water treatment plant sludge lagoons and transport of residuals to the landfill.

- Electricity – The costs for 2025/26 are reflective of projected price and anticipated consumption/usage, with the variability in electricity consumption directly related to water production.

- Materials Supplies and Services – Costs in this cost element group support Halifax Water's infrastructure and equipment and the increase for 2025/26 is for increased maintenance to address aging infrastructure at the facilities.

- Professional Services – The increase for 2025/26 is due to an increase in consulting requirements.

- Fleet Services – Costs are assigned to the various production plants based on the types of vehicles and/or equipment to meet operational needs. Fleet costs are relatively stable over the periods in question.

- Chemicals – The costs for 2025/26 are reflective of projected price and anticipated consumption/usage. Chemicals costs can be extremely volatile from a pricing perspective. Over the last several years, water

treatment facility optimization resulted in an increase in chemical use. For 2025/26, we do not expect much change in chemical consumption at the facilities.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Water Supply and Treatment											
Salaries and benefits	$3,449,524	$3,343,190	$3,644,272	$3,275,480	$5,303,631	$5,847,744	($106,335) (3%)	$301,082 9%	($368,792) (10%)	$2,028,151 62%	$544,113 10%
Training and development	$8,344	$32,833	$60,031	$45,500	$0	$0	$24,489 294%	$27,199 83%	($14,531) (24%)	($45,500) (100%)	$0 0%
Contract services	$880,186	$1,034,261	$1,325,925	$2,560,391	$3,044,553	$3,135,890	$154,075 18%	$291,664 28%	$1,234,466 93%	$484,162 19%	$91,337 3%
Electricity	$1,996,372	$1,906,907	$2,383,663	$2,252,409	$2,443,592	$2,565,772	($89,465) (4%)	$476,756 25%	($131,254) (6%)	$191,183 8%	$122,180 5%
Materials, supplies and services	$779,617	$890,666	$1,128,705	$1,052,336	$1,189,079	$1,420,676	$111,049 14%	$238,040 27%	($76,369) (7%)	$136,743 13%	$231,597 19%
Professional services	$491,767	$258,253	$365,648	$414,829	$554,372	$571,003	($233,514) (47%)	$107,395 42%	$49,181 13%	$139,543 34%	$16,631 3%
Fleet	$213,220	$221,301	$360,254	$291,205	$339,720	$351,610	$8,081 4%	$138,954 63%	($69,049) (19%)	$48,515 17%	$11,890 3%
Chemicals	$3,415,488	$4,569,547	$6,253,122	$5,711,826	$5,839,261	$6,131,224	$1,154,059 34%	$1,683,575 37%	($541,296) (9%)	$127,435 2%	$291,963 5%
Applied overheads and other allocations	$129,780	$118,617	$142,302	$157,151	$198,068	$200,049	($11,163) (9%)	$23,685 20%	$14,849 10%	$40,917 26%	$1,981 1%
Allocated to Transmission and Distribution	($643,593)	($729,183)	($878,276)	($2,098,809)	($2,766,093)	($2,957,940)	($85,591) 13%	($149,092) 20%	($1,220,533) 139%	($667,284) 32%	($191,847) 7%
Total Water Supply and Treatment	**$10,720,704**	**$11,646,390**	**$14,785,647**	**$13,662,318**	**$16,146,183**	**$17,266,027**	$925,686 9%	$3,139,257 27%	($1,123,329) (8%)	$2,483,865 18%	$1,119,844 7%

Transmission and Distribution

- Salaries and Benefits – Costs are reflective of increases for unionized staff in accordance with the respective collective agreements ratified in 2024. A Joint Job Evaluation for local 227 was completed in 2024 resulted in increased costs. Further cost increases results from the addition of two new full-time equivalent Supervisor positions.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were removed from Operations budgets and consolidated in the corporate Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services – Expenditures increased due to core maintenance activities for distribution mains and hydrants, hired equipment, road and street repairs and traffic control services required to implement enhanced safety measures, and to comply with HRM permit standards.

- Electricity - Costs are reflective of price and consumption/usage. Electricity is not a significant cost related to Transmission and Distribution.

- Materials Supplies and Services – No major variances compared to 2024/25 budgeted expenditures. Past variability in costs is related to unplanned repairs that could not be budgeted for. Examples would include increased water main repairs and transmission main failures.

- Professional Services – No major variance compared to 2024/25 expenditures. Professional services costs have typically not been significant related to Transmission and Distribution.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs. Costs vary as a result in how costs were allocated to shared services.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Transmission and Distribution											
Salaries and benefits	$5,336,540	$5,134,712	$5,820,426	$6,109,989	$7,223,758	$7,703,889	($201,827) (4%)	$685,714 13%	$289,563 5%	$1,113,769 18%	$480,131 7%
Training and development	$3,379	$17,367	$17,508	$30,500	$0	$0	$13,988 414%	$141 1%	$12,992 74%	($30,500) (100%)	$0 0%
Contract services	$3,654,469	$3,930,306	$4,639,849	$3,691,627	$4,656,500	$4,796,195	$275,837 8%	$709,543 18%	($948,222) (20%)	$964,873 26%	$139,695 3%
Electricity	$149,030	$141,117	$177,752	$157,258	$166,500	$174,825	($7,914) (5%)	$36,635 26%	($20,494) (12%)	$9,242 6%	$8,325 5%
Materials, supplies and services	$991,888	$772,308	$1,155,048	$513,909	$513,629	$613,668	($219,580) (22%)	$382,740 50%	($641,139) (56%)	($280) (0%)	$100,039 19%
Professional services	$20,386	$46,235	$30,415	$33,750	$46,000	$47,380	$25,849 127%	($15,820) (34%)	$3,335 11%	$12,250 36%	$1,380 3%
Fleet	$696,724	$1,109,831	$1,178,356	$1,005,471	$1,147,094	$1,187,242	$413,107 59%	$68,525 6%	($172,885) (15%)	$141,623 14%	$40,148 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$183,867	$209,276	$202,336	$206,071	$230,462	$232,767	$25,409 14%	($6,940) (3%)	$3,735 2%	$24,391 12%	$2,305 1%
Allocation from Supply and treatment	$643,593	$729,183	$878,276	$2,317,559	$2,925,840	$2,957,940	$85,591 13%	$149,092 20%	$1,439,283 164%	$608,281 26%	$32,100 1%
Recoveries	($351,718)	($331,212)	($336,335)	$0	$0	$0	$20,506 (6%)	($5,122) 2%	$336,335 (100%)	$0 0%	$0 0%
Total Transmission and Distribution	**$11,328,159**	**$11,759,124**	**$13,763,632**	**$14,066,134**	**$16,909,783**	**$17,713,905**	$430,965 4%	$2,004,508 17%	$302,503 2%	$2,843,649 20%	$804,122 5%

Technical Services (SCADA)

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. A Joint Job Evaluation for local 227 was completed in 2024 and resulted in increased costs. For 2025/26, there are 7 additional positions projected for the year in Technical Services, to help deliver the next years Capital projects.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services – Not a major cost for Technical Services (SCADA), and relates mainly to situations where external contractors are required to perform specialized repairs or services in support of booster stations, etc.

- Electricity – Not a major cost for Technical Services (SCADA), with its primary purpose of running the pump station at Bennery Lake.

- Materials Supplies, and Services– Costs within this cost element group vary year-over-year however Computer new software for cybersecurity and licenses for new employees, cellular charges and equipment repair and maintenance are the primary costs increases within this grouping.

- Professional Services – Not a major cost for Technical Services (SCADA) however, the main cost driver within this cost element group are costs related to licenses and agreements, required for data collection and the various software applications.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs. Costs decreased in 2025/26 as a result in how costs were allocated to shared services

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Technical Services (SCADA)											
Salaries and benefits	$2,222,113	$1,937,251	$2,313,177	$2,190,720	$2,422,041	$2,324,352	($284,862) (13%)	$375,926 19%	($122,457) (5%)	$231,321 11%	($97,689) (4%)
Training and development	$16,219	$20,120	$46,381	$52,000	$0	$0	$3,901 24%	$26,261 131%	$5,619 12%	($52,000) (100%)	$0 0%
Contract services	$16,686	$33,890	$36,971	$62,300	$62,300	$64,169	$17,204 103%	$3,081 9%	$25,329 69%	$0 0%	$1,869 3%
Electricity	$149,001	$143,867	$172,919	$189,109	$178,369	$187,287	($5,134) (3%)	$29,052 20%	$16,190 9%	($10,740) (6%)	$8,918 5%
Materials, supplies and services	$303,620	$443,359	$289,262	$324,560	$762,147	$910,590	$139,739 46%	($154,096) (35%)	$35,298 12%	$437,587 135%	$148,443 19%
Professional services	$13,058	$70,664	$47,078	$61,800	$63,200	$65,096	$57,606 441%	($23,586) (33%)	$14,722 31%	$1,400 2%	$1,896 3%
Fleet	$154,889	$194,859	$154,681	$386,476	$322,736	$334,032	$39,970 26%	($40,177) (21%)	$231,795 150%	($63,740) (16%)	$11,296 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$63,192	$54,528	$54,273	$68,220	$74,133	$74,874	($8,664) (14%)	($255) (0%)	$13,947 26%	$5,913 9%	$741 1%
Allocated to Wastewater Services	($1,616,467)	($1,732,432)	($1,842,515)	($1,992,035)	($2,298,157)	($2,342,805)	($115,965) 7%	($110,083) 6%	($149,520) 8%	($306,122) 15%	($44,648) 2%
Allocated to Stormwater Services	($56,794)	($13,419)	($16,410)	($12,545)	($18,294)	($18,649)	$43,374 (76%)	($2,991) 22%	$3,865 (24%)	($5,749) 46%	($355) 2%
Total Technical Services (SCADA)	**$1,265,517**	**$1,152,685**	**$1,255,817**	**$1,330,605**	**$1,568,475**	**$1,598,947**	($112,832) (9%)	$103,132 9%	$74,788 6%	$237,870 18%	$30,472 2%

Engineering and Capital Infrastructure

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements, Some Cost Centres (Engineering Information and Information Services) were re-allocated to the Corporate Services functional area, and Engineering Approvals moved from Regulatory Services as detailed in the Cost of Service. There was also the inclusion of Capital Project Delivery, Infrastructure Planning and Strategic Projects Cost Centers.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services – Contract services are not a significant cost related to Engineering and Capital Infrastructure.

- Materials Supplies and Services – Costs for material, supplies, and services are predominately costs associated with Information Services, and specifically related to computer software and licensing. Some Cost Centers were re-allocated to the Corporate Services functional area, and another incorporated into Engineering.

- Professional Services – Similar to materials, supplies, and services, costs related to professional services are associated predominately consulting services within Information Services. These costs have been re-allocated to Corporate Services. The department uses a model to engage external consultants, and the amount varies depending on system performance.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Engineering and Technology Services											
Salaries and benefits	$5,773,741	$5,137,106	$6,845,679	$7,389,055	$5,074,120	$5,310,775	($636,635) (11%)	$1,708,574 33%	$543,376 8%	($2,314,935) (31%)	$236,655 5%
Training and development	$88,887	$223,728	$213,737	$405,000	$0	$0	$134,841 152%	($9,991) (4%)	$191,263 89%	($405,000) (100%)	$0 0%
Contract services	$100,942	$85,810	$32,948	$5,000	$4,540	$4,676	($15,132) (15%)	($52,862) (62%)	($27,948) (85%)	($460) (9%)	$136 3%
Electricity	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Materials, supplies and services	$3,388,231	$4,350,069	$5,190,515	$5,842,589	$130,600	$156,037	$961,837 28%	$840,446 19%	$652,074 13%	($5,711,989) (98%)	$25,437 19%
Professional services	$1,034,360	$586,142	$192,358	$267,020	$60,500	$62,315	($448,219) (43%)	($393,784) (67%)	$74,662 39%	($206,520) (77%)	$1,815 3%
Fleet	$80,103	$83,103	$107,391	$144,875	$270,845	$280,325	$2,999 4%	$24,288 29%	$37,484 35%	$125,970 87%	$9,480 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$351,335	$311,256	$351,895	$368,426	$272,335	$275,058	($40,078) (11%)	$40,639 13%	$16,531 5%	($96,091) (26%)	$2,723 1%
Allocated to Wastewater Services	($4,396,843)	($5,113,479)	($6,436,857)	($7,344,746)	($2,822,819)	($2,956,967)	($716,635) 16%	($1,323,378) 26%	($907,889) 14%	$4,521,927 (62%)	($134,148) 5%
Allocated to Stormwater Services	($1,461,314)	($2,093,580)	($1,752,383)	($1,997,352)	($973,281)	($1,019,534)	($632,267) 43%	$341,197 (16%)	($244,969) 14%	$1,024,071 (51%)	($46,253) 5%
Total Engineering and Technology Services	**$4,959,442**	**$3,570,154**	**$4,745,283**	**$5,079,867**	**$2,016,840**	**$2,112,686**	($1,389,288) (28%)	$1,175,129 33%	$334,584 7%	($3,063,027) (60%)	$95,846 5%

Environment, Health and Safety (EHS)

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. Enterprise Risk Management has been added to EHS from Corporate Services and Engineering Approvals has been re-allocated to the Engineering functional area, furthermore the safety and security cost centre moved from the General Manager to Environment Health and Safety for 25/26, which includes staff salaries for 6 FTEs. There are 3 new positions for the area covering Emergency Management, Climate and Sustainability and Electrical Safety.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services – The main cost driver within contract services relates to the Safety and Security cost centre moving from the General Manager to Environment Health and Safety for 2025/26, it is not a net new increase organizationally.

- Materials Supplies and Services – Costs for materials, supplies and services are not significant costs in relation to Regulatory Services.

- Professional Services – The main cost driver within professional services relates to the Safety and Security cost moving from the General Manager to Environment Health and Safety for 25/26, it is not a net new increase organizationally.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Regulatory Services											
Salaries and benefits	$3,810,272	$4,242,896	$4,455,593	$4,981,909	$4,158,799	$4,371,497	$432,624 11%	$212,697 5%	$526,316 12%	($823,110) (17%)	$212,698 5%
Training and development	$7,043	$32,427	$15,232	$69,500	$0	$0	$25,385 360%	($17,196) (53%)	$54,268 356%	($69,500) (100%)	$0 0%
Contract services	$221,920	$220,866	$261,270	$278,870	$534,040	$550,061	($1,054) (0%)	$40,404 18%	$17,600 7%	$255,170 92%	$16,021 3%
Electricity	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 #DIV/0!	$0 0%	$0 0%
Materials, supplies and services	$70,695	$60,200	$107,386	$127,220	$183,625	$219,390	($10,495) (15%)	$47,187 78%	$19,834 18%	$56,405 44%	$35,765 19%
Professional services	$81,336	$81,488	$71,410	$163,000	$241,850	$249,106	$152 0%	($10,077) (12%)	$91,590 128%	$78,850 48%	$7,256 3%
Fleet	$92,756	$76,191	$110,757	$176,763	$110,803	$114,681	($16,565) (18%)	$34,566 45%	$66,006 60%	($65,960) (37%)	$3,878 4%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$108,316	$110,059	$119,147	$124,970	$130,827	$132,135	$1,743 2%	$9,088 8%	$5,824 5%	$5,857 5%	$1,308 1%
Recoveries	($330)	($389,298)	$391,698	$0	$0	$0	($388,968) 117869%	$780,997 (201%)	($391,698) (100%)	$0 0%	$0 0%
Allocated to Wastewater Services	($1,584,398)	($1,491,153)	($1,603,959)	($1,888,743)	($1,763,380)	($1,854,486)	$93,244 (6%)	($112,805) 8%	($284,784) 18%	$125,363 (7%)	($91,106) 5%
Allocated to Stormwater Services	($1,587,592)	($1,497,465)	($1,875,558)	($2,386,155)	($2,020,425)	($2,124,812)	$90,127 (6%)	($378,093) 25%	($510,597) 27%	$365,730 (15%)	($104,387) 5%
Total Regulatory Services	**$1,220,017**	**$1,446,210**	**$2,052,976**	**$1,647,334**	**$1,576,139**	**$1,657,571**	$226,193 19%	$606,766 42%	($405,642) (20%)	($71,195) (4%)	$81,432 5%

Customer Service

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements,

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Materials Supplies, and Services – Customer Service costs for materials, supplies, and services are centered within the Customer Billing department, and specifically the cost element for postage and software.

- Professional Services – Historical costs related to professional services were mainly in support of the Help to Others (H2O) Program. Since 2021/22, the budget and associated costs related to this program were moved to the General Manager's Office, under Administration.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Customer Service											
Salaries and benefits	$3,421,224	$3,413,525	$3,655,676	$3,556,621	$3,819,338	$3,953,015	($7,699) (0%)	$242,151 7%	($99,055) (3%)	$262,717 7%	$133,677 3%
Training and development	$8,867	$4,430	$13,628	$35,600	$0	$0	($4,438) (50%)	$9,198 208%	$21,972 161%	($35,600) (100%)	$0 0%
Contract services	$207,445	$185,490	$133,042	$138,567	$308,948	$318,217	($21,955) (11%)	($52,448) (28%)	$5,526 4%	$170,381 123%	$9,268 3%
Electricity	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 #DIV/0!	$0 0%	$0 0%
Materials, supplies and services	$719,189	$647,244	$454,066	$504,110	$645,324	$771,014	($71,945) (10%)	($193,178) (30%)	$50,044 11%	$141,214 28%	$125,690 19%
Professional services	$11,011	$4,812	$12,468	$0	$0	$0	($6,199) (56%)	$7,656 159%	($12,468) (100%)	$0 0%	$0 0%
Fleet	$105,785	$73,415	$60,600	$93,960	$111,400	$115,299	($32,370) (31%)	($12,815) (17%)	$33,360 55%	$17,440 19%	$3,899 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 #DIV/0!	$0 0%	$0 0%
Applied overheads and other allocations	$348,523	$143,920	$381,758	$178,268	$301,115	$304,126	($204,604) (59%)	$237,838 165%	($203,490) (53%)	$122,847 69%	$3,011 1%
Recoveries	($11,341)	($25,341)	($7,095)	$0	$0	$0	($14,000) 123%	$18,246 (72%)	$7,095 (100%)	$0 0%	$0 0%
Allocated to Wastewater Services	($2,031,875)	($2,044,148)	($2,061,504)	($2,029,653)	($2,338,236)	($2,462,469)	($12,274) 1%	($17,356) 1%	$31,851 (2%)	($308,583) 15%	($124,233) 5%
Allocated to Stormwater Services	($274,144)	($185,278)	($188,778)	($178,839)	($202,965)	($213,749)	$88,866 (32%)	($3,501) 2%	$9,939 (5%)	($24,126) 13%	($10,784) 5%
Total Customer Service	**$2,504,685**	**$2,218,068**	**$2,453,861**	**$2,298,634**	**$2,644,924**	**$2,785,452**	($286,617) (11%)	$235,792 11%	($155,226) (6%)	$346,290 15%	$140,528 5%

Corporate Services

Corporate Services is headed by the Director, Corporate Services/CFO, who is responsible for the functions of Accounting, Finance, Facilities, Fleet & Logistics, Customer Services, Procurement, I&T and Customer Service.

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. The area also incorporated areas such as Engineering Information and Cybersecurity and Information Services (previously in Engineering) and the creation of the Data Analytics & Visualization, I&T Project management Office, and IT Admin and OH. Salary increase includes new positions approved, being 1 in Finance, 1 in Procurement, 3 positions in Information & Services dedicated to cybersecurity, 4 in I&T and 4 in Technical Services.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services –. Costs are not significant for Corporate Services and vary due to demand such as services required for water demand analysis which will not be necessary in the next year.

- Materials, Supplies and Services – Costs within this cost element group include expenditures such as IT software, non-billing related postage, telephones. The main driver of the increase in 25/26 is the computer software and licenses coming from the Engineering and Information Services area ($3.0M) over 2024/25 and $0.5M from the Data Analytics and Visualization team.

- Professional Services – Costs within this cost element group include expenditures such as the annual corporate audit and consulting services as required.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs.

- Applied Overheads and Other Allocations – Included here are several other operating costs, the largest of which is the annual insurance policy premium.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Corporate Services											
Salaries and benefits	$1,299,270	$1,301,910	$1,481,734	$1,954,070	$6,399,447	$7,095,860	$2,641 0%	$179,823 14%	$472,336 32%	$4,445,377 227%	$696,413 11%
Training and development	$8,387	$23,130	$19,198	$72,300	$0	$0	$14,743 176%	($3,931) (17%)	$53,102 277%	($72,300) (100%)	$0 0%
Contract services	$22,654	$44,664	$62,002	$212,200	$173,500	$178,705	$22,009 97%	$17,339 39%	$150,198 242%	($38,700) (18%)	$5,205 3%
Electricity	$0	$0	$0	$0	$0	$0					
Materials, supplies and services	$20,651	$46,425	$38,231	$60,190	$7,936,059	$9,481,763	$25,775 125%	($8,194) (18%)	$21,959 57%	$7,875,869 13085%	$1,545,704 19%
Professional services	$193,174	$124,359	$198,793	$193,200	$516,050	$531,532	($68,815) (36%)	$74,433 60%	($5,593) (3%)	$322,850 167%	$15,482 3%
Fleet		$428	$181	$1,102	$14,022	$14,513	$428 0%	($246) (58%)	$921 508%	$12,920 1172%	$491 3%
Chemicals				$0		$0					
Applied overheads and other allocations	$1,517,393	$1,534,745	$1,270,399	$1,250,338	$1,956,170	$1,975,732	$17,352 1%	($264,346) (17%)	($20,062) (2%)	$705,832 56%	$19,562 1%
Allocated to Wastewater Services	($1,382,518)	($1,308,484)	($1,373,484)	($1,650,839)	($7,494,904)	($8,501,643)	$74,034 (5%)	($65,001) 5%	($277,355) 20%	($5,844,065) 354%	($1,006,739) 13%
Allocated to Stormwater Services	($225,061)	($145,387)	($152,609)	($183,427)	($832,767)	($944,627)	$79,674 (35%)	($7,222) 5%	($30,818) 20%	($649,340) 354%	($111,860) 13%
Total Corporate Services	**$1,453,951**	**$1,621,790**	**$1,544,445**	**$1,909,134**	**$8,667,577**	**$9,831,834**	$167,839 12%	($77,345) (5%)	$364,688 24%	$6,758,443 354%	$1,164,257 13%

341

Administration

Since 2021/22, costs related to Corporate Services were separated from the former "Administration and Pension" into two separate divisions within the organizational hierarchy. The remaining portion of Administration and Pension became the Administration Section. The Administration Section is headed by the General Manager, who is responsible for the functions of the General Manager's Office, Human Resources, Legal, and Communications. For 2025/26, Safety & Security has been grouped with Environment, Health and Safety.

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. There has been an increase of 4 positions in 2025/26, including 2 in HR, 1 Technical Coordinator and 1 position in Legal. This is offset by Safety & Security moving to Environment, Health and Safety.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26, the Training and Development costs have been consolidated in Human Resources. The consolidation is to improve management of the training, allocation of resources across the utility, and increased focus on ensuring that training is specific to the needs of the employees.

Planning and attendance for conferences and training are typically impacted by the content and timing of any offerings. This helps Halifax Water demonstrate our commitment to being an employer of choice, attracting and retaining high-quality team members. The consolidated increase for Training and Development for 2025/26 was about $136k overall. The main driver of costs in Administration are those initiatives within the Human Resources department, which include core training for staff, but also leadership/supervisory training and professional development. The worksheet below provides a consolidated view of all training and development costs.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Training and development	$357,235	$576,645	$633,363	$994,305	$1,130,000	$1,163,900	$219,410	$56,718	$360,942	$135,695	$33,900

- Contract Services – Costs appearing within this cost element group are driven mainly by initiatives within the Human Resources department, including harassment investigations, work site assessments, and specialized services requiring external contractors.

- Materials Supplies and Services – Costs for materials, supplies, and services vary year-over-year, and cover a wide variety of cost elements.

- Professional Services – Costs associated with professional services vary year-over-year and include mainly regulatory fees, legal fees, and consulting.

- Fleet – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs, and include for reimbursements to staff for mileage, travel, and parking.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Administration											
Salaries and benefits	$3,526,230	$3,462,060	$4,484,525	$7,376,233	$4,285,748	$4,607,592	($64,170) (2%)	$1,022,465 30%	$2,891,708 64%	($3,090,485) (42%)	$321,844 8%
Training and development	$216,109	$222,610	$247,647	$283,905	$1,130,000	$1,163,900	$6,500 3%	$25,038 11%	$36,258 15%	$846,095 298%	$33,900 3%
Contract services	$232,554	$156,116	$182,665	$421,950	$261,280	$269,118	($76,438) (33%)	$26,550 17%	$239,285 131%	($160,670) (38%)	$7,838 3%
Electricity	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Materials, supplies and services	$110,323	$107,923	$109,928	$194,707	$81,072	$96,862	($2,400) (2%)	$2,006 2%	$84,779 77%	($113,635) (58%)	$15,790 19%
Professional services	$912,914	$1,286,423	$884,768	$1,586,988	$1,514,509	$1,559,944	$373,509 41%	($401,655) (31%)	$702,220 79%	($72,479) (5%)	$45,435 3%
Fleet	$1,607	$16,824	$9,298	$21,992	$11,202	$11,594	$15,217 947%	($7,526) (45%)	$12,694 137%	($10,790) (49%)	$392 4%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$358,978	$322,039	$324,148	$354,688	$363,566	$367,202	($36,939) (10%)	$2,109 1%	$30,540 9%	$8,878 3%	$3,636 1%
Allocated to Wastewater Services	($1,658,119)	($2,344,064)	($2,778,832)	($4,516,044)	($3,372,493)	($3,561,610)	($685,944) 41%	($434,768) 19%	($1,737,212) 63%	$1,143,551 (25%)	($189,117) 6%
Allocated to Stormwater Services	($269,926)	($260,451)	($305,455)	($501,783)	($374,721)	($395,734)	$9,475 (4%)	($45,003) 17%	($196,328) 64%	$127,062 (25%)	($21,013) 6%
Total Administration	**$3,430,670**	**$2,969,479**	**$3,158,694**	**$5,222,636**	**$3,900,163**	**$4,118,869**	($461,191) (13%)	$189,215 6%	$2,063,942 65%	($1,322,473) (25%)	$218,706 6%

Worksheet W-5 Cost-of-Service (COS) Structure

Worksheet W-5 details the customer classifications, cost functions with allocated percentages, service characteristics and operating and capital cost classifications for Water Services as detailed in the Cost-of-Service Manual.

Worksheet W-5

Halifax Water
Water Rate Study

Customer Classifications, Cost Functions & Service Characteristics

Customer Classifications		
Residential	**Non-Residential**	
Single Family Residential	Commercial	Institutional
Multi-Family	Industrial	Unmetered

System Functions						Fee Function (Specific
Watershed Management		Water Storage Tanks		Meter Reading and Billing		
Dams		Hydrants		Engineering and TS		
Water Quality		Service Laterals		Regulatory Services		
Water Treatment		Technical Services		Administration		
Transmission		Customer Service		Corporate Services		
Distribution		O&M Meters				

Classification - Service Characteristics		
Average Day Demand	Equivalent Meters	Indirect
Maximum-Day Demand	Customer Service	
Maximum-Hour Demand	Fire Protection	

Operating Cost Classifications

	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect
Function							
Watershed Management	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Dams	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Quality	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Treatment	94.00%	6.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Transmission	94.00%	6.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Distribution	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%
Water Storage Tanks	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%
Hydrants	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Service Laterals	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Technical Services	25.00%	25.00%	25.00%	0.00%	0.00%	25.00%	0.00%
Customer Service	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
O&M Meters	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Meter Reading and Billing	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Engineering and TS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Regulatory Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Administration	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Corporate Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

Capital Cost Classifications

	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect
Function							
Watershed Management	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Dams	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Quality	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Treatment	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Transmission	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Distribution	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%
Water Storage Tanks	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%
Hydrants	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Service Laterals	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Technical Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Customer Service	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
O&M Meters	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Meter Reading and Billing	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Engineering and TS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Regulatory Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Administration	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Corporate Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

Worksheet W-6 Operating Expense Functionalization

Worksheet W-6 details the Water Services operating expense cost element groups, by the system functions detailed in the Cost-of-Service Manual. The total of the service functions equals the operating expense category in the revenue requirement for the year 2025/26 and are reported as both a dollar and percentage value. These values are used in Worksheet W-10 to allocate the costs to the service characteristics.

Worksheet W-6

Halifax Water
Water Rate Study

Statement of Operating Expenditures
2025/26

OPERATING EXPENSES	Test Year #1 2025/26 Budget
Supply and Treatment	
Salaries and benefits	$5,303,631
Training and development	$0
Contract services	$3,044,553
Electricity	$2,443,592
Materials, supplies and services	$1,189,079
Professional services	$554,372
Fleet	$339,720
Chemicals	$5,839,261
Applied overheads and other allocations	$198,068
Allocation to Transmission and Distribution	($2,766,093)
Total Supply and Treatment	**$16,146,183**
Transmission and Distribution	
Salaries and benefits	$7,223,758
Training and development	$0
Contract services	$4,656,500
Electricity	$166,500
Materials, supplies and services	$513,629
Professional services	$46,000
Fleet	$1,147,094
Chemicals	$0
Applied overheads and other allocations	$230,462
Allocation from Supply and Treatment	$2,925,840
Recoveries	$0
Total Transmission and Distribution	**$16,909,783**
Technical Services (SCADA)	
Salaries and benefits	$2,422,041
Training and development	$0
Contract services	$62,300
Electricity	$178,369
Materials, supplies and services	$762,147
Professional services	$63,200
Fleet	$322,736
Chemicals	$0
Applied overheads and other allocations	$74,133
Allocation to Wastewater Service	($2,298,157)
Allocation to Stormwater Service	($18,294)
Total Technical Services (SCADA)	**$1,568,475**

Worksheet W-6
November 30, 2024

Halifax Water
Water Rate Study

Operating Expense Cost Allocation
Allocation of Costs to Functions
2025/26

Supply and Treatment	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$376,953	$1,753	$835,852	$4,089,073	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,303,631
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$64,850	$93,500	$464,500	$2,421,703	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,044,553
Electricity	$0	$4,000	$0	$2,439,592	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,443,592
Materials, supplies and services	$17,120	$11,607	$96,860	$1,063,492	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,189,079
Professional services	$55,778	$2,225	$109,150	$387,218	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$554,372
Fleet	$15,444	$25	$54,165	$270,087	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$339,720
Chemicals	$0	$0	$0	$5,839,261	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,839,261
Applied overheads and other allocations	$4,241	$29	$35,834	$157,964	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$198,068
Allocation to Transmission and Distribution	($78,629)	$0	($234,887)	($2,452,576)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,766,093)
Total Supply and Treatment	$455,756	$113,139	$1,361,473	$14,215,815	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$16,146,183

Transmission and Distribution	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$0	$0	$0	$0	$134,077	$4,094,516	$133,644	$1,747,290	$1,114,231	$0	$0	$0	$0	$0	$0	$0	$0	$7,223,758
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$0	$0	$0	$0	$160,656	$2,980,760	$129,883	$674,197	$711,004	$0	$0	$0	$0	$0	$0	$0	$0	$4,656,500
Electricity	$0	$0	$0	$0	$932	$112,075	$39,449	$8,299	$5,744	$0	$0	$0	$0	$0	$0	$0	$0	$166,500
Materials, supplies and services	$0	$0	$0	$0	$23,026	$181,352	$19,991	$237,425	$51,835	$0	$0	$0	$0	$0	$0	$0	$0	$513,629
Professional services	$0	$0	$0	$0	$711	$28,847	$724	$11,334	$4,384	$0	$0	$0	$0	$0	$0	$0	$0	$46,000
Fleet	$0	$0	$0	$0	$18,070	$589,998	$19,839	$326,457	$192,731	$0	$0	$0	$0	$0	$0	$0	$0	$1,147,094
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$0	$0	$0	$0	$5,520	$136,143	$5,619	$49,156	$34,024	$0	$0	$0	$0	$0	$0	$0	$0	$230,462
Allocation from Supply and Treatment	$0	$0	$0	$0	$94,847	$2,246,426	$0	$0	$584,567	$0	$0	$0	$0	$0	$0	$0	$0	$2,925,840
Recoveries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Transmission and Distribution	$0	$0	$0	$0	$437,840	$10,370,117	$349,149	$3,054,158	$2,698,520	$0	$0	$0	$0	$0	$0	$0	$0	$16,909,783

Technical Services (SCADA)	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,422,041	$0	$0	$0	$0	$0	$0	$0	$2,422,041
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$62,300	$0	$0	$0	$0	$0	$0	$0	$62,300
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$178,369	$0	$0	$0	$0	$0	$0	$0	$178,369
Materials, supplies and services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$762,147	$0	$0	$0	$0	$0	$0	$0	$762,147
Professional services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$63,200	$0	$0	$0	$0	$0	$0	$0	$63,200
Fleet	$0	$0	$0	$0	$0	$0	$0	$0	$0	$322,736	$0	$0	$0	$0	$0	$0	$0	$322,736
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$74,133	$0	$0	$0	$0	$0	$0	$0	$74,133
Allocation to Wastewater Service	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,298,157)	$0	$0	$0	$0	$0	$0	$0	($2,298,157)
Allocation to Stormwater Service	$0	$0	$0	$0	$0	$0	$0	$0	$0	($18,294)	$0	$0	$0	$0	$0	$0	$0	($18,294)
Total Technical Services (SCADA)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,568,475	$0	$0	$0	$0	$0	$0	$0	$1,568,475

Engineering and TS		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$5,074,120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,074,120	$0	$0	$0	$5,074,120
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$4,540	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,540	$0	$0	$0	$4,540
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$130,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$130,600	$0	$0	$0	$130,600
Professional services	$60,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$60,500	$0	$0	$0	$60,500
Fleet	$270,845	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$270,845	$0	$0	$0	$270,845
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$272,335	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$272,335	$0	$0	$0	$272,335
Allocation to Wastewater Service	($2,822,819)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,822,819)	$0	$0	$0	($2,822,819)
Allocation to Stormwater Service	($973,281)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($973,281)	$0	$0	$0	($973,281)
Total Engineering and TS	**$2,016,840**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,016,840	$0	$0	$0	$2,016,840

Regulatory Services		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$4,158,799	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,158,799	$0	$0	$4,158,799
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$534,040	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$534,040	$0	$0	$534,040
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$183,625	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$183,625	$0	$0	$183,625
Professional services	$241,850	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$241,850	$0	$0	$241,850
Fleet	$110,803	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$110,803	$0	$0	$110,803
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$130,827	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$130,827	$0	$0	$130,827
Allocation to Wastewater Service	($1,763,380)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($1,763,380)	$0	$0	($1,763,380)
Allocation to Stormwater Service	($2,020,425)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,020,425)	$0	$0	($2,020,425)
Total Regulatory Services	**$1,576,139**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,576,139	$0	$0	$1,576,139

Customer Service		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$3,819,338	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,307,285	$882,854	$629,199	$0	$0	$0	$0	$3,819,338
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$308,948	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$156,000	$34,000	$118,948	$0	$0	$0	$0	$308,948
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$645,324	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$96,220	$16,020	$533,084	$0	$0	$0	$0	$645,324
Professional services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fleet	$111,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$300	$111,100	$0	$0	$0	$0	$0	$111,400
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$301,115	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$301,115	$0	$0	$0	$0	$0	$0	$301,115
Allocation to Wastewater Service	($2,338,236)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($1,261,666)	($511,547)	($565,023)	$0	$0	$0	$0	($2,338,236)
Allocation to Stormwater Service	($202,965)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($140,185)	$0	($62,780)	$0	$0	$0	$0	($202,965)
Total Customer Service	**$2,644,924**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,459,069	$532,427	$653,428	$0	$0	$0	$0	$2,644,924

Corporate Services		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$6,399,447	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,399,447	$0	$6,399,447
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$173,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$173,500	$0	$173,500
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$7,936,059	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,936,059	$0	$7,936,059
Professional services	$516,050	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$516,050	$0	$516,050
Fleet	$14,022	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$14,022	$0	$14,022
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$1,956,170	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,956,170	$0	$1,956,170
Allocation of Costs to Wastewater Services	($7,494,904)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($7,494,904)	$0	($7,494,904)
Allocation of Costs to Stormwater Servcies	($832,767)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($832,767)	$0	($832,767)
Total Corporate Services	**$8,667,577**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,667,577	$0	$8,667,577

Administration		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$4,285,748	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,285,748	$4,285,748
Training and development	$1,130,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,130,000	$1,130,000
Contract services	$261,280	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$261,280	$261,280
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$81,072	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$81,072	$81,072
Professional services	$1,514,509	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,514,509	$1,514,509
Fleet	$11,202	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$11,202	$11,202
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$363,566	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$363,566	$363,566
Allocation of Costs to Wastewater Services	($3,372,493)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($3,372,493)	($3,372,493)
Allocation of Costs to Stormwater Servcies	($374,721)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($374,721)	($374,721)
Total Administration	**$3,900,163**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,900,163	$3,900,163
Total O&M Expense	**$53,430,085**	**$455,756**	**$113,139**	**$1,361,473**	**$14,215,815**	**$437,840**	**$10,370,117**	**$349,149**	**$3,054,158**	**$2,698,520**	**$1,568,475**	**$1,459,069**	**$532,427**	**$653,428**	**$2,016,840**	**$1,576,139**	**$8,667,577**	**$3,900,163**	**$53,430,084**

Halifax Water
Water Rate Study

Statement of Operating Expenditures
2025/26

Operating Expense Cost Allocation
Percent of Costs to Functions
2025/26

OPERATING EXPENSES	Test Year #1 2025/26 Budget	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Supply and Treatment																		
Salaries and benefits	$5,303,631	7%	0%	16%	77%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$3,044,553	2%	3%	15%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Electricity	$2,443,592	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$1,189,079	1%	1%	8%	89%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Professional services	$554,372	10%	0%	20%	70%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	$339,720	5%	0%	16%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Chemicals	$5,839,261	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$198,068	2%	0%	18%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allocation to Transmission and Distribution	($2,766,093)	3%	0%	8%	89%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total Supply and Treatment	**$16,146,183**																	
Transmission and Distribution		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$7,223,758	0%	0%	0%	0%	2%	57%	2%	24%	15%	0%	0%	0%	0%	0%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$4,656,500	0%	0%	0%	0%	3%	64%	3%	14%	15%	0%	0%	0%	0%	0%	0%	0%	0%
Electricity	$166,500	0%	0%	0%	0%	1%	67%	24%	5%	3%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$513,629	0%	0%	0%	0%	4%	35%	4%	46%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Professional services	$46,000	0%	0%	0%	0%	2%	63%	2%	25%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	$1,147,094	0%	0%	0%	0%	2%	51%	2%	28%	17%	0%	0%	0%	0%	0%	0%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$230,462	0%	0%	0%	0%	2%	59%	2%	21%	15%	0%	0%	0%	0%	0%	0%	0%	0%
Allocation from Supply and Treatment	$2,925,840	0%	0%	0%	0%	3%	77%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%
Recoveries	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total Transmission and Distribution	**$16,909,783**																	
Technical Services (SCADA)		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$2,422,041	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$62,300	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Electricity	$178,369	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$762,147	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Professional services	$63,200	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Fleet	$322,736	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$74,133	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Allocation to Wastewater Service	($2,298,157)	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Allocation to Stormwater Service	($18,294)	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Total Technical Services (SCADA)	**$1,568,475**																	

Engineering and TS		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$5,074,120	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$4,540	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$130,600	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Professional services	$60,500	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Fleet	$270,845	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$272,335	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Allocation to Wastewater Service	($2,822,819)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Allocation to Stormwater Service	($973,281)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Total Engineering and TS	**$2,016,840**																	

Regulatory Services		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$4,158,799	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$534,040	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$183,625	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Professional services	$241,850	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Fleet	$110,803	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$130,827	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Allocation to Wastewater Service	($1,763,380)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Allocation to Stormwater Service	($2,020,425)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Total Regulatory Services	**$1,576,139**																	

Customer Service		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$3,819,338	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	23%	16%	0%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$308,948	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	11%	39%	0%	0%	0%	0%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$645,324	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	2%	83%	0%	0%	0%	0%
Professional services	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	$111,400	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$301,115	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
Allocation to Wastewater Service	($2,338,236)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	54%	22%	24%	0%	0%	0%	0%
Allocation to Stormwater Service	($202,965)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	69%	0%	31%	0%	0%	0%	0%
Total Customer Service	**$2,644,924**																	

Corporate Services		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$6,399,447	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$173,500	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$7,936,059	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Professional services	$516,050	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Fleet	$14,022	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$1,956,170	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Allocation of Costs to Wastewater Services	($7,494,904)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Allocation of Costs to Stormwater Servcies	($832,767)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Total Corporate Services	**$8,667,577**																	

Administration		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$4,285,748	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Training and development	$1,130,000	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Contract services	$261,280	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$81,072	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Professional services	$1,514,509	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Fleet	$11,202	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$363,566	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Allocation of Costs to Wastewater Services	($3,372,493)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Allocation of Costs to Stormwater Servcies	($374,721)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Total Administration	**$3,900,163**																	

Total O&M Expense	**$53,430,085**

Worksheet W-7 Continuity Schedule Utility Plant in Service

Worksheet W-7 provides additional details on the following:

- Funded utility plant in service,
- Contributed assets,
- Projected utility plant in service additions, net of projected retirements,
- Accumulated depreciation, net of projected retirements,
- Calculated depreciation, and
- Projected net book value.

The spreadsheet is broken down by asset class and asset. For the purposes of the revenue requirement, depreciation for Water transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services.

Halifax Regional Water Commission

Utility Plant in Service-Water

Continuity Schedule/ Depreciation for Utility Plant in Service

2025-26

	Useful Life in years	Funded Utility Plant in Service	Contributed Utility Plant in Service	Total Utility Plant in Service	Work in Process approved in Prior Years	Utility Plant in Service Additions	Contributed Utility Plant in Service Additions	Projected Retirements	Projected Utility Plant in Service	Accumulated Depreciation	Accumulated Depreciation on funded assets	Accumulated Depreciation on donated assets	Projected Retirement of Accumulated Depreciation	Projected Net Book Value before Depreciation	Depreciation on Donated assets	Depreciation expense on funded assets	Projected Net Book Value after Depreciation
		Mar-25	Mar-25	Mar-25	2025-26	2025-26	2025-26	2025-26	Mar-26	Mar-25	Mar-25	Mar-25	2025-26	Mar-26	2025-26	2025-26	Mar-26
Intangible Plant																	
Organization and Working Capital	10	18,707,594	29,941	18,737,535		3,193,937			21,931,472	5,900,932	5,878,477	22,456	-	16,030,540	2,994	1,828,637	14,198,909
				-					-	-	-	-	-	-		-	-
Tangible Plant				-					-	-	-	-	-	-		-	-
LAND AND LAND RIGHTS				-					-	-	-	-	-	-		-	-
Source of Supply Land	N/A	13,706,234	-	13,706,234					13,706,234	-	-	-	-	13,706,234		-	13,706,234
Power and pumping	N/A	215,345	-	215,345					215,345	-	-	-	-	215,345		-	215,345
Transmission Right of Ways	N/A	1,256,951	-	1,256,951					1,256,951	-	-	-	-	1,256,951		-	1,256,951
Reservoir Land	N/A	503,258	-	503,258		125,000			628,258	-	-	-	-	628,258		-	628,258
Office Land	N/A	2,573,529	-	2,573,529					2,573,529	-	-	-	-	2,573,529		-	2,573,529
Other Land	N/A	-	-	-					-	-	-	-	-	-		-	-
Easements & Rights of Ways	N/A	1,331,175	-	1,331,175					1,331,175	-	-	-	-	1,331,175		-	1,331,175
STRUCTURES AND IMPROVEMENTS				-					-	-	-	-	-	-		-	-
Source of Supply Structures	5 - 100	1,106,511	-	1,106,511					1,106,511	617,483	617,483	-	-	489,028		15,991	473,037
Power and Pumping Structures	5 - 100	8,250,761	1,734,864	9,985,624		3,450,000			13,435,624	3,796,918	3,392,607	404,311	-	9,638,706	34,395	170,672	9,433,640
Purification Structures	5 - 75	50,364,485	4,030,276	54,394,761			630,310		55,025,071	18,342,317	17,790,468	551,848	-	36,682,754	64,415	847,462	35,770,878
Distribution Reservoirs and Standpip	20 - 75	28,095,671	10,398,859	38,494,531		25,000	1,204,455		39,723,986	11,503,390	10,560,510	942,879	-	28,220,596	163,881	550,181	27,506,534
Other Structures	5 - 75	7,521,661	-	7,521,661					7,521,661	1,564,504	1,564,504	-	-	5,957,157		84,814	5,872,343
Office Building	5 - 75	17,323,052	35,266	17,358,318					17,358,318	4,955,845	4,947,734	8,111	-	12,402,473	705	296,556	12,105,212
Stores and Garage	50	-	-	-					-	-	-	-	-	-		-	-
Settling Ponds	75 - 100	-	-	-					-	-	-	-	-	-		-	-
Intakes	50 - 100	-	-	-					-	-	-	-	-	-		-	-
Dams	75 - 100	9,434,879	4,066,166	13,501,045			677,694		14,178,739	2,106,213	1,743,045	363,168	-	12,072,527	67,984	155,359	11,849,184
Small systems	5 - 75	-	-	-					-	-	-	-	-	-		-	-
Aerotech WTP		-	-	-					-	-	-	-	-	-		-	-
Other Security		-	-	-					-	-	-	-	-	-		-	-

	Useful Life in years	Funded Utility Plant in Service	Contributed Utility Plant in Service	Total Utility Plant in Service	Work in Process approved in Prior Years	Utility Plant in Service Additions	Contributed Utility Plant in Service Additions	Projected Retirements	Projected Utility Plant in Service	Accumulated Depreciation	Accumulated Depreciation on funded assets	Accumulated Depreciation on donated assets	Projected Retirement of Accumulated Depreciation	Projected Net Book Value before Depreciation	Depreciation on Donated assets	Depreciation expense on funded assets	Projected Net Book Value after Depreciation
		Mar-25	Mar-25	Mar-25	2025-26	2025-26	2025-26	2025-26	Mar-26	Mar-25	Mar-25	Mar-25	2025-26	Mar-26	2025-26	2025-26	Mar-26
Equipment				-					-	-	-	-	-	-		-	-
Pumping Equipment	5 - 25	8,651,287	2,150,106	10,801,393			15,227		10,816,619	9,272,128	8,144,316	1,127,813	-	1,544,491	106,591	89,529	1,348,371
	5 - 20	-	-	-					-	-		-	-	-		-	-
Purification Equipment	5 - 25	42,626,520	5,202,823	47,829,343		9,374,214			57,203,557	30,077,668	27,615,628	2,462,041	-	27,125,889	123,437	1,384,518	25,617,933
Information Technology	5 - 25	13,353,940	90,479	13,444,419		1,516,952	15,080		14,976,451	7,094,541	7,041,588	52,953	-	7,881,910	13,360	770,121	7,098,429
Tools and Work Equipment - Ops	5 - 20	3,276,666	-	3,276,666		165,000			3,441,666	3,053,513	3,053,513	-	-	388,154		85,932	302,221
Tools and Work Equipment - Plants	5 - 20	369,905	-	369,905					369,905	361,196	361,196	-	-	8,709		7,083	1,626
Tools and Work Equipment - Other	5 - 20	784,616	-	784,616					784,616	642,819	642,819	-	-	141,797		61,758	80,038
Transportation Equipment	5	7,002,192	-	7,002,192		2,804,000		250,000	9,556,192	5,933,205	5,933,205	-	200,000	3,822,987		631,107	3,191,880
Office Furniture and Equipment	5 - 30	3,116,261	-	3,116,261					3,116,261	3,013,403	3,013,403	-	-	102,858		29,388	73,470
Computer Equipment and Software	3 - 10	22,018,842	-	22,018,842		15,841,920			37,860,761	13,364,980	13,364,980	-	-	24,495,781		4,296,578	20,199,203
Other Equipment		-	-	-					-	-		-	-	-		-	-
Mains				-					-	-		-	-	-		-	-
Transmission	75 - 100	142,047,047	27,110,273	169,157,320		14,685,558	2,793,072		186,635,951	36,991,419	34,946,033	2,045,386	-	149,644,532	318,417	1,794,680	147,531,435
Distribution	60 - 75	194,849,275	130,945,156	325,794,431		23,757,494	1,415,101	50,000	350,917,025	84,727,602	57,340,229	27,387,373	40,000	266,229,423	1,775,127	2,552,248	261,902,049
Meters	20 - 25	19,149,955	23,069	19,173,023		150,000		200,000	19,123,023	9,250,746	9,227,677	23,069	180,000	10,052,278	-	904,177	9,148,101
Hydrants	50	12,813,079	10,852,565	23,665,643			209,389	50,000	23,825,032	8,148,321	4,800,219	3,348,101	40,000	15,716,712	224,813	149,573	15,342,327
Sprinkler Connections	50	-	-	-					-	-		-	-	-		-	-
Services	50	31,576,277	19,240,435	50,816,712			377,528		51,194,240	15,049,926	9,159,779	5,890,147	-	36,144,314	394,943	496,588	35,252,783
Other				-					-	-				-		-	-
URBAN CORE SUB-TOTAL		662,026,967	215,910,278	877,937,245	-	75,089,074	7,337,856	550,000	959,814,175	275,769,068	231,139,412	44,629,656	460,000	684,505,107	3,291,062	17,202,953	664,011,092
																	-
Unregulated Assets		445,265	-	445,265					445,265	152,631	152,631		-	292,634		17,854	274,780
																	-
TOTAL		662,472,232	215,910,278	878,382,510	-	75,089,074	7,337,856	550,000	960,259,440	275,921,699	231,292,043	44,629,656	460,000	684,797,741	3,291,062	17,220,807	664,285,873

Worksheet W-8 Depreciation Functionalization

Worksheet W-8 allocates the budgeted annual depreciation charge included in the revenue requirement for test year 2025/26 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual and reported as both a dollar and percentage value. These are used in Worksheet W-10 to allocate depreciation to the service characteristics. As noted previously, depreciation for Water transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services.

Worksheet W-8

Halifax Water
Water Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2025/26

	Annual Depreciation
Intangible Plant	
Organization and Working Capital	$1,828,697
Tangible Plant	
LAND AND LAND RIGHTS	
Source of Supply Land	$0
Power and pumping	$0
Transmission Right of Ways	$0
Water Rights	$0
Reservoir Land	$0
Office Land	$0
Other Land	$0
Easements & Rights of Ways	$0
STRUCTURES AND IMPROVEMENTS	
Source of Supply Structures	$15,991
Power and Pumping Structures	$171,360
Purification Structures	$848,750
Distribution Reservoirs and Standpipes	$553,459
General	$84,814
Office Building	$296,570
Collection and Impounding	$156,718
Small systems	$0
Aerotech Water Treatment Plant	$0
Other - Security	$0
EQUIPMENT	
Electrical Pumping	$91,661
Purification Equipment	$1,386,987
Information Technology	$770,388
Tools and Work Equipment - Ops	$85,932
Tools and Work Equipment - Plants	$7,083
Tools and Work Equipment - Other	$61,758
Office Furniture and Equipment	$29,388
Computer Equipment and Software	$4,296,578
Other Equipment	$0
MAINS	
Transmission	$1,801,048
Distribution	$2,587,751
Meters	$904,177
Hydrants	$154,069
Sprinkler Connections	$0
Services	$504,487
Other	$0
TOTAL	$16,637,667

Worksheet W-8
November 30, 2024

Halifax Water
Water Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed as a Percentage (%)
2025/26

	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Intangible Plant	Intangible Plant																
Organization and Working Capital	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Tangible Plant																	
LAND AND LAND RIGHTS	LAND AND LAND RIGHTS																
Source of Supply Land	95%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Power and pumping	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transmission Right of Ways	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Water Rights	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Reservoir Land	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Office Land	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Other Land	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Easements & Rights of Ways	50%	0%	0%	15%	0%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
STRUCTURES AND IMPROVEMENTS	STRUCTURES AND IMPROVEMENTS																
Source of Supply Structures	0%	50%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Power and Pumping Structures	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purification Structures	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Distribution Reservoirs and Standpipes	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
General	0%	0%	0%	45%	45%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Office Building	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Collection and Impounding	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Small systems	0%	0%	0%	80%	10%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aerotech Water Treatment Plant	0%	0%	0%	58%	0%	15%	16%	0%	0%	0%	0%	4%	0%	0%	0%	0%	7%
Other - Security	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
EQUIPMENT	EQUIPMENT																
Electrical Pumping	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purification Equipment	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Information Technology	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tools and Work Equipment - Ops	0%	0%	0%	10%	30%	40%	0%	10%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Tools and Work Equipment - Plants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Tools and Work Equipment - Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Office Furniture and Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Computer Equipment and Software	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	0%	0%	50%
Other Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
MAINS	MAINS																
Transmission	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Distribution	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Meters	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Hydrants	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sprinkler Connections	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Services	0%	0%	0%	0%	0%	0094 0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Halifax Water
Water Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2025/26

Halifax Water
Water Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed in Dollars ($)
2025/26

	Annual Depreciation	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Intangible Plant		Intangible Plant																	
Organization and Working Capital	$1,828,697	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,828,697	$1,828,697
Tangible Plant																			
LAND AND LAND RIGHTS		LAND AND LAND RIGHTS																	
Source of Supply Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Power and pumping	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transmission Right of Ways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Rights	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Reservoir Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Office Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Easements & Rights of Ways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
STRUCTURES AND IMPROVEMENTS		STRUCTURES AND IMPROVEMENTS																	
Source of Supply Structures	$15,991	$0	$7,996	$0	$7,996	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$15,991
Power and Pumping Structures	$171,360	$0	$0	$0	$85,680	$42,840	$42,840	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$171,360
Purification Structures	$848,750	$0	$0	$0	$848,750	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$848,750
Distribution Reservoirs and Standpipes	$553,459	$0	$0	$0	$0	$0	$0	$553,459	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$553,459
General	$84,814	$0	$0	$0	$38,166	$38,166	$8,481	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$84,814
Office Building	$296,570	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$296,570	$296,570
Collection and Impounding	$156,718	$0	$156,718	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$156,718
Small systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Aerotech Water Treatment Plant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other - Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EQUIPMENT		EQUIPMENT																	
Electrical Pumping	$91,661	$0	$0	$0	$45,830	$22,915	$22,915	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$91,661
Purification Equipment	$1,386,987	$0	$0	$0	$1,386,987	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,386,987
Information Technology	$770,388	$0	$0	$0	$385,194	$192,597	$192,597	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$770,388
Tools and Work Equipment - Ops	$85,932	$0	$0	$0	$8,593	$25,780	$34,373	$0	$8,593	$8,593	$0	$0	$0	$0	$0	$0	$0	$0	$85,932
Tools and Work Equipment - Plants	$7,083	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,083	$7,083
Tools and Work Equipment - Other	$61,758	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$61,758	$0	$0	$0	$0	$0	$61,758
Office Furniture and Equipment	$29,388	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$29,388	$29,388
Computer Equipment and Software	$4,296,578	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,074,145	$0	$0	$1,074,145	$0	$0	$2,148,289	$4,296,578
Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MAINS		MAINS																	
Transmission	$1,801,048	$0	$0	$0	$0	$1,801,048	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,801,048
Distribution	$2,587,751	$0	$0	$0	$0	$0	$2,587,751	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,587,751
Meters	$904,177	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$904,177	$0	$0	$0	$0	$0	$904,177
Hydrants	$154,069	$0	$0	$0	$0	$0	$0	$0	$154,069	$0	$0	$0	$0	$0	$0	$0	$0	$0	$154,069
Sprinkler Connections	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Services	$504,487	$0	$0	$0	$0	$0	$0	$0	$0	$504,487	$0	$0	$0	$0	$0	$0	$0	$0	$504,487
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL	$16,637,667	**$0**	**$164,714**	**$0**	**$2,807,197**	**$2,123,346**	**$2,888,957**	**$553,459**	**$162,662**	**$513,080**	**$0**	**$1,074,145**	**$965,935**	**$0**	**$1,074,145**	**$0**	**$0**	**$4,310,027**	**$16,637,667**
	0	**0.00%**	**0.99%**	**0.00%**	**16.87%**	**12.76%**	**17.36%**	**3.33%**	**0.98%**	**3.08%**	**0.00%**	**6.46%**	**5.81%**	**0.00%**	**6.46%**	**0.00%**	**0.00%**	**25.91%**	**100.00%**

Worksheet W-9 Allocation of Utility Plant in Service

Worksheet W-9 allocates the budgeted utility plant in service for the test year 2025/26 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual and reported as both a dollar and percentage value. These are used in Worksheet W-10 to allocate debt service costs to the service characteristics.

Worksheet W-9

Halifax Water
Water Rate Study

Allocation of Utility Plant in Service
2025/26

	Projected Utility Plant in Service, end of year	Projected Accumulated Depreciation, end of year	Projected Net Book Value, end of year	Donated or Contributed Assets	Rate Base (Col F - Col G)
Intangible Plant					
Organization and Working Capital	$21,931,472	$7,732,564	$14,198,909	$4,491	$14,194,417
Tangible Plant					
LAND AND LAND RIGHTS					
Source of Supply Land	$13,706,234	$0	$13,706,234	$0	$13,706,234
Power and pumping	$215,345	$0	$215,345	$0	$215,345
Transmission Right of Ways	$1,256,951	$0	$1,256,951	$0	$1,256,951
Reservoir Land	$628,258	$0	$628,258	$0	$628,258
Office Land	$2,573,529	$0	$2,573,529	$0	$2,573,529
Other Land	$0	$0	$0	$0	$0
Easements & Rights of Ways	$1,331,175	$0	$1,331,175	$0	$1,331,175
STRUCTURES AND IMPROVEMENTS					
Source of Supply Structures	$1,106,511	$633,474	$473,037	$0	$473,037
Power and Pumping Structures	$13,435,624	$4,001,985	$9,433,640	$1,296,158	$8,137,482
Purification Structures	$55,025,071	$19,254,193	$35,770,878	$4,044,323	$31,726,555
Distribution Reservoirs and Standpipes	$39,723,986	$12,217,452	$27,506,534	$10,496,555	$17,009,980
General	$7,521,661	$1,649,318	$5,872,343	$0	$5,872,343
Office Building	$17,358,318	$5,253,106	$12,105,212	$26,449	$12,078,762
Collection and Impounding	$14,178,739	$2,329,556	$11,849,184	$4,312,708	$7,536,476
Small systems	$0	$0	$0	$0	$0
Aerotech Water Treatment Plant	$0	$0	$0	$0	$0
Other - Security	$0	$0	$0	$0	$0
EQUIPMENT					
Electrical Pumping	$10,816,619	$9,468,248	$1,348,371	$930,929	$417,442
Purification Equipment	$57,203,557	$31,585,624	$25,617,933	$2,617,346	$23,000,588
Information Technology	$14,976,451	$7,878,022	$7,098,429	$39,246	$7,059,182
Tools and Work Equipment - Ops	$3,441,666	$3,139,445	$302,221	$0	$302,221
Tools and Work Equipment - Plants	$369,905	$368,279	$1,626	$0	$1,626
Tools and Work Equipment - Other	$784,616	$704,577	$80,038	$0	$80,038
Transportation Equipment	$9,556,192	$6,364,312	$3,191,880	$0	$3,191,880
Office Furniture and Equipment	$3,116,261	$3,042,791	$73,470	$0	$73,470
Computer Equipment and Software	$37,860,761	$17,661,558	$20,199,203	$0	$20,199,203
Other Equipment	$0	$0	$0	$0	$0
MAINS					
Transmission	$186,635,951	$39,104,516	$147,531,435	$27,539,542	$119,991,893
Distribution	$350,917,025	$89,014,977	$261,902,049	$103,197,757	$158,704,292
Meters	$19,123,023	$9,974,923	$9,148,101	$0	$9,148,101
Hydrants	$23,825,032	$8,482,706	$15,342,327	$7,489,040	$7,853,287
Sprinkler Connections	$0	$0	$0	$0	$0
Services	$51,194,240	$15,941,457	$35,252,783	$13,332,873	$21,919,910
Other	$0	$0	$0	$0	$0
TOTAL	**$959,814,175**	**$295,803,082**	**$664,011,092**	**$175,327,417**	**$488,683,676**

Worksheet W-9

Halifax Water
Water Rate Study

Allocation of Utility Plant in Service
Functionalization of the Rate Base Expressed as a Percentage (%)
2025/26

	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Intangible Plant																	
Organization and Working Capital	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Tangible Plant																	
LAND AND LAND RIGHTS																	
Source of Supply Land	95%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Power and pumping	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transmission Right of Ways	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Reservoir Land	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Office Land	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Other Land	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Easements & Rights of Ways	50%	0%	0%	15%	0%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
STRUCTURES AND IMPROVEMENTS																	
Source of Supply Structures	0%	50%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Power and Pumping Structures	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purification Structures	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Distribution Reservoirs and Standpipes	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
General	0%	0%	0%	45%	45%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Office Building	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Collection and Impounding	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Small systems	0%	0%	0%	80%	10%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aerotech Water Treatment Plant	0%	0%	0%	58%	0%	15%	16%	0%	0%	0%	0%	4%	0%	0%	0%	0%	7%
Other - Security	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
EQUIPMENT																	
Electrical Pumping	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purification Equipment	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Information Technology	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tools and Work Equipment - Ops	0%	0%	0%	10%	30%	40%	0%	10%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Tools and Work Equipment - Plants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Tools and Work Equipment - Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Transportation Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Office Furniture and Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Computer Equipment and Software	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	0%	0%	50%
Other Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
MAINS																	
Transmission	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Distribution	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Meters	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Hydrants	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sprinkler Connections	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Services	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Worksheet W-9

Halifax Water
Water Rate Study

Allocation of Utility Plant in Service
2025/26

	Projected Utility Plant in Service, end of year	Projected Accumulated Depreciation, end of year	Projected Net Book Value, end of year	Donated or Contributed Assets	Rate Base (Col F - Col G)
Intangible Plant					
Organization and Working Capital	$21,931,472	$7,732,564	$14,198,909	$4,491	$14,194,417
Tangible Plant					
LAND AND LAND RIGHTS					
Source of Supply Land	$13,706,234	$0	$13,706,234	$0	$13,706,234
Power and pumping	$215,345	$0	$215,345	$0	$215,345
Transmission Right of Ways	$1,256,951	$0	$1,256,951	$0	$1,256,951
Reservoir Land	$628,258	$0	$628,258	$0	$628,258
Office Land	$2,573,529	$0	$2,573,529	$0	$2,573,529
Other Land	$0	$0	$0	$0	$0
Easements & Rights of Ways	$1,331,175	$0	$1,331,175	$0	$1,331,175
STRUCTURES AND IMPROVEMENTS					
Source of Supply Structures	$1,106,511	$633,474	$473,037	$0	$473,037
Power and Pumping Structures	$13,435,624	$4,001,985	$9,433,640	$1,296,158	$8,137,482
Purification Structures	$55,025,071	$19,254,193	$35,770,878	$4,044,323	$31,726,555
Distribution Reservoirs and Standpipes	$39,723,986	$12,217,452	$27,506,534	$10,496,555	$17,009,980
General	$7,521,661	$1,649,318	$5,872,343	$0	$5,872,343
Office Building	$17,358,318	$5,253,106	$12,105,212	$26,449	$12,078,762
Collection and Impounding	$14,178,739	$2,329,556	$11,849,184	$4,312,708	$7,536,476
Small systems	$0	$0	$0	$0	$0
Aerotech Water Treatment Plant	$0	$0	$0	$0	$0
Other - Security	$0	$0	$0	$0	$0
EQUIPMENT					
Electrical Pumping	$10,816,619	$9,468,248	$1,348,371	$930,929	$417,442
Purification Equipment	$57,203,557	$31,585,624	$25,617,933	$2,617,346	$23,000,588
Information Technology	$14,976,451	$7,878,022	$7,098,429	$39,246	$7,059,182
Tools and Work Equipment - Ops	$3,441,666	$3,139,445	$302,221	$0	$302,221
Tools and Work Equipment - Plants	$369,905	$368,279	$1,626	$0	$1,626
Tools and Work Equipment - Other	$784,616	$704,577	$80,038	$0	$80,038
Transportation Equipment	$9,556,192	$6,364,312	$3,191,880	$0	$3,191,880
Office Furniture and Equipment	$3,116,261	$3,042,791	$73,470	$0	$73,470
Computer Equipment and Software	$37,860,761	$17,661,558	$20,199,203	$0	$20,199,203
Other Equipment	$0	$0	$0	$0	$0
MAINS					
Transmission	$186,635,951	$39,104,516	$147,531,435	$27,539,542	$119,991,893
Distribution	$350,917,025	$89,014,977	$261,902,049	$103,197,757	$158,704,292
Meters	$19,123,023	$9,974,923	$9,148,101	$0	$9,148,101
Hydrants	$23,825,032	$8,482,706	$15,342,327	$7,489,040	$7,853,287
Sprinkler Connections	$0	$0	$0	$0	$0
Services	$51,194,240	$15,941,457	$35,252,783	$13,332,873	$21,919,910
Other	$0	$0	$0	$0	$0
TOTAL	**$959,814,175**	**$295,803,082**	**$664,011,092**	**$175,327,417**	**$488,683,676**
	0	0	0	0	0

Worksheet W-9
November 30, 2024

Halifax Water
Water Rate Study

Allocation of Utility Plant in Service
Functionalization of Rate Base Expressed in Dollars ($)
2025/26

Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Intangible Plant																	
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$14,194,417	$14,194,417
Tangible Plant																	
LAND AND LAND RIGHTS																	
$13,020,922	$685,312	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,706,234
$0	$0	$0	$107,673	$53,836	$53,836	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$215,345
$0	$0	$0	$0	$1,256,951	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,256,951
$0	$0	$0	$0	$0	$0	$628,258	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$628,258
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,573,529	$2,573,529
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$665,588	$0	$0	$199,676	$0	$465,911	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,331,175
STRUCTURES AND IMPROVEMENTS																	
$0	$236,518	$0	$236,518	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$473,037
$0	$0	$0	$4,068,741	$2,034,370	$2,034,370	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,137,482
$0	$0	$0	$31,726,555	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$31,726,555
$0	$0	$0	$0	$0	$0	$17,009,980	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17,009,980
$0	$0	$0	$2,642,554	$2,642,554	$587,234	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,872,343
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$12,078,762	$12,078,762
$0	$7,536,476	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,536,476
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EQUIPMENT																	
$0	$0	$0	$208,721	$104,361	$104,361	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$417,442
$0	$0	$0	$23,000,588	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23,000,588
$0	$0	$0	$3,529,591	$1,764,796	$1,764,796	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,059,182
$0	$0	$0	$30,222	$90,666	$120,889	$0	$30,222	$30,222	$0	$0	$0	$0	$0	$0	$0	$0	$302,221
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,626	$1,626
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$80,038	$0	$0	$0	$0	$0	$80,038
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,191,880	$3,191,880
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$73,470	$73,470
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,049,801	$0	$0	$5,049,801	$0	$0	$10,099,601	$20,199,203
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MAINS																	
$0	$0	$0	$0	$119,991,893	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$119,991,893
$0	$0	$0	$0	$0	$158,704,292	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$158,704,292
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,148,101	$0	$0	$0	$0	$0	$9,148,101
$0	$0	$0	$0	$0	$0	$0	$7,853,287	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,853,287
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$21,919,910	$0	$0	$0	$0	$0	$0	$0	$0	$21,919,910
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$13,686,510	$8,458,306	$0	$65,750,840	$127,939,427	$163,835,689	$17,638,238	$7,883,509	$21,950,132	$0	$5,049,801	$9,228,139	$0	$5,049,801	$0	$0	$42,213,285	$488,683,676
2.80%	**1.73%**	**0.00%**	**13.45%**	**26.18%**	**33.53%**	**3.61%**	**1.61%**	**4.49%**	**0.00%**	**1.03%**	**1.89%**	**0.00%**	**1.03%**	**0.00%**	**0.00%**	**8.64%**	**100.00%**

Worksheet W-10 Cost Classification

Worksheet W-10 details the costs as allocated to the system functions from Worksheets W-6, W-8 and W-9 and allocates them to the service characteristics based on the percentages for each characteristic detailed in the Cost-of-Service Manual. The amounts are then totaled for operation and maintenance, and depreciation then used in Worksheet W-11 to calculate the water unit rate and bill calculation. The plant in service function is also totaled and the percentages by service function are used to allocate the net debt servicing costs also appearing in Worksheet W-11.

Worksheet W-10

Halifax Water
Water Rate Study

Cost Classification - Percents & Amounts
2025/26

Cost Classifications

		Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Total
O&M Expenses by Function		Classification Percentages							Classification Amounts							
Watershed Management	$455,756	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$455,756	$0	$0	$0	$0	$0	$0	$455,756
Dams	$113,139	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$113,139	$0	$0	$0	$0	$0	$0	$113,139
Water Quality	$1,361,473	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$1,361,473	$0	$0	$0	$0	$0	$0	$1,361,473
Water Treatment	$14,215,815	94.00%	6.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$13,362,866	$852,949	$0	$0	$0	$0	$0	$14,215,815
Transmission	$437,840	94.00%	6.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$411,570	$26,270	$0	$0	$0	$0	$0	$437,840
Distribution	$10,370,117	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%	$3,318,437	$1,659,219	$2,592,529	$0	$0	$2,799,931	$0	$10,370,117
Water Storage Tanks	$349,149	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%	$188,540	$10,474	$48,881	$0	$0	$101,253	$0	$349,149
Hydrants	$3,054,158	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$3,054,158	$0	$3,054,158
Service Laterals	$2,698,520	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$2,698,520	$0	$0	$0	$2,698,520
Technical Services	$1,568,475	25.00%	25.00%	25.00%	0.00%	0.00%	25.00%	0.00%	$392,119	$392,119	$392,119	$0	$0	$392,119	$0	$1,568,475
Customer Service	$1,459,069	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$1,459,069	$0	$0	$1,459,069
O&M Meters	$532,427	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$532,427	$0	$0	$0	$532,427
Meter Reading and Billing	$653,428	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$653,428	$0	$0	$653,428
Engineering and TS	$2,016,840	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$2,016,840	$2,016,840
Regulatory Services	$1,576,139	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$1,576,139	$1,576,139
Corporate Services	$8,667,577	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$8,667,577	$8,667,577
Administration	$3,900,163	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$3,900,163	$3,900,163
Sub-Total	**$53,430,084**								$19,603,900	$2,941,031	$3,033,529	$3,230,946	$2,112,497	$6,347,461	$16,160,719	$53,430,084
Depreciation Expenses by Function		Classification Percentages							Classification Amounts							
Watershed Management	$0	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Dams	$164,714	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$164,714	$0	$0	$0	$0	$0	$0	$164,714
Water Quality	$0	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Water Treatment	$2,807,197	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$2,329,973	$477,223	$0	$0	$0	$0	$0	$2,807,197
Transmission	$2,123,346	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$1,762,378	$360,969	$0	$0	$0	$0	$0	$2,123,346
Distribution	$2,888,957	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%	$924,466	$462,233	$722,239	$0	$0	$780,018	$0	$2,888,957
Water Storage Tanks	$553,459	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%	$298,868	$16,604	$77,484	$0	$0	$160,503	$0	$553,459
Hydrants	$162,662	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$162,662	$0	$162,662
Service Laterals	$513,080	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$513,080	$0	$0	$0	$513,080
Technical Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	$1,074,145	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$1,074,145	$0	$0	$1,074,145
O&M Meters	$965,935	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$965,935	$0	$0	$0	$965,935
Meter Reading and Billing	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and TS	$1,074,145	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$1,074,145	$1,074,145
Regulatory Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$4,310,027	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$4,310,027	$4,310,027
Sub-Total	**$16,637,667**								$5,480,399	$1,317,029	$799,724	$1,479,015	$1,074,145	$1,103,184	$5,384,172	$16,637,667

Worksheet W-10

Halifax Water
Water Rate Study

Cost Classification - Percents & Amounts
2025/26

		Cost Classifications														
		Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Total
Plant in Service by Function		Classification Percentages							Classification Amounts							
Watershed Management	$13,686,510	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$13,686,510	$0	$0	$0	$0	$0	$0	$13,686,510
Dams	$8,458,306	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$8,458,306	$0	$0	$0	$0	$0	$0	$8,458,306
Water Quality	$0	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Water Treatment	$65,750,840	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$54,573,197	$11,177,643	$0	$0	$0	$0	$0	$65,750,840
Transmission	$127,939,427	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$106,189,725	$21,749,703	$0	$0	$0	$0	$0	$127,939,427
Distribution	$163,835,689	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%	$52,427,420	$26,213,710	$40,958,922	$0	$0	$44,235,636	$0	$163,835,689
Water Storage Tanks	$17,638,238	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%	$9,524,648	$529,147	$2,469,353	$0	$0	$5,115,089	$0	$17,638,238
Hydrants	$7,883,509	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$7,883,509	$0	$7,883,509
Service Laterals	$21,950,132	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$21,950,132	$0	$0	$0	$21,950,132
Technical Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	$5,049,801	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$5,049,801	$0	$0	$5,049,801
O&M Meters	$9,228,139	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$9,228,139	$0	$0	$0	$9,228,139
Meter Reading and Billing	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and TS	$5,049,801	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$5,049,801	$5,049,801
Regulatory Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$42,213,285	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$42,213,285	$42,213,285
Sub-Total	**$488,683,676**								$244,859,806	$59,670,203	$43,428,275	$31,178,271	$5,049,801	$57,234,234	$47,263,086	$488,683,676
									50.11%	**12.21%**	**8.89%**	**6.38%**	**1.03%**	**11.71%**	**9.67%**	

Worksheet W-11 Unit Costs and Returns

Worksheet W-11 uses the costs from Worksheet W-10 allocated to the system functions to calculate the unit water rates and fire protection charge for 2025/26. The percentage of average day, maximum day, maximum hour, equivalent meters, customer service and fire protection are used to allocate the indirect costs for operation and maintenance expenses, depreciation expense and debt service. The dividend/grant in lieu of taxes is allocated based on the total allocated revenue requirements. Worksheet W-11 also calculates the return on rate base.

Worksheet W-11

Halifax Regional Water Commission
Water Rate Study

Water Unit Rate and Bill Calculations
2025/26

Unit Cost Calculations

	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Total
Revenue Requirements								
O&M Expenses (including Indirects)	$19,603,900	$2,941,031	$3,033,529	$3,230,946	$2,112,497	$6,347,461	$16,160,719	$53,430,084
Direct Allocation Percentages	52.60%	7.89%	8.14%	8.67%	5.67%	17.03%		100.00%
O&M Expenses by Service Characteristics	$28,104,532	$4,216,319	$4,348,926	$4,631,947	$3,028,517	$9,099,844		$53,430,084
Depreciation Expenses	$5,480,399	$1,317,029	$799,724	$1,479,015	$1,074,145	$1,103,184	$5,384,172	$16,637,667
Direct Allocation Percentages	48.70%	11.70%	7.11%	13.14%	9.54%	9.80%		100.00%
Depreciation Expenses by Service Characteristics	$8,102,465	$1,947,155	$1,182,347	$2,186,642	$1,588,063	$1,630,996		$16,637,667
Plant in Service by Serv Characteristic Percents	50.11%	12.21%	8.89%	6.38%	1.03%	11.71%	9.67%	100.00%
Debt Service (Principal, Interest, Fees) $13,920,756	$6,975,133	$1,699,779	$1,237,108	$888,151	$143,850	$1,630,388	$1,346,347	$13,920,756
Direct Allocation Percentages	55.47%	13.52%	9.84%	7.06%	1.14%	12.97%		100.00%
Debt Service (Principal, Interest, Fees) by Service Characteristics	$7,721,963	$1,881,775	$1,369,566	$983,246	$159,252	$1,804,954	$0	$13,920,756
Total Allocated Revenue Requirements	**$43,928,960**	**$8,045,249**	**$6,900,838**	**$7,801,835**	**$4,775,832**	**$12,535,793**	**$0**	**$83,988,507**
	52.30%	**9.58%**	**8.22%**	**9.29%**	**5.69%**	**14.93%**		**100.00%**
Add: Dividend/ Grant in lieu of Taxes $6,157,790	$3,220,742	$589,854	$505,949	$572,008	$350,150	$919,087	$0	$6,157,790
Less: Non-Rate Revenues and Other Adjustments ($1,132,542)	($592,360)	($108,486)	($93,054)	($105,204)	($64,400)	($169,039)	$0	($1,132,542)
Net Rate Revenue Requirements	$46,557,343	$8,526,617	$7,313,733	$8,268,639	$5,061,582	$13,285,842	$0	$89,013,755

Rate Base	**$488,683,676**	**Return on Rate Base**	**$18,946,004**
		Calculated Percent Return on Ra	**3.88%**

Worksheet W-11

Halifax Regional Water Commission
Water Rate Study

Water Unit Rate and Bill Calculations
2025/26

Billing Determinations	Billable Water Consumption		Meters / Availability	Customers		Fire Protection
34,923,201	Percent of Total		Annual Equivalents	Annual		
Commercial	25.85%	9,029,279				
Industrial	5.87%	2,048,996				
Institutional	12.02%	4,199,510				
		-				
Multi-Family	22.72%	7,933,719				
Single Family Residential	33.54%	11,711,697				
	100.00%	34,923,201	114,018	88,710		
Rate Per Billing Unit		**$1.787**	**$72.52**	**$57.06**		**$13,285,842**
Average Per Account / Monthly						
Residential	14	$24.27	$6.04	$4.75	$35.07	

Worksheet W-12 Rates, Revenues and Bills

Worksheet W-12 uses the data from Worksheet W-11 to calculate proposed rates for customer charge, base charge, and volumetric charges for 2025/26. Worksheet W-12 also provides a revenue test based on the budgeted customer connections, equivalent meters and consumption and details the annual fixed charges (base and customer charge) and the annual consumption charge based on the arithmetic average of consumption by meter size.

Worksheet W-12 (continued)

Halifax Water
Water Rate Study

Rates, Revenues & Annual Bills by Alternative

2025/26

Proposed Cost of Service Rates and Charges

Customer Charge	$/Account	$57.06
Base Charge	$/Meter Equivalent	$72.52
Volumetric Charges	$ / Billed Cubic Meter	$1.7867

Revenue Test	Billing Determinant	
Customer Charge Revenues	88,710	$5,061,582
Number of Services		
Base Charge Revenues	114,018	$8,268,639
System Equivalents		
Volumetric Charges Revenues	34,923,201	$62,397,692
Estimated Consumption		
Total User Charge Revenues		$75,727,913
Fire Protection Charges		$13,285,842
Total Revenues		$89,013,755

Worksheet W-12 (continued)

Halifax Water
Water Rate Study
Rates, Revenues & Annual Bills by Alternative
2025/26

Bill Calculations

Annual Fixed Charges

(Customer & Base Charges by Meter Size)

Meter Size	Capacity Ratio	
Unmetered 5/8"	1	$129.58
Unmetered 3/4"	1.5	$165.84
Unmetered 1"	2.5	$238.36
Unmetered 3"	16.0	$1,217.39
5/8" - 15mm	1	$129.58
3/4" - 20mm	1.5	$165.84
1" - 25mm	2.5	$238.36
1.5" - 40mm	5	$419.66
2" - 50mm	8	$637.22
3" - 80mm	16	$1,217.39
4" - 100mm	25	$1,870.08
6" - 150mm	50	$3,683.10
8" - 200mm	90	$6,583.93
10" - 250mm	150	$10,935.18

Annual Volumetric Charges

Meter Size	Average Annual Consumption	
Unmetered 5/8"	163	$291.23
Unmetered 3/4"	537	$959.46
Unmetered 1"	1,083	$1,935.01
Unmetered 3"	13,527	$24,168.85
5/8" - 15MM	163	$291.23
3/4" - 20MM	537	$959.46
1" - 25MM	1,083	$1,935.01
1.5" - 40MM	2,519	$4,500.73
2" - 50MM	6,193	$11,065.11
3" - 80MM	13,527	$24,168.85
4" - 100MM	23,139	$41,342.72
6" - 150MM	64,441	$115,137.49
8" - 200MM	60,312	$107,760.16
10" - 250MM	129,923	$232,134.95

Total Bill - Average Consumption

Meter Size	Average Annual Consumption	
Unmetered 5/8"	163	$420.81
Unmetered 3/4"	537	$1,125.30
Unmetered 1"	1,083	$2,173.37
Unmetered 3"	13,527	$25,386.24
5/8" - 15MM	163	$420.81
3/4" - 20MM	537	$1,125.30
1" - 25MM	1,083	$2,173.37
1.5" - 40MM	2,519	$4,920.39
2" - 50MM	6,193	$11,702.33
3" - 80MM	13,527	$25,386.24
4" - 100MM	23,139	$43,212.80
6" - 150MM	64,441	$118,820.59
8" - 200MM	60,312	$114,344.09
10" - 250MM	129,923	$243,070.13

Worksheet W-13 – Bulk Water Rates

Worksheet W-13 details the calculation of proposed Bulk Water Rates for water sold through Halifax Water's bulk water depots for the test years 2025/26 and 2026/27 based on the budgeted operating and financial costs (revenue requirements) and budgeted water consumption with a 30% mark-up consistent with previous applications.

Worksheet W-13

Halifax Water
Water Rate Study

Calculation of Bulk Water Rate
Years Ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Cost Base						
Total Operating Expenses (Rev. Req.)	$48,372,123	$48,543,163	$56,968,128	$58,176,063	$70,067,752	$74,846,772
Total Non Operating Expenses (Rev Req)	$13,554,071	$14,277,565	$14,908,241	$17,223,055	$20,078,546	$23,495,205
Total Expenses	$61,926,194	$62,820,728	$71,876,369	$75,399,118	$90,146,297	$98,341,977
Water Consumption in Cubic Meters	**32,185,094**	**32,576,177**	**33,376,677**	**34,577,759**	**34,923,201**	**35,272,097**
Unit Calculations						
Unit cost per cubic metre	1.92	1.93	2.15	2.18	2.58	2.79
Operating cost and profit mark-up	30%	30%	30%	30%	30%	30%
Bulk rate per cubic metre	2.50	2.51	2.80	2.83	3.36	3.62

Worksheet Appendix W-1 – Additions to Utility Plant in Service

Appendix W-1 details the proposed additions to utility plant in service and capital funding for the test year 2025/26.

Additions to utility plant in service for 2025/26 are estimated based on status of capital work in progress (projects approved in prior fiscal years), the projects from the 2025/26 capital budget, and historical levels of contributed utility plant in service.

Halifax Water projects the addition of $45.3 million in assets to utility plant in service during the 2025/26 fiscal year.

Appendix W-1

Halifax Water
Water Rate Study

Proposed Additions to Utility Plant in Service and Capital Funding
2025/26

	Additions to the Utility Plant in Service	Capital Cost Contribution from Others	Utility Cost of Plant in Service
Intangible Plant			
Organization and Working Capital	$3,193,937	$0	$3,193,937
	$0	$0	$0
Tangible Plant	$0	$0	$0
LAND AND LAND RIGHTS	$0	$0	$0
Source of Supply Land	$0	$0	$0
Power and pumping	$0	$0	$0
Transmission Right of Ways	$0	$0	$0
Reservoir Land	$125,000	$0	$125,000
Office Land	$0	$0	$0
Other Land	$0	$0	$0
Easements & Right of Ways	$0	$0	$0
STRUCTURES AND IMPROVEMENTS	$0	$0	$0
Source of Supply Structures	$0	$0	$0
Power and Pumping Structures	$3,450,000	$0	$3,450,000
Purification Structures	$630,310	$630,310	$0
Distribution Reservoirs and Standpipes	$1,229,455	$1,204,455	$25,000
General	$0	$0	$0
Office Building	$0	$0	$0
Collection and Inpounding	$677,694	$677,694	$0
Small systems	$0	$0	$0
Aerotech Water Treatment Plant	$0	$0	$0
Other - Security	$0	$0	$0
Equipment	$0	$0	$0
Electrical Pumping	$15,227	$15,227	$0
Purification Equipment	$9,374,214	$0	$9,374,214
Information Technology	$1,532,032	$15,080	$1,516,952
Tools and Work Equipment - Ops	$165,000	$0	$165,000
Tools and Work Equipment - Plants	$0	$0	$0
Tools and Work Equipment - Other	$0	$0	$0
Transportation Equipment	$2,804,000	$0	$2,804,000
Office Furniture and Equipment	$0	$0	$0
Computer Equipment and Software	$15,841,920	$0	$15,841,920
Other Equipment	$0	$0	$0
Mains	$0	$0	$0
Transmission	$17,478,631	$2,793,072	$14,685,558
Distribution	$25,172,594	$1,415,101	$23,757,494
Meters	$150,000	$0	$150,000
Hydrants	$209,389	$209,389	$0
Services	$377,528	$377,528	$0
Other	$0	$0	$0
TOTAL	$82,426,930	$7,337,856	$75,089,074

Sources of Funding

Capital Cost Contribution	$0	Depreciation Fund Balance, beginning of year	($640,735)
Regional Development Charge	$0	Add:	
External Funding	$7,337,856	Interest earned on fund balance	$0
Contributions - other	$0	Depreciation funded in Current year	$16,571,846
Working Capital	$28,451,407	Depreciation Fund Balance available	$15,931,111
Depreciation fund	$16,637,667	Less:	
Long Term Debt	$30,000,000	Expenditure in Current Year	($16,637,667)
TOTAL	$82,426,930	Depreciation Fund Balance, end of year	($706,556)

Worksheet Appendix W-2 Amortization Schedule for Long Term Debt

Appendix W-2 details the amortization schedule of the proposed long-term debt associated with 2025/26. The amortization is based on a 30-year blended serial debenture at a rate of 4.0% per annum. Debt servicing costs related to principal and interest will commence in test year 2026/27.

Appendix W-2

Halifax Water
Water Rate Study

Amortization Schedule for Projected Long Term Debt
2025/26

Interest Rate	4.00%
Term in years	30
Capital	$30,000,000

Amortization Schedule

	Principal	Interest	Total	Balance
Year				
1	$1,000,000.00	$1,200,000.00	$2,200,000.00	$29,000,000.00
2	$1,000,000.00	$1,160,000.00	$2,160,000.00	$28,000,000.00
3	$1,000,000.00	$1,120,000.00	$2,120,000.00	$27,000,000.00
4	$1,000,000.00	$1,080,000.00	$2,080,000.00	$26,000,000.00
5	$1,000,000.00	$1,040,000.00	$2,040,000.00	$25,000,000.00
6	$1,000,000.00	$1,000,000.00	$2,000,000.00	$24,000,000.00
7	$1,000,000.00	$960,000.00	$1,960,000.00	$23,000,000.00
8	$1,000,000.00	$920,000.00	$1,920,000.00	$22,000,000.00
9	$1,000,000.00	$880,000.00	$1,880,000.00	$21,000,000.00
10	$1,000,000.00	$840,000.00	$1,840,000.00	$20,000,000.00
11	$1,000,000.00	$800,000.00	$1,800,000.00	$19,000,000.00
12	$1,000,000.00	$760,000.00	$1,760,000.00	$18,000,000.00
13	$1,000,000.00	$720,000.00	$1,720,000.00	$17,000,000.00
14	$1,000,000.00	$680,000.00	$1,680,000.00	$16,000,000.00
15	$1,000,000.00	$640,000.00	$1,640,000.00	$15,000,000.00
16	$1,000,000.00	$600,000.00	$1,600,000.00	$14,000,000.00
17	$1,000,000.00	$560,000.00	$1,560,000.00	$13,000,000.00
18	$1,000,000.00	$520,000.00	$1,520,000.00	$12,000,000.00
19	$1,000,000.00	$480,000.00	$1,480,000.00	$11,000,000.00
20	$1,000,000.00	$440,000.00	$1,440,000.00	$10,000,000.00
21	$1,000,000.00	$400,000.00	$1,400,000.00	$9,000,000.00
22	$1,000,000.00	$360,000.00	$1,360,000.00	$8,000,000.00
23	$1,000,000.00	$320,000.00	$1,320,000.00	$7,000,000.00
24	$1,000,000.00	$280,000.00	$1,280,000.00	$6,000,000.00
25	$1,000,000.00	$240,000.00	$1,240,000.00	$5,000,000.00
26	$1,000,000.00	$200,000.00	$1,200,000.00	$4,000,000.00
27	$1,000,000.00	$160,000.00	$1,160,000.00	$3,000,000.00
28	$1,000,000.00	$120,000.00	$1,120,000.00	$2,000,000.00
29	$1,000,000.00	$80,000.00	$1,080,000.00	$1,000,000.00
30	$1,000,000.00	$40,000.00	$1,040,000.00	$0.00

Halifax Regional Water Commission

(“Halifax Water”)

Water Rate Study

2026/27

Prepared By: Halifax Water Staff

Notes on Worksheet

Worksheet W-1 System Data

Worksheet W-1 provides Water Services related data including:

- Water plant production for the three previous fiscal years, and 3-year average water plant production.
- Average day and maximum day production with related percentages and ratios for the plants.
- Budgeted service connections, system equivalents, and billed consumption for test year 2025/26.
- Average water consumption history by customer class for the five fiscal years spanning 2018/19 to 2023/24 inclusive, including a reallocation of estimated commercial consumption from the residential 15 mm (5/8) meter size. The fiscal year 2020/21 has been excluded due to the probable effects COVID-19 had on consumption patterns.
- For Fiscal Years 2021 thorough 2025 the following allocations were in place:
    - Engineering and technology services - renamed "Engineering and Capital Infrastructure". All Technology service-related cost centres (see COS Manual for listing) are grouped with Corporate Services beginning in fiscal 2025/26.
    - Anywhere within the Rate Study file, the former descriptions remain, but the changes are reflected within the values beginning in fiscal 2025/26.

Assumptions – 2026/27 (Test Year #2):

1. After a long-term trend of declining water consumption, Halifax Water has been experiencing modest increases recently. Consumption in 2026/27 is budgeted to grow at a rate of 1% based on the assumption related to customer growth noted below, and having consumption patterns among customer classes return to pre-COVID-19 levels.

2. Customer connections are projected to increase by 570 connections in 2026/27, based on customer growth in the last five years.

3. Depreciation on contributed assets for 2026/27 for Water included at 3%, (from 1% for 2024/25 and a further addition of 1% in 2025/26 and 2026/27) as per the proposal Halifax Water included in the 2022 Rate application. Further annual increases of 1% are proposed to 2028/29.

Worksheet W-1

Halifax Water
Water Rate Study

Water Plant Production and User Characteristics Data

Water Production

	2021/22	2022/23	2023/24	Average
Average Day Production (in cubic meters)				
Lake Major	31,756	32,270	33,906	32,644
Lake Pockwock	84,039	91,583	94,244	89,955
Bennery Lake	705	806	903	805
System	116,500	124,660	129,052	123,404
Maximum-Day Production (in cubic meters)				
Lake Major	45,560	41,310	43,560	43,477
Lake Pockwock	97,960	109,210	110,270	105,813
Bennery Lake	2,250	4,003	5,296	3,850
System	145,770	154,523	159,126	153,140

	2021/22	2022/23	2023/24	Average
Average Day as a Percent of Maximum Day				
Lake Major	70%	78%	78%	75%
Lake Pockwock	86%	84%	85%	85%
Bennery Lake	31%	20%	17%	21%
System	80%	81%	81%	81%
Max-Day / Average Day Ratio				
Lake Major	1.43	1.28	1.28	1.33
Lake Pockwock	1.17	1.19	1.17	1.18
Bennery Lake	3.19	4.96	5.87	4.78
System	1.25	1.24	1.23	1.24

Usage Characteristics

Date	**November 30, 2024**
Test Years	
1	**2025/26**
2	**2026/27**
Current Year	**2024/25**
Historical Year	**2023/24**

Customer Classes

Residential	Non-Residential
Single Family Residential	Commercial
Multi-Family	Industrial
	Institutional
	Unmetered

Service Connections, Equivalents and Billed Usage

Meter Size		2026/27 Number of Services	Capacity Ratio	System Equivalents		Estimated Consumption (Cubic Meters)
Unmetered 5/8"		287	1	287		47,059
Unmetered 3/4"		0	1.5	0		0
Unmetered 1"		7	2.5	18		7,613
Unmetered 3"		0	16.0	0		0
15 MM - 5/8"		83,588	1	83,588		13,705,797
20 MM - 3/4"		1,082	1.5	1,623		580,910
25 MM - 1"		1,644	2.5	4,110		1,787,887
40 MM - 1.5"		1,303	5	6,515		3,250,870
50 MM - 2"		905	8	7,240		5,566,674
80 MM - 3"		327	16	5,232		4,467,478
100 MM - 4"		74	25	1,850		1,729,402
150 MM - 6"		36	50	1,800		2,343,079
200 MM - 8"		25	90	2,250		1,522,882
250 MM - 10"		2	150	300		262,445
TOTAL		89,280		114,813		**35,272,097**

Halifax Water
Consumption Summary

Class	Consumption m3: 2018 - 2024 (1)	Realloc. of 5/8"	Revised Total	Share: Calculated	Loudon	Peaking Factors(2): Max Day	Max Hour	Distrib. Design Factors: Max Day	Max Hour	Extra-Capacity: Max Day	Max Hour
Commercial	6,523,060	1,923,520	8,446,580	25.85%	19%	1.17	1.67			4,049	478
Industrial	1,916,765		1,916,765	5.87%	8%	1.22	1.33			1,176	22
Institutional	3,928,497		3,928,497	12.02%	14%	1.25	1.76			2,691	229
Multi-Family	7,421,721		7,421,721	22.72%		0.96	1.21			(813)	212
Single Family Residential	12,823,465	(1,923,520)	10,899,945	33.36%		1.05	1.39	1.66	2.50	1,493	423
Subtotal Res				*56%*	*59-66%*						
Unmetered	55,944		55,944	0.17%							
Total	**32,669,453**		**32,669,453**								

(1) Water Consumption based on 5 year average spanning fiscal years 2018/19 to 2023/24 inclusive. The fiscal year 2020/21 has been excluded due the probalble effects of COVID-19.
(2) As per Halifax Water 2024 Demand Analysis report from Thomas Chestnutt (A & N Technical Services Inc.)

	Commercial	Industrial	Institutional	Total Non-Residential	Multi-Family	Single Family Residential	Total Residential	Unmetered	Total System
Avg Use	**6,523,060**	**1,916,765**	**3,928,497**	**12,368,322**	**7,421,721**	**12,823,465**	**20,245,186**	**55,944**	**32,669,453**

Worksheet W-2 Operations

Worksheet W-2 provides a comparative Statement of Operations for Water Services for fiscal years as follows:

- Actual results for the fiscal years 2021/22, 2022/23, and 2023/24 for Water Services.
- Budgets approved by Halifax Water's Board of Commissioners for 2024/25 and 2025/26, with 2025/26 representing Test Year #1 for the purposes of the Rate Study.
- Projections for 2026/27, representing Test Year #2 for the purposes of the Rate Study.

Revenues are budgeted/projected based on current rates, and revenues and expenditures have been segregated between regulated and unregulated activities. This worksheet details the budgeted deficits at current rates in Water Services for the two test years.

Water Services had a cumulative surplus of $10.5 million as of March 31, 2024, however, with budgeted deficits in 2024/25 and 2025/26 of $9.2 million and $22.7 million respectively, and a projected deficit of $30.7 million in 2026/27, the projected accumulated deficit as at March 31, 2027, is estimated at $52.2 million. Of note, the current 10-months actuals for the 2024/25 fiscal year is reporting a year to date loss of $8.3 million.

Unregulated revenues and expenditures have been identified on Worksheet W-2 and are excluded in the determination of revenue requirements for rate making purposes. The calculation of revenue requirements is reported on Worksheet W-3.

Depreciation in Test Year #2 is $1.1 million higher than budgeted 2025/26, mostly as a result of new projects that will come into service. Corporate projects for the test year data are amortized based on useful life and asset class. The inclusion of depreciation of donated assets has minimal impact on the total depreciation amount.

Worksheet W-2

Halifax Water Water Rate Study Comparative Statement of Operations Fiscal Years ending March 31st	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating revenues						
Regulated activities						
Water	$48,189,135	$49,133,796	$54,938,147	$54,832,433	$56,209,968	$56,358,704
Public fire protection	$7,627,560	$7,744,055	$8,083,080	$8,083,080	$8,083,080	$8,083,080
Private fire protection	$1,270,383	$1,398,221	$1,698,375	$1,720,934	$1,711,088	$1,751,884
Bulk water stations	$317,232	$355,757	$256,636	$369,100	$340,153	$334,402
Late payment and other connection fees	$274,803	$156,645	$191,407	$205,300	$202,000	$202,000
Miscellaneous	$295,593	$294,800	$187,361	$268,851	$234,451	$219,111
Sub-total	$57,974,706	$59,083,273	$65,355,006	$65,479,698	$66,780,740	$66,949,181
Unregulated activities						
Contract Revenue	$37,615	$28,961	$0	$0	$0	$0
Total	**$58,012,321**	**$59,112,234**	**$65,355,006**	**$65,479,698**	**$66,780,740**	**$66,949,181**
Operating Expenditures						
Regulated activities						
Supply and treatment	$10,720,704	$11,619,651	$14,781,183	$13,662,318	$16,146,183	$17,266,027
Transmission and distribution	$11,328,159	$11,759,124	$13,763,632	$14,066,134	$16,909,783	$17,713,905
Engineering and technology services*	$4,959,442	$3,570,154	$4,745,283	$5,079,867	$2,016,840	$2,112,686
Technical services (SCADA)	$1,265,517	$1,152,685	$1,255,817	$1,330,605	$1,568,475	$1,598,947
Regulatory services*	$1,220,017	$1,446,210	$2,052,976	$1,647,334	$1,576,139	$1,657,571
Corporate services*	$1,453,951	$1,621,790	$1,544,445	$1,909,134	$8,667,577	$9,831,834
Customer service	$2,504,685	$2,218,068	$2,453,861	$2,298,634	$2,644,924	$2,785,452
Administration*	$3,430,670	$2,969,479	$3,158,694	$5,222,636	$3,900,163	$4,118,869
Calculated depreciation - funded assets	$11,488,977	$12,186,000	$13,212,237	$12,959,400	$16,571,846	$17,662,749
Calculated depreciation - donated assets	$0	$0	$0	$0	$65,821	$98,732
Sub-total	$48,372,123	$48,543,163	$56,968,128	$58,176,063	$70,067,752	$74,846,772
Unregulated activities						
Contract Systems	$39,531	$26,739	$4,464	$0	$0	$0
Total	**$48,411,654**	**$48,569,902**	**$56,972,592**	**$58,176,063**	**$70,067,752**	**$74,846,772**
Earnings from operations	**$9,600,667**	**$10,542,332**	**$8,382,413**	**$7,303,635**	**($3,287,012)**	**($7,897,591)**
Financial and other revenues						
Regulated activities						
Investment Income	$122,765	$342,924	$299,536	$372,090	$295,488	$295,488
Miscellaneous	$23,067	$31,154	$5,136	$24,000	$12,000	$12,000
Sub-total	$145,832	$374,077	$304,672	$396,090	$307,488	$307,488
Unregulated activities						
Tower Leases	$200,689	$192,996	$201,492	$231,169	$227,921	$227,921
Energy Projects	$173,213	$163,462	$183,198	$182,639	$210,672	$210,672
Rental Income	$8,400	$8,400	$2,100	$8,400	$8,400	$8,400
Contract Revenue	$55,859	$49,973	$0	$12,000	$18,000	$18,000
Miscellaneous	$5,796	$0	$0	$0	$0	$0
Total	**$589,789**	**$788,908**	**$691,462**	**$830,298**	**$772,481**	**$772,481**
Financial and other expenditures						
Regulated Activities						
Interest on long term debt	$2,112,630	$2,434,334	$2,832,768	$4,108,720	$5,485,627	$7,155,190
Repayment on long term debt	$5,807,549	$6,148,277	$6,164,113	$6,997,197	$8,315,922	$9,659,420
Amortization of debt discount	$81,279	$86,814	$87,699	$112,354	$119,207	$129,712
Dividend/ grant in lieu of taxes	$5,552,613	$5,608,140	$5,823,660	$6,004,784	$6,157,790	$6,550,883
Sub-total	$13,554,071	$14,277,565	$14,908,241	$17,223,055	$20,078,546	$23,495,205
Unregulated activities						
Miscellaneous	$114,086	$118,492	$128,919	$130,244	$115,244	$115,244
Total	**$13,668,157**	**$14,396,057**	**$15,037,160**	**$17,353,299**	**$20,193,790**	**$23,610,449**
Earnings (loss) for the year	**($3,477,701)**	**($3,064,816)**	**($5,963,284)**	**($9,219,366)**	**($22,708,320)**	**($30,735,559)**
Surplus, beginning of year	**$22,978,077**	**$19,500,376**	**$16,435,560**	**$10,472,276**	**$1,252,910**	**($21,455,411)**
Surplus, end of year	**$19,500,376**	**$16,435,560**	**$10,472,276**	**$1,252,910**	**($21,455,411)**	**($52,190,970)**

Worksheet W-3 – Revenue Requirements

Worksheet W-3 takes the operating and financial expense information from Worksheet W-2 to develop revenue requirements for the test years 2025/26 and 2026/27.

Financial and other operating revenues, excluding those related to unregulated activities, are deducted from the expenditures to determine the revenue required from Water Services customers and public and private fire protection.

Worksheet W-3

Halifax Water
Water Rate Study

Statement of Operating Expenses and Revenue Requirements
Fiscal Years ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating expenditures						
Supply and treatment	$10,720,704	$11,619,651	$14,781,183	$13,662,318	$16,146,183	$17,266,027
Transmission and distribution	$11,328,159	$11,759,124	$13,763,632	$14,066,134	$16,909,783	$17,713,905
Engineering and technology services*	$4,959,442	$3,570,154	$4,745,283	$5,079,867	$2,016,840	$2,112,686
Technical services (SCADA)	$1,265,517	$1,152,685	$1,255,817	$1,330,605	$1,568,475	$1,598,947
Regulatory services*	$1,220,017	$1,446,210	$2,052,976	$1,647,334	$1,576,139	$1,657,571
Corporate services*	$1,453,951	$1,621,790	$1,544,445	$1,909,134	$8,667,577	$9,831,834
Customer service	$2,504,685	$2,218,068	$2,453,861	$2,298,634	$2,644,924	$2,785,452
Administration*	$3,430,670	$2,969,479	$3,158,694	$5,222,636	$3,900,163	$4,118,869
Sub-total	$36,883,146	$36,357,163	$43,755,891	$45,216,663	$53,430,085	$57,085,291
Calculated depreciation - funded assets	$11,488,977	$12,186,000	$13,212,237	$12,959,400	$16,571,846	$17,662,749
Calculated depreciation - donated assets	$0	$0	$0	$0	$65,821	$98,732
Total	**$48,372,123**	**$48,543,163**	**$56,968,128**	**$58,176,063**	**$70,067,752**	**$74,846,772**
Add: non-operating expenditures						
Interest on long term debt	$2,112,630	$2,434,334	$2,832,768	$4,108,720	$5,485,627	$7,155,190
Repayment on long term debt	$5,807,549	$6,148,277	$6,164,113	$6,997,197	$8,315,922	$9,659,420
Amortization of debt discount	$81,279	$86,814	$87,699	$112,354	$119,207	$129,712
Dividend/ grant in lieu of taxes	$5,552,613	$5,608,140	$5,823,660	$6,004,784	$6,157,790	$6,550,883
Miscellaneous	$0	$0	$0	$0	$0	$0
	$13,554,071	$14,277,565	$14,908,241	$17,223,055	$20,078,546	$23,495,205
Total	**$13,554,071**	**$14,277,565**	**$14,908,241**	**$17,223,055**	**$20,078,546**	**$23,495,205**
Less: other revenues						
Bulk water stations	$317,232	$355,757	$256,636	$369,100	$340,153	$334,402
Late payment and other connection fees	$274,803	$156,645	$191,407	$205,300	$202,000	$202,000
Miscellaneous	$318,660	$325,953	$192,497	$292,851	$246,451	$231,111
Investment Income	$122,765	$342,924	$299,536	$372,090	$295,488	$295,488
Total	**$1,033,460**	**$1,181,279**	**$940,076**	**$1,239,341**	**$1,084,092**	**$1,063,001**
Less: other adjustments						
Sponsorships and donations	$1,879	$22,952	$5,304	$20,400	$20,400	$20,400
Help to others (H20) program	$17,538	$17,538	$17,538	$20,400	$20,400	$20,400
Administration	$65,926	$65,824	$71,309	$7,650	$7,650	$7,650
Total	**$85,343**	**$106,315**	**$94,152**	**$48,450**	**$48,450**	**$48,450**
Revenue required from customers	**$60,807,391**	**$61,533,134**	**$70,842,141**	**$74,111,327**	**$89,013,755**	**$97,230,526**

Worksheet W-4 Operating Expenditure Analysis

Worksheet W-4 details the operating expenditures by cost element group for each of the functional areas within the Water Services, consisting of the following:

- Water Supply and Treatment,
- Transmission and Distribution,
- Technical Services (SCADA),
- Engineering and Capital Infrastructure,
- Regulatory Services,
- Customer Services,
- Corporate Services, and
- Administration.

Data provided as part of the review and analysis includes:

- Actual results for 2021/22, 2022/23, and 2023/24,
- Approved budgets for 2024/25 and 2025/26 (Test Year #1), and
- Projected results for 2026/27 (Test Year #2).

For operating expenditures related to 2026/27 (Test Year #2), the key assumptions regarding projected increases are as follows:

- Salaries and benefits: 2.5% to 3.0% (as per Union agreement) and 2.75% for non-union
- Chemicals: 5.0%
- Electricity: 5.0%
- Other: 2.0%
- Software: 19.0%

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

Software increases encompass an additional 70 users license necessary for the ERP, along with projects that include Vendor and Contract Management modules, property management, and HR modules for Talent Management, Recruitment, Health and Safety.

On subsequent pages within this section, operating expenditures are reported for the core cost element groups within each functional area. As part of the analysis, variances have been provided with changes expressed as both dollar and percentage values, comparing year-over-year changes for the fiscal years 2022/23 through 2026/27. Commentary is provided for each of the cost elements groups falling within the functional areas, with additional details provided in situations where variances have increased over $100 thousand.

Water Supply and Treatment

- Salaries and Benefits – Costs are reflective of increases for unionized staff in accordance with the respective collective agreements that were ratified in 2024. A Joint Job Evaluation for local 227 was completed in 2024 and resulted in increased costs. In 2026/27, there will be five new full-time equivalents added to meet operational needs of Water Operations.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – Planning and attendance for conferences and training are typically impacted by the content of the offering and the expiration of certifications of staff.

In 2025/26 and 2026/27, the training and development costs were removed from Operations budgets and consolidated in the corporate Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services – This would include the costs associated with hiring contractors to support the operation of the facilities and would include mechanical contractors for equipment maintenance and repair and hired equipment for managing water treatment plants residuals. The increase in budget for 2025/26 is for planned work to clean the water treatment plant sludge lagoons and transport of residuals to the landfill.

- Electricity – The costs for 2026/27 are reflective of projected price and anticipated consumption/usage, with the variability in electricity consumption directly related to water production.

- Materials Supplies and Services – Costs in this cost element group support Halifax Water's infrastructure and equipment and the increase for 2026/27 is for increased maintenance to address aging infrastructure at the facilities.

- Professional Services – The increase for 2025/26 is due to an increase in consulting requirements.

- Fleet Services – Costs are assigned to the various production plants based on the types of vehicles and/or equipment to meet operational needs. Fleet costs are relatively stable over the periods in question.

- Chemicals – The costs for 2026/27 are reflective of projected price and anticipated consumption/usage. Chemicals costs can be extremely volatile from a pricing perspective. Over the last several years, water treatment facility optimization resulted in an increase in chemical use.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Water Supply and Treatment											
Salaries and benefits	$3,449,524	$3,343,190	$3,644,272	$3,275,480	$5,303,631	$5,847,744	($106,335) (3%)	$301,082 9%	($368,792) (10%)	$2,028,151 62%	$544,113 10%
Training and development	$8,344	$32,833	$60,031	$45,500	$0	$0	$24,489 294%	$27,199 83%	($14,531) (24%)	($45,500) (100%)	$0 0%
Contract services	$880,186	$1,034,261	$1,325,925	$2,560,391	$3,044,553	$3,135,890	$154,075 18%	$291,664 28%	$1,234,466 93%	$484,162 19%	$91,337 3%
Electricity	$1,996,372	$1,906,907	$2,383,663	$2,252,409	$2,443,592	$2,565,772	($89,465) (4%)	$476,756 25%	($131,254) (6%)	$191,183 8%	$122,180 5%
Materials, supplies and services	$779,617	$890,666	$1,128,705	$1,052,336	$1,189,079	$1,420,676	$111,049 14%	$238,040 27%	($76,369) (7%)	$136,743 13%	$231,597 19%
Professional services	$491,767	$258,253	$365,648	$414,829	$554,372	$571,003	($233,514) (47%)	$107,395 42%	$49,181 13%	$139,543 34%	$16,631 3%
Fleet	$213,220	$221,301	$360,254	$291,205	$339,720	$351,610	$8,081 4%	$138,954 63%	($69,049) (19%)	$48,515 17%	$11,890 3%
Chemicals	$3,415,488	$4,569,547	$6,253,122	$5,711,826	$5,839,261	$6,131,224	$1,154,059 34%	$1,683,575 37%	($541,296) (9%)	$127,435 2%	$291,963 5%
Applied overheads and other allocations	$129,780	$118,617	$142,302	$157,151	$198,068	$200,049	($11,163) (9%)	$23,685 20%	$14,849 10%	$40,917 26%	$1,981 1%
Allocated to Transmission and Distribution	($643,593)	($729,183)	($878,276)	($2,098,809)	($2,766,093)	($2,957,940)	($85,591) 13%	($149,092) 20%	($1,220,533) 139%	($667,284) 32%	($191,847) 7%
Total Water Supply and Treatment	**$10,720,704**	**$11,646,390**	**$14,785,647**	**$13,662,318**	**$16,146,183**	**$17,266,027**	$925,686 9%	$3,139,257 27%	($1,123,329) (8%)	$2,483,865 18%	$1,119,844 7%

Transmission and Distribution

- Salaries and Benefits – Costs are reflective of increases for unionized staff in accordance with the respective collective agreements ratified in 2024. A Joint Job Evaluation for local 227 was completed in 2024 resulted in increased costs. Further cost increases in 2026/27 results from the addition of three new full-time equivalent positions.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were removed from Operations budgets and consolidated in the corporate Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services – Expenditures increased due to core maintenance activities for distribution mains and hydrants, hired equipment, road and street repairs and traffic control services required to implement enhanced safety measures, and to comply with HRM permit standards.

- Electricity - Costs are reflective of price and consumption/usage. Electricity is not a significant cost related to Transmission and Distribution.

- Materials Supplies and Services – Past variability in costs is related to unplanned repairs that could not be budgeted for. Examples would include increased water main repairs and transmission main failures.

- Professional Services – No major variance compared to previous expenditures. Professional services costs have typically not been significant related to Transmission and Distribution.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs. Costs vary as a result in how costs were allocated to shared services.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Transmission and Distribution											
Salaries and benefits	$5,336,540	$5,134,712	$5,820,426	$6,109,989	$7,223,758	$7,703,889	($201,827) (4%)	$685,714 13%	$289,563 5%	$1,113,769 18%	$480,131 7%
Training and development	$3,379	$17,367	$17,508	$30,500	$0	$0	$13,988 414%	$141 1%	$12,992 74%	($30,500) (100%)	$0 0%
Contract services	$3,654,469	$3,930,306	$4,639,849	$3,691,627	$4,656,500	$4,796,195	$275,837 8%	$709,543 18%	($948,222) (20%)	$964,873 26%	$139,695 3%
Electricity	$149,030	$141,117	$177,752	$157,258	$166,500	$174,825	($7,914) (5%)	$36,635 26%	($20,494) (12%)	$9,242 6%	$8,325 5%
Materials, supplies and services	$991,888	$772,308	$1,155,048	$513,909	$513,629	$613,668	($219,580) (22%)	$382,740 50%	($641,139) (56%)	($280) (0%)	$100,039 19%
Professional services	$20,386	$46,235	$30,415	$33,750	$46,000	$47,380	$25,849 127%	($15,820) (34%)	$3,335 11%	$12,250 36%	$1,380 3%
Fleet	$696,724	$1,109,831	$1,178,356	$1,005,471	$1,147,094	$1,187,242	$413,107 59%	$68,525 6%	($172,885) (15%)	$141,623 14%	$40,148 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$183,867	$209,276	$202,336	$206,071	$230,462	$232,767	$25,409 14%	($6,940) (3%)	$3,735 2%	$24,391 12%	$2,305 1%
Allocation from Supply and treatment	$643,593	$729,183	$878,276	$2,317,559	$2,925,840	$2,957,940	$85,591 13%	$149,092 20%	$1,439,283 164%	$608,281 26%	$32,100 1%
Recoveries	($351,718)	($331,212)	($336,335)	$0	$0	$0	$20,506 (6%)	($5,122) 2%	$336,335 (100%)	$0 0%	$0 0%
Total Transmission and Distribution	**$11,328,159**	**$11,759,124**	**$13,763,632**	**$14,066,134**	**$16,909,783**	**$17,713,905**	$430,965 4%	$2,004,508 17%	$302,503 2%	$2,843,649 20%	$804,122 5%

Technical Services (SCADA)

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. A Joint Job Evaluation for local 227 was completed in 2024 and resulted in increased costs.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services – Not a major cost for Technical Services (SCADA), and relates mainly to situations where external contractors are required to perform specialized repairs or services in support of booster stations, etc.

- Electricity – Not a major cost for Technical Services (SCADA), with its primary purpose of running the pump station at Bennery Lake.

- Materials Supplies, and Services– Costs within this cost element group vary year-over-year however Computer new software for cybersecurity and licenses for new employees, cellular charges and equipment repair and maintenance are the primary costs increases within this grouping.

- Professional Services – Not a major cost for Technical Services (SCADA) however, the main cost driver within this cost element group are costs related to licenses and agreements, required for data collection and the various software applications.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Technical Services (SCADA)											
Salaries and benefits	$2,222,113	$1,937,251	$2,313,177	$2,190,720	$2,422,041	$2,324,352	($284,862) (13%)	$375,926 19%	($122,457) (5%)	$231,321 11%	($97,689) (4%)
Training and development	$16,219	$20,120	$46,381	$52,000	$0	$0	$3,901 24%	$26,261 131%	$5,619 12%	($52,000) (100%)	$0 0%
Contract services	$16,686	$33,890	$36,971	$62,300	$62,300	$64,169	$17,204 103%	$3,081 9%	$25,329 69%	$0 0%	$1,869 3%
Electricity	$149,001	$143,867	$172,919	$189,109	$178,369	$187,287	($5,134) (3%)	$29,052 20%	$16,190 9%	($10,740) (6%)	$8,918 5%
Materials, supplies and services	$303,620	$443,359	$289,262	$324,560	$762,147	$910,590	$139,739 46%	($154,096) (35%)	$35,298 12%	$437,587 135%	$148,443 19%
Professional services	$13,058	$70,664	$47,078	$61,800	$63,200	$65,096	$57,606 441%	($23,586) (33%)	$14,722 31%	$1,400 2%	$1,896 3%
Fleet	$154,889	$194,859	$154,681	$386,476	$322,736	$334,032	$39,970 26%	($40,177) (21%)	$231,795 150%	($63,740) (16%)	$11,296 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$63,192	$54,528	$54,273	$68,220	$74,133	$74,874	($8,664) (14%)	($255) (0%)	$13,947 26%	$5,913 9%	$741 1%
Allocated to Wastewater Services	($1,616,467)	($1,732,432)	($1,842,515)	($1,992,035)	($2,298,157)	($2,342,805)	($115,965) 7%	($110,083) 6%	($149,520) 8%	($306,122) 15%	($44,648) 2%
Allocated to Stormwater Services	($56,794)	($13,419)	($16,410)	($12,545)	($18,294)	($18,649)	$43,374 (76%)	($2,991) 22%	$3,865 (24%)	($5,749) 46%	($355) 2%
Total Technical Services (SCADA)	**$1,265,517**	**$1,152,685**	**$1,255,817**	**$1,330,605**	**$1,568,475**	**$1,598,947**	($112,832) (9%)	$103,132 9%	$74,788 6%	$237,870 18%	$30,472 2%

Engineering and Capital Infrastructure

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements, Some Cost Centres (Engineering Information and Information Services) were re-allocated to the Corporate Services functional area, and Engineering Approvals moved from Regulatory Services as detailed in the Cost of Service. There was also the inclusion of an Engineering Intelligence Specialist.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services – Contract services are not a significant cost related to Engineering and Capital Infrastructure.

- Materials Supplies and Services – Costs for material, supplies, and services are predominately costs associated with Information Services, and specifically related to computer software and licensing. Some Cost Centers were re-allocated to the Corporate Services functional area, and another incorporated into Engineering.

- Professional Services – Similar to materials, supplies, and services, costs related to professional services are associated predominately consulting services within Information Services. These costs have been re-allocated to Corporate Services. The department uses a model to engage external consultants, and the amount varies depending on system performance.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Engineering and Technology Services											
Salaries and benefits	$5,773,741	$5,137,106	$6,845,679	$7,389,055	$5,074,120	$5,310,775	($636,635) (11%)	$1,708,574 33%	$543,376 8%	($2,314,935) (31%)	$236,655 5%
Training and development	$88,887	$223,728	$213,737	$405,000	$0	$0	$134,841 152%	($9,991) (4%)	$191,263 89%	($405,000) (100%)	$0 0%
Contract services	$100,942	$85,810	$32,948	$5,000	$4,540	$4,676	($15,132) (15%)	($52,862) (62%)	($27,948) (85%)	($460) (9%)	$136 3%
Electricity	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Materials, supplies and services	$3,388,231	$4,350,069	$5,190,515	$5,842,589	$130,600	$156,037	$961,837 28%	$840,446 19%	$652,074 13%	($5,711,989) (98%)	$25,437 19%
Professional services	$1,034,360	$586,142	$192,358	$267,020	$60,500	$62,315	($448,219) (43%)	($393,784) (67%)	$74,662 39%	($206,520) (77%)	$1,815 3%
Fleet	$80,103	$83,103	$107,391	$144,875	$270,845	$280,325	$2,999 4%	$24,288 29%	$37,484 35%	$125,970 87%	$9,480 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$351,335	$311,256	$351,895	$368,426	$272,335	$275,058	($40,078) (11%)	$40,639 13%	$16,531 5%	($96,091) (26%)	$2,723 1%
Allocated to Wastewater Services	($4,396,843)	($5,113,479)	($6,436,857)	($7,344,746)	($2,822,819)	($2,956,967)	($716,635) 16%	($1,323,378) 26%	($907,889) 14%	$4,521,927 (62%)	($134,148) 5%
Allocated to Stormwater Services	($1,461,314)	($2,093,580)	($1,752,383)	($1,997,352)	($973,281)	($1,019,534)	($632,267) 43%	$341,197 (16%)	($244,969) 14%	$1,024,071 (51%)	($46,253) 5%
Total Engineering and Technology Services	**$4,959,442**	**$3,570,154**	**$4,745,283**	**$5,079,867**	**$2,016,840**	**$2,112,686**	($1,389,288) (28%)	$1,175,129 33%	$334,584 7%	($3,063,027) (60%)	$95,846 5%

Environment, Health and Safety (EHS)

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. Enterprise Risk Management has been added to EHS from Corporate Services and Engineering Approvals has been re-allocated to the Engineering functional area, furthermore the safety and security cost centre moved from the General Manager to Environment Health and Safety for 25/26, which includes staff salaries for 6 FTEs. There are 3 new positions for the area covering Emergency Management, Climate and Sustainability and Electrical Safety.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services – The main cost driver within contract services relates to the Safety and Security cost centre moving from the General Manager to Environment Health and Safety for 2025/26 onwards, it is not a net new increase organizationally.

- Materials Supplies and Services – Costs for materials, supplies and services are not significant costs in relation to Regulatory Services.

- Professional Services – The main cost driver within professional services relates to the Safety and Security cost moving from the General Manager to Environment Health and Safety for 25/26 onwards, it is not a net new increase organizationally.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Regulatory Services											
Salaries and benefits	$3,810,272	$4,242,896	$4,455,593	$4,981,909	$4,158,799	$4,371,497	$432,624 11%	$212,697 5%	$526,316 12%	($823,110) (17%)	$212,698 5%
Training and development	$7,043	$32,427	$15,232	$69,500	$0	$0	$25,385 360%	($17,196) (53%)	$54,268 356%	($69,500) (100%)	$0 0%
Contract services	$221,920	$220,866	$261,270	$278,870	$534,040	$550,061	($1,054) (0%)	$40,404 18%	$17,600 7%	$255,170 92%	$16,021 3%
Electricity	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 #DIV/0!	$0 0%	$0 0%
Materials, supplies and services	$70,695	$60,200	$107,386	$127,220	$183,625	$219,390	($10,495) (15%)	$47,187 78%	$19,834 18%	$56,405 44%	$35,765 19%
Professional services	$81,336	$81,488	$71,410	$163,000	$241,850	$249,106	$152 0%	($10,077) (12%)	$91,590 128%	$78,850 48%	$7,256 3%
Fleet	$92,756	$76,191	$110,757	$176,763	$110,803	$114,681	($16,565) (18%)	$34,566 45%	$66,006 60%	($65,960) (37%)	$3,878 4%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$108,316	$110,059	$119,147	$124,970	$130,827	$132,135	$1,743 2%	$9,088 8%	$5,824 5%	$5,857 5%	$1,308 1%
Recoveries	($330)	($389,298)	$391,698	$0	$0	$0	($388,968) 117869%	$780,997 (201%)	($391,698) (100%)	$0 0%	$0 0%
Allocated to Wastewater Services	($1,584,398)	($1,491,153)	($1,603,959)	($1,888,743)	($1,763,380)	($1,854,486)	$93,244 (6%)	($112,805) 8%	($284,784) 18%	$125,363 (7%)	($91,106) 5%
Allocated to Stormwater Services	($1,587,592)	($1,497,465)	($1,875,558)	($2,386,155)	($2,020,425)	($2,124,812)	$90,127 (6%)	($378,093) 25%	($510,597) 27%	$365,730 (15%)	($104,387) 5%
Total Regulatory Services	**$1,220,017**	**$1,446,210**	**$2,052,976**	**$1,647,334**	**$1,576,139**	**$1,657,571**	$226,193 19%	$606,766 42%	($405,642) (20%)	($71,195) (4%)	$81,432 5%

Customer Service

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements,

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Materials Supplies, and Services – Customer Service costs for materials, supplies, and services are centered within the Customer Billing department, and specifically the cost element for postage and software.

- Professional Services – Historical costs related to professional services were mainly in support of the Help to Others (H2O) Program. Since 2021/22, the budget and associated costs related to this program were moved to the General Manager's Office, under Administration.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Customer Service											
Salaries and benefits	$3,421,224	$3,413,525	$3,655,676	$3,556,621	$3,819,338	$3,953,015	($7,699) (0%)	$242,151 7%	($99,055) (3%)	$262,717 7%	$133,677 3%
Training and development	$8,867	$4,430	$13,628	$35,600	$0	$0	($4,438) (50%)	$9,198 208%	$21,972 161%	($35,600) (100%)	$0 0%
Contract services	$207,445	$185,490	$133,042	$138,567	$308,948	$318,217	($21,955) (11%)	($52,448) (28%)	$5,526 4%	$170,381 123%	$9,268 3%
Electricity	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 #DIV/0!	$0 0%	$0 0%
Materials, supplies and services	$719,189	$647,244	$454,066	$504,110	$645,324	$771,014	($71,945) (10%)	($193,178) (30%)	$50,044 11%	$141,214 28%	$125,690 19%
Professional services	$11,011	$4,812	$12,468	$0	$0	$0	($6,199) (56%)	$7,656 159%	($12,468) (100%)	$0 0%	$0 0%
Fleet	$105,785	$73,415	$60,600	$93,960	$111,400	$115,299	($32,370) (31%)	($12,815) (17%)	$33,360 55%	$17,440 19%	$3,899 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 #DIV/0!	$0 0%	$0 0%
Applied overheads and other allocations	$348,523	$143,920	$381,758	$178,268	$301,115	$304,126	($204,604) (59%)	$237,838 165%	($203,490) (53%)	$122,847 69%	$3,011 1%
Recoveries	($11,341)	($25,341)	($7,095)	$0	$0	$0	($14,000) 123%	$18,246 (72%)	$7,095 (100%)	$0 0%	$0 0%
Allocated to Wastewater Services	($2,031,875)	($2,044,148)	($2,061,504)	($2,029,653)	($2,338,236)	($2,462,469)	($12,274) 1%	($17,356) 1%	$31,851 (2%)	($308,583) 15%	($124,233) 5%
Allocated to Stormwater Services	($274,144)	($185,278)	($188,778)	($178,839)	($202,965)	($213,749)	$88,866 (32%)	($3,501) 2%	$9,939 (5%)	($24,126) 13%	($10,784) 5%
Total Customer Service	**$2,504,685**	**$2,218,068**	**$2,453,861**	**$2,298,634**	**$2,644,924**	**$2,785,452**	($286,617) (11%)	$235,792 11%	($155,226) (6%)	$346,290 15%	$140,528 5%

Corporate Services

Corporate Services is headed by the Director, Corporate Services/CFO, who is responsible for the functions of Accounting, Finance, Facilities, Fleet & Logistics, Customer Services, Procurement, I&T and Customer Service.

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. The area also incorporated areas such as Engineering Information and Cybersecurity and Information Services (previously in Engineering) and the creation of the Data Analytics & Visualization, I&T Project management Office, and IT Admin and OH. Salary increase includes eight new positions for 2026/27.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were consolidated in the Administrative Budget. These costs are allocated to services based on the allocation in the Cost-of-Service Manual.

- Contract Services –. Costs are not significant for Corporate Services and vary due to demand such as services required for water demand analysis which will not be necessary in the next year.

- Materials, Supplies and Services – Costs within this cost element group include expenditures such as IT software, non-billing related postage, telephones. The main driver of the increase in 2026/27 is for computer software and licenses.

- Professional Services – Costs within this cost element group include expenditures such as the annual corporate audit and consulting services as required.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs.

- Applied Overheads and Other Allocations – Included here are several other operating costs, the largest of which is the annual insurance policy premium.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Corporate Services											
Salaries and benefits	$1,299,270	$1,301,910	$1,481,734	$1,954,070	$6,399,447	$7,095,860	$2,641 0%	$179,823 14%	$472,336 32%	$4,445,377 227%	$696,413 11%
Training and development	$8,387	$23,130	$19,198	$72,300	$0	$0	$14,743 176%	($3,931) (17%)	$53,102 277%	($72,300) (100%)	$0 0%
Contract services	$22,654	$44,664	$62,002	$212,200	$173,500	$178,705	$22,009 97%	$17,339 39%	$150,198 242%	($38,700) (18%)	$5,205 3%
Electricity	$0	$0	$0	$0	$0	$0					
Materials, supplies and services	$20,651	$46,425	$38,231	$60,190	$7,936,059	$9,481,763	$25,775 125%	($8,194) (18%)	$21,959 57%	$7,875,869 13085%	$1,545,704 19%
Professional services	$193,174	$124,359	$198,793	$193,200	$516,050	$531,532	($68,815) (36%)	$74,433 60%	($5,593) (3%)	$322,850 167%	$15,482 3%
Fleet		$428	$181	$1,102	$14,022	$14,513	$428 0%	($246) (58%)	$921 508%	$12,920 1172%	$491 3%
Chemicals				$0		$0					
Applied overheads and other allocations	$1,517,393	$1,534,745	$1,270,399	$1,250,338	$1,956,170	$1,975,732	$17,352 1%	($264,346) (17%)	($20,062) (2%)	$705,832 56%	$19,562 1%
Allocated to Wastewater Services	($1,382,518)	($1,308,484)	($1,373,484)	($1,650,839)	($7,494,904)	($8,501,643)	$74,034 (5%)	($65,001) 5%	($277,355) 20%	($5,844,065) 354%	($1,006,739) 13%
Allocated to Stormwater Services	($225,061)	($145,387)	($152,609)	($183,427)	($832,767)	($944,627)	$79,674 (35%)	($7,222) 5%	($30,818) 20%	($649,340) 354%	($111,860) 13%
Total Corporate Services	**$1,453,951**	**$1,621,790**	**$1,544,445**	**$1,909,134**	**$8,667,577**	**$9,831,834**	$167,839 12%	($77,345) (5%)	$364,688 24%	$6,758,443 354%	$1,164,257 13%

333

Administration

Since 2021/22, costs related to Corporate Services were separated from the former "Administration and Pension" into two separate divisions within the organizational hierarchy. The remaining portion of Administration and Pension became the Administration Section. The Administration Section is headed by the General Manager, who is responsible for the functions of the General Manager's Office, Human Resources, Legal, and Communications. For 2025/26, Safety & Security has been grouped with Environment, Health and Safety.

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. There will be an increase in three positions for 2026/27.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 onwards, the Training and Development costs have been consolidated in Human Resources. The consolidation is to improve management of the training, allocation of resources across the utility, and increased focus on ensuring that training is specific to the needs of the employees.

Planning and attendance for conferences and training are typically impacted by the content and timing of any offerings. This helps Halifax Water demonstrate our commitment to being an employer of choice, attracting and retaining high-quality team members. The main driver of costs in Administration are those initiatives within the Human Resources department, which include core training for staff, but also leadership/supervisory training and professional development. The worksheet below provides a consolidated view of all training and development costs.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Training and development	$357,235	$576,645	$633,363	$994,305	$1,130,000	$1,163,900	$219,410	$56,718	$360,942	$135,695	$33,900

- Contract Services – Costs appearing within this cost element group are driven mainly by initiatives within the Human Resources department, including harassment investigations, work site assessments, and specialized services requiring external contractors.

- Materials Supplies and Services – Costs for materials, supplies, and services vary year-over-year, and cover a wide variety of cost elements.
- Professional Services – Costs associated with professional services vary year-over-year and include mainly regulatory fees, legal fees, and consulting.

• Fleet – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs, and include for reimbursements to staff for mileage, travel, and parking.

Worksheet W-4

	Operating Expenditures						Variances (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Administration											
Salaries and benefits	$3,526,230	$3,462,060	$4,484,525	$7,376,233	$4,285,748	$4,607,592	($64,170) (2%)	$1,022,465 30%	$2,891,708 64%	($3,090,485) (42%)	$321,844 8%
Training and development	$216,109	$222,610	$247,647	$283,905	$1,130,000	$1,163,900	$6,500 3%	$25,038 11%	$36,258 15%	$846,095 298%	$33,900 3%
Contract services	$232,554	$156,116	$182,665	$421,950	$261,280	$269,118	($76,438) (33%)	$26,550 17%	$239,285 131%	($160,670) (38%)	$7,838 3%
Electricity	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Materials, supplies and services	$110,323	$107,923	$109,928	$194,707	$81,072	$96,862	($2,400) (2%)	$2,006 2%	$84,779 77%	($113,635) (58%)	$15,790 19%
Professional services	$912,914	$1,286,423	$884,768	$1,586,988	$1,514,509	$1,559,944	$373,509 41%	($401,655) (31%)	$702,220 79%	($72,479) (5%)	$45,435 3%
Fleet	$1,607	$16,824	$9,298	$21,992	$11,202	$11,594	$15,217 947%	($7,526) (45%)	$12,694 137%	($10,790) (49%)	$392 4%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$358,978	$322,039	$324,148	$354,688	$363,566	$367,202	($36,939) (10%)	$2,109 1%	$30,540 9%	$8,878 3%	$3,636 1%
Allocated to Wastewater Services	($1,658,119)	($2,344,064)	($2,778,832)	($4,516,044)	($3,372,493)	($3,561,610)	($685,944) 41%	($434,768) 19%	($1,737,212) 63%	$1,143,551 (25%)	($189,117) 6%
Allocated to Stormwater Services	($269,926)	($260,451)	($305,455)	($501,783)	($374,721)	($395,734)	$9,475 (4%)	($45,003) 17%	($196,328) 64%	$127,062 (25%)	($21,013) 6%
Total Administration	**$3,430,670**	**$2,969,479**	**$3,158,694**	**$5,222,636**	**$3,900,163**	**$4,118,869**	($461,191) (13%)	$189,215 6%	$2,063,942 65%	($1,322,473) (25%)	$218,706 6%

Worksheet W-5 Cost-of-Service (COS) Structure

Worksheet W-5 details the customer classifications, cost functions with allocated percentages, service characteristics and operating and capital cost classifications for Water Services as detailed in the Cost-of-Service Manual.

Worksheet W-5

Halifax Water
Water Rate Study

Customer Classifications, Cost Functions & Service Characteristics

Customer Classifications		
Residential	**Non-Residential**	
Single Family Residential	Commercial	Institutional
Multi-Family	Industrial	Unmetered

System Functions						Fee Function (Specific
Watershed Management		Water Storage Tanks		Meter Reading and Billing		
Dams		Hydrants		Engineering and TS		
Water Quality		Service Laterals		Regulatory Services		
Water Treatment		Technical Services		Administration		
Transmission		Customer Service		Corporate Services		
Distribution		O&M Meters				

Classification - Service Characteristics		
Average Day Demand	Equivalent Meters	Indirect
Maximum-Day Demand	Customer Service	
Maximum-Hour Demand	Fire Protection	

Operating Cost Classifications

Function	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect
Watershed Management	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Dams	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Quality	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Treatment	94.00%	6.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Transmission	94.00%	6.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Distribution	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%
Water Storage Tanks	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%
Hydrants	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Service Laterals	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Technical Services	25.00%	25.00%	25.00%	0.00%	0.00%	25.00%	0.00%
Customer Service	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
O&M Meters	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Meter Reading and Billing	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Engineering and TS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Regulatory Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Administration	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Corporate Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

Capital Cost Classifications

Function	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect
Watershed Management	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Dams	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Quality	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Treatment	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Transmission	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Distribution	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%
Water Storage Tanks	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%
Hydrants	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Service Laterals	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Technical Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Customer Service	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
O&M Meters	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Meter Reading and Billing	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Engineering and TS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Regulatory Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Administration	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Corporate Services	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%

Worksheet W-6 Operating Expense Functionalization

Worksheet W-6 details the Water Services operating expense cost element groups, by the system functions detailed in the Cost-of-Service Manual. The total of the service functions equals the operating expense category in the revenue requirement for the year 2026/27 and are reported as both a dollar and percentage value. These values are used in Worksheet W-10 to allocate the costs to the service characteristics.

Worksheet W-6
November 30, 2024

Halifax Water
Water Rate Study

Statement of Operating Expenditures
2026/27

Halifax Water
Water Rate Study

Operating Expense Cost Allocation
Allocation of Costs to Functions
2026/27

OPERATING EXPENSES	Test Year #3 2026/27 Budget	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Supply and Treatment																			
Salaries and benefits	$5,847,744	$415,625	$1,933	$921,604	$4,508,582	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,847,744
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$3,135,890	$66,796	$96,305	$478,435	$2,494,354	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,135,890
Electricity	$2,565,772	$0	$4,200	$0	$2,561,572	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,565,772
Materials, supplies and services	$1,420,676	$20,454	$13,868	$115,726	$1,270,628	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,420,676
Professional services	$571,003	$57,452	$2,292	$112,425	$398,835	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$571,003
Fleet	$351,610	$15,984	$26	$56,060	$279,540	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$351,610
Chemicals	$6,131,224	$0	$0	$0	$6,131,224	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,131,224
Applied overheads and other allocations	$200,049	$4,284	$29	$36,192	$159,544	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$200,049
Allocation to Transmission and Distribution	($2,957,940)	($84,083)	$0	($251,178)	($2,622,679)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,957,940)
Total Supply and Treatment	**$17,266,027**	$496,512	$118,653	$1,469,263	$15,181,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17,266,027
Transmission and Distribution		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$7,703,889	$0	$0	$0	$0	$142,988	$4,366,660	$142,526	$1,863,425	$1,188,289	$0	$0	$0	$0	$0	$0	$0	$0	$7,703,889
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$4,796,195	$0	$0	$0	$0	$165,476	$3,070,183	$133,780	$694,423	$732,334	$0	$0	$0	$0	$0	$0	$0	$0	$4,796,195
Electricity	$174,825	$0	$0	$0	$0	$979	$117,679	$41,421	$8,714	$6,032	$0	$0	$0	$0	$0	$0	$0	$0	$174,825
Materials, supplies and services	$613,668	$0	$0	$0	$0	$27,511	$216,674	$23,884	$283,668	$61,931	$0	$0	$0	$0	$0	$0	$0	$0	$613,668
Professional services	$47,380	$0	$0	$0	$0	$733	$29,712	$746	$11,674	$4,515	$0	$0	$0	$0	$0	$0	$0	$0	$47,380
Fleet	$1,187,242	$0	$0	$0	$0	$18,702	$610,648	$20,533	$337,883	$199,476	$0	$0	$0	$0	$0	$0	$0	$0	$1,187,242
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$232,767	$0	$0	$0	$0	$5,576	$137,504	$5,676	$49,647	$34,364	$0	$0	$0	$0	$0	$0	$0	$0	$232,767
Allocation from Supply and Treatment	$2,957,940	$0	$0	$0	$0	$95,888	$2,271,072	$0	$0	$590,980	$0	$0	$0	$0	$0	$0	$0	$0	$2,957,940
Recoveries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Transmission and Distribution	**$17,713,905**	$0	$0	$0	$0	$457,852	$10,820,131	$368,566	$3,249,434	$2,817,921	$0	$0	$0	$0	$0	$0	$0	$0	$17,713,905
Technical Services (SCADA)		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$2,324,352	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,324,352	$0	$0	$0	$0	$0	$0	$0	$2,324,352
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$64,169	$0	$0	$0	$0	$0	$0	$0	$0	$0	$64,169	$0	$0	$0	$0	$0	$0	$0	$64,169
Electricity	$187,287	$0	$0	$0	$0	$0	$0	$0	$0	$0	$187,287	$0	$0	$0	$0	$0	$0	$0	$187,287
Materials, supplies and services	$910,590	$0	$0	$0	$0	$0	$0	$0	$0	$0	$910,590	$0	$0	$0	$0	$0	$0	$0	$910,590
Professional services	$65,096	$0	$0	$0	$0	$0	$0	$0	$0	$0	$65,096	$0	$0	$0	$0	$0	$0	$0	$65,096
Fleet	$334,032	$0	$0	$0	$0	$0	$0	$0	$0	$0	$334,032	$0	$0	$0	$0	$0	$0	$0	$334,032
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$74,874	$0	$0	$0	$0	$0	$0	$0	$0	$0	$74,874	$0	$0	$0	$0	$0	$0	$0	$74,874
Allocation to Wastewater Service	($2,342,805)	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,342,805)	$0	$0	$0	$0	$0	$0	$0	($2,342,805)
Allocation to Stormwater Service	($18,649)	$0	$0	$0	$0	$0	$0	$0	$0	$0	($18,649)	$0	$0	$0	$0	$0	$0	$0	($18,649)
Total Technical Services (SCADA)	**$1,598,947**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,598,947	$0	$0	$0	$0	$0	$0	$0	$1,598,947

Engineering and TS		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$5,310,775	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,310,775	$0	$0	$0	$5,310,775
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$4,676	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,676	$0	$0	$0	$4,676
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$156,037	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$156,037	$0	$0	$0	$156,037
Professional services	$62,315	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$62,315	$0	$0	$0	$62,315
Fleet	$280,325	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$280,325	$0	$0	$0	$280,325
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$275,058	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$275,058	$0	$0	$0	$275,058
Allocation to Wastewater Service	($2,956,967)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,956,967)	$0	$0	$0	($2,956,967)
Allocation to Stormwater Service	($1,019,534)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($1,019,534)	$0	$0	$0	($1,019,534)
Total Engineering and TS	**$2,112,686**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,112,686	$0	$0	$0	$2,112,686

Regulatory Services		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$4,371,497	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,371,497	$0	$0	$4,371,497
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$550,061	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$550,061	$0	$0	$550,061
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$219,390	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$219,390	$0	$0	$219,390
Professional services	$249,106	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$249,106	$0	$0	$249,106
Fleet	$114,681	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$114,681	$0	$0	$114,681
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$132,135	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$132,135	$0	$0	$132,135
Allocation to Wastewater Service	($1,854,486)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($1,854,486)	$0	$0	($1,854,486)
Allocation to Stormwater Service	($2,124,812)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,124,812)	$0	$0	($2,124,812)
Total Regulatory Services	**$1,657,571**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,657,571	$0	$0	$1,657,571

Customer Service		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$3,953,015	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,388,040	$913,754	$651,221	$0	$0	$0	$0	$3,953,015
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$318,217	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$160,680	$35,020	$122,516	$0	$0	$0	$0	$318,216
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$771,014	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$114,961	$19,140	$636,913	$0	$0	$0	$0	$771,014
Professional services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Fleet	$115,299	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$311	$114,989	$0	$0	$0	$0	$0	$115,299
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$304,126	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$304,126	$0	$0	$0	$0	$0	$0	$304,126
Allocation to Wastewater Service	($2,462,469)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($1,328,700)	($538,726)	($595,043)	$0	$0	$0	$0	($2,462,469)
Allocation to Stormwater Service	($213,749)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($147,633)	$0	($66,116)	$0	$0	$0	$0	($213,749)
Total Customer Service	**$2,785,452**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,491,785	$544,176	$749,491	$0	$0	$0	$0	$2,785,452

Corporate Services		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$7,095,860	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,095,860	$0	$7,095,860
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$178,705	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$178,705	$0	$178,705
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$9,481,763	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,481,763	$0	$9,481,763
Professional services	$531,532	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$531,532	$0	$531,532
Fleet	$14,513	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$14,513	$0	$14,513
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$1,975,732	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,975,732	$0	$1,975,732
Allocation of Costs to Wastewater Services	($8,501,643)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($8,501,643)	$0	($8,501,643)
Allocation of Costs to Stormwater Servcies	($944,627)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($944,627)	$0	($944,627)
Total Corporate Services	**$9,831,834**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,831,834	$0	$9,831,834

Administration		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$4,607,592	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,607,592	$4,607,592
Training and development	$1,163,900	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,163,900	$1,163,900
Contract services	$269,118	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$269,118	$269,118
Electricity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$96,862	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$96,862	$96,862
Professional services	$1,559,944	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,559,944	$1,559,944
Fleet	$11,594	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$11,594	$11,594
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$367,202	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$367,202	$367,202
Allocation of Costs to Wastewater Services	($3,561,610)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($3,561,610)	($3,561,610)
Allocation of Costs to Stormwater Servcies	($395,734)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($395,734)	($395,734)
Total Administration	**$4,118,869**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,118,869	$4,118,869
Total O&M Expense	**$57,085,291**	**$496,512**	**$118,653**	**$1,469,263**	**$15,181,600**	**$457,852**	**$10,820,131**	**$368,566**	**$3,249,434**	**$2,817,921**	**$1,598,947**	**$1,491,785**	**$544,176**	**$749,491**	**$2,112,686**	**$1,657,571**	**$9,831,834**	**$4,118,869**	**$57,085,291**

Worksheet W-6

Halifax Water
Water Rate Study

Statement of Operating Expenditures
2026/27

Operating Expense Cost Allocation
Percent of Costs to Functions
2026/27

OPERATING EXPENSES	Test Year #3 2026/27 Budget	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Supply and Treatment																		
Salaries and benefits	$5,847,744	7%	0%	16%	77%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$3,135,890	2%	3%	15%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Electricity	$2,565,772	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$1,420,676	1%	1%	8%	89%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Professional services	$571,003	10%	0%	20%	70%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	$351,610	5%	0%	16%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Chemicals	$6,131,224	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$200,049	2%	0%	18%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Allocation to Transmission and Distribution	($2,957,940)	3%	0%	8%	89%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total Supply and Treatment	**$17,266,027**																	
Transmission and Distribution		**Watershed Management**	**Dams**	**Water Quality**	**Water Treatment**	**Transmission**	**Distribution**	**Water Storage Tanks**	**Hydrants**	**Service Laterals**	**Technical Services**	**Customer Service**	**O&M Meters**	**Meter Reading and Billing**	**Engineering and TS**	**Regulatory Services**	**Corporate Services**	**Administration**
Salaries and benefits	$7,703,889	0%	0%	0%	0%	2%	57%	2%	24%	15%	0%	0%	0%	0%	0%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$4,796,195	0%	0%	0%	0%	3%	64%	3%	14%	15%	0%	0%	0%	0%	0%	0%	0%	0%
Electricity	$174,825	0%	0%	0%	0%	1%	67%	24%	5%	3%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$613,668	0%	0%	0%	0%	4%	35%	4%	46%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Professional services	$47,380	0%	0%	0%	0%	2%	63%	2%	25%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	$1,187,242	0%	0%	0%	0%	2%	51%	2%	28%	17%	0%	0%	0%	0%	0%	0%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$232,767	0%	0%	0%	0%	2%	59%	2%	21%	15%	0%	0%	0%	0%	0%	0%	0%	0%
Allocation from Supply and Treatment	$2,957,940	0%	0%	0%	0%	3%	77%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%
Recoveries	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total Transmission and Distribution	**$17,713,905**																	
Technical Services (SCADA)		**Watershed Management**	**Dams**	**Water Quality**	**Water Treatment**	**Transmission**	**Distribution**	**Water Storage Tanks**	**Hydrants**	**Service Laterals**	**Technical Services**	**Customer Service**	**O&M Meters**	**Meter Reading and Billing**	**Engineering and TS**	**Regulatory Services**	**Corporate Services**	**Administration**
Salaries and benefits	$2,324,352	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$64,169	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Electricity	$187,287	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$910,590	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Professional services	$65,096	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Fleet	$334,032	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$74,874	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Allocation to Wastewater Service	($2,342,805)	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Allocation to Stormwater Service	($18,649)	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Total Technical Services (SCADA)	**$1,598,947**																	

Engineering and TS		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$5,310,775	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$4,676	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$156,037	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Professional services	$62,315	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Fleet	$280,325	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$275,058	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Allocation to Wastewater Service	($2,956,967)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Allocation to Stormwater Service	($1,019,534)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Total Engineering and TS	**$2,112,686**																	

Regulatory Services		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$4,371,497	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$550,061	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$219,390	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Professional services	$249,106	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Fleet	$114,681	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$132,135	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Allocation to Wastewater Service	($1,854,486)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Allocation to Stormwater Service	($2,124,812)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Total Regulatory Services	**$1,657,571**																	

Customer Service		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$3,953,015	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	23%	16%	0%	0%	0%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$318,217	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	11%	39%	0%	0%	0%	0%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$771,014	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	2%	83%	0%	0%	0%	0%
Professional services	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	$115,299	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$304,126	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%
Allocation to Wastewater Service	($2,462,469)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	54%	22%	24%	0%	0%	0%	0%
Allocation to Stormwater Service	($213,749)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	69%	0%	31%	0%	0%	0%	0%
Total Customer Service	**$2,785,452**																	

Corporate Services		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$7,095,860	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Training and development	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	$178,705	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$9,481,763	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Professional services	$531,532	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Fleet	$14,513	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$1,975,732	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Allocation of Costs to Wastewater Services	($8,501,643)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Allocation of Costs to Stormwater Servcies	($944,627)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Total Corporate Services	**$9,831,834**																	

Administration		Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Salaries and benefits	$4,607,592	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Training and development	$1,163,900	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Contract services	$269,118	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Electricity	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	$96,862	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Professional services	$1,559,944	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Fleet	$11,594	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Chemicals	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	$367,202	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Allocation of Costs to Wastewater Services	($3,561,610)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Allocation of Costs to Stormwater Servcies	($395,734)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Total Administration	**$4,118,869**																	

Total O&M Expense	**$57,085,291**

Worksheet W-7 Continuity Schedule Utility Plant in Service

Worksheet W-7 provides additional details on the following:

- Funded utility plant in service,
- Contributed assets,
- Projected utility plant in service additions, net of projected retirements,
- Accumulated depreciation, net of projected retirements,
- Calculated depreciation, and
- Projected net book value.

The spreadsheet is broken down by asset class and asset. For the purposes of the revenue requirement, depreciation for Water transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services.

Halifax Regional Water Commission

Utility Plant in Service-Water

Continuity Schedule/ Depreciation for Utility Plant in Service

2026/27

	Useful Life in years	Funded Utility Plant in Service	Contributed Utility Plant in Service	Total Utility Plant in Service	Work in Process approved in Prior Years	Utility Plant in Service Additions	Contributed Utility Plant in Service Additions	Projected Retirements	Projected Utility Plant in Service	Accumulated Depreciation	Accumulated Depreciation on funded assets	Accumulated Depreciation on donated assets	Projected Retirement of Accumulated Depreciation	Projected Net Book Value before Depreciation	Depreciation on Donated assets	Depreciation expense on funded assets	Projected Net Book Value after Depreciation
		Mar-26	Mar-26	Mar-26	2026-27	2026-27	2026-27	2026-27	Mar-27	Mar-26	Mar-26	Mar-26	2026-27	Mar-27	2026-27	2026-27	Mar-27
Intangible Plant																	
Organization and Working Capital	10	21,901,531	29,941	21,931,472		2,761,000			24,692,472	7,732,564	7,707,114	25,450	-	16,959,909	2,994	1,761,270	15,195,644
		-	-								-	-	-			-	-
Tangible Plant		-	-								-	-	-			-	-
LAND AND LAND RIGHTS		-	-								-	-	-			-	-
Source of Supply Land	N/A	13,706,234	-	13,706,234					13,706,234	-	-	-	-	13,706,234		-	13,706,234
Power and pumping	N/A	215,345	-	215,345	-				215,345	-	-	-	-	215,345		-	215,345
Transmission Right of Ways	N/A	1,256,951	-	1,256,951					1,256,951	-	-	-	-	1,256,951		-	1,256,951
Reservoir Land	N/A	628,258	-	628,258		125,000			753,258	-	-	-	-	753,258		-	753,258
Office Land	N/A	2,573,529	-	2,573,529					2,573,529	-	-	-	-	2,573,529		-	2,573,529
Other Land	N/A	-	-	-					-	-	-	-	-	-		-	-
Easements & Rights of Ways	N/A	1,331,175	-	1,331,175					1,331,175	-	-	-	-	1,331,175		-	1,331,175
STRUCTURES AND IMPROVEMENTS		-	-	-	-				-	-	-	-	-	-		-	-
Source of Supply Structures	5 - 100	1,106,511	-	1,106,511	-				1,106,511	633,474	633,474	-	-	473,037		15,991	457,045
Power and Pumping Structures	5 - 100	11,700,761	1,734,864	13,435,624	-	2,620,000			16,055,624	4,001,985	3,563,279	438,706	-	12,053,640	34,395	215,852	11,803,393
Purification Structures	5 - 75	50,364,485	4,660,586	55,025,071	-		630,310		55,655,380	19,254,193	18,637,930	616,263	-	36,401,188	64,415	847,462	35,489,311
Distribution Reservoirs and Standpip	20 - 75	28,120,671	11,603,315	39,723,986	-		1,204,455		40,928,441	12,217,452	11,110,692	1,106,760	-	28,710,989	163,881	550,431	27,996,677
Other Structures	5 - 75	7,521,661	-	7,521,661	-				7,521,661	1,649,318	1,649,318	-	-	5,872,343		84,814	5,787,529
Office Building	5 - 75	17,323,052	35,266	17,358,318	-				17,358,318	5,253,106	5,244,290	8,817	-	12,105,212	705	296,556	11,807,951
Stores and Garage	50	-	-	-	-				-	-	-	-	-	-		-	-
Settling Ponds	75 - 100	-	-	-	-				-	-	-	-	-	-		-	-
Intakes	50 - 100	-	-	-	-				-	-	-	-	-	-		-	-
Dams	75 - 100	9,434,879	4,743,860	14,178,739	-		677,694		14,856,434	2,329,556	1,898,403	431,152	-	12,526,878	67,984	155,359	12,303,535
Small systems	5 - 75	-	-	-	-				-	-	-	-	-	-		-	-
Aerotech WTP		-	-	-					-	-	-	-	-	-		-	-
Other Security		-	-	-	-				-	-	-	-	-	-		-	-

	Useful Life in years	Funded Utility Plant in Service	Contributed Utility Plant in Service	Total Utility Plant in Service	Work in Process approved in Prior Years	Utility Plant in Service Additions	Contributed Utility Plant in Service Additions	Projected Retirements	Projected Utility Plant in Service	Accumulated Depreciation	Accumulated Depreciation on funded assets	Accumulated Depreciation on donated assets	Projected Retirement of Accumulated Depreciation	Projected Net Book Value before Depreciation	Depreciation on Donated assets	Depreciation expense on funded assets	Projected Net Book Value after Depreciation
		Mar-26	Mar-26	Mar-26	2026-27	2026-27	2026-27	2026-27	Mar-27	Mar-26	Mar-26	Mar-26	2026-27	Mar-27	2026-27	2026-27	Mar-27
Equipment		-	-	-	-				-	-	-	-	-	-		-	-
Pumping Equipment	5 - 25	8,651,287	2,165,332	10,816,619	-		15,227		10,831,846	9,468,248	8,233,845	1,234,403	-	1,363,598	106,591	89,529	1,167,478
	5 - 20	-	-	-	-				-	-	-	-	-	-		-	-
Purification Equipment	5 - 25	52,000,734	5,202,823	57,203,557	-	6,654,000			63,857,557	31,585,624	29,000,146	2,585,478	-	32,271,933	123,437	1,539,886	30,608,610
Information Technology	5 - 25	14,870,892	105,559	14,976,451	-	637,500	15,080		15,629,031	7,878,022	7,811,709	66,313	-	7,751,008	13,360	792,521	6,945,127
Tools and Work Equipment - Ops	5 - 20	3,441,666	-	3,441,666	-	560,000			4,001,666	3,139,445	3,139,445	-	-	862,221		132,636	729,586
Tools and Work Equipment - Plants	5 - 20	369,905	-	369,905	-				369,905	368,279	368,279	-	-	1,626		7,083	(5,458)
Tools and Work Equipment - Other	5 - 20	784,616	-	784,616	-				784,616	704,577	704,577	-	-	80,038		61,758	18,280
Transportation Equipment	5	9,556,192	-	9,556,192	-	1,747,500		250,000	11,053,692	6,364,312	6,364,312	-	200,000	4,889,380		1,086,257	3,803,123
Office Furniture and Equipment	5 - 30	3,116,261	-	3,116,261	-				3,116,261	3,042,791	3,042,791	-	-	73,470		29,388	44,082
Computer Equipment and Software	3 - 10	37,860,761	-	37,860,761	-	4,388,521			42,249,282	17,661,558	17,661,558	-	-	24,587,724		5,459,382	19,128,341
Other Equipment		-	-	-	-				-	-	-	-	-	-		-	-
Mains		-	-	-	-				-	-	-	-	-	-		-	-
Transmission	75 - 100	156,732,606	29,903,345	186,635,951	-	1,923,051	2,793,072		191,352,075	39,104,516	36,740,713	2,363,803	-	152,247,559	318,417	1,552,273	150,376,868
Distribution	60 - 75	218,556,769	132,360,257	350,917,025	-	14,720,460	1,415,101	50,000	367,002,586	89,014,977	59,852,477	29,162,500	40,000	278,027,609	1,775,127	2,512,719	273,739,763
Meters	20 - 25	19,099,955	23,069	19,123,023	-	150,000		200,000	19,073,023	9,974,923	9,951,854	23,069	180,000	9,278,101	-	911,677	8,366,424
Hydrants	50	12,763,079	11,061,954	23,825,032	-		209,389	50,000	23,984,421	8,482,706	4,909,792	3,572,914	40,000	15,541,715	224,813	149,573	15,167,330
Sprinkler Connections	50	-	-	-					-	-	-	-	-	-		-	-
Services	50	31,576,277	19,617,964	51,194,240	-		377,528		51,571,769	15,941,457	9,656,367	6,285,090	-	35,630,312	394,943	496,588	34,738,781
Other		-	-	-	-		-		-					-			-
URBAN CORE SUB-TOTAL		736,566,041	223,248,134	959,814,175	-	36,287,032	7,337,856	550,000	1,002,889,063	295,803,082	247,882,365	47,920,717	460,000	707,545,980	3,291,062	18,749,006	685,505,913
																	-
Unregulated Assets		445,265	-	445,265					445,265	170,485	170,485		-	274,780		17,854	256,926
																	-
TOTAL		737,011,306	223,248,134	960,259,440	-	36,287,032	7,337,856	550,000	1,003,334,328	295,973,567	248,052,850	47,920,717	460,000	707,820,761	3,291,062	18,766,860	685,762,839

Worksheet W-8 Depreciation Functionalization

Worksheet W-8 allocates the budgeted annual depreciation charge included in the revenue requirement for test year 2026/27 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual and reported as both a dollar and percentage value. These are used in Worksheet W-10 to allocate depreciation to the service characteristics. As noted previously, depreciation for Water transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services.

Worksheet W-8

Halifax Water
Water Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2026/27

	Annual Depreciation
Intangible Plant	
Organization and Working Capital	$1,761,360
Tangible Plant	
LAND AND LAND RIGHTS	
Source of Supply Land	$0
Power and pumping	$0
Transmission Right of Ways	$0
Water Rights	$0
Reservoir Land	$0
Office Land	$0
Other Land	$0
Easements & Rights of Ways	$0
STRUCTURES AND IMPROVEMENTS	
Source of Supply Structures	$15,991
Power and Pumping Structures	$216,884
Purification Structures	$849,394
Distribution Reservoirs and Standpipes	$555,348
General	$84,814
Office Building	$296,577
Collection and Impounding	$157,398
Small systems	$0
Aerotech Water Treatment Plant	$0
Other - Security	$0
EQUIPMENT	
Electrical Pumping	$92,727
Purification Equipment	$1,543,589
Information Technology	$792,922
Tools and Work Equipment - Ops	$132,636
Tools and Work Equipment - Plants	$7,083
Tools and Work Equipment - Other	$61,758
Office Furniture and Equipment	$29,388
Computer Equipment and Software	$5,459,382
Other Equipment	$0
MAINS	
Transmission	$1,561,826
Distribution	$2,565,973
Meters	$911,677
Hydrants	$156,317
Sprinkler Connections	$0
Services	$508,436
Other	$0
TOTAL	$17,761,481

Worksheet W-8
November 30, 2024

Halifax Water
Water Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed as a Percentage (%)
2026/27

	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Intangible Plant																	
Organization and Working Capital	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
LAND AND LAND RIGHTS																	
Source of Supply Land	95%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Power and pumping	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transmission Right of Ways	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Water Rights	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Reservoir Land	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Office Land	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Other Land	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Easements & Rights of Ways	50%	0%	0%	15%	0%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
STRUCTURES AND IMPROVEMENTS																	
Source of Supply Structures	0%	50%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Power and Pumping Structures	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purification Structures	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Distribution Reservoirs and Standpipes	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
General	0%	0%	0%	45%	45%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Office Building	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Collection and Impounding	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Small systems	0%	0%	0%	80%	10%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aerotech Water Treatment Plant	0%	0%	0%	58%	0%	15%	16%	0%	0%	0%	0%	4%	0%	0%	0%	0%	7%
Other - Security	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
EQUIPMENT																	
Electrical Pumping	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purification Equipment	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Information Technology	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tools and Work Equipment - Ops	0%	0%	0%	10%	30%	40%	0%	10%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Tools and Work Equipment - Plants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Tools and Work Equipment - Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Office Furniture and Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Computer Equipment and Software	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	0%	0%	50%
Other Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
MAINS																	
Transmission	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Distribution	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Meters	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Hydrants	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sprinkler Connections	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Services	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Worksheet W-9 Allocation of Utility Plant in Service

Worksheet W-9 allocates the budgeted utility plant in service for the test year 2026/27 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual and reported as both a dollar and percentage value. These are used in Worksheet W-10 to allocate debt service costs to the service characteristics.

Worksheet W-9

Halifax Water
Water Rate Study

Allocation of Utility Plant in Service
2026/27

	Projected Utility Plant in Service, end of year	Projected Accumulated Depreciation, end of year	Projected Net Book Value, end of year	Donated or Contributed Assets	Rate Base (Col F - Col G)
Intangible Plant					
Organization and Working Capital	$24,692,472	$9,496,828	$15,195,644	$1,497	$15,194,147
Tangible Plant					
LAND AND LAND RIGHTS					
Source of Supply Land	$13,706,234	$0	$13,706,234	$0	$13,706,234
Power and pumping	$215,345	$0	$215,345	$0	$215,345
Transmission Right of Ways	$1,256,951	$0	$1,256,951	$0	$1,256,951
Reservoir Land	$753,258	$0	$753,258	$0	$753,258
Office Land	$2,573,529	$0	$2,573,529	$0	$2,573,529
Other Land	$0	$0	$0	$0	$0
Easements & Rights of Ways	$1,331,175	$0	$1,331,175	$0	$1,331,175
STRUCTURES AND IMPROVEMENTS					
Source of Supply Structures	$1,106,511	$649,466	$457,045	$0	$457,045
Power and Pumping Structures	$16,055,624	$4,252,231	$11,803,393	$1,261,763	$10,541,630
Purification Structures	$55,655,380	$20,166,069	$35,489,311	$4,610,218	$30,879,093
Distribution Reservoirs and Standpipes	$40,928,441	$12,931,764	$27,996,677	$11,537,129	$16,459,548
General	$7,521,661	$1,734,132	$5,787,529	$0	$5,787,529
Office Building	$17,358,318	$5,550,367	$11,807,951	$25,744	$11,782,207
Collection and Impounding	$14,856,434	$2,552,899	$12,303,535	$4,922,418	$7,381,117
Small systems	$0	$0	$0	$0	$0
Aerotech Water Treatment Plant	$0	$0	$0	$0	$0
Other - Security	$0	$0	$0	$0	$0
EQUIPMENT					
Electrical Pumping	$10,831,846	$9,664,368	$1,167,478	$839,565	$327,913
Purification Equipment	$63,857,557	$33,248,947	$30,608,610	$2,493,909	$28,114,702
Information Technology	$15,629,031	$8,683,904	$6,945,127	$40,966	$6,904,161
Tools and Work Equipment - Ops	$4,001,666	$3,272,081	$729,586	$0	$729,586
Tools and Work Equipment - Plants	$369,905	$375,363	$0	$0	$0
Tools and Work Equipment - Other	$784,616	$766,336	$18,280	$0	$18,280
Transportation Equipment	$11,053,692	$7,250,569	$3,803,123	$0	$3,803,123
Office Furniture and Equipment	$3,116,261	$3,072,179	$44,082	$0	$44,082
Computer Equipment and Software	$42,249,282	$23,120,941	$19,128,341	$0	$19,128,341
Other Equipment	$0	$0	$0	$0	$0
MAINS					
Transmission	$191,352,075	$40,975,206	$150,376,868	$30,014,197	$120,362,671
Distribution	$367,002,586	$93,262,823	$273,739,763	$102,837,731	$170,902,032
Meters	$19,073,023	$10,706,600	$8,366,424	$0	$8,366,424
Hydrants	$23,984,421	$8,817,091	$15,167,330	$7,473,616	$7,693,714
Sprinkler Connections	$0	$0	$0	$0	$0
Services	$51,571,769	$16,832,988	$34,738,781	$13,315,459	$21,423,322
Other	$0	$0	$0	$0	$0
TOTAL	**$1,002,889,063**	**$317,383,150**	**$685,511,370**	**$179,374,211**	**$506,137,159**

Worksheet W-9

Halifax Water
Water Rate Study

Allocation of Utility Plant in Service
Functionalization of the Rate Base Expressed as a Percentage (%)
2026/27

	Watershed Management	Dams	Water Quality	Water Treatment	Transmission	Distribution	Water Storage Tanks	Hydrants	Service Laterals	Technical Services	Customer Service	O&M Meters	Meter Reading and Billing	Engineering and TS	Regulatory Services	Corporate Services	Administration
Intangible Plant																	
Organization and Working Capital	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Tangible Plant																	
LAND AND LAND RIGHTS																	
Source of Supply Land	95%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Power and pumping	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Transmission Right of Ways	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Reservoir Land	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Office Land	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Other Land	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Easements & Rights of Ways	50%	0%	0%	15%	0%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
STRUCTURES AND IMPROVEMENTS																	
Source of Supply Structures	0%	50%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Power and Pumping Structures	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purification Structures	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Distribution Reservoirs and Standpipes	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
General	0%	0%	0%	45%	45%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Office Building	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Collection and Impounding	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Small systems	0%	0%	0%	80%	10%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Aerotech Water Treatment Plant	0%	0%	0%	58%	0%	15%	16%	0%	0%	0%	0%	4%	0%	0%	0%	0%	7%
Other - Security	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
EQUIPMENT																	
Electrical Pumping	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Purification Equipment	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Information Technology	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Tools and Work Equipment - Ops	0%	0%	0%	10%	30%	40%	0%	10%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Tools and Work Equipment - Plants	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Tools and Work Equipment - Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Transportation Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Office Furniture and Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Computer Equipment and Software	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	0%	0%	50%
Other Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
MAINS																	
Transmission	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Distribution	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Meters	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Hydrants	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sprinkler Connections	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Services	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Worksheet W-10 Cost Classification

Worksheet W-10 details the costs as allocated to the system functions from Worksheets W-6, W-8 and W-9 and allocates them to the service characteristics based on the percentages for each characteristic detailed in the Cost-of-Service Manual. The amounts are then totaled for operation and maintenance, and depreciation then used in Worksheet W-11 to calculate the water unit rate and bill calculation. The plant in service function is also totaled and the percentages by service function are used to allocate the net debt servicing costs also appearing in Worksheet W-11.

Worksheet W-10

Halifax Water
Water Rate Study

Cost Classification - Percents & Amounts
2026/27

Cost Classifications

		Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Total
O&M Expenses by Function		Classification Percentages							Classification Amounts							
Watershed Management	$496,512	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$496,512	$0	$0	$0	$0	$0	$0	$496,512
Dams	$118,653	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$118,653	$0	$0	$0	$0	$0	$0	$118,653
Water Quality	$1,469,263	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$1,469,263	$0	$0	$0	$0	$0	$0	$1,469,263
Water Treatment	$15,181,600	94.00%	6.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$14,270,704	$910,896	$0	$0	$0	$0	$0	$15,181,600
Transmission	$457,852	94.00%	6.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$430,381	$27,471	$0	$0	$0	$0	$0	$457,852
Distribution	$10,820,131	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%	$3,462,442	$1,731,221	$2,705,033	$0	$0	$2,921,435	$0	$10,820,131
Water Storage Tanks	$368,566	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%	$199,026	$11,057	$51,599	$0	$0	$106,884	$0	$368,566
Hydrants	$3,249,434	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$3,249,434	$0	$3,249,434
Service Laterals	$2,817,921	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$2,817,921	$0	$0	$0	$2,817,921
Technical Services	$1,598,947	25.00%	25.00%	25.00%	0.00%	0.00%	25.00%	0.00%	$399,737	$399,737	$399,737	$0	$0	$399,737	$0	$1,598,947
Customer Service	$1,491,785	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$1,491,785	$0	$0	$1,491,785
O&M Meters	$544,176	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$544,176	$0	$0	$0	$544,176
Meter Reading and Billing	$749,491	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$749,491	$0	$0	$749,491
Engineering and TS	$2,112,686	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$2,112,686	$2,112,686
Regulatory Services	$1,657,571	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$1,657,571	$1,657,571
Corporate Services	$9,831,834	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$9,831,834	$9,831,834
Administration	$4,118,869	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$4,118,869	$4,118,869
Sub-Total	**$57,085,291**								$20,846,717	$3,080,382	$3,156,369	$3,362,098	$2,241,276	$6,677,490	$17,720,959	$57,085,291
Depreciation Expenses by Function		Classification Percentages							Classification Amounts							
Watershed Management	$0	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Dams	$165,394	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$165,394	$0	$0	$0	$0	$0	$0	$165,394
Water Quality	$0	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Water Treatment	$3,003,675	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$2,493,051	$510,625	$0	$0	$0	$0	$0	$3,003,675
Transmission	$1,915,416	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$1,589,795	$325,621	$0	$0	$0	$0	$0	$1,915,416
Distribution	$2,903,142	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%	$929,005	$464,503	$725,785	$0	$0	$783,848	$0	$2,903,142
Water Storage Tanks	$555,348	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%	$299,888	$16,660	$77,749	$0	$0	$161,051	$0	$555,348
Hydrants	$169,581	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$169,581	$0	$169,581
Service Laterals	$521,700	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$521,700	$0	$0	$0	$521,700
Technical Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	$1,364,846	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$1,364,846	$0	$0	$1,364,846
O&M Meters	$973,435	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$973,435	$0	$0	$0	$973,435
Meter Reading and Billing	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and TS	$1,364,846	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$1,364,846	$1,364,846
Regulatory Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$4,824,099	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$4,824,099	$4,824,099
Sub-Total	**$17,761,481**								$5,477,133	$1,317,409	$803,534	$1,495,135	$1,364,846	$1,114,480	$6,188,945	$17,761,481

Halifax Water
Water Rate Study

Cost Classification - Percents & Amounts
2026/27

Cost Classifications

		Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Total
Plant in Service by Function		Classification Percentages							Classification Amounts							
Watershed Management	$13,686,510	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$13,686,510	$0	$0	$0	$0	$0	$0	$13,686,510
Dams	$8,294,951	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$8,294,951	$0	$0	$0	$0	$0	$0	$8,294,951
Water Quality	$0	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Water Treatment	$71,093,865	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$59,007,908	$12,085,957	$0	$0	$0	$0	$0	$71,093,865
Transmission	$128,940,148	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$107,020,323	$21,919,825	$0	$0	$0	$0	$0	$128,940,148
Distribution	$176,735,793	32.00%	16.00%	25.00%	0.00%	0.00%	27.00%	0.00%	$56,555,454	$28,277,727	$44,183,948	$0	$0	$47,718,664	$0	$176,735,793
Water Storage Tanks	$17,212,806	54.00%	3.00%	14.00%	0.00%	0.00%	29.00%	0.00%	$9,294,915	$516,384	$2,409,793	$0	$0	$4,991,714	$0	$17,212,806
Hydrants	$7,766,673	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$7,766,673	$0	$7,766,673
Service Laterals	$21,496,281	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$21,496,281	$0	$0	$0	$21,496,281
Technical Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	$4,782,085	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$4,782,085	$0	$0	$4,782,085
O&M Meters	$8,384,704	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	$0	$0	$0	$8,384,704	$0	$0	$0	$8,384,704
Meter Reading and Billing	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and TS	$4,782,085	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$4,782,085	$4,782,085
Regulatory Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$42,961,258	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$42,961,258	$42,961,258
Sub-Total	**$506,137,159**								$253,860,061	$62,799,893	$46,593,741	$29,880,984	$4,782,085	$60,477,051	$47,743,343	$506,137,159
									50.16%	**12.41%**	**9.21%**	**5.90%**	**0.94%**	**11.95%**	**9.43%**	

Worksheet W-11 Unit Costs and Returns

Worksheet W-11 uses the costs from Worksheet W-10 allocated to the system functions to calculate the unit water rates and fire protection charge for 2026/27. The percentage of average day, maximum day, maximum hour, equivalent meters, customer service and fire protection are used to allocate the indirect costs for operation and maintenance expenses, depreciation expense and debt service. The dividend/grant in lieu of taxes is allocated based on the total allocated revenue requirements. Worksheet W-11 also calculates the return on rate base.

Worksheet W-11

Halifax Regional Water Commission
Water Rate Study

Water Unit Rate and Bill Calculations
2026/27

Unit Cost Calculations

	Average Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Equivalent Meters	Customer Service	Fire Protection	Indirect	Total
Revenue Requirements								
O&M Expenses (including Indirects)	$20,846,717	$3,080,382	$3,156,369	$3,362,098	$2,241,276	$6,677,490	$17,720,959	$57,085,291
Direct Allocation Percentages	52.96%	7.83%	8.02%	8.54%	5.69%	16.96%		100.00%
O&M Expenses by Service Characteristics	$30,231,452	$4,467,102	$4,577,297	$4,875,640	$3,250,249	$9,683,550		$57,085,291
Depreciation Expenses	$5,477,133	$1,317,409	$803,534	$1,495,135	$1,364,846	$1,114,480	$6,188,945	$17,761,481
Direct Allocation Percentages	47.33%	11.38%	6.94%	12.92%	11.79%	9.63%		100.00%
Depreciation Expenses by Service Characteristics	$8,406,281	$2,021,953	$1,233,261	$2,294,727	$2,094,759	$1,710,499		$17,761,481
Plant in Service by Serv Characteristic Percents	50.16%	12.41%	9.21%	5.90%	0.94%	11.95%	9.43%	100.00%
Debt Service (Principal, Interest, Fees) $16,944,322	$8,498,658	$2,102,398	$1,559,853	$1,000,347	$160,093	$2,024,634	$1,598,339	$16,944,322
Direct Allocation Percentages	55.38%	13.70%	10.16%	6.52%	1.04%	13.19%		100.00%
Debt Service (Principal, Interest, Fees) by Service Characteristics	$9,383,824	$2,321,370	$1,722,317	$1,104,537	$176,768	$2,235,507	$0	$16,944,322
Total Allocated Revenue Requirements	**$48,021,557**	**$8,810,426**	**$7,532,875**	**$8,274,904**	**$5,521,776**	**$13,629,556**	**$0**	**$91,791,094**
	52.32%	**9.60%**	**8.21%**	**9.01%**	**6.02%**	**14.85%**		**100.00%**
Add: Dividend/ Grant in lieu of Taxes $6,550,883	$3,427,169	$628,776	$537,601	$590,558	$394,074	$972,705	$0	$6,550,883
Less: Non-Rate Revenues and Other Adjustments ($1,111,451)	($581,468)	($106,681)	($91,212)	($100,197)	($66,860)	($165,033)	$0	($1,111,451)
Net Rate Revenue Requirements	$50,867,258	$9,332,521	$7,979,264	$8,765,265	$5,848,990	$14,437,228	$0	$97,230,526

Rate Base	**$506,137,159**	**Return on Rate Base**	**$22,383,754**
		Calculated Percent Return on Rate Base	**4.42%**

Halifax Regional Water Commission
Water Rate Study

Water Unit Rate and Bill Calculations
2026/27

Billing Determinations	Billable Water Consumption		Meters / Availability	Customers		Fire Protection
35,272,097	Percent of Total		Annual Equivalents	Annual		
Commercial	25.85%	9,119,485				
Industrial	5.87%	2,069,466				
Institutional	12.02%	4,241,465				
		-				
Multi-Family	22.72%	8,012,980				
Single Family Residential	33.54%	11,828,702				
	100.00%	35,272,097	114,813	89,280		
Rate Per Billing Unit		**$1.933**	**$76.34**	**$65.51**		**$14,437,228**
Average Per Account / Monthly						
Residential	14	$26.42	$6.36	$5.46	$38.24	

Worksheet W-12 Rates, Revenues and Bills

Worksheet W-12 uses the data from Worksheet W-11 to calculate proposed rates for customer charge, base charge, and volumetric charges for 2026/27. Worksheet W-12 also provides a revenue test based on the budgeted customer connections, equivalent meters and consumption and details the annual fixed charges (base and customer charge) and the annual consumption charge based on the arithmetic average of consumption by meter size.

Worksheet W-12 (continued)

Halifax Water
Water Rate Study
Rates, Revenues & Annual Bills by Alternative
2026/27

Proposed Cost of Service Rates and Charges

Customer Charge	$/Account	$65.51
Base Charge	$/Meter Equivalent	$76.34
Volumetric Charges	$ / Billed Cubic Meter	$1.9329

Revenue Test	Billing Determinant	
Customer Charge Revenues	89,280	$5,848,990
Number of Services		
Base Charge Revenues	114,813	$8,765,265
System Equivalents		
Volumetric Charges Revenues	35,272,097	$68,179,043
Estimated Consumption		
Total User Charge Revenues		$82,793,298
Fire Protection Charges		$14,437,228
Total Revenues		$97,230,526

Halifax Water
Water Rate Study

Rates, Revenues & Annual Bills by Alternative

2026/27

Bill Calculations

Annual Fixed Charges

(Customer & Base Charges by Meter Size)

Meter Size	Capacity Ratio	
Unmetered 5/8"	1	$141.86
Unmetered 3/4"	1.5	$180.03
Unmetered 1"	2.5	$256.37
Unmetered 3"	16.0	$1,287.02
5/8" - 15mm	1	$141.86
3/4" - 20mm	1.5	$180.03
1" - 25mm	2.5	$256.37
1.5" - 40mm	5	$447.23
2" - 50mm	8	$676.27
3" - 80mm	16	$1,287.02
4" - 100mm	25	$1,974.12
6" - 150mm	50	$3,882.72
8" - 200mm	90	$6,936.49
10" - 250mm	150	$11,517.14

Annual Volumetric Charges

Meter Size	Average Annual Consumption	
Unmetered 5/8"	164	$317.00
Unmetered 3/4"	537	$1,037.99
Unmetered 1"	1,088	$2,103.04
Unmetered 3"	13,662	$26,407.90
5/8" - 15MM	164	$317.00
3/4" - 20MM	537	$1,037.99
1" - 25MM	1,088	$2,103.04
1.5" - 40MM	2,495	$4,822.70
2" - 50MM	6,151	$11,889.55
3" - 80MM	13,662	$26,407.90
4" - 100MM	23,370	$45,172.94
6" - 150MM	65,086	$125,807.69
8" - 200MM	60,915	$117,745.38
10" - 250MM	131,223	$253,646.91

Total Bill - Average Consumption

Meter Size	Average Annual Consumption	
Unmetered 5/8"	164	$458.86
Unmetered 3/4"	537	$1,218.02
Unmetered 1"	1,088	$2,359.41
Unmetered 3"	13,662	$27,694.92
5/8" - 15MM	164	$458.86
3/4" - 20MM	537	$1,218.02
1" - 25MM	1,088	$2,359.41
1.5" - 40MM	2,495	$5,269.93
2" - 50MM	6,151	$12,565.82
3" - 80MM	13,662	$27,694.92
4" - 100MM	23,370	$47,147.06
6" - 150MM	65,086	$129,690.41
8" - 200MM	60,915	$124,681.87
10" - 250MM	131,223	$265,164.05

Worksheet W-13 – Bulk Water Rates

Worksheet W-13 details the calculation of proposed Bulk Water Rates for water sold through Halifax Water's bulk water depots for the test years 2025/26 and 2026/27 based on the budgeted operating and financial costs (revenue requirements) and budgeted water consumption with a 30% mark-up consistent with previous applications.

Worksheet W-13

Halifax Water
Water Rate Study

Calculation of Bulk Water Rate
Years Ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Cost Base						
Total Operating Expenses (Rev. Req.)	$48,372,123	$48,543,163	$56,968,128	$58,176,063	$70,067,752	$74,846,772
Total Non Operating Expenses (Rev Req)	$13,554,071	$14,277,565	$14,908,241	$17,223,055	$20,078,546	$23,495,205
Total Expenses	$61,926,194	$62,820,728	$71,876,369	$75,399,118	$90,146,297	$98,341,977
Water Consumption in Cubic Meters	**32,185,094**	**32,576,177**	**33,376,677**	**34,577,759**	**34,923,201**	**35,272,097**
Unit Calculations						
Unit cost per cubic metre	1.92	1.93	2.15	2.18	2.58	2.79
Operating cost and profit mark-up	30%	30%	30%	30%	30%	30%
Bulk rate per cubic metre	2.50	2.51	2.80	2.83	3.36	3.62

Worksheet Appendix W-1 – Additions to Utility Plant in Service

Appendix W-1 details the proposed additions to utility plant in service and capital funding for the test year 2026/27.

Additions to utility plant in service for 2026/27 are estimated based on status of capital work in progress (projects approved in prior fiscal years), the projects from the 2026/27 capital budget, and historical levels of contributed utility plant in service.

Halifax Water projects the addition of $43.6 million in assets to utility plant in service during the 2026/27 fiscal year.

Appendix W-1

Halifax Water
Water Rate Study

Proposed Additions to Utility Plant in Service and Capital Funding
2026/27

	Additions to the Utility Plant in Service	Capital Cost Contribution from Others	Utility Cost of Plant in Service
Intangible Plant			
Organization and Working Capital	$2,761,000	$0	$2,761,000
	$0	$0	$0
Tangible Plant	$0	$0	$0
LAND AND LAND RIGHTS	$0	$0	$0
Source of Supply Land	$0	$0	$0
Power and pumping	$0	$0	$0
Transmission Right of Ways	$0	$0	$0
Reservoir Land	$125,000	$0	$125,000
Office Land	$0	$0	$0
Other Land	$0	$0	$0
Easements & Right of Ways	$0	$0	$0
STRUCTURES AND IMPROVEMENTS	$0	$0	$0
Source of Supply Structures	$0	$0	$0
Power and Pumping Structures	$2,620,000	$0	$2,620,000
Purification Structures	$630,310	$630,310	$0
Distribution Reservoirs and Standpipes	$1,204,455	$1,204,455	$0
General	$0	$0	$0
Office Building	$0	$0	$0
Collection and Inpounding	$677,694	$677,694	$0
Small systems	$0	$0	$0
Aerotech Water Treatment Plant	$0	$0	$0
Other - Security	$0	$0	$0
Equipment	$0	$0	$0
Electrical Pumping	$15,227	$15,227	$0
Purification Equipment	$6,654,000	$0	$6,654,000
Information Technology	$652,580	$15,080	$637,500
Tools and Work Equipment - Ops	$560,000	$0	$560,000
Tools and Work Equipment - Plants	$0	$0	$0
Tools and Work Equipment - Other	$0	$0	$0
Transportation Equipment	$1,747,500	$0	$1,747,500
Office Furniture and Equipment	$0	$0	$0
Computer Equipment and Software	$4,388,521	$0	$4,388,521
Other Equipment	$0	$0	$0
Mains	$0	$0	$0
Transmission	$4,716,124	$2,793,072	$1,923,051
Distribution	$16,135,560	$1,415,101	$14,720,460
Meters	$150,000	$0	$150,000
Hydrants	$209,389	$209,389	$0
Services	$377,528	$377,528	$0
Other	$0	$0	$0
TOTAL	$43,624,888	$7,337,856	$36,287,032

Sources of Funding

Capital Cost Contribution	$0	Depreciation Fund Balance, beginning of year	($640,735)
Regional Development Charge	$0	Add:	
External Funding	$7,337,856	Interest earned on fund balance	$0
Contributions - other	$0	Depreciation funded in Current year	$16,571,846
Working Capital	($38,547,620)	Depreciation Fund Balance available	$15,931,111
Depreciation fund	$17,761,481	Less:	
Long Term Debt	$57,073,171	Expenditure in Current Year	($17,761,481)
TOTAL	$43,624,888	Depreciation Fund Balance, end of year	($1,830,370)

451

Worksheet Appendix W-2 Amortization Schedule for Long Term Debt

Appendix W-2 details the amortization schedule of the proposed long-term debt associated with 2026/27. The amortization is based on a 30-year blended serial debenture at a rate of 4.0% per annum. Debt servicing costs related to principal and interest will commence in test year 2027/28.

Appendix W-2

Halifax Water
Water Rate Study

Amortization Schedule for Projected Long Term Debt
2026/27

Interest Rate	4.00%
Term in years	30
Capital	$57,073,171

Amortization Schedule

	Principal	Interest	Total	Balance
Year				
1	$1,902,439.02	$2,282,926.83	$4,185,365.85	$55,170,731.71
2	$1,902,439.02	$2,206,829.27	$4,109,268.29	$53,268,292.68
3	$1,902,439.02	$2,130,731.71	$4,033,170.73	$51,365,853.66
4	$1,902,439.02	$2,054,634.15	$3,957,073.17	$49,463,414.63
5	$1,902,439.02	$1,978,536.59	$3,880,975.61	$47,560,975.61
6	$1,902,439.02	$1,902,439.02	$3,804,878.05	$45,658,536.59
7	$1,902,439.02	$1,826,341.46	$3,728,780.49	$43,756,097.56
8	$1,902,439.02	$1,750,243.90	$3,652,682.93	$41,853,658.54
9	$1,902,439.02	$1,674,146.34	$3,576,585.37	$39,951,219.51
10	$1,902,439.02	$1,598,048.78	$3,500,487.80	$38,048,780.49
11	$1,902,439.02	$1,521,951.22	$3,424,390.24	$36,146,341.46
12	$1,902,439.02	$1,445,853.66	$3,348,292.68	$34,243,902.44
13	$1,902,439.02	$1,369,756.10	$3,272,195.12	$32,341,463.41
14	$1,902,439.02	$1,293,658.54	$3,196,097.56	$30,439,024.39
15	$1,902,439.02	$1,217,560.98	$3,120,000.00	$28,536,585.37
16	$1,902,439.02	$1,141,463.41	$3,043,902.44	$26,634,146.34
17	$1,902,439.02	$1,065,365.85	$2,967,804.88	$24,731,707.32
18	$1,902,439.02	$989,268.29	$2,891,707.32	$22,829,268.29
19	$1,902,439.02	$913,170.73	$2,815,609.76	$20,926,829.27
20	$1,902,439.02	$837,073.17	$2,739,512.20	$19,024,390.24
21	$1,902,439.02	$760,975.61	$2,663,414.63	$17,121,951.22
22	$1,902,439.02	$684,878.05	$2,587,317.07	$15,219,512.20
23	$1,902,439.02	$608,780.49	$2,511,219.51	$13,317,073.17
24	$1,902,439.02	$532,682.93	$2,435,121.95	$11,414,634.15
25	$1,902,439.02	$456,585.37	$2,359,024.39	$9,512,195.12
26	$1,902,439.02	$380,487.80	$2,282,926.83	$7,609,756.10
27	$1,902,439.02	$304,390.24	$2,206,829.27	$5,707,317.07
28	$1,902,439.02	$228,292.68	$2,130,731.71	$3,804,878.05
29	$1,902,439.02	$152,195.12	$2,054,634.15	$1,902,439.02
30	$1,902,439.02	$76,097.56	$1,978,536.59	$0.00

Halifax Regional Water Commission

(“Halifax Water”)

Wastewater Rate Study

2025/26

Prepared By: Halifax Water Staff

Notes on Worksheet

Worksheet WW-1 System Data

Worksheet WW-1 provides Wastewater Services related data including:

- Wastewater estimated flow summary for the 2024 calendar year.
- Budgeted service connections and estimated effluent billing consumption for the test year 2025/26.
- Plant Balance by customer class for the 2024 calendar year.
- Average effluent loading for residential and non-residential customers the 2024 calendar.

Assumptions – 2025/26 (Test Year #1):

1. Water consumption (and therefore wastewater discharge) is budgeted to grow at a rate of 1%, based on modest increases recently experienced in water consumption.

2. Customer connections will increase by 531 connections in 2025/26, based on customer growth in the last five years.

Worksheet WW-1

Halifax Water
Wastewater Rate Study

User Characteristics and Plant Balance Analysis

SCENARIO SUMMARY

Date	November 30, 2024
Test Years	
1	**2025/26**
2	**2026/27**
Current Year Budget (Projections)	**2024/25**
Historical Year	**2023/24**

Projected Service Connections, Equivalents and Billed Water Consumption

2025/26

Meter Size	Number of Services	Capacity Ratio	System Equivalents	Estimated Consumption (Cubic Meters)
Unmetered 5/8"	927	1	927	150,989
Unmetered 3/4"	2	1.5	3	1,082
Unmetered 1"	9	2.5	23	9,689
Unmetered 3"	1	16.0	16	13,071
5/8" - 15mm	78,671	1	78,671	12,813,884
3/4" - 20mm	1,047	1.5	1,571	566,528
1" - 25mm	1,597	2.5	3,993	1,719,187
1.5" - 40mm	1,255	5	6,275	3,200,292
2" - 50mm	868	8	6,944	5,395,298
3" - 80mm	314	16	5,024	4,104,326
4" - 100mm	73	25	1,825	1,702,915
6" - 150mm	32	50	1,600	2,124,504
8" - 200mm	24	90	2,160	1,444,631
10" - 250mm	2	150	300	259,847
TOTAL	84,822		109,331	**33,506,243**

Flow Summary (ML)

Customer Class	**2024**	
Residential (Single Family)	12,976	
Residential (Multi-family)	7,510	
Commercial	6,601	
Industrial	1,940	
Institutional	3,975	
Unmetered	0	
Subtotal Customer	33,001	
Other Flow		
Infiltration & Inflow	47,603	0.598
Stormwater		
Subtotal Other	47,603	
Total Estimated	**80,605**	
Halifax	36,891	
Dartmouth	20,709	
Other Plants	23,005	
Total Plants	**80,605**	
Total Other Flow	59%	

Plant Balance

Customer Class	**Flow** ML	**Biochemical Oxygen Demand (BOD)** kg	mg/l	**Total Suspended Solids (TSS)** kg	mg/l
Residential	20,486	3,482,615	170	3,482,615	170
Non-Residential	12,515	7,657,149	612	3,837,982	307
Overstrength Surcharge	3	8,402	2,533	1,649	497
Hauled Waste	11	2,762	250	1,657	150
Subtotal Customer	33,001	11,150,928		7,323,903	
Other Flow	47,603	1,190,087	25	1,190,087	25
Subtotal Other	47,603	1,190,087	25	1,190,087	25
Total Estimated	**80,605**	**12,341,015**	**153**	**8,513,990**	**106**
Total Plants		12,341,015		8,513,990	

Other User Characteristics

Equivalent Meters Annual Equivalents	**Customer Service** Annual
79,640	79,610
29,691	5,212

Dwelling Unit Characteristics

Assume all 5/8" customers are Residential
Assume 65% of Dwelling Units are single family

Single family Dwelling Units	79,610
Multi family Dwelling Units	42,867
Total Dwelling Units	**122,477**

Average Per Dwelling Unit for Residential and Per Account for Non Residential

	Cubic Meters	KG	KG
Residential	167	28.43	28.43
Non-Residential	2,401	1,469.14	736.37

13

Worksheet WW-2 Operations

Worksheet WW-2 provides a comparative Statement of Operations for fiscal years ending March 31 as follows:

- Actual results for the fiscal years 2021/22, 2022/23 and 2023/24 for Wastewater Services.
- Approved budgets by Halifax Water's Board of Commissioners for 2024/25 and 2025/26, with 2025/26 representing Test Year #1 for the purposes of the Rate Study.
- Projections for 2026/27, representing Test Year #2 for the purposes of the Rate Study.

Revenues are budgeted/projected at current rates, and revenue and expenses are segregated between regulated and unregulated services. This worksheet details the budgeted deficits at current rates in Wastewater Services for the two test years.

Wastewater Services had a cumulative surplus of $5.5 million as of March 31, 2024, however, with budgeted deficits in 2024/25 and 2025/26 of $7.0 million and $10.8 million respectively, and a projected deficit of $19.0 million in 2026/27, the projected accumulated deficit as at March 31, 2027 is estimated at $31.4 million. Of note, the current 10 months actuals for the 2024/25 fiscal year is reporting earnings $1.0 million, an improvement of approximately $8.0 million compared to the approved budget.

Regulated and unregulated revenue and expenses have been identified on Worksheet WW-2 and are excluded in the determination of revenue requirements for rate making purposes. The calculation of revenue requirements is reported on Worksheet WW-3.

Depreciation in Test Year #1 is $4.4 million higher than the 2024/25 operating budget. To simplify the 2024/25 operating budget process, the estimate for the increase in depreciation related to new assets is amortized over thirty years, whereas for the test year calculation, the estimate for the increase in depreciation is prorated between assets classes, therefore spreading the depreciation more evenly amongst the asset classes. Corporate projects are amortized aligned with an asset class, therefore allocating depreciation into future years. The inclusion of depreciation of donated assets has minimal impact on the total depreciation amount.

Worksheet WW-2

Halifax Water
Wastewater Rate Study
Comparative Statement of Operations

Fiscal Years ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating revenues						
Regulated activities						
Wastewater	$80,646,393	$82,621,650	$89,511,756	$89,329,636	$90,769,949	$90,902,709
Overstrength surcharge	$309	$8,772	$7,493	$0	$0	$0
Late payment and other connection fees	$209,308	$202,102	$309,056	$253,300	$207,100	$206,500
Miscellaneous	$233,956	$232,585	$183,520	$187,451	$232,451	$182,861
Sub-total	$81,089,966	$83,065,109	$90,011,825	$89,770,387	$91,209,500	$91,292,070
Unregulated activities						
Contract revenue	$483,253	$454,401	$550,635	$506,743	$323,263	$624,865
Septage tipping fees	$490,024	$597,762	$576,771	$570,000	$572,000	$600,000
Airline effluent	$2,619	$79,017	$94,126	$105,000	$105,000	$105,000
Sub-total	$975,896	$1,131,180	$1,221,532	$1,181,743	$1,000,263	$1,329,865
Total	**$82,065,862**	**$84,196,289**	**$91,233,357**	**$90,952,130**	**$92,209,763**	**$92,621,935**
Operating Expenditures						
Regulated activities						
Wastewater collection	$12,965,064	$13,630,549	$14,499,370	$14,283,187	$15,468,149	$16,190,829
Wastewater treatment	$21,052,649	$22,670,291	$23,888,072	$25,571,430	$27,725,474	$28,948,574
Engineering and technology services (TS)	$4,396,843	$5,113,479	$6,436,857	$7,344,746	$2,822,819	$2,956,967
Technical services (SCADA)	$1,616,467	$1,732,432	$1,842,515	$1,992,035	$2,298,157	$2,342,805
Regulatory services	$1,584,398	$1,491,153	$1,603,959	$1,888,743	$1,763,380	$1,854,486
Corporate services	$1,382,518	$1,308,484	$1,373,484	$1,650,839	$7,494,904	$8,501,643
Customer service	$2,031,875	$2,044,148	$2,061,504	$2,029,653	$2,338,236	$2,462,469
Administration	$1,658,119	$2,344,064	$2,778,832	$4,516,044	$3,372,493	$3,561,610
Calculated depreciation - funded assets	$15,881,902	$16,698,000	$17,809,498	$18,396,247	$22,600,152	$23,574,313
Calculated depreciation - donated assets				$0	$175,803	$263,704
Sub-total	$62,569,834	$67,032,600	$72,294,091	$77,672,924	$86,059,566	$90,657,400
Unregulated activities						
Wastewater collection	$23,226	$60,489	$54,975	$61,172	$62,189	$62,189
Wastewater treatment	$720,873	$749,862	$893,888	$796,910	$914,799	$914,799
Sub-total	$744,099	$810,351	$948,863	$858,082	$976,988	$976,988
Total	**$63,313,933**	**$67,842,951**	**$73,242,954**	**$78,531,006**	**$87,036,554**	**$91,634,388**
Earnings from operations	**$18,751,929**	**$16,353,338**	**$17,990,404**	**$12,421,124**	**$5,173,209**	**$987,547**
Financial and other revenues						
Regulated activities						
Investment Income	$35,834	$138,576	$111,820	$138,875	$172,368	$172,368
Miscellaneous	$33,555	$30,003	$33,195	$40,200	$29,400	$29,400
Sub-total	$69,389	$168,579	$145,015	$179,075	$201,768	$201,768
Unregulated activities						
Miscellaneous	$117,390	$393,963	$62,667	$116,437	$110,945	$110,945
Total	**$186,779**	**$562,542**	**$207,682**	**$295,512**	**$312,713**	**$312,713**
Financial and other expenditures						
Regulated Activities						
Interest on long term debt	$4,019,023	$3,667,882	$3,581,438	$4,122,296	5,285,671	$7,349,797
Repayment on long term debt	$13,609,653	$14,020,756	$13,953,643	$14,587,115	9,928,502	$11,916,737
Amortization of debt discount	$125,004	$116,413	$110,025	$104,354	$125,560	$137,560
Dividend/ grant in lieu of taxes	$777,140	$778,116	$629,945	$844,252	$898,122	$942,393
Sub-total	$18,530,820	$18,583,167	$18,275,052	$19,658,017	$16,237,855	$20,346,488
Unregulated activities						
Miscellaneous	$15,471	$10,157	$10,934	$45,000	$15,000	$15,000
Total	**$18,546,291**	**$18,593,324**	**$18,285,985**	**$19,703,017**	**$16,252,855**	**$20,361,488**
Earnings (loss) for the year	**$392,417**	**($1,677,444)**	**($87,900)**	**($6,986,381)**	**($10,766,933)**	**($19,061,228)**
Surplus, beginning of year	**$6,761,668**	**$7,154,085**	**$5,476,641**	**$5,388,741**	**($1,597,640)**	**($12,364,573)**
Surplus, end of year	**$7,154,085**	**$5,476,641**	**$5,388,741**	**($1,597,640)**	**($12,364,573)**	**($31,425,801)**

Worksheet WW-3 – Revenue Requirements

Worksheet WW-3 takes the operating and financial expense information from Worksheet WW-2 to develop revenue requirements for the two test years, 2025/26 and 2026/27.

Financial and other operating revenue are deducted from the expenses to determine the revenue required from customer rates.

Worksheet WW-3

Halifax Water
Wastewater Rate Study
Statement of Operating Expenses and Revenue Requirements
Fiscal Years ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating expenditures						
Wastewater collection	$12,965,064	$13,630,549	$14,499,370	$14,283,187	$15,468,149	$16,190,829
Wastewater treatment	$21,052,649	$22,670,291	$23,888,072	$25,571,430	$27,725,474	$28,948,574
Engineering and technology services (TS)	$4,396,843	$5,113,479	$6,436,857	$7,344,746	$2,822,819	$2,956,967
Technical services (SCADA)	$1,616,467	$1,732,432	$1,842,515	$1,992,035	$2,298,157	$2,342,805
Regulatory services	$1,584,398	$1,491,153	$1,603,959	$1,888,743	$1,763,380	$1,854,486
Corporate services	$1,382,518	$1,308,484	$1,373,484	$1,650,839	$7,494,904	$8,501,643
Customer service	$2,031,875	$2,044,148	$2,061,504	$2,029,653	$2,338,236	$2,462,469
Administration	$1,658,119	$2,344,064	$2,778,832	$4,516,044	$3,372,493	$3,561,610
Sub-total	$46,687,932	$50,334,600	$54,484,592	$59,276,677	$63,283,612	$66,819,384
Calculated depreciation - funded assets	$15,881,902	$16,698,000	$17,809,498	$18,396,247	$22,600,152	$23,574,313
Calculated depreciation - donated assets	$0	$0	$0	$0	$175,803	$263,704
Total	**$62,569,834**	**$67,032,600**	**$72,294,091**	**$77,672,924**	**$86,059,566**	**$90,657,400**
Add: non-operating expenditures						
Interest on long term debt	$4,019,023	$3,667,882	$3,581,438	$4,122,296	$5,285,671	$7,349,797
Repayment on long term debt	$13,609,653	$14,020,756	$13,953,643	$14,587,115	$9,928,502	$11,916,737
Amortization of debt discount	$125,004	$116,413	$110,025	$104,354	$125,560	$137,560
Dividend/ grant in lieu of taxes	$777,140	$778,116	$629,945	$844,252	$898,122	$942,393
WW Rebate					$1,867,380	$2,000,000
	$18,530,820	$18,583,167	$18,275,052	$19,658,017	$18,105,235	$22,346,488
Total	**$18,530,820**	**$18,583,167**	**$18,275,052**	**$19,658,017**	**$18,105,235**	**$22,346,488**
Less: other revenues						
Overstrength surcharge	$309	$8,772	$7,493	$0	$0	$0
Late payment and other connection fees	$209,308	$202,102	$309,056	$253,300	$207,100	$206,500
Investment Income	$35,834	$138,576	$111,820	$138,875	$172,368	$172,368
Miscellaneous	$267,511	$262,588	$216,715	$227,651	$261,851	$212,261
Total	**$512,962**	**$612,038**	**$645,085**	**$619,826**	**$641,319**	**$591,129**
Less: other adjustments						
Sponsorships and donations	$1,511	$19,802	$4,576	$17,600	$17,600	$17,600
Help to others (H20) program	$14,099	$19,831	$1,632	$17,600	$17,600	$17,600
Administration	$52,999	$56,789	$61,522	$6,600	$6,600	$6,600
Total	**$68,609**	**$96,422**	**$67,730**	**$41,800**	**$41,800**	**$41,800**
Revenue required from customers	**$80,519,083**	**$84,907,307**	**$89,856,328**	**$96,669,315**	**$103,481,682**	**$112,370,959**

Worksheet WW-4 Operating Expenditure Analysis

Worksheet W-4 details the operating expenditures by cost element group for each of the functional areas within the Wastewater Services, consisting of the following:

- Wastewater Collections,
- Wastewater Treatment, and

For the following functional areas serving all three services of Halifax Water (Water, Wastewater and Stormwater), a summary has been provided outlining the cost effects as they pertain to Wastewater. Complete details for these functional areas can be found in the Water Rate Studies found in Appendix 1 of this Application.

- Engineering and Capital Infrastructure
- Technical Services (SCADA),

- Environment Health and Safety,
- Corporate Services,
- Customer Care, and
- Administration.

Data provided as part of the review and analysis includes:

- Actual results for 2021/22, 2022/23, and 2023/24,
- Approved budgets for 2024/25 and 2025/26 (Test Year #1), and
- Projected results for 2026/27 (Test Year #2).

For operating expenditures related to 2026/27 (Test Year #2), the key assumptions regarding projected increases are as follows:

- Salaries and benefits: 2.5% to 3.0% (as per Union agreement) and 2.75% for non-union
- Chemicals: 5.0%
- Electricity: 5.0%
- Other: 2.0%

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12Given the impact that financial compensation plays in the attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

On subsequent pages within this section, operating expenditures are reported for the core cost element groups within each functional area. As part of the analysis, variances have been provided with changes expressed as both dollar and percentage values, comparing year-over-year changes for the fiscal years 2025/26 through 2026/27. Commentary is provided for each of the cost elements groups falling within the functional areas, with additional details provided in situations where variances have increased over $100 thousand.

Wastewater Collections

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements that were ratified in 2024. A Joint Job Evaluation for local 227 was completed in 2024 and resulted in increased costs. It should be noted that Wastewater and Stormwater Collections share the same wage pool, therefore centrally managed. Cost fluctuations within one Service would have the opposite impact on the other. One new full-time equivalent position for a Subforeman has been included in the 2025-26 budget.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in the attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were removed from Operations budgets and consolidated in the corporate Administrative Budget. These costs are allocated to services based on the allocation in the Cost of Service Manual.

- Contract Services – Costs have varied year-over-year due to the variability of cost of contract services such as traffic control, hired equipment, and other contracted services. The variability can be the result of unplanned work due to events such as storms and equipment failure.

- Electricity – Costs for the 2025/26 budget are reflective of projected price and anticipated usage. Annual consumption varies year-over-year and is directly related to pump station flows and combined sewer overflows.

- Materials Supplies, and Services – Costs are reflective of reduced water consumption and tools and equipment purchases that can vary year over year.

- Professional Services – Costs for professional services primarily relate to licenses and agreements, specifically land leases for Harbour Solutions Pipe (HSP) and other wastewater infrastructure. These costs remain relatively consistent year-over-year.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs. Costs vary as a result in how costs were allocated to shared services.

- Chemicals – Chemicals are not a major cost related to Wastewater Collections as bioxide is the only chemical used for the sole purpose of odour control. It is purchased as required therefore, costs can vary year-over-year depending on usage, plus it would be subject to price volatility like market conditions for other chemicals.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Wastewater Collections											
Salaries and benefits	$6,573,805	$6,306,173	$6,123,685	$6,692,568	$7,700,214	$8,147,708	($267,632) (4%)	($182,487) (3%)	$568,883 9%	$1,007,646 15%	$447,494 6%
Training and development	$16,605	$36,817	$90,051	$62,470	$0	$0	$20,212 122%	$53,234 145%	($27,581) (31%)	($62,470) (100%)	$0 0%
Contract services	$1,852,605	$2,215,631	$2,176,830	$1,948,910	$1,978,560	$2,037,917	$363,026 20%	($38,801) (2%)	($227,920) (10%)	$29,650 2%	$59,357 3%
Electricity	$1,868,063	$1,927,632	$2,266,670	$2,192,144	$2,334,529	$2,451,256	$59,570 3%	$339,037 18%	($74,526) (3%)	$142,385 6%	$116,726 5%
Materials, supplies and services	$1,309,200	$1,438,635	$1,555,414	$1,434,636	$1,413,018	$1,455,409	$129,435 10%	$116,779 8%	($120,778) (8%)	($21,618) (2%)	$42,391 3%
Professional services	$174,201	$229,524	$346,055	$273,505	$272,005	$280,165	$55,323 32%	$116,531 51%	($72,550) (21%)	($1,500) (1%)	$8,160 3%
Fleet	$1,462,591	$1,758,278	$2,136,032	$1,842,661	$2,003,698	$2,073,827	$295,687 20%	$377,754 21%	($293,371) (14%)	$161,038 9%	$70,129 4%
Chemicals	$181,321	$148,334	$143,574	$199,861	$165,000	$173,250	($32,987) (18%)	($4,760) (3%)	$56,287 39%	($34,861) (17%)	$8,250 5%
Applied overheads and other allocations	$243,306	$225,080	$232,086	$288,302	$304,809	$307,857	($18,226) (7%)	$7,006 3%	$56,216 24%	$16,507 6%	$3,048 1%
Allocation to Stormwater Service	($716,633)	($655,555)	($571,027)	($651,869)	($703,684)	($736,560)	$61,078 (9%)	$84,528 (13%)	($80,843) 14%	($51,814) 8%	($32,876) 5%
Recoveries	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Total Wastewater Collections	**$12,965,064**	**$13,630,549**	**$14,499,370**	**$14,283,187**	**$15,468,149**	**$16,190,829**	$665,485 5%	$868,820 6%	($216,182) (1%)	$1,184,962 8%	$722,680 5%

Wastewater Treatment

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements that were ratified in 2024. A Joint Job Evaluation for local 227 was completed in 2024 and resulted in increased costs. Two new full-time equivalents are included in the 2025/26 budget including a Lead Process Technician and Operations Engineer.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in the attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – Planning and attendance for conferences and training are typically impacted by the content of the offering and the expiration of certifications of staff. In 2025/26 and 2026/27, the training and development costs were removed from Operations budgets and consolidated in Human Resources. The consolidation is to improve management of the training, allocation of resources across the utility, and increased focus on ensuring that training is specific to the needs of the employees. These costs are allocated to services based on the allocation in the Cost of Service Manual.

- Contract Services – A main cost driver for contract services is the processing and transportation of biosolids. Cost increases for 2025/26 are based on estimated inflationary impacts associated with the processing and transportation of biosolids.

- Electricity – Costs for 2025/26 are reflective of projected price and anticipated usage. Annual electricity consumption varies year-over-year due to effluent flow rates that can fluctuate with weather events.

- Materials, Supplies, and Services – Costs vary year-over-year, not only for scheduled maintenance, but also for emergency repairs required to aging infrastructure. The increase for 2025/26 can be attributed to an increase in the cost for potable water at the facilities.

- Professional Services –The costs for 2025/26 have been reduced following a reallocation of corporate membership fees to Administration.

- Fleet Services – There have been no major changes affecting the 2025-26 budget.

- Chemicals – The costs for 2025/26 are reflective of projected price and anticipated consumption/usage. Chemicals costs can be extremely volatile from a pricing perspective.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Wastewater Treatment											
Salaries and benefits	$5,533,739	$5,445,607	$5,567,749	$5,921,116	$7,053,996	$7,503,259	($88,132) (2%)	$122,142 2%	$353,367 6%	$1,132,880 19%	$449,263 6%
Training and development	$11,734	$19,873	$27,714	$43,960	$0	$0	$8,139 69%	$7,841 39%	$16,246 59%	($43,960) (100%)	$0 0%
Contract services	$5,113,153	$5,958,881	$6,788,185	$7,249,024	$7,480,021	$7,704,422	$845,728 17%	$829,304 14%	$460,839 7%	$230,997 3%	$224,401 3%
Electricity	$2,767,832	$2,738,834	$3,199,656	$3,025,109	$3,339,586	$3,506,565	($28,998) (1%)	$460,822 17%	($174,547) (5%)	$314,477 10%	$166,979 5%
Materials, supplies and services	$3,454,726	$4,141,858	$3,696,723	$4,182,571	$4,753,843	$4,896,458	$687,132 20%	($445,135) (11%)	$485,848 13%	$571,272 14%	$142,615 3%
Professional services	$337,624	$207,760	$59,942	$109,210	$51,510	$53,055	($129,864) (38%)	($147,818) (71%)	$49,268 82%	($57,700) (53%)	$1,545 3%
Fleet	$327,812	$224,554	$276,301	$348,703	$379,470	$392,751	($103,258) (31%)	$51,747 23%	$72,402 26%	$30,767 9%	$13,281 3%
Chemicals	$3,357,929	$3,856,658	$4,212,977	$4,580,369	$4,525,991	$4,752,291	$498,729 15%	$356,319 9%	$367,392 9%	($54,378) (1%)	$226,300 5%
Applied overheads and other allocations	$211,812	$158,244	$166,587	$190,353	$220,043	$222,243	($53,568) (25%)	$8,343 5%	$23,766 14%	$29,690 16%	$2,200 1%
Recoveries/ allocation to unregulated	($63,714)	($81,978)	($107,762)	($78,986)	($78,986)	($82,470)	($18,264) 29%	($25,784) 31%	$28,776 (27%)	$0 0%	($3,484) 4%
Total Wastewater Treatment	**$21,052,649**	**$22,670,291**	**$23,888,072**	**$25,571,430**	**$27,725,474**	**$28,948,574**	$1,617,642 8%	$1,217,781 5%	$1,683,358 7%	$2,154,044 8%	$1,223,100 4%

Technical Services (SCADA)

A summary has been provided below for Technical Services (SCADA) outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Technical Services (SCADA) by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations have changed resulting in a reduction in the percentage of common costs allocated to Wastewater Services, from 67% to 65%. This includes the cost centers for Administration and Overheads (Technical Services), SCADA System, and Regional Technical Services. All other cost center allocations remain unchanged.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Technical Services (SCADA)	$1,616,467	$1,732,432	$1,842,515	$1,992,035	$2,298,157	$2,342,805	$115,965	$110,083	$149,520	$306,122	$44,648
							7%	6%	8%	15%	2%

Engineering and Capital Infrastructure

A summary has been provided below for Engineering and Capital Infrastructure outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Engineering and Technology Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations have changed, resulting in a decrease in the percentage of common costs allocated to Wastewater Services from 52% to 44.1%. This includes the cost center for Administration and Overheads (Engineering and Capital Infrastructure). An increase is proposed for the Asset Management and Capital Planning cost center, from 52% to 70%. and for the Energy and Business Development cost center, from 61% to 95%. All other cost center allocations remain unchanged.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes *(year over year - $ and %)*				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Engineering and Capital Infrastructures	$4,396,843	$5,113,479	$6,436,857	$7,344,746	$2,822,819	$2,956,967	$716,635 16%	$1,323,378 26%	$907,889 14%	($4,521,927) (62%)	$134,148 5%

Environment, Health and Safety (EHS)

A summary has been provided below for Regulatory Services outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Regulatory Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Environment, Health and Safety	$1,584,398	$1,491,153	$1,603,959	$1,888,743	$1,763,380	$1,854,486	($93,244)	$112,805	$284,784	($125,363)	$91,106
							(6%)	8%	18%	(7%)	5%

Customer Service

A summary has been provided below for Customer Service outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Customer Service by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

Amounts allocated from Customer Service have not changed from the allocations and the methodology identified in the previous Cost-of-Service Manual.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Customer Service	$2,031,875	$2,044,148	$2,061,504	$2,029,653	$2,338,236	$2,462,469	$12,274	$17,356	($31,851)	$308,583	$124,233
							1%	1%	(2%)	15%	5%

Corporate Services

A summary has been provided below for Corporate Services outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Corporate Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations of all Cost centers to wastewater are 44.1%.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Corporate Services	$1,382,518	$1,308,484	$1,373,484	$1,650,839	$7,494,904	$8,501,643	($74,034)	$65,001	$277,355	$5,844,065	$1,006,739
							(5%)	5%	20%	354%	13%

Administration

A summary has been provided below for Administration outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Administration by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations of all Cost centers to wastewater are 44.1%.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Administration	$1,658,119	$2,344,064	$2,778,832	$4,516,044	$3,372,493	$3,561,610	$685,944 41%	$434,768 19%	$1,737,212 63%	($1,143,551) (25%)	$189,117 6%

Worksheet WW-5 Cost of Service (COS) Structure

Worksheet WW-5 details the customer classifications, cost functions with allocated percentages, service characteristics and operating and capital cost classifications for Wastewater Services as detailed in the Cost-of-Service Manual.

Worksheet WW-5

Halifax Water
Wastewater Rate Study

Customer Classifications, Cost Functions & Service Characteristics

Customer Classifications

SF Residential	Multi-family	Commercial - General	Industrial	Institutional
Unmetered				

System Functions			Classification - Service Characteristics	
Advanced Primary Treatment	Service Laterals	Engineering	Dry Weather Flow	Equivalent Meters
Secondary Treatment	Technical Services (SCADA)	Regulatory Services	Wet Weather Flow	Customer Service
Tertiary Treatment	Customer Service	Administration	Biochemical Oxygen Demand (BOD)	Indirect
Mains	Meters	Corporate Services	Total Suspended Solids (TSS)	
Pump Stations	Meter Reading and Billing			

Operating Classifications

		Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	
Function									
Advanced Primary Treatment		36.00%	14.00%	25.00%	25.00%	0.00%	0.00%	0.00%	
Secondary Treatment		55.20%	14.80%	12.00%	18.00%	0.00%	0.00%	0.00%	
Tertiary Treatment		42.80%	12.20%	18.00%	27.00%	0.00%	0.00%	0.00%	
Mains		95.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Pump Stations		90.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Service Laterals		0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
Technical Services (SCADA)		83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Customer Service		0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
Meters		0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
Meter Reading and Billing		0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
Engineering		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Regulatory Services		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Corporate Services		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Administration		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	

Capital Classifications

		Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	
Function									
Advanced Primary Treatment		38.00%	12.00%	25.00%	25.00%	0.00%	0.00%	0.00%	0.00%
Secondary Treatment		28.99%	20.67%	25.17%	25.17%	0.00%	0.00%	0.00%	0.00%
Tertiary Treatment		29.70%	10.00%	30.15%	30.15%	0.00%	0.00%	0.00%	0.00%
Mains		75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pump Stations		75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Service Laterals		0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Customer Service		0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Meters		0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Engineering		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Regulatory Services		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Corporate Services		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Administration		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%

Worksheet WW-6 Operating Expense Functionalization

Worksheet WW-6 details the Wastewater Services operating expense categories cost elements, by the system functions detailed in the Cost-of-Service Manual. The total of the service functions equals the operating expense category in the revenue requirement in 2025/26 and are reported as both a dollar and percentage value. These are then used in Worksheet WW-10 to allocate the costs to the service characteristics.

Worksheet WW-6

Halifax Water
Wastewater Rate Study

Statement of Operating Expenditures
2025/26

OPERATING EXPENSES	Test Year #1 2025/26 Budget
Wastewater Collection	
Salaries and benefits	$7,700,214
Training and development	$0
Contract services	$1,978,560
Electricity	$2,334,529
Materials, supplies and services	$1,413,018
Professional services	$272,005
Fleet	$2,003,698
Chemicals	$165,000
Applied overheads and other allocations	$304,809
Sub-total	$16,171,833
Allocation to Stormwater Service	($703,684)
Total Wastewater Collection	**$15,468,149**
Wastewater Treatment	
Salaries and benefits	$7,053,996
Training and development	$0
Contract services	$7,480,021
Electricity	$3,339,586
Materials, supplies and services	$4,753,843
Professional services	$51,510
Fleet	$379,470
Chemicals	$4,525,991
Recoveries/ allocation to unregulated	$220,043
Sub-total	$27,804,460
Recoveries	($78,986)
Total Wastewater Treatment	**$27,725,474**
Other Operating	
Engineering	$2,822,819
Technical Services (SCADA)	$2,298,157
Regulatory Services	$1,763,380
Corporate Services	$7,494,904
Customer Service	$2,338,236
Administration	$3,372,493
Total Other Operating	**$20,089,989**
Total O&M Expense	**$63,283,612**

Halifax Water
Wastewater Rate Study

Operating Expense Cost Allocation
Allocation of Costs to Functions
2025/26

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration	Total
Wastewater Collection															
Salaries and benefits				$2,726,860	$4,247,648	$725,706									$7,700,214
Training and development				$0	$0	$0									$0
Contract services				$929,453	$729,918	$319,189									$1,978,560
Electricity				$13,209	$2,317,742	$3,578									$2,334,529
Materials, supplies and services				$413,750	$944,552	$54,716									$1,413,018
Professional services				$84,486	$164,635	$22,885									$272,005
Fleet				$760,589	$1,034,229	$208,880									$2,003,699
Chemicals				$0	$165,000	$0									$165,000
Applied overheads and other allocations				$94,675	$184,489	$25,645									$304,809
Allocation to Stormwater Service				($218,566)	($425,914)	($59,204)									($703,684)
Total Wastewater Collection	**$0**	**$0**	**$0**	**$4,804,456**	**$9,362,299**	**$1,301,395**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$15,468,149**
Wastewater Treatment	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration	Total
Salaries and benefits	$4,144,696	$2,398,647	$510,654												$7,053,996
Training and development	$0	$0	$0												$0
Contract services	$5,237,060	$2,015,772	$227,189												$7,480,021
Electricity	$2,175,177	$899,236	$265,173												$3,339,586
Materials, supplies and services	$3,273,905	$1,269,300	$210,638												$4,753,843
Professional services	$35,097	$13,606	$2,807												$51,510
Fleet	$228,596	$118,196	$32,677												$379,470
Chemicals	$3,727,833	$580,388	$217,770												$4,525,991
Recoveries/ allocation to unregulated	$150,281	$58,027	$11,735												$220,043
Recoveries	($37,145)	($41,841)	$0												($78,986)
Total Wastewater Treatment	**$18,935,501**	**$7,311,331**	**$1,478,642**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$27,725,474**
Other Operating	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration	Total
Engineering											$2,822,819				$2,822,819
Technical Services (SCADA)							$2,298,157								$2,298,157
Regulatory Services												$1,763,380			$1,763,380
Corporate Services													$7,494,904		$7,494,904
Customer Service								$1,261,666	$511,547	$565,023					$2,338,236
Administration														$3,372,493	$3,372,493
Total Other Operating	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,298,157**	**$1,261,666**	**$511,547**	**$565,023**	**$2,822,819**	**$1,763,380**	**$7,494,904**	**$3,372,493**	**$20,089,989**
Total O&M Expense	**$18,935,501**	**$7,311,331**	**$1,478,642**	**$4,804,456**	**$9,362,299**	**$1,301,395**	**$2,298,157**	**$1,261,666**	**$511,547**	**$565,023**	**$2,822,819**	**$1,763,380**	**$7,494,904**	**$3,372,493**	**$63,283,612**

Worksheet WW-6

Halifax Water
Wastewater Rate Study

Statement of Operating Expenditures
2025/26

OPERATING EXPENSES	Test Year #1 2025/26 Budget
Wastewater Collection	
Salaries and benefits	$7,700,214
Training and development	$0
Contract services	$1,978,560
Electricity	$2,334,529
Materials, supplies and services	$1,413,018
Professional services	$272,005
Fleet	$2,003,698
Chemicals	$165,000
Applied overheads and other allocations	$304,809
Sub-total	$16,171,833
Allocation to Stormwater Service	($703,684)
Total Wastewater Collection	**$15,468,149**
Wastewater Treatment	
Salaries and benefits	$7,053,996
Training and development	$0
Contract services	$7,480,021
Electricity	$3,339,586
Materials, supplies and services	$4,753,843
Professional services	$51,510
Fleet	$379,470
Chemicals	$4,525,991
Recoveries/ allocation to unregulated	$220,043
Sub-total	$27,804,460
Recoveries	($78,986)
Total Wastewater Treatment	**$27,725,474**
Other Operating	
Engineering	$2,822,819
Technical Services (SCADA)	$2,298,157
Regulatory Services	$1,763,380
Corporate Services	$7,494,904
Customer Service	$2,338,236
Administration	$3,372,493
Total Other Operating	**$20,089,989**
Total O&M Expense	**$63,283,612**

Halifax Water
Wastewater Rate Study

Wastewater System

Operating Expense Cost Allocation
Percent of Costs to Functions
2025/26

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
Wastewater Collection														
Salaries and benefits	0%	0%	0%	35%	55%	9%	0%	0%	0%	0%	0%	0%	0%	0%
Training and development	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	0%	0%	0%	47%	37%	16%	0%	0%	0%	0%	0%	0%	0%	0%
Electricity	0%	0%	0%	1%	99%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	0%	0%	0%	29%	67%	4%	0%	0%	0%	0%	0%	0%	0%	0%
Professional services	0%	0%	0%	31%	61%	8%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	0%	0%	0%	38%	52%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Chemicals	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	0%	0%	0%	31%	61%	8%	0%	0%	0%	0%	0%	0%	0%	0%
Allocation to Stormwater Service	0%	0%	0%	31%	61%	8%	0%	0%	0%	0%	0%	0%	0%	0%
Wastewater Treatment	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
Salaries and benefits	59%	34%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Training and development	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	70%	27%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Electricity	65%	27%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	69%	27%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Professional services	68%	26%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	60%	31%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Chemicals	82%	13%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Recoveries/ allocation to unregulated	68%	26%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Recoveries	47%	53%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other Operating	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
Engineering	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Technical Services (SCADA)	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Regulatory Services	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Corporate Services	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Customer Service	0%	0%	0%	0%	0%	0%	0%	54%	22%	24%	0%	0%	0%	0%
Administration	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Worksheet WW-7 Continuity Schedule Utility Plant in Service

Worksheet W-7 provides additional details on the following:

- Funded utility plant in service,
- Contributed assets,
- Projected utility plant in service additions, net of projected retirements,
- Accumulated depreciation, net of projected retirements,
- Calculated depreciation, and
- Projected net book value.

The spreadsheet is broken down by asset class and asset. For the purposes of the revenue requirement, depreciation for Wastewater transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services.

Halifax Regional Water Commission

Utility Plant in Service-Wastewater

Continuity Schedule/ Depreciation for Utility Plant in Service

2025-26

	Useful Life in years	Funded Utility Plant in Service	Contributed Utility Plant in Service	Total Utility Plant in Service	Work in Process approved in Prior Years	Utility Plant in Service Additions	Contributed Utility Plant in Service Additions	Projected Retirements	Projected Utility Plant in Service	Accumulated Depreciation	Accumulated Depreciation on funded assets	Accumulated Depreciation on donated assets	Projected Retirement of Accumulated Depreciation	Projected Net Book Value before Depreciation	Depreciation expense on funded assets	Depreciation expense on Regulatory Asset	Projected Net Book Value After Depreciation
		Mar-25	Mar-25	Mar-25	2025-26	2025-26	2025-26	2025-26	Mar-26	Mar-25	Mar-25	Mar-25	2025-26	Mar-26	2025-26	2025-26	Mar-26
Intangible Assets	10	29,484,000	3,898,513	33,382,513		2,555,149			35,937,663	16,849,878	12,986,187	3,863,692		19,087,784	2,854,943	-	16,220,928
		-	-	-					-	-	-	-		-	-	-	-
Tangible Assets		-	-	-					-	-	-	-		-	-	-	-
Land		-	-	-					-	-	-	-		-	-	-	-
Collection Land & Land Rights	N/A	-	870,257	870,257					870,257	-	-	-		870,257	-	-	870,257
Treatment Plant Land	N/A	2,703,421	1,351,711	4,055,132					4,055,132	-	-	-		4,055,132	-	-	4,055,132
Pumping Station Land	N/A	57,902	90,726	148,629					148,629	-	-	-		148,629	-	-	148,629
Office Land	N/A	2,009,646	-	2,009,646					2,009,646	-	-	-		2,009,646	-	-	2,009,646
Other Land & Easements	N/A	4,300,571	915,577	5,216,148					5,216,148	-	-	-		5,216,148	-	-	5,216,148
Structures		-	-	-					-	-	-	-		-	-	-	-
Structures Other	40	3,764,104	1,588,879	5,352,982					5,352,982	1,495,860	904,997	590,863		3,857,122	85,730	858	3,732,683
Treatment Plants	5 - 75	59,329,409	60,572,253	119,901,662				-	119,901,662	43,547,412	15,939,010	27,608,402		76,354,250	1,299,902	9,037	74,134,162
Pumping Stations	20 - 30	32,513,355	44,657,030	77,170,385		11,251,306		-	88,421,691	38,538,480	9,080,766	29,457,713		49,883,211	1,009,101	11,668	47,971,662
Office Buildings	5	8,314,496	8,155	8,322,651					8,322,651	2,367,716	2,365,678	2,039		5,954,935	163,595	-	5,791,177
Airport-Aerotech	5 - 75	-	-	-					-	-	-	-		-	-	-	-
Treatment & Pump Equipment		-	-	-					-	-	-	-		-	-		-
Treatment Equipment	20	156,579,223	64,097,848	220,677,071		20,169,602			240,846,673	125,390,247	84,777,774	40,612,473		115,456,425	8,520,924	161,312	103,940,212
Information Systems - SCADA	20	15,077,476	1,903,765	16,981,240		50,000			17,031,240	7,941,166	7,209,466	731,699		9,090,075	910,185	-	8,093,858
Pumping Equipment	5 - 20	16,640,510	13,459,864	30,100,375			2,706		30,103,080	14,505,057	5,247,992	9,257,065		15,598,023	825,380	-	14,333,655
Mains		-	-	-					-	-	-	-		-	-	-	-
Trunk Sewers	100	13,038,296	25,862,056	38,900,353		530,000			39,430,353	4,416,902	1,354,380	3,062,523		35,013,450	179,068	-	34,514,349
Force Mains	75	7,427,954	135,234	7,563,188		500,000	16,232		8,079,420	340,887	330,300	10,587		7,738,533	152,230	-	7,584,169
Sewer Mains	75	103,283,562	185,087,647	288,371,209		20,365,218	2,115,446		310,851,874	80,830,382	12,637,793	68,192,590		230,021,492	1,569,706	4,915	225,942,457
Sewer Laterals	50	30,564,878	8,617,626	39,182,504			291,909		39,474,414	6,493,400	4,637,582	1,855,818		32,981,014	622,378	-	32,192,074
- Combined Sewers Portion	75 - 100	10,434,237	12,088,641	22,522,878					22,522,878	3,816,646	1,873,019	1,943,627		18,706,231	132,089	1,036	18,428,742
Outfalls	75	13,486,429	6,015,431	19,501,859					19,501,859	3,725,297	2,519,661	1,205,637		15,776,562	188,755	1,104	15,507,689
Manholes	50	4,091,419	9,053,650	13,145,068			457,511		13,602,579	2,043,971	530,546	1,513,425		11,558,608	87,767	-	11,298,011
Equipment		-	-	-					-	-	-	-		-	-	-	-
Transportation Equipment	5	9,617,217	111,303	9,728,520		2,243,200		250,000	11,721,720	7,991,603	7,880,301	111,303	250,000	3,980,117	813,423	-	3,166,694
Tools & Equipment for Ops	5	1,637,474	366,007	2,003,481					2,003,481	1,619,899	1,253,892	366,007		383,581	114,956	-	268,626
Tools & Equipment for Plant	5	158,016	-	158,016		255,000			413,016	122,434	122,434	-		290,583	34,803	-	255,780
Office Equipment & Furniture	5	884,526	-	884,526					884,526	876,772	876,772	-		7,754	2,215		5,539
Computer Equipment and Software	3 - 5	15,710,966	-	15,710,966		13,807,097			29,518,064	9,989,226	9,989,226	-		19,528,838	3,196,465	-	16,332,372
Meters		8,909,681	-	8,909,681		120,000		200,000	8,829,681	2,590,707	2,590,707	-	180,000	6,418,974	460,029		5,958,945
Small Systems		-	-	-					-	-	-	-		-	-	-	-
Fall River	20	-	-	-					-	-	-	-		-	-	-	-
Springfield Lake	5 - 20	-	-	-					-	-	-	-		-	-	-	-
Middle Musquodoboit	50	-	-	-					-	-	-	-		-	-	-	-
North Preston	10 - 50	-	-	-					-	-	-	-		-	-	-	-
Wellington	10 - 50	-	-	-					-	-	-	-		-	-		-
Other Small Systems	20 - 75	-	-	-					-	-	-	-		-	-	-	-
URBAN CORE SUB-TOTAL		550,018,768	440,752,172	990,770,941	-	71,846,572	2,883,804	450,000	1,065,051,317	375,493,944	185,108,481	190,385,463	430,000	689,987,374	23,223,645	189,929	657,973,596
Energy	5	124,091	-	124,091					124,091	44,482	44,482	-		79,610	17,406		62,204
TOTAL		550,142,860	440,752,172	990,895,032	-	71,846,572	2,883,804	450,000	1,065,175,409	375,538,425	185,152,962	190,385,463	430,000	690,066,983	23,241,052	189,929	658,035,799

Worksheet WW-8 Depreciation Functionalization

Worksheet WW-8 allocates the budgeted annual depreciation charge included in the revenue requirement for 2025/26 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual and reported as both a dollar and percentage value. These are then used in Worksheet WW-10 to allocate depreciation to the service characteristics. As noted previously, depreciation for Water transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services.

Worksheet WW-8

Halifax Water
Wastewater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2025/26

	Annual Depreciation
INTANGIBLE PLANT	
Intangible Plant	$2,855,181
TANGIBLE PLANT	
LAND	
WW Collection Land & Land Rights	$0
WW Treatment Plant Land	$0
WW Pumping Station Land	$0
WW Office Land	$0
WW Other Land	$0
STRUCTURES	
WW Structures Miscellaneous	$87,362
WW Treatment Plants	$1,327,343
WW Pumping Stations	$1,038,818
WW Office Buildings	$163,598
Aerotech/ Airport WW System	$0
TREATMENT & PUMP EQUIPMENT	
WW Treatment Equipment	$8,742,142
WW Information Systems - SCADA	$911,906
WW Pumping Equipment	$834,159
MAINS	
WW Trunk Sewers	$185,469
WW Force Mains	$152,273
WW Sewer Mains	$1,624,807
WW Sewer Laterals	$625,709
WW - Combined Sewers WW Portion	$136,033
WW Outfalls	$191,461
WW Manholes	$91,224
EQUIPMENT	
WW Tools & Work Equipment	$114,956
WW Tools & Equipment for Plant	$34,803
WW Office Equipment & Furniture	$2,215
WW Computer Equipment	$3,196,465
WW Meters	$460,029
SMALL SYSTEMS	
WW Fall River	$0
WW Springfield Lake	$0
WW Middle Musquodoboit	$0
WW North Preston	$0
WW Wellington	$0
Other Small Systems	$0
Total	$22,775,954
	0

Halifax Water
Wastewater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed as a Percentage (%)
2025/26

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
INTANGIBLE PLANT														
Intangible Plant	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
LAND														
WW Collection Land & Land Rights	90%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Treatment Plant Land	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Pumping Station Land	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Office Land	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
WW Other Land	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
STRUCTURES														
WW Structures Miscellaneous	80%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Treatment Plants	70%	20%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Pumping Stations	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Office Buildings	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Aerotech/ Airport WW System	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TREATMENT & PUMP EQUIPMENT														
WW Treatment Equipment	70%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Information Systems - SCADA	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Pumping Equipment	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MAINS														
WW Trunk Sewers	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Force Mains	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Sewer Mains	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Sewer Laterals	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
WW - Combined Sewers WW Portion	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Outfalls	80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Manholes	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
EQUIPMENT														
WW Tools & Work Equipment	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%
WW Tools & Equipment for Plant	40%	40%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Office Equipment & Furniture	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	25%
WW Computer Equipment	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	25%
WW Meters	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
SMALL SYSTEMS														
WW Fall River	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
WW Springfield Lake	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
WW Middle Musquodoboit	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
WW North Preston	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
WW Wellington	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Other Small Systems	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%

Worksheet WW-8

Halifax Water
Wastewater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2025/26

	Annual Depreciation
INTANGIBLE PLANT	
Intangible Plant	$2,855,181
TANGIBLE PLANT	
LAND	
WW Collection Land & Land Rights	$0
WW Treatment Plant Land	$0
WW Pumping Station Land	$0
WW Office Land	$0
WW Other Land	$0
STRUCTURES	
WW Structures Miscellaneous	$87,362
WW Treatment Plants	$1,327,343
WW Pumping Stations	$1,038,818
WW Office Buildings	$163,598
Aerotech/ Airport WW System	$0
TREATMENT & PUMP EQUIPMENT	
WW Treatment Equipment	$8,742,142
WW Information Systems - SCADA	$911,906
WW Pumping Equipment	$834,159
MAINS	
WW Trunk Sewers	$185,469
WW Force Mains	$152,273
WW Sewer Mains	$1,624,807
WW Sewer Laterals	$625,709
WW - Combined Sewers WW Portion	$136,033
WW Outfalls	$191,461
WW Manholes	$91,224
EQUIPMENT	
WW Tools & Work Equipment	$114,956
WW Tools & Equipment for Plant	$34,803
WW Office Equipment & Furniture	$2,215
WW Computer Equipment	$3,196,465
WW Meters	$460,029
SMALL SYSTEMS	
WW Fall River	$0
WW Springfield Lake	$0
WW Middle Musquodoboit	$0
WW North Preston	$0
WW Wellingtion	$0
Other Small Systems	$0
Total	$22,775,954
	0

Halifax Water
Wastewater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed in Dollars ($)
2025/26

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration	Total
INTANGIBLE PLANT															
Intangible Plant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,855,181	$2,855,181
LAND															
WW Collection Land & Land Rights	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Treatment Plant Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Pumping Station Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Office Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Other Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
STRUCTURES															
WW Structures Miscellaneous	$69,890	$0	$0	$17,472	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$87,362
WW Treatment Plants	$929,140	$265,469	$132,734	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,327,343
WW Pumping Stations	$0	$0	$0	$0	$1,038,818	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,038,818
WW Office Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$163,598	$163,598
Aerotech/ Airport WW System	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TREATMENT & PUMP EQUIPMENT															
WW Treatment Equipment	$6,119,500	$2,622,643	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,742,142
WW Information Systems - SCADA	$0	$0	$0	$0	$911,906	$0	$0	$0	$0	$0	$0	$0	$0	$0	$911,906
WW Pumping Equipment	$0	$0	$0	$0	$834,159	$0	$0	$0	$0	$0	$0	$0	$0	$0	$834,159
MAINS															
WW Trunk Sewers	$0	$0	$0	$185,469	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$185,469
WW Force Mains	$0	$0	$0	$76,136	$76,136	$0	$0	$0	$0	$0	$0	$0	$0	$0	$152,273
WW Sewer Mains	$0	$0	$0	$1,624,807	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,624,807
WW Sewer Laterals	$0	$0	$0	$0	$0	$625,709	$0	$0	$0	$0	$0	$0	$0	$0	$625,709
WW - Combined Sewers WW Portion	$0	$0	$0	$136,033	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$136,033
WW Outfalls	$153,169	$38,292	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$191,461
WW Manholes	$0	$0	$0	$91,224	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$91,224
EQUIPMENT															
WW Tools & Work Equipment	$0	$0	$0	$57,478	$28,739	$28,739	$0	$0	$0	$0	$0	$0	$0	$0	$114,956
WW Tools & Equipment for Plant	$13,921	$13,921	$6,961	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$34,803
WW Office Equipment & Furniture	$0	$0	$0	$0	$0	$0	$0	$554	$0	$0	$554	$554	$0	$554	$2,215
WW Computer Equipment	$0	$0	$0	$0	$0	$0	$0	$799,116	$0	$0	$799,116	$799,116	$0	$799,116	$3,196,465
WW Meters	$0	$0	$0	$0	$0	$0	$0	$0	$460,029	$0	$0	$0	$0	$0	$460,029
SMALL SYSTEMS															
WW Fall River	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Springfield Lake	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Middle Musquodoboit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW North Preston	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Wellingtion	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Small Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$7,285,619**	**$2,940,325**	**$139,695**	**$2,188,620**	**$2,889,759**	**$654,448**	**$0**	**$799,670**	**$460,029**	**$0**	**$799,670**	**$799,670**	**$0**	**$3,818,449**	**$22,775,954**
	31.99%	**12.91%**	**0.61%**	**9.61%**	**12.69%**	**2.87%**	**0.00%**	**3.51%**	**2.02%**	**0.00%**	**3.51%**	**3.51%**	**0.00%**	**16.77%**	**100.00%**

Worksheet WW-9 Allocation of Utility Plant in Service

Worksheet WW-9 allocates the budgeted utility plant in service for 2025/26 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual and reported as both a dollar and percentage value. These are then used in Worksheet WW-10 to allocate debt servicing costs to the service characteristics.

Worksheet WW-9

Halifax Water
Wastewater Rate Study

Allocation of Utility Plant in Service
2025/26

	Projected Utility Plant in Service, end of year	*Projected Accumulated Depreciation, end of year*	*Projected Net Book Value, end of year*	Contributed Plant, excluded from Rate Base	Rate Base
INTANGIBLE PLANT					
Intangible Plant	$35,937,663	$19,716,735	$16,220,928	$22,907	$16,198,020
TANGIBLE PLANT					
LAND					
WW Collection Land & Land Rights	$870,257	$0	$870,257	$870,257	$0
WW Treatment Plant Land	$4,055,132	$0	$4,055,132	$1,351,711	$2,703,421
WW Pumping Station Land	$148,629	$0	$148,629	$90,726	$57,902
WW Office Land	$2,009,646	$0	$2,009,646	$0	$2,009,646
WW Other Land	$5,216,148	$0	$5,216,148	$915,577	$4,300,571
STRUCTURES					
WW Structures Miscellaneous	$5,352,982	$1,620,299	$3,732,683	$959,306	$2,773,377
WW Treatment Plants	$119,901,662	$45,767,500	$74,134,162	$32,043,665	$42,090,497
WW Pumping Stations	$88,421,691	$40,450,029	$47,971,662	$14,296,869	$33,674,793
WW Office Buildings	$8,322,651	$2,531,474	$5,791,177	$5,953	$5,785,224
Aerotech/ Airport WW System	$0	$0	$0	$0	$0
TREATMENT & PUMP EQUIPMENT					
WW Treatment Equipment	$240,846,673	$136,906,461	$103,940,212	$20,490,086	$83,450,126
WW Information Systems - SCADA	$17,031,240	$8,937,383	$8,093,858	$1,086,034	$7,007,824
WW Pumping Equipment	$30,103,080	$15,769,425	$14,333,655	$3,766,516	$10,567,139
MAINS					
WW Trunk Sewers	$39,430,353	$4,916,003	$34,514,349	$22,479,501	$12,034,848
WW Force Mains	$8,079,420	$495,251	$7,584,169	$138,745	$7,445,424
WW Sewer Mains	$310,851,874	$84,909,417	$225,942,457	$116,501,175	$109,441,282
WW Sewer Laterals	$39,474,414	$7,282,339	$32,192,074	$6,887,156	$25,304,918
WW - Combined Sewers WW Portion	$22,522,878	$4,094,135	$18,428,742	$9,999,614	$8,429,129
WW Outfalls	$19,501,859	$3,994,170	$15,507,689	$4,729,676	$10,778,013
WW Manholes	$13,602,579	$2,304,568	$11,298,011	$7,824,906	$3,473,105
EQUIPMENT					
WW Transportation Equipment	$11,721,720	$8,555,026	$3,166,694	$0	$3,166,694
WW Tools & Work Equipment	$2,003,481	$1,734,855	$268,626	$0	$268,626
WW Tools & Equipment for Plant	$413,016	$157,236	$255,780	$0	$255,780
WW Office Equipment & Furniture	$884,526	$878,987	$5,539	$0	$5,539
WW Computer Equipment	$29,518,064	$13,185,691	$16,332,372	$0	$16,332,372
WW Meters	$8,829,681	$2,870,736	$5,958,945	$0	$5,958,945
SMALL SYSTEMS					
WW Fall River	$0	$0	$0	$0	$0
WW Springfield Lake	$0	$0	$0	$0	$0
WW Middle Musquodoboit	$0	$0	$0	$0	$0
WW North Preston	$0	$0	$0	$0	$0
WW Wellington	$0	$0	$0	$0	$0
Other Small Systems	$0	$0	$0	$0	$0
Total	**$1,065,051,317**	**$407,077,722**	**$657,973,596**	**$244,460,381**	**$413,513,214**

Halifax Water
Wastewater Rate Study

Allocation of Utility Plant in Service
Functionalization of the Rate Base Expressed as a Percentage (%)
2025/26

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
INTANGIBLE PLANT														
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
LAND														
	90%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
STRUCTURES														
	80%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	70%	20%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TREATMENT & PUMP EQUIPMENT														
	70%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MAINS														
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
EQUIPMENT														
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%
	40%	40%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	25%
	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	25%
	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
SMALL SYSTEMS														
	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%

Halifax Water
Wastewater Rate Study

Allocation of Utility Plant in Service
2025/26

	Projected Utility Plant in Service, end of year	*Projected Accumulated Depreciation, end of year*	*Projected Net Book Value, end of year*	Contributed Plant, excluded from Rate Base	Rate Base
INTANGIBLE PLANT					
Intangible Plant	$35,937,663	$19,716,735	$16,220,928	$22,907	$16,198,020
TANGIBLE PLANT					
LAND					
WW Collection Land & Land Rights	$870,257	$0	$870,257	$870,257	$0
WW Treatment Plant Land	$4,055,132	$0	$4,055,132	$1,351,711	$2,703,421
WW Pumping Station Land	$148,629	$0	$148,629	$90,726	$57,902
WW Office Land	$2,009,646	$0	$2,009,646	$0	$2,009,646
WW Other Land	$5,216,148	$0	$5,216,148	$915,577	$4,300,571
STRUCTURES					
WW Structures Miscellaneous	$5,352,982	$1,620,299	$3,732,683	$959,306	$2,773,377
WW Treatment Plants	$119,901,662	$45,767,500	$74,134,162	$32,043,665	$42,090,497
WW Pumping Stations	$88,421,691	$40,450,029	$47,971,662	$14,296,869	$33,674,793
WW Office Buildings	$8,322,651	$2,531,474	$5,791,177	$5,953	$5,785,224
Aerotech/ Airport WW System	$0	$0	$0	$0	$0
TREATMENT & PUMP EQUIPMENT					
WW Treatment Equipment	$240,846,673	$136,906,461	$103,940,212	$20,490,086	$83,450,126
WW Information Systems - SCADA	$17,031,240	$8,937,383	$8,093,858	$1,086,034	$7,007,824
WW Pumping Equipment	$30,103,080	$15,769,425	$14,333,655	$3,766,516	$10,567,139
MAINS					
WW Trunk Sewers	$39,430,353	$4,916,003	$34,514,349	$22,479,501	$12,034,848
WW Force Mains	$8,079,420	$495,251	$7,584,169	$138,745	$7,445,424
WW Sewer Mains	$310,851,874	$84,909,417	$225,942,457	$116,501,175	$109,441,282
WW Sewer Laterals	$39,474,414	$7,282,339	$32,192,074	$6,887,156	$25,304,918
WW - Combined Sewers WW Portion	$22,522,878	$4,094,135	$18,428,742	$9,999,614	$8,429,129
WW Outfalls	$19,501,859	$3,994,170	$15,507,689	$4,729,676	$10,778,013
WW Manholes	$13,602,579	$2,304,568	$11,298,011	$7,824,906	$3,473,105
EQUIPMENT					
WW Transportation Equipment	$11,721,720	$8,555,026	$3,166,694	$0	$3,166,694
WW Tools & Work Equipment	$2,003,481	$1,734,855	$268,626	$0	$268,626
WW Tools & Equipment for Plant	$413,016	$157,236	$255,780	$0	$255,780
WW Office Equipment & Furniture	$884,526	$878,987	$5,539	$0	$5,539
WW Computer Equipment	$29,518,064	$13,185,691	$16,332,372	$0	$16,332,372
WW Meters	$8,829,681	$2,870,736	$5,958,945	$0	$5,958,945
SMALL SYSTEMS					
WW Fall River	$0	$0	$0	$0	$0
WW Springfield Lake	$0	$0	$0	$0	$0
WW Middle Musquodoboit	$0	$0	$0	$0	$0
WW North Preston	$0	$0	$0	$0	$0
WW Wellington	$0	$0	$0	$0	$0
Other Small Systems	$0	$0	$0	$0	$0
Total	**$1,065,051,317**	**$407,077,722**	**$657,973,596**	**$244,460,381**	**$413,513,214**
	0	*0*	*0*	*0*	*0*

Halifax Water
Wastewater Rate Study

Allocation of Utility Plant in Service
Functionalization of Rate Base Expressed in Dollars ($)
2025/26

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration	Total
INTANGIBLE PLANT															
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$16,198,020	$16,198,020
LAND															
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$2,703,421	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,703,421
	$0	$0	$0	$0	$57,902	$0	$0	$0	$0	$0	$0	$0	$0	$0	$57,902
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,009,646	$2,009,646
	$0	$0	$0	$4,300,571	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,300,571
STRUCTURES															
	$2,218,702	$0	$0	$554,675	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,773,377
	$29,463,348	$8,418,099	$4,209,050	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$42,090,497
	$0	$0	$0	$0	$33,674,793	$0	$0	$0	$0	$0	$0	$0	$0	$0	$33,674,793
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,785,224	$5,785,224
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TREATMENT & PUMP EQUIPMENT															
	$58,415,089	$25,035,038	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$83,450,126
	$0	$0	$0	$0	$7,007,824	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,007,824
	$0	$0	$0	$0	$10,567,139	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10,567,139
MAINS															
	$0	$0	$0	$12,034,848	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$12,034,848
	$0	$0	$0	$3,722,712	$3,722,712	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,445,424
	$0	$0	$0	$109,441,282	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$109,441,282
	$0	$0	$0	$0	$0	$25,304,918	$0	$0	$0	$0	$0	$0	$0	$0	$25,304,918
	$0	$0	$0	$8,429,129	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,429,129
	$8,622,410	$2,155,603	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10,778,013
	$0	$0	$0	$3,473,105	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,473,105
EQUIPMENT															
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,166,694	$3,166,694
	$0	$0	$0	$134,313	$67,156	$67,156	$0	$0	$0	$0	$0	$0	$0	$0	$268,626
	$102,312	$102,312	$51,156	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$255,780
	$0	$0	$0	$0	$0	$0	$0	$1,385	$0	$0	$1,385	$1,385	$0	$1,385	$5,539
	$0	$0	$0	$0	$0	$0	$0	$4,083,093	$0	$0	$4,083,093	$4,083,093	$0	$4,083,093	$16,332,372
	$0	$0	$0	$0	$0	$0	$0	$0	$5,958,945	$0	$0	$0	$0	$0	$5,958,945
SMALL SYSTEMS															
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$101,525,282**	**$35,711,052**	**$4,260,206**	**$142,090,635**	**$55,097,527**	**$25,372,074**	**$0**	**$4,084,478**	**$5,958,945**	**$0**	**$4,084,478**	**$4,084,478**	**$0**	**$31,244,062**	**$413,513,214**
	24.55%	**8.64%**	**1.03%**	**34.36%**	**13.32%**	**6.14%**	**0.00%**	**0.99%**	**1.44%**	**0.00%**	**0.99%**	**0.99%**	**0.00%**	**7.56%**	**100.00%**

Worksheet WW-10 Cost Classification

Worksheet WW-10 details the costs as allocated to the system functions in Worksheet WW-6, WW-8 and WW-9 and allocates them to the service characteristics based on the percentages for each characteristic detailed in the Cost-of-Service Manual. The amounts are then totaled by operation and maintenance, depreciation and are used in Worksheet WW-11 to calculate the wastewater unit rate and bill calculation. The utility plant in service functions are also totaled and the percentage by service function is used to allocate the net debt servicing costs also in Worksheet WW-11.

Worksheet WW-10

Halifax Water
Wastewater Rate Study

Wastewater Cost Classification & Unit Rate Calculations
2025/26

Cost Classifications

O&M Expenses by Function		Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Total
		Classification Percentages														
Wastewater Collection																
Advanced Primary Treatment	$0	36.00%	14.00%	25.00%	25.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Secondary Treatment	$0	55.20%	14.80%	12.00%	18.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Tertiary Treatment	$0	42.80%	12.20%	18.00%	27.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Mains	$4,804,456	95.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$4,564,233	$240,223	$0	$0	$0	$0	$0	$4,804,456
Pump Stations	$9,362,299	90.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$8,426,069	$936,230	$0	$0	$0	$0	$0	$9,362,299
Service Laterals	$1,301,395	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$1,301,395	$0	$0	$1,301,395
Technical Services (SCADA)	$0	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	$0	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Meters	$0	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Meter Reading and Billing	$0	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Regulatory Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Sub-Total	$15,468,149								$12,990,302	$1,176,453	$0	$0	$1,301,395	$0	$0	$15,468,149
Wastewater Treatment																
Advanced Primary Treatment	$18,935,501	36.00%	14.00%	25.00%	25.00%	0.00%	0.00%	0.00%	$6,816,780	$2,650,970	$4,733,875	$4,733,875	$0	$0	$0	$18,935,501
Secondary Treatment	$7,311,331	55.20%	14.80%	12.00%	18.00%	0.00%	0.00%	0.00%	$4,035,855	$1,082,077	$877,360	$1,316,040	$0	$0	$0	$7,311,331
Tertiary Treatment	$1,478,642	42.80%	12.20%	18.00%	27.00%	0.00%	0.00%	0.00%	$632,859	$180,394	$266,156	$399,233	$0	$0	$0	$1,478,642
Mains	$0	95.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Pump Stations	$0	90.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Service Laterals	$0	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	$0	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	$0	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Meters	$0	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Meter Reading and Billing	$0	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Regulatory Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Sub-Total	$27,725,474								$11,485,494	$3,913,441	$5,877,391	$6,449,148	$0	$0	$0	$27,725,474
Other Operating																
Advanced Primary Treatment	$0	36.00%	14.00%	25.00%	25.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Secondary Treatment	$0	55.20%	14.80%	12.00%	18.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Tertiary Treatment	$0	42.80%	12.20%	18.00%	27.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Mains	$0	95.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Pump Stations	$0	90.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Service Laterals	$0	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	$2,298,157	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$1,907,470	$390,687	$0	$0	$0	$0	$0	$2,298,157
Customer Service	$1,261,666	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$1,261,666	$0	$1,261,666
Meters	$511,547	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$511,547	$0	$0	$511,547
Meter Reading and Billing	$565,023	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$565,023	$0	$565,023
Engineering	$2,822,819	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$2,822,819	$2,822,819
Regulatory Services	$1,763,380	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$1,763,380	$1,763,380
Corporate Services	$7,494,904	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$7,494,904	$7,494,904
Administration	$3,372,493	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$3,372,493	$3,372,493
Sub-Total	$20,089,989								$1,907,470	$390,687	$0	$0	$511,547	$1,826,689	$15,453,596	$20,089,989
O&M Total	$63,283,612															$63,283,612

Halifax Water
Wastewater Rate Study

Wastewater Cost Classification & Unit Rate Calculations
2025/26

Cost Classifications

		Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect
Depreciation Expense by Function								
Advanced Primary Treatment	$7,285,619	38.00%	12.00%	25.00%	25.00%	0.00%	0.00%	0.00%
Secondary Treatment	$2,940,325	28.99%	20.67%	25.17%	25.17%	0.00%	0.00%	0.00%
Tertiary Treatment	$139,695	29.70%	10.00%	30.15%	30.15%	0.00%	0.00%	0.00%
Mains	$2,188,620	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pump Stations	$2,889,759	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Service Laterals	$654,448	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Customer Service	$799,670	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Meters	$460,029	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Engineering	$799,670	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Regulatory Services	$799,670	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Administration	$3,818,449	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Sub-Total	$22,775,954							
Rate Base by Function								
Advanced Primary Treatment	$101,525,282	38.00%	12.00%	25.00%	25.00%	0.00%	0.00%	0.00%
Secondary Treatment	$35,711,052	28.99%	20.67%	25.17%	25.17%	0.00%	0.00%	0.00%
Tertiary Treatment	$4,260,206	29.70%	10.00%	30.15%	30.15%	0.00%	0.00%	0.00%
Mains	$142,090,635	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pump Stations	$55,097,527	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Service Laterals	$25,372,074	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Customer Service	$4,084,478	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Meters	$5,958,945	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Engineering	$4,084,478	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Regulatory Services	$4,084,478	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Administration	$31,244,062	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Sub-Total	$413,513,214							

	Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Total
Depreciation Expense by Function								
Advanced Primary Treatment	$2,768,535	$874,274	$1,821,405	$1,821,405	$0	$0	$0	$7,285,619
Secondary Treatment	$852,317	$607,667	$740,170	$740,170	$0	$0	$0	$2,940,325
Tertiary Treatment	$41,489	$13,969	$42,118	$42,118	$0	$0	$0	$139,695
Mains	$1,641,465	$547,155	$0	$0	$0	$0	$0	$2,188,620
Pump Stations	$2,167,319	$722,440	$0	$0	$0	$0	$0	$2,889,759
Service Laterals	$0	$0	$0	$0	$654,448	$0	$0	$654,448
Customer Service	$0	$0	$0	$0	$0	$799,670	$0	$799,670
Meters	$0	$0	$0	$0	$460,029	$0	$0	$460,029
Engineering	$0	$0	$0	$0	$0	$0	$799,670	$799,670
Regulatory Services	$0	$0	$0	$0	$0	$0	$799,670	$799,670
Corporate Services	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$0	$0	$0	$0	$0	$0	$3,818,449	$3,818,449
Sub-Total	$7,471,126	$2,765,505	$2,603,693	$2,603,693	$1,114,477	$799,670	$5,417,790	$22,775,954
Rate Base by Function								
Advanced Primary Treatment	$38,579,607	$12,183,034	$25,381,320	$25,381,320	$0	$0	$0	$101,525,282
Secondary Treatment	$10,351,627	$7,380,284	$8,989,571	$8,989,571	$0	$0	$0	$35,711,052
Tertiary Treatment	$1,265,281	$426,021	$1,284,452	$1,284,452	$0	$0	$0	$4,260,206
Mains	$106,567,976	$35,522,659	$0	$0	$0	$0	$0	$142,090,635
Pump Stations	$41,323,145	$13,774,382	$0	$0	$0	$0	$0	$55,097,527
Service Laterals	$0	$0	$0	$0	$25,372,074	$0	$0	$25,372,074
Customer Service	$0	$0	$0	$0	$0	$4,084,478	$0	$4,084,478
Meters	$0	$0	$0	$0	$5,958,945	$0	$0	$5,958,945
Engineering	$0	$0	$0	$0	$0	$0	$4,084,478	$4,084,478
Regulatory Services	$0	$0	$0	$0	$0	$0	$4,084,478	$4,084,478
Corporate Services	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$0	$0	$0	$0	$0	$0	$31,244,062	$31,244,062
Sub-Total	$198,087,636	$69,286,379	$35,655,343	$35,655,343	$31,331,019	$4,084,478	$39,413,017	$413,513,214
	47.90%	**16.76%**	**8.62%**	**8.62%**	**7.58%**	**0.99%**	**9.53%**	100.00%

Worksheet WW-11 Unit Costs and Returns

Worksheet WW-11 uses the costs from Worksheet WW-10 allocated to the system functions to calculate the unit wastewater rates for 2025/26 using the billing determinates. The percentage of dry weather flow, wet weather flow, biochemical oxygen demand (BOD), total suspended solids (TSS), equivalent meters and customer service are used to allocate the indirect costs for operation and maintenance expenses, depreciation expense and debt service. The dividend/grant in lieu of taxes is allocated based on the total allocated revenue requirements. Worksheet W-11 also calculates the return on rate base.

Worksheet WW-11

Halifax Water
Wastewater Rate Study

Wastewater Unit Rate and Bill Calculations
2025/26

Unit Cost Calculations

	Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Total
Revenue Requirements								
O&M Expenses								
Wastewater Collection	$12,990,302	$1,176,453	$0	$0	$1,301,395	$0	$0	$15,468,149
Wastewater Treatment	$11,485,494	$3,913,441	$5,877,391	$6,449,148	$0	$0	$0	$27,725,474
Other Operating	$1,907,470	$390,687	$0	$0	$511,547	$1,826,689	$15,453,596	$20,089,989
Sub-Total	$26,383,266	$5,480,581	$5,877,391	$6,449,148	$1,812,942	$1,826,689	$15,453,596	$63,283,612
Direct Allocation Percentages	55.16%	11.46%	12.29%	13.48%	3.79%	3.82%		100.00%
O&M Expenses By Service Characteristic	$34,907,543	$7,251,324	$7,776,341	$8,532,830	$2,398,693	$2,416,881	$0	$63,283,612
Depreciation Expenses	$7,471,126	$2,765,505	$2,603,693	$2,603,693	$1,114,477	$799,670	$5,417,790	$22,775,954
Direct Allocation Percentages	43.04%	15.93%	15.00%	15.00%	6.42%	4.61%		100.00%
Depreciation Expenses By Service Characteristic	$9,802,996	$3,628,669	$3,416,351	$3,416,351	$1,462,325	$1,049,261	$0	$22,775,954
Return Components								
Plant in Service by Serv Char Percents	47.90%	16.76%	8.62%	8.62%	7.58%	0.99%	9.53%	100.00%
Debt Service (Principal, Interest, Fees) and WW Rebate $17,207,113	$8,242,823	$2,883,145	$1,483,690	$1,483,690	$1,303,746	$169,963	$1,640,055	$17,207,113
Direct Allocation Percentages	52.95%	18.52%	9.53%	9.53%	8.38%	1.09%		100.00%
Debt Service (Principal, Interest, Fees) and WW Rebate By Service Characteristic (Net)	$9,111,239	$3,186,896	$1,640,003	$1,640,003	$1,441,102	$187,870		$17,207,113
Total Allocated Revenue Requirements	**$53,821,778**	**$14,066,889**	**$12,832,695**	**$13,589,185**	**$5,302,120**	**$3,654,012**		$103,266,679
	52.12%	**13.62%**	**12.43%**	**13.16%**	**5.13%**	**3.54%**		**100.00%**
Add: Dividend/ Grant in lieu of Taxes $898,122	$468,094	$122,341	$111,607	$118,187	$46,113	$31,779		$898,122
Less: Non-rate revenues and other adjustments ($683,119)	($356,036)	($93,054)	($84,890)	($89,894)	($35,074)	($24,172)		($683,119)

Rate Base **$ 413,513,214**

Return on Rate Base **$16,523,994**
Calculated Percent Return on **4.00%**

Worksheet WW-11

Halifax Water
Wastewater Rate Study

Wastewater Unit Rate and Bill Calculations
2025/26

Unit Cost Calculations

	Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Total
Net Rate Revenue Requirements	**$53,933,836**	**$14,096,176**	**$12,859,413**	**$13,617,477**	**$5,313,159**	**$3,661,620**		**$103,481,682**
Alternative I&I Allocations	I & I to Flow				I & I to Meter Equivalents	I & I to Customers		
	10%				**45%**	**45%**		
	$55,343,453		$12,859,413	$13,617,477	$11,656,439	$10,004,899		$103,481,682
	I & I to Flow				I & I to Meter Equivalents	I & I to Customers		
	0%				**50%**	**50%**		
	$ 53,933,836		$ 12,859,413	$ 13,617,477	$ 12,361,247	$ 10,709,708		$103,481,682

Billing Determinations	**Flow**		**Biochemical Oxygen Demand (BOD)**	**Total Suspended Solids (TSS)**	**Equivalent Meters**	**Customer Service**		
	ML		**kg**	**kg**	**Annual Equivalents**	**Annual**		
Residential	20,486		3,482,615	3,482,615	79,640	79,610		
Non-Residential	12,515		7,657,149	3,837,982	29,691	5,212		
Overstrength Surcharge	3		8,402	1,649	0	0		
Hauled Waste	11		2,762	1,657	0	0		
Total	33,016	-	11,150,928	7,323,903	109,331	84,822		**Blended Rate - Flow &**
Billed Water Usage	33,506							
I & I to Flow 0.1								
Rate Per Billing Unit	**$1.6517**		**$1.1532**	**$1.8593**	**$106.62**	**$117.95**		**$2.4419**
Annual								
Residential	$276		$33	$53	$106.62	$117.95	**$586.51**	

Worksheet WW-12 Rates, Revenues and Bills

Worksheet WW-12 uses the data from worksheet WW-11 to calculate proposed rates for customer charge, base charge, and volumetric charges (effluent charge) for 2025/26. Worksheet WW-12 also provides a revenue test based on the budgeted customer connections, equivalent meters and consumption and details the annual fixed charges (base and customer charge) and the annual effluent charge based on the arithmetic average of consumption by meter size.

Worksheet WW-12

Halifax Water
Wastewater Rate Study

Rates, Revenues & Annual Bills by Alternative
2025/26

Proposed Cost of Service Rates and Charges		**I&I Allocation Flow / Sys Eq. / Customer at: 0.1 / 0.45 / 0.45**
Customer Charge	$/Account	$117.95
Base Charge	$/Meter Equivalent	$106.62
Volumetric Charges	$ / Billed Cubic Meter	$2.4419

Revenue Test	Billing Determinant	
Customer Charge Revenues	84,822	$10,004,899
Number of Services		
Base Charge Revenues	109,331	$11,656,439
System Equivalents		
Volumetric Charges Revenues	33,506,243	$81,820,344
Estimated Consumption		
Total Revenues		$103,481,682

Halifax Water
Wastewater Rate Study

Rates, Revenues & Annual Bills by Alternative
2025/26

Bill Calculations

Annual Fixed Charges
(Customer & Base Charges by Meter Size)

Meter Size	Capacity Ratio	I&I Allocation Flow / Sys Eq. / Customer at: 0.1 / 0.45 / 0.45
Unmetered 5/8"	1	$224.57
Unmetered 3/4"	1.5	$277.88
Unmetered 1"	2.5	$384.49
Unmetered 3"	16.0	$1,823.82
5/8" - 15mm	1	$224.57
3/4" - 20mm	1.5	$277.88
1" - 25mm	2.5	$384.49
1.5" - 40mm	5	$651.03
2" - 50mm	8	$970.88
3" - 80mm	16	$1,823.82
4" - 100mm	25	$2,783.36
6" - 150mm	50	$5,448.78
8" - 200mm	90	$9,713.44
10" - 250mm	150	$16,110.43

Annual Effluent Charges

Meter Size	Average Annual Consumption	I&I Allocation Flow / Sys Eq. / Customer at: 0.1 / 0.45 / 0.45
Unmetered 5/8"	162.88	$397.74
Unmetered 3/4"	541.10	$1,321.33
Unmetered 1"	1,076.51	$2,628.78
Unmetered 3"	13,071.10	$31,918.89
5/8" - 15MM	162.88	$397.74
3/4" - 20MM	541.10	$1,321.33
1" - 25MM	1,076.51	$2,628.78
1.5" - 40MM	2,550.03	$6,227.04
2" - 50MM	6,215.78	$15,178.59
3" - 80MM	13,071.10	$31,918.89
4" - 100MM	23,327.60	$56,964.69
6" - 150MM	66,390.75	$162,122.45
8" - 200MM	60,192.97	$146,987.81
10" - 250MM	129,923.38	$317,265.51

Total Bill - Average Consumption

Meter Size	Average Annual Consumption	I&I Allocation Flow / Sys Eq. / Customer at: 0.1 / 0.45 / 0.45
Unmetered 5/8"	162.88	$622.31
Unmetered 3/4"	541.10	$1,599.21
Unmetered 1"	1,076.51	$3,013.27
Unmetered 3"	13,071.10	$33,742.71
5/8" - 15MM	162.88	$622.31
3/4" - 20MM	541.10	$1,599.21
1" - 25MM	1,076.51	$3,013.27
1.5" - 40MM	2,550.03	$6,878.07
2" - 50MM	6,215.78	$16,149.47
3" - 80MM	13,071.10	$33,742.71
4" - 100MM	23,327.60	$59,748.05
6" - 150MM	66,390.75	$167,571.23
8" - 200MM	60,192.97	$156,701.25
10" - 250MM	129,923.38	$333,375.94

Worksheet Appendix WW-1 – Additions to Utility Plant in Service

Appendix WW-1 details the proposed additions to utility plant in service and capital funding for the test year 2025/26.

Additions to utility plant in service for 2025/26 are estimated based on status of capital work in progress (projects approved in prior fiscal years), the projects from the 2025/26 capital budget, and historical levels of contributed utility plant in service.

Halifax Water projects an addition of $74.7 million in assets to utility plant in service during the 2025/26 fiscal year.

Appendix WW-1

Halifax Water
Wastewater Rate Study

Proposed Additions to Utility Plant in Service and Capital Funding
2025/26

	Additions to the Utility Plant in Service	Capital Cost Contribution from Others	Utility Cost of Plant in Service	
INTANGIBLE PLANT				
Intangible Plant	$2,555,149	$0	$2,555,149	
	$0	$0	$0	
TANGIBLE PLANT	$0	$0	$0	
LAND	$0	$0	$0	
WW Collection Land & Land Rights	$0	$0	$0	
WW Treatment Plant Land	$0	$0	$0	
WW Pumping Station Land	$0	$0	$0	
WW Office Land	$0	$0	$0	
WW Other Land	$0	$0	$0	
STRUCTURES	$0	$0	$0	
WW Structures Miscellaneous	$0	$0	$0	
WW Treatment Plants	$0	$0	$0	
WW Pumping Stations	$11,251,306	$0	$11,251,306	
WW Office Buildings	$0	$0	$0	
Aerotech/ Airport WW System	$0	$0	$0	
TREATMENT & PUMP EQUIPMENT	$0	$0	$0	
WW Treatment Equipment	$20,169,602	$0	$20,169,602	
WW Information Systems - SCADA	$50,000	$0	$50,000	
WW Pumping Equipment	$2,706	$2,706	$0	
MAINS	$0	$0	$0	
WW Trunk Sewers	$530,000	$0	$530,000	
WW Force Mains	$516,232	$16,232	$500,000	
WW Sewer Mains	$22,480,665	$2,115,446	$20,365,218	
WW Sewer Laterals	$291,909	$291,909	$0	
WW - Combined Sewers WW Portion	$0	$0	$0	
WSW Outfalls	$0	$0	$0	
WW Manholes	$457,511	$457,511	$0	
EQUIPMENT	$0	$0	$0	
WW Transportation Equipment	$2,243,200	$0	$2,243,200	
WW Tools & Work Equipment	$0	$0	$0	
WW Tools & Work Equipment for Plant	$255,000	$0	$255,000	
WW Office Equipment & Furniture	$0	$0	$0	
WW Computer Equipment	$13,807,097	$0	$13,807,097	
WW Meters	$120,000	$0	$120,000	
SMALL SYSTEMS	$0	$0	$0	
WW Fall River	$0	$0	$0	
WW Springfield Lake	$0	$0	$0	
WW Middle Musquodoboit	$0	$0	$0	
WW North Preston	$0	$0	$0	
WW Wellington	$0	$0	$0	
Other Small Systems	$0	$0	$0	
TOTAL	$74,730,377	$2,883,804	$71,846,572	

Sources of Funding

Capital Cost Contribution	$0	Depreciation Fund Balance, beginning of year	($1,028,974)
Regional Development Charge	$0	Add:	
External Funding	$2,883,804	Interest earned on fund balance	$0
Contributions - other	$0	Depreciation funded in Current year	$22,600,152
Working Capital	$19,070,618	Depreciation Fund Balance available	$21,571,178
Depreciation fund	$22,775,954	Less:	
Long Term Debt	$30,000,000	Expenditure in Current Year	($22,775,954)
TOTAL	$74,730,377	Depreciation Fund Balance, end of year	($1,204,776)

Worksheet Appendix WW-2 Amortization Schedule for Long Term Debt

Appendix WW-2 details the amortization schedule of the proposed long-term debt associated with 2025/26. The amortization is based on a 30-year blended serial debenture at a rate of 4.0%. Debt servicing costs related to principal and interest will commence in test year 2025/26.

Appendix WW-2

Halifax Water
Wastewater Rate Study

Amortization Schedule for Projected Long Term Debt
2025/26

Interest Rate	4.00%
Term in years	30
Capital	$30,000,000

Amortization Schedule

	Principal	Interest	Total	Balance
Year				
1	$1,000,000.00	$1,200,000.00	$2,200,000.00	$29,000,000.00
2	$1,000,000.00	$1,160,000.00	$2,160,000.00	$28,000,000.00
3	$1,000,000.00	$1,120,000.00	$2,120,000.00	$27,000,000.00
4	$1,000,000.00	$1,080,000.00	$2,080,000.00	$26,000,000.00
5	$1,000,000.00	$1,040,000.00	$2,040,000.00	$25,000,000.00
6	$1,000,000.00	$1,000,000.00	$2,000,000.00	$24,000,000.00
7	$1,000,000.00	$960,000.00	$1,960,000.00	$23,000,000.00
8	$1,000,000.00	$920,000.00	$1,920,000.00	$22,000,000.00
9	$1,000,000.00	$880,000.00	$1,880,000.00	$21,000,000.00
10	$1,000,000.00	$840,000.00	$1,840,000.00	$20,000,000.00
11	$1,000,000.00	$800,000.00	$1,800,000.00	$19,000,000.00
12	$1,000,000.00	$760,000.00	$1,760,000.00	$18,000,000.00
13	$1,000,000.00	$720,000.00	$1,720,000.00	$17,000,000.00
14	$1,000,000.00	$680,000.00	$1,680,000.00	$16,000,000.00
15	$1,000,000.00	$640,000.00	$1,640,000.00	$15,000,000.00
16	$1,000,000.00	$600,000.00	$1,600,000.00	$14,000,000.00
17	$1,000,000.00	$560,000.00	$1,560,000.00	$13,000,000.00
18	$1,000,000.00	$520,000.00	$1,520,000.00	$12,000,000.00
19	$1,000,000.00	$480,000.00	$1,480,000.00	$11,000,000.00
20	$1,000,000.00	$440,000.00	$1,440,000.00	$10,000,000.00
21	$1,000,000.00	$400,000.00	$1,400,000.00	$9,000,000.00
22	$1,000,000.00	$360,000.00	$1,360,000.00	$8,000,000.00
23	$1,000,000.00	$320,000.00	$1,320,000.00	$7,000,000.00
24	$1,000,000.00	$280,000.00	$1,280,000.00	$6,000,000.00
25	$1,000,000.00	$240,000.00	$1,240,000.00	$5,000,000.00
26	$1,000,000.00	$200,000.00	$1,200,000.00	$4,000,000.00
27	$1,000,000.00	$160,000.00	$1,160,000.00	$3,000,000.00
28	$1,000,000.00	$120,000.00	$1,120,000.00	$2,000,000.00
29	$1,000,000.00	$80,000.00	$1,080,000.00	$1,000,000.00
30	$1,000,000.00	$40,000.00	$1,040,000.00	$0.00

Halifax Regional Water Commission

(“Halifax Water”)

Wastewater Rate Study

2026/27

Prepared By: Halifax Water Staff

Notes on Worksheet

Worksheet WW-1 System Data

Worksheet WW-1 provides Wastewater Services related data including:

- Wastewater estimated flow summary for the 2024 calendar year.
- Budgeted service connections and estimated effluent billing consumption for the test year 2026/27.
- Plant Balance by customer class for the 2024 calendar year.
- Average effluent loading for residential and non-residential customers the 2024 calendar.

Assumptions – 2026/27 (Test Year #2):

1. Water consumption (and therefore wastewater discharge) is budgeted to grow at a rate of 1%, based on modest increases recently experienced in water consumption.

2. Customer connections will increase by 531 connections in 2026/27, based on customer growth in the last five years.

Worksheet WW-1

Halifax Water
Wastewater Rate Study

User Characteristics and Plant Balance Analysis

SCENARIO SUMMARY

Date	November 30, 2024
Test Years	
1	2025/26
2	2026/27
Current Year Budget (Projections)	2024/25
Historical Year	2023/24

Projected Service Connections, Equivalents and Billed Water Consumption

2026/27

Meter Size	Number of Services	Capacity Ratio	System Equivalents	Estimated Consumption (Cubic Meters)
Unmetered 5/8"	927	1	927	151,574
Unmetered 3/4"	2	1.5	3	1,083
Unmetered 1"	9	2.5	23	9,725
Unmetered 3"	1	16.0	16	13,160
5/8" - 15mm	79,151	1	79,151	12,942,023
3/4" - 20mm	1,057	1.5	1,586	572,193
1" - 25mm	1,607	2.5	4,018	1,736,379
1.5" - 40mm	1,275	5	6,375	3,232,295
2" - 50mm	878	8	7,024	5,449,251
3" - 80mm	315	16	5,040	4,145,369
4" - 100mm	73	25	1,825	1,719,944
6" - 150mm	32	50	1,600	2,145,749
8" - 200mm	24	90	2,160	1,459,078
10" - 250mm	2	150	300	262,445
TOTAL	85,353		110,047	**33,840,267**

Flow Summary (ML)

Customer Class	2024	
Residential (Single Family)	12,976	
Residential (Multi-family)	7,510	
Commercial	6,601	
Industrial	1,940	
Institutional	3,975	
Unmetered	0	
Subtotal Customer	33,001	
Other Flow		
Infiltration & Inflow	47,603	0.594
Stormwater		
Subtotal Other	47,603	
Total Estimated	**80,605**	
Halifax	36,891	
Dartmouth	20,709	
Other Plants	23,005	
Total Plants	**80,605**	
Total Other Flow	59%	

Plant Balance

Customer Class	Flow ML	Biochemical Oxygen Demand (BOD) kg	Biochemical Oxygen Demand (BOD) mg/l	Total Suspended Solids (TSS) kg	Total Suspended Solids (TSS) mg/l
Residential	20,486	3,482,615	170	3,482,615	170
Non-Residential	12,515	7,657,149	612	3,837,982	307
Overstrength Surcharge	3	8,402	2,533	1,649	497
Hauled Waste	11	2,762	250	1,657	150
Subtotal Customer	33,001	11,150,928		7,323,903	
Other Flow	47,603	1,190,087	25	1,190,087	25
Subtotal Other	47,603	1,190,087	25	1,190,087	25
Total Estimated	**80,605**	**12,341,015**	**153**	**8,513,990**	**106**
Total Plants		12,341,015		8,513,990	

Other User Characteristics

	Equivalent Meters Annual Equivalents	Customer Service Annual
Residential	80,120	80,090
Non-Residential	29,927	5,263
Overstrength Surcharge		
Hauled Waste		

Dwelling Unit Characteristics

Assume all 5/8" customers are Residential
Assume 65% of Dwelling Units are single family

Single family Dwelling Units	80,090
Multi family Dwelling Units	43,125
Total Dwelling Units	**123,215**

Average Per Dwelling Unit for Residential and Per Account for Non Residential

	Cubic Meters	KG	KG
Residential	166	28.26	28.26
Non-Residential	2,378	1,454.90	729.24

Worksheet WW-2 Operations

Worksheet WW-2 provides a comparative Statement of Operations for fiscal years ending March 31 as follows:

- Actual results for the fiscal years 2021/22, 2022/23 and 2023/24 for Wastewater Services.
- Approved budgets by Halifax Water's Board of Commissioners for 2024/25 and 2025/26, with 2025/26 representing Test Year #1 for the purposes of the Rate Study.
- Projections for 2026/27, representing Test Year #2 for the purposes of the Rate Study.

Revenues are budgeted/projected at current rates, and revenue and expenses are segregated between regulated and unregulated services. This worksheet details the budgeted deficits at current rates in Wastewater Services for the two test years.

Wastewater Services had a cumulative surplus of $5.4 million as of March 31, 2024, however, with budgeted deficits in 2024/25 and 2025/26 of $7.0 million and $10.8 million respectively, and a projected deficit of $19.1 million in 2026/27, the projected accumulated deficit as at March 31, 2027 is estimated at $31.4 million. Of note, the current 10 months actuals for the 2024/25 fiscal year is reporting earnings $1.0 million, an improvement of approximately $8.0 million compared to the approved budget.

Regulated and unregulated revenue and expenses have been identified on Worksheet WW-2 and are excluded in the determination of revenue requirements for rate making purposes. The calculation of revenue requirements is reported on Worksheet WW-3.

Depreciation in Test Year #2 is $1.1 million higher than the 2025/26 operating budget, mostly as a result of new projects that will come into service. Corporate projects for the test year data are amortized based on useful life and asset class. The inclusion of depreciation of donated assets has a minimal impact on the total depreciation amount.

Worksheet WW-2

Halifax Water Wastewater Rate Study Comparative Statement of Operations Fiscal Years ending March 31st	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating revenues						
Regulated activities						
Wastewater	$80,646,393	$82,621,650	$89,511,756	$89,329,636	$90,769,949	$90,902,709
Overstrength surcharge	$309	$8,772	$7,493	$0	$0	$0
Late payment and other connection fees	$209,308	$202,102	$309,056	$253,300	$207,100	$206,500
Miscellaneous	$233,956	$232,585	$183,520	$187,451	$232,451	$182,861
Sub-total	$81,089,966	$83,065,109	$90,011,825	$89,770,387	$91,209,500	$91,292,070
Unregulated activities						
Contract revenue	$483,253	$454,401	$550,635	$506,743	$323,263	$624,865
Septage tipping fees	$490,024	$597,762	$576,771	$570,000	$572,000	$600,000
Airline effluent	$2,619	$79,017	$94,126	$105,000	$105,000	$105,000
Sub-total	$975,896	$1,131,180	$1,221,532	$1,181,743	$1,000,263	$1,329,865
Total	**$82,065,862**	**$84,196,289**	**$91,233,357**	**$90,952,130**	**$92,209,763**	**$92,621,935**
Operating Expenditures						
Regulated activities						
Wastewater collection	$12,965,064	$13,630,549	$14,499,370	$14,283,187	$15,468,149	$16,190,829
Wastewater treatment	$21,052,649	$22,670,291	$23,888,072	$25,571,430	$27,725,474	$28,948,574
Engineering and technology services (TS)	$4,396,843	$5,113,479	$6,436,857	$7,344,746	$2,822,819	$2,956,967
Technical services (SCADA)	$1,616,467	$1,732,432	$1,842,515	$1,992,035	$2,298,157	$2,342,805
Regulatory services	$1,584,398	$1,491,153	$1,603,959	$1,888,743	$1,763,380	$1,854,486
Corporate services	$1,382,518	$1,308,484	$1,373,484	$1,650,839	$7,494,904	$8,501,643
Customer service	$2,031,875	$2,044,148	$2,061,504	$2,029,653	$2,338,236	$2,462,469
Administration	$1,658,119	$2,344,064	$2,778,832	$4,516,044	$3,372,493	$3,561,610
Calculated depreciation - funded assets	$15,881,902	$16,698,000	$17,809,498	$18,396,247	$22,600,152	$23,574,313
Calculated depreciation - donated assets	$0	$0	$0	$0	$175,803	$263,704
Sub-total	$62,569,834	$67,032,600	$72,294,091	$77,672,924	$86,059,566	$90,657,400
Unregulated activities						
Wastewater collection	$23,226	$60,489	$54,975	$61,172	$62,189	$62,189
Wastewater treatment	$720,873	$749,862	$893,888	$796,910	$914,799	$914,799
Sub-total	$744,099	$810,351	$948,863	$858,082	$976,988	$976,988
Total	**$63,313,933**	**$67,842,951**	**$73,242,954**	**$78,531,006**	**$87,036,554**	**$91,634,388**
Earnings from operations	**$18,751,929**	**$16,353,338**	**$17,990,404**	**$12,421,124**	**$5,173,209**	**$987,547**
Financial and other revenues						
Regulated activities						
Investment Income	$35,834	$138,576	$111,820	$138,875	$172,368	$172,368
Miscellaneous	$33,555	$30,003	$33,195	$40,200	$29,400	$29,400
Sub-total	$69,389	$168,579	$145,015	$179,075	$201,768	$201,768
Unregulated activities						
Miscellaneous	$117,390	$393,963	$62,667	$116,437	$110,945	$110,945
Total	**$186,779**	**$562,542**	**$207,682**	**$295,512**	**$312,713**	**$312,713**
Financial and other expenditures						
Regulated Activities						
Interest on long term debt	$4,019,023	$3,667,882	$3,581,438	$4,122,296	$5,285,671	7,349,797
Repayment on long term debt	$13,609,653	$14,020,756	$13,953,643	$14,587,115	$9,928,502	11,916,737
Amortization of debt discount	$125,004	$116,413	$110,025	$104,354	$125,560	$137,560
Dividend/ grant in lieu of taxes	$777,140	$778,116	$629,945	$844,252	$898,122	$942,393
Sub-total	$18,530,820	$18,583,167	$18,275,052	$19,658,017	$16,237,855	20,346,488
Unregulated activities						
Miscellaneous	$15,471	$10,157	$10,934	$45,000	$15,000	$15,000
Total	**$18,546,291**	**$18,593,324**	**$18,285,985**	**$19,703,017**	**$16,252,855**	**$20,361,488**
Earnings (loss) for the year	**$392,417**	**($1,677,444)**	**($87,900)**	**($6,986,381)**	**($10,766,933)**	**($19,061,228)**
Surplus, beginning of year	**$6,761,668**	**$7,154,085**	**$5,476,641**	**$5,388,741**	**($1,597,640)**	**($12,364,573)**
Reallocation of cost centre 42528 reported as WW when should have been SW	**$0**					
Surplus, end of year	**$7,154,085**	**$5,476,641**	**$5,388,741**	**($1,597,640)**	**($12,364,573)**	**($31,425,801)**

Worksheet WW-3 – Revenue Requirements

Worksheet WW-3 takes the operating and financial expense information from Worksheet WW-2 to develop revenue requirements for the two test years, 2025/26 and 2026/27.

Financial and other operating revenue are deducted from the expenses to determine the revenue required from customer rates.

Worksheet WW-3

Halifax Water
Wastewater Rate Study
Statement of Operating Expenses and Revenue Requirements

Fiscal Years ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating expenditures						
Wastewater collection	$12,965,064	$13,630,549	$14,499,370	$14,283,187	$15,468,149	$16,190,829
Wastewater treatment	$21,052,649	$22,670,291	$23,888,072	$25,571,430	$27,725,474	$28,948,574
Engineering and technology services (TS)	$4,396,843	$5,113,479	$6,436,857	$7,344,746	$2,822,819	$2,956,967
Technical services (SCADA)	$1,616,467	$1,732,432	$1,842,515	$1,992,035	$2,298,157	$2,342,805
Regulatory services	$1,584,398	$1,491,153	$1,603,959	$1,888,743	$1,763,380	$1,854,486
Corporate services	$1,382,518	$1,308,484	$1,373,484	$1,650,839	$7,494,904	$8,501,643
Customer service	$2,031,875	$2,044,148	$2,061,504	$2,029,653	$2,338,236	$2,462,469
Administration	$1,658,119	$2,344,064	$2,778,832	$4,516,044	$3,372,493	$3,561,610
Sub-total	$46,687,932	$50,334,600	$54,484,592	$59,276,677	$63,283,612	$66,819,384
Calculated depreciation - funded assets	$15,881,902	$16,698,000	$17,809,498	$18,396,247	$22,600,152	$23,574,313
Calculated depreciation - donated assets	$0	$0	$0	$0	$175,803	$263,704
Total	**$62,569,834**	**$67,032,600**	**$72,294,091**	**$77,672,924**	**$86,059,566**	**$90,657,400**
Add: non-operating expenditures						
Interest on long term debt	$4,019,023	$3,667,882	$3,581,438	$4,122,296	$5,285,671	$7,349,797
Repayment on long term debt	$13,609,653	$14,020,756	$13,953,643	$14,587,115	$9,928,502	$11,916,737
Amortization of debt discount	$125,004	$116,413	$110,025	$104,354	$125,560	$137,560
Dividend/ grant in lieu of taxes	$777,140	$778,116	$629,945	$844,252	$898,122	$942,393
WW Rebate					$1,867,380	$2,000,000
	$18,530,820	$18,583,167	$18,275,052	$19,658,017	$18,105,235	$22,346,488
Total	**$18,530,820**	**$18,583,167**	**$18,275,052**	**$19,658,017**	**$18,105,235**	**$22,346,488**
Less: other revenues						
Overstrength surcharge	$309	$8,772	$7,493	$0	$0	$0
Late payment and other connection fees	$209,308	$202,102	$309,056	$253,300	$207,100	$206,500
Investment Income	$35,834	$138,576	$111,820	$138,875	$172,368	$172,368
Miscellaneous	$267,511	$262,588	$216,715	$227,651	$261,851	$212,261
Total	**$512,962**	**$612,038**	**$645,085**	**$619,826**	**$641,319**	**$591,129**
Less: other adjustments						
Sponsorships and donations	$1,511	$19,802	$4,576	$17,600	$17,600	$17,600
Help to others (H20) program	$14,099	$19,831	$1,632	$17,600	$17,600	$17,600
Administration	$52,999	$56,789	$61,522	$6,600	$6,600	$6,600
Total	**$68,609**	**$96,422**	**$67,730**	**$41,800**	**$41,800**	**$41,800**
Revenue required from customers	**$80,519,083**	**$84,907,307**	**$89,856,328**	**$96,669,315**	**$103,481,682**	**$112,370,959**

Worksheet WW-4 Operating Expenditure Analysis

Worksheet W-4 details the operating expenditures by cost element group for each of the functional areas within the Wastewater Services, consisting of the following:

- Wastewater Collections,
- Wastewater Treatment, and

For the following functional areas serving all three services of Halifax Water (Water, Wastewater and Stormwater), a summary has been provided outlining the cost effects as they pertain to Wastewater. Complete details for these functional areas can be found in the Water Rate Studies found in Appendix 1 of this Application.

- Engineering and Capital Infrastructure
- Technical Services (SCADA),
- Environment Health and Safety,
- Corporate Services,
- Customer Care, and
- Administration.

Data provided as part of the review and analysis includes:

- Actual results for 2021/22, 2022/23, and 2023/24,
- Approved budgets for 2024/25 and 2025/26 (Test Year #1), and
- Projected results for 2026/27 (Test Year #2).

For operating expenditures related to 2026/27 (Test Year #2), the key assumptions regarding projected increases are as follows:

- Salaries and benefits: 2.5% to 3.0% (as per Union agreement) and 2.75% for non-union
- Chemicals: 5.0%
- Electricity: 5.0%
- Other: 2.0%

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%. Given the impact that financial compensation plays in the attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

On subsequent pages within this section, operating expenditures are reported for the core cost element groups within each functional area. As part of the analysis, variances have been provided with changes expressed as both dollar and percentage values, comparing year-over-year changes for the fiscal years 2025/26 through 2026/27. Commentary is provided for each of the cost elements groups falling within the functional areas, with additional details provided in situations where variances have increased over $100 thousand.

Wastewater Collections

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements that were ratified in 2024. A Joint Job Evaluation for local 227 was completed in 2024 and resulted in increased costs. It should be noted that Wastewater and Stormwater Collections share the same wage pool, therefore centrally managed. Cost fluctuations within one Service would have the opposite impact on the other. Three new full-time equivalent positions have been included in the 2026/27 budget.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in the attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – In 2025/26 and 2026/27, the training and development costs were removed from Operations budgets and consolidated in the corporate Administrative Budget. These costs are allocated to services based on the allocation in the Cost of Service Manual.

- Contract Services – Costs have varied year-over-year due to the variability of cost of contract services such as traffic control, hired equipment, and other contracted services. The variability can be the result of unplanned work due to events such as storms and equipment failure.

- Electricity – Costs for the 2026/27 budget are reflective of projected price and anticipated usage. Annual consumption varies year-over-year and is directly related to pump station flows and combined sewer overflows.

- Materials Supplies, and Services – Costs are reflective of reduced water consumption and tools and equipment purchases that can vary year over year.

- Professional Services – Costs for professional services primarily relate to licenses and agreements, specifically land leases for Harbour Solutions Pipe (HSP) and other wastewater infrastructure. These costs remain relatively consistent year-over-year.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs. Costs vary as a result in how costs were allocated to shared services.

- Chemicals – Chemicals are not a major cost related to Wastewater Collections as bioxide is the only chemical used for the sole purpose of odour control. It is purchased as required therefore, costs can vary year-over-year depending on usage, plus it would be subject to price volatility like market conditions for other chemicals.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Wastewater Collections											
Salaries and benefits	$6,573,805	$6,306,173	$6,123,685	$6,692,568	$7,700,214	$8,147,708	($267,632) (4%)	($182,487) (3%)	$568,883 9%	$1,007,646 15%	$447,494 6%
Training and development	$16,605	$36,817	$90,051	$62,470	$0	$0	$20,212 122%	$53,234 145%	($27,581) (31%)	($62,470) (100%)	$0 0%
Contract services	$1,852,605	$2,215,631	$2,176,830	$1,948,910	$1,978,560	$2,037,917	$363,026 20%	($38,801) (2%)	($227,920) (10%)	$29,650 2%	$59,357 3%
Electricity	$1,868,063	$1,927,632	$2,266,670	$2,192,144	$2,334,529	$2,451,256	$59,570 3%	$339,037 18%	($74,526) (3%)	$142,385 6%	$116,726 5%
Materials, supplies and services	$1,309,200	$1,438,635	$1,555,414	$1,434,636	$1,413,018	$1,455,409	$129,435 10%	$116,779 8%	($120,778) (8%)	($21,618) (2%)	$42,391 3%
Professional services	$174,201	$229,524	$346,055	$273,505	$272,005	$280,165	$55,323 32%	$116,531 51%	($72,550) (21%)	($1,500) (1%)	$8,160 3%
Fleet	$1,462,591	$1,758,278	$2,136,032	$1,842,661	$2,003,698	$2,073,827	$295,687 20%	$377,754 21%	($293,371) (14%)	$161,038 9%	$70,129 4%
Chemicals	$181,321	$148,334	$143,574	$199,861	$165,000	$173,250	($32,987) (18%)	($4,760) (3%)	$56,287 39%	($34,861) (17%)	$8,250 5%
Applied overheads and other allocations	$243,306	$225,080	$232,086	$288,302	$304,809	$307,857	($18,226) (7%)	$7,006 3%	$56,216 24%	$16,507 6%	$3,048 1%
Allocation to Stormwater Service	($716,633)	($655,555)	($571,027)	($651,869)	($703,684)	($736,560)	$61,078 (9%)	$84,528 (13%)	($80,843) 14%	($51,814) 8%	($32,876) 5%
Recoveries	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Total Wastewater Collections	**$12,965,064**	**$13,630,549**	**$14,499,370**	**$14,283,187**	**$15,468,149**	**$16,190,829**	$665,485 5%	$868,820 6%	($216,182) (1%)	$1,184,962 8%	$722,680 5%

Wastewater Treatment

- Salaries and Benefits – Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements that were ratified in 2024. A Joint Job Evaluation for local 227 was completed in 2024 and resulted in increased costs. Three new full-time equivalents are included in the 2026/27 budget including a Lead Process Technician, a Millwright and a Process Technician.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in the attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Training and Development – Planning and attendance for conferences and training are typically impacted by the content of the offering and the expiration of certifications of staff. In 2025/26 and 2026/27, the training and development costs were removed from Operations budgets and consolidated in Human Resources. The consolidation is to improve management of the training, allocation of resources across the utility, and increased focus on ensuring that training is specific to the needs of the employees. These costs are allocated to services based on the allocation in the Cost of Service Manual.

- Contract Services – A main cost driver for contract services is the processing and transportation of biosolids. Cost increases for 2026/27 are based on estimated inflationary impacts associated with the processing and transportation of biosolids.

- Electricity – Costs for 2026/27 are reflective of projected price and anticipated usage. Annual electricity consumption varies year-over-year due to effluent flow rates that can fluctuate with weather events.

- Materials, Supplies, and Services – Costs vary year-over-year, not only for scheduled maintenance, but also for emergency repairs required to aging infrastructure. The increase for 2026/27 can be attributed to an increase in the cost of potable water at the facilities.

- Professional Services –The costs for 2026/27 have been budgeted to increase due to an increase in consulting requirements.

- Fleet Services – There have been no major changes affecting the 2026/27 budget.

- Chemicals – The costs for 2026/27 are reflective of projected price and anticipated consumption/usage. Chemical costs can be extremely volatile from a pricing perspective.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Wastewater Treatment											
Salaries and benefits	$5,533,739	$5,445,607	$5,567,749	$5,921,116	$7,053,996	$7,503,259	($88,132) (2%)	$122,142 2%	$353,367 6%	$1,132,880 19%	$449,263 6%
Training and development	$11,734	$19,873	$27,714	$43,960	$0	$0	$8,139 69%	$7,841 39%	$16,246 59%	($43,960) (100%)	$0 0%
Contract services	$5,113,153	$5,958,881	$6,788,185	$7,249,024	$7,480,021	$7,704,422	$845,728 17%	$829,304 14%	$460,839 7%	$230,997 3%	$224,401 3%
Electricity	$2,767,832	$2,738,834	$3,199,656	$3,025,109	$3,339,586	$3,506,565	($28,998) (1%)	$460,822 17%	($174,547) (5%)	$314,477 10%	$166,979 5%
Materials, supplies and services	$3,454,726	$4,141,858	$3,696,723	$4,182,571	$4,753,843	$4,896,458	$687,132 20%	($445,135) (11%)	$485,848 13%	$571,272 14%	$142,615 3%
Professional services	$337,624	$207,760	$59,942	$109,210	$51,510	$53,055	($129,864) (38%)	($147,818) (71%)	$49,268 82%	($57,700) (53%)	$1,545 3%
Fleet	$327,812	$224,554	$276,301	$348,703	$379,470	$392,751	($103,258) (31%)	$51,747 23%	$72,402 26%	$30,767 9%	$13,281 3%
Chemicals	$3,357,929	$3,856,658	$4,212,977	$4,580,369	$4,525,991	$4,752,291	$498,729 15%	$356,319 9%	$367,392 9%	($54,378) (1%)	$226,300 5%
Applied overheads and other allocations	$211,812	$158,244	$166,587	$190,353	$220,043	$222,243	($53,568) (25%)	$8,343 5%	$23,766 14%	$29,690 16%	$2,200 1%
Recoveries/ allocation to unregulated	($63,714)	($81,978)	($107,762)	($78,986)	($78,986)	($82,470)	($18,264) 29%	($25,784) 31%	$28,776 (27%)	$0 0%	($3,484) 4%
Total Wastewater Treatment	**$21,052,649**	**$22,670,291**	**$23,888,072**	**$25,571,430**	**$27,725,474**	**$28,948,574**	$1,617,642 8%	$1,217,781 5%	$1,683,358 7%	$2,154,044 8%	$1,223,100 4%

Technical Services (SCADA)

A summary has been provided below for Technical Services (SCADA) outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Technical Services (SCADA) by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations have changed resulting in a reduction in the percentage of common costs allocated to Wastewater Services, from 67% to 65%. This includes the cost centers for Administration and Overheads (Technical Services), SCADA System, and Regional Technical Services. All other cost center allocations remain unchanged.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Technical Services (SCADA)	$1,616,467	$1,732,432	$1,842,515	$1,992,035	$2,298,157	$2,342,805	$115,965	$110,083	$149,520	$306,122	$44,648
							7%	6%	8%	15%	2%

Engineering and Capital Infrastructure

A summary has been provided below for Engineering and Capital Infrastructure outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Engineering and Technology Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations have changed, resulting in a decrease in the percentage of common costs allocated to Wastewater Services from 52% to 44.1%. This includes the cost center for Administration and Overheads (Engineering and Capital Infrastructure). An increase is proposed for the Asset Management and Capital Planning cost center, from 52% to 70%. and for the Energy and Business Development cost center, from 61% to 95%. All other cost center allocations remain unchanged.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes *(year over year - $ and %)*				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Engineering and Capital Infrastructures	$4,396,843	$5,113,479	$6,436,857	$7,344,746	$2,822,819	$2,956,967	$716,635 16%	$1,323,378 26%	$907,889 14%	($4,521,927) (62%)	$134,148 5%

Environment, Health and Safety (EHS)

A summary has been provided below for Regulatory Services outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Regulatory Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Environment, Health and Safety	$1,584,398	$1,491,153	$1,603,959	$1,888,743	$1,763,380	$1,854,486	($93,244) (6%)	$112,805 8%	$284,784 18%	($125,363) (7%)	$91,106 5%

Customer Service

A summary has been provided below for Customer Service outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Customer Service by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

Amounts allocated from Customer Service have not changed from the allocations and the methodology identified in the previous Cost-of-Service Manual.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Customer Service	$2,031,875	$2,044,148	$2,061,504	$2,029,653	$2,338,236	$2,462,469	$12,274	$17,356	($31,851)	$308,583	$124,233
							1%	1%	(2%)	15%	5%

Corporate Services

A summary has been provided below for Corporate Services outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Corporate Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations of all Cost centers to wastewater are 44.1%.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes *(year over year - $ and %)*				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Corporate Services	$1,382,518	$1,308,484	$1,373,484	$1,650,839	$7,494,904	$8,501,643	($74,034)	$65,001	$277,355	$5,844,065	$1,006,739
							(5%)	5%	20%	354%	13%

Administration

A summary has been provided below for Administration outlining the cost impacts of this function relative to Wastewater Services. Complete details relating to operating expenditures for Administration by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations of all cost centers to wastewater are 44.1%.

Worksheet WW-4

Halifax Regional Water Commission
Wastewater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Administration	$1,658,119	$2,344,064	$2,778,832	$4,516,044	$3,372,493	$3,561,610	$685,944 41%	$434,768 19%	$1,737,212 63%	($1,143,551) (25%)	$189,117 6%

Worksheet WW-5 Cost of Service (COS) Structure

Worksheet WW-5 details the customer classifications, cost functions with allocated percentages, service characteristics and operating and capital cost classifications for Wastewater Services as detailed in the Cost-of-Service Manual.

Worksheet WW-5

Halifax Water
Wastewater Rate Study

Customer Classifications, Cost Functions & Service Characteristics

Customer Classifications

SF Residential	Multi-family	Commercial - General	Industrial	Institutional
Unmetered				

System Functions			Classification - Service Characteristics	
Advanced Primary Treatment	Service Laterals	Engineering	Dry Weather Flow	Equivalent Meters
Secondary Treatment	Technical Services (SCADA)	Regulatory Services	Wet Weather Flow	Customer Service
Tertiary Treatment	Customer Service	Administration	Biochemical Oxygen Demand (BOD)	Indirect
Mains	Meters	Corporate Services	Total Suspended Solids (TSS)	
Pump Stations	Meter Reading and Billing			

Operating Classifications

		Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	
Function									
Advanced Primary Treatment		36.00%	14.00%	25.00%	25.00%	0.00%	0.00%	0.00%	
Secondary Treatment		55.20%	14.80%	12.00%	18.00%	0.00%	0.00%	0.00%	
Tertiary Treatment		42.80%	12.20%	18.00%	27.00%	0.00%	0.00%	0.00%	
Mains		95.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Pump Stations		90.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Service Laterals		0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
Technical Services (SCADA)		83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Customer Service		0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
Meters		0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
Meter Reading and Billing		0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
Engineering		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Regulatory Services		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Corporate Services		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Administration		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	

Capital Classifications

		Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	
Function									
Advanced Primary Treatment		38.00%	12.00%	25.00%	25.00%	0.00%	0.00%	0.00%	0.00%
Secondary Treatment		28.99%	20.67%	25.17%	25.17%	0.00%	0.00%	0.00%	0.00%
Tertiary Treatment		29.70%	10.00%	30.15%	30.15%	0.00%	0.00%	0.00%	0.00%
Mains		75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pump Stations		75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Service Laterals		0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Customer Service		0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Meters		0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Engineering		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Regulatory Services		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Corporate Services		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Administration		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%

Worksheet WW-6 Operating Expense Functionalization

Worksheet WW-6 details the Wastewater Services operating expense categories cost elements, by the system functions detailed in the Cost-of-Service Manual. The total of the service functions equals the operating expense category in the revenue requirement in 2026/27 and are reported as both a dollar and percentage value. These are then used in Worksheet WW-10 to allocate the costs to the service characteristics.

Worksheet WW-6

Halifax Water
Wastewater Rate Study

Statement of Operating Expenditures
2026/27

Operating Expense Cost Allocation
Allocation of Costs to Functions
2026/27

OPERATING EXPENSES	Test Year #2 2026/27 Budget	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration	Total
Wastewater Collection																
Salaries and benefits	$8,147,708	$0	$0	$0	$2,885,330	$4,494,498	$767,880	$0	$0	$0	$0	$0	$0	$0	$0	$8,147,709
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$2,037,917	$0	$0	$0	$957,337	$751,815	$328,764	$0	$0	$0	$0	$0	$0	$0	$0	$2,037,917
Electricity	$2,451,256	$0	$0	$0	$13,869	$2,433,629	$3,757	$0	$0	$0	$0	$0	$0	$0	$0	$2,451,255
Materials, supplies and services	$1,455,409	$0	$0	$0	$426,163	$972,888	$56,358	$0	$0	$0	$0	$0	$0	$0	$0	$1,455,409
Professional services	$280,165	$0	$0	$0	$87,020	$169,574	$23,571	$0	$0	$0	$0	$0	$0	$0	$0	$280,165
Fleet	$2,073,827	$0	$0	$0	$787,210	$1,070,427	$216,191	$0	$0	$0	$0	$0	$0	$0	$0	$2,073,828
Chemicals	$173,250	$0	$0	$0	$0	$173,250	$0	$0	$0	$0	$0	$0	$0	$0	$0	$173,250
Applied overheads and other allocations	$307,857	$0	$0	$0	$95,621	$186,334	$25,901	$0	$0	$0	$0	$0	$0	$0	$0	$307,857
Sub-total	$16,927,389															
Allocation to Stormwater Service	($736,560)	$0	$0	$0	($228,778)	($445,813)	($61,970)	$0	$0	$0	$0	$0	$0	$0	$0	($736,560)
Total Wastewater Collection	**$16,190,829**	**$0**	**$0**	**$0**	**$5,023,773**	**$9,806,603**	**$1,360,453**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$16,190,829**
Wastewater Treatment		**Advanced Primary Treatment**	**Secondary Treatment**	**Tertiary Treatment**	**Mains**	**Pump Stations**	**Service Laterals**	**Technical Services (SCADA)**	**Customer Service**	**Meters**	**Meter Reading and Billing**	**Engineering**	**Regulatory Services**	**Corporate Services**	**Administration**	**Total**
Salaries and benefits	$7,503,259	$4,408,668	$2,551,414	$543,177	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,503,259
Training and development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Contract services	$7,704,422	$5,394,172	$2,076,245	$234,004	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,704,422
Electricity	$3,506,565	$2,283,936	$944,198	$278,432	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,506,565
Materials, supplies and services	$4,896,458	$3,372,122	$1,307,379	$216,957	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,896,458
Professional services	$53,055	$36,150	$14,015	$2,891	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$53,055
Fleet	$392,751	$236,597	$122,333	$33,821	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$392,751
Chemicals	$4,752,291	$3,914,225	$609,407	$228,659	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,752,291
Recoveries/ allocation to unregulated	$222,243	$151,784	$58,607	$11,852	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$222,243
Sub-total	$29,031,045															
Recoveries	($82,470)	($38,784)	($43,687)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($82,470)
Total Wastewater Treatment	**$28,948,574**	**$19,758,871**	**$7,639,911**	**$1,549,793**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$28,948,574**
Other Operating		**Advanced Primary Treatment**	**Secondary Treatment**	**Tertiary Treatment**	**Mains**	**Pump Stations**	**Service Laterals**	**Technical Services (SCADA)**	**Customer Service**	**Meters**	**Meter Reading and Billing**	**Engineering**	**Regulatory Services**	**Corporate Services**	**Administration**	**Total**
Engineering	$2,956,967	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,956,967	$0	$0	$0	$2,956,967
Technical Services (SCADA)	$2,342,805	$0	$0	$0	$0	$0	$0	$2,342,805	$0	$0	$0	$0	$0	$0	$0	$2,342,805
Regulatory Services	$1,854,486	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,854,486	$0	$0	$1,854,486
Corporate Services	$8,501,643	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,501,643	$0	$8,501,643
Customer Service	$2,462,469	$0	$0	$0	$0	$0	$0	$0	$1,328,700	$538,726	$595,043	$0	$0	$0	$0	$2,462,469
Administration	$3,561,610	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,561,610	$3,561,610
Total Other Operating	**$21,679,981**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,342,805**	**$1,328,700**	**$538,726**	**$595,043**	**$2,956,967**	**$1,854,486**	**$8,501,643**	**$3,561,610**	**$21,679,981**
Total O&M Expense	**$66,819,384**	**$19,758,871**	**$7,639,911**	**$1,549,793**	**$5,023,773**	**$9,806,603**	**$1,360,453**	**$2,342,805**	**$1,328,700**	**$538,726**	**$595,043**	**$2,956,967**	**$1,854,486**	**$8,501,643**	**$3,561,610**	**$66,819,384**

Worksheet WW-6

Halifax Water
Wastewater Rate Study

Statement of Operating Expenditures
2026/27

OPERATING EXPENSES	Test Year #2 2026/27 Budget
Wastewater Collection	
Salaries and benefits	$8,147,708
Training and development	$0
Contract services	$2,037,917
Electricity	$2,451,256
Materials, supplies and services	$1,455,409
Professional services	$280,165
Fleet	$2,073,827
Chemicals	$173,250
Applied overheads and other allocations	$307,857
Sub-total	$16,927,389
Allocation to Stormwater Service	($736,560)
Total Wastewater Collection	**$16,190,829**
Wastewater Treatment	
Salaries and benefits	$7,503,259
Training and development	$0
Contract services	$7,704,422
Electricity	$3,506,565
Materials, supplies and services	$4,896,458
Professional services	$53,055
Fleet	$392,751
Chemicals	$4,752,291
Recoveries/ allocation to unregulated	$222,243
Sub-total	$29,031,045
Recoveries	($82,470)
Total Wastewater Treatment	**$28,948,574**
Other Operating	
Engineering	$2,956,967
Technical Services (SCADA)	$2,342,805
Regulatory Services	$1,854,486
Corporate Services	$8,501,643
Customer Service	$2,462,469
Administration	$3,561,610
Total Other Operating	**$21,679,981**
Total O&M Expense	**$66,819,384**

Halifax Water
Wastewater Rate Study

Wastewater System

Operating Expense Cost Allocation
Percent of Costs to Functions
2026/27

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
Wastewater Collection														
Salaries and benefits	0%	0%	0%	35%	55%	9%	0%	0%	0%	0%	0%	0%	0%	0%
Training and development	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	0%	0%	0%	47%	37%	16%	0%	0%	0%	0%	0%	0%	0%	0%
Electricity	0%	0%	0%	1%	99%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	0%	0%	0%	29%	67%	4%	0%	0%	0%	0%	0%	0%	0%	0%
Professional services	0%	0%	0%	31%	61%	8%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	0%	0%	0%	38%	52%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Chemicals	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	0%	0%	0%	31%	61%	8%	0%	0%	0%	0%	0%	0%	0%	0%
Allocation to Stormwater Service	0%	0%	0%	31%	61%	8%	0%	0%	0%	0%	0%	0%	0%	0%

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
Wastewater Treatment														
Salaries and benefits	59%	34%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Training and development	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	70%	27%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Electricity	65%	27%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	69%	27%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Professional services	68%	26%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet	60%	31%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Chemicals	82%	13%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Recoveries/ allocation to unregulated	68%	26%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Recoveries	47%	53%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
Other Operating														
Engineering	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Technical Services (SCADA)	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
Regulatory Services	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Corporate Services	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Customer Service	0%	0%	0%	0%	0%	0%	0%	54%	22%	24%	0%	0%	0%	0%
Administration	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Worksheet WW-7 Continuity Schedule Utility Plant in Service

Worksheet W-7 provides additional details on the following:

- Funded utility plant in service,
- Contributed assets,
- Projected utility plant in service additions, net of projected retirements,
- Accumulated depreciation, net of projected retirements,
- Calculated depreciation, and
- Projected net book value.

The spreadsheet is broken down by asset class and asset. For the purposes of the revenue requirement, depreciation for Wastewater transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services.

Halifax Regional Water Commission

Utility Plant in Service-Wastewater

Continuity Schedule/ Depreciation for Utility Plant in Service

2026-27

	SAP Asset Class	Useful Life in years	Funded Utility Plant in Service	Contributed Utility Plant in Service	Total Utility Plant in Service	Work in Process approved in Prior Years	Utility Plant in Service Additions	Contributed Utility Plant in Service Additions	Projected Retirements	Projected Utility Plant in Service	Accumulated Depreciation	Accumulated Depreciation on funded assets	Accumulated Depreciation on donated assets	Projected Retirement of Accumulated Depreciation	Projected Net Book Value before Depreciation	Deprec on existing funded assets	Depreciation on new funded assets	HHS Regulatory Asset deprec	Deprec on donated assets	Depreciation expense on funded assets	Depreciation expense on Regulatory Asset	Projected Net Book Value After Depreciation
			Mar-26	Mar-26	Mar-26	2026-27	2026-27	2026-27	2026-27	Mar-27	Mar-26	Mar-26	Mar-26	2026-27	Mar-27	2025-26	2025-26	2025-26	2025-26	2026-27	2026-27	Mar-27
Intangible Assets	**2500**	10	32,039,150	3,898,513	35,937,663		2,208,800			38,146,463	19,716,735	15,841,130	3,875,605		18,429,728	2,690,609	110,440		11,914	2,801,049	-	15,616,765
			-	-	-					-	-	-	-		-					-	-	-
Tangible Assets			-	-	-					-	-	-	-		-					-	-	-
Land			-	-	-					-	-	-	-		-					-	-	-
Collection Land & Land Rights	2004	N/A	-	870,257	870,257					870,257	-	-	-		870,257	-			-	-	-	870,257
Treatment Plant Land	2000	N/A	2,703,421	1,351,711	4,055,132					4,055,132	-	-	-		4,055,132	-			-	-	-	4,055,132
Pumping Station Land	2002	N/A	57,902	90,726	148,629					148,629	-	-	-		148,629	-			-	-	-	148,629
Office Land	2008	N/A	2,009,646	-	2,009,646					2,009,646	-	-	-		2,009,646	-			-	-	-	2,009,646
Other Land & Easements	2010-2502	N/A	4,300,571	915,577	5,216,148					5,216,148	-	-	-		5,216,148	-			-	-	-	5,216,148
Structures			-	-	-					-	-	-	-		-					-	-	-
Structures Other	2060	40	3,764,104	1,588,879	5,352,982					5,352,982	1,620,299	990,726	629,573		3,732,683	79,530		858	38,709	79,530	858	3,614,444
Treatment Plants	2054	5 - 75	59,329,409	60,572,253	119,901,662				-	119,901,662	45,767,500	17,238,912	28,528,588		74,134,162	1,299,902		9,037	920,186	1,299,902	9,037	71,914,074
Pumping Stations	2052	20 - 30	43,764,661	44,657,030	88,421,691		17,031,577		-	105,453,269	40,450,029	10,089,868	30,360,161		65,003,240	984,627	170,316	11,668	902,448	1,154,943	11,668	62,945,849
Office Buildings	2058	5	8,314,496	8,155	8,322,651					8,322,651	2,531,474	2,529,272	2,202		5,791,177	163,595			163	163,595	-	5,627,419
Airport-Aerotech	2450	5 - 75	-	-	-					-	-	-	-		-					-	-	-
Treatment & Pump Equipment			-	-	-					-	-	-	-		-					-		-
Treatment Equipment	2104	20	176,748,825	64,097,848	240,846,673		12,247,994			253,094,667	136,906,461	93,298,698	43,607,762		116,188,206	7,863,812	306,200	161,312	2,995,289	8,170,012	161,312	105,022,906
Information Systems - SCADA	2108	20	15,127,476	1,903,765	17,031,240		25,000			17,056,240	8,937,383	8,119,652	817,731		8,118,858	785,549	2,500		86,032	788,049	-	7,244,776
Pumping Equipment	2106	5 - 20	16,640,510	13,462,570	30,103,080			2,706		30,105,786	15,769,425	6,073,372	9,696,054		14,336,361	819,130			438,989	819,130	-	13,078,243
Mains			-	-	-					-	-	-	-		-					-	-	-
Trunk Sewers	2150	100	13,568,296	25,862,056	39,430,353		24,004,249			63,434,602	4,916,003	1,533,448	3,382,555		58,518,598	182,602	160,028		320,033	342,630	-	57,855,936
Force Mains	2166	75	7,927,954	151,466	8,079,420		2,385,410	16,232		10,481,063	495,251	482,530	12,721		9,985,812	94,019	23,854		2,134	117,873	-	9,865,805
Sewer Mains	2152	75	123,648,780	187,203,094	310,851,874		27,165,009	2,115,446		340,132,330	84,909,417	14,207,499	70,701,918		255,222,913	1,424,013	181,100	4,915	2,509,329	1,605,113	4,915	251,108,471
Sewer Laterals	2200	50	30,564,878	8,909,536	39,474,414			291,909		39,766,323	7,282,339	5,259,960	2,022,379		32,483,984	622,378			166,561	622,378	-	31,695,044
- Combined Sewers Portion	2156	75 - 100	10,434,237	12,088,641	22,522,878					22,522,878	4,094,135	2,005,108	2,089,027		18,428,742	132,089		1,036	145,400	132,089	1,036	18,151,253
Outfalls	2158	75	13,486,429	6,015,431	19,501,859					19,501,859	3,994,170	2,708,416	1,285,754		15,507,689	188,755		1,104	80,118	188,755	1,104	15,238,817
Manholes	2154	50	4,091,419	9,511,160	13,602,579			457,511		14,060,089	2,304,568	618,313	1,686,255		11,755,521	87,767			172,830	87,767	-	11,494,925
Equipment			-	-	-					-	-	-	-		-					-	-	-
Transportation Equipment	2300	5	11,610,417	111,303	11,721,720		1,398,000		250,000	12,869,720	8,555,026	8,443,724	111,303	250,000	4,564,694	1,037,743	139,800		-	1,177,543	-	3,387,151
Tools & Equipment for Ops	2250-2254	5	1,637,474	366,007	2,003,481					2,003,481	1,734,855	1,368,848	366,007		268,626	114,956			-	114,956	-	153,670
Tools & Equipment for Plant	2252	5	413,016	-	413,016		850,000			1,263,016	157,236	157,236	-		1,105,780	60,303	85,000		-	145,303	-	960,477
Office Equipment & Furniture	2350	5	884,526	-	884,526					884,526	878,987	878,987	-		5,539	2,215			-	2,215		3,323
Computer Equipment and Software	2352-2354	3 - 5	29,518,064	-	29,518,064		3,940,817			33,458,880	13,185,691	13,185,691	-		20,273,189	3,888,983	394,082		-	4,283,065	-	15,990,124
Meters	2100		8,829,681	-	8,829,681		120,000		200,000	8,749,681	2,870,736	2,870,736	-	180,000	6,058,945	463,029	3,000		-	466,029		5,592,916
Small Systems			-	-	-					-	-	-	-		-					-	-	-
Fall River	2418	20	-	-	-					-	-	-	-		-					-	-	-
Springfield Lake	2420	5 - 20	-	-	-					-	-	-	-		-					-	-	-
Middle Musquodoboit	2410	50	-	-	-					-	-	-	-		-					-	-	-
North Preston	2406	10 - 50	-	-	-					-	-	-	-		-					-	-	-
Wellington	2422	10 - 50	-	-	-					-	-	-	-		-					-		-
Other Small Systems	2424	20 - 75	-	-	-					-	-	-	-		-					-	-	-
URBAN CORE SUB-TOTAL			621,415,340	443,635,977	1,065,051,317	-	91,376,857	2,883,804	450,000	1,158,861,979	407,077,722	207,902,126	199,175,595	430,000	752,214,258	22,985,607	1,576,320	189,929	8,790,133	24,561,927	189,929	718,862,198
Energy	4070-4114	5	124,091	-	124,091					124,091	61,888	61,888	-		62,204	17,406			-	17,406		44,797
TOTAL			621,539,432	443,635,977	1,065,175,409	-	91,376,857	2,883,804	450,000	1,158,986,071	407,139,609	207,964,014	199,175,595	430,000	752,276,461	23,003,013	1,576,320	189,929	8,790,133	24,579,333	189,929	718,906,996

Worksheet WW-8 Depreciation Functionalization

Worksheet WW-8 allocates the budgeted annual depreciation charge included in the revenue requirement for 2026/27 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual and reported as both a dollar and percentage value. These are then used in Worksheet WW-10 to allocate depreciation to the service characteristics. As noted previously, depreciation for Wastewater transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services.

Worksheet WW-8

Halifax Water
Wastewater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2026/27

	Annual Depreciation
INTANGIBLE PLANT	
Intangible Plant	$2,801,407
TANGIBLE PLANT	
LAND	
WW Collection Land & Land Rights	$0
WW Treatment Plant Land	$0
WW Pumping Station Land	$0
WW Office Land	$0
WW Other Land	$0
STRUCTURES	
WW Structures Miscellaneous	$81,549
WW Treatment Plants	$1,336,545
WW Pumping Stations	$1,193,684
WW Office Buildings	$163,600
Aerotech/ Airport WW System	$0
TREATMENT & PUMP EQUIPMENT	
WW Treatment Equipment	$8,421,183
WW Information Systems - SCADA	$790,630
WW Pumping Equipment	$832,299
MAINS	
WW Trunk Sewers	$352,231
WW Force Mains	$117,937
WW Sewer Mains	$1,685,308
WW Sewer Laterals	$627,375
WW - Combined Sewers WW Portion	$137,487
WW Outfalls	$192,262
WW Manholes	$92,952
EQUIPMENT	
WW Tools & Work Equipment	$114,956
WW Tools & Equipment for Plant	$145,303
WW Office Equipment & Furniture	$2,215
WW Computer Equipment	$4,283,065
WW Meters	$466,029
SMALL SYSTEMS	
WW Fall River	$0
WW Springfield Lake	$0
WW Middle Musquodoboit	$0
WW North Preston	$0
WW Wellington	$0
Other Small Systems	$0
Total	$23,838,017
	0

Halifax Water
Wastewater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed as a Percentage (%)
2026/27

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
INTANGIBLE PLANT														
Intangible Plant	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
LAND														
WW Collection Land & Land Rights	90%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Treatment Plant Land	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Pumping Station Land	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Office Land	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
WW Other Land	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
STRUCTURES														
WW Structures Miscellaneous	80%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Treatment Plants	70%	20%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Pumping Stations	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Office Buildings	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Aerotech/ Airport WW System	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TREATMENT & PUMP EQUIPMENT														
WW Treatment Equipment	70%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Information Systems - SCADA	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Pumping Equipment	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MAINS														
WW Trunk Sewers	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Force Mains	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Sewer Mains	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Sewer Laterals	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
WW - Combined Sewers WW Portion	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Outfalls	80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Manholes	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
EQUIPMENT														
WW Tools & Work Equipment	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%
WW Tools & Equipment for Plant	40%	40%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
WW Office Equipment & Furniture	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	25%
WW Computer Equipment	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	25%
WW Meters	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
SMALL SYSTEMS														
WW Fall River	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
WW Springfield Lake	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
WW Middle Musquodoboit	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
WW North Preston	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
WW Wellington	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
Other Small Systems	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%

Worksheet WW-8

Halifax Water
Wastewater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2026/27

	Annual Depreciation
INTANGIBLE PLANT	
Intangible Plant	$2,801,407
TANGIBLE PLANT	
LAND	
WW Collection Land & Land Rights	$0
WW Treatment Plant Land	$0
WW Pumping Station Land	$0
WW Office Land	$0
WW Other Land	$0
STRUCTURES	
WW Structures Miscellaneous	$81,549
WW Treatment Plants	$1,336,545
WW Pumping Stations	$1,193,684
WW Office Buildings	$163,600
Aerotech/ Airport WW System	$0
TREATMENT & PUMP EQUIPMENT	
WW Treatment Equipment	$8,421,183
WW Information Systems - SCADA	$790,630
WW Pumping Equipment	$832,299
MAINS	
WW Trunk Sewers	$352,231
WW Force Mains	$117,937
WW Sewer Mains	$1,685,308
WW Sewer Laterals	$627,375
WW - Combined Sewers WW Portion	$137,487
WW Outfalls	$192,262
WW Manholes	$92,952
EQUIPMENT	
WW Tools & Work Equipment	$114,956
WW Tools & Equipment for Plant	$145,303
WW Office Equipment & Furniture	$2,215
WW Computer Equipment	$4,283,065
WW Meters	$466,029
SMALL SYSTEMS	
WW Fall River	$0
WW Springfield Lake	$0
WW Middle Musquodoboit	$0
WW North Preston	$0
WW Wellington	$0
Other Small Systems	$0
Total	$23,838,017
	0

Halifax Water
Wastewater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed in Dollars ($)
2026/27

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration	Total
INTANGIBLE PLANT															
Intangible Plant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,801,407	$2,801,407
LAND															
WW Collection Land & Land Rights	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Treatment Plant Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Pumping Station Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Office Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Other Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
STRUCTURES															
WW Structures Miscellaneous	$65,239	$0	$0	$16,310	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$81,549
WW Treatment Plants	$935,581	$267,309	$133,654	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,336,545
WW Pumping Stations	$0	$0	$0	$0	$1,193,684	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,193,684
WW Office Buildings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$163,600	$163,600
Aerotech/ Airport WW System	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TREATMENT & PUMP EQUIPMENT															
WW Treatment Equipment	$5,894,828	$2,526,355	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,421,183
WW Information Systems - SCADA	$0	$0	$0	$0	$790,630	$0	$0	$0	$0	$0	$0	$0	$0	$0	$790,630
WW Pumping Equipment	$0	$0	$0	$0	$832,299	$0	$0	$0	$0	$0	$0	$0	$0	$0	$832,299
MAINS															
WW Trunk Sewers	$0	$0	$0	$352,231	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$352,231
WW Force Mains	$0	$0	$0	$58,969	$58,969	$0	$0	$0	$0	$0	$0	$0	$0	$0	$117,937
WW Sewer Mains	$0	$0	$0	$1,685,308	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,685,308
WW Sewer Laterals	$0	$0	$0	$0	$0	$627,375	$0	$0	$0	$0	$0	$0	$0	$0	$627,375
WW - Combined Sewers WW Portion	$0	$0	$0	$137,487	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$137,487
WW Outfalls	$153,810	$38,452	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$192,262
WW Manholes	$0	$0	$0	$92,952	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$92,952
EQUIPMENT															
WW Tools & Work Equipment	$0	$0	$0	$57,478	$28,739	$28,739	$0	$0	$0	$0	$0	$0	$0	$0	$114,956
WW Tools & Equipment for Plant	$58,121	$58,121	$29,061	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$145,303
WW Office Equipment & Furniture	$0	$0	$0	$0	$0	$0	$0	$554	$0	$0	$554	$554	$0	$554	$2,215
WW Computer Equipment	$0	$0	$0	$0	$0	$0	$0	$1,070,766	$0	$0	$1,070,766	$1,070,766	$0	$1,070,766	$4,283,065
WW Meters	$0	$0	$0	$0	$0	$0	$0	$0	$466,029	$0	$0	$0	$0	$0	$466,029
SMALL SYSTEMS															
WW Fall River	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Springfield Lake	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Middle Musquodoboit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW North Preston	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WW Wellington	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other Small Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$7,107,579**	**$2,890,237**	**$162,715**	**$2,400,734**	**$2,904,322**	**$656,114**	**$0**	**$1,071,320**	**$466,029**	**$0**	**$1,071,320**	**$1,071,320**	**$0**	**$4,036,326**	**$23,838,017**
	29.82%	**12.12%**	**0.68%**	**10.07%**	**12.18%**	**2.75%**	**0.00%**	**4.49%**	**1.95%**	**0.00%**	**4.49%**	**4.49%**	**0.00%**	**16.93%**	**100.00%**

Worksheet WW-9 Allocation of Utility Plant in Service

Worksheet WW-9 allocates the budgeted utility plant in service for 2026/27 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual and reported as both a dollar and percentage value. These are then used in Worksheet WW-10 to allocate debt servicing costs to the service characteristics.

Worksheet WW-9

Halifax Water
Wastewater Rate Study

Allocation of Utility Plant in Service
2026/27

	Projected Utility Plant in Service, end of year	*Projected Accumulated Depreciation, end of year*	*Projected Net Book Value, end of year*	Contributed Plant, excluded from Rate Base	Rate Base
INTANGIBLE PLANT					
Intangible Plant	$38,146,463	$22,529,698	$15,616,765	$10,994	$15,605,771
TANGIBLE PLANT					
LAND					
WW Collection Land & Land Rights	$870,257	$0	$870,257	$870,257	$0
WW Treatment Plant Land	$4,055,132	$0	$4,055,132	$1,351,711	$2,703,421
WW Pumping Station Land	$148,629	$0	$148,629	$90,726	$57,902
WW Office Land	$2,009,646	$0	$2,009,646	$0	$2,009,646
WW Other Land	$5,216,148	$0	$5,216,148	$915,577	$4,300,571
STRUCTURES					
WW Structures Miscellaneous	$5,352,982	$1,738,538	$3,614,444	$920,596	$2,693,847
WW Treatment Plants	$119,901,662	$47,987,588	$71,914,074	$31,123,480	$40,790,594
WW Pumping Stations	$105,453,269	$42,507,419	$62,945,849	$13,394,422	$49,551,427
WW Office Buildings	$8,322,651	$2,695,232	$5,627,419	$5,790	$5,621,629
Aerotech/ Airport WW System	$0	$0	$0	$0	$0
TREATMENT & PUMP EQUIPMENT					
WW Treatment Equipment	$253,094,667	$148,071,761	$105,022,906	$17,494,797	$87,528,109
WW Information Systems - SCADA	$17,056,240	$9,811,464	$7,244,776	$1,000,002	$6,244,774
WW Pumping Equipment	$30,105,786	$17,027,544	$13,078,243	$3,330,233	$9,748,009
MAINS					
WW Trunk Sewers	$63,434,602	$5,578,666	$57,855,936	$22,159,468	$35,696,467
WW Force Mains	$10,481,063	$615,258	$9,865,805	$152,844	$9,712,961
WW Sewer Mains	$340,132,330	$89,023,859	$251,108,471	$116,107,293	$135,001,178
WW Sewer Laterals	$39,766,323	$8,071,279	$31,695,044	$7,012,505	$24,682,540
WW - Combined Sewers WW Portion	$22,522,878	$4,371,624	$18,151,253	$9,854,214	$8,297,039
WW Outfalls	$19,501,859	$4,263,042	$15,238,817	$4,649,559	$10,589,258
WW Manholes	$14,060,089	$2,565,165	$11,494,925	$8,109,586	$3,385,338
EQUIPMENT					
WW Transportation Equipment	$12,869,720	$9,482,569	$3,387,151	$0	$3,387,151
WW Tools & Work Equipment	$2,003,481	$1,849,810	$153,670	$0	$153,670
WW Tools & Equipment for Plant	$1,263,016	$302,539	$960,477	$0	$960,477
WW Office Equipment & Furniture	$884,526	$881,202	$3,323	$0	$3,323
WW Computer Equipment	$33,458,880	$17,468,756	$15,990,124	$0	$15,990,124
WW Meters	$8,749,681	$3,156,765	$5,592,916	$0	$5,592,916
SMALL SYSTEMS					
WW Fall River	$0	$0	$0	$0	$0
WW Springfield Lake	$0	$0	$0	$0	$0
WW Middle Musquodoboit	$0	$0	$0	$0	$0
WW North Preston	$0	$0	$0	$0	$0
WW Wellington	$0	$0	$0	$0	$0
Other Small Systems	$0	$0	$0	$0	$0
Total	**$1,158,861,979**	**$439,999,781**	**$718,862,198**	**$238,554,053**	**$480,308,145**

Halifax Water
Wastewater Rate Study

Allocation of Utility Plant in Service
Functionalization of the Rate Base Expressed as a Percentage (%)
2026/27

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration
INTANGIBLE PLANT														
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
LAND														
	90%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
STRUCTURES														
	80%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	70%	20%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TREATMENT & PUMP EQUIPMENT														
	70%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MAINS														
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
EQUIPMENT														
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	0%	0%	0%	50%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%
	40%	40%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	25%
	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	25%
	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
SMALL SYSTEMS														
	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	80%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%
	0%	0%	80%	10%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%

Worksheet WW-9

Halifax Water
Wastewater Rate Study

Allocation of Utility Plant in Service
2026/27

	Projected Utility Plant in Service, end of year	*Projected Accumulated Depreciation, end of year*	*Projected Net Book Value, end of year*	Contributed Plant, excluded from Rate Base	Rate Base
INTANGIBLE PLANT					
Intangible Plant	$38,146,463	$22,529,698	$15,616,765	$10,994	$15,605,771
TANGIBLE PLANT					
LAND					
WW Collection Land & Land Rights	$870,257	$0	$870,257	$870,257	$0
WW Treatment Plant Land	$4,055,132	$0	$4,055,132	$1,351,711	$2,703,421
WW Pumping Station Land	$148,629	$0	$148,629	$90,726	$57,902
WW Office Land	$2,009,646	$0	$2,009,646	$0	$2,009,646
WW Other Land	$5,216,148	$0	$5,216,148	$915,577	$4,300,571
STRUCTURES					
WW Structures Miscellaneous	$5,352,982	$1,738,538	$3,614,444	$920,596	$2,693,847
WW Treatment Plants	$119,901,662	$47,987,588	$71,914,074	$31,123,480	$40,790,594
WW Pumping Stations	$105,453,269	$42,507,419	$62,945,849	$13,394,422	$49,551,427
WW Office Buildings	$8,322,651	$2,695,232	$5,627,419	$5,790	$5,621,629
Aerotech/ Airport WW System	$0	$0	$0	$0	$0
TREATMENT & PUMP EQUIPMENT					
WW Treatment Equipment	$253,094,667	$148,071,761	$105,022,906	$17,494,797	$87,528,109
WW Information Systems - SCADA	$17,056,240	$9,811,464	$7,244,776	$1,000,002	$6,244,774
WW Pumping Equipment	$30,105,786	$17,027,544	$13,078,243	$3,330,233	$9,748,009
MAINS					
WW Trunk Sewers	$63,434,602	$5,578,666	$57,855,936	$22,159,468	$35,696,467
WW Force Mains	$10,481,063	$615,258	$9,865,805	$152,844	$9,712,961
WW Sewer Mains	$340,132,330	$89,023,859	$251,108,471	$116,107,293	$135,001,178
WW Sewer Laterals	$39,766,323	$8,071,279	$31,695,044	$7,012,505	$24,682,540
WW - Combined Sewers WW Portion	$22,522,878	$4,371,624	$18,151,253	$9,854,214	$8,297,039
WW Outfalls	$19,501,859	$4,263,042	$15,238,817	$4,649,559	$10,589,258
WW Manholes	$14,060,089	$2,565,165	$11,494,925	$8,109,586	$3,385,338
EQUIPMENT					
WW Transportation Equipment	$12,869,720	$9,482,569	$3,387,151	$0	$3,387,151
WW Tools & Work Equipment	$2,003,481	$1,849,810	$153,670	$0	$153,670
WW Tools & Equipment for Plant	$1,263,016	$302,539	$960,477	$0	$960,477
WW Office Equipment & Furniture	$884,526	$881,202	$3,323	$0	$3,323
WW Computer Equipment	$33,458,880	$17,468,756	$15,990,124	$0	$15,990,124
WW Meters	$8,749,681	$3,156,765	$5,592,916	$0	$5,592,916
SMALL SYSTEMS					
WW Fall River	$0	$0	$0	$0	$0
WW Springfield Lake	$0	$0	$0	$0	$0
WW Middle Musquodoboit	$0	$0	$0	$0	$0
WW North Preston	$0	$0	$0	$0	$0
WW Wellington	$0	$0	$0	$0	$0
Other Small Systems	$0	$0	$0	$0	$0
Total	**$1,158,861,979**	**$439,999,781**	**$718,862,198**	**$238,554,053**	**$480,308,145**
	0	*0*	*0*	*0*	*0*

Halifax Water
Wastewater Rate Study

Allocation of Utility Plant in Service
Functionalization of Rate Base Expressed in Dollars ($)
2026/27

	Advanced Primary Treatment	Secondary Treatment	Tertiary Treatment	Mains	Pump Stations	Service Laterals	Technical Services (SCADA)	Customer Service	Meters	Meter Reading and Billing	Engineering	Regulatory Services	Corporate Services	Administration	Total
INTANGIBLE PLANT															
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$15,605,771	$15,605,771
LAND															
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$2,703,421	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,703,421
	$0	$0	$0	$0	$57,902	$0	$0	$0	$0	$0	$0	$0	$0	$0	$57,902
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,009,646	$2,009,646
	$0	$0	$0	$4,300,571	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,300,571
STRUCTURES															
	$2,155,078	$0	$0	$538,769	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,693,847
	$28,553,416	$8,158,119	$4,079,059	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40,790,594
	$0	$0	$0	$0	$49,551,427	$0	$0	$0	$0	$0	$0	$0	$0	$0	$49,551,427
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,621,629	$5,621,629
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TREATMENT & PUMP EQUIPMENT															
	$61,269,676	$26,258,433	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$87,528,109
	$0	$0	$0	$0	$6,244,774	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,244,774
	$0	$0	$0	$0	$9,748,009	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,748,009
MAINS															
	$0	$0	$0	$35,696,467	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$35,696,467
	$0	$0	$0	$4,856,481	$4,856,481	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,712,961
	$0	$0	$0	$135,001,178	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$135,001,178
	$0	$0	$0	$0	$0	$24,682,540	$0	$0	$0	$0	$0	$0	$0	$0	$24,682,540
	$0	$0	$0	$8,297,039	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,297,039
	$8,471,407	$2,117,852	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10,589,258
	$0	$0	$0	$3,385,338	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,385,338
EQUIPMENT															
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,387,151	$3,387,151
	$0	$0	$0	$76,835	$38,418	$38,418	$0	$0	$0	$0	$0	$0	$0	$0	$153,670
	$384,191	$384,191	$192,095	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$960,477
	$0	$0	$0	$0	$0	$0	$0	$831	$0	$0	$831	$831	$0	$831	$3,323
	$0	$0	$0	$0	$0	$0	$0	$3,997,531	$0	$0	$3,997,531	$3,997,531	$0	$3,997,531	$15,990,124
	$0	$0	$0	$0	$0	$0	$0	$0	$5,592,916	$0	$0	$0	$0	$0	$5,592,916
SMALL SYSTEMS															
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$103,537,189**	**$36,918,594**	**$4,271,155**	**$192,152,679**	**$70,497,012**	**$24,720,957**	**$0**	**$3,998,362**	**$5,592,916**	**$0**	**$3,998,362**	**$3,998,362**	**$0**	**$30,622,559**	**$480,308,145**
	21.56%	**7.69%**	**0.89%**	**40.01%**	**14.68%**	**5.15%**	**0.00%**	**0.83%**	**1.16%**	**0.00%**	**0.83%**	**0.83%**	**0.00%**	**6.38%**	**100.00%**

Worksheet WW-10 Cost Classification

Worksheet WW-10 details the costs as allocated to the system functions in Worksheet WW-6, WW-8 and WW-9 and allocates them to the service characteristics based on the percentages for each characteristic detailed in the Cost-of-Service Manual. The amounts are then totaled by operation and maintenance, depreciation and are used in Worksheet WW-11 to calculate the wastewater unit rate and bill calculation. The utility plant in service functions are also totaled and the percentage by service function is used to allocate the net debt servicing costs also in Worksheet WW-11.

Worksheet WW-10

Halifax Water
Wastewater Rate Study

Wastewater Cost Classification & Unit Rate Calculations
2026/27

Cost Classifications

		Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Total
O&M Expenses by Function		Classification Percentages														
Wastewater Collection																
Advanced Primary Treatment	$0	36.00%	14.00%	25.00%	25.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Secondary Treatment	$0	55.20%	14.80%	12.00%	18.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Tertiary Treatment	$0	42.80%	12.20%	18.00%	27.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Mains	$5,023,773	95.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$4,772,584	$251,189	$0	$0	$0	$0	$0	$5,023,773
Pump Stations	$9,806,603	90.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$8,825,943	$980,660	$0	$0	$0	$0	$0	$9,806,603
Service Laterals	$1,360,453	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$1,360,453	$0	$0	$1,360,453
Technical Services (SCADA)	$0	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	$0	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Meters	$0	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Meter Reading and Billing	$0	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Regulatory Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Sub-Total	$16,190,829								$13,598,527	$1,231,849	$0	$0	$1,360,453	$0	$0	$16,190,829
Wastewater Treatment																
Advanced Primary Treatment	$19,758,871	36.00%	14.00%	25.00%	25.00%	0.00%	0.00%	0.00%	$7,113,193	$2,766,242	$4,939,718	$4,939,718	$0	$0	$0	$19,758,871
Secondary Treatment	$7,639,911	55.20%	14.80%	12.00%	18.00%	0.00%	0.00%	0.00%	$4,217,231	$1,130,707	$916,789	$1,375,184	$0	$0	$0	$7,639,911
Tertiary Treatment	$1,549,793	42.80%	12.20%	18.00%	27.00%	0.00%	0.00%	0.00%	$663,311	$189,075	$278,963	$418,444	$0	$0	$0	$1,549,793
Mains	$0	95.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Pump Stations	$0	90.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Service Laterals	$0	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	$0	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	$0	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Meters	$0	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Meter Reading and Billing	$0	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Regulatory Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Sub-Total	$28,948,574								$11,993,736	$4,086,023	$6,135,470	$6,733,346	$0	$0	$0	$28,948,574
Other Operating																
Advanced Primary Treatment	$0	36.00%	14.00%	25.00%	25.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Secondary Treatment	$0	55.20%	14.80%	12.00%	18.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Tertiary Treatment	$0	42.80%	12.20%	18.00%	27.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Mains	$0	95.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Pump Stations	$0	90.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Service Laterals	$0	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	$2,342,805	83.00%	17.00%	0.00%	0.00%	0.00%	0.00%	0.00%	$1,944,528	$398,277	$0	$0	$0	$0	$0	$2,342,805
Customer Service	$1,328,700	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$1,328,700	$0	$1,328,700
Meters	$538,726	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	$0	$0	$0	$0	$538,726	$0	$0	$538,726
Meter Reading and Billing	$595,043	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$595,043	$0	$595,043
Engineering	$2,956,967	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$2,956,967	$2,956,967
Regulatory Services	$1,854,486	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$1,854,486	$1,854,486
Corporate Services	$8,501,643	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$8,501,643	$8,501,643
Administration	$3,561,610	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$3,561,610	$3,561,610
Sub-Total	$21,679,981								$1,944,528	$398,277	$0	$0	$538,726	$1,923,743	$16,874,707	$21,679,981
O&M Total	$66,819,384															$66,819,384

Worksheet WW-10

Halifax Water
Wastewater Rate Study

Wastewater Cost Classification & Unit Rate Calculations
2026/27

Cost Classifications

		Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect
Depreciation Expense by Function								
Advanced Primary Treatment	$7,107,579	38.00%	12.00%	25.00%	25.00%	0.00%	0.00%	0.00%
Secondary Treatment	$2,890,237	28.99%	20.67%	25.17%	25.17%	0.00%	0.00%	0.00%
Tertiary Treatment	$162,715	29.70%	10.00%	30.15%	30.15%	0.00%	0.00%	0.00%
Mains	$2,400,734	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pump Stations	$2,904,322	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Service Laterals	$656,114	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Customer Service	$1,071,320	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Meters	$466,029	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Engineering	$1,071,320	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Regulatory Services	$1,071,320	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Administration	$4,036,326	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Sub-Total	$23,838,017							
Rate Base by Function								
Advanced Primary Treatment	$103,537,189	38.00%	12.00%	25.00%	25.00%	0.00%	0.00%	0.00%
Secondary Treatment	$36,918,594	28.99%	20.67%	25.17%	25.17%	0.00%	0.00%	0.00%
Tertiary Treatment	$4,271,155	29.70%	10.00%	30.15%	30.15%	0.00%	0.00%	0.00%
Mains	$192,152,679	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pump Stations	$70,497,012	75.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Service Laterals	$24,720,957	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Customer Service	$3,998,362	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Meters	$5,592,916	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Engineering	$3,998,362	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Regulatory Services	$3,998,362	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Corporate Services	$0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Administration	$30,622,559	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Sub-Total	$480,308,145							

	Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Total
Depreciation Expense by Function								
Advanced Primary Treatment	$2,700,880	$852,910	$1,776,895	$1,776,895	$0	$0	$0	$7,107,579
Secondary Treatment	$837,798	$597,316	$727,562	$727,562	$0	$0	$0	$2,890,237
Tertiary Treatment	$48,326	$16,272	$49,059	$49,059	$0	$0	$0	$162,715
Mains	$1,800,551	$600,184	$0	$0	$0	$0	$0	$2,400,734
Pump Stations	$2,178,241	$726,080	$0	$0	$0	$0	$0	$2,904,322
Service Laterals	$0	$0	$0	$0	$656,114	$0	$0	$656,114
Customer Service	$0	$0	$0	$0	$0	$1,071,320	$0	$1,071,320
Meters	$0	$0	$0	$0	$466,029	$0	$0	$466,029
Engineering	$0	$0	$0	$0	$0	$0	$1,071,320	$1,071,320
Regulatory Services	$0	$0	$0	$0	$0	$0	$1,071,320	$1,071,320
Corporate Services	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$0	$0	$0	$0	$0	$0	$4,036,326	$4,036,326
Sub-Total	$7,565,796	$2,792,761	$2,553,515	$2,553,515	$1,122,143	$1,071,320	$6,178,967	$23,838,017
Rate Base by Function								
Advanced Primary Treatment	$39,344,132	$12,424,463	$25,884,297	$25,884,297	$0	$0	$0	$103,537,189
Secondary Treatment	$10,701,659	$7,629,843	$9,293,546	$9,293,546	$0	$0	$0	$36,918,594
Tertiary Treatment	$1,268,533	$427,115	$1,287,753	$1,287,753	$0	$0	$0	$4,271,155
Mains	$144,114,509	$48,038,170	$0	$0	$0	$0	$0	$192,152,679
Pump Stations	$52,872,759	$17,624,253	$0	$0	$0	$0	$0	$70,497,012
Service Laterals	$0	$0	$0	$0	$24,720,957	$0	$0	$24,720,957
Customer Service	$0	$0	$0	$0	$0	$3,998,362	$0	$3,998,362
Meters	$0	$0	$0	$0	$5,592,916	$0	$0	$5,592,916
Engineering	$0	$0	$0	$0	$0	$0	$3,998,362	$3,998,362
Regulatory Services	$0	$0	$0	$0	$0	$0	$3,998,362	$3,998,362
Corporate Services	$0	$0	$0	$0	$0	$0	$0	$0
Administration	$0	$0	$0	$0	$0	$0	$30,622,559	$30,622,559
Sub-Total	$248,301,592	$86,143,843	$36,465,596	$36,465,596	$30,313,873	$3,998,362	$38,619,282	$480,308,145
	51.70%	**17.94%**	**7.59%**	**7.59%**	**6.31%**	**0.83%**	**8.04%**	100.00%

Worksheet WW-11 Unit Costs and Returns

Worksheet WW-11 uses the costs from Worksheet WW-10 allocated to the system functions to calculate the unit wastewater rates for 2026/27 using the billing determinates. The percentage of dry weather flow, wet weather flow, biochemical oxygen demand (BOD), total suspended solids (TSS), equivalent meters and customer service are used to allocate the indirect costs for operation and maintenance expenses, depreciation expense and debt service. The dividend/grant in lieu of taxes is allocated based on the total allocated revenue requirements. Worksheet W-11 also calculates the return on rate base.

Worksheet WW-11

Halifax Water
Wastewater Rate Study

Wastewater Unit Rate and Bill Calculations
2026/27

Unit Cost Calculations

	Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Total
Revenue Requirements								
O&M Expenses								
Wastewater Collection	$13,598,527	$1,231,849	$0	$0	$1,360,453	$0	$0	$16,190,829
Wastewater Treatment	$11,993,736	$4,086,023	$6,135,470	$6,733,346	$0	$0	$0	$28,948,574
Other Operating	$1,944,528	$398,277	$0	$0	$538,726	$1,923,743	$16,874,707	$21,679,981
Sub-Total	$27,536,791	$5,716,149	$6,135,470	$6,733,346	$1,899,179	$1,923,743	$16,874,707	$66,819,384
Direct Allocation Percentages	55.13%	11.44%	12.28%	13.48%	3.80%	3.85%		100.00%
O&M Expenses By Service Characteristic	$36,840,590	$7,647,453	$8,208,448	$9,008,327	$2,540,851	$2,573,714	$0	$66,819,384
Depreciation Expenses								
	$7,565,796	$2,792,761	$2,553,515	$2,553,515	$1,122,143	$1,071,320	$6,178,967	$23,838,017
Direct Allocation Percentages	42.84%	15.81%	14.46%	14.46%	6.35%	6.07%		100.00%
Depreciation Expenses By Service Characteristic	$10,213,096	$3,769,958	$3,446,999	$3,446,999	$1,514,785	$1,446,179	$0	$23,838,017
Return Components								
Plant in Service by Serv Char Percents	51.70%	17.94%	7.59%	7.59%	6.31%	0.83%	8.04%	100.00%
Debt Service (Principal, Interest, Fees) and WW Rebate $21,404,095	$11,065,127	$3,838,850	$1,625,026	$1,625,026	$1,350,885	$178,180	$1,721,001	$21,404,095
Direct Allocation Percentages	56.22%	19.50%	8.26%	8.26%	6.86%	0.91%		100.00%
Debt Service (Principal, Interest, Fees) and WW Rebate By Service Characteristic (Net)	$12,032,612	$4,174,502	$1,767,111	$1,767,111	$1,469,000	$193,759		$21,404,095
Total Allocated Revenue Requirements	**$59,086,299**	**$15,591,913**	**$13,422,558**	**$14,222,437**	**$5,524,636**	**$4,213,652**		$112,061,496
	52.73%	**13.91%**	**11.98%**	**12.69%**	**4.93%**	**3.76%**		**100.00%**
Add: Dividend/ Grant in lieu of Taxes $942,393	$496,892	$131,122	$112,878	$119,605	$46,460	$35,435		$942,393
Less: Non-rate revenues and other adjustments ($632,929)	($333,722)	($88,064)	($75,811)	($80,329)	($31,203)	($23,799)		($632,929)

Rate Base **$ 480,308,145**

Return on Rate Base **$ 20,771,166**
Calculated Percent Return on R **4.32%**

Worksheet WW-11

Halifax Water
Wastewater Rate Study

Wastewater Unit Rate and Bill Calculations
2026/27

Unit Cost Calculations

	Dry Weather Flow	Wet Weather Flow	Biochemical Oxygen Demand (BOD)	Total Suspended Solids (TSS)	Equivalent Meters	Customer Service	Indirect	Total
Net Rate Revenue Requirements	**$59,249,469**	**$15,634,971**	**$13,459,625**	**$14,261,713**	**$5,539,893**	**$4,225,288**		**$112,370,960**
Alternative I&I Allocations	I & I to Flow				I & I to Meter Equivalents	I & I to Customers		
	10%				**45%**	**45%**		
	$60,812,966		$13,459,625	$14,261,713	$12,575,629	$11,261,025		$112,370,960
	I & I to Flow				I & I to Meter Equivalents	I & I to Customers		
	0%				**50%**	**50%**		
	$ 59,249,469		$ 13,459,625	$ 14,261,713	$ 13,357,378	$ 12,042,774		$112,370,960

Billing Determinations	**Flow**		**Biochemical Oxygen Demand (BOD)**	**Total Suspended Solids (TSS)**	**Equivalent Meters**	**Customer Service**		
	ML		**kg**	**kg**	**Annual Equivalents**	**Annual**		
Residential	20,486		3,482,615	3,482,615	80,120	80,090		
Non-Residential	12,515		7,657,149	3,837,982	29,927	5,263		
Overstrength Surcharge	3		8,402	1,649	0	0		
Hauled Waste	11		2,762	1,657	0	0		
Total	33,016	-	11,150,928	7,323,903	110,047	85,353		**Blended Rate - Flow & Strength**
Billed Water Usage	33,840							
I & I to Flow 0.1								
Rate Per Billing Unit	**$1.7971**		**$1.2070**	**$1.9473**	**$114.28**	**$131.93**		**$2.6162**
Annual								
Residential	$299		$34	$55	$114.28	$131.93	**$634.15**	

Worksheet WW-12 Rates, Revenues and Bills

Worksheet WW-12 uses the data from worksheet WW-11 to calculate proposed rates for customer charge, base charge, and volumetric charges (effluent charge) for 2026/27. Worksheet WW-12 also provides a revenue test based on the budgeted customer connections, equivalent meters and consumption and details the annual fixed charges (base and customer charge) and the annual effluent charge based on the arithmetic average of consumption by meter size.

Worksheet WW-12

Halifax Water
Wastewater Rate Study

Rates, Revenues & Annual Bills by Alternative
2026/27

Proposed Cost of Service Rates and Charges		**I&I Allocation Flow / Sys Eq. / Customer at: 0.1 / 0.45 / 0.45**
Customer Charge	$/Account	$131.93
Base Charge	$/Meter Equivalent	$114.28
Volumetric Charges	$ / Billed Cubic Meter	$2.6162

Revenue Test	Billing Determinant	
Customer Charge Revenues	85,353	$11,261,025
Number of Services		
Base Charge Revenues	110,047	$12,575,629
System Equivalents		
Volumetric Charges Revenues	33,840,267	$88,534,305
Estimated Consumption		
Total Revenues		$112,370,960

Bill Calculations

Annual Fixed Charges
(Customer & Base Charges by Meter Size)

Meter Size	Capacity Ratio	I&I Allocation Flow / Sys Eq. / Customer at: 0.1 / 0.45 / 0.45
Unmetered 5/8"	1	$246.21
Unmetered 3/4"	1.5	$303.35
Unmetered 1"	2.5	$417.62
Unmetered 3"	16.0	$1,960.34
5/8" - 15mm	1	$246.21
3/4" - 20mm	1.5	$303.35
1" - 25mm	2.5	$417.62
1.5" - 40mm	5	$703.31
2" - 50mm	8	$1,046.14
3" - 80mm	16	$1,960.34
4" - 100mm	25	$2,988.82
6" - 150mm	50	$5,845.71
8" - 200mm	90	$10,416.74
10" - 250mm	150	$17,273.27

Annual Effluent Charges

Meter Size	Average Annual Consumption	I&I Allocation Flow / Sys Eq. / Customer at: 0.1 / 0.45 / 0.45
Unmetered 5/8"	163.51	$427.78
Unmetered 3/4"	541.34	$1,416.27
Unmetered 1"	1,080.51	$2,826.87
Unmetered 3"	13,159.90	$34,429.48
5/8" - 15MM	163.51	$427.78
3/4" - 20MM	541.34	$1,416.27
1" - 25MM	1,080.51	$2,826.87
1.5" - 40MM	2,535.13	$6,632.52
2" - 50MM	6,206.44	$16,237.54
3" - 80MM	13,159.90	$34,429.48
4" - 100MM	23,560.88	$61,640.95
6" - 150MM	67,054.66	$175,431.16
8" - 200MM	60,794.90	$159,054.12
10" - 250MM	131,222.61	$343,310.01

Total Bill - Average Consumption

Meter Size	Average Annual Consumption	I&I Allocation Flow / Sys Eq. / Customer at: 0.1 / 0.45 / 0.45
Unmetered 5/8"	163.51	$673.99
Unmetered 3/4"	541.34	$1,719.62
Unmetered 1"	1,080.51	$3,244.49
Unmetered 3"	13,159.90	$36,389.82
5/8" - 15MM	163.51	$673.99
3/4" - 20MM	541.34	$1,719.62
1" - 25MM	1,080.51	$3,244.49
1.5" - 40MM	2,535.13	$7,335.83
2" - 50MM	6,206.44	$17,283.68
3" - 80MM	13,159.90	$36,389.82
4" - 100MM	23,560.88	$64,629.77
6" - 150MM	67,054.66	$181,276.87
8" - 200MM	60,794.90	$169,470.86
10" - 250MM	131,222.61	$360,583.28

Worksheet Appendix WW-1 – Additions to Utility Plant in Service

Appendix WW-1 details the proposed additions to utility plant in service and capital funding for the test year 2026/27.

Additions to utility plant in service for 2026/27 are estimated based on status of capital work in progress (projects approved in prior fiscal years), the projects from the 2026/27 capital budget, and historical levels of contributed utility plant in service.

Halifax Water projects an addition of $94.3 million in assets to utility plant in service during the 2026/27 fiscal year.

Appendix WW-1

Halifax Water
Wastewater Rate Study

Proposed Additions to Utility Plant in Service and Capital Funding
2026/27

	Additions to the Utility Plant in Service	Capital Cost Contribution from Others	Utility Cost of Plant in Service	
INTANGIBLE PLANT				
Intangible Plant	$2,208,800	$0	$2,208,800	
	$0	$0	$0	
TANGIBLE PLANT	$0	$0	$0	
LAND	$0	$0	$0	
WW Collection Land & Land Rights	$0	$0	$0	
WW Treatment Plant Land	$0	$0	$0	
WW Pumping Station Land	$0	$0	$0	
WW Office Land	$0	$0	$0	
WW Other Land	$0	$0	$0	
STRUCTURES	$0	$0	$0	
WW Structures Miscellaneous	$0	$0	$0	
WW Treatment Plants	$0	$0	$0	
WW Pumping Stations	$17,031,577	$0	$17,031,577	
WW Office Buildings	$0	$0	$0	
Aerotech/ Airport WW System	$0	$0	$0	
TREATMENT & PUMP EQUIPMENT	$0	$0	$0	
WW Treatment Equipment	$12,247,994	$0	$12,247,994	
WW Information Systems - SCADA	$25,000	$0	$25,000	
WW Pumping Equipment	$2,706	$2,706	$0	
MAINS	$0	$0	$0	
WW Trunk Sewers	$24,004,249	$0	$24,004,249	
WW Force Mains	$2,401,643	$16,232	$2,385,410	
WW Sewer Mains	$29,280,456	$2,115,446	$27,165,009	
WW Sewer Laterals	$291,909	$291,909	$0	
WW - Combined Sewers WW Portion	$0	$0	$0	
WSW Outfalls	$0	$0	$0	
WW Manholes	$457,511	$457,511	$0	
EQUIPMENT	$0	$0	$0	
WW Transportation Equipment	$1,398,000	$0	$1,398,000	
WW Tools & Work Equipment	$0	$0	$0	
WW Tools & Work Equipment for Plant	$850,000	$0	$850,000	
WW Office Equipment & Furniture	$0	$0	$0	
WW Computer Equipment	$3,940,817	$0	$3,940,817	
WW Meters	$120,000	$0	$120,000	
SMALL SYSTEMS	$0	$0	$0	
WW Fall River	$0	$0	$0	
WW Springfield Lake	$0	$0	$0	
WW Middle Musquodoboit	$0	$0	$0	
WW North Preston	$0	$0	$0	
WW Wellington	$0	$0	$0	
Other Small Systems	$0	$0	$0	
TOTAL	$94,260,662	$2,883,804	$91,376,857	

Sources of Funding

Capital Cost Contribution	$0	Depreciation Fund Balance, beginning of year	($1,028,974)
Regional Development Charge	$0	Add:	
External Funding	$2,883,804	Interest earned on fund balance	$0
Contributions - other	$0	Depreciation funded in Current year	$22,600,152
Working Capital	($3,436,769)	Depreciation Fund Balance available	$21,571,178
Depreciation fund	$23,838,017	Less:	
Long Term Debt	$70,975,610	Expenditure in Current Year	($23,838,017)
TOTAL	$94,260,662	Depreciation Fund Balance, end of year	($2,266,839)

Worksheet Appendix WW-2 Amortization Schedule for Long Term Debt

Appendix WW-2 details the amortization schedule of the proposed long-term debt associated with 2026/27. The amortization is based on a 30-year blended serial debenture at a rate of 4.0%. Debt servicing costs related to principal and interest will commence in test year 2026/27.

Appendix WW-2

Halifax Water
Wastewater Rate Study

Amortization Schedule for Projected Long Term Debt
2026/27

Interest Rate	4.00%
Term in years	30
Capital	$70,975,610

Amortization Schedule

	Principal	Interest	Total	Balance
Year				
1	$2,365,853.66	$2,839,024.39	$5,204,878.05	$68,609,756.10
2	$2,365,853.66	$2,744,390.24	$5,110,243.90	$66,243,902.44
3	$2,365,853.66	$2,649,756.10	$5,015,609.76	$63,878,048.78
4	$2,365,853.66	$2,555,121.95	$4,920,975.61	$61,512,195.12
5	$2,365,853.66	$2,460,487.80	$4,826,341.46	$59,146,341.46
6	$2,365,853.66	$2,365,853.66	$4,731,707.32	$56,780,487.80
7	$2,365,853.66	$2,271,219.51	$4,637,073.17	$54,414,634.15
8	$2,365,853.66	$2,176,585.37	$4,542,439.02	$52,048,780.49
9	$2,365,853.66	$2,081,951.22	$4,447,804.88	$49,682,926.83
10	$2,365,853.66	$1,987,317.07	$4,353,170.73	$47,317,073.17
11	$2,365,853.66	$1,892,682.93	$4,258,536.59	$44,951,219.51
12	$2,365,853.66	$1,798,048.78	$4,163,902.44	$42,585,365.85
13	$2,365,853.66	$1,703,414.63	$4,069,268.29	$40,219,512.20
14	$2,365,853.66	$1,608,780.49	$3,974,634.15	$37,853,658.54
15	$2,365,853.66	$1,514,146.34	$3,880,000.00	$35,487,804.88
16	$2,365,853.66	$1,419,512.20	$3,785,365.85	$33,121,951.22
17	$2,365,853.66	$1,324,878.05	$3,690,731.71	$30,756,097.56
18	$2,365,853.66	$1,230,243.90	$3,596,097.56	$28,390,243.90
19	$2,365,853.66	$1,135,609.76	$3,501,463.41	$26,024,390.24
20	$2,365,853.66	$1,040,975.61	$3,406,829.27	$23,658,536.59
21	$2,365,853.66	$946,341.46	$3,312,195.12	$21,292,682.93
22	$2,365,853.66	$851,707.32	$3,217,560.98	$18,926,829.27
23	$2,365,853.66	$757,073.17	$3,122,926.83	$16,560,975.61
24	$2,365,853.66	$662,439.02	$3,028,292.68	$14,195,121.95
25	$2,365,853.66	$567,804.88	$2,933,658.54	$11,829,268.29
26	$2,365,853.66	$473,170.73	$2,839,024.39	$9,463,414.63
27	$2,365,853.66	$378,536.59	$2,744,390.24	$7,097,560.98
28	$2,365,853.66	$283,902.44	$2,649,756.10	$4,731,707.32
29	$2,365,853.66	$189,268.29	$2,555,121.95	$2,365,853.66
30	$2,365,853.66	$94,634.15	$2,460,487.80	$0.00

Halifax Regional Water Commission

(“Halifax Water”)

Stormwater Rate Study

2025/26

Prepared By: Halifax Water Staff

Notes on Worksheet

Worksheet SW-1: Comparative Statement of Operations

Worksheet SW-1 provides a comparative Statement of Operations for Stormwater Services for fiscal years ending March 31 as follows:

- Actual results for the fiscal years 2021/22, 2022/23 and 2023/24 for Stormwater Services.
- Approved budgets by Halifax Water's Board of Commissioners for 2024/25 and 2025/26, with 2025/26 representing Test Year #1 for the purposes of the Rate Study.
- Projections for 2026/27, representing Test Year #2 for the purposes of the Rate Study.

Revenues are budgeted/projected based on current rates. This worksheet details the budgeted deficits at current rates in Stormwater Services for the two test years.

Stormwater Services had an accumulated deficit of $4.2 million as of March 31, 2024, however, with budgeted deficits in 2024/25 and 2025/26 of $2.5 million and $3.7 million respectively, and a projected deficit of $6.0 million in 2026/27, the projected accumulated deficit as of March 31, 2027, is estimated at $16.3 million.

The calculation of the Revenue Requirement is shown on Worksheet SW-2.

Depreciation in Test Year #1 is approximately $850 thousand higher than the 2024/25 operating budget. Both calculations begin with the same data, the 2024/25 capital budget. This is then adjusted to align with projected additions to rate-based assets. For the 2024/25 operating budget, the adjustment is amortized over forty years, whereas for the test year data the adjustment is prorated between assets classes, therefore spreading the depreciation more evenly amongst the asset classes. In addition, corporate projects for the test year data are amortized based on useful life and asset class. In addition, the depreciation on donated assets within the operating budget is more refined as it is based on individual assets.

Worksheet SW-1 November 30, 2024

Halifax Water
Stormwater Rate Study

Comparative Statement of Operations
Fiscal Years ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating revenues						
Stormwater site related service	$6,294,208	$6,926,646	$8,675,642	$8,863,581	$8,865,131	$8,882,468
Stormwater right-of-way service	$3,835,008	$4,475,286	$6,520,342	$6,515,400	$6,515,400	$6,515,400
Late payment and other connection fees	$170,431	$261,533	$79,780	$181,250	$179,700	$181,100
Miscellaneous	$125,752	$118,188	$115,281	$67,243	$67,243	$67,243
Total	**$10,425,399**	**$11,781,653**	**$15,391,045**	**$15,627,474**	**$15,627,474**	**$15,646,211**
Operating expenditures						
Stormwater collection	$4,565,584	$4,719,249	$5,754,991	$5,818,522	$6,968,626	$7,645,406
Engineering and technology services*	$1,461,314	$2,093,580	$1,752,383	$1,997,352	$973,281	$1,019,534
Technical services (SCADA)	$56,794	$13,419	$16,410	$12,545	$18,294	$18,649
Regulatory services*	$1,587,592	$1,497,465	$1,875,558	$2,386,155	$2,020,425	$2,124,812
Customer service	$274,144	$185,278	$188,778	$178,839	$202,965	$213,749
Corporate services*	$225,061	$145,387	$152,609	$183,427	$832,767	$944,627
Administration*	$269,926	$260,451	$305,455	$501,783	$374,721	$395,734
Calculated Depreciation - Funded Assets	$2,403,231	$2,710,000	$3,065,437	$2,478,864	$3,282,350	$3,441,048
Calculated Depreciation - Donated Assets	$0	$0	$0	$571,131	$616,156	$638,977
Total	**$10,843,646**	**$11,624,830**	**$13,111,622**	**$14,128,618**	**$15,289,585**	**$16,442,536**
Earnings from operations	($418,247)	$156,823	$2,279,423	$1,498,856	$337,889	($796,325)
Financial and other revenues						
Investment Income	$18,877	$0	$0	$0	$0	$0
Total	**$18,877**	**$0**	**$0**	**$0**	**$0**	**$0**
Financial and other expenditures						
Interest	$0	$52,949	$102,945	$127,939	$0	$0
Interest on long term debt	$726,916	$748,828	$862,347	$1,144,326	1,519,885	$2,167,724
Repayment on long term debt	$2,059,236	$2,209,859	$2,485,667	$2,493,320	2,269,431	$2,857,236
Amortization of debt discount	$22,038	$24,099	$24,488	$28,451	$34,404	$37,604
Dividend/ grant in lieu of taxes	$136,419	$137,782	$135,394	$182,416	$180,138	$190,079
Total	**$2,944,609**	**$3,173,517**	**$3,610,841**	**$3,976,452**	**$4,003,858**	**$5,252,644**
Earnings (loss) for the year	**($3,343,979)**	**($3,016,694)**	**($1,331,418)**	**($2,477,596)**	**($3,665,969)**	**($6,048,969)**
Surplus/Deficit, beginning of year	**$3,519,056**	**$175,077**	**($2,841,617)**	**($4,173,035)**	**($6,650,631)**	**($10,316,600)**
Surplus/Deficit, end of year	**$175,077**	**($2,841,617)**	**($4,173,035)**	**($6,650,631)**	**($10,316,600)**	**($16,365,569)**

Worksheet SW-2: Statement of Operating Expenditures and Revenue Requirements

Worksheet SW-2 takes the operating and non-operating expenditure information from Worksheet SW-1 to develop revenue requirements for the test year 2025/26. The non-operating and other operating revenues are deducted from the expenditures to determine the revenue required from Stormwater Service customers.

Operating expenditures include a line item 'Calculated Depreciation – Donated Assets' which represents depreciation associated with contributed assets and represents a phase in of depreciation on contributed assets over a four (4) year period. The $616 thousand is calculated as 27% of the current year's depreciation related to contributed assets of $2.3 million.

Certain expenditures have been added back for the purpose of determining the revenue requirement. Adjustments include adding back the Stormwater portion of certain discretionary costs incurred by Halifax Water associated with sponsorships and donations, the Help for Others (H2O) Program, and an allocation of administrative costs.

Worksheet SW-2

Halifax Water
Stormwater Rate Study

Statement of Operating Expenditures and Revenue Requirements

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating expenditures						
Stormwater collection	$4,565,584	$4,719,249	$5,754,991	$5,818,522	$6,968,626	$7,645,406
Engineering and technology services*	$1,461,314	$2,093,580	$1,752,383	$1,997,352	$973,281	$1,019,534
Technical services (SCADA)	$56,794	$13,419	$16,410	$12,545	$18,294	$18,649
Regulatory services*	$1,587,592	$1,497,465	$1,875,558	$2,386,155	$2,020,425	$2,124,812
Customer service	$274,144	$185,278	$188,778	$178,839	$202,965	$213,749
Corporate services*	$225,061	$145,387	$152,609	$183,427	$832,767	$944,627
Administration*	$269,926	$260,451	$305,455	$501,783	$374,721	$395,734
Sub-total	$8,440,415	$8,914,830	$10,046,185	$11,078,623	$11,391,079	$12,362,512
Calculated depreciation - funded assets	$2,403,231	$2,710,000	$3,065,437	$2,478,864	$3,282,350	$3,441,048
Calculated depreciation - donated assets	$0	$0	$0	$571,131	$616,156	$638,977
Total	**$10,843,646**	**$11,624,830**	**$13,111,622**	**$14,128,618**	**$15,289,585**	**$16,442,536**
Add: non-operating expenditures						
Interest	$0	$52,949	$102,945	$127,939	$0	$0
Interest on long term debt	$726,916	$748,828	$862,347	$1,144,326	$1,519,885	$2,167,724
Repayment on long term debt	$2,059,236	$2,209,859	$2,485,667	$2,493,320	$2,269,431	$2,857,236
Amortization of debt discount	$22,038	$24,099	$24,488	$28,451	$34,404	$37,604
Dividend/ grant in lieu of taxes	$136,419	$137,782	$135,394	$182,416	$180,138	$190,079
Other	$0	$0	$0	$0	$0	$0
Sub-total	$2,944,609	$3,173,517	$3,610,841	$3,976,452	$4,003,858	$5,252,644
Test year #1 - new interest on long term debt						
Test year #1 - new repayment of long term debt						
Total	**$2,944,609**	**$3,173,517**	**$3,610,841**	**$3,976,452**	**$4,003,858**	**$5,252,644**
Less: other revenues						
Investment Income	$18,877	$0	$0	$0	$0	$0
Late payment and other connection fees	$170,431	$261,533	$79,780	$181,250	$179,700	$181,100
Miscellaneous	$125,752	$118,188	$115,281	$67,243	$67,243	$67,243
Total	**$315,060**	**$379,721**	**$195,061**	**$248,493**	**$246,943**	**$248,343**
Less: other adjustments						
Sponsorships and donations	$295	$2,250	$520	$2,000	$2,000	$2,000
Help for Other (H2O) program	$2,751	$2,254	$185	$2,000	$2,000	$2,000
Administration	$10,341	$6,453	$6,991	$750	$750	$750
Total	**$13,387**	**$10,957**	**$7,697**	**$4,750**	**$4,750**	**$4,750**
Revenue required from customers	**$13,459,808**	**$14,407,670**	**$16,519,705**	**$17,851,827**	**$19,041,750**	**$21,442,087**

Worksheet SW-3: Operating Expenditures and Financial Analysis

Worksheet W-4 details the operating expenditures by cost element group for each of the functional areas within the Stormwater Services, consisting of the following:

- Stormwater Collections.

For the following functional areas serving all three services of Halifax Water (Water, Wastewater and Stormwater), a summary has been provided outlining the cost effects as they pertain to Stormwater. Complete details for these functional areas can be found in the Water Rate Studies found in Appendix 1 of this Application.

- Technical Services (SCADA),
- Engineering and Technology Services (TS),
- Regulatory Services,
- Corporate Services,
- Customer Service, and
- Administration.

Data provided as part of the review and analysis includes:

- Actual results for 2021/22, 2022/23, and 2023/24,
- Approved budgets for 2024/25and 2025/26 (Test Year # 1), and
- Projected results for 2026/27 (Test Year #2).

For operating expenditures related to 2026/27 (Test Year #2), the key assumptions regarding projected increases are as follows:

- Salaries and benefits: 2.5% to 3.0% (as per Union agreement) and 2.75% for non-union
- Chemicals: 5.0%
- Electricity: 5.0%
- Other: 2.0%

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations.

On subsequent pages within this section, operating expenditures are reported for the core cost element groups within each functional area. As part of the analysis, variances have been provided with changes expressed as both dollar and percentage values, comparing year-over-year changes for the fiscal years 2022/23 through 2026/27. Commentary is provided for each of the cost elements groups falling within the functional areas, with additional details provided in situations where variances have increased over $100 thousand.

Stormwater Collections

- Salaries and Benefits - Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. It should be noted that Wastewater and Stormwater Collections share the same wage pool, therefore centrally managed. Cost fluctuations within one Service would have the opposite impact on the other. Two new full-time equivalent positions for supervisors have been included in the 2025-26 budget.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Contract Services –Costs have increased due to core maintenance activities for stormwater such as ditching mainly due to traffic control services required to enhance safety measures and to comply with HRM permitting standards. .

- Materials, Supplies & Services – Costs remained similar to previous year.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs. Costs increased in 2025/26 as a result in how costs were allocated to shared services and to recognize increases in fuel and other vehicle costs.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Stormwater Collections											
Salaries and benefits	$1,602,513	$1,797,606	$1,955,896	$2,310,697	$2,978,739	$3,518,556	$195,093 12%	$158,290 9%	$354,801 18%	$668,042 29%	$539,817 18%
Training and development	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Contract services	$948,665	$1,044,244	$1,623,476	$1,340,500	$1,606,500	$1,654,695	$95,579 10%	$579,233 55%	($282,976) (17%)	$266,000 20%	$48,195 3%
Electricity	$0	$160	$432	$749	$0	$0	$160 0%	$272 169%	$317 73%	($749) (100%)	$0 0%
Materials, supplies and services	$209,936	$191,778	$244,288	$333,750	$330,950	$340,879	($18,157) (9%)	$52,510 27%	$89,462 37%	($2,800) (1%)	$9,929 3%
Professional services	$0	$333	$417	$0	$0	$0	$333 0%	$83 25%	($417) 0%	$0 0%	$0 0%
Fleet services	$1,035,998	$997,064	$1,278,994	$1,142,679	$1,299,032	$1,344,498	($38,934) (4%)	$281,930 28%	($136,315) (11%)	$156,353 14%	$45,466 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$51,840	$32,508	$32,931	$38,278	$49,721	$50,218	($19,332) (37%)	$423 1%	$5,347 16%	$11,443 30%	$497 1%
Allocated from Wastewater Collection	$716,633	$655,555	$618,556	$651,869	$703,684	$736,560	($61,078) (9%)	($36,998) (6%)	$33,313 5%	$51,815 8%	$32,876 5%
Total Stormwater Collections	**$4,565,584**	**$4,719,249**	**$5,754,991**	**$5,818,522**	**$6,968,626**	**$7,645,406**	$153,664 3%	$1,035,742 22%	$63,531 1%	$1,150,104 20%	$676,780 10%

Technical Services (SCADA)

A summary has been provided below for Technical Services (SCADA) outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Technical Services (SCADA) by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

All cost center allocations remain unchanged at 1%.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Technical Services (SCADA)	$56,794	$13,419	$16,410	$12,545	$18,294	$18,649	($43,374)	$2,991	($3,865)	$5,749	$355
							(76%)	22%	(24%)	46%	2%

Engineering and Capital Infrastructure

A summary has been provided below for Engineering and Capital Infrastructure outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Engineering and Technology Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations have changed resulting in variations in the percentage of common costs allocated to Stormwater Services. This includes the cost centers for Administration and Overheads which decreased from 15% to 4.9%. (Asset Management and Capital Planning cost center, decreased from 15% to 10%. All other cost center allocations remain unchanged.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Engineering and Capital Infrastructure	$1,461,314	$2,093,580	$1,752,383	$1,997,352	$973,281	$1,019,534	$632,267	($341,197)	$244,969	($1,024,071)	$46,253
							43%	(16%)	14%	(51%)	5%

Environment, Health and Safety (EHS)

A summary has been provided below for Environment, Health and Safety (EHS), outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Regulatory Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations have changed for the cost center Administration, resulting in a decrease in the percentage of expenditures allocated to Stormwater Services from 45% to 30%. Safety & Security has increased from 4.9% to 30%. All other cost center allocations remain unchanged.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Regulatory Services	$1,587,592	$1,497,465	$1,875,558	$2,386,155	$2,020,425	$2,124,812	($90,127)	$378,093	$510,597	($365,730)	$104,387
							(6%)	25%	27%	(15%)	5%

Customer Service

A summary has been provided below for Customer Service outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Customer Service by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

Amounts allocated from Customer Service to wastewater are consistent with the allocations and the methodology identified in the Cost-of-Service Manual.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Customer Service	$274,144	$185,278	$188,778	$178,839	$202,965	$213,749	($88,866) (32%)	$3,501 2%	($9,939) (5%)	$24,126 13%	$10,784 5%

Corporate Services

A summary has been provided below for Corporate Services outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Corporate Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, costs related to Corporate Services are allocated at 4.9% to stormwater.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Corporate Services	$225,061	$145,387	$152,609	$183,427	$832,767	$944,627	($79,674)	$7,222	$30,818	$649,340	$111,860
							(35%)	5%	20%	354%	13%

Administration

A summary has been provided below for Administration outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Administration by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2022/23 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, costs related to Administration were separated from the former "Administration and Pension" within the organizational hierarchy. The allocations are consistent with those under the former Administration and Pension function and remain unchanged.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Administration	$269,926	$260,451	$305,455	$501,783	$374,721	$395,734	($9,475) (4%)	$45,003 17%	$196,328 64%	($127,062) (25%)	$21,013 6%

Worksheet SW-4: Service Area and Customer Balancing

Worksheet SW-4 provides an account of the various components included in the Stormwater boundary, with reconciliation between the total impervious within the boundary and the billable impervious area for Site Related Flow and the Right-of-Way.

Customer information is provided for the billable impervious area related to the Site Related Flow for both residential and non-residential customers, including the tiered rate structure applicable to residential customers as outlined in Worksheet SW-4.

This worksheet incorporates updated high-resolution satellite imagery acquired in May 2020, and Halifax Water's most recent billing data. Information reported forms part of the proposed changes to the Cost-of-Service Manual contained in this Application.

Worksheet SW-4

Halifax Water
Stormwater Rate Study

Service Area and Customer Balancing

Customer Data		
System Data		
Total Impervious Area within the Stormwater Boundary (in square meters)		104,463,531
Less:		
Non-qualifying impervious area in parcels flagged as "Excluded"		
Parcels outside the stormwater catchment	3,914,020	
SRF Exempted parcels	2,281,963	
Parcels identified as resource inside catchment	1,935,722	
Parcels identified as unknown inside catchment	2,196,838	
Non-qualifying impervious area in parcels flagged as "MICI"		
Parcels over 50m^2	-	
Parcels under 50m^2	-	
Parcels under 50m^2, having a culvert	-	
SRF Exempted Parcels within stormwater catchment having a culvert	42,495	
Parcels outside the stormwater catchment, having a culvert	19,557	
Non-qualifying impervious area in parcels flagged as "Not Applicable"		
Road parcel - arbitary	23,085,404	
Road parcel	9,282,768	
Railroad Parcel	993,154	
Water lot	145,850	
Interim iarcel	5,629	
Water parcel	17,241	
Unresolved parcel PID	9,798	
Non-qualifying impervious area in parcels flagged as "Residential"		
SRF Excempted Parcels within stormwater catchment having a culvert	69,676	
Parcels outside the stormwater catchment, having a culvert	63,797	
Interim parcel	-	(44,063,912)
Qualifying impervious area associated with Site Related Flow (SRF)		**60,399,619**

Qualifying impervious area associated with street rights-of-way, consists of:		
Road parcel - arbitary		23,085,404
Road parcel		9,282,768
		32,368,172
Less: impervious area of the following stakeholders		
Other		(751,521)
Billable impervious area associated with Right-of-Way (ROW)		**31,616,651**
Billable impervious area breakdown as follows:		
Halifax (HRM)	25,518,872	
Province of Nova Scotia	6,024,549	
Halifax Dartmouth Bridge Commission	73,230	**31,616,651**

157

Worksheet SW-4

Halifax Water
Stormwater Rate Study

Service Area and Customer Balancing

Customer Data

Residential Customers:

	Tier	Tier Parameters * (in units) from	to	Number of Parcels		Qualifying Impervious Area (square meters)
Average Residential Size (Impervious Area/ # of Parcels) 287 square meters	1	less than	5 units	3,771		26,772
	2	5 units	20 units	35,662		5,475,113
	3	21 units	40 units	43,159		11,977,721
	4	41 units	80 units	10,205		5,410,970
	5	81 units	or more	2,085		3,277,623
		Total qualifying impervious area		94,882		26,168,199
		Less: Tier 1 parcels		(3,771)		(26,772)
		Total billable impervious area		91,111		26,141,427

* Each unit equals 10 square meters

Multi-residential, Industrial, Commercial and Institutional (MICI) Customers:

	0-40 square meters	458		4,493
	50 square meters or greater	8,065		31,836,101
	Total qualifying impervious area	8,523		31,840,595
	Less: parcels (1-40 square meters)	(458)		(4,493)
	Total billable impervious area	8,065		31,836,101

Culvert only Customers **

	Residential	757		14,380
	MICI	-		-
	Total billable impervious area	757		14,380

** Culvert only customers billed as

Reconciliation

	Total qualifying impervious area	104,162		58,023,174
	Less: exempt parcels			
	Residential customers	(3,771)		(26,772)
	MICI customers	(458)		(4,493)
	Total billable impervious area	99,933		57,991,908

Worksheet SW-5: Stormwater Customer Classifications, Cost Functions & Service Characteristics

Worksheet SW-5 details the customer classifications, billing determinants, system functions with allocated percentages, service characteristics and operating and capital cost classifications for Stormwater Services as detailed in the Cost-of-Service Manual.

Worksheet SW-5

Halifax Water
Stormwater Rate Study

Stormwater Customer Classifications, Cost Functions & Service Characteristics

Customer Classifications

Street Right-of-Way		Impervious Area

Billing Determinants - System Wide

Street Right-of-Way	31,616,651		Impervious Area	60,399,619
	34.36%			65.64%

System Functions

Pipes, Manholes and Retention Ponds	Customer Service
Combined Sewer Overflows	Administration
Ditches and Culverts	
Catchbasins	**Classification - Service Characteristics**
Regulatory Services	Street Right-of-Way Flow
Engineering and Technology Services	Site Related Flow
Technical Services (SCADA)	Customer Service
Corporate Services	Indirect-General

O&M and Capital Classifications

	Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General
Function				
Pipes, Manholes and Retention Ponds	34.40%	65.60%	0.00%	0.00%
Combined Sewer Overflows	34.40%	65.60%	0.00%	0.00%
Ditches and Culverts	34.40%	65.60%	0.00%	0.00%
Catchbasins	100.00%	0.00%	0.00%	0.00%
Regulatory Services	0.00%	0.00%	0.00%	100.00%
Engineering and Technology Services	0.00%	0.00%	0.00%	100.00%
Technical Services (SCADA)	34.40%	65.60%	0.00%	0.00%
Corporate Services	0.00%	0.00%	0.00%	100.00%
Customer Service	0.00%	0.00%	100.00%	0.00%
Administration	0.00%	0.00%	0.00%	100.00%

Worksheet SW-6: Operating Expense Cost Allocation

Worksheet SW-6 details the Stormwater Service operating cost element groups, by the system functions detailed in the Cost-of-Service Manual. The total of the service functions equals the operating expense category in the revenue requirement in the test year 2025/26 and are reported as both dollar and percentage values. These are used in Worksheet SW-10 to allocate the operating and maintenance costs to the service characteristics.

Worksheet SW-6

Halifax Water
Stormwater Rate Study

Allocated Stormwater O&M Expenses
2025/26

Halifax Water
Stormwater Rate Study

Operating Expense Cost Allocation
Allocation of Costs to Functions
2025/26

	Test Year #1 2025/26 Budget	Pipes, Manholes and Retention Ponds	Combined Sewer Overflows	Ditches and Culverts	Catchbasins	Regulatory Services	Engineering and Technology Services	Technical Services (SCADA)	Corporate Services	Customer Service	Administration	Total
Stormwater Collections												
Salaries and benefits	$2,978,739	$723,776	$403,304	$1,353,796	$497,863	$0	$0	$0	$0	$0	$0	$2,978,739
Training and development	$0	$0				$0	$0	$0	$0	$0	$0	$0
Contract services	$1,606,500	$447,500	$240,000	$568,500	$350,500	$0	$0	$0	$0	$0	$0	$1,606,500
Electricity	$0	$0		$0		$0	$0	$0	$0	$0	$0	$0
Materials, supplies and services	$330,950	$85,750	$85,000	$104,200	$56,000	$0	$0	$0	$0	$0	$0	$330,950
Professional services	$0	$0				$0	$0	$0	$0	$0	$0	$0
Fleet services	$1,299,032	$319,889	$179,430	$580,854	$218,859	$0	$0	$0	$0	$0	$0	$1,299,032
Chemicals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Applied overheads and other allocations	$49,721	$17,253	$6,354	$18,251	$7,863	$0	$0	$0	$0	$0	$0	$49,721
Allocated from Wastewater Collection	$703,684	$179,058	$102,671	$294,910	$127,044	$0	$0	$0	$0	$0	$0	$703,684
Total Stormwater Collections	**$6,968,626**	**$1,773,226**	**$1,016,759**	**$2,920,511**	**$1,258,129**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$6,968,626**
Regulatory Services	$2,020,425	$0	$0	$0	$0	$2,020,425	$0	$0	$0	$0	$0	$2,020,425
Engineering and Technology Services	$973,281	$0	$0	$0	$0	$0	$973,281	$0	$0	$0	$0	$973,281
Technical Services (SCADA)	$18,294	$0	$0	$0	$0	$0	$0	$18,294	$0	$0	$0	$18,294
Corporate Services	$832,767	$0	$0	$0	$0	$0	$0	$0	$832,767	$0	$0	$832,767
Customer Service	$202,965	$0	$0	$0	$0	$0	$0	$0	$0	$202,965	$0	$202,965
Administration	$374,721	$0	$0	$0	$0	$0	$0	$0	$0	$0	$374,721	$374,721
	$4,422,453	**$0**	**$0**	**$0**	**$0**	**$2,020,425**	**$973,281**	**$18,294**	**$832,767**	**$202,965**	**$374,721**	**$4,422,453**
Total O&M Expense	**$11,391,079**	$1,773,226	$1,016,759	$2,920,511	$1,258,129	$2,020,425	$973,281	$18,294	$832,767	$202,965	$374,721	$11,391,079

Worksheet SW-6

Halifax Water
Stormwater Rate Study

Allocated Stormwater O&M Expenses
2025/26

	Test Year #1 2025/26 Budget
Stormwater Collections	
Salaries and benefits	$2,978,739
Training and development	$0
Contract services	$1,606,500
Electricity	$0
Materials, supplies and services	$330,950
Professional services	$0
Fleet services	$1,299,032
Chemicals	$0
Applied overheads and other allocations	$49,721
Allocated from Wastewater Collection	$703,684
Total Stormwater Collections	**$6,968,626**
Regulatory Services	$2,020,425
Engineering and Technology Services	$973,281
Technical Services (SCADA)	$18,294
Corporate Services	$832,767
Customer Service	$202,965
Administration	$374,721
	$4,422,453
Total O&M Expense	**$11,391,079**

Halifax Water
Stormwater Rate Study

Operating Expense Cost Allocation
Percent of Costs to Functions
2025/26

	Pipes, Manholes and Retention Ponds	Combined Sewer Overflows	Ditches and Culverts	Catchbasins	Regulatory Services	Engineering and Technology Services	Technical Services (SCADA)	Corporate Services	Customer Service	Administration
Salaries and benefits	24%	14%	45%	17%	0%	0%	0%	0%	0%	0%
Training and development	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Contract services	28%	15%	35%	22%	0%	0%	0%	0%	0%	0%
Electricity	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials, supplies and services	26%	26%	31%	17%	0%	0%	0%	0%	0%	0%
Professional services	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fleet services	25%	14%	45%	17%	0%	0%	0%	0%	0%	0%
Chemicals	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied overheads and other allocations	35%	13%	37%	16%	0%	0%	0%	0%	0%	0%
Allocated from Wastewater Collection	25%	15%	42%	18%	0%	0%	0%	0%	0%	0%
Regulatory Services	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Engineering and Technology Services	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%
Technical Services (SCADA)	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
Corporate Services	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
Customer Service	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Administration	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Worksheet SW-7: Continuity Schedule/ Depreciation for Utility Plant in Service

Worksheet SW-7 provides additional details on the following:

- Funded utility plant in service,
- Contributed assets,
- Projected utility plant in service additions, net of projected retirements,
- Accumulated depreciation, net of projected retirements,
- Calculated depreciation, and
- Projected net book value.

The spreadsheet is broken down by asset and class. For the purposes of the revenue requirement, depreciation for Stormwater transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services. The depreciation amount included in the revenue requirement in the rate study is $616,156 (27% of $2,282,059 donated assets depreciation). Depreciation on funded assets is $3.3M, as reported on Worksheets SW-1 (Comparative Statement of Operations) and SW-2 (Statement of Operating Expenditures and Revenue Requirements).

Halifax Regional Water Commission

Utility Plant in Service-Stormwater

Continuity Schedule/ Depreciation for Utility Plant in Service
2025-26

	Useful Life in years	Funded Utility Plant in Service	Contributed Utility Plant in Service	Total Utility Plant in Service	Work in Process approved in Previous Years	Utility Plant in Service Additions	Contributed Utility Plant in Service Additions	Projected Retirements	Projected Utility Plant in Service	Accumulated Depreciation	Accumulated Depreciation on funded assets	Accumulated Depreciation on donated assets	Projected Retirement of Accumulated Depreciation	Projected Net Book Value before Depreciation	Depreciation on donated assets	Depreciation expense on funded assets	Regulatory asset expense	Projected Net Book Value after Depreciation
		Mar-25	Mar-25	Mar-25	2025-26	2025-26	2025-26	2025-26	Mar-26	Mar-25	Mar-25	Mar-25	2025-26	Mar-26	2025-26	2025-26	2025-26	Mar-26
Intangible Plant																		
Organization and Working Capital	10	3,629,539	218,694	3,848,233		638,787			4,487,021	965,422	932,618	32,804		3,521,599	21,869	405,208		3,094,522
		-	-	-					-	-	-	-		-		-		-
LAND AND LAND RIGHTS		-	-	-					-	-	-	-		-		-		-
Office Land		472,189	-	472,189					472,189	-	-	-		472,189		-		472,189
Easements & Rights of Ways		11,280	-	11,280					11,280	-	-	-		11,280		-		11,280
Structures		-	-	-					-	-	-	-		-		-		-
Retention Ponds	50 - 75	3,772,605	6,409,581	10,182,186					10,182,186	2,849,370	1,071,280	1,778,090		7,332,815	109,597	75,206	976	7,148,013
Gen. Structures & Improvements	75	2,624,459	101,112	2,725,571		50,000			2,775,571	306,256	287,529	18,728		2,469,315	1,574	53,449	-	2,414,292
Pipes		-	-	-					-	-	-	-		-		-	-	-
Stormwater Mains	75	27,431,480	93,140,719	120,572,199		7,248,000	1,749,922		129,570,121	32,237,909	2,198,649	30,039,260		97,332,213	1,240,425	358,420	-	95,733,367
Ditches & Culverts	20	30,908,442	17,366,957	48,275,400		7,565,000	1,620,476		57,460,876	6,106,080	3,649,802	2,456,278		51,354,795	360,955	1,095,989	-	49,897,851
Combined Sewers - Portion	75 - 100	10,354,587	12,088,641	22,443,227					22,443,227	3,895,160	1,813,281	2,081,878		18,548,067	143,115	124,124	1,036	18,280,828
Manholes and Catchbasins	20 - 50	10,673,323	15,827,681	26,501,004		5,500,415	749,935		32,751,355	4,130,022	1,036,902	3,093,120		28,621,332	324,240	269,060	-	28,028,032
Laterals	50	1,861,924	4,149,587	6,011,511		18,000	136,837		6,166,348	1,159,335	360,918	798,418		5,007,013	80,284	37,418	-	4,889,311
Equipment		-	-	-					-	-	-	-		-		-	-	-
Transportation Equipment	5	1,757,814	-	1,757,814		560,800			2,318,614	1,586,490	1,586,490	-		732,124		105,030	-	627,094
Office Furniture and Equipment	5 - 30	176,774	-	176,774					176,774	176,774	176,774	-		-		-	-	-
Computer Equipment and Software	3 - 10	4,867,828	-	4,867,828		3,451,774			8,319,603	3,418,104	3,418,104	-		4,901,499		826,586		4,074,913
Tools & Equipment	10 - 20	190,477	12,588	203,064		30,000			233,064	51,018	38,431	12,588		182,046	-	34,880	-	147,167
URBAN CORE SUB-TOTAL		98,732,721	149,315,560	248,048,281	-	25,062,777	4,257,171	-	277,368,228	56,881,941	16,570,778	40,311,163	-	220,486,288	2,282,059	3,385,368	2,012	214,818,860
TOTAL		98,732,721	149,315,560	248,048,281	-	25,062,777	4,257,171	-	277,368,228	56,881,941	16,570,778	40,311,163	-	220,486,288	2,282,059	3,385,368	2,012	214,818,860

Worksheet SW-8: Calculation of Depreciation of Tangible Plant at Total Cost, Functionalization of Depreciation

Worksheet SW-8 allocates the projected annual depreciation for the test year 2025/26, including the phasing in of 27% of depreciation on donated assets, to the system functions based on their in-service use as detailed in the Cost-of-Service Manual. The functionalization of depreciation is reported as both a dollar and a percentage value. The percentages created are then used in Worksheet SW-10 to allocate depreciation to the service characteristics.

Worksheet SW-8

Halifax Water
Stormwater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2025-26

Halifax Water
Stormwater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed as a Percentage (%)
2025-26

	Annual Depreciation	Pipes, Manholes and Retention Ponds	Combined Sewer Overflows	Ditches and Culverts	Catchbasins	Regulatory Services	Engineering and Technology Services	Technical Services (SCADA)	Corporate Services	Customer Service	Administration
Intangible Plant											
Organization and Working Capital	$411,112	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Land and Land Rights											
SW Office Land	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
SW Easements and Right-of-ways	$0	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%
Stormwater Structures											
SW Retention Ponds	$105,772	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW General Structures and Improvements	$53,874	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stormwater Pipes											
SW Mains	$693,335	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Culverts	$1,193,447	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Combined Sewers (SW portion only)	$163,801	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
SW Manholes and Catchbasins	$356,605	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Laterals	$59,095	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stormwater Equipment											
SW Office Furniture and Equipment	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
SW Information and Technology	$826,586	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
SW Tools & Equipment	$34,880	70%	10%	10%	10%	0%	0%	0%	0%	0%	0%
Total	$3,898,506										

Halifax Water
Stormwater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2025-26

	Annual Depreciation
Intangible Plant	
Organization and Working Capital	$411,112
Land and Land Rights	
SW Office Land	$0
SW Easements and Right-of-ways	$0
Stormwater Structures	
SW Retention Ponds	$105,772
SW General Structures and Improvements	$53,874
Stormwater Pipes	
SW Mains	$693,335
SW Culverts	$1,193,447
SW Combined Sewers (SW portion only)	$163,801
SW Manholes and Catchbasins	$356,605
SW Laterals	$59,095
Stormwater Equipment	
SW Office Furniture and Equipment	$0
SW Information and Technology	$826,586
SW Tools & Equipment	$34,880
Total	$3,898,506

Halifax Water
Stormwater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed in Dollars ($)
2025-26

	Pipes, Manholes and Retention Ponds	Combined Sewer Overflows	Ditches and Culverts	Catchbasins	Regulatory Services	Engineering and Technology Services	Technical Services (SCADA)	Corporate Services	Customer Service	Administration	Total
Intangible Plant											
Organization and Working Capital	$0	$0	$0	$0	$0	$0	$0	$0	$0	$411,112	$411,112
Land and Land Rights											
SW Office Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SW Easements and Right-of-ways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Stormwater Structures											
SW Retention Ponds	$105,772	$0	$0	$0	$0	$0	$0	$0	$0	$0	$105,772
SW General Structures and Improvements	$53,874	$0	$0	$0	$0	$0	$0	$0	$0	$0	$53,874
Stormwater Pipes											
SW Mains	$693,335	$0	$0	$0	$0	$0	$0	$0	$0	$0	$693,335
SW Culverts	$1,193,447	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,193,447
SW Combined Sewers (SW portion only)	$0	$163,801	$0	$0	$0	$0	$0	$0	$0	$0	$163,801
SW Manholes and Catchbasins	$356,605	$0	$0	$0	$0	$0	$0	$0	$0	$0	$356,605
SW Laterals	$59,095	$0	$0	$0	$0	$0	$0	$0	$0	$0	$59,095
Stormwater Equipment											
SW Office Furniture and Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SW Information and Technology	$0	$826,586	$0	$0	$0	$0	$0	$0	$0	$0	$826,586
SW Tools & Equipment	$24,416	$3,488	$3,488	$3,488	$0	$0	$0	$0	$0	$0	$34,880
Total	$2,486,544	$993,875	$3,488	$3,488	$0	$0	$0	$0	$0	$411,112	$3,898,506
	63.78%	25.49%	0.09%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	10.55%	100.00%

Worksheet SW-9 Allocation of Utility Plant in Service, Functionalization of the Rate Base

Worksheet SW-9 allocates the projected Utility Plant in Service for the test year 2025/26 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual, reported as both a dollar and percentage value. These are used in Worksheet SW-10 to allocate debt servicing costs to the service characteristics.

Worksheet SW-9

Halifax Water
Stormwater Rate Study

Allocation of Utility Plant in Service
2025-26

	Projected Utility Plant in Service, end of year	Projected Accumulated Depreciation, end of year	Projected Net Book Value, end of year	Contributed Plant, excluded from Rate Base	**Rate Base (Col D - Col E)**
Intangible Plant					
Organization and Working Capital	4,487,021	1,392,499	3,094,522	164,021	2,930,502
Land and Land Rights					
SW Office Land	472,189	0	472,189	0	472,189
SW Easements and Right-of-ways	11,280	0	11,280	0	11,280
Stormwater Structures					
SW Retention Ponds	10,182,186	3,034,172	7,148,013	4,521,894	2,626,119
SW General Structures and Improvements	2,775,571	361,279	2,414,292	80,811	2,333,482
Stormwater Pipes					
SW Mains	129,570,121	33,836,754	95,733,367	63,610,957	32,122,411
SW Culverts	57,460,876	7,563,025	49,897,851	16,170,200	33,727,651
SW Combined Sewers (SW portion only)	22,443,227	4,162,399	18,280,828	9,863,647	8,417,181
SW Manholes and Catchbasins	32,751,355	4,723,322	28,028,032	13,160,256	14,867,776
SW Laterals	6,166,348	1,277,038	4,889,311	3,407,723	1,481,588
Stormwater Equipment					
SW Transportation Equipment	2,318,614	1,691,520	627,094	0	627,094
Office Furniture and Equipment	176,774	176,774	0	0	0
SW Information and Technology	8,319,603	4,244,689	4,074,913	0	4,074,913
SW Tools & Equipment	233,064	85,898	147,167	0	147,167
Total	**277,368,228**	**62,549,368**	**214,818,860**	**110,979,508**	**103,839,352**

Halifax Water
Stormwater Rate Study

Allocation of Utility Plant in Service
Functionalization of the Rate Base Expressed as a Percentage (%)
2025-26

	Pipes, Manholes and Retention Ponds	**Combined Sewer Overflows**	**Ditches and Culverts**	**Catchbasins**	**Regulatory Services**	**Engineering and Technology Services**	**Technical Services (SCADA)**	**Corporate Services**	**Customer Service**	**Administration**
Intangible Plant										
Organization and Working Capital	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Land and Land Rights										
SW Office Land	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
SW Easements and Right-of-ways	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%
Stormwater Structures										
SW Retention Ponds	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW General Structures and Improvements	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stormwater Pipes										
SW Mains	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Culverts	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Combined Sewers (SW portion only)	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
SW Manholes and Catchbasins	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Laterals	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stormwater Equipment										
SW Transportation Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Office Furniture and Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
SW Information and Technology	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
SW Tools & Equipment	70%	10%	10%	10%	0%	0%	0%	0%	0%	0%

Worksheet SW-10: Stormwater Cost Classification & Unit Rate Calculations

Worksheet SW-10 details the costs as allocated to the system functions in Worksheets WW-6, WW-8, and WW-9, and allocates them to the service characteristics based on the percentages for each characteristic detailed in the Cost-of-Service Manual. Allocations are performed within the categories of operation and maintenance, depreciation, debt service expenses, and dividend/grant in lieu, then Revenue Requirements are totaled for each of Street Right-of-Way and Site Related Flow.

Using the Equivalent Residential Unit (ERU), the standard median charge can be determined for Residential customers, which forms the basis for Residential tiering as reported on Worksheet SW-11. The rate for Multi-Residential, Industrial, Commercial, and Institutional (MICI) customers is also calculated, with this group billed based on impervious area of each individual MICI customer.

Worksheet SW-10

Halifax Water
Stormwater Rate Study

Stormwater Cost Classification & Unit Rate Calculations
2025-26

Cost Classifications

			Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General	Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General	Street Right-of-Way Flow	Site Related Flow	Customer Service	Total
			Classification Percentages				Classification Amounts							
Pipes, Manholes and Retention Ponds		1,773,226	34.40%	65.60%	0.00%	0.00%	$609,990	$1,163,236	$0	$0	$609,990	$1,163,236	$0	$1,773,226
Combined Sewer Overflows		1,016,759	34.40%	65.60%	0.00%	0.00%	$349,765	$666,994	$0	$0	$349,765	$666,994	$0	$1,016,759
Ditches and Culverts		2,920,511	34.40%	65.60%	0.00%	0.00%	$1,004,656	$1,915,855	$0	$0	$1,004,656	$1,915,855	$0	$2,920,511
Catchbasins		1,258,129	100.00%	0.00%	0.00%	0.00%	$1,258,129	$0	$0	$0	$1,258,129	$0	$0	$1,258,129
Regulatory Services		2,020,425	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$2,020,425	$907,332	$1,056,058	$57,035	$2,020,425
Engineering and Technology Services		973,281	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$973,281	$437,081	$508,725	$27,475	$973,281
Technical Services (SCADA)		18,294	34.40%	65.60%	0.00%	0.00%	$6,293	$12,001	$0	$0	$6,293	$12,001	$0	$18,294
Corporate Services		832,767	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$832,767	$373,979	$435,280	$23,508	$832,767
Customer Service		202,965	0.00%	0.00%	100.00%	0.00%	$0	$0	$202,965	$0	$0	$0	$202,965	$202,965
Administration		374,721	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$374,721	$168,280	$195,863	$10,578	$374,721
Sub-Total		11,391,079					$3,228,833	$3,758,087	$202,965	$4,201,194	$5,115,505	$5,954,012	$321,562	$11,391,079
							45%	52%	3%					

Depreciation Expense by Function

$ 3,898,506														
Pipes, Manholes and Retention Ponds	63.78%	2,486,544	34.40%	65.60%	0.00%	0.00%	$855,371	$1,631,173	$0	$0	$855,371	$1,631,173	$0	$2,486,544
Combined Sewer Overflows	25.49%	993,875	34.40%	65.60%	0.00%	0.00%	$341,893	$651,982	$0	$0	$341,893	$651,982	$0	$993,875
Ditches and Culverts	0.09%	3,488	34.40%	65.60%	0.00%	0.00%	$1,200	$2,288	$0	$0	$1,200	$2,288	$0	$3,488
Catchbasins	0.09%	3,488	100.00%	0.00%	0.00%	0.00%	$3,488	$0	$0	$0	$3,488	$0	$0	$3,488
Regulatory Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and Technology Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	0.00%	0	34.40%	65.60%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	0.00%	0	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	10.55%	411,112	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$411,112	$184,622	$214,885	$11,605	$411,112
Sub-Total	100.00%	3,898,506					$1,201,952	$2,285,442	$0	$411,112	$1,386,574	$2,500,327	$11,605	$3,898,506
							34%	66%	0%					

Halifax Water
Stormwater Rate Study

Stormwater Cost Classification & Unit Rate Calculations
2025-26

			Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General	Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General	Street Right-of-Way Flow	Site Related Flow	Customer Service	Total
			Cost Classifications											
			Classification Percentages				Classification Amounts							
Debt Service Expenses by Function														
$ 3,823,720														
Pipes, Manholes and Retention Ponds	84.04%	3,213,391	34.40%	65.60%	0.00%	0.00%	$1,105,406	$2,107,984	$0	$0	$1,105,406	$2,107,984	$0	$3,213,391
Combined Sewer Overflows	12.05%	460,647	34.40%	65.60%	0.00%	0.00%	$158,463	$302,185	$0	$0	$158,463	$302,185	$0	$460,647
Ditches and Culverts	0.02%	646	34.40%	65.60%	0.00%	0.00%	$222	$424	$0	$0	$222	$424	$0	$646
Catchbasins	0.02%	646	100.00%	0.00%	0.00%	0.00%	$646	$0	$0	$0	$646	$0	$0	$646
Regulatory Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and Technology Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	0.00%	0	34.40%	65.60%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	0.00%	0	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	3.88%	148,390	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$148,390	$66,639	$77,562	$4,189	$148,390
Sub-Total	100.00%	3,823,720					$1,264,737	$2,410,593	$0	$148,390	$1,331,376	$2,488,155	$4,189	$3,823,720
							34%	66%	0%					
Dividend/ grant in lieu of taxes														
$ 180,138														
Pipes, Manholes and Retention Ponds	84.04%	151,385	34.40%	65.60%	0.00%	0.00%	$52,076	$99,309	$0	$0	$52,076	$99,309	$0	$151,385
Combined Sewer Overflows	12.05%	21,701	34.40%	65.60%	0.00%	0.00%	$7,465	$14,236	$0	$0	$7,465	$14,236	$0	$21,701
Ditches and Culverts	0.02%	30	34.40%	65.60%	0.00%	0.00%	$10	$20	$0	$0	$10	$20	$0	$30
Catchbasins	0.02%	30	100.00%	0.00%	0.00%	0.00%	$30	$0	$0	$0	$30	$0	$0	$30
Regulatory Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and Technology Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	0.00%	0	34.40%	65.60%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	0.00%	0	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	3.88%	6,991	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$6,991	$3,139	$3,654	$197	$6,991
Sub-Total	100.00%	180,138					$59,583	$113,565	$0	$6,991	$62,722	$117,219	$197	$180,138
							34.00%	66.00%	0.00%					

Halifax Water
Stormwater Rate Study

Stormwater Cost Classification & Unit Rate Calculations
2025-26

Return and Rate Calculations

		Street Right-of-Way Flow	Site Related Flow	Customer Service					Total
Revenue Requirements									
O&M Expenses	$11,391,079	$5,115,505	$5,954,012	$321,562					$11,391,079
Depreciation Expenses	$3,898,506	$1,386,574	$2,500,327	$11,605					$3,898,506
	$15,289,585	$6,502,079	$8,454,339	$333,167					$15,289,585
Return Components									
Debt Service	$3,823,720	$1,331,376	$2,488,155	$4,386					$3,823,917
Dividend/ grant in lieu of taxes	$180,138	$62,722	$117,219	$197					$180,138
Less: Other Revenues	($246,943)	($85,979)	($160,682)	($283)					($246,944)
Less: Other Adjustments	($4,750)	($1,654)	($3,091)	($5)					($4,750)
	$3,752,165	$1,306,465	$2,441,601	$4,296					$3,752,361
Total Revenue Requirements	**$19,041,750**	**$7,808,544**	**$10,895,940**	**$337,463**					**$19,041,947**

Return Calculation				
		41.75%	58.25%	Directly Allocated Percentages
Projected Utility Plant in Service, end of year	$277,368,228			
Projected Accumulated Depreciation, end of year	($62,549,368)	$140,891	$196,572	Indirect Cost Allocation
Projected Net Book Value, end of year	$214,818,860			
Contributed Plant, excluded from Rate Base	($110,979,508)			
Rate Base	$103,839,352			
Return on Rate Base	**3.61%**	$7,949,435	$11,092,512	$19,041,947

Billing Determinations

Equivalent Residental Unit (ERU) *221*

Calculation of ERU's	Number of Parcels	ERUs per Parcel	Total ERU's
ICI Customers (equivalent)	144,055	1	144,055
Residental Customers			
Tier 1	3,771	exempt	
Tier 2	35,662	0.5	17,831
Tier 3	43,159	1	43,159
Tier 4	10,205	2	20,410
Tier 5	2,085	3	6,255
Culvert only Customers	757	0.5	379
			232,088

Rate Per Billing Unit

ICI Customers *(Standard Median Charge-Residental/ ERU)* **$0.216** *Charge per m2 of impervious area*

Residental Customers *(Revenue Requirement-Site Related Flow/ Total ERU's)* **$47.79** *Standard Median Charge (annual fixed charge)*

Worksheet SW-11: Residential Charges and Revenue Reconciliation

Worksheet SW-11 details the proposed rates for residential customers based on a tiered rate structure.

Worksheet SW-11 also provides a reconciliation of the Revenue Requirement from the two (2) sources, Street Right of Way and Site Related Flow, with the Site Related Flow broken down between ICI and Residential customers.

Worksheet SW-11

Halifax Water
Stormwater Rate Study

Residential Charges and Revenue Reconciliation

Calculation of Rates for Residential Customers

Tier	Tier Parameters (in units) Each unit equals 10 square meters		Equivalent Residential Unit (ERU)	Rate per Billing Unit	Rate Adjustment	Tier Rate	Standard Annual Charge
Label			**A**	**B**	**C**	B x C	A x B x C, rounded to the nearest $
1	less than	5 units	221	$0.216	0%	$0.000	$0.000
2	6 units	20 units	221	$0.216	50%	$0.108	$24.000
3	21 units	40 units	221	$0.216	100%	$0.216	$48.000
4	41 units	80 units	221	$0.216	200%	$0.432	$95.000
5	81 units	or more	221	$0.216	300%	$0.648	$143.000

Reconciliation of Revenue Requirement

	Impervious Area	Number of Parcels	Billing Rate	Revenue Requirement
Street Right-of Way (ROW)				
Halifax (HRM)	25,518,872		$0.251	$6,416,300
Province of Nova Scotia	6,024,549		$0.251	$1,514,800
Halifax Dartmouth Bridge Commission	73,230		$0.251	$18,400
Site Related Flow (SRF)				
Industrial, Commercial, Institutional (ICI)	31,836,101		$0.216	$6,876,598
Residential				
Tier 1	26,772	3,771	$0.000	$0
Tier 2	5,475,113	35,662	$24.000	$855,888
Tier 3	11,977,721	43,159	$48.000	$2,071,632
Tier 4	5,410,970	10,205	$95.000	$969,475
Tier 5	3,277,623	2,085	$143.000	$298,155
Culvert only Customers	14,380	757	$24.000	$18,168
Preliminary Revenue Total				$19,039,416
Less: Revenue Requirement				($19,041,947)
Excess (deficiency) compared to Revenue Requirement				($2,532)

Worksheet Appendix SW-1: Proposed Additions to Utility Plant in Service and Capital Funding

Appendix SW-1 details the proposed additions to Utility Plant in Service and capital funding for the test year 2025/26.

Additions to Utility Plant in Service are estimated based on status of capital work in progress (projects approved in prior fiscal years), the projects from the 2025/26 capital budget, and historical levels of contributed utility plant in service.

Halifax Water projects capital additions of $29.3 million in assets to Utility Plant in Service during the 2025/26 fiscal year.

Appendix SW-1

Halifax Regional Water Commission
Stormwater Rate Study

Proposed Additions to Utility Plant in Service and Capital Funding
2025/26

	Additions to the Utility Plant in Service	Capital Cost Contribution from Others	Utility Cost of Plant in Service
Intangible Plant			
Organization and Working Capital	$638,787	$0	$638,787
Land and Land Rights			
SW Office Land	$0	$0	$0
SW Easements and Right-of-ways	$0	$0	$0
Stormwater Structures			
SW Retention Ponds	$0	$0	$0
SW General Structures and Improvements	$50,000	$0	$50,000
Stormwater Pipes			
SW Mains	$8,997,922	$1,749,922	$7,248,000
SW Culverts	$9,185,476	$1,620,476	$7,565,000
SW Combined Sewers (SW portion only)	$0	$0	$0
SW Manholes and Catchbasins	$6,250,350	$749,935	$5,500,415
SW Laterals	$154,837	$136,837	$18,000
Stormwater Equipment			
SW Transportation Equipment	$560,800	$0	$560,800
SW Office Furniture and Equipment	$0	$0	$0
SW Information and Technology	$3,451,774	$0	$3,451,774
SW Tools & Equipment	$30,000	$0	$30,000
TOTAL	**$29,319,948**	**$4,257,171**	**$25,062,777**

Sources of Funding

Capital Cost Contributions	$0	Depreciation Fund Balance, beginning of year	($2,125)
Regional Development Charges	$0	Add:	
External Funding	$4,257,171	Interest earned on fund balance	$0
Contributions - Other	$0	Depreciation funded in Current year	$3,898,506
Working Capital	$13,164,271	Depreciation Fund Balance available	$3,896,381
Depreciation fund	$3,898,506	Less:	
Long Term Debt	$8,000,000	Expenditure in Current Year	($3,898,506)
TOTAL	$29,319,948	Depreciation Fund Balance, end of year	($2,125)

Worksheet Appendix SW-2: Amortization Schedule for Long Term Debt

Appendix SW-2 details the amortization schedule of the proposed long-term debt associated with 2025/26. The amortization is based on a 30-year blended serial debenture at 4.0%. Debt servicing costs related to principal and interest will commence in test year 2026/27.

Appendix SW-2

Halifax Regional Water Commission
Stormwater Rate Study

Amortization Schedule for Projected Long Term Debt
2025/26

Interest Rate	4.00%
Term in years	30
Capital	$8,000,000

Amortization Schedule

	Principal	Interest	Total	Balance
Year				
1	$266,667	$320,000	$586,667	$7,733,333
2	$266,667	$309,333	$576,000	$7,466,667
3	$266,667	$298,667	$565,333	$7,200,000
4	$266,667	$288,000	$554,667	$6,933,333
5	$266,667	$277,333	$544,000	$6,666,667
6	$266,667	$266,667	$533,333	$6,400,000
7	$266,667	$256,000	$522,667	$6,133,333
8	$266,667	$245,333	$512,000	$5,866,667
9	$266,667	$234,667	$501,333	$5,600,000
10	$266,667	$224,000	$490,667	$5,333,333
11	$266,667	$213,333	$480,000	$5,066,667
12	$266,667	$202,667	$469,333	$4,800,000
13	$266,667	$192,000	$458,667	$4,533,333
14	$266,667	$181,333	$448,000	$4,266,667
15	$266,667	$170,667	$437,333	$4,000,000
16	$266,667	$160,000	$426,667	$3,733,333
17	$266,667	$149,333	$416,000	$3,466,667
18	$266,667	$138,667	$405,333	$3,200,000
19	$266,667	$128,000	$394,667	$2,933,333
20	$266,667	$117,333	$384,000	$2,666,667
21	$266,667	$106,667	$373,333	$2,400,000
22	$266,667	$96,000	$362,667	$2,133,333
23	$266,667	$85,333	$352,000	$1,866,667
24	$266,667	$74,667	$341,333	$1,600,000
25	$266,667	$64,000	$330,667	$1,333,333
26	$266,667	$53,333	$320,000	$1,066,667
27	$266,667	$42,667	$309,333	$800,000
28	$266,667	$32,000	$298,667	$533,333
29	$266,667	$21,333	$288,000	$266,667
30	$266,667	$10,667	$277,333	($0)

Halifax Regional Water Commission

(“Halifax Water”)

Stormwater Rate Study

2026/27

Prepared By: Halifax Water Staff

Notes on Worksheet

Worksheet SW-1: Comparative Statement of Operations

Worksheet SW-1 provides a comparative Statement of Operations for Stormwater Services for fiscal years ending March 31 as follows:

- Actual results for the fiscal years 2021/22, 2022/23 and 2023/24 for Stormwater Services.
- Approved budgets by Halifax Water's Board of Commissioners for 2024/25 and 2025/26, with 2025/26 representing Test Year #1 for the purposes of the Rate Study.
- Projections for 2026/27, representing Test Year #2 for the purposes of the Rate Study.

Revenues are budgeted/projected based on current rates. This worksheet details the budgeted deficits at current rates in Stormwater Services for the two test years.

Stormwater Services had an accumulated deficit of $4.2 million as of March 31, 2024, however, with budgeted deficits in 2024/25 and 2025/26 of $2.5 million and $3.7 million respectively, and a projected deficit of $6.0 million in 2026/27, the projected accumulated deficit as of March 31, 2027, is estimated at $16.3 million.

The calculation of the Revenue Requirement is shown on Worksheet SW-2.

Depreciation in Test Year #2 is approximately $181 thousand higher than the 2025/26 operating budget. Both calculations begin with the same data, the 2024/25 capital budget. This is then adjusted to align with projected additions to rate-based assets. For the 2024/25 operating budget, the adjustment is amortized over forty years, whereas for the test year data the adjustment is prorated between assets classes, therefore spreading the depreciation more evenly amongst the asset classes. In addition, corporate projects for the test year data are amortized based on useful life and asset class. In addition, the depreciation on donated assets within the operating budget is more refined as it is based on individual assets.

Worksheet SW-1 November 30, 2024

Halifax Water
Stormwater Rate Study

Comparative Statement of Operations
Fiscal Years ending March 31st

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating revenues						
Stormwater site related service	$6,294,208	$6,926,646	$8,675,642	$8,863,581	$8,865,131	$8,882,468
Stormwater right-of-way service	$3,835,008	$4,475,286	$6,520,342	$6,515,400	$6,515,400	$6,515,400
Late payment and other connection fees	$170,431	$261,533	$79,780	$181,250	$179,700	$181,100
Miscellaneous	$125,752	$118,188	$115,281	$67,243	$67,243	$67,243
Total	**$10,425,399**	**$11,781,653**	**$15,391,045**	**$15,627,474**	**$15,627,474**	**$15,646,211**
Operating expenditures						
Stormwater collection	$4,565,584	$4,719,249	$5,754,991	$5,818,522	$6,968,626	$7,645,406
Engineering and technology services*	$1,461,314	$2,093,580	$1,752,383	$1,997,352	$973,281	$1,019,534
Technical services (SCADA)	$56,794	$13,419	$16,410	$12,545	$18,294	$18,649
Regulatory services*	$1,587,592	$1,497,465	$1,875,558	$2,386,155	$2,020,425	$2,124,812
Customer service	$274,144	$185,278	$188,778	$178,839	$202,965	$213,749
Corporate services*	$225,061	$145,387	$152,609	$183,427	$832,767	$944,627
Administration*	$269,926	$260,451	$305,455	$501,783	$374,721	$395,734
Calculated Depreciation - Funded Assets	$2,403,231	$2,710,000	$3,065,437	$2,478,864	$3,282,350	$3,441,048
Calculated Depreciation - Donated Assets	$0	$0	$0	$571,131	$616,156	$638,977
Total	**$10,843,646**	**$11,624,830**	**$13,111,622**	**$14,128,618**	**$15,289,585**	**$16,442,536**
Earnings from operations	($418,247)	$156,823	$2,279,423	$1,498,856	$337,889	($796,325)
Financial and other revenues						
Investment Income	$18,877	$0	$0	$0	$0	$0
Total	**$18,877**	**$0**	**$0**	**$0**	**$0**	**$0**
Financial and other expenditures						
Interest	$0	$52,949	$102,945	$127,939	$0	$0
Interest on long term debt	$726,916	$748,828	$862,347	$1,144,326	1,519,885	$2,167,724
Repayment on long term debt	$2,059,236	$2,209,859	$2,485,667	$2,493,320	2,269,431	$2,857,236
Amortization of debt discount	$22,038	$24,099	$24,488	$28,451	$34,404	$37,604
Dividend/ grant in lieu of taxes	$136,419	$137,782	$135,394	$182,416	$180,138	$190,079
Total	**$2,944,609**	**$3,173,517**	**$3,610,841**	**$3,976,452**	**$4,003,858**	**$5,252,644**
Earnings (loss) for the year	**($3,343,979)**	**($3,016,694)**	**($1,331,418)**	**($2,477,596)**	**($3,665,969)**	**($6,048,969)**
Surplus/Deficit, beginning of year	**$3,519,056**	**$175,077**	**($2,841,617)**	**($4,173,035)**	**($6,650,631)**	**($10,316,600)**
Surplus/Deficit, end of year	**$175,077**	**($2,841,617)**	**($4,173,035)**	**($6,650,631)**	**($10,316,600)**	**($16,365,569)**

Worksheet SW-2: Statement of Operating Expenditures and Revenue Requirements

Worksheet SW-2 takes the operating and non-operating expenditure information from Worksheet SW-1 to develop revenue requirements for the test year 2026/27. The non-operating and other operating revenues are deducted from the expenditures to determine the revenue required from Stormwater Service customers.

Operating expenditures include a line item 'Calculated Depreciation – Donated Assets' which represents depreciation associated with contributed assets and represents a phase in of depreciation on contributed assets over a four (4) year period. The $638 thousand is calculated as 28% of the current year's depreciation related to donated assets of $2.3 million.

Certain expenditures have been added back for the purpose of determining the revenue requirement. Adjustments include adding back the Stormwater portion of certain discretionary costs incurred by Halifax Water associated with sponsorships and donations, the Help for Others (H2O) Program, and an allocation of administrative costs.

Worksheet SW-2

Halifax Water
Stormwater Rate Study

Statement of Operating Expenditures and Revenue Requirements

	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Operating expenditures						
Stormwater collection	$4,565,584	$4,719,249	$5,754,991	$5,818,522	$6,968,626	$7,645,406
Engineering and technology services*	$1,461,314	$2,093,580	$1,752,383	$1,997,352	$973,281	$1,019,534
Technical services (SCADA)	$56,794	$13,419	$16,410	$12,545	$18,294	$18,649
Regulatory services*	$1,587,592	$1,497,465	$1,875,558	$2,386,155	$2,020,425	$2,124,812
Customer service	$274,144	$185,278	$188,778	$178,839	$202,965	$213,749
Corporate services*	$225,061	$145,387	$152,609	$183,427	$832,767	$944,627
Administration*	$269,926	$260,451	$305,455	$501,783	$374,721	$395,734
Sub-total	$8,440,415	$8,914,830	$10,046,185	$11,078,623	$11,391,079	$12,362,512
Calculated depreciation - funded assets	$2,403,231	$2,710,000	$3,065,437	$2,478,864	$3,282,350	$3,441,048
Calculated depreciation - donated assets	$0	$0	$0	$571,131	$616,156	$638,977
Total	**$10,843,646**	**$11,624,830**	**$13,111,622**	**$14,128,618**	**$15,289,585**	**$16,442,536**
Add: non-operating expenditures						
Interest	$0	$52,949	$102,945	$127,939	$0	$0
Interest on long term debt	$726,916	$748,828	$862,347	$1,144,326	$1,519,885	$2,167,724
Repayment on long term debt	$2,059,236	$2,209,859	$2,485,667	$2,493,320	$2,269,431	$2,857,236
Amortization of debt discount	$22,038	$24,099	$24,488	$28,451	$34,404	$37,604
Dividend/ grant in lieu of taxes	$136,419	$137,782	$135,394	$182,416	$180,138	$190,079
Other	$0	$0	$0	$0	$0	$0
Sub-total	$2,944,609	$3,173,517	$3,610,841	$3,976,452	$4,003,858	$5,252,644
Test year #1 - new interest on long term debt						
Test year #1 - new repayment of long term debt						
Total	**$2,944,609**	**$3,173,517**	**$3,610,841**	**$3,976,452**	**$4,003,858**	**$5,252,644**
Less: other revenues						
Investment Income	$18,877	$0	$0	$0	$0	$0
Late payment and other connection fees	$170,431	$261,533	$79,780	$181,250	$179,700	$181,100
Miscellaneous	$125,752	$118,188	$115,281	$67,243	$67,243	$67,243
Total	**$315,060**	**$379,721**	**$195,061**	**$248,493**	**$246,943**	**$248,343**
Less: other adjustments						
Sponsorships and donations	$295	$2,250	$520	$2,000	$2,000	$2,000
Help for Other (H2O) program	$2,751	$2,254	$185	$2,000	$2,000	$2,000
Administration	$10,341	$6,453	$6,991	$750	$750	$750
Total	**$13,387**	**$10,957**	**$7,697**	**$4,750**	**$4,750**	**$4,750**
Revenue required from customers	**$13,459,808**	**$14,407,670**	**$16,519,705**	**$17,851,827**	**$19,041,750**	**$21,442,087**

Worksheet SW-3: Operating Expenditures and Financial Analysis

Worksheet W-4 details the operating expenditures by cost element group for each of the functional areas within the Stormwater Services, consisting of the following:

- Stormwater Collections.

For the following functional areas serving all three services of Halifax Water (Water, Wastewater and Stormwater), a summary has been provided outlining the cost effects as they pertain to Stormwater. Complete details for these functional areas can be found in the Water Rate Studies found in Appendix 1 of this Application.

- Technical Services (SCADA),
- Engineering and Technology Services (TS),
- Regulatory Services,
- Corporate Services,
- Customer Service, and
- Administration.

Data provided as part of the review and analysis includes:

- Actual results for 2021/22, 2022/23, and 2023/24,
- Approved budgets for 2024/25and 2025/26 (Test Year # 1), and
- Projected results for 2026/27 (Test Year #2).

For operating expenditures related to 2026/27 (Test Year #2), the key assumptions regarding projected increases are as follows:

- Salaries and benefits: 2.5% to 3.0% (as per Union agreement) and 2.75% for non-union
- Chemicals: 5.0%
- Electricity: 5.0%
- Other: 2.0%

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations.

On subsequent pages within this section, operating expenditures are reported for the core cost element groups within each functional area. As part of the analysis, variances have been provided with changes expressed as both dollar and percentage values, comparing year-over-year changes for the fiscal years 2022/23 through 2026/27. Commentary is provided for each of the cost elements groups falling within the functional areas, with additional details provided in situations where variances have increased over $100 thousand.

Stormwater Collections

- Salaries and Benefits - Costs are reflective of normal increases for unionized staff in accordance with the respective collective agreements. It should be noted that Wastewater and Stormwater Collections share the same wage pool, therefore centrally managed. Cost fluctuations within one Service would have the opposite impact on the other. Five new full-time equivalent positions have been included in the 2026/27 budget.

Non-union compensation includes several components, such as annual performance increases and considerations of the Consumer Price Index. Korn Ferry, an independent third-party consultant, also completed a tri-annual national market survey comparing Halifax Water to approximately 120 Canadian public sector organizations. Typically done every three years, the most recent market study conducted in late 2024 revealed that Halifax Water's average salaries are below market by approximately 12%.

Given the impact that financial compensation plays in attraction and retention, succession planning and the ability to compete for hiring critical roles and skills, a decision was made to adjust salaries at various percentages. Due to the impact on the operating budget, Halifax Water did not fully implement the Korn Ferry salary recommendations. These adjustments will result in increases in salaries in 2024/25 what will carry forward into 2025/26 and 2026/27.

- Contract Services –Costs have increased due to core maintenance activities for stormwater such as ditching mainly due to traffic control services required to enhance safety measures and to comply with HRM permitting standards.

- Materials, Supplies & Services – Costs remained similar to previous year.

- Fleet Services – Costs are assigned to various business units based on the types of vehicles and/or equipment required to meet operational needs. Costs increased in 2026/27 as a result in how costs were allocated to shared services and to recognize increases in fuel and other vehicle costs.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Stormwater Collections											
Salaries and benefits	$1,602,513	$1,797,606	$1,955,896	$2,310,697	$2,978,739	$3,518,556	$195,093 12%	$158,290 9%	$354,801 18%	$668,042 29%	$539,817 18%
Training and development	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Contract services	$948,665	$1,044,244	$1,623,476	$1,340,500	$1,606,500	$1,654,695	$95,579 10%	$579,233 55%	($282,976) (17%)	$266,000 20%	$48,195 3%
Electricity	$0	$160	$432	$749	$0	$0	$160 0%	$272 169%	$317 73%	($749) (100%)	$0 0%
Materials, supplies and services	$209,936	$191,778	$244,288	$333,750	$330,950	$340,879	($18,157) (9%)	$52,510 27%	$89,462 37%	($2,800) (1%)	$9,929 3%
Professional services	$0	$333	$417	$0	$0	$0	$333 0%	$83 25%	($417) 0%	$0 0%	$0 0%
Fleet services	$1,035,998	$997,064	$1,278,994	$1,142,679	$1,299,032	$1,344,498	($38,934) (4%)	$281,930 28%	($136,315) (11%)	$156,353 14%	$45,466 3%
Chemicals	$0	$0	$0	$0	$0	$0	$0 0%	$0 0%	$0 0%	$0 0%	$0 0%
Applied overheads and other allocations	$51,840	$32,508	$32,931	$38,278	$49,721	$50,218	($19,332) (37%)	$423 1%	$5,347 16%	$11,443 30%	$497 1%
Allocated from Wastewater Collection	$716,633	$655,555	$618,556	$651,869	$703,684	$736,560	($61,078) (9%)	($36,998) (6%)	$33,313 5%	$51,815 8%	$32,876 5%
Total Stormwater Collections	**$4,565,584**	**$4,719,249**	**$5,754,991**	**$5,818,522**	**$6,968,626**	**$7,645,406**	$153,664 3%	$1,035,742 22%	$63,531 1%	$1,150,104 20%	$676,780 10%

Technical Services (SCADA)

A summary has been provided below for Technical Services (SCADA) outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Technical Services (SCADA) by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

All cost center allocations remain unchanged at 1%.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Technical Services (SCADA)	$56,794	$13,419	$16,410	$12,545	$18,294	$18,649	($43,374)	$2,991	($3,865)	$5,749	$355
							(76%)	22%	(24%)	46%	2%

Engineering and Capital Infrastructure

A summary has been provided below for Engineering and Capital Infrastructure outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Engineering and Technology Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations have changed resulting in variations in the percentage of common costs allocated to Stormwater Services. This includes the cost centers for Administration and Overheads which decreased from 15% to 4.9%. Asset Management and Capital Planning cost center, decreased from 15% to 10%. All other cost center allocations remain unchanged.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Engineering and Capital Infrastructure	$1,461,314	$2,093,580	$1,752,383	$1,997,352	$973,281	$1,019,534	$632,267	($341,197)	$244,969	($1,024,071)	$46,253
							43%	(16%)	14%	(51%)	5%

Environment, Health and Safety (EHS)

A summary has been provided below for Environment, Health and Safety (EHS), outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Regulatory Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, allocations have changed for the cost center Administration, resulting in a decrease in the percentage of expenditures allocated to Stormwater Services from 45% to 30%. Safety & Security has increased from 4.9% to 30%. All other cost center allocations remain unchanged.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Regulatory Services	$1,587,592	$1,497,465	$1,875,558	$2,386,155	$2,020,425	$2,124,812	($90,127)	$378,093	$510,597	($365,730)	$104,387
							(6%)	25%	27%	(15%)	5%

Customer Service

A summary has been provided below for Customer Service outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Customer Service by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

Amounts allocated from Customer Service to wastewater are consistent with the allocations and the methodology identified in the Cost-of-Service Manual.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Customer Service	$274,144	$185,278	$188,778	$178,839	$202,965	$213,749	($88,866) (32%)	$3,501 2%	($9,939) (5%)	$24,126 13%	$10,784 5%

Corporate Services

A summary has been provided below for Corporate Services outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Corporate Services by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2025/26 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, costs related to Corporate Services are allocated at 4.9% to stormwater.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Corporate Services	$225,061	$145,387	$152,609	$183,427	$832,767	$944,627	($79,674)	$7,222	$30,818	$649,340	$111,860
							(35%)	5%	20%	354%	13%

Administration

A summary has been provided below for Administration outlining the cost impacts of this function relative to Stormwater Services. Complete details relating to operating expenditures for Administration by cost element group during the period, including commentary, can be found in the Water Rate Studies, in Appendix 1 of this Application.

For 2022/23 and beyond, as part of the proposed changes to the Cost-of-Service Manual contained in this Application, costs related to Administration were separated from the former "Administration and Pension" within the organizational hierarchy. The allocations are consistent with those under the former Administration and Pension function and remain unchanged.

Worksheet SW-3

##

Halifax Water
Stormwater Rate Study

Operating Expenditures and Financial Analysis
(excluding depreciation expense)

	Operating Expenditures						Changes (year over year - $ and %)				
	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget	2022/23 Actual	2023/24 Actual	2024/25 Budget	Test Year #1 2025/26 Budget	Test Year #2 2026/27 Budget
Administration	$269,926	$260,451	$305,455	$501,783	$374,721	$395,734	($9,475) (4%)	$45,003 17%	$196,328 64%	($127,062) (25%)	$21,013 6%

Worksheet SW-4: Service Area and Customer Balancing

Worksheet SW-4 provides an account of the various components included in the Stormwater boundary, with reconciliation between the total impervious within the boundary and the billable impervious area for Site Related Flow and the Right-of-Way.

Customer information is provided for the billable impervious area related to the Site Related Flow for both residential and non-residential customers, including the tiered rate structure applicable to residential customers as outlined in Worksheet SW-4.

This worksheet incorporates updated high-resolution satellite imagery acquired in May 2020, and Halifax Water's most recent billing data. Information reported forms part of the proposed changes to the Cost-of-Service Manual contained in this Application.

Worksheet SW-4

Halifax Water
Stormwater Rate Study

Service Area and Customer Balancing

Customer Data		
System Data		
Total Impervious Area within the Stormwater Boundary (in square meters)		104,463,531
Less:		
Non-qualifying impervious area in parcels flagged as "Excluded"		
Parcels outside the stormwater catchment	3,914,020	
SRF Exempted parcels	2,281,963	
Parcels identified as resource inside catchment	1,935,722	
Parcels identified as unknown inside catchment	2,196,838	
Non-qualifying impervious area in parcels flagged as "MICI"		
Parcels over 50m^2	-	
Parcels under 50m^2	-	
Parcels under 50m^2, having a culvert	-	
SRF Exempted Parcels within stormwater catchment having a culvert	42,495	
Parcels outside the stormwater catchment, having a culvert	19,557	
Non-qualifying impervious area in parcels flagged as "Not Applicable"		
Road parcel - arbitary	23,085,404	
Road parcel	9,282,768	
Railroad Parcel	993,154	
Water lot	145,850	
Interim iarcel	5,629	
Water parcel	17,241	
Unresolved parcel PID	9,798	
Non-qualifying impervious area in parcels flagged as "Residential"		
SRF Excempted Parcels within stormwater catchment having a culvert	69,676	
Parcels outside the stormwater catchment, having a culvert	63,797	
Interim parcel	-	(44,063,912)
Qualifying impervious area associated with Site Related Flow (SRF)		**60,399,619**

Qualifying impervious area associated with street rights-of-way, consists of:		
Road parcel - arbitary		23,085,404
Road parcel		9,282,768
		32,368,172
Less: impervious area of the following stakeholders		
Other		(751,521)
Billable impervious area associated with Right-of-Way (ROW)		**31,616,651**
Billable impervious area breakdown as follows:		
Halifax (HRM)	25,518,872	
Province of Nova Scotia	6,024,549	
Halifax Dartmouth Bridge Commission	73,230	**31,616,651**

Worksheet SW-4

Halifax Water
Stormwater Rate Study

Service Area and Customer Balancing

Customer Data

Residential Customers:

Average Residential Size (Impervious Area/ # of Parcels)	Tier	Tier Parameters * (in units) from	to	Number of Parcels		Qualifying Impervious Area (square meters)
	1	less than	5 units	3,771		26,772
	2	5 units	20 units	35,662		5,475,113
	3	21 units	40 units	43,159		11,977,721
287 square meters	4	41 units	80 units	10,205		5,410,970
	5	81 units	or more	2,085		3,277,623
		Total qualifying impervious area		94,882		26,168,199
		Less: Tier 1 parcels		(3,771)		(26,772)
		Total billable impervious area		91,111		26,141,427

* Each unit equals 10 square meters

Multi-residential, Industrial, Commercial and Institutional (MICI) Customers:

0-40 square meters	458		4,493
50 square meters or greater	8,065		31,836,101
Total qualifying impervious area	8,523		31,840,595
Less: parcels (1-40 square meters)	(458)		(4,493)
Total billable impervious area	8,065		31,836,101

Culvert only Customers **

Residential	757		14,380
MICI	-		-
Total billable impervious area	757		14,380

** Culvert only customers billed as

Reconciliation

Total qualifying impervious area	104,162		58,023,174
Less: exempt parcels			
Residential customers	(3,771)		(26,772)
MICI customers	(458)		(4,493)
Total billable impervious area	99,933		57,991,908

Worksheet SW-5: Stormwater Customer Classifications, Cost Functions & Service Characteristics

Worksheet SW-5 details the customer classifications, billing determinants, system functions with allocated percentages, service characteristics and operating and capital cost classifications for Stormwater Services as detailed in the Cost-of-Service Manual.

Worksheet SW-5

Halifax Water
Stormwater Rate Study

Stormwater Customer Classifications, Cost Functions & Service Characteristics

Customer Classifications

Street Right-of-Way		Impervious Area

Billing Determinants - System Wide

Street Right-of-Way	31,616,651		Impervious Area	60,399,619
	34.36%			65.64%

System Functions

Pipes, Manholes and Retention Ponds	Customer Service
Combined Sewer Overflows	Administration
Ditches and Culverts	
Catchbasins	**Classification - Service Characteristics**
Regulatory Services	Street Right-of-Way Flow
Engineering and Technology Services	Site Related Flow
Technical Services (SCADA)	Customer Service
Corporate Services	Indirect-General

O&M and Capital Classifications

	Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General
Function				
Pipes, Manholes and Retention Ponds	34.40%	65.60%	0.00%	0.00%
Combined Sewer Overflows	34.40%	65.60%	0.00%	0.00%
Ditches and Culverts	34.40%	65.60%	0.00%	0.00%
Catchbasins	100.00%	0.00%	0.00%	0.00%
Regulatory Services	0.00%	0.00%	0.00%	100.00%
Engineering and Technology Services	0.00%	0.00%	0.00%	100.00%
Technical Services (SCADA)	34.40%	65.60%	0.00%	0.00%
Corporate Services	0.00%	0.00%	0.00%	100.00%
Customer Service	0.00%	0.00%	100.00%	0.00%
Administration	0.00%	0.00%	0.00%	100.00%

Worksheet SW-6: Operating Expense Cost Allocation

Worksheet SW-6 details the Stormwater Service operating cost element groups, by the system functions detailed in the Cost-of-Service Manual. The total of the service functions equals the operating expense category in the revenue requirement in the test year 2026/27 and are reported as both dollar and percentage values. These are used in Worksheet SW-10 to allocate the operating and maintenance costs to the service characteristics.

Halifax Water
Stormwater Rate Study

Allocated Stormwater O&M Expenses
2026/27

	Test Year #2					
	2026/27 Budget					
Stormwater Collections		Pipes, Manholes and Retention Ponds	Combined Sewer Overflows	Ditches and Culverts	Catchbasins	Regu Ser
Salaries and benefits	$3,518,556	$854,941	$476,392	$1,599,136	$588,087	
Training and development	$0	$0	$0	$0	$0	
Contract services	$1,654,695	$460,925	$247,200	$585,555	$361,015	
Electricity	$0	$0	$0	$0	$0	
Materials, supplies and services	$340,879	$88,323	$87,550	$107,326	$57,680	
Professional services	$0	$0	$0	$0	$0	
Fleet services	$1,344,498	$331,085	$185,710	$601,184	$226,519	
Chemicals	$0	$0	$0	$0	$0	
Applied overheads and other allocations	$50,218	$17,425	$6,418	$18,434	$7,941	
Allocated from Wastewater Collection	$736,560	$187,424	$107,468	$308,688	$132,980	
Total Stormwater Collections	**$7,645,406**	**$1,940,123**	**$1,110,738**	**$3,220,323**	**$1,374,223**	
Regulatory Services	$2,124,812	$0	$0	$0	$0	$2,
Engineering and Technology Services	$1,019,534	$0	$0	$0	$0	
Technical Services (SCADA)	$18,649	$0	$0	$0	$0	
Corporate Services	$944,627	$0	$0	$0	$0	
Customer Service	$213,749	$0	$0	$0	$0	
Administration	$395,734	$0	$0	$0	$0	
	$4,717,105	**$0**	**$0**	**$0**	**$0**	**$2,**
Total O&M Expense	**$12,362,512**	$1,940,123	$1,110,738	$3,220,323	$1,374,223	$2,

170

Worksheet SW-6

Halifax Water
Stormwater Rate Study

Allocated Stormwater O&M Expenses
2026/27

	Test Year #2					
	2026/27 Budget					
Stormwater Collections		Pipes, Manholes and Retention Ponds	Combined Sewer Overflows	Ditches and Culverts	Catchbasins	Regulator Services
Salaries and benefits	$3,518,556	24%	14%	45%	17%	
Training and development	$0	0%	0%	0%	0%	
Contract services	$1,654,695	28%	15%	35%	22%	
Electricity	$0	0%	0%	0%	0%	
Materials, supplies and services	$340,879	26%	26%	31%	17%	
Professional services	$0	0%	0%	0%	0%	
Fleet services	$1,344,498	25%	14%	45%	17%	
Chemicals	$0	0%	0%	0%	0%	
Applied overheads and other allocations	$50,218	35%	13%	37%	16%	
Allocated from Wastewater Collection	$736,560	25%	15%	42%	18%	
Total Stormwater Collections	**$7,645,406**					
Regulatory Services	$2,124,812	0%	0%	0%	0%	10
Engineering and Technology Services	$1,019,534	0%	0%	0%	0%	
Technical Services (SCADA)	$18,649	0%	0%	0%	0%	
Corporate Services	$944,627	0%	0%	0%	0%	
Customer Service	$213,749	0%	0%	0%	0%	
Administration	$395,734	0%	0%	0%	0%	
	$4,717,105					
Total O&M Expense	**$12,362,512**					

Stor

Operating
Percen

Worksheet SW-7: Continuity Schedule/ Depreciation for Utility Plant in Service

Worksheet SW-7 provides additional details on the following:

- Funded utility plant in service,
- Contributed assets,
- Projected utility plant in service additions, net of projected retirements,
- Accumulated depreciation, net of projected retirements,
- Calculated depreciation, and
- Projected net book value.

The spreadsheet is broken down by asset and class. For the purposes of the revenue requirement, depreciation for Stormwater transportation equipment is excluded since the associated depreciation is expensed in the operating and maintenance expenses of the various System functions, under fleet services. The depreciation amount included in the revenue requirement in the rate study is $638,977 (28% of $2,282,059 donated assets depreciation). Depreciation on funded assets is $3.4M, as reported on Worksheets SW-1 (Comparative Statement of Operations) and SW-2 (Statement of Operating Expenditures and Revenue Requirements).

Halifax Regional Water Commission

Utility Plant in Service-Stormwater

Continuity Schedule/ Depreciation for Utility Plant in Service
2026/27

	Useful Life in years	Funded Utility Plant in Service	Contributed Utility Plant in Service	Total Utility Plant in Service	Work in Process approved in Previous Years	Utility Plant in Service Additions	Contributed Utility Plant in Service Additions	Projected Retirements	Projected Utility Plant in Service	Accumulated Depreciation	Accumulated Depreciation on funded assets	Accumulated Depreciation on donated assets	Projected Retirement of Accumulated Depreciation	Projected Net Book Value before Depreciation	Depreciation on donated assets	Depreciation expense on funded assets	Regulatory asset expense	Projected Net Book Value after Depreciation
		Mar-26	Mar-26	Mar-26	2026/27	2026/27	2026/27	2026/27	Mar-27	Mar-26	Mar-26	Mar-26	2026/27	Mar-27	2026/27	2026/27	2026/27	Mar-27
Intangible Plant																		
Organization and Working Capital	10	4,268,327	218,694	4,487,021		552,200			5,039,221	1,392,499	1,337,825	54,674		3,646,722	21,869	391,734		3,233,119
		-	-	-					-	-	-	-		-		-		-
LAND AND LAND RIGHTS		-	-	-					-	-	-	-		-		-		-
Office Land		472,189	-	472,189					472,189	-	-	-		472,189		-		472,189
Easements & Rights of Ways		11,280	-	11,280					11,280	-	-	-		11,280		-		11,280
Structures		-	-	-					-	-	-	-		-		-		-
Retention Ponds	50 - 75	3,772,605	6,409,581	10,182,186					10,182,186	3,034,172	1,146,486	1,887,687		7,148,013	109,597	74,706	976	6,963,711
Gen. Structures & Improvements	75	2,674,459	101,112	2,775,571		300,000			3,075,571	361,279	340,978	20,301		2,714,292	1,574	54,949	-	2,657,770
Pipes		-	-	-					-	-	-	-		-		-	-	-
Stormwater Mains	75	34,679,480	94,890,641	129,570,121		19,815,007	1,749,922		151,135,050	33,836,754	2,557,069	31,279,685		117,298,296	1,240,425	358,420	-	115,699,451
Ditches & Culverts	20	38,473,442	18,987,433	57,460,876		4,001,000	1,620,476		63,082,352	7,563,025	4,745,791	2,817,233		55,519,327	360,955	1,041,775	-	54,116,596
Combined Sewers - Portion	75 - 100	10,354,587	12,088,641	22,443,227					22,443,227	4,162,399	1,937,406	2,224,993		18,280,828	143,115	124,124	1,036	18,013,589
Manholes and Catchbasins	20 - 50	16,173,738	16,577,616	32,751,355		20,000	749,935		33,521,290	4,723,322	1,305,962	3,417,360		28,797,967	324,240	254,292	-	28,219,435
Laterals	50	1,879,924	4,286,424	6,166,348		18,000	136,837		6,321,185	1,277,038	398,336	878,701		5,044,148	80,284	36,830	-	4,927,034
Equipment		-	-	-					-	-	-	-		-		-	-	-
Transportation Equipment	5	2,318,614	-	2,318,614		349,500			2,668,114	1,691,520	1,691,520	-		976,594		196,060	-	780,535
Office Furniture and Equipment	5 - 30	176,774	-	176,774					176,774	176,774	176,774	-		-		-	-	-
Computer Equipment and Software	3 - 10	8,319,603	-	8,319,603		985,204			9,304,807	4,244,689	4,244,689	-		5,060,117		1,098,235		3,961,882
Tools & Equipment	10 - 20	220,477	12,588	233,064		30,000			263,064	85,898	73,310	12,588		177,167	-	3,971	-	173,196
URBAN CORE SUB-TOTAL		123,795,498	153,572,730	277,368,228	-	26,070,911	4,257,171	-	307,696,310	62,549,368	19,956,147	42,593,222	-	245,146,941	2,282,059	3,635,096	2,012	239,229,786
TOTAL		123,795,498	153,572,730	277,368,228	-	26,070,911	4,257,171	-	307,696,310	62,549,368	19,956,147	42,593,222	-	245,146,941	2,282,059	3,635,096	2,012	239,229,786

Worksheet SW-8: Calculation of Depreciation of Tangible Plant at Total Cost, Functionalization of Depreciation

Worksheet SW-8 allocates the projected annual depreciation for the test year 2026/27, including the phasing in of 28% of depreciation on donated assets, to the system functions based on their in-service use as detailed in the Cost-of-Service Manual. The functionalization of depreciation is reported as both a dollar and a percentage value. The percentages created are then used in Worksheet SW-10 to allocate depreciation to the service characteristics.

Worksheet SW-8

Halifax Water
Stormwater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2026/27

Halifax Water
Stormwater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed as a Percentage (%)
2026/27

	Annual Depreciation	Pipes, Manholes and Retention Ponds	Combined Sewer Overflows	Ditches and Culverts	Catchbasins	Regulatory Services	Engineering and Technology Services	Technical Services (SCADA)	Corporate Services	Customer Service	Administration
Intangible Plant											
Organization and Working Capital	$397,858	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Land and Land Rights											
SW Office Land	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
SW Easements and Right-of-ways	$0	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%
Stormwater Structures											
SW Retention Ponds	$106,368	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW General Structures and Improvements	$55,389	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stormwater Pipes											
SW Mains	$705,739	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Culverts	$1,142,843	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Combined Sewers (SW portion only)	$165,232	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
SW Manholes and Catchbasins	$345,079	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Laterals	$59,310	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stormwater Equipment											
SW Office Furniture and Equipment	$0	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
SW Information and Technology	$1,098,235	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
SW Tools & Equipment	$3,971	70%	10%	10%	10%	0%	0%	0%	0%	0%	0%
Total	$4,080,025										

Halifax Water
Stormwater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
2026/27

	Annual Depreciation
Intangible Plant	
Organization and Working Capital	$397,858
Land and Land Rights	
SW Office Land	$0
SW Easements and Right-of-ways	$0
Stormwater Structures	
SW Retention Ponds	$106,368
SW General Structures and Improvements	$55,389
Stormwater Pipes	
SW Mains	$705,739
SW Culverts	$1,142,843
SW Combined Sewers (SW portion only)	$165,232
SW Manholes and Catchbasins	$345,079
SW Laterals	$59,310
Stormwater Equipment	
SW Office Furniture and Equipment	$0
SW Information and Technology	$1,098,235
SW Tools & Equipment	$3,971
Total	$4,080,025

Halifax Water
Stormwater Rate Study

Calculation of Depreciation of Tangible Plant at Total Cost
Functionalization of Depreciation Expressed in Dollars ($)
2026/27

	Pipes, Manholes and Retention Ponds	Combined Sewer Overflows	Ditches and Culverts	Catchbasins	Regulatory Services	Engineering and Technology Services	Technical Services (SCADA)	Corporate Services	Customer Service	Administration	Total
Intangible Plant											
Organization and Working Capital	$0	$0	$0	$0	$0	$0	$0	$0	$0	$397,858	$397,858
Land and Land Rights											
SW Office Land	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SW Easements and Right-of-ways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Stormwater Structures											
SW Retention Ponds	$106,368	$0	$0	$0	$0	$0	$0	$0	$0	$0	$106,368
SW General Structures and Improvements	$55,389	$0	$0	$0	$0	$0	$0	$0	$0	$0	$55,389
Stormwater Pipes											
SW Mains	$705,739	$0	$0	$0	$0	$0	$0	$0	$0	$0	$705,739
SW Culverts	$1,142,843	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,142,843
SW Combined Sewers (SW portion only)	$0	$165,232	$0	$0	$0	$0	$0	$0	$0	$0	$165,232
SW Manholes and Catchbasins	$345,079	$0	$0	$0	$0	$0	$0	$0	$0	$0	$345,079
SW Laterals	$59,310	$0	$0	$0	$0	$0	$0	$0	$0	$0	$59,310
Stormwater Equipment											
SW Office Furniture and Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SW Information and Technology	$0	$1,098,235	$0	$0	$0	$0	$0	$0	$0	$0	$1,098,235
SW Tools & Equipment	$2,779	$397	$397	$397	$0	$0	$0	$0	$0	$0	$3,971
Total	$2,417,508	$1,263,865	$397	$397	$0	$0	$0	$0	$0	$397,858	$4,080,025
	59.25%	30.98%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	9.75%	100.00%

Worksheet SW-9 Allocation of Utility Plant in Service, Functionalization of the Rate Base

Worksheet SW-9 allocates the projected Utility Plant in Service for the test year 2026/27 to the system functions based on their in-service use as detailed in the Cost-of-Service Manual, reported as both a dollar and percentage value. These are used in Worksheet SW-10 to allocate debt servicing costs to the service characteristics.

Worksheet SW-9

Halifax Water
Stormwater Rate Study

Allocation of Utility Plant in Service
2026/27

	Projected Utility Plant in Service, end of year	Projected Accumulated Depreciation, end of year	Projected Net Book Value, end of year	Contributed Plant, excluded from Rate Base	**Rate Base (Col D - Col E)**
Intangible Plant					
Organization and Working Capital	5,039,221	1,806,102	3,233,119	142,151	3,090,968
Land and Land Rights					
SW Office Land	472,189	0	472,189	0	472,189
SW Easements and Right-of-ways	11,280	0	11,280	0	11,280
Stormwater Structures					
SW Retention Ponds	10,182,186	3,218,474	6,963,711	4,412,298	2,551,414
SW General Structures and Improvements	3,075,571	417,801	2,657,770	79,237	2,578,533
Stormwater Pipes					
SW Mains	151,135,050	35,435,599	115,699,451	64,120,454	51,578,997
SW Culverts	63,082,352	8,965,755	54,116,596	17,429,721	36,686,875
SW Combined Sewers (SW portion only)	22,443,227	4,429,638	18,013,589	9,720,532	8,293,057
SW Manholes and Catchbasins	33,521,290	5,301,855	28,219,435	13,585,951	14,633,484
SW Laterals	6,321,185	1,394,152	4,927,034	3,464,276	1,462,757
Stormwater Equipment					
SW Transportation Equipment	2,668,114	1,887,580	780,535	0	780,535
Office Furniture and Equipment	176,774	176,774	0	0	0
SW Information and Technology	9,304,807	5,342,925	3,961,882	0	3,961,882
SW Tools & Equipment	263,064	89,868	173,196	0	173,196
Total	**307,696,310**	**68,466,524**	**239,229,786**	**112,954,620**	**126,275,166**

Halifax Water
Stormwater Rate Study

Allocation of Utility Plant in Service
Functionalization of the Rate Base Expressed as a Percentage (%)
2026/27

	Pipes, Manholes and Retention Ponds	**Combined Sewer Overflows**	**Ditches and Culverts**	**Catchbasins**	**Regulatory Services**	**Engineering and Technology Services**	**Technical Services (SCADA)**	**Corporate Services**	**Customer Service**	**Administration**
Intangible Plant										
Organization and Working Capital	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Land and Land Rights										
SW Office Land	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
SW Easements and Right-of-ways	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%
Stormwater Structures										
SW Retention Ponds	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW General Structures and Improvements	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stormwater Pipes										
SW Mains	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Culverts	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Combined Sewers (SW portion only)	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
SW Manholes and Catchbasins	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SW Laterals	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Stormwater Equipment										
SW Transportation Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Office Furniture and Equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
SW Information and Technology	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
SW Tools & Equipment	70%	10%	10%	10%	0%	0%	0%	0%	0%	0%

Worksheet SW-10: Stormwater Cost Classification & Unit Rate Calculations

Worksheet SW-10 details the costs as allocated to the system functions in Worksheets WW-6, WW-8, and WW-9, and allocates them to the service characteristics based on the percentages for each characteristic detailed in the Cost-of-Service Manual. Allocations are performed within the categories of operation and maintenance, depreciation, debt service expenses, and dividend/grant in lieu, then Revenue Requirements are totaled for each of Street Right-of-Way and Site Related Flow.

Using the Equivalent Residential Unit (ERU), the standard median charge can be determined for Residential customers, which forms the basis for Residential tiering as reported on Worksheet SW-11. The rate for Multi-Residential, Industrial, Commercial, and Institutional (MICI) customers is also calculated, with this group billed based on impervious area of each individual MICI customer.

Worksheet SW-10

Halifax Water
Stormwater Rate Study

Stormwater Cost Classification & Unit Rate Calculations
2026/27

Cost Classifications

			Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General	Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General	Street Right-of-Way Flow	Site Related Flow	Customer Service	Total
			Classification Percentages				Classification Amounts							
Pipes, Manholes and Retention Ponds		1,940,123	34.40%	65.60%	0.00%	0.00%	$667,402	$1,272,721	$0	$0	$667,402	$1,272,721	$0	$1,940,123
Combined Sewer Overflows		1,110,738	34.40%	65.60%	0.00%	0.00%	$382,094	$728,644	$0	$0	$382,094	$728,644	$0	$1,110,738
Ditches and Culverts		3,220,323	34.40%	65.60%	0.00%	0.00%	$1,107,791	$2,112,532	$0	$0	$1,107,791	$2,112,532	$0	$3,220,323
Catchbasins		1,374,223	100.00%	0.00%	0.00%	0.00%	$1,374,223	$0	$0	$0	$1,374,223	$0	$0	$1,374,223
Regulatory Services		2,124,812	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$2,124,812	$954,254	$1,112,905	$57,653	$2,124,812
Engineering and Technology Services		1,019,534	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$1,019,534	$457,873	$533,998	$27,663	$1,019,534
Technical Services (SCADA)		18,649	34.40%	65.60%	0.00%	0.00%	$6,415	$12,234	$0	$0	$6,415	$12,234	$0	$18,649
Corporate Services		944,627	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$944,627	$424,232	$494,764	$25,631	$944,627
Customer Service		213,749	0.00%	0.00%	100.00%	0.00%	$0	$0	$213,749	$0	$0	$0	$213,749	$213,749
Administration		395,734	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$395,734	$177,724	$207,272	$10,737	$395,734
Sub-Total		12,362,512					$3,537,925	$4,126,130	$213,749	$4,484,707	$5,552,009	$6,475,070	$335,433	$12,362,512
							45%	52%	3%					

Depreciation Expense by Function

$ 4,080,025														
Pipes, Manholes and Retention Ponds	59.25%	2,417,508	34.40%	65.60%	0.00%	0.00%	$831,623	$1,585,885	$0	$0	$831,623	$1,585,885	$0	$2,417,508
Combined Sewer Overflows	30.98%	1,263,865	34.40%	65.60%	0.00%	0.00%	$434,769	$829,095	$0	$0	$434,769	$829,095	$0	$1,263,865
Ditches and Culverts	0.01%	397	34.40%	65.60%	0.00%	0.00%	$137	$260	$0	$0	$137	$260	$0	$397
Catchbasins	0.01%	397	100.00%	0.00%	0.00%	0.00%	$397	$0	$0	$0	$397	$0	$0	$397
Regulatory Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and Technology Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	0.00%	0	34.40%	65.60%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	0.00%	0	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	0.00%	0	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	9.75%	397,858	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$397,858	$178,678	$208,384	$10,795	$397,858
Sub-Total	100.00%	4,080,025					$1,266,926	$2,415,241	$0	$397,858	$1,445,604	$2,623,626	$10,795	$4,080,025
							34%	66%	0%					

Halifax Water
Stormwater Rate Study

Stormwater Cost Classification & Unit Rate Calculations
2026/27

				Cost Classifications											
				Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General	Street Right-of-Way Flow	Site Related Flow	Customer Service	Indirect-General	Street Right-of-Way Flow	Site Related Flow	Customer Service	Total
				Classification Percentages				Classification Amounts							
Debt Service Expenses by Function															
$ 5,062,565															
Pipes, Manholes and Retention Ponds	86.81%	$	4,394,678	34.40%	65.60%	0.00%	0.00%	$1,511,769	$2,882,909	$0	$0	$1,511,769	$2,882,909	$0	$4,394,678
Combined Sewer Overflows	9.72%	$	492,127	34.40%	65.60%	0.00%	0.00%	$169,292	$322,835	$0	$0	$169,292	$322,835	$0	$492,127
Ditches and Culverts	0.02%	$	807	34.40%	65.60%	0.00%	0.00%	$278	$530	$0	$0	$278	$530	$0	$807
Catchbasins	0.02%	$	807	100.00%	0.00%	0.00%	0.00%	$807	$0	$0	$0	$807	$0	$0	$807
Regulatory Services	0.00%	$	-	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and Technology Services	0.00%	$	-	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	0.00%	$	-	34.40%	65.60%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	0.00%	$	-	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	0.00%	$	-	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	3.44%	$	174,145	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$174,145	$78,209	$91,211	$4,725	$174,145
Sub-Total	100.00%	$	5,062,565					$1,682,146	$3,206,273	$0	$174,145	$1,760,355	$3,297,485	$4,725	$5,062,565
								34%	66%	0%					
Dividend/ grant in lieu of taxes															
$ 190,079															
Pipes, Manholes and Retention Ponds	86.81%	$	165,003	34.40%	65.60%	0.00%	0.00%	$56,761	$108,242	$0	$0	$56,761	$108,242	$0	$165,003
Combined Sewer Overflows	9.72%	$	18,477	34.40%	65.60%	0.00%	0.00%	$6,356	$12,121	$0	$0	$6,356	$12,121	$0	$18,477
Ditches and Culverts	0.02%	$	30	34.40%	65.60%	0.00%	0.00%	$10	$20	$0	$0	$10	$20	$0	$30
Catchbasins	0.02%	$	30	100.00%	0.00%	0.00%	0.00%	$30	$0	$0	$0	$30	$0	$0	$30
Regulatory Services	0.00%	$	-	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Engineering and Technology Services	0.00%	$	-	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Technical Services (SCADA)	0.00%	$	-	34.40%	65.60%	0.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Corporate Services	0.00%	$	-	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$0	$0	$0	$0	$0
Customer Service	0.00%	$	-	0.00%	0.00%	100.00%	0.00%	$0	$0	$0	$0	$0	$0	$0	$0
Administration	3.44%	$	6,538	0.00%	0.00%	0.00%	100.00%	$0	$0	$0	$6,538	$2,936	$3,425	$177	$6,538
Sub-Total	100.00%	$	190,079					$63,158	$120,383	$0	$6,538	$66,094	$123,807	$177	$190,079
								34.00%	66.00%	0.00%					

Halifax Water
Stormwater Rate Study

Stormwater Cost Classification & Unit Rate Calculations
2026/27

Return and Rate Calculations

		Street Right-of-Way Flow	Site Related Flow	Customer Service					Total
Revenue Requirements									
O&M Expenses	$12,362,512	$5,552,009	$6,475,070	$335,433					$12,362,512
Depreciation Expenses	$4,080,025	$1,445,604	$2,623,626	$10,795					$4,080,025
	$16,442,536	$6,997,613	$9,098,696	$346,228					$16,442,536
Return Components									
Debt Service	$5,062,565	$1,760,355	$3,297,485	$4,902					$5,062,742
Dividend/ grant in lieu of taxes	$190,079	$66,094	$123,807	$177					$190,079
Less: Other Revenues	($246,943)	($85,864)	($160,840)	($239)					($246,943)
Less: Other Adjustments	($4,750)	($1,652)	($3,094)	($5)					($4,751)
	$5,000,951	$1,738,933	$3,257,358	$4,836					$5,001,127
Total Revenue Requirements	**$21,443,487**	**$8,736,546**	**$12,356,054**	**$351,063**					**$21,443,663**

Return Calculation		41.42%	58.58%	Directly Allocated Percentages
Projected Utility Plant in Service, end of year	$307,696,310			
Projected Accumulated Depreciation, end of year	($68,466,524)	$145,410	$205,653	Indirect Cost Allocation
Projected Net Book Value, end of year	$239,229,786			
Contributed Plant, excluded from Rate Base	($112,954,620)			
Rate Base	$126,275,166			
Return on Rate Base	**3.96%**	$8,881,956	$12,561,707	$21,443,663

Billing Determinations

Equivalent Residential Unit (ERU) *221*

Calculation of ERU's	Number of Parcels	ERUs per Parcel	Total ERU's
ICI Customers (equivalent)	144,055	1	144,055
Residental Customers			
Tier 1	3,771	exempt	
Tier 2	35,662	0.5	17,831
Tier 3	43,159	1	43,159
Tier 4	10,205	2	20,410
Tier 5	2,085	3	6,255
Culvert only Customers	757	0.5	379
			232,088

Rate Per Billing Unit

ICI Customers *(Standard Median Charge-Residental/ ERU)* **$0.245** *Charge per m2 of impervious area*

Residental Customers *(Revenue Requirement-Site Related Flow/ Total ERU's)* **$54.12** *Standard Median Charge (annual fixed charge)*

Worksheet SW-11: Residential Charges and Revenue Reconciliation

Worksheet SW-11 details the proposed rates for residential customers based on a tiered rate structure.

Worksheet SW-11 also provides a reconciliation of the Revenue Requirement from the two (2) sources, Street Right of Way and Site Related Flow, with the Site Related Flow broken down between ICI and Residential customers.

Worksheet SW-11

Halifax Water
Stormwater Rate Study

Residential Charges and Revenue Reconciliation

Calculation of Rates for Residential Customers

Tier	Tier Parameters (in units) Each unit equals 10 square meters		Equivalent Residential Unit (ERU)	Rate per Billing Unit	Rate Adjustment	Tier Rate	Standard Annual Charge
Label			**A**	**B**	**C**	B X C	A X B X C, rounded to the nearest $
1	less than	5 units	221	$0.245	0%	$0.000	$0.000
2	6 units	20 units	221	$0.245	50%	$0.123	$27.000
3	21 units	40 units	221	$0.245	100%	$0.245	$54.000
4	41 units	80 units	221	$0.245	200%	$0.490	$108.000
5	81 units	or more	221	$0.245	300%	$0.735	$162.000

Reconciliation of Revenue Requirement

	Impervious Area	Number of Parcels	Billing Rate	Revenue Requirement
Street Right-of Way (ROW)				
Halifax (HRM)	25,518,872		$0.281	$7,168,900
Province of Nova Scotia	6,024,549		$0.281	$1,692,500
Halifax Dartmouth Bridge Commission	73,230		$0.281	$20,600
Site Related Flow (SRF)				
Industrial, Commercial, Institutional (ICI)	31,836,101		$0.245	$7,799,845
Residential				
Tier 1	26,772	3,771	$0.000	$0
Tier 2	5,475,113	35,662	$27.000	$962,874
Tier 3	11,977,721	43,159	$54.000	$2,330,586
Tier 4	5,410,970	10,205	$108.000	$1,102,140
Tier 5	3,277,623	2,085	$162.000	$337,770
Culvert only Customers	14,380	757	$27.000	$20,439
Preliminary Revenue Total				$21,435,654
Less: Revenue Requirement				($21,443,663)
Excess (deficiency) compared to Revenue Requirement				($8,010)

Worksheet Appendix SW-1: Proposed Additions to Utility Plant in Service and Capital Funding

Appendix SW-1 details the proposed additions to Utility Plant in Service and capital funding for the test year 2026/27.

Additions to Utility Plant in Service are estimated based on status of capital work in progress (projects approved in prior fiscal years), the projects from the 2026/27 capital budget, and historical levels of contributed utility plant in service.

Halifax Water projects capital additions of $30.3 million in assets to Utility Plant in Service during the 2026/27 fiscal year.

Appendix SW-1

Halifax Regional Water Commission
Stormwater Rate Study

Proposed Additions to Utility Plant in Service and Capital Funding
2026/27

	Additions to the Utility Plant in Service	Capital Cost Contribution from Others	Utility Cost of Plant in Service
Intangible Plant			
Organization and Working Capital	$552,200	$0	$552,200
Land and Land Rights			
SW Office Land	$0	$0	$0
SW Easements and Right-of-ways	$0	$0	$0
Stormwater Structures			
SW Retention Ponds	$0	$0	$0
SW General Structures and Improvements	$300,000	$0	$300,000
Stormwater Pipes			
SW Mains	$21,564,929	$1,749,922	$19,815,007
SW Culverts	$5,621,476	$1,620,476	$4,001,000
SW Combined Sewers (SW portion only)	$0	$0	$0
SW Manholes and Catchbasins	$769,935	$749,935	$20,000
SW Laterals	$154,837	$136,837	$18,000
Stormwater Equipment			
SW Transportation Equipment	$349,500	$0	$349,500
SW Office Furniture and Equipment	$0	$0	$0
SW Information and Technology	$985,204	$0	$985,204
SW Tools & Equipment	$30,000	$0	$30,000
TOTAL	**$30,328,081**	**$4,257,171**	**$26,070,911**

Sources of Funding

Capital Cost Contributions	$0	Depreciation Fund Balance, beginning of year	($2,125)
Regional Development Charges	$0	Add:	
External Funding	$4,257,171	Interest earned on fund balance	$0
Contributions - Other	$0	Depreciation funded in Current year	$3,898,506
Working Capital	$39,667	Depreciation Fund Balance available	$3,896,381
Depreciation fund	$4,080,025	Less:	
Long Term Debt	$21,951,220	Expenditure in Current Year	($4,080,025)
TOTAL	$30,328,081	Depreciation Fund Balance, end of year	($183,643)

Worksheet Appendix SW-2: Amortization Schedule for Long Term Debt

Appendix SW-2 details the amortization schedule of the proposed long-term debt associated with 2026/27. The amortization is based on a 30-year blended serial debenture at 4.0%. Debt servicing costs related to principal and interest will commence in test year 2027/28.

Appendix SW-2

Halifax Regional Water Commission
Stormwater Rate Study

Amortization Schedule for Projected Long Term Debt
2026/27

Interest Rate	4.00%
Term in years	30
Capital	$21,951,220

Amortization Schedule

	Principal	Interest	Total	Balance
Year				
1	$731,707	$878,049	$1,609,756	$21,219,512
2	$731,707	$848,780	$1,580,488	$20,487,805
3	$731,707	$819,512	$1,551,220	$19,756,098
4	$731,707	$790,244	$1,521,951	$19,024,390
5	$731,707	$760,976	$1,492,683	$18,292,683
6	$731,707	$731,707	$1,463,415	$17,560,976
7	$731,707	$702,439	$1,434,146	$16,829,268
8	$731,707	$673,171	$1,404,878	$16,097,561
9	$731,707	$643,902	$1,375,610	$15,365,854
10	$731,707	$614,634	$1,346,341	$14,634,146
11	$731,707	$585,366	$1,317,073	$13,902,439
12	$731,707	$556,098	$1,287,805	$13,170,732
13	$731,707	$526,829	$1,258,537	$12,439,024
14	$731,707	$497,561	$1,229,268	$11,707,317
15	$731,707	$468,293	$1,200,000	$10,975,610
16	$731,707	$439,024	$1,170,732	$10,243,902
17	$731,707	$409,756	$1,141,463	$9,512,195
18	$731,707	$380,488	$1,112,195	$8,780,488
19	$731,707	$351,220	$1,082,927	$8,048,780
20	$731,707	$321,951	$1,053,659	$7,317,073
21	$731,707	$292,683	$1,024,390	$6,585,366
22	$731,707	$263,415	$995,122	$5,853,659
23	$731,707	$234,146	$965,854	$5,121,951
24	$731,707	$204,878	$936,585	$4,390,244
25	$731,707	$175,610	$907,317	$3,658,537
26	$731,707	$146,341	$878,049	$2,926,829
27	$731,707	$117,073	$848,780	$2,195,122
28	$731,707	$87,805	$819,512	$1,463,415
29	$731,707	$58,537	$790,244	$731,707
30	$731,707	$29,268	$760,976	$0

May 3rd, 2025

Halifax Regional Water Commission

WATER, WASTEWATER, STORMWATER AND DISTRICT ENERGY SYSTEMS

COST-OF-SERVICE MANUAL

Halifax Water

Table of Contents

SECTION 1 - INTRODUCTION **1**
Background ... 1
Process Leading to COS Manual Development ... 2
Review of COS Submittal Settlement Agreement ... 3
Purpose and Scope ... 6
COS Manual Structure ... 8

SECTION 2 - METHODOLOGY REVIEW **11**
General Review ... 11
Rate Setting Principles ... 11
Fixed vs. Variable Costs ... 12
Revenue Requirements ... 14
Accounting System Review ... 14
Budget Process Review ... 14
Revenue Requirement Format ... 15
AWWA / WEF Cost Allocation Steps ... 17
Step 1: Allocate Costs to System Functions ... 18
Step 2: Classify Costs by Service Characteristics ... 18
Step 3: Allocate Costs to Customers (or Classes) ... 19

SECTION 3 - ALLOCATION OF REQUIREMENTS ACROSS UTILITY SYSTEMS **21**
Water Service ... 21
Wastewater Service ... 21
Wastewater Treatment Plants ... 21
Wastewater Collection ... 22
Technical Services (SCADA) ... 24
Engineering and Technology Services ... 24
~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety ... 26
Customer Service ... 27
Corporates Services ... 28
Administration ... 29
Recognition and Allocation of Unregulated Revenues ... 34
Capital Assets ... 36

SECTION 4 - WATER SYSTEM COST ALLOCATIONS **39**
General Review – Base / Extra Capacity Methodology ... 39
System and Customer Use Data (for Cost Allocation) ... 41
Water Systems Functions ... 47
Cost Functionalization Considerations ... 49
Classification of Functional Costs ... 51
O&M Cost Classification ... 52
Notes on Water System O&M Cost Classification ... 54
Capital Cost Classification ... 57
Allocation to Customer Classes ... 61
Water System Appendix: Supplemental Cost Classification and Allocation Calculations ... 65

SECTION 5 - WASTEWATER SYSTEM COST ALLOCATION 76
General Review 76
Wastewater System Data and Customer Use Data (for Cost Allocation) 77
Wastewater System Functions 82
Cost Functionalization Considerations 84
Classification of Functional Costs 85
Capital Cost Classifications 89
Allocation to Customers 95
Wastewater System Appendix: Supplemental Cost Classification and Allocation Calculations 99

SECTION 6 - STORMWATER SYSTEM COST ALLOCATION 115
General Review 115
System Data (for Allocation of Costs to Customers) 118
Stormwater System Functions 118
Cost Functionalization Considerations 120
Classification of Functional Costs 121
O&M Cost Classification 121
Capital Cost Classification 124
Allocation to Parcel Owners (Customers) 127
Stormwater Service Delivery Via Ditches 130
Special Considerations for Rural Areas 130
Cost of Providing Service to Rural Customers 131
Stormwater System Appendix: Site Related Flow and Credit Calculations 132

SECTION 7 – DISTRICT ENERGY SYSTEM COST ALLOCATIONS 139
General Review 139
System and Customer Use Data (for Cost Allocation) 140
District Energy Systems Functions 141
Cost Functionalization Considerations 143
Classification of Functional Costs 143
O&M Cost Classification 145
Capital Cost Classification 147
Allocation to Customer Classes 149

SECTION 1 - INTRODUCTION

Background

Following the transfer of Wastewater and Stormwater service delivery responsibilities from the Halifax Regional Municipality (HRM) to the Halifax Regional Water Commission (Halifax Water) in 2007, Halifax Water became the first regulated water, wastewater, and stormwater utility in Canada. In March of 2023, Halifax Water received approval from the now Nova Scotia Regulatory and Appeals Board (NSRAB) to construct and operate an ambient temperature district energy system (ATDES), and to establish a revenue deficiency account in support of the ATDES development. Halifax Water is a self-financing regulated utility under the Public Utilities Act by the ~~Nova Scotia Utility and Review Board (NSUARB~~NSRAB~~)~~. Halifax Water generates the majority of its revenue from rates and charges for the services provided to its customers. These rates and charges must be approved by the ~~NSUARB~~NSRAB following a review process and public hearing. This process ensures that rates are fair and equitable for the services provided. ~~Following assessment of operating and capital improvement requirements of the combined utility, Halifax Water filed a general rate application [2010 NSUARB 244] to address funding needs. In a decision dated December 17, 2010, the NSUARB directed Halifax Water to file a Cost-of-Service and Rate Methodology Study that would form the basis of a "stand alone" proceeding. This was filed by Halifax Water on May 20, 2011.~~

~~Following completion of documentary discovery and filing of evidence by interested parties, a settlement agreement dated November 21, 2011 related to matters at issue in the application was signed by Halifax Water, the Consumer Advocate, and the Investment Property Owners Association of Nova Scotia (IPOANS). The settlement agreement was supported by all interveners who filed evidence and was not opposed by other parties to the proceeding.~~

~~The Cost-of-Service (COS) Manual was examined as part of Halifax Water's 2013 general rate application [2013 NSUARB 127]. Through the hearing process, the consultants working on behalf of the NSUARB and the Consumer Advocate noted several suggestions and improvements to the COS Manual. Those revisions have been incorporated in this updated COS Manual, and all underlying data relied upon in the COS Manual has been updated.~~

~~In the June 24, 2013 NSUARB decision on the general rate application, Section 2 (pages 9-19) address cost-of-service rate design. In Paragraph [48], the NSUARB approved the COS Manual.~~

~~[48] Based upon the information provided, the Board approves the COS Manual with the revisions as recommended by Mr. Rubin and Mr. Whalen.~~

~~Process Leading to COS Manual Development~~

~~In response to the NSUARB direction, Halifax Water[1] evaluated the existing NSUARB methodology and well-established cost-of-service/rate design methodologies delineated in manuals of practice of the American Water Works Association (AWWA), and Water Environment Federation (WEF) in the context of the local and operational characteristics prevalent for Halifax Water. As part of the review, Halifax Water's consultants worked directly with a broad group of Halifax Water staff with direct operational responsibilities and who are best positioned to understand the cost drivers and distribution of costs for their respective functional areas.~~

~~Various options were considered based on industry best practices and standards, and analytical models were constructed for each option to illustrate the implications of methodological alternatives. The respective characteristics and relative merits of the models were evaluated against established utility rate setting principles as discussed in Section 2 – Methodology Review.~~

~~The AWWA/WEF framework achieved substantial improvements over the NSUARB alternatives in terms of fairness, defensibility, and relationship to costs. Additionally, because cost allocations are tailored to reflect system characteristics, the approach is adaptable to changing circumstances. This model is more complex than the previously established Halifax Water rate calculation procedure. However, the AWWA/WEF methodological framework was deemed preferable in that it provides for more detailed and system specific evaluation of Halifax Water's increasingly complex operations, facilitates rate designs that can be adapted in response to change, and allocates costs in a fair and equitable manner.~~

~~Given the potential improvements in fairness and equity of cost allocations and that the resultant rate structures would feature the same fundamental components (*e.g.*, fixed charges by meter size and uniform volume rates), thereby easing customer understanding and acceptance, Halifax Water recommended the adoption of the AWWA/WEF framework on a go forward basis.~~

~~[1] Halifax Water engaged the services of Galardi Rothstein Group, LLC, G.A. Isenor Consulting, Ltd., and Blaine Rooney Consulting Ltd. to assist with the methodology review process and prepare the Cost-of-Service Methodology submission filed with the NSUARB.~~

In response to the ~~NSUARB~~NSRAB directive to file an interim COS manual for the ATDES (M11478), Halifax Water has also reviewed other Canadian municipally based District Energy rate structures, the existing ~~NSUARB~~NSRAB methodology, and cost-of-service/rate design methodologies delineated in manuals of practice of the American Water Works Association (AWWA), and Water Environment Federation (WEF). While the AWWA and WEF methodologies are targeted towards water and wastewater, the same concepts can be applied to determine a preliminary cost of service structure for the ATDES.

~~**Review of COS Submittal Settlement Agreement**~~

~~On May 20, 2011, Halifax Water filed an application for approval of a Cost-of-Service and Rate Design Methodology. A public hearing was held on November 21, 2011 to consider the proposed COS recommendation. At the request of the NSUARB, Board Counsel convened a meeting of the expert witnesses prior to the hearing on November 17, 2011, to determine whether any of the issues in the proceeding could be resolved in advance of the hearing. The meeting of expert witnesses resulted in a settlement agreement signed by Halifax Water, the Consumer Advocate, and IPOANS that was filed with the Board when the hearing commenced. Other interveners, who were not part of the settlement process such as the Halifax Port Authority, Labatt Breweries, and Concerned Citizens of Springfield Lake, were permitted to review the proposed settlement, and pose questions to a Halifax Water panel at the hearing, and present information. Details of the settlement agreement include the following;~~

~~1) Subject to section (7), the AWWA Base-Extra Capacity (BEC) cost-of-service methodology is an appropriate method for assigning water costs to Halifax Water's customers. However, the percentages used in Halifax Water's submission to assign costs will be refined as described in (5).~~
~~2) The total cost of fire protection (public and private) will be determined within the BEC method and appropriately allocated between the two. The cost of fire protection shall be allocated between public and private fire protection by use of the size of water main connections for public fire connections and the size of private fire service lines at the first point of use that reflects the actual flow demand.~~ [2]
~~3) The WEF hybrid method is an acceptable cost-of-service method for assigning wastewater costs to Halifax Water's customers. However, the percentages used in Halifax Water's submission to assign costs~~

[2] ~~As clarified as part of the last General Rate Application of January 9, 2013, the private fire protection charge shall be based on the size of the fire service line before the first (point of use) connection, whether it is a hydrant line or sprinkler line entering the building. IPOANS 1~~

~~will be refined as described in (5). Should the refined percentages not support the hybrid method, one of the other WEF methods may be recommended by Halifax Water.~~

~~4) Halifax Water's proposed cost-of-service method for assigning stormwater costs to Halifax Water's customers is appropriate with the revision presented in Exhibit 4 of Halifax Water's rebuttal evidence of November 14, 2011, a copy of which is attached to the settlement agreement. IPOANS reserves its right to take the position that HRM should be responsible for the Right-of-Way flow charge.~~

~~5) Halifax Water will collaborate with stakeholders to develop a COS Manual. This COS Manual will document the basis for all cost assignments (functionalization, classifications, and allocations) applied to water, wastewater, and stormwater. It will be completed before any application is made to the NSUARB for new rates based on the new cost-of-service.~~

~~6) Parties retain the right to challenge any portion of the COS Manual when it is first used by Halifax Water as the basis for new rates.~~

~~7) For greater certainty, the issue of whether density should be taken into account for the cost-of-service for each of the services remains to be determined. Halifax Water agrees to provide further available information in response to reasonable requests from IPOANS in order to study this issue. Where Halifax Water considers the level of effort to respond to requests to be excessive, IPOANS will explain the reasons for the request and Halifax Water will explain the reasons for its objections. Halifax Water and IPOANS will collaborate to find alternative approaches to obtain reasonably required information. The parties agree to refer any dispute regarding such requests to the Board for resolution.~~

~~The NSUARB issued their decision on January 16, 2012 and stated in part:~~

> ~~[33] The Board has considered the evidence in the proceeding, including the Settlement Agreement and submissions by the parties, and is satisfied that the Settlement Agreement is in the public interest. The Board approves the Settlement Agreement as filed.~~
>
> ~~[34] Halifax Water, in accordance with the Settlement Agreement, and in collaboration with the Interveners, is to prepare a COS Manual which will be submitted to the Board for approval. The Board orders Halifax Water to complete this COS Manual no later than August 30, 2012 and provide a schedule to achieve this deadline by January 30, 2012.~~

~~Halifax Water's terms of reference for development of the COS Manual were approved on February 17, 2012.~~

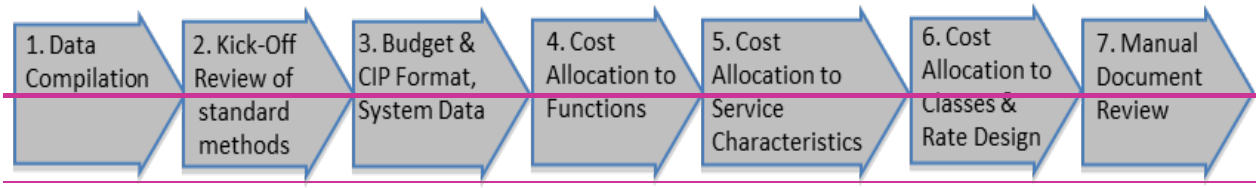
~~The timeline was altered as a result of the NSUARB decision regarding Halifax Water's Aerotech rate application. In this decision, the NSUARB directed Halifax Water to submit a rate application for a combined Urban Core & Aerotech System by January 31, 2013. As a result of consideration of the combined Urban Core & Aerotech System, the COS Manual deadline was extended to October 31, 2012 to permit inclusion of the Aerotech system. The COS Manual was filed on October 24, 2012 and approved in the June 24, 2013 general rate application decision M05463.~~

~~The decision spoke to the topic of density at paragraphs [45] and [46]~~

> ~~[45] The Board understands the argument with respect to cost of service differentials related to density which IPOANS notes have been used in other, albeit not water service, utilities. However, no data has been presented, or appears to be available at this time, to support any calculation of these differentials. In the absence of such data, the Loudon Report has been relied upon, which, at this time, represents the best data available. Halifax Water has indicated that it is in the initial stages of looking at the installation of AMI technology. Once it is installed it can be used to collect the relevant data. However, it will be several years before such data can be collected and properly analyzed.~~
>
> ~~[46] Therefore, the Board accepts that the density concept should not be included in the COS Manual at this time. The Board will not revisit this issue until significant research, based upon data obtained by the new metering technology, has been collected and analyzed. The Board views the COS Manual as a living document which allows any changes to be made as a result of updated relevant data and information.~~

~~Halifax Water completed the implementation of AMI technology in 2019/20. The AMI meters have enabled Halifax Water to develop the Customer Connect portal and to begin to provide high consumption notifications to customers. Halifax Water has engaged Raftelis to develop an updated Water Demand Analysis.~~

~~The COS Manual was developed through a seven-step process highlighted by engagement with interested parties, including prior rate case interveners and the NSUARB. This process is illustrated below and is aligned with the cost allocation processes outlined in industry standard manuals of practice:~~



~~Stakeholder consultation meetings were held on March 7, May 9 & 10, and September 25, 2012. Feedback from stakeholders was accepted throughout the process, resulting in many changes and improvements in the final product.~~

Purpose and Scope

The fundamental purpose of this manual is to allow for the development of equitable water, wastewater, stormwater, and district energy rate structures to ensure that all users pay, through user charges, for their share of the costs imposed on the system. Some of these expenditures are a function of water or energy used, wastewater discharged or stormwater contributed; others may be a function of the characteristics of that use (*e.g.*, peak demands) or discharge (*e.g.*, strength loadings). Finally, some costs (*e.g.*, billing and meter costs) are associated with serving customers regardless of the volume consumed or discharged, or the volume of stormwater contributed.

The COS Manual addresses the procedures involved in the calculation of proposed water, wastewater, stormwater, and district energy rates including the presentation of *pro-forma* rate revenue requirements, cost allocations and rate design.

The COS Manual delineates procedures for Water System rate calculations, including charges for public and private fire protection, through the identification of Water System functions, the classification of these functional costs, and their allocation as set out in the "base-extra capacity" method described in the AWWA *Principles of Water Rates, Fees and Charges, Manual of Practice (M1)*. The COS Manual is based on combining the AWWA methodology with the existing ~~NSUARB~~NSRAB standard procedures for accounting and reporting. ~~In response to IR-2MUL in the 2013 general rate hearing, Halifax Water noted that "In general, the AWWA and NSUARB methods are combined in the sense that the prescribed methodology uses the formats and initial schedules for delineation of system revenue requirements as has been employed historically for NSUARB rate application filings while the procedures employed for cost allocation are drawn~~

~~from the methodological approaches delineated in the AWWA's Principles of Water Rates, Fees and Related Charges (M1) Manual of Practice".~~

Similarly, the COS Manual delineates procedures for Wastewater System rate calculations, including charges for over-strength discharges through the identification of Wastewater System functions, the classification of these functional costs, and their allocation as set out in the methods described in the WEF Manual of Practice No. 27 *Financing and Charges for Wastewater Systems*. The COS Manual is based on combining the "WEF" methodology with the principles used in the ~~NSUARB~~NSRAB standard procedures for accounting and reporting for Water Systems. ~~As noted in response to IR-3MUL in the 2013 general rate application, "In general, the WEF and NSUARB methods are combined in the sense that the prescribed methodology uses the formats and initial schedules for delineation of system revenue requirements as has been employed historically for NSUARB rate application filings while the procedures employed for cost allocation are drawn from the methodological approaches delineated in the WEF's Financing and Charges of Wastewater Systems (M29) Manual of Practice".~~

The COS Manual identifies procedures for stormwater rate calculations based on the system characteristics which drive costs. The first COS Manual and 2013 rate application proposed a~~-~~ two-part rate structure to assign costs to customer groups such that all users pay for core (street right-of-way) services while only those contributing flow to Halifax Water's system pay for management of site-generated flows. The ~~NSUARB~~NSRAB directed that the costs for street right of way services be billed to HRM and more recently in the 2022 rate application, the same principles were approved for street right of way lands owned by Nova Scotia Transportation and Infrastructure Renewal (NSTIR) and Halifax Dartmouth Bridge Commission (HDBC).

~~The need to enhance understanding about the nature of stormwater services being received by Halifax Water's customers was evident following implementation of the first regulated rates for stormwater service. In so doing, the merits of the cost of service, and ratemaking process may also be articulated. Halifax Water has included updated information on stormwater service within the COS Manual to reflect developments since the October 2012 filing of the first COS Manual.~~

The COS Manual identifies procedures for district energy rate calculations based on the system characteristics which drive costs. Halifax Water will determine prior to filing a final COS manual, through

consultation with experts, whether there will be a need to have separate customer classes and/or whether both a fixed charge, demand charge, and/or a usage charge would be required.

The purpose of the COS Manual is to provide guidance (through explanations, standard schedules, and example calculations) to cost-of-service/rate design methodologies, including the ~~NSUARB~~NSRAB approved AWWA/WEF approach for water, wastewater, and stormwater services. The ~~NSUARB~~NSRAB approved this approach in a decision dated January 16, 2012. For District Energy, the methodology for cost-of-service/rate design will be developed as the system is established. The methodologies for all four services ~~employs~~employ the approach for determination of revenue requirements as presented in the ~~NSUARB~~NSRAB *Accounting and Reporting Handbook for Water Utilities (Handbook)*.

Halifax Water notes that accurately establishing the cost of service for the regulated services offered is only the first step in establishing rates, and that there are other important rate design considerations that come into play. Accordingly, Halifax Water will reference the updated COS Manual to prepare the rate studies for future rate applications but may submit for rates which differ from the COS Manual approach to take into account objectives such as revenue stability, gradual redistribution of revenue responsibilities and rate-smoothing.

COS Manual Structure

This COS Manual is structured to provide direction and examples of cost allocation procedures for each of Halifax Water's individual utility systems. The COS Manual offers a general review of a common methodological framework that is employed across systems – and which represents the foundation of both the AWWA and WEF cost-of-service methodologies. Subsequent sections provide guidance on the distribution of costs to functions, classification of costs by service characteristic and calculation of unit costs of service (potentially for allocation to distinct customer classes). This refers to the potential for future disaggregation of Halifax Water's customer classification structure in the event that pronounced distinctions in potential customer class user characteristics are determined. For Water System customer classifications, the potential for class distinctions on the basis of peak vs. average demand has not been demonstrated. This is due to the relative homogeneity of demand patterns across customer types as evidenced by the Loudon Demand Study. The potential for Wastewater System customer classifications on the basis of strength differentials is examined through a plant balance analysis provided in Halifax Water's worksheet WW-1: User Characteristics and Plant Balance Analysis. This form of analysis is useful for ensuring that assigned strength

loading attributes of individual customer classes result in overall values for influent strengths that are consistent with actual plant influent values. In so doing, user rates are based on actual system flow/loading characteristics. In the event that strength differentiated classifications were considered, assigned strength loading differences would need to maintain consistency with overall plant influent loading values to ensure resultant rates reflect true costs of service.

For Water System cost allocation, unique considerations relate to relationships between peak and average demands and identifying costs associated with providing fire protection capabilities. For the Wastewater System, unique considerations relate to allocations of costs for dry and wet weather flow management and treatment for different pollutant loadings. For the Stormwater System, issues relate to the allocation of costs for management of stormwater flows in street rights-of-way and discharged from private properties and complexities caused by multi-jurisdictional responsibility for stormwater. For the District Energy System cost allocations, unique considerations relate to peak demands and annual energy consumption requirements, provision of both heating and cooling services within the system, whether connection has been mandated by law (ref. HRM By-Law D500 – Respecting District Energy) or whether connection is optional, and whether service is guaranteed or interruptible.

The COS Manual sections outline information as summarized below:

1) **Introduction** – Provides a discussion of the process leading to development of the COS Manual, the purpose of scope of the document and its structure;

2) **Methodology Review** – Provides a general review of the multi-step process for determination of utility rates by utility system; Principles of cost allocation commonly employed across utility systems are outlined;

3) **Allocation of Requirements Across Utility Systems** – Principles of cost allocation commonly employed across utility systems are outlined;

4) **Water System Cost Allocation** – Provides a review of the application of the AWWA cost allocation methodology for determination of rates based on revenue requirements delineated using standard ~~NSUARB~~NSRAB formats;

5) **Wastewater System Cost Allocation** - Provides a review of the application of the WEF cost allocation methodology for determination of rates based on revenue requirements delineated using standard ~~NSUARB~~NSRAB formats; and,

6) **Stormwater System Cost Allocation** - Provides a review of the simplified application of common AWWA/WEF procedures for determination of stormwater fees based on impervious area measures.

7) **District Energy System Cost Allocation** – Provides a review of the application of a simplified cost allocation methodology for determination of rates based on revenue requirements.

SECTION 2 - METHODOLOGY REVIEW

General Review

For Water, Wastewater, Stormwater and District Energy service, the methodology selected for the COS Manual and for rate setting is based on calculating the revenue requirements using the Handbook while cost allocations are based on the AWWA and WEF methodologies for water and wastewater. Stormwater rate setting will be based on using the framework from the ~~NSUARB~~NSRAB for determination of revenue requirements and the WEF approach for cost functionalization, classification and allocation. Rates for stormwater will be based on impervious area and will exempt customers that do not contribute stormwater from their property into Halifax Water's system. They will not provide for recognition of the indirect/common benefit individuals receive for stormwater management associated with the street right-of-way, but does recognize properties with driveway culverts. District Energy rate setting will be based on the framework from the ~~NSUARB~~NSRAB for determination of revenue requirements and a similar approach to the other services for cost allocation.

Rate Setting Principles

For each of Halifax Water's utility services, rates and charges should reflect the balancing of basic, often conflicting, rate-setting principles. Referenced by the ~~NSUARB~~NSRAB in its deliberations, these basic principles of utility rate setting were outlined in seminal work by James Bonbright[3] and have been reformulated and made more accessible for use in guiding Halifax Water's rate setting as follows:

1) **Revenue adequacy** - Effectively yield the revenue requirements in a fair and reasonable manner from the customers of Halifax Water without undue capital spending while meeting service and quality objectives;

2) **Revenue stability** - Provide revenue stability and predictability for Halifax Water with minimum of unexpected changes;

3) **Rate continuity** - Provide stable and predictable rates with a minimum of unexpected changes that have adverse effect on Halifax Water's customers;

[3] Bonbright et al., *Principles of Public Utility Rates* (Columbia University Press, 1961), pp. 383-384

4) **Cost-based rates** - Establish rate structures that discourages the wasteful use of the service provided while promoting all justified uses and amounts;

5) **Fairness vs. Benefits** - Set rates that fairly reflect the benefits from the service provided;

6) **Defendable vs. Costs** - Set rates that are fair and equitable and that apportion costs of service among the different customer classes that are not arbitrary and capricious;

7) **Fairness by Class** - Set rate structures that avoid discrimination in rate relationships and that avoid inter-customer burdens;

8) **Adaptable to Changing Circumstances** - Set rate structures that are dynamic and promote innovation and that respond to changing demand and supply patterns;

9) **Simple and Acceptable** - Set rate structures that are simple to use and understand, convenient, economic to implement and maintain, and, are publicly acceptable while meeting the requirements of the Public Utilities Act;

10) **Understandable** - Set rate structures and rules and regulations that are unambiguous and easy to interrupt; and,

11) **Conservation** – Establish rate structure that promotes conservation while ensuring rates that are adequate to meet changing regulatory requirements.

Insofar as the AWWA/WEF methodologies were designed to reflect and further these rate design principles, the rate methodologies proposed likewise reflect these principles. Halifax Water's proposed rates are thereby guided by the Bonbright principles. For Halifax Water's Water, Wastewater, Stormwater and District Energy Systems cost allocation and rate setting process, a number of additional aspects of standard rate making principles and procedures are noteworthy.

Fixed vs. Variable Costs

Common to all four utility services is the fact that infrastructure investment requirements result in cost structures that feature relatively high, fixed costs from an accounting perspective. A fundamental principle of cost-of-service analysis however is to allocate costs on the basis of cost causation rather than on whether or not they are fixed or variable from an accounting perspective. For Water Service, therefore, most fixed

costs are allocated based on volume-related customer demand characteristics. Similarly, for Wastewater Service, a significant share of collection and treatment cost is distributed in proportion to flow and loading parameters. For Stormwater Service, fixed costs are allocated based on the determinants of stormwater flows from served parcels that must be managed by the public stormwater system. For District Energy, allocation of fixed costs will be established through the rate design process, potentially based on customer demand characteristics.

Growth-Related Capacity Costs

As a general proposition, the cost-of-service methodologies outlined below relate to calculation of unit costs by service characteristic and ultimately distribution of cost responsibilities to customers. Rates calculated for new customers within a class are the same as those for customers who have been served for an extended period of time. Regional Development Charges ~~(previously referred to as Availability Charges)~~ that are assessed upon new customers to the respective systems are used to require such customers to recover growth related capacity costs.

For District Energy, the distribution piping has been installed and work on the energy centre is commencing ~~majority of the infrastructure~~ resulting in the majority of the infrastructure required to operate the system being completed ~~will be installed~~ prior to any customers accessing the system. Initial investment costs will be accumulated in a revenue deficiency account and charged to new customers as they are ready to connect to the system by a method to be determined through the rate-design process.

Halifax Water Common Costs

An equally fundamental challenge that is common to all four utility Services is that a number of utility functions are shared across each utility Service. While Halifax Water has established a budgeting and accounting structure to segregate costs by Service, there are a number of functions that are performed with resources that are effectively shared across all four systems. Though most Halifax Water costs are incurred directly by an individual Service as discussed in subsequent sections of the COS Manual, cost-of-service rate setting requires allocation of common costs across Services (as discussed in detail in section 3 – Allocation of Requirements Across Utility Systems).

Given the establishment of revenue requirements by utility Service through the allocation of shared and specific Halifax Water costs to utility Services, the basic AWWA/WEF approaches to cost allocation may be applied for each Service.

Revenue Requirements

Accounting System Review

Halifax Water's corporate financial system, Cayenta, is a fully integrated Enterprise Resource Planning (ERP) software system that was implemented in August 2023. Prior to 2023, Halifax Water utilized SAP as its financial software system. In 2020, payroll processing was moved from the previous ERP software to a more robust standalone system, VIP. The system is fully interactive providing a web portal for employees and managers alike. Finally, VIP allows Halifax Water improved functionality with the inclusion of modules in such areas as human capital management and pension administration. Halifax Water continues to assess these modules for future implementation.

The ERP system is a robust system consisting of over 300 cost centres and 250 general ledger accounts for revenues and expenses. Within the hierarchy and reporting structure of the system, cost centres can be created and maintained to track costs by Service and also for specific functions within each Service. Certain cost centres exist in which shared costs applicable to all Services are accumulated centrally, and then allocated to each Service as necessary. Distributions of these common costs are described further below. Finally, within the system is the capability to create and maintain work orders to track specific costs, either from a capital or operating perspective.

Audited financial statements are prepared on an annual basis. Internal unaudited financial statements are prepared monthly, on both a consolidated basis and an unconsolidated basis for each individual Service. Current year results are presented in comparison to the current year's budget and forecast, as well as historic actual results from the prior year. Unaudited financial statements are reviewed by Halifax Water's Board of Commissioners, and annual audited financial statements are approved by the Board.

Budget Process Review

A new budgeting process was implemented in 2023/24 using an integrated system. The budgeting process involves the completion of budgets directly into the ERP by Halifax Water managerial staff responsible for

specific utility functions. Budget templates are available in the system for all cost centres and require both quantitative and qualitative inputs. Once completed all budgets are reviewed by the appropriate Director before being forwarded to Finance. Finance staff review and validate the budget information for consistency and accuracy. Before being submitted to Halifax Water's Board of Commissioners for approval, the budgets are reviewed by the Senior Management Team and Halifax Water's Audit and Finance Committee.

Revenue Requirement Format

The overall objective of the determination of revenue requirements is to provide Halifax Water sufficient operating revenues to cover the operating and non-operating costs for Water, Wastewater, Stormwater and District Energy Services for the test year(s) included in the application. As such, properly developed revenue requirements will ensure the financial sustainability and integrity of Halifax Water. Operating and non-operating costs supporting the application are derived from the operating budget(s) as compiled by Halifax Water, which are prepared annually and approved by Halifax Water's Board of Commissioners.

Key considerations in determining revenue requirements also include:

- Anticipated ~~C~~changes in the number of customers,
- Anticipated c~~C~~hanges in annual volume of water sold,
- Anticipated c~~C~~hanges in the amount of demand and energy consumed by District Energy customers, and
- Anticipating capital expenditures for the test years, and the associated costs with respect to depreciation and debt servicing.[4]

Revenue requirements for each Service are presented for rate application using a common format employed by the ~~NSUARB~~NSRAB. This general format is presented in Table 1 on the following page where Service-specific cost centres and line items are employed as applicable.

[4] This is based on the premise that these expenditures are included in revenue requirements if the infrastructure is "in service".

Table 1 Revenue Requirement Template

Halifax Water
Utility System
Statement of Operating Expenses and Revenue Requirements
Fiscal Years ending March 31st

	Historic Year Actual	Historic Year Actual	Historic Year Actual	Current Year Budget	Test Year Budget
OPERATING EXPENSES					
System-specific expenses #1					
System-specific expenses #2					
Engineering and Capital Infrastructure					
Environment, Health and Safety					
Corporate Services					
Customer Service					
Administration					
Calculated depreciation - funded assets					
Calculated depreciation - donated assets					
Total	**0**	**0**	**0**	**0**	**0**
ADD: NON-OPERATING EXPENSES					
Interest on long term debt					
Repayment of long term debt					
Amortization of debt discount					
Diviidend/ grant in lieu of taxes					
Miscellaneous					
Total	**0**	**0**	**0**	**0**	**0**
LESS: OTHER REVENUES					
System-specific revenues					
Late payment and other connection fees					
Miscellaneous					
Investment Income					
Total	**0**	**0**	**0**	**0**	**0**
LESS: OTHER ADJUSTMENTS					
Sponsorships and donations					
Help for Other (H2O) program					
Administration					
Total	**0**	**0**	**0**	**0**	**0**
REVENUE REQUIRED FROM CUSTOMERS	**0**	**0**	**0**	**0**	**0**

Halifax Water Utility System Statement of Operating Expenses and Revenue Requirements Fiscal Years ending March 31st					
	Historic Year Actual	Historic Year Actual	Historic Year Actual	Current Year Budget	Test Year Budget
OPERATING EXPENSES					
System-specific expenses #1					
System-specific expenses #2					
Engineering and Technology Services					
Regulatory Services					
Corporate Services					
Administration					
	0	0	0	0	0
Depreciation					
Total	**0**	**0**	**0**	**0**	**0**
ADD: FINANCIAL EXPENSES					
Interest on long term debt					
Repayment of long term debt					
Amortization of debt discount					
Dividend/ grant in lieu of taxes					
New - interest on long term debt					
New - repayment of long term debt					
New - interest on long term debt					
New - repayment of long term debt					
Total	**0**	**0**	**0**	**0**	**0**
LESS: OTHER OPERATING REVENUE					
System-specific revenues					
Late payment fees					
Miscellaneous					
Total	**0**	**0**	**0**	**0**	**0**
LESS: FINANCIAL REVENUE					
System-specific revenues					
Investment Income					
Miscellaneous					
Total	**0**	**0**	**0**	**0**	**0**
LESS: OTHER ADJUSTMENTS					
Pension adjustment					
Sponsorships and donations					
Miscellaneous					
Total	**0**	**0**	**0**	**0**	**0**
REVENUE REQUIRED FROM CUSTOMERS	**0**	**0**	**0**	**0**	**0**

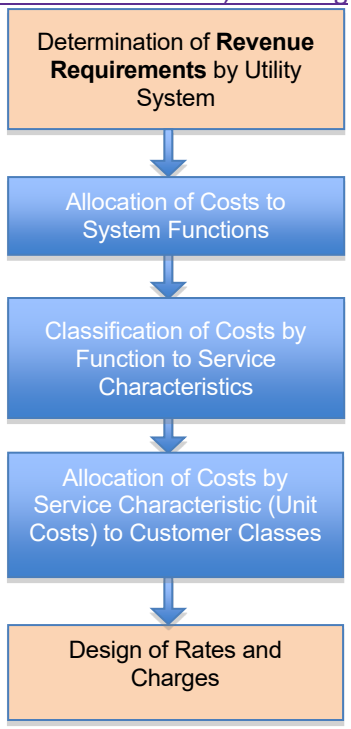
AWWA / WEF Cost Allocation Steps

The fundamental COS process across all four utility Services involves a three-step procedure for allocation of revenue requirements to customer classes. Costs are first distributed to system functions – often referred to as "functionalization", then to service characteristics – referred to as "classification", and finally to customer classes – referred to as "allocation". Cost-of-service based rates recover revenues from customer

classes based on those respective customer classes' proportionate share of system demands or use attributes.

Step 1: Allocate Costs to System Functions

Utilities incur varying levels of costs to perform the different functions needed to meet customer demands and deliver essential services (*e.g.*, fire protection). The functionalization process involves categorizing revenue requirements according to the functions in order to more appropriately assign costs to Customers. Water System functions typically include supply, treatment, storage, pumping, transmission, distribution, fire protection, and meter and c~~C~~ustomer-related services. Stormwater functions are similar, including collection, c~~C~~ustomer service, e~~E~~ngineering and ~~C~~corporate s~~S~~ervices. Wastewater functions are similar, including collection, transmission, treatment, wet weather flow management, solids handling, and customer-related services functions typically include energy generation, distribution, and transfer, metering and customer-related services. Functions may be further refined to reflect particular attributes of the utility's system configuration. For example, some water systems use storage tanks while others may not; some wastewater systems may use solids digester facilities while others may not. Functions are defined to facilitate the distribution of expenses to utility service characteristics.



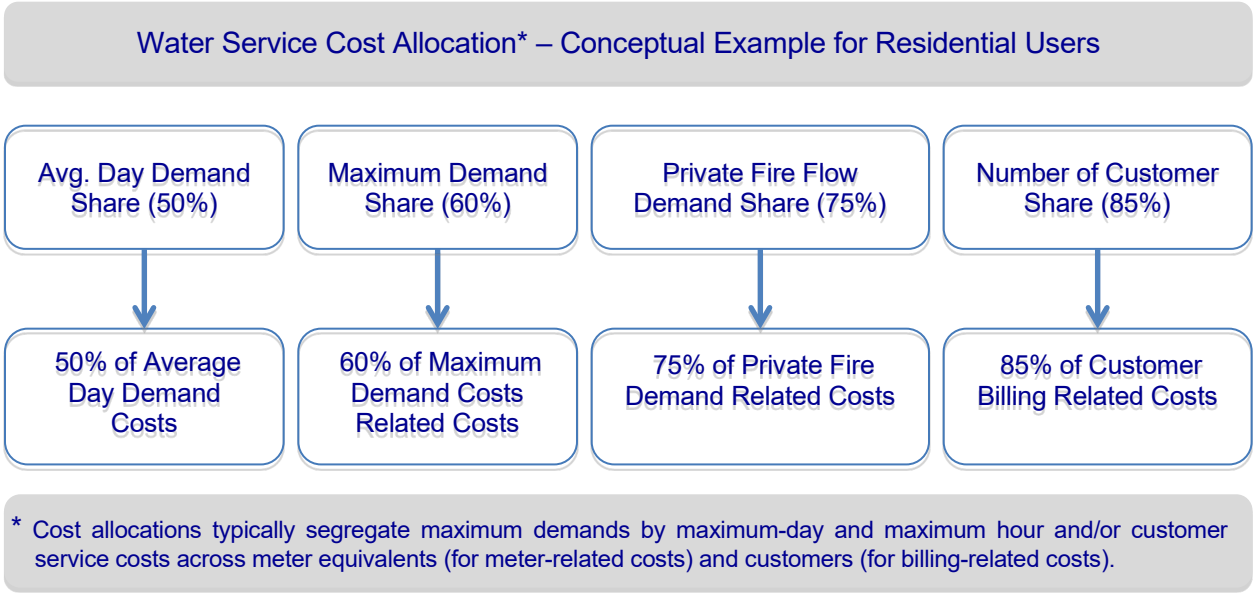
Step 2: Classify Costs by Service Characteristics

Following functionalization, a classification process is undertaken. A fundamental objective in developing a rate system is to price utility services so that each customer pays for the service they receive in proportion to their use or claim on system capacity. For Water Systems, some costs the utility incurs are a function of the water quantity used; other costs are associated with meeting peak usage demands, and others to enable fire protection. Similarly, for wastewater systems, some costs are incurred to handle dry weather flows while other costs are incurred for wet weather management, or to remove given pollutants. For the District Energy system, some costs the utility incurs are a function of the energy delivered to and used by ATDES customers, and other costs are associated with meeting peak energy demands for both heating and cooling. Customer related service, billing, and meter functional costs are generally a function of the number of customers served, and the size and type of meter or service. The

classification process involves distribution of functional costs to these service characteristics in a consistent manner that reflects cost causation.

Step 3: Allocate Costs to Customers (or Classes)

For Water and Wastewater, determination of the costs to deliver established service characteristics, whether they be peak water demands or the handling of wastewater strength loadings provides the foundation for calculation of unit costs to serve - and ultimately allocation of cost to customers based on their demands and uses of system facilities. Costs by service characteristic are simply divided by the projected level of service to be rendered to determine the unit costs of a given service parameter. For example, the system-wide cost per cubic meter of maximum hour demand is calculated by taking the costs determined to meet maximum hour demands divided by the projected (customer related) maximum hour demands for the system. Likewise, the cost per kilogram of total suspended solids (TSS) removed is determined by dividing the system-wide costs for TSS removal by the projected units of billable suspended solids. Costs are then allocated to customers (or more generally to customer classes) based on their use of these parameters. As a result, if residential users represent 50 percent of average day water demands, 60 percent of peak-day and maximum hour demands, 75 percent private of fire flow demands, and 85 percent



of the numbers of customers, they will be allocated 50 percent of average day demand related costs, 60 percent of peak demand related costs, 75 percent of fire protection costs, and 85 percent of customer billing expenses. In so doing, the basic objective of cost-of-service analysis is accomplished – namely the allocation

of costs to customers in proportion to their uses of the system. For water, wastewater, and district energy, data sources generally include customer billing information, system operations reports, and engineering studies.

For District Energy, determination of the costs to deliver established service characteristics, whether they be peak demand or energy consumption, will be developed through the rate design process. For example, the system-wide costs to meet peak energy demand are calculated by taking the costs determined to meet peak demand divided by the projected peak demand requirements.

SECTION 3 - ALLOCATION OF REQUIREMENTS ACROSS UTILITY SYSTEMS

Certain cost centres exist within the accounting system in which shared costs applicable to all Services have been accumulated centrally. In order to present costs properly for each Service, these common costs are allocated across Services. Most common costs are accounted for in a specific cost centre. However, as is evidenced with customer service detailed below, the allocation may involve a group of like cost centres. In several cases, a "primary allocation" is made to distribute costs between Water Services, Wastewater, Stormwater, and District Energy Services then a "secondary allocation" is made to apportion costs between Wastewater, Stormwater, and District Energy Services.

A summary of the allocations crossing Service boundaries is provided below for each of the Services provided by Halifax Water:

Water Service

There are no shared or common costs accumulated within Water Services that relate to other Halifax Water Services.[5] Any cost allocations performed are specific to Water Services, and are required for internal reporting purposes only, typically for sub-systems within Water Services.

Wastewater Service

Wastewater Treatment Plants

Halifax Water's wastewater treatment plants are designed based on regulations from Nova Scotia Environment and Climate Change (NSECC) and Environment Climate Change Canada (ECCC) who specify the wastewater discharge requirements aligning with the Wastewater Effluent System Regulations (WSER) where applicable. The discharge requirements may vary based on the receiving waters.

Based on this design/approval procedure, Halifax Water's treatment plants only treat wastewater as approved by its regulator. There are no shared or common costs accumulated within Wastewater treatment relating to Water and Stormwater Services[5i]. Any cost allocations performed are specific to

[5] In the 2013 rate hearing, Halifax Water was asked whether the wastewater treatment plants ever treat stormwater? If so, should any of the cost of wastewater treatment be assigned to stormwater? If so, what portion? (IR-8MUL).

Wastewater Treatment, and are required for internal reporting purposes only, typically for sub-systems within Wastewater Services.

However, there may be some shared or common costs accumulated within Wastewater Treatment (specifically for the Halifax WWTF) relating to District Energy (e.g., staff time). These shared or common costs will be determined through the utility development and rate setting process and allocated appropriately to ensure ATDES costs do not affect water/wastewater/stormwater customers.

Halifax Water does not intend to directly compensate Wastewater customers for access to or the use of the thermal energy from Wastewater. As the DES utilizes the thermal energy remaining after the treatment process is complete, and prior to discharge to the harbour, there would not be any costs associated with the treatment of Wastewater allocated to the DES. Any shared costs between wastewater and the DES will be segregated by Service, and the specific costs of treating the wastewater will be charged to wastewater customers to recover the wastewater treatment costs. All costs to divert effluent to the DES energy centre and back to the harbour will be allocated to the DES.

Wastewater Collection

Allocations relating to common costs within Wastewater collection reflect the extent to which administrative activities are related to both Wastewater and Stormwater Services and the portion of the collection system served by combined sewers. Regional administration costs are allocated between Wastewater and Stormwater Services on an indirect basis using budgeted, direct operating costs for each Service for the test year(s). Other Wastewater collection costs are allocated to Stormwater Service based on the proportionate share of length of pipe that are combined sewers, and the portion of combined sewer flow related to stormwater.

~~Allocations using the fiscal year (FY) 2020/21 actuals as the basis are summarized in the table below:~~

Table 2

Wastewater Collection Allocation of Common Costs to Services				
Common Cost Centres	**Cost Centre No.**	**Water**	**Wastewater**	**Stormwater**
Regional Administration	42470		90.0%	10.0%
Sanitary Mains – West, East & Central	12400, 22400, 32400		92.0%	8.0%[6] (40% of 20%)
Inspections – West, East & Central	12402, 22402, 32402		92.0%	8.0% (40% of 20%)
Sanitary Manholes – West, East & Central	12407, 22407, 32407		92.0%	8.0% (40% of 20%)
Buildings - East & Central	22409, 32409		92.0%	8.0% (40% of 20%)
Administration and Overheads– West, East & Central	12470, 22470, 32470		92.0%	8.0% (40% of 20%)

As can be seen in the above table, the regional administration cost centre under Wastewater Collection is a common cost centre for both Wastewater and Stormwater Services. Of the common costs contained in this cost centre, 10% are allocated to Stormwater Collection. ~~The basis for this allocation was calculated using the actual, direct operating costs for each Service for 2020/21.~~

Secondary allocations are performed with respect to specific Wastewater collection cost centres as noted in the table above, to Stormwater collection. The purpose of these allocations is to recognize the existence of combined sewers within the collection system. Based on Halifax Water records, 20% of the entire collection system is comprised of combined sewers. Halifax Water[7] calculated that, on average, 40% of the capacity of the combined sewers relates to Stormwater flows. Using these percentages will allow a portion of the costs incurred in the Wastewater Service to be transferred to the Stormwater Service since the combined sewers handle stormwater together with wastewater. These allocations could change if the proportion of wastewater to stormwater changes over time, or the proportion of stormwater relative to sanitary sewer flows change in the combined sewers.

[6] Updated based on IR-28MUL, 2015 Rate Application, M06540

[7] Cost of Service Study, November 2009 by G. A. Isenor Consulting Limited in association with W.H. Gates Utility Consultants Limited and R. M. Loudon Limited

Technical Services (SCADA)

Technical Services (SCADA), a division under ~~Engineering and Technology Services (TS)~~Corporate Services ~~within the organizational hierarchy~~, contains three (3) common cost centres, each of which accumulate shared costs for the benefit of Water, Wastewater and Stormwater Services. It is expected there will also be shared costs for the benefit of ATDES. Costs are allocated to each Service are based on the number of data points (tags) monitored in each Service.

Allocations relating common costs within Technical Services (SCADA) are summarized in the table below:

Table 3

Technical Services (SCADA) Allocation of Common Costs to Services					
Common Cost Centres	**Cost Centre No.**	**Water**	**Wastewater**	**Stormwater**	**ATDES***
SCADA System	48598 ~~43598~~	34% ~~32%~~	65% ~~67%~~	1%	TBD
Regional Technical Services	48590 ~~43570~~	34% ~~32%~~	65% ~~67%~~	1%	TBD
Administration and Overheads	48592 ~~43592~~	34% ~~32%~~	65% ~~67%~~	1%	TBD
* Distribution to DES will be established as the system is developed and is operational.					

Engineering and Capital Infrastructure ~~Services~~ (ECI~~CIS~~) ~~Technology Services~~

Engineering and Capital Infrastructure~~ISTS (excluding Technical Services (SCADA))~~ consists of seven~~five~~ (~~5~~7) common cost centres which contain shared costs for Water, Wastewater, Stormwater and District Energy Services. The percentage distribution between Services is determined by the Director of ECI~~ngineering and CIS~~~~TS~~ based on budgeted costs and allocation of staff time employed for each respective Service.

~~Secondary allocations are performed of costs apportioned to Wastewater costs to provide for segregation between Wastewater and Stormwater Services. The basis for this allocation was calculated using the direct, operating costs for each Service for 2020/21.~~

Allocations relating to common costs within ~~Engineering and CIS~~ECI~~TS~~ are summarized in the table below:

Table 4

Engineering and Capital Infrastructure ~~Technology Services~~ Allocation of Common Costs to Services					
Common Cost Centres	**Cost Centre**	**Water**	**Wastewater**	**Stormwater**	**ATDES****
Administration*	~~43525~~48525	51~~33~~%	44.1~~52~~%	4.9~~15~~%	TBD
~~Record Information*~~	~~43532~~	~~33%~~	~~52%~~	~~15%~~	~~TBD~~
~~Information Services*~~	~~43565~~	~~33%~~	~~52%~~	~~15%~~	~~TBD~~
Energy and~~&~~ Business Development	~~43526~~48526	5~~39~~%	95~~61~~%	0%	TBD
Asset Management and~~&~~ Capital	~~42529~~48529	20~~33~~%	70~~52~~%	10~~15~~%	TBD
Capital Project Delivery	48534	50%	40%	10%	TBD
Infrastructure Planning	48536	50%	40%	10%	TBD
Strategic Projects	48537	55%	40%	5%	TBD
Engineering Approvals	48506	35%	35%	30%	TBD

* Distribution of costs shared across all systems is based on a primary apportionment of 51% to the Water System and 49% to Wastewater/Stormwater. Common costs across Wastewater and Stormwater Systems are apportioned 90% and 10% respectively.

** Distribution to DES will be established as the system is developed and is operational.

The basis for the allocation between Water and Wastewater has been calculated using the customer base for each Service. Whether using the customer base for allocating costs to District Energy is appropriate will be determined as the system is developed as there will be very few customers comparatively. The allocation between Water and Wastewater remains at 51/49 and has been confirmed using customer data as at March 31, 2024~~3~~, which reported water and wastewater customers of 87,960~~281~~ and 8~~3~~4,110~~,474~~ respectively.

Separate cost centres capture costs related to Water, Wastewater, Stormwater and District Energy Services. Budgeted operating costs are an appropriate basis for allocation between Water, Wastewater, Stormwater and District Energy Services. Wastewater and Stormwater services are administrated by the same operations group and operating costs reflect the direct costs imposed by the assets under management, their annual operating costs and indirectly the ECI~~ngineering and CIS~~~~TS~~ provided to deliver these respective services. Allocation in this manner is reasonable as a method to reflect cost causation.

~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety

~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety consists of nine~~six~~ (~~6~~9) cost centres, with the primary allocations for each spread between Water, Wastewater, Stormwater and District Energy Services. The percentage distributions between Services are determined by the Director of ~~Regulatory Services~~ ~~Health, Safety and Environment~~Environment, Health and Safety based on budgeted costs and staff time employed for each respective Service. ~~For the 2013 application, Halifax Water indicated in response to IR 12MUL that it anticipated that the percentages shown in Table 5 will remain relatively stable from rate case to rate case based on the work focus of Health, Safety and Environment~~~~Environment, Health and Safety~~~~Regulatory Services. Since that time, due to the implementation of stormwater billing and the process to review requests for stormwater exemptions, Halifax Water staff determined based on time tracking that the allocation to Stormwater should increase slightly to reflect the estimated increase in staff time dedicated to stormwater issues.~~

Allocations relating common costs within ~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety are summarized in the table below:

Table 5

~~Regulatory Services~~Environment, Health, and Safety ~~and Environment~~ Allocation of Common Costs to Services					
Common Cost Centres	**Cost Centre**	**Water**	**Wastewater**	**Stormwater**	**ATDES***
Administration and Overheads	~~42500~~48500	~~20~~35%	35%	~~45~~30%	TBD
Environmental ~~Engineering~~Compliance	~~42501~~48501	10%	45%	45%	TBD
Regulatory Compliance~~s~~	~~42502~~48502	65%	30~~35~~%	~~0~~5%	TBD
Regulatory Stormwater ~~Engineering~~	~~42504~~48504	0%	0%	100%	TBD
Environmental Management System	~~42505~~48505	40%	40%	20%	TBD
~~Engineering Development Approvals~~	~~43531~~48506	~~35%~~	~~35%~~	~~30%~~	~~TBD~~
Regulatory Customer Programs	48507	5%	35%	60%	TBD
Safety and Security	48911	35%	35%	30%	TBD
Water Quality	43415	100%	0%	0%	TBD
Watersheds	43411	100%	0%	0%	TBD

* Distribution to DES will be established as the system is developed and is operational.

Customer Service

Customer Service, a division under Corporate Services~~ within the organizational hierarchy~~, consists of seven (7) cost centres in total, with the primary allocations for the collective costs split between Water and Wastewater Services based on the prorated number of total customers. Whether using the customer base for allocating costs to District Energy is appropriate will be determined as the system is developed as there will be very few customers comparatively. These shares have historically been consistent and system data as of March 31, 2024~~3~~ affirms the apportionment to Water and Wastewater Services at 51% and 49% respectively.

Secondary allocations are performed for costs apportioned to Wastewater for five (5) of the above noted cost centres, to provide for segregation between Wastewater, Stormwater and District Energy Services. This apportionment is on an indirect basis and was calculated using actual direct operating costs for each Service~~, with the FY 2020/21 as the basis~~. For District Energy, an estimate of annual operating costs will be reflected in future apportionments. Allocations for these cost centres within Customer Service are summarized as follows:

Water = 51%

Wastewater = 44.1% (49% x 90% wastewater share of Wastewater/Stormwater Costs)

Stormwater = ~~5~~4.9% (49% x 10% stormwater share of Wastewater/Stormwater Costs)

District Energy = Distribution to ATDES will be established as the system is developed and is operational.

For the remaining two (2) cost centres, Water Meter Reading (48554) and Operation and Maintenance of Water Meters (48556), combined costs within these cost centres are allocated between Water and Wastewater Services only, at 51% and 49% respectively. Meters are not employed within Stormwater Service in determining revenue, either as a base charge or volumetric rate perspective, nor is there evidence of cost causation. For District Energy, the meters are different than those used for Water Services and as such a new cost centre will be established to accumulate costs relating to District Energy and will be 100% allocated to the ATDES.

Customer Services Allocation of Common Costs to Services					
Common Cost Centres	**Cost Centre No.**	**Water**	**Wastewater**	**Stormwater**	**ATDES**
Supervision & Admin CS	48551	51.0%	44.1%	4.9%	TBD
Customer Service Gen	48552	51.0%	44.1%	4.9%	TBD
Collecting	48553	51.0%	44.1%	4.9%	TBD
Meter Reading	48554	51.0%	49.0%		TBD
Customer Billing	48555	51.0%	44.1%	4.9%	TBD
Operations & Maintenance meters	48556	51.0%	49.0%		TBD
Admin & OHS Customer Service	48559	51.0%	44.1%	4.9%	TBD

Corporates Services

Corporate Services (excluding Customer Service) consists of ~~five~~ten (10~~5~~) cost centres which contain shared costs for Water, Wastewater, Stormwater, and District Energy Services. ~~, with t~~The primary allocations for the collective costs are split between Water and Wastewater Services at 51% and 49% respectively based on the prorated number of total customers.

Secondary allocations are performed for costs apportioned to Wastewater costs to provide for a segregation between Wastewater, Stormwater, and District Energy Services. This apportionment is on an indirect basis and was calculated using actual direct operating costs for each Service~~, with the FY 2020/21 as the basis~~. For District Energy, an estimate of annual operating costs will be reflected in future apportionments.

~~Allocations relating to common costs within Corporate Services are summarized as follows:~~

~~Water = 51%~~

~~Wastewater = 44% (49% x 90% wastewater share of Wastewater/Stormwater Costs)~~

~~Stormwater = 5% (49% x 10% stormwater share of Wastewater/Stormwater Costs)~~

~~District Energy = Distribution to ATDES will be establish as the system is developed and is operational.~~

Allocations relating common costs within Corporate Services are summarized in the table below:

Table 7~~X~~

Corporate Services Allocation of Common Costs to Services					
Common Cost Centres*	**Cost Centre**	**Water**	**Wastewater**	**Stormwater**	**ATDES****
Administration	48701	51%	44.1%	4.9%	TBD
Engineering Information	48532	51%	44.1%	4.9%	TBD
Data Analytics & Visualization	48542	51%	44.1%	4.9%	TBD
Cybersecurity & Information Services	48535	51%	44.1%	4.9%	TBD
I&T Project Management Office	48541	51%	44.1%	4.9%	TBD
Accounting	48702	51%	44.1%	4.9%	TBD
Finance	48703	51%	44.1%	4.9%	TBD
Procurement	48704	51%	44.1%	4.9%	TBD
ERP Management & Development	48705	51%	44.1%	4.9%	TBD
IT Administration and Overhead	48545	51%	44.1%	4.9%	TBD
* Distribution of costs shared across all systems is based on a primary apportionment of 51% to the Water System and 49% to Wastewater/Stormwater. Common costs across Wastewater and Stormwater Systems are apportioned 90% and 10% respectively. ** Distribution to DES will be established as the system is developed and is operational.					

Administration

Administration consists of ten~~welve~~ (10~~2~~) cost centres in total, with the primary allocations for the collective costs split between Water and Wastewater Services based on the prorated number of total customers. Whether using the customer base for allocating costs to District Energy is appropriate will be determined as the system is developed as there will be very few customers comparatively. Excluding ATDES, these shares have historically been consistent and system data as of March 31, 2024~~3~~ provides for apportionment to Water and Wastewater Services at 51% and 49% respectively.

Secondary allocations are performed of costs apportioned to Wastewater costs to provide for segregation between Wastewater, Stormwater, and District Energy Services. This apportionment is on an indirect basis and is calculated using actual direct operating costs for each Service~~, with the FY 2020/21 as the basis~~. For District Energy, an estimate of annual operating costs will be reflected in future apportionments.

~~Allocations relating common costs within Administration are summarized as follows:~~

~~Water = 51%~~

~~Wastewater = 44% (49% x 90% wastewater share of Wastewater/Stormwater Costs)~~

~~Stormwater = 5% (49% x 10% stormwater share of Wastewater/Stormwater Costs)~~

~~District Energy = Distribution to ATDES will be establish as the system is developed and is operational.~~

Allocations relating common costs within Administration Services are summarized in the table below:

Table 8~~X~~

Administration Services Allocation of Common Costs to Services					
Common Cost Centres	**Cost Centre**	**Water**	**Wastewater**	**Stormwater**	**ATDES****
Administration and Overheads	48568	51%	44.1%	4.9%	TBD
Human Resources	48564	51%	44.1%	4.9%	TBD
Employee Benefits	48566	51%	44.1%	4.9%	TBD
Administration and General Manager's Office[1]	48601	51%	44.1%	4.9%	TBD
Communications	48602	51%	44.1%	4.9%	TBD
Legal	48603	51%	44.1%	4.9%	TBD
Sponsorships, Donations and Public Relations[5]	48605	51%	44.1%	4.9%	TBD
Operations of Cowie Admin Building[2]	42341	See note	See note	See note	TBD
Operations of Cowie Operations Building[3]	42342	See note	See note	See note	TBD
General Overhead Expenses[4]	48569	See note	See note	See note	TBD
** Distribution to DES will be established as the system is developed and is operational.					

~~The twelve (12) cost centres are as follows, with a brief description of the costs captured in each:~~

1. ~~•~~ Administration and General Manager's Office

Costs include those related to the general administration of the utility as a whole, which cannot be directly attributed to particular Service or cost centre. Costs include those for administrative support staff and executive remuneration (30%) not assigned to general overheads (see below)

~~• Security Costs~~

~~Costs include those related to the safety and security of Halifax Water facilities and its employees. Major costs include labour, contract services and professional services;~~

- ~~Payroll Interface (error collection)~~

~~This is a cost centre used to isolate or "red flag" errors that may occur with the interface between the payroll and accounting modules. Typically, this would retain no costs as posts contained therein would be corrected through re-allocation;~~

- Human Resources

This cost centre is for the sole purpose of Halifax Water's Human Resource department. Labour is a major cost within the department, which supports such functions as payroll, corporate wide training initiatives, hiring, job placements and other such functions;

- Employee Benefits

Costs recorded in this cost centre include pre-retirement leave pay and wages, benefits and recoveries relating to any employees on long-term disability (LTD) or workers' compensation (WCB). Other employee benefit costs are posted directly to the cost centres through the payroll system;

2. Operation & Maintenance of Cowie Administration Building

Includes all costs associated with the operation and maintenance of the main administration building, located at 450 Cowie Hill Road. These costs are then allocated to the respective departments using the facility based on square footage of space occupied;

3. Operation & Maintenance of Cowie Operations Building

Includes all costs associated with the operation and maintenance of the operations building, located at 455 Cowie Hill Road. These costs are then allocated to the respective departments using the facility based on square footage of space occupied;

4. General Overhead Expenses

This cost centre captures 70% of executive remuneration and corresponding benefits, which in turn is recovered from other cost centres within the organization in the form of a general overhead recovery;

- Administration & Overheads

Includes lease/rent expenses, plus applied overheads.

- Communications

Includes costs associated with both the internal and external communications for the utility.

- Legal

Includes costs associated with legal and consulting services on various matters, insurance claims, and document management for the utility.

5. ~~•~~ Sponsorships and Donations

Includes costs associated with sponsorships and donations for the utility, considered unregulated expenditures by nature, and excluded from revenue requirements.

The costs captured under Administration differs from the Administrative costs for Engineering and CIS~~TS~~, Corporate Services or ~~Regulatory Services~~Environment, Health~~,~~ and Safety. The Administrative costs within Engineering and CIS~~TS~~, Corporate Services or ~~Regulatory Services~~ Environment Health and~~,~~ Safety are administration costs specific to those areas, and required for the performance of the functions of those units. Administration costs captured within Administration are incurred for and benefit the organization as a whole rather than one specific department or service.

Allocations of common overhead costs are imprecise and require judgments. In 2007, it was decided with the transfer of the Wastewater and Stormwater Systems to Halifax Water that customer base is a fair, equitable and consistent means to allocate these common costs. This judgment remains valid today, and allocation based on customer base was accepted in the first COS Manual allocation of common costs based on the number of employees within each service is not a viable or appropriate option for several reasons:

- Varying the allocations based on changing staffing levels would provide inconsistencies, especially with respect to year-over-year comparisons and would unduly complicate variance analysis;

- Using the number of employees as a substitute for number of customers, requiring a deviation from historical practice, will not result in any greater precision or equity in cost distributions, given what needs to be accomplished; and
- Increasingly with system integration and enhanced efficiencies, employees will discharge their duties across service boundaries.

Recognition and Allocation of Unregulated Revenues

Halifax Water has revenues and expenses from unregulated activities. These are reported on Schedule D of Halifax Water's Audited Financial Statements. The unregulated activities include consulting services, operation of a dewatering facility at the Aerotech Park, storage ~~treatment~~ of effluent from airplanes, landfill leachate treatment, contract revenue, and treatment of septage sludge from septage haulers. In June/July 2024, Halifax Water temporarily accepted additional septage sludge due to issues at a private septage sludge treatment facility. Halifax Water also has various energy projects underway to explore expansion of business opportunities, deemed to be unregulated activities by ~~NSUARB~~NSRAB[8], and include wind energy, generation of electricity using solar, in-line turbines in the Water System, and combined heat and power generation using bio-solids or methane. The projects will be financed through un-regulated revenues with the objective of increasing non-operating revenues to reduce future revenue requirements from rate-regulated activities. Initially, financing any projects that proceed will result in some reduction of non-operating revenues available to reduce rate-regulated activities.

Net proceeds from unregulated businesses will be allocated in whole or in part back to the Services whose assets were employed in their generation.

In the 2013 rate application Halifax Water proposed guiding principles for unregulated activities:

1. The rate base cannot be exposed to undue financial risk associated with capital financing.

2. Unregulated expenses must be funded by unregulated revenues.

[8] The ~~NSUARB~~NSRAB order W-HRWC-R-12 dated June 25, 2012 stated that it is hereby ordered that Halifax Water: "[7] assume its wind energy projects are an unregulated service unless subsequently determined by the Board to be otherwise." A letter from the ~~NSUARB~~NSRAB dated July 9, 2012 also directed that in-line turbine projects are unregulated business.

3. Cost causation principles must be employed and there should be no subsidization of unregulated activities from regulated activities.

4. There should be a net return/benefit to the rate base from unregulated activities.

In its decision, the Board specifically addressed unregulated activities and reporting, and on page 65 of the decision had the following findings.

> [214] The Board directs Halifax Water to review the projected revenues for unregulated activities to ensure they are on a full cost recovery basis and report its findings by September 30, 2013.
>
> [215] In addition, the Board assumes that any supervisory time or use of common facilities is minimal. They should not distract senior staff from focusing on the effective, efficient and economic operation of the three systems. The Board directs Halifax Water to have senior staff record the time they are required to devote to unregulated activities and that this be reported on a percentage basis, annually.

Halifax Water complied with the Board order, conducted the review, and found that there were no material misstatements with respect to budget and reporting on unregulated activities, but there were some recommended improvements. The changes implemented include:

- Establishing separate cost centres to segregate and track costs for tower leases, energy projects, rental properties, contract revenue, and consulting.
- Creating statistical work orders in the new standalone payroll system to allow staff to record time directly to unregulated activities.
- Implementing a 1% mark-up to salaries and benefits charged to unregulated activities to recoup miscellaneous expenses.

Figures for overhead costs recovered from unregulated activities in 2013/14 and prior included salaries and benefits only. Expenses specifically identified as being unregulated, are charged as a direct unregulated expense. ~~Effective April 1, 2014, Halifax Water assigned an additional 1% mark-up to salaries and benefits charged to unregulated activities to recoup miscellaneous expenses such as office supplies, photocopying, telephone, etc. The 1% is based on the fact that unregulated revenues represent approximately 1% of total revenues; and overhead expenses are minimal.~~

~~As mentioned previously, in 2020 Halifax Water implemented a new standalone payroll system. The new system allows staff to record time spent related to unregulated activities directly into the payroll system using statistical work orders, which compiles costs and posts to the appropriate unregulated cost centre. This eliminates Excel spreadsheets which had been used as a tracking mechanism, requiring a manual entry of costs into the accounting system.~~

Capital Assets

Infrastructure and capital assets are of primary importance to Halifax Water, mainly due to the magnitude of investment required monetarily. With respect to rate applications, one of the major components in the determination of the revenue requirement is depreciation, which is directly associated with capital assets. Other expenditures closely linked to capital assets from an operational perspective are debt servicing, which again is a main contributor in the determination of the revenue requirement.

Tracking capital assets is an important function. Complexities can arise given the fact that capital not only is funded internally, but may also be contributed/ donated, so segregation is required from a tracking standpoint. This segregation not only applies to anticipated additions in the current year, but also for balances carried forward year over year with respect to both total cost and accumulated depreciation. Special attention is also given to additions in any given year. For example, for the purposes of the rate application, assets cannot be brought into Plant in Service unless the assets are or will be in service. Finally, from a continuity perspective, retirements/ disposals require proper treatment to ensure their capital cost and any associated accumulated depreciation is removed from the accounting records.

The calculation of depreciation is a relatively straightforward process and care must be exercised in that accounting policies and principles surrounding depreciation and capital assets are adhered to.

Capital assets associated with each utility Service are presented in the rate application using a standardized format that has been adopted from previous rate applications to the ~~NSUARB~~NSRAB. This general format is shown in Table 6 below, where System-specific capital assets are presented on a line-by-line basis under the following common categories:

- Intangible Plant;
- Land and Land Rights;

- Structures and Improvements;
- Equipment;
- Mains and
- Other.

Additional categories will be added as required for each utility System to further capture other types of capital assets unique to that particular system.

Capital assets that are common to all four systems are allocated 51% to Water, 49% to Wastewater, with a secondary allocation of 10% from Wastewater to Stormwater and the allocation to District Energy will be established as the system is developed and is operational. This is consistent with the approach to sharing common operating costs between Wastewater, Stormwater, and District Energy Services noted previously. Direct allocation is employed when possible – such as allocating buildings based on square footage utilized by each Service.

Some examples of capital assets common to all four systems would include Administration Buildings and Corporate Enterprise Systems. Meters are capital assets common to three systems, with District Energy customers having a separate meter from water and wastewater specific to that service. Historically, Halifax Water has treated water meters entirely as Water assets. It was recognized in conjunction with investigation of future metering technology improvements, that the water meters are assets that serve both water and wastewater customers. Based on the March 31, 2024~~1~~ customer data, a 51%/49% split between Water and Wastewater is appropriate for water meter capital costs. Capital costs related to District Energy meters will be allocated entirely to the ATDES.

Table 6 Capital Asset Template

Halifax Water
Utility System
Utility Plant in Service
Depreciation/Continuity Schedule
Test Year

	Funded Utility Plant in Service	Donated Utility Plant in Service	Total Utility Plant in Service	Work in Process approved in Prior Years	Utility Plant in Service Additions	Donated Utility Plant in Service Additions	Projected Retirements	Projected Utility Plant in Service	Accumulated Depreciation	Accumulated Depreciation on funded assets	Accumulated Depreciation on donated assets	Projected Retirement of Accumulated Depreciation	Projected Net Book Value before Depreciation	Depreciation on Donated assets	Depreciation expense on funded assets	Projected Net Book Value after Depreciation
	Opening Balance	Opening Balance	Opening Balance	Test Year	Test Year	Test Year	Test Year	Test Year	Opening Balance	Opening Balance	Opening Balance	Test Year	Test Year	Test Year	Test Year	Test Year
Intangible Plant																
Organization and Working Capital																
LAND AND LAND RIGHTS																
System Specific - Land																
System Specific - Right of Ways																
System Specific - Other Rights																
System Specific - Other																
STRUCTURES AND IMPROVEMENTS																
System Specific - Structures																
General																
Office Building																
Equipment																
System Specific - Pumping Equipment																
System Specific - Tools and Equipment																
System Specific - Transportation																
System Specific - Office Equipment																
System Specific - Computer Equipment																
System Specific - Other																
Mains																
System Specific - Mains and Laterals																
Other																
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SECTION 4 - WATER SYSTEM COST ALLOCATIONS

General Review – Base / Extra Capacity Methodology

Water system COS analyses employ a multi-step procedure to assign revenue responsibilities to customer classes in proportion to their respective shares of system demands and uses of system facilities (*e.g.*, standby for fire protection). Using the base-extra capacity method, COS is usually separated into four primary cost components: (1) base or average demand-related costs, (2) extra capacity costs - often further segregated into maximum-day and maximum-hour costs, (3) customer costs- often segregated into water meter-related costs and those incurred for billing, and (4) fire-protection costs.

- **Base costs** vary with the total quantity of water used or are those operations and maintenance (O&M) expenses and capital costs incurred to deliver services under average demand conditions.

- **Extra capacity costs** are associated with meeting demand requirements in excess of average and include O&M expenses and capital costs for system capacity beyond that required to meet average demands. These costs may be subdivided into costs necessary to meet maximum-day extra demand and maximum-hour demand in excess of maximum-day extra demand.

- **Customer costs** comprise those costs associated with serving customers, irrespective of the amount or rate of water use. They include water meter reading, billing, and customer accounting and collecting expense, as well as maintenance and capital costs related to water meters and services.

- **Fire-protection costs** include costs directly related to public fire hydrants and related branch mains and valves. It is noted that the costs allocated to the direct fire-protection cost component are usually only a small part of the total cost of fire protection. A significant portion of extra capacity costs can be allocated to fire protection in distributing costs to customer classes. Fire protection costs are primarily capital-related with relatively limited operational costs incurred to deliver this service attribute.

In the base-extra capacity method, the appropriate classification factors between base and extra capacity should be calculated using actual operating history or design criteria. The basic formulas are as follows:

- For functions classified to maximum-day and average day service characteristics:

Average Day % = Average Day Demand/ Maximum-Day Demand

Maximum-Day % = (Maximum-Day Demand – Average Day Demand)/ Maximum-Day Demand

- For functions classified to maximum-hour, maximum-day and average day service characteristics:

Average Day % = Average Day Demand/ Maximum-Hour Demand

Maximum-Day % = (Maximum-Day Demand – Average Day Demand)/ Maximum-Hour Demand

Maximum-Hour % = (Maximum-Hour Demand – Maximum-Day Demand)/ Maximum-Hour Demand

The classification of costs by function is based on the design and operation of the facilities used to perform the functions in question. For example, raw-and treated-water pumping and treatment facilities are typically classified to the average-day and maximum-day extra capacity cost components since these facilities are typically designed to meet maximum-day demands. In contrast, storage facilities are typically apportioned to each of the three demand-related components because storage tanks serve principally to assist utilities in meeting maximum-hour extra capacity requirements.

Fire Protection is classified between public fire protection and private fire protection based on the flows that each could potentially demand. The cross-sectional area of the pipe is used as a surrogate for this flow classification. All public hydrants are assumed to have a 150 mm (6 inch) connection to the Halifax Water System while all private connections are based on the recorded or observed size of the connection to the Halifax Water System. As noted in response to IR-IPOANS 1 during the 2013 rate application, the charge shall be based on the size of the line before the first point of use connection whether it be a hydrant line or a sprinkler line entering the building. The total cross-sectional area for all public hydrants is calculated along with the total cross-sectional area of all private hydrants and sprinkler connections. These areas are used to calculate the percentage of the fire protection charge to be recovered from the public system versus the percentage to be recovered from private connections.

In classifying costs to utility service characteristics, it is useful to develop as complete an accounting of utility system performance measures as is practicable. Accordingly, it is useful to develop a high-level reconciliation of system production data – identifying the shares of production associated with billed usage (by customer class) versus that associated with non-revenue water (*e.g.*, losses). The determination of shares of production that are billed and lost are among the measures that are used to manage non-revenue water (including non-metered water uses and water losses) as discussed in more detail in response to IR-IPOANS-18 of the general rate application of 2013. For cost-of-service analysis purposes, it is noteworthy that costs are incurred relative to water production, yet costs must be allocated to billable water demands. Understanding these relationships provides a more complete picture of cost causation and allocated revenue responsibilities.

The elements of the water production and billable volume data are compiled for Tables 7 & 8. Beyond the point noted above the relationship between production and billable volumes are not used directly in the cost-of-service analysis.

Classified costs are allocated to customers through the calculation of unit costs of service for each service characteristic, and apportionment of costs to customer classes based on the number of service units required by the respective customer classes. So, for example, if cost classification indicates that annual average-demand related costs are $10 million and average annual demands are 5 million cubic meters, the $2 per cubic meter unit cost is distributed to Customers by including in rates the $2 costs per cubic meter.

System and Customer Use Data (for Cost Allocation)

A map of the System is provided in the COS Manual Appendix and general system information may be referenced from Halifax Water's Annual Report. Water System production data, similar to that provided in the example format below using FY 202~~0~~3/2~~1~~4 Halifax Water data, is used to develop cost classification percentages as outlined in section 2 Methodology Review.

Table 7

Water System Production

Development of Demand-Related Cost Classification Percentages

~~Halifax Water - Water System Production – FY 2020/21*~~							
~~Water Production~~	~~Average-Day Demand~~	~~Maximum-Day Demand~~	~~Max-Day Factor~~	~~Avg-Day / Max-Day Percent~~	~~Maximum-Hour Demand~~	~~Max-Hour Factor**~~	~~Avg-Day / Max-Day / Max-Hour Percent~~
~~Lake Major~~	~~33,198 M³~~	~~44,910 M³~~	~~1.35~~		~~56,302 M³~~	~~1.70~~	
~~Lake Pockwock~~	~~78,736 M³~~	~~97,040 M³~~	~~1.23~~		~~145,415 M³~~	~~1.70~~	
~~Bennery Lake~~	~~535 M³~~	~~1,302 M³~~	~~2.43~~		~~1,669 M³~~	~~1.70~~	
~~System~~	~~112,469 M³~~	~~143,252 M³~~	~~1.27~~	~~79% / 21%~~	~~215,451 M³~~	~~1.70~~	~~52%/14%/34%~~

~~* Halifax Water, Cost of Service Demand Analysis Report, prepared by M. E. Loudon Ltd., October 2009 – hereinafter, the Loudon Report – indicated a maximum-day factor of 1.22. This has been updated in 2014 by M.E. Loudon Ltd. Maximum-day factor is now 1.27. The Loudon report excludes Bennery Lake. The COS Manual includes Bennery Lake. The difference is not material as Bennery represents 0.7% of total production.~~

~~** Maximum-hour production data is not available; the 1.70 maximum-hour factor based on the above-referenced Loudon report was applied uniformly for all water treatment plants.~~

Halifax Water's Water System Production (2023/24) [1]							
Water Treatment Plant	**Average-Day Demand (M^3)**	**Maximum-Day Demand (M^3)**	**Maximum-Day Factor**	**Average-Day/ Maximum-Day Percentage**	**Maximum-Hour Demand (M^3)**	**Maximum-Hour Factor [2]**	**Average-Day/ Maximum-Day/ Maximum-Hour Percentage**
Lake Major	33,906	43,560	1.28		56,302	1.76	
Lake Pockwock	94,244	110,270	1.17		145,415	1.76	
Bennery Lake	903	1,571	1.74		1,669	1.76	
Total	129,053	155,401	1.20	83% / 17%	203,386	1.76	63% / 13% / 24%

1 - The Halifax Water Cost of Service Demand Analysis Report prepared by A&N Technical Services Inc. in 2024 indicated a maximum-day factor of 1.20 (Table A-1).

2 - Maximum-hour production data is not available. The 1.76 maximum-hour consumption factor derived from the A&N Technical Report was applied uniformly for all water treatment plants.

Halifax Water does not calculate and compile maximum hour production from the treatment plants because there is a significant amount of storage in the distribution system such that maximum hour production is not driven by variability in customer demand patterns. The plants are designed and intended to operate at a constant rate on any given day with variations in consumption made up from storage. As a result, and notably different from the cost causation relationships contemplated in the AWWA M1, there is no significant relationship between plant operation and hourly variations in system consumption. Moreover, the system does not experience significant variations in demands. ~~The Loudon Report concluded on page 19: "It is concluded that there is insufficient max hour differentiation by customer class to be a factor in allocating costs for rate setting purposes".~~

Halifax Water engaged R.M. Loudon to prepare an update to determine whether the 2009 findings were still valid. R.M. Loudon's 2014 Water Demand Analysis supports the findings in the 2009 report. Halifax Water engaged ~~Raftelis~~ A&N Technical Services in 2024/25 ~~2020/21~~ to complete a Water Demand Analysis using AMI data. The ~~2021~~2025 work concludes there ~~may be sufficient~~ is limited differentiation in daily peaking characteristics by customer class now to warrant using max hour as a factor in allocating costs for rate setting purposes, ~~however the consumption data for the period under review was not normal as customer consumption patterns were impacted by the COVID-19 pandemic~~. At this time, Halifax Water is not proposing to do further allocations to functionalize costs to customer classes. ~~Raftelis also notes that "there is enough differentiation between the daily peaking characteristics by customer class that class-based volumetric water rates could be supported, although would not necessarily be required".~~

Additional information used for classification and allocation of System costs includes:

- Design criteria for all water related infrastructure that is included in the ~~20203~~2025 Design Specifications. The document is available online at https://halifaxwater.ca/halifax-water-specifications-forms. The document includes a table of contents that clearly defines the document content.
- Fire flow requirements are designed using the "Water Supply for Public Fire Protection – 1999, Fire Underwriters Survey for CGI." Typical fire flow requirements[9] are:
    - 880 usgpm for residential single family

[9] Actual requirements must be calculated for each circumstance.

- 1,100 usgpm for townhouse developments
- Water Services and water meters are sized using AWWA Manual of Supply Practices – M-22 - Sizing Water Service Lines and Meters.

Finally, data employed for allocation to customer classes includes information on the distribution of water meters by size serving the class, billed usage, and measured or imputed maximum-day demand and maximum-hour demands based on estimated peaking factors. Provided in Table 8 below is an example format for presentation of these customer class usage characteristics:

Table 8

Customer Class User Characteristics

Water Accounts and Billed Usage by Meter Size and Customer Class (2020/21)				
		Billed Usage		
Meter Size	Accounts [1]	Residental	Non-Residential	Total
Unmetered	307	55,976	0	55,976
5/8" (15 MM)	80,973	13,673,987	185,667	13,859,654
3/4" (20 MM)	1,022	325,036	198,668	523,704
1" (25 MM)	1,563	978,447	595,033	1,573,480
1.5" (40 MM)	1,146	1,065,213	1,477,422	2,542,635
2" (50 MM)	818	2,221,729	2,431,751	4,653,480
3" (80 MM)	316	2,135,050	1,626,570	3,761,620
4" (100 MM)	77	597,942	842,276	1,440,218
6" (150 MM)	38	129,982	2,062,437	2,192,419
8" (200 MM)	26	12,724	1,511,705	1,524,429
10" (250 MM)	2	0	58,031	58,031
Total	86,288	21,196,086	10,989,560	32,185,646
Maximum-Day Peaking Factor [2]				1.24
Maximum-Day Demand				
Maximum-Hour Peaking Factor [2]				1.70
Maximum-Hour Demand				

1 - For cost allocation, account totals are used to allocate billing and other non-metered customer service costs; meter equivalencies based on account data by meter size are used to allocate meter-related costs.

2 - Pending the potential development of class peaking factor estimates with the implementation of new metering technologies, Louden Report estimates represent the best available data on class demand patterns. Maximum-Day and Maximum-Hour demand factors based on the Louden Report did not indicate material differences across classes, are applied to determine respective class claims on extra-capacity.

Water Accounts and Billed Usage by Meter Size and Customer Class (2023/24)				
		Billed Usage		
Meter Size	Accounts [1]	Residental	Non-Residential	Total
Unmetered	295	53,842	0	53,842
5/8" (15 MM)	82,194	12,995,683	204,923	13,200,606
3/4" (20 MM)	1,054	308,286	229,163	537,449
1" (25 MM)	1,593	945,407	736,621	1,682,028
1.5" (40 MM)	1,218	1,222,210	1,796,013	3,018,223
2" (50 MM)	864	2,630,549	2,568,324	5,198,873
3" (80 MM)	321	2,168,820	1,791,488	3,960,308
4" (100 MM)	74	614,659	988,849	1,603,508
6" (150 MM)	36	117,853	2,177,820	2,295,673
8" (200 MM)	25	20,743	1,527,247	1,547,990
10" (250 MM)	2	0	276,046	276,046
Total	87,676	21,078,052	12,296,494	33,374,546
Maximum-Day Peaking Factor [2]				1.24
Maximum-Day Demand				
Maximum-Hour Peaking Factor [2]				1.70
Maximum-Hour Demand				

1 - For cost allocation, account totals are used to allocate billing and other non-metered customer service costs; meter equivalencies based on account data by meter size are used to allocate meter-related costs.

2 - Pending the potential development of class peaking factor estimates with the implementation of new metering technologies, Louden Report estimates represent the best available data on class demand patterns. Maximum-Day and Maximum-Hour demand factors based on the Louden Report did not indicate material differences across classes, are applied to determine respective class claims on extra-capacity.

886

The Cost-of-Service Manual continues to rely on the Loudon report class demand projections. Halifax Water engaged ~~Raftelis in 2020 and most recently~~ A&N ~~Techical~~Technical Services in ~~2021~~2025 to perform a water demand analysis. ~~In both,~~ ~~Raftelis~~ It was ~~determined differentiation in peaking characteristics could be reported between customer classes however, given the relatively young age of the advanced metering infrastructure (AMI), compounded by the continued effects of the COVID-19 pandemic on consumption patterns~~recommended preservation of system-wide rate and charges.~~, delaying the introduction of class-based rates would be prudent. The real-time capability afforded by AMI measurements~~ ~~This would provide greater confidence in the data, and ensure changes to the rate structure are as accurate and justifiable as possible~~ in the future~~.~~

Water Systems Functions

Utilities incur varying levels of costs to perform the different system functions needed to meet customer demands and make services available. The functionalization process involves categorizing revenue requirements according to functions in order to more appropriately assign costs to customer classes. Water system cost functions and their definitions for both operating and capital are presented in Table 9.

Table 9

Water System Cost Allocation – System Functions

Water System Function	Operating Costs Definition	Capital Cost Definition
Watershed Management	Includes labour, materials, and programs to ensure the watershed is maintained in optimal condition.	Includes all capital expenditures for watershed management.
Dams	Includes labour, materials, and programs to ensure dams are maintained in optimal condition and meet all safety regulations.	Includes all capital expenditures for dams.
Water Quality	Includes labour, materials, and programs to ensure water quality is maintained pursuant to regulatory requirements.	Includes all capital expenditures related to water quality management.
Water Treatment	Includes the cost centre for treatment plants (including raw water pumping, emergency standby, on-site storage, and water quality.	Includes all buildings, structures including storage that is part of the treatment process, mechanical and electrical equipment to make a complete operating treatment plant including wet well water storage.

Transmission	Includes the cost centres for all mains 600 mm (24 inch) or larger, as well as other mains clearly designed to serve as transmission mains.	Includes the design and construction costs associated with all mains 600 mm (24 inch) or larger, as well as other mains clearly designed to serve as transmission mains.
Distribution	Includes the cost centres for distribution and for pressure reducing valves (PRV) and control valves on the mains less than 600 mm (24 inch) in diameter.	Includes the design and construction costs associated with all mains less than 600 mm (24 inch) in diameter except for those designed to be transmission mains as identified and all associated valves and pressure regulating equipment.
Service Laterals	Includes the cost centre for water services.	Includes connection to the main and the piping from the main to the street line for water services.
Operation & Maintenance of Water Meters	Includes the cost centre for operation and testing of water meters (labour, materials, and programs).	Includes all capital expenditures for water meters.
Water Storage Tanks	Includes the cost centre for reservoirs/storage tanks. Water storage tanks that are part of a treatment plant are maintained as part of the treatment plant.	Includes all buildings, structures, control chambers, mechanical and electrical equipment to make a complete operating reservoir. Storage that is part of the treatment process is included in the capital cost of the Water Treatment Plant.
Hydrants	Includes the cost centre for hydrants.	Includes all hydrants and associated fittings and valves in the water system that are for the purpose of providing water for fire protection.
~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety	Includes Environmental ~~Engineering~~Compliance, Regulatory Compliance, Regulatory Stormwater ~~Engineering~~, Environmental Management, Regulatory Customer Programs, Safety and Security, Water Quality, and Watersheds and ~~Development Approvals~~ cost centres.	Cost centres within ~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~	Includes the cost centres ~~for Records Management;~~ Energy and Business Development, Asset Management and Capital Planning, Capital Project Delivery, Infrastructure Planning, Strategic Projects, and Engineering Approvals ~~and, Information Services~~.	Cost centres within Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~ function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Technical Services (SCADA)	Operate the SCADA systems for water (both treatment and distribution).	Cost centres within Technical Services function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Corporate Services	Includes the cost centres for Engineering Information, Data Analytics and Visualization, Cybersecurity and Information Services, I&T Project Management, Accounting, Finance, ~~and~~ Procurement, and ERP Management and Development.	Cost centres within Corporate Services function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles, etc.) are allocated as assets in proportion of the other costs through depreciation.
Customer Service	Includes the cost centres for Customer Care, Collecting, Supervision and Administration/Overheads.	Cost centres within Customer Service function as operating cost centres. Any capital costs related to the provision of this service

		(equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Water Meter Reading and Billing	Includes the cost centres for Water Meter Reading and Customer Billing.	Cost centres within Water Meter Reading and Billing function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Administration	Includes the cost centres for: Administration, Communications, Legal, Human Resources, Employee Benefits and General.	Cost centres within Administration function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.

Cost Functionalization Considerations

The engineers and operators responsible for operation of the Water System review assignment of water assets and their associated operating and maintenance costs to system functions. Operating costs centres are set up to record financial information in categories that support functionalization.

The basis for the determination of functions is the operating cost centers that comprise the Water System from source of supply to delivery to the Customer. It includes the direct cost functions of providing the service as well as the common costs of providing support services across all utility Services that are assigned to Water Services. The following points are noted regarding the cost functions:

- Historically, there was no separation of transmission and distribution main operating costs as these operating cost centers were combined following municipal amalgamation in 1996. The cost-of-service model will separate these into two cost functions, one for transmission and one for distribution. The age of the system means that the role of mains has changed over time as new sources of supply were developed and the System expanded. For the purposes of cost functionalization, a designation between transmission and distribution costs is required. For the Halifax Water System, all mains 355 mm (14 inch) and greater in diameter may be designated as transmission mains, together with any mains less than this diameter which are clearly designed to be transmission mains.
- Transmission and distribution functions are distinguished due to fundamental differences in the design and operation of these Water System network assets. These assets deliver services to a broad diversity of customer types – residential, multi-residential, institutional, commercial, industrial – located across an array of physical configurations. These configurations are typically

served by multiple feeds, providing redundancy that reinforces the security of water supply. Consistent with cost-of-service principles that call for distribution of costs based on cost causation, these functions do not recognize the density of customer concentrations. There is no evidence to suggest density of customer concentration will represent a material determinant of COS differentials across classes in that system redundancy and fire flow demand requirements almost certainly outweigh any potential density benefit, even in the event that such a benefit could be identified in light of the mix of land uses served across every sector of the Halifax Water service area. As noted, industry standard practices for cost-of-service analysis principles do not recognize the density of customer concentrations.

- Given that density of customer concentration is one of a variety of factors impacting costs to serve a particular subsection of Halifax Water's service area – and is arguably less important than other factors, for example fire flow requirements referenced in system design – the potential to isolate and define density-based cost differentials is limited at best. Accordingly, Halifax Water has not developed – nor received from other sources - any studies or reports that provide evidence of density-based cost differentials. The nature of its Customer base located within its service area, as well as system design protocols used by Halifax Water supports its conclusion.

The Technical Services (SCADA) budget has been allocated based on the number of data points monitored in each cost function. Functionalization of O&M expenses is shown in Worksheet W-6 in Rate Studies, which is based on Table 9 as shown in this Manual. The percentages reported in Worksheet W-6 are back-calculations, derived from actual dollar values included in the test year operating expenditures. Functionalization is shown with both percentage allocation and actual dollar values.

For Customer Service, input values (dollar costs) for the functions of water meters and water meter reading and billing are obtained from specific cost centres within Customer Service:

- <u>Water Meters</u>
  Operation and Maintenance of Water Meters

- <u>Water Meter Reading and Billing</u>
  Water Meter Reading

Customer Billing

Once costs have been identified for the above functions, costs applicable to the Customer Service function are merely the residual amount.

The concept for transmission is the same as Customer Service outlined above. Each region has a separate cost centre for transmission, and these combined costs were used to back-calculate the percentages allocations in the functionalization report. The percentages represent the prorated values for transmission costs compared to total transmission and distribution costs for each of the cost element groups.

The dollar value report for functionalization is the primary worksheet for input and balancing, the percentage report is supplemental in nature and useful to illustrate changes.

Classification of Functional Costs

Following the distribution of water system revenue requirements to designated functions, costs are distributed to Water System service characteristics. Following AWWA procedures outlined above, these service characteristics include water demand metrics, uses of system facilities, and customer service attributes. Water demand estimates include average-day, maximum-day and maximum-hour estimates; uses of facilities include fire protection (and potentially other standby/emergency) service; and customer service attributes relate to the numbers of equivalent water meters and accounts served. Classification of system costs (by function) distributes costs to the characteristics of service that distinguish customer classes.

Halifax Water's functionalized costs are classified to the following Water Service characteristics:

- Average Day Demand
- Maximum Day Demand
- Maximum Hour Demand
- Equivalent Water Meters
- Customer Service
- Fire Protection
- Indirect

O&M Cost Classification

Functionalized Water System costs are classified to service characteristics separately for O&M expenses and capital costs. O&M costs are classified as summarized in Table 10, explanations of which are provided in the subsequent notes. Supporting calculations are documented in the final section of the COS Manual section on Water System Allocations.

Table 10

Water System O&M Cost Classification Summary (values noted in yellow have been revised from existing manual)

Operation and Maintenance Cost Classifications								
Water System Functions	**Average-Day Demand**	**Maximum-Day Demand**	**Maximum-Hour Demand**	**Equivalent Meters**	**Customer Service**	**Fire Protection**	**Indirect**	**Notes**
Watershed Management	100%							1
Dams	100%							1
Water Quality	100%							1
Water Treatment	94%	6%						2
Transmission	94%	6%						2
Distribution	32%	16%	25%			27%		3
Storage Tanks	53%	3%	14%			29%		4
Hydrants						100%		6
Service Laterals				100%				5
Technical Services	25%	25%	25%			25%		7
Customer Service					100%			8
Operation & Maintenance of Meters				100%				9
Meter Reading and Billing					100%			10
Engineering and Capital Infrastructure Services							100%	11
Health, Safety and Environment							100%	11
Corporate Services							100%	11
Administration and General							100%	11

~~O&M Cost Classifications~~								
~~Water System Functions~~	~~Average-Day Demand~~	~~Max-Day Demand~~	~~Max-Hour Demand~~	~~Equivalent Meters~~	~~Customer Service~~	~~Fire Protection~~	~~Indirect~~	~~Notes~~
~~Watershed Management~~	~~100%~~							~~1~~
~~Dams~~	~~100%~~							~~2~~

~~Water Quality~~	~~100%~~							~~3~~
~~Water Treatment~~	~~91%~~	~~9%~~						~~4~~
~~Transmission~~	~~91%~~	~~9%~~						~~5~~
~~Distribution~~	~~28%~~	~~16%~~	~~25%~~			~~31%~~		~~6~~
~~Water Storage Tanks~~	~~52%~~	~~5%~~	~~14%~~			~~29%~~		~~7~~
~~Hydrants~~						~~100%~~		~~9~~
~~Service Laterals~~				~~100%~~				~~8~~
~~Technical Services (SCADA)~~	~~25%~~	~~25%~~	~~25%~~			~~25%~~		~~10~~
~~Customer Service~~					~~100%~~			~~11~~
~~Operation & Maintenance of Meters~~				~~100%~~				~~12~~
~~Meter Reading and Billing~~					~~100%~~			~~13~~
~~Engineering and Technology Services~~							~~100%~~	~~14~~
~~Regulatory Services~~							~~100%~~	~~14~~
~~Corporate Services~~							~~100%~~	~~14~~
~~Administration~~							~~100%~~	~~14~~

Notes on Water System O&M Cost Classification

1. Watershed management, dams, and water quality ~~is~~are assigned 100% to base capacity or average day. Watersheds are designed and managed to provide average day flow, consistent with AWWA M1.

~~2. Dams are assigned 100% to base capacity or average day, the same as watershed management.~~

~~3. Water Quality is assigned 100% to base capacity or average day, the same as watershed management.~~

~~4.~~2. Water Treatment and transmission allocations ~~is~~are consistent with the methodology on page 52 of M1. This also includes the suggestion in M1 that variable costs which in this case are

electricity, chemical and sludge management costs are allocated to base capacity or average day. Halifax Water used 2023/24~~2020/21~~ flows from the three large plants (Lake Major, Pockwock and Bennery Lake) and calculated the percentage that maximum day exceeds average day. While M1 suggests the electrical demand charge may be allocated to max day, Halifax Water did not do that because there is so little variability in the electrical demand charge (the difference in demand charge between the highest and lowest months is calculated to be $2,000~~400~~ out of a $220,000~~60,000~~ average monthly bill). See Table 10 for allocation percentages. ~~Based on this review costs are assigned 91% to average day and 9% to max day.~~

~~5. Transmission is distributed the same as water treatment, 9190% to average day and 910% to max day.~~

~~6.~~3. For distribution Halifax Water followed the method on page 52 of M1 ~~. T~~to determine peak hour based on the factors developed in Exhibit 34 of the Loudon[10] Report. This resulted in the ~~following distribution~~allocations per Table 10.~~:~~

~~1. Base Component (Average Day) = 28%~~
~~2. Max Day Component = 16%~~
~~3. Peak Hour Component = 25%~~
~~4. Fire Protection Component = 31%~~

~~7.~~4. For water storage tanks Halifax Water took the total distribution storage of all 17~~67~~ facilities and applied the formula for storage tank (reservoir) sizing found in the *Atlantic Canada Water Supply ~~g~~Guidelines* manual[11]. Fire demand in the service area varies from 800 to 5,000 igpm. Halifax Water calculated in the Water System Appendix the allocations per Table 10. ~~(see attached notes) the following distribution:~~

~~1. Base Component (Average Day) = 52%~~
~~2. Max Day Component = 5%~~
~~3. Peak Hour Component = 14%~~
~~4. Fire Protection Component = 29%~~

[10] Halifax Regional Water Commission, Cost of Service Demand Analysis Report, prepared by M. E. Loudon Ltd., October 2009

[11] Atlantic Canada Supply Guidelines ~~for Supply, Treatment, Storage, Distribution and Operation of Drinking Water Supply Systems~~, Atlantic Canada Water & Wastewater Association, ~~September 2004~~May 2022

~~8.~~5. Service Laterals are assigned 100% to equivalent water meters as services are totally dedicated to ~~C~~customers.

~~9.~~6. Hydrants are to be assigned 100% to fire protection. Fire protection is to be divided between private fire protection service and public fire protection service. Private fire protection is to be recovered from the customers who benefit. The charge for public fire protection is to be recovered from HRM. This calculation[12] indicates ~~67~~72% of the fire protection charge should be recovered from the public sector with the remaining 28~~33~~% recovered from the private fire connections.

~~10.~~7. Technical Services operating costs are distributed based on the number of data points (tags) monitored in each activity. The result of this allocation is shown in the table below:

Table 11

Function	Number of Data Points Monitored	Allocation percentage
WW Treatment	24,142~~24,356~~	46.1~~45.0~~%
WW Collection	9,924~~11,954~~	18.9~~22.0~~%
SW CSOs	456	0.9~~0.8~~%
Water Distribution	4,558~~5,204~~	8.7~~9.6~~%
Water Treatment	13,324~~12,265~~	25.4~~22.6~~%
District Energy*	TBD	TBD
Total	52,404~~54,235~~	100.0%
*Allocation to DES will be established as the system is developed and is operational.		

Technical Services has been allocated equally between average day, max day, max hour, and fire protection.

~~11.~~8. Customer Service at Halifax Water is comprised of seven (7) cost centre~~s~~s, which include customer care (call center), billing, collections, water meter reading, operation and maintenance of water meters, supervision, and administration/overheads. These functions are shared by the four Services: Water, Wastewater Stormwater, and District Energy Services with the exception that no water meter related costs are allocated to Stormwater. Water meter related costs are

[12] Provided in final section of Water System Cost Allocations providing customer classification calculations.

distributed to Wastewater as billings are based on water consumed and related meter size for base charges. Energy meter related costs are distributed to District Energy as billings are expected to be, at least in part, based on energy consumed. The customer service costs ~~aEre~~are assigned either on a Customer basis or an equivalent meter basis. Costs for supervision, customer care, collections and administration/overheads are assigned on a Customer basis. Water Meter reading and billing costs are included as a separate cost function but assigned on a Customer basis while the costs for operation and maintenance of water meters are assigned on an equivalent water meter basis as these costs are generally higher per meter as the size of the water meter increases.

~~12.~~9. Operation and maintenance of water meters is assigned 100% to equivalent water meters.

~~13.~~10. Water Meter reading and billing are the cost of water meter reading and billing costs that are part of Customer Service. They are assigned 100% to Customer Service.

~~14.~~11. Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~, ~~Regulatory Services~~Environment, Health and ~~,~~ Safety~~-~~, Corporate Services and Administration are indirect costs that are distributed in proportion to direct costs.

Capital Cost Classification

Functionalized Water System costs are classified to service characteristics separately for O&M expenses and capital costs. Capital costs are classified as summarized in Table 12, explanations of which are provided in the subsequent notes. Supporting calculations are documented in the final section of the COS Manual section on Water System Allocations.

Table 12

Water System Capital Cost Classification Summary (values noted in yellow have been revised from existing manual)

Capital Cost Classifications								
Water System Functions	**Average-Day Demand**	**Maximum-Day Demand**	**Maximum-Hour Demand**	**Equivalent Meters**	**Customer Service**	**Fire Protection**	**Indirect**	**Notes**
Watershed Management	100%							1
Dams	100%							1
Water Quality	100%							1
Water Treatment	83%	17%						2
Transmission	83%	17%						2
Distribution	32%	16%	25%			27%		3
Storage Tanks	53%	3%	14%			29%		4
Hydrants						100%		5
Service Laterals				100%				6
Technical Services								7
Customer Service					100%			8
Operation & Maintenance of Meters				100%				9
Meter Reading and Billing							100%	12
Engineering and Capital Infrastructure Services								10
Health, Safety and Environment				100%				11
Corporate Services				100%				13
Administration and General							100%	13

~~Capital Cost Classifications~~								
~~Water System Functions~~	~~Average-Day Demand~~	~~Max-Day Demand~~	~~Max-Hour Demand~~	~~Equivalent Meters~~	~~Customer Service~~	~~Fire Protection~~	~~Indirect~~	~~Notes~~
~~Watershed Management~~	~~100%~~							~~1~~
~~Dams~~	~~100%~~							~~2~~

~~Water Quality~~	~~100%~~							~~3~~
~~Water Treatment~~	~~81%~~	~~19%~~						~~4~~
~~Transmission~~	~~81%~~	~~19%~~						~~5~~
~~Distribution~~	~~30%~~	~~14%~~	~~27%~~			~~29%~~		~~6~~
~~Water Storage Tanks~~	~~52%~~	~~5%~~	~~14%~~			~~29%~~		~~7~~
~~Hydrants~~						~~100%~~		~~8~~
~~Service Laterals~~				~~100%~~				~~9~~
~~Technical Services (SCADA)~~								~~10~~
~~Customer Service~~					~~100%~~			~~11~~
~~Operation and Maintenance of Meters~~				~~100%~~				~~12~~
~~Engineering and Technology Services (excluding TS)~~							~~100%~~	~~13~~
~~Regulatory Services~~								~~14~~
~~Meter Reading and Billing~~					~~100%~~			~~15~~
~~Corporate Services~~							~~100%~~	~~16~~
~~Administration~~							~~100%~~	~~16~~

Notes on Water System Capital Cost Classification

1. Watershed management, dams, and water quality are assigned 100% to base capacity or average day. Watersheds are designed and managed to provide average day flow, consistent with AWWA M1.

~~2. Dams are assigned 100% to base capacity or average day, the same as watershed management.~~

~~3. Water Quality is assigned 100% to base capacity or average day, the same as watershed management.~~

~~4.~~2. Water Treatment and transmission: Halifax Water used 2023/24~~2020/21~~ flows from the three large plants (Lake Major, Pockwock and Bennery Lake) and calculated the percentage that maximum day exceeds average day. The treatment plants have been designed with standby capacity to treat water for the average day as well as the maximum day. Based on this analysis the capital costs have been distributed 83~~81~~% to average day and 17~~19~~% to maximum day. ~~Halifax Water calculated the percentage of operating costs for average day and max day which results in a distribution of 91% to average day and 9% to maximum day.~~

~~5. Transmission is distributed the same as water treatment, 81% to average day and 19% to max day.~~

~~6.~~3. For distribution, Halifax Water followed the method on page 52 of M1, the same methodology as O&M Cost Classification which resulted in the allocations per Table 12. ~~To determine peak hour based on the factors developed in Exhibit 34 of the Loudon[13] Report. This resulted in the following distribution:~~

~~a. Base Component = 30%~~
~~b. Max Day Component = 14%~~
~~c. Peak Hour Component = 27%~~
~~d. Fire Protection Component = 29%~~

~~7.~~4. For water storage tanks, Halifax Water used the same methodology and results as the O&M Cost Classification which resulted in the allocations per Table 12. ~~took the total distribution storage of all 16 facilities and applied the formula for storage tank (reservoir) sizing found in the Atlantic Canada guidelines manual[14]. While fire demand in the service area varies Halifax Water utilized a design fire flows for each service area to determine the percentage of total storage and allocated that to fire protection. Halifax Water calculated balancing storage at 25% of max day and allocated that to peak hour. The remaining capacity was assumed to be emergency storage and was allocated to average and maximum day. From the attached calculations, the capital cost~~

~~[13] Halifax Regional Water Commission, Cost of Service Demand Analysis Report, prepared by M. E. Loudon Ltd., October 2009~~
~~[14] Atlantic Canada Guidelines for Supply, Treatment, Storage, Distribution and Operation of Drinking Water Supply Systems, Atlantic Canada Water & Wastewater Association, September 2004~~

~~has been distributed based on 30% to fire protection, 14% to peak hour, 51% to average day and 5% to maximum day.~~

~~8.~~5. Hydrants are assigned 100% to fire protection.

~~9.~~6. Service laterals are assigned 100% to equivalent water meters as service laterals are totally dedicated to the customers.

~~10.~~7. Technical Services (SCADA) are charged directly to capital cost based on work performed. There is no separate allocation for capital for this item.

~~11.~~8. Customer Service is assigned 100% to customer service.

~~12.~~9. Operation and maintenance of water meters are assigned 100% to equivalent water meter.

~~13.~~10. Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~ related with capital works are assigned to the capital cost of the works and are included in the capital items. All other costs such as databases and other intangibles are assigned to indirect costs.

~~14.~~11. ~~Regulatory Services~~Environment, Health and~~,~~ Safety are assigned to the capital cost of the works and are included in the capital items. There is no separate assignment for capital for this item.

~~15.~~12. Water Meter reading and billing costs are part of Customer Service. They are assigned 100% to customer service as water meters are totally dedicated to the customers.

~~16.~~13. Corporate Services and Administration are assigned to indirect costs that are distributed in proportion to direct costs.

Allocation to Customer Classes

Costs are distributed to Customers (either by classes or individually) based on similarities and differences in their water demand patterns, fire protection requirements, and types/sizes of service connections. For Halifax Water, given the general similarities in water use patterns, customer classifications may be reasonably truncated based on an evaluation of potential classification options. This evaluation typically involves examination of metered billing-cycle usage data by Customer type and calculation of Customer

class peaking factors. Applicable peaking factors include non-coincident factors that simply divide class maximum-month usage by average-day usage with selected adjustments. Alternatively, coincident peaking factors may be developed using imputation formulas as offered in the AWWA M1, Appendix A.

Costs by Service characteristic are simply divided by the projected level of service to be rendered to determine the unit costs of a given Service parameter. For example, the system-wide cost per cubic meter of maximum-day demand is calculated by taking the costs determined to meet maximum-day demands divided by projected maximum-day demands (based on system peaking factors). In this manner, costs are distributed to customers in proportion to their respective demands and uses of the System. If Customer classifications are homogenized, unit costs by Service characteristic may be combined to establish rates for Service (typically where demand related costs convert to the volumetric rate).

This procedure is illustrated in Tables 13 and 14 that offer example templates for these types of calculations. As noted, the distribution of costs by function, and subsequent classification of these costs by Service characteristic (*e.g.*, average and maximum demands, fire flow requirements, equivalent water meters and customer accounts) results in the expression of each component of the utility's revenue requirements in terms of these Service characteristics. Accordingly, in Table 13, Lines 1, 4 and 7 list the outcomes of the cost classification by each major revenue requirement component. Because some of these costs are distributed on an indirect basis, a calculation is made whereby the indirect costs are distributed to directly classified costs based on those costs share of total directly classified costs. So, for example, if average-day demand related O&M costs represent 40 percent of directly classified O&M costs, 40% of indirect O&M costs are apportioned to average-day demand related costs. This is the procedure employed in Lines 2, 5 and 8 – to yield complete cost classifications by cost component (Lines 3, 6, and 9) – that are summed (Line 10) to present total costs by Service characteristic.

Among other measures, determination of the total costs of fire protection provides the basis for determination of public fire protection costs to be billed to HRM as described in section 4 Water System Cost Allocations (p. 30), supporting calculations which are provided in the Water System Section Appendix. Application of the percentage of the fire protection costs to be distributed to public versus private connections is presented in Line 11. Lines 10 and 11 represent the costs by service characteristics to be recovered from Customers in proportion to their respective demands – their allocated COS – through COS based rates and charges as calculated using procedures outlined in Table 13.

Table 13

Water System – Unit COS Calculation Template

Line	Revenue Requirement Component	Average-Day Demand Related Costs	Maximum-Day Demand Related Costs	Maximum-Hour Demand Related Costs	Fire Protection Related Costs	Meter Equiv. Related Costs	Billing Related Costs	Indirect Costs
1	Operations & Maintenance	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$
2	Allocated Indirect O&M	$$	$$	$$	$$	$$	$$	
3	Operations & Maintenance (Net)	$$	$$	$$	$$	$$	$$	
4	Depreciation	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$
5	Allocated Indirect Depr.	$$	$$	$$	$$	$$	$$	
6	Depreciation (Net)	$$	$$	$$	$$	$$	$$	
7	Return on Rate Base	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$
8	Allocated Indirect Return	$$	$$	$$	$$	$$	$$	
9	Return on Rate Base (Net)	$$	$$	$$	$$	$$	$$	
10	Total Revenue Requirements Lines (3,6,9)	$$	$$	$$	$$	$$	$$	
11	Private Fire Protection (% Share of Allocated Fire Protection)			$$	Public Fire Protection Share (xx%)		$$$ (Billed to HRM	

The ultimate allocation of costs to Customer classes employs the service characteristic by customer class data developed in the "System and Customer Use Data (for Cost Allocation) – Table 14." Unit COS by

characteristic (Line 3) are calculated by dividing total revenue requirements by Service characteristic (Line 1) by total system demands, capacity requirements, meter equivalents and customer accounts served (Line 2). Costs are then allocated to Customer classes simply by multiplying these unit costs by the demands, fire flows, meter equivalents and accounts served for each Customer class. This is accomplished for residential customers in lines 4 & 5; for non-residential customers in lines 7 & 8. The sum of line 5 (across service characteristics) is therefore the fully allocated cost-of-service for the residential class; the sum of line 8 is that for the non-residential. COS-based rates are those that recover these sums from respective Customer classes. While many rate designs may accomplish these ends, a basic rate design option is to recover volume-related costs, including average and maximum-demand related costs from volumetric rates while fixed charges (graduated by meter size) recover metering related costs and customer account related costs. Fire protection costs may be recovered from either volumetric rates or fixed charges. This rate design calculation is presented in the template example in lines 6 & 9.

Table 14

Water System – Allocation of Costs to Customer Classes and Uniform Volume with Fixed Charge Rate Calculations (System and Customer Use Data for Cost Allocation)

Line	Revenue Requirement Component	Average-Day Demand Related Costs	Maximum-Day Demand Related Costs	Maximum-Hour Demand Related Costs	Fire Protection Related Costs	Meter Equiv. Related Costs	Billing Related Costs
1	Total Revenue Requirements Lines (3,6,9)	$$	$$	$$	$$	$$	$$
2	System Demands						
3	Unit Cost of Service Characteristic						
4	Residential Demands						
5	Residential Cost of Service (Line 3 x 4)						
6	Residential Rates*						
7	Non-Residential Demands						
8	Non-Residential Cost of Service (Line 3 x 7)						
9	Non-Residential Rates**						

* Residential rates (line 6) featuring uniform volume rates and fixed charges may be calculated by summing the first three columns of line 5 and dividing by projected billable residential water use (line 4, first column) to determine the volumetric rate. The fixed charge is the sum of meter equivalent costs (line 5, column 5) divided by residential meter equivalents (line 4, column 5) plus the billing and non-meter customer service costs (line 5, column 6) divided by residential accounts (line 4, column 6).
**Similarly, non-residential rates (line 9) are calculated using the same procedures where line 7 is substituted for line 4, and line 8 is substituted for line 5.

Water System Appendix: Supplemental Cost Classification and Allocation Calculations

Water Treatment/Water Quality

For the purpose of distributing water treatment and water quality costs to demand related service characteristics, first the cost of the three large water supply plants, plus the Water Quality (WQ) section, plus Water Treatment (WT) Regional Administration are totalled.

The total cost for WT and WQ includes the operating costs for the Lake Major (LM) WSP, the J.D. Kline (JDK) WSP, Bennery Lake WSP, the WQ section, and WT Regional Administration costs. The values are taken from fiscal year end results ~~SAP~~ for the 2023/24~~0/21 FY~~.

~~WT Regional Administration (43413)~~	~~$649,225~~
~~WQ Section (43415)~~	~~$1,050,347~~
~~Lake Major WSP (23410)~~	~~$3,732,138~~
~~J.D. Kline WSP (13414)~~	~~$3,900,955~~
~~Bennery Lake WSP (33444)~~	~~$599,171~~
~~**Total**~~	~~**$9,931,836**~~

	Proposed	Existing
WT Regional Administration (43413)	$ 767,985	$ 649,225
WQ Section (43415)	$ 1,404,983	$ 1,050,347
Lake Major WSP (23410)	$ 5,515,416	$ 3,732,138
J.D. Kline WSP (13414)	$ 6,550,127	$ 3,900,955
Bennery Lake WSP (33444)	$ 613,352	$ 599,171
Total WT and WQ	**$14,851,863**	**$9,931,836**

The following costs are allocated to average day based on cost causation ~~(as affirmed by stakeholder discussions)~~:

- Dams
- Watershed Management
- WQ

Similarly, consistent with the AWWA M1 manual, the following truly variable costs should be allocated to average day. These include:

- Chemicals
- Electricity (consumption charges) *
- Sludge costs

~~*Consumption charges are, on average, 70% of the electricity bill.~~

Determine amount to allocate directly to average day:

~~WQ Section~~	~~$1,050,347~~
~~JDK Chemicals~~	~~$1,348,878~~
~~JDK Electricity *~~	~~$695,092~~
~~JDK Sludge **~~	~~$150,000~~
~~LM Chemicals~~	~~$1,421,483~~
~~LM Electricity *~~	~~$575,159~~
~~LM Sludge **~~	~~$100,000~~
~~Bennery Chemicals~~	~~$53,532~~
~~Bennery Electricity *~~	~~$53,552~~
~~Bennery Sludge ***~~	~~$15,000~~
~~Dams (estimated)~~	~~$50,000~~
~~**Total to Allocate directly to Average Day**~~	~~**$5,513,043**~~

	Proposed	Existing
WQ Section	$ 1,404,983	$ 1,050,347
JDK Chemicals	$ 3,349,783	$ 1,348,878
JDK Electricity *	$ 886,844	$ 695,092
JDK Sludge **	$ 175,000	$ 150,000
LM Chemicals	$ 2,714,680	$ 1,421,483
LM Electricity *	$ 654,280	$ 575,159
LM Sludge ***	$ 150,000	$ 100,000
Bennery Chemicals	$ 119,479	$ 53,532
Bennery Electricity *	$ 67,898	$ 53,552
Bennery Sludge ****	$ 17,500	$ 15,000
Dams (estimated)	$ 40,000	$ 50,000
Total to directly Allocate to Average Day	**$ 9,580,447**	**$ 5,513,043**

* 70% of bill representing consumption.

** Average annual cost based on actual costs for the period 2022-2024~~18-2021~~.

*** Budget contains $175,000~~$150,000~~ but sludge has only been ~~never been~~ removed once before in 2012.~~:~~ Assume costs are averaged over a ten-year return cycle.

Total WT and WQ costs less Total Allocated to Average Day is allocated to Base – extra capacity:

~~$5,513,043 is allocated directly to average day~~

~~$9,931,836 - $5,513,043 = $4,418,793 is allocated to base – extra capacity~~

	Proposed	Existing
Total WT and WQ Costs	$ 14,851,863	$ 9,931,836
Total to directly Allocate to Average Day	$ 9,580,447	$ 5,513,043
Total to Allocate to Base - extra capacity	**$ 5,271,416**	**$ 4,418,793**

Base extra capacity portion: Treatment plant costs are classified to average day and max day Service characteristics.

Average day is ~~79~~83% of max day (see System and Customer Use Data (for cost allocation))

~~$4,418,793 X 0.79 = $3,490,846 to average day~~

~~$4,418,793 – $3,490,846 = $927,947 to max day~~

			Proposed	Existing
Total Base - extra capacity to allocate to:			**$ 5,271,416**	**$ 4,418,793**
Average Day	83%	(79%)	$ 4,375,275	$ 3,490,846
Max Day	17%	(21%)	$ 896,141	$ 927,947

Percentage to average day, combining directly allocated and classified costs.

		Proposed	Existing
Percentage to Average Day and Max Day:			
Total to directly Allocate to Average Day		$ 9,580,447	$ 5,513,043
Total Base - extra capacity to Average Day		$ 4,375,275	$ 3,490,846
	A	$ 13,955,722	$ 9,003,889
Total WT and WQ	B	$ 14,851,863	$ 9,931,836
Average Day	= (A / B)	94%	91%
Max Day		6%	9%

~~($5,513,043 + $3,490,846)/ $9,931,836 = 91% to average day~~

~~= 9% to Max Day~~

Storage~~:~~

According to *Atlantic Canada Water Supply ~~g~~Guidelines*, tanks are sized as follows:

S = A + B + C

Where: A = Fire Storage

B = Peak Balancing Storage

C = Emergency Storage

There may also be another component, D (Dead Storage), which is essentially water holding up the other storage volume and in excess of S.

A: Fire Storage:

- Allocate all this volume to fire protection
- Fire demands can range from 800 – 5,000 IGPM
- Each tank must supply the maximum fire demand in its area

- According to 1993 report by CBCL "Metropolitan area of Halifax County Regional Water Supply Study – Engineering and Financing" storage is required as follows:

Halifax: 5,000 IGPM

Dartmouth: 3,500 – 4,000 IGPM – use 4,000

Bedford/Sackville: 3,000 – 3,500 IGPM – use 3,500

That study did not consider the Bennery Lake/Airport System. Its fire demands are 5,000 IGPM.

From Insurance Advisory Organization, fire durations are:

5,000 IGPM (1,362 M^3/hr) = 5 hours

4,000 IGPM (1,090 M^3/hr) = 4.5 hours

3,500 IGPM (953 M^3/hr) = 3.5 hours

Calculation based on 16 tanks

Total volume = 284,152~~243,183~~ M^3

Of the ~~16~~ tanks, total Fire Storage is calculated as follows:

	A	B	C	= AxBxC
Location	**Tank Count**	**M^3 per hour**	**Hours**	**Total M^3**
Halifax + Airport	6	1,362	5	40,860
Dartmouth	4	1,090	4.5	19,620
Elsewhere (Bedford/Sackville)	6	953	3.5	20,013
Total Fire Storage (A) =	**16**			**80,493**

~~5 are Halifax + Airport: 5,000 IGPM = 1,362 M^3/hr X 5hrs~~

~~5 X 1,362 X 5 = 34,050 M^3~~

~~3 are Dartmouth: 4,000 IGPM = 1,090 M^3/hr X 4.5hrs~~

~~3 X 1,090 X 4.5 = 14,715 M^3~~

~~8 elsewhere (Bedford/Sackville): 3,500 IGPM = 953 M^3/hr X 3.5hrs~~

~~8 X 953 X 3.5 = 26,684 M^3~~

~~Total Fire Storage (A) = 34,050 M³~~

~~14,715 M³~~

~~26,684 M³~~

~~75,449 M³~~

B: Peak Balancing Storage:

Based on previous calculations in Table 7 (System Production Data (for cost allocation))~~:~~

~~Max Day = 1.27 X Avg Day~~

~~Avg Day = 33,198 + 78,736 + 535 M³~~

~~= 112,469 M³~~

~~Max Day = 1.27 X 112,469 M³ = 142,836 M³~~

Balancing storage (B) is 25% of Max Day volume (which is total Average Day X Max Day Factor)

~~142,836 M³ X 25% = 37,655 M³~~

			Proposed	Existing
Average Day:				
Lake Major			33,906	33,198
JD Kline			94,244	78,736
Bennery			903	535
			129,053	112,469
Max Day Factor	1.20	(1.27)	154,863	142,836
Total Peak Balancing Storage (B) =		25%	38,716	35,709

The 25% is based on the *Atlantic Canada Water Supply Guidelines* ~~for the Supply, Treatment, Storage, Distribution and Operation of Drinking Water Supply Systems~~.

C: Emergency storage:

This is system specific and there are no firm guidelines regarding the amount of storage designated as emergency or the treatment of back-up systems, of which Halifax Water has several. Given Halifax Water's

System configuration, a reasonable metric of emergency storage is 24 hours at maximum day, which equals ~~142,836~~154,863 M^3.

S: Total storage:

S = A + B + C

	Proposed			Existing
A = Fire Storage	80,493	29%	= A / S	75,449
B = Balancing Storage	38,716	14%	= B / S	37,655
C = Emergency Storage	154,863	57%	= C / S	142,836
S = Total Storage	**274,072**	**M^3**		**255,940**

~~A = Fire Storage 75,449 M^3 (29%)~~

~~B = Balancing Storage 37,655 M^3 (15%)~~

~~C = Emergency Storage 142,836 M^3 (56%)~~

~~S = 255,940 M^3~~

S is greater than the total tank volume in the system ~~(243,183 M^3)~~ so there is no dead storage. The calculation still serves as a sound basis for allocation.

Allocate Storage Tanks as follows:

Fire Storage	=>	100% to Fire Protection
Balancing Storage	=>	100% to Max~~Peak~~ Hour
Emergency Storage	=>	To Avg Day and Max Day in same proportion as Base extra capacity

System Function Allocation			Proposed	Existing
Fire Protection (100% of Fire Storage)			29%	30%
Maximum Hour Demand (100% of Balancing Storage)			14%	14%
Emergency Storage[1]	57%	(A)		
Average Day[2]	94%	(B)		
Maximum Day[2]	6%	(C)		
Average Day Demand		= (A x B)	53%	51%
Maximum Day Demand		= (A x C)	3%	5%

1) Allocate to Average and Max Day in same proportion as Base - extra capacity %'s:

2) Base - extra capacity percentages

~~Fire Protection =30%~~

~~Max Hour =14%~~

~~Avg Day = 0.91 X 56% = 51%~~

~~Max Day = 0.09 X 56% = 5%~~

Distribution~~:~~

Distribution system delivers max day and fire or peak hour.

According to "Water Supply for Public Fire Protection" by the Fire Underwriters Survey, for populations greater than 250,000 the system should be able to supply two simultaneous fires. Using data from the Storage section consider one fire of 5,000 IGPM and one of 4,000 IGPM

4,000 IGPM + 5,000 IGPM = 9,000 IGPM = 41,000 L/Min = 59,000 M^3/Day

Based on methodology on page 52 of M1

	Proposed		Existing
Average Day Demand (M^3):			
Lake Major	33,906		33,198
JD Kline	94,244		78,736
Bennery	903		535
	129,053	A	112,469
Maximum Day Factor	1.20	B	1.27
Maximum Hour Factor	1.70	C	1.70
Maximum Day Demand	154,863	D = (A x B)	142,836
Maximum Hour Demand	219,389	E = (A x C)	191,197
Fire component	59,000	F	59,000
System Function Allocation:			
Fire Protection	27%	= E / F	31%
Average Day Demand	32%	= (A - F) / E	28%
Maximum Day Demand	12%	= (D - A) / E	16%
Maximum Hour Demand	29%	= (E - D) / E	25%

~~Avg Day for 2020/21 = 33,198 M^3 (Lake Major)~~

~~78,736 M^3 (Pockwock)~~

~~535 M^3 (Bennery)~~

~~112,469 M^3~~

~~Maximum Day and Maximum Hour Factor are 1.27 and 1.70 respectively.~~

~~Maximum Day = 1.27 X 112,469 M^3 = 142,836 M^3~~

~~Maximum Hour = 1.7 X 112,469 M^3 = 191,197 M^3~~

~~Maximum Day plus Fire = 142,836 M^3 + 59,000 M^3 = 201,836 M^3~~

~~Fire Component 59,000 M^3/ 191,197 M^3 = 31%~~

~~Base Component (Avg Day) = (112,469 M^3 – 59,000 M^3)/ 191,197 M^3 = 28%~~

~~Maximum Day Component = 142,836 M^3 – 112,469 M^3/ 191,197 M^3 = 16%~~

~~Maximum Hour Component = 191,197 M^3 – 142,836 M^3/ 191,197 M^3 = 25%~~

Summary:

	Average-Day Demand	Maximum-Day Demand	Maximum-Hour Demand	Fire Protection
Water Treatment	94%	6%		
Storage	53%	3%	14%	29%
Distribution	32%	16%	25%	27%

~~Water Treatment Avg Day = 91%~~
~~Max Day = 9%~~

~~Storage Fire Protection = 29%~~
~~Max Hour = 14%~~
~~Max Day = 5%~~
~~Avg Day = 52%~~

~~Distribution Avg Day = 28%~~
~~Max Day = 16%~~
~~Max Hour = 25%~~
~~Fire Protection = 31%~~

Table 15

Public versus Private Fire Protection Cost Distribution

Calculation of % Split between Public and Private Fire Protection
(based on the diameter of the pipe)

Description	Diameter Inches	Diameter mm	Cross Sectional Area (square mm)	Ratio of Area to Reference (A)	Actual Number (B)	Total Equivalents (A) x (B)
Reference Size	1	25	490.87	1	0	0
Reference Size	2	50	1,963.49	4	16	64
Reference Size	3	75	4,417.86	9	0	0
Reference Size	4	100	7,853.98	16	82	1,312
Public Hydrants	6	150	17,671.44	36	8,476	305,136
Reference Size	6	150	17,671.44	36	1,161	41,796
Reference Size	8	200	31,415.90	64	775	49,600
Reference Size	10	250	49,087.34	100	156	15,600
Reference Size	12	300	70,685.78	144	16	2,304
					Total	**415,812**

Number of Equivalent Units

	Public	305,136	**73%**
	Private	110,676	**27%**
		415,812	

Calculation of % Split between Public and Private Fire Protection
(based on the diameter of the pipe)

Description	Diameter Inches	Diameter mm	Cross Sectional Area (square mm)	Ratio of Area to Reference (A)	Actual Number (B)	Total Equivalents (A) x (B)
Reference Size	1	25	490.87	1	0	0
Reference Size	2	50	1,963.49	4	22	88
Reference Size	3	75	4,417.86	9	0	0
Reference Size	4	100	7,853.98	16	96	1,536
Public Hydrants	6	150	17,671.44	36	8,591	309,276
Reference Size	6	150	17,671.44	36	1,225	44,100
Reference Size	8	200	31,415.90	64	874	55,936
Reference Size	10	250	49,087.34	100	168	16,800
Reference Size	12	300	70,685.78	144	16	2,304
					Total	**430,040**

Number of Equivalent Units

	Public	309,276	**72%**
	Private	120,764	**28%**
		430,040	

SECTION 5 - WASTEWATER SYSTEM COST ALLOCATION

General Review

Wastewater costs as used in this COS Manual are costs for the provision of Wastewater Service after the allocation of a portion of the combined sewer costs to Stormwater Service. Wastewater System COS analyses employs a multi-step procedure to assign revenue responsibilities to Customer classes in proportion to their respective shares of billable flows, allocated responsibility for wet weather-related expenses, and uses of System facilities. Service characteristics typically include (1) flows – often separated as dry and wet weather flows (2) pollutant loadings by constituent – biochemical oxygen demand (BOD), total suspended solids (TSS) and (3) customer costs - often segregated into metering and billing related costs.

1) **Dry Weather costs** are those that vary with the total quantity flows or are those O&M expenses and capital costs incurred to deliver services under average demand conditions.

2) **Wet Weather costs** are associated with handling flows in excess of dry weather flow volumes and include O&M expenses and capital costs for system capacity beyond dry weather flow levels.

3) **Pollutant Loading by Constituent costs** are treatment costs associated with removal of specific pollutant loadings including BOD and TSS.

4) **Customer costs** comprise those costs associated with serving Customers, irrespective of the amount or rate of water use. They include meter reading, billing, and customer accounting and collecting expense, as well as maintenance and capital costs related to meters and services.

Appropriate classification factors between dry and wet weather flows should be calculated using actual operating history or design criteria. The basic formulas are as follows:

Dry Weather % = Dry Weather Flow / Total Flow

Wet Weather % = Wet Weather Flow / Total Flow

For classification of costs to pollutant strength loadings (as well as customer service characteristics), the design and performance of system facilities are referenced to apportion costs between different service parameters. In general, operational performance is referenced in classification of O&M expenses; design parameters govern classifications of capital costs.

Wastewater System Data and Customer Use Data (for Cost Allocation)

A map of the Wastewater System is provided in the COS Manual Appendix II and general system information may be referenced from Halifax Water's Annual Report. Wastewater System plant influent data, similar to that provided in the example format below using Halifax Water data for the calendar year 2023~~19~~, is used to develop cost classification percentages as outlined in Section 2 Methodology Review. ~~Data for 2020 or 2021 was not used due to the continuing effects the COVID-19 pandemic on plant loadings.~~

Table 16

Wastewater Plant Influent

Development of Flow-Related Cost Classification Percentages

Wastewater Treatment Plant Loadings: January 1, 2019 - December 31, 2019							
WWTF	**Dry Weather Flow (m3)**	**Wet Weather Flow (m3)**	**Total Flow (m3)**	**Annual Average TSS Loading (kg/d)**	**Annual Average BOD Loading (kg/d)**	**% Dry Weather Flow (m3)**	**% Wet Weather Flow (m3)**
Halifax	28,474,141	4,315,150	32,789,291	14,578	14,985	87	13
Dartmouth	15,947,691	3,999,858	19,947,549	6,717	5,501	80	20
Herring Cove	3,129,113	876,656	4,005,769	1,191	660	78	22
Eastern Passage	4,329,168	1,019,014	5,348,182	2,680	2,884	81	19
~~Mill Cove~~	~~9,864,785~~	~~1,534,914~~	~~11,399,699~~	~~6,280~~	~~3,715~~	~~87~~	~~13~~
Lakeside/Timberlea	835,584	134,084	969,668	303	275	86	14
Lockview/MacPherson	49,116	8,522	57,638	29	40	85	15
North Preston	175,119	55,767	230,886	120	133	76	24
Springfield Lake	119,878	33,016	152,894	88	80	78	22
Middle Musquodoboit	30,716	7,421	38,137	22	20	81	19
Wellington	6,373	545	6,918	4	4	92	8
Frame	7,866	1,206	9,072	5	5	87	13
Uplands	23,325	13,523	36,848	21	19	63	37
Aerotech	295,707	34,212	329,918	335	211	90	10
Totals	**63,288,582**	**12,033,887**	**75,322,469**				

Wastewater Treatment Plant Loadings - January 1, 2023 - December 31, 2023							
Wastewater Treatement Facility	**Dry Weather Flow (m3)**	**Wet Weather Flow (m3)**	**Total Flow (m3)**	**Annual Average BOD Loading (kg/day)**	**Annual Average TSS Loading (kg/day)**	**% Dry Weather Flow (m3)**	**% Wet Weather Flow (m3)**
Halifax	32,489,951	4,400,789	36,890,740	9,020	16,639	88%	12%
Dartmouth	17,227,502	3,481,689	20,709,191	7,011	6,955	83%	17%
Herring Cove	3,755,657	852,996	4,608,653	691	1,289	81%	19%
Eastern Passage	4,707,360	1,006,854	5,714,214	2,346	2,667	82%	18%
Mill Cove	9,505,284	1,059,541	10,564,825	3,696	5,407	90%	10%
Lakeside/ Timberlea	963,529	137,561	1,101,090	406	537	88%	12%
Springfield Lake	139,688	23,283	162,971	*	*	86%	14%
Uplands	28,534	12,683	41,217	*	*	69%	31%
Middle Musquodoboit	53,041	22,621	75,662	*	*	70%	30%
North Preston	216,419	61,935	278,354	*	*	78%	22%
Steeves (Wellington)	6,048	1,084	7,132	*	*	85%	15%
Frame	8,519	826	9,345	*	*	91%	9%
Lockview/ MacPherson	63,334	9,628	72,962	1	1	87%	13%
Aerotech	324,561	43,958	368,519	155	316	88%	12%
Total	**69,489,427**	**11,115,448**	**80,604,875**				
* Data not available for 2023							

Data employed for assignment to Customer classes includes information on the distribution of meters by size serving the class, billable sewer flows, and measured or imputed pollutant strength loadings (*e.g.*, BOD, TSS) - often based on industry reference values in the absence of available sampling data. Provided in Table 17 below is an example format for presentation of these Customer class usage characteristics by class:

Table 17

Wastewater Accounts and Billed Usage by Meter Size (2020/21)		
Meter Size	**Accounts**	**Billed Usage**
Unmetered	956	166,354
5/8" (15 MM)	76,706	13,091,414
3/4" (20 MM)	1,006	511,842
1" (25 MM)	1,547	1,542,339
1.5" (40 MM)	1,158	2,493,467
2" (50 MM)	816	4,374,824
3" (80 MM)	310	3,468,068
4" (100 MM)	77	1,427,278
6" (150 MM)	35	1,992,164
8" (200 MM)	24	1,506,125
10" (250 MM)	2	35,171
Total	82,637	30,609,046
BOD Concentration		220 [1]
BOD Loading		
TSS Concentration		220 [1]
TSS Loading		

1 - These values are hypothetical and are shown as common across residential and non-residential classes as HRWC does not presently have data to adequately differentiate strength loading concentrations across customer types. In the event that strength differentiated customer class rates are subject to consideration, HRWC rate analysis modeling provides for conduct of a plant balance analysis to reconcile plant influent loadings and strength loading assignments by source (i.e.industrial waste monitored users, septic tank hauls, billed general customer classes, inflow and infiltration).

Wastewater Accounts and Billed Usage by Meter Size (2024/25)		
Meter Size	**Accounts**	**Billed Usage**
Unmetered	939	174,129
5/8" (15 MM)	78,191	12,687,014
3/4" (20 MM)	1,037	560,919
1" (25 MM)	1,587	1,702,165
1.5" (40 MM)	1,235	3,168,606
2" (50 MM)	858	5,341,879
3" (80 MM)	313	4,063,689
4" (100 MM)	73	1,686,055
6" (150 MM)	32	2,103,469
8" (200 MM)	24	1,430,328
10" (250 MM)	2	257,274
Total	84,291	33,175,527
BOD Concentration		220 [1]
BOD Loading		
TSS Concentration		220 [1]
TSS Loading		

1 - These values are hypothetical and are shown as common across residential and non-residential classes as HRWC does not presently have data to adequately differentiate strength loading concentrations across customer types. In the event that strength differentiated customer class rates are subject to consideration, HRWC rate analysis modeling provides for conduct of a plant balance analysis to reconcile plant influent loadings and strength loading assignments by source (i.e.industrial waste monitored users, septic tank hauls, billed general customer classes, inflow and infiltration).

Wastewater Accounts and Billed Usage by Meter Size (2023/24)		
Meter Size	**Accounts**	**Billed Usage**
Unmetered	956	166,354
5/8" (15 MM)	76,706	13,091,414
3/4" (20 MM)	1,006	511,842
1" (25 MM)	1,547	1,542,339
1.5" (40 MM)	1,158	2,493,467
2" (50 MM)	816	4,374,824
3" (80 MM)	310	3,468,068
4" (100 MM)	77	1,427,278
6" (150 MM)	35	1,992,164
8" (200 MM)	24	1,506,125
10" (250 MM)	2	35,171
Total	82,637	30,609,046
BOD Concentration		220 [1]
BOD Loading		
TSS Concentration		220 [1]
TSS Loading		

1 - These values are hypothetical and are shown as common across residential and non-residential classes as HRWC does not presently have data to adequately differentiate strength loading concentrations across customer types. In the event that strength differentiated customer class rates are subject to consideration, HRWC rate analysis modeling provides for conduct of a plant balance analysis to reconcile plant influent loadings and strength loading assignments by source (i.e.industrial waste monitored users, septic tank hauls, billed general customer classes, inflow and infiltration).

The development of strength differentiated Customer class rates could be considered by Halifax Water in the event that the resultant rate differentials would demonstrably and unambiguously advance the equitable distribution of cost responsibilities across Customer classes – the fundamental objective of COS analysis. These criteria will require substantial evaluation of strength loading attributes of Customer class sub-populations, an assessment of high-strength cost recovery through Halifax Water industrial waste charges, and consideration of multi-use Non-Residential user billing protocols.

Rate analysis modeling referred to in Table 17 refers to Halifax Water's integrated collection of spreadsheets presented in the COS Manual that was developed to conduct COS rate analyses for Halifax Water using the proposed AWWA/WEF/~~NSUARB~~NSRAB methodology. COS rate models have been developed for water, Wastewater and Stormwater rate setting – each of which provide formats for determination of rate revenue requirements, COS allocations, calculations of unit charges, development of resultant rate schedules and calculation of sample bill impacts.

A high-level plant balance analysis is provided in Halifax Water's rate application submission in Worksheet WW-1: User Characteristics and Plant Balance Analysis. This form of analysis is useful for ensuring that assigned strength loading attributes of individual customer classes result in overall values for influent strengths that are consistent with actual plant influent values such that user rates charged are based on actual system flow/loading characteristics. In the event that strength differentiated classifications were considered, assigned strength loading differences would need to maintain consistency with overall plant influent loading values to ensure resultant rates reflect true costs of service.

Wastewater System Functions

Utilities incur varying levels of costs to perform the different system functions needed to meet customer demands and make services available. The functionalization process involves categorizing revenue requirements according to functions in order to more appropriately assign costs to Customer classes. Wastewater System cost functions and their definitions for both operating and capital are presented in Table 18.

Table 18

Wastewater System Cost Allocation – System Functions

Wastewater System Function	Operating Costs Definition	Capital Cost Definition
Mains	Includes cost centres for sanitary mains and sanitary manholes.	Includes the design and construction costs associated with all gravity mains, forcemains/pressure sewers, and manholes.
Pump Stations	Includes cost centres for pump stations, forcemains and pressure sewers cost centres.	Includes all pumping, mechanical and electrical equipment, internal piping, buildings, and structures, forcemains pressure sewers including all associated valves and fittings.
Service Laterals	Includes the cost centres for wastewater services.	Includes connection to the main and the piping from the main to the street line for Wastewater Services.
Meters	Includes the cost centre for operation and maintenance of meters (labour, materials, and programs).	All capital expenditures for meters, including installation cost.
Advanced Primary Treatment	Includes cost centres for all the advanced primary treatment plants.	Includes all buildings, structures, mechanical and electrical equipment to make a complete, operating treatment plant.
Secondary Treatment	Includes cost centres for all the secondary treatment plants.	Includes all buildings, structures, mechanical and electrical equipment to make a complete, operating treatment plant.
Tertiary Treatment	Includes cost centres for all the tertiary treatment plants.	Includes all buildings, structures, mechanical and electrical equipment to make a complete, operating treatment plant.
~~Regulatory Services~~Environment, ~~,~~Health and Safety	Includes the Environmental ~~Engineering~~Compliance, Regulatory Compliance, Regulatory Stormwater ~~Engineering~~, Environmental Management ~~System~~, Regulatory Customer Programs, Safety and Security, Water Quality, and Watersheds ~~and Development Approvals~~ cost centres.	Cost centres within ~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~	Includes the cost centres for Energy and Business Development, Asset Management and Capital Planning, Capital Project Delivery, Infrastructure Planning, Strategic Projects, and Engineering Approvals.~~Records Management, Energy and Business Development, and Information Services.~~	Cost centres within Engineering and ~~Technology~~ Capital Infrastructure Services function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Technical Services (SCADA)	Operate the SCADA systems for water (both treatment and distribution).	Cost centres within Technical Services function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Corporate Services	Includes the cost centres for Engineering Information, Data Analytics and Visualization, Cybersecurity and Information Services, I&T Project Management, Accounting, Finance, Procurement, and ERP Management and Development.~~Accounting, Finance and Procurement.~~	Cost centres within Corporate Services function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles, etc.) are allocated as assets in proportion of the other costs through depreciation.

Customer Service	Includes the cost centres for Customer Care, Collecting, Supervision, and Administration/Overheads.	Cost centres within Customer Service function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Meter Reading and Billing	Includes the cost centres for meter reading and Customer billing.	Cost centres with meter reading and billing function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation
Administration	Includes the cost centres for Administration, Communications, Legal, Human Resources, Employee Benefits and General.	Cost centres within Administration function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation

The engineers and operators responsible for operation of the Wastewater System review assignment of wastewater assets and their associated operating and maintenance costs to system functions. Operating costs centres are set up to record financial information in categories that support functionalization.

Forcemains and pressure sewers are typically connected to pump stations, have similar operating characteristics, and are maintained by the same operational staff. Costs are budgeted and recorded in a common cost centre. The costs associated with forcemains and pressure sewers are tracked under pump stations cost centres.

The capital costs associated with forcemains and pressure sewers are tracked under the pump stations cost centre for mains within the pump stations and outside the pump stations as force mains and pressure sewers. The only difference is the force mains and pressure sewers outside the pump stations which are recorded separately as capital assets due to the nature of capital asset accounting but included with the pump stations for operational cost accounting.

Cost Functionalization Considerations

The basis for the determination functions is the operating cost centres that comprise the Wastewater System from collection to discharge to the receiving environment. It includes the direct cost functions of providing the service as well as the common costs of providing support services across all utility services that are assigned to Wastewater Service. The following points are noted in regard to the cost functions:

- Mains include cost centres for sanitary mains and sanitary manholes of the collection system.

- Forcemains and pressure sewers, excluding Combined Sewer Overflows (CSOs) are included with pump stations for budgeting and reporting purposes. CSOs are a function of the Stormwater System, found in Section 6 of the COS Manual.
- Pump stations costs that are part of a Wastewater treatment facility are included with the treatment plant costs for budgeting and reporting purposes.

Functionalization of O&M expenses is shown in Worksheet WW-6 in Rate Studies, which is based on Table 18 as shown in this COS Manual. The percentages reported in Worksheet WW-6 are back-calculations, derived from actual dollar values included in the test-year operating expenditures. Functionalization is shown with both percentage allocation and actual dollar values. Generally, inputs in the dollar value report drive back-calculations in the percentage report. Rounding on the percentage report would be expected compared to the dollar value report, since the dollar values are absolute and balance to revenue requirements.

- For Customer Service, input values (dollar costs) for the functions of meters and meter reading and billing are obtained from specific cost centres within Customer Service:

- <u>Meters</u>
  Operation and Maintenance of Meters

- <u>Meter Reading and Billing</u>
  Meter Reading
  Customer Billing

Once costs have been identified for the above functions, costs applicable to the Customer Service function is merely the residual amount.

Classification of Functional Costs

Following the distribution of Wastewater System revenue requirements to designated functions, costs are distributed to Wastewater System service characteristics. Following WEF procedures outlined above, these service characteristics include flow and pollutant loading metrics, and customer service attributes. Wastewater estimates include dry weather and wet weather estimates, pollutant loadings include BOD

and TSS, and customer service attributes relate to the numbers of equivalent meters and accounts served. Classification of system costs (by function) distributes costs to the characteristics of service that distinguish Customer classes.

Halifax Water functionalized costs are classified to the following Wastewater Service characteristics:

Dry weather flow
Wet weather flow
BOD
TSS
Equivalent meters
Customer service
Indirect

General Assumptions for Cost Classification

The following cost classifications for annual operating cost and capital cost have been prepared for the three treatment systems used by Halifax Water, namely advanced primary treatment, secondary treatment and tertiary treatment.

The calculations and assignment of "contributors" to the annual operating budget were based on specific representative Wastewater treatment facilities currently in operation within Halifax Water, namely:

- Advanced primary treatment - Halifax WWTF (this facility was selected as it is the largest of the three advance primary treatment plants);
- Secondary treatment - ~~Mill Cove~~Eastern Passage WWTF (this facility was selected as it as it was the most recent facility to be constructed)~~is the largest secondary treatment facility operated by Halifax Water~~); and
- Tertiary treatment - Fall River WWTF (this facility was selected as representative of the tertiary treatment plants operated by Halifax Water).

The calculations and assignment of "contributors" to capital costs were based on specific representative Wastewater treatment facilities currently in operation within Halifax Water, namely:

- Advanced primary treatment – The Halifax Wastewater Treatment Facility ~~(WWTF)~~ was selected as it is the largest of the three advance primary treatment plants;
- Secondary treatment – The Eastern Passage WWTF was selected as it was the most recent facility to be constructed; and
- Tertiary treatment – Aerotech was selected as it was completed in 2018, with costs adjusted to remove treatment of external flows and loads (lagoon, septage and external sludge dewatering).

Wet weather conditions were determined to exist 16~~18~~% of the time based on the average from the three (3) Halifax Harbour Solution treatment plants.

O&M Cost Classifications

Functionalized Wastewater System costs are classified to service characteristics separately for O&M expenses and capital costs. O&M costs are classified as summarized in Table 19, explanations of which are provided in the subsequent notes. Supporting calculations are documented in the final section of the COS Manual section on Wastewater System Allocations.

Table 19

Wastewater System O&M Cost Classification Summary (values noted in yellow have been revised from existing manual)

O&M Cost Classifications								
Wastewater System Functions	**Dry Weather Flow**	**Wet Weather Flow**	**BOD**	**TSS**	**Equivalent Meters**	**Customer Service**	**Indirect**	**Notes**
Advanced Primary Treatment	36.0%	14.0%	25.0%	25.0%				1
Secondary Treatment	55.2%	14.8%	12.0%	18.0%				1
Tertiary Treatment	42.8%	12.2%	18.0%	27.0%				1
Collection Mains	95%	5%						2
Pump Stations	90%	10%						2
Service Laterals					100%			3
Technical Services	83%	17%						5
Customer Service						100%		6
Operation & Maintenance of Meters					100%			4
Meter Reading and Billing						100%		7
Engineering and Capital Infrastructure Services							100%	9
Health, Safety and Environment							100%	8
Corporate Services							100%	11
Administration and General							100%	10

~~O&M Cost Classifications~~								
~~Wastewater System Functions~~	~~Dry Weather Flow~~	~~Wet Weather Flow~~	~~BOD~~	~~TSS~~	~~Equivalent Meters~~	~~Customer Service~~	~~Indirect~~	~~Notes~~
~~Treatment~~								
~~Advanced Primary~~	~~30.9%~~	~~19.1%~~	~~25.0%~~	~~25.0%~~				~~1~~
~~Secondary~~	~~54.0%~~	~~16.0%~~	~~12.0%~~	~~18.0%~~				~~1~~
~~Tertiary~~	~~45.2%~~	~~12.8%~~	~~16.8%~~	~~25.2%~~				~~1~~
~~Collection~~								
~~Mains~~	~~95.0%~~	~~5.0%~~						~~2~~

~~Pump Stations~~	~~90.0%~~	~~10.0%~~						~~2~~
~~Service Laterals~~					~~100.0%~~			~~3~~
~~Technical Services (SCADA)~~	~~82.0%~~	~~18.0%~~						~~5~~
~~Customer Service~~						~~100.0%~~		~~6~~
~~Meters~~					~~100.0%~~			~~4~~
~~Meter Reading and Billing~~						~~100.0%~~		~~7~~
~~Engineering and Technology Services~~							~~100.0%~~	~~9~~
~~Regulatory Services~~							~~100.0%~~	~~8~~
~~Corporate Services~~							~~100.0%~~	~~11~~
~~Administration~~							~~100.0%~~	~~10~~

Capital Cost Classifications

Functionalized Wastewater System costs~~[15]~~ are classified to service characteristics separately for O&M expenses and capital costs. Capital costs are classified as summarized in Table 20, explanations of which are provided in the subsequent notes. Supporting calculations are documented in the final section of the COS Manual section on Water System Allocations.

Table 20

Wastewater System Capital Cost Classification Summary (values noted in yellow have been revised from existing manual)

~~[15] The primary treatment category has not been included as the only primary treatment plant, Eastern Passage is in the process of being upgraded to secondary and will be completed when the rate structure from this COS Manual will be implemented.~~

Capital Cost Classifications								
Wastewater System Functions	**Dry Weather Flow**	**Wet Weather Flow**	**BOD**	**TSS**	**Equivalent Meters**	**Customer Service**	**Indirect**	**Notes**
Advanced Primary Treatment	38.0%	12.0%	25.0%	25.0%				1
Secondary Treatment	29.0%	20.7%	25.2%	25.2%				1
Tertiary Treatment	29.7%	10.0%	30.2%	30.2%				1
Collection Mains	75%	25%						2
Pump Stations	75%	25%						2
Service Laterals					100%			3
Technical Services								5
Customer Service						100%		6
Operation & Maintenance of Meters					100%			4
Meter Reading and Billing						100%		7
Engineering and Capital Infrastructure Services							100%	9
Health, Safety and Environment							100%	8
Corporate Services							100%	11
Administration and General							100%	10

1481

~~Capital Cost Classifications~~								
~~Wastewater System Functions~~	~~Dry Weather Flow~~	~~Wet Weather Flow~~	~~BOD~~	~~TSS~~	~~Equivalent Meters~~	~~Customer Service~~	~~Indirect~~	~~Notes~~
~~Treatment~~								
~~Advanced Primary~~	~~37.5%~~	~~12.5%~~	~~25.0%~~	~~25.0%~~				~~1~~
~~Secondary~~	~~29.0%~~	~~21.0%~~	~~25.0%~~	~~25.0%~~				~~1~~
~~Tertiary~~	~~25.0%~~	~~15.0%~~	~~30.0%~~	~~30.0%~~				~~1~~
~~Collection~~								
~~Mains~~	~~75.0%~~	~~25.0%~~						~~2~~
~~Pump Stations~~	~~75.0%~~	~~25.0%~~						~~2~~

~~Service Laterals~~					~~100.0%~~			~~3~~
~~Technical Services (SCADA)~~								~~5~~
~~Customer Service~~						~~100.0%~~		~~6~~
~~Meters~~					~~100.0%~~			~~4~~
~~Meter Reading and Billing~~						~~100.0%~~		~~7~~
~~Engineering and Technology Services (excluding TS)~~							~~100.0%~~	~~9~~
~~Regulatory Services~~							~~100.0%~~	~~8~~
~~Corporate Services~~							~~100.0%~~	~~11~~
~~Administration~~							~~100.0%~~	~~10~~

Notes on Wastewater Cost Classification (O&M and Capital)

1. Treatment

Advanced Primary Treatment

Halifax Water did a review of the percentage of the costs for the four main contributors (chemicals, contract services, power and staffing) of the advanced primary treatment plant operation and used these percentages with the dry weather/wet weather flow information to calculate percentage of operating costs required for dry weather flow, wet weather flow, TSS removal and BOD removal as identified in Table 19. ~~follows:~~

- ~~Dry weather flow 30.9%~~
- ~~Wet weather flow 19.1%~~
- ~~TSS removal 25.0%~~
- ~~BOD removal 25.0%~~

For assignment of capital costs Halifax Water used data from the Halifax WWTF to arrive at the allocations in Table 20~~following assignment~~.

- ~~Dry weather flow 37.5%~~
- ~~Wet weather flow 12.5%~~

- ~~TSS removal 25.0%~~
- ~~BOD removal 25.0%~~

Detailed calculations are included in the Wastewater System Appendix ~~within Section 5~~to this section.

Secondary Treatment

Halifax Water did a review of the percentage of the costs for the four main contributors (chemicals, contract services, power and staffing) of the secondary treatment plant operation and used these percentages with the dry weather/wet weather flow information to calculate percentage of operating costs required for dry weather flow, wet weather flow, TSS removal and BOD removal as identified in Table 19.~~follows~~:

- ~~Dry weather flow 54.0%~~
- ~~Wet weather flow 16.0%~~
- ~~TSS removal 18.0%~~
- ~~BOD removal 12.0%~~

For assignment of capital costs Halifax Water used data from the Eastern Passage WWTF to arrive at the allocations in Table 20.~~following assignment:~~

- ~~Dry weather flow 29.0%~~
- ~~Wet weather flow 21.0%~~
- ~~TSS removal 25.0%~~
- ~~BOD removal 25.0%~~

Detailed calculations are included in the Wastewater System Appendix to this section.

Tertiary Treatment

Halifax Water did a review of the percentage of the costs for the four main contributors (chemicals, contract services, power and staffing) of the tertiary treatment plant operation and used these percentages with the dry weather/wet weather flow information to calculate percentage of operating costs required for dry weather flow, wet weather flow, TSS removal and BOD removal as identified in Table 19.~~follows:~~

- ~~Dry weather flow 45.2%~~
- ~~Wet weather flow 12.8%~~
- ~~TSS removal 25.2%~~
- ~~BOD removal 16.8%~~

For assignment of capital costs Halifax Water used data prepared by Halifax Water staff to arrive at the allocations in Table 20.~~following assignment~~

- ~~Dry weather flow 25.0%~~
- ~~Wet weather flow 15.0%~~
- ~~TSS removal 30.0%~~
- ~~BOD removal 30.0%~~

Detailed calculations are included in the Wastewater System Appendix ~~within Section 5~~to this section.

2. Mains and Pump Stations

To arrive at assignment of operating costs Halifax Water did a review of the rain data ~~verses~~ versus overflow events together with the duration of the selected pump stations. Typically, Halifax Water experiences overflows at specific locations whenever rain events exceed 25 mm. From this Halifax Water identified the number of staff hours required for selected events and compared this to the overall staff hours worked and determined the following.

Mains	– 95% dry weather flow / 5% wet weather flow
Pump stations	– 90% dry weather flow / 10% wet weather flow

Capital costs are assigned based on design flow that is calculated from Halifax Water's Design and Construction Standards. These formula result in the following:

Mains	– 75% dry weather flow / 25% wet weather flow
Pump stations	– 75% dry weather flow / 25% wet weather flow

3. Service Laterals

Assigned 100% to equivalent meters for both operating and capital as services are dedicated to Customers.

4. Meters

Meters are assigned 100% to equivalent meter for both operating and capital.

5. Technical Services (SCADA)

Assigned to the capital cost of the works and are included in the capital items.

Operating costs are assigned based on the number of data points (tags) monitored in each activity (see Table 11). The result of this allocation is TS has been allocated based on the split between dry weather and wet weather flows (83~~82~~% to dry and 17~~18~~% to wet) based on the average flows for all Wastewater treatment facilities.

~~Function~~	~~Number of Data Points Monitored~~	~~Allocation percentage~~
~~WW Treatment~~	~~24,356~~	~~45.0%~~
~~WW Collection~~	~~11,954~~	~~22.0%~~
~~SW CSOs~~	~~456~~	~~0.8%~~
~~Water Distribution~~	~~5,204~~	~~9.6%~~
~~Water Treatment~~	~~12,265~~	~~22.6%~~
~~District Energy*~~	~~TBD~~	~~TBD~~
~~Total~~	~~54,235~~	~~100.0%~~
~~*Allocation to DES will be established as the system is developed and is operational.~~		

Table 21

Please note that Table 11~~21~~ does not relate to the 83~~82~~%/17~~18~~% split. The table was included to demonstrate how much of the TS budget was allocated to Wastewater treatment, Wastewater collection, Stormwater CSOs, water distribution and water treatment. The reference to the 83~~2~~%/17~~8~~% is how the Wastewater items (treatment and collection) are further apportioned and assigned.

6. Customer Service

Assigned 100% to Customer Service for both operating and capital as these services are all customer related.

7. Meter Reading and Billing

Meter reading and billing costs are part of the Customer Service group of cost centres. They are assigned 100% to Customer Service as meters are totally dedicated to Customers.

8. ~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety

For operating costs, and capital costs not assigned to specific assets, these costs are classified as indirect costs and are allocated in proportion to directly allocated costs.

9. Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~

For operating costs, and capital costs not assigned to specific assets, these costs are classified as indirect costs and allocated in proportion to directly allocated costs.

10. Administration

For operating costs, and capital costs not assigned to specific assets, these costs are classified as indirect costs and allocated in proportion to directly allocated costs.

11. Corporate Services

For operating costs, and capital costs not assigned to specific assets, these costs are classified as indirect costs and allocated in proportion to directly allocated costs.

Allocation to Customers

Costs are distributed to Customers (either by classes or individually) based on similarities and differences in their Wastewater flow patterns, pollutant loadings, and types/sizes of service connections. For Halifax Water, given that Customer accounts are generally not distinguished by land use type facilitating strength-differentiation across Customer types, Customer classifications are effectively limited to residential, non-residential, and industrial waste Customers pending further evaluation of Customer classification options. This evaluation would require examination of Customers by land use type and use of industry reference data regarding strength characteristics of different Customer types.

Costs by service characteristic are simply divided by the projected level of service to be rendered to

determine the unit costs of a given service parameter. For example, the system-wide cost per cubic meter of wet weather flow is calculated by taking the costs determined to handle weather flows divided by projected system wet weather flows (based on system flow factors). In this manner, costs are allocated to Customers in proportion to their respective demands and uses of the system. If Customer classifications are homogenized, unit costs by service characteristic may be combined to establish rates for service (typically where demand related costs convert to the volumetric rate).

This procedure is illustrated in Tables 22 and 23 that offer example templates for these types of calculations. As noted, the distribution of costs by function, and subsequent classification of these costs by service characteristic (*e.g.*, dry-weather and wet-weather flows, BOD and TSS strength loadings, equivalent meters and accounts) results in the expression of each component of the utility's revenue requirements in terms of these service characteristics. Accordingly, in Table 22, Lines 1, 4 and 7 are listed the outcomes of the cost classification by each major revenue requirement component. Because some of these costs are allocated on an indirect basis, a calculation is made whereby the indirect costs are distributed to directly classified costs based on those costs share of total directly classified costs. So, for example, if dry-weather flow related O&M costs represent 40% of directly classified O&M costs, 40% of indirect O&M costs are apportioned to dry-weather flow related costs. This is the procedure employed in Lines 2, 5 and 8 – to yield complete cost classifications by cost component (Lines 3, 6, and 9) – that are summed (Line 10) to present total costs by service characteristic.

Table 22

Wastewater System – Unit Costs of Service Calculation

Line	Revenue Requirement Component	Dry-Weather Flow Related Costs	Wet-Weather Flow Related Costs	BOD Related Costs	TSS Related Costs	Meter Equiv. Related Costs	Billing Related Costs	Indirect Costs
1	Operations & Maintenance	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$
2	Allocated Indirect O&M	$$	$$	$$	$$	$$	$$	
3	Operations & Maintenance (Net)	$$	$$	$$	$$	$$	$$	

4	Depreciation	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$
5	Allocated Indirect Depr	$$	$$	$$	$$	$$	$$	
6	Depreciation	$$	$$	$$	$$	$$	$$	
7	Return on Rate Base	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$
8	Allocated Indirect Return	$$	$$	$$	$$	$$	$$	
9	Return on Rate Base (Net)	$$	$$	$$	$$	$$	$$	
10	Total Revenue Requirements Lines (3,6,9)	$$	$$	$$	$$	$$	$$	

The allocation of costs to Customer classes employs the service characteristic by Customer class data developed in the "System and Customer Use Data (for Cost Allocation) – Table 23. Unit COS by characteristic (Line 3) are calculated by dividing total revenue requirements by service characteristic (Line 1) by total system flows, pollutant loadings (BOD, TSS), meter equivalents and accounts served (Line 2). Costs are then allocated to Customer classes simply by multiplying these unit costs by the flows, pollutant loadings, meter equivalents and accounts served for each Customer class. This is accomplished for Residential customers in Lines 4 and 5; for Non-Residential customers in Lines 7 and 8. The sum of Line 5 (across service characteristics) is therefore the fully allocated COS for the Residential class; the sum of Line 8 is that for the Non-Residential. COS based rates are those that recover these sums from respective Customer classes. While many rate designs may accomplish these ends, a basic rate design option is to recover volume-related costs; including dry- and wet-weather flow costs and pollutant loading related costs from volumetric rates while fixed charges (graduated by meter size) recover metering related costs and Customer account related costs. This rate design calculation is presented in the template example in Lines 6 and 9.

Table 23

Wastewater System – Allocation of Costs to Customer Classes and Uniform Volume with Fixed Charge

1621 Rate Calculations (System and Customer Use Data for Cost Allocation)

		1	2	3	4	5	6
Line	Revenue Requirement Component	Dry-Weather Flow Related Costs	Wet-Weather Flow Related Costs	BOD Related Costs	TSS Related Costs	Meter Equiv. Related Costs	Billing Related Costs
1	Total Revenue Requirements Lines (3,6,9)	$$	$$	$$	$$	$$	$$
2	Wet Weather Flow Allocation (%)	%		%	%	%	%
3	Wet Weather Flow Allocation	$$		$$	$$	$$	$$
4	Total Revenue Requirements Allocated to Billing Parameters (Row 1+3)	$$		$$	$$	$$	$$
5	Billable Flows & Loading						
6	Unit Cost of Service Characteristic						
7	Residential Flows & Loading						
8	Residential Cost of Service						
9	Residential Rates*						
10	Non-Residential Flows & Loadings						
11	Non-Residential Cost of Service						
12	Non-Residential Rates**						

- Residential rates (Line 9) featuring uniform volume rates and fixed charges may be calculated by first distributing wet weather-related costs to dry weather flow, equivalent meter and Customer related costs (as shown in Rows 2 and 3). The resulting unit costs by billing parameter are calculated by dividing the allocated revenue requirements (Line 4) by billable flows and loadings (Line 5) to determine unit costs of service by characteristic (Line 6). Residential costs of service (Line 8) are then calculated by multiplying the unit costs of service (Line 6) by the billable residential flows and loadings (Line 7). Residential rates are derived by summing Columns 1,3, and 4 of Line 8 and dividing by projected billable residential sewer flows (Line 7, Column 1) to determine the volumetric rate. The fixed charge is the sum of meter equivalent costs (Line 8, Column 5) divided by residential meter equivalents (Line 4, column 5) plus the billing and non-meter customer service costs (Line 8, Column 6) divided by residential accounts (line 7, column 6).
- Non-Residential volumetric rates (Line 12) are calculated using the same procedures where Line 10 is substituted for Line 7 and Line 11 is substituted for Line 8.
- Note – fixed charges for meter sizes with meter equivalencies greater than 1, the fixed charge is calculated by the unit cost per equivalent

meter times the relevant meter unit equivalency plus the per account customer charge.

Wet weather-related costs are allocated to dry weather flow, equivalent meter, and customer – to determine unit costs by billing parameter. Wet weather, or Inflow and Infiltration (I&I) allocations have not changed since the first COS Manual and 2013 rate application, nor has there have been any~~no~~ significant changes in the years since past two years that would support proposing a change to the allocation which the ~~NSUARB~~NSRAB had previously approved. The nature, amount, and causes of I&I have not changed.

I&I is allocated 10% to dry weather flow, 45% to the meter equivalent charge, and 45% to Customer connections. Halifax Water recommended this option based on the premise that some portion of the I&I (10%) is related to flows in the system and should be recovered as a flow-related charge regardless of the number of Customers connected. The second allocation to the meter equivalent charge (45%) recognizes that larger diameter pipes increase the risk of leakage due the increased surface area of joints in larger pipes. The final allocation, 45% to Customer connections relates to leakage that is associated with the connections to the service pipe to Halifax Water's collection network and the potential for the Customer to discharge other flows from sump pumps and roof drains to the system.

Wastewater System Appendix: Supplemental Cost Classification and Allocation Calculations

Based on a review of data from several representative treatment plants updated to 2023~~2019~~, Halifax Water determined that, on average, the Wastewater treatment facilities are in wet weather conditions approximately 17~~18~~% of the time. A review of flow data from a representative sample of the plants operated by Halifax Water including Halifax, Mill Cove, Fall River and North Preston was conducted in order to confirm this estimate, the criteria used was percentage of the flow that the respective facilities were above design average daily flow. The data is as follows:

- North Preston - 22~~24~~%
- Fall River - 13~~15~~%
- Mill Cove - 10~~13~~%
- Halifax - 12~~13~~%

~~The Fall River sewershed is very tight and not affected by I&I, the North Preston sewershed is the opposite and other sewersheds are also highly variable so a representative value of 15% was arrived at for these facilities~~.

Halifax Water used a sample operating cost of $5,000,000/ year for the purpose of this cost classification and for calculating the percentages for the three Wastewater treatment functions:

Advanced primary treatment
Secondary treatment
Tertiary treatment

1. Advanced Primary Treatment:

Assumed Annual Operating Cost **-** $5,000,000

Based on averages from the three (3) Halifax Harbour Solution plants, 84~~82~~% of the time these facilities experience dry weather conditions, and 16~~18~~% of the time wet weather conditions. If there was no impact to the operating budget that could be attributed to wet weather conditions, Halifax Water could assign 84~~82~~% of the yearly operating budget to dry weather flows and 16~~18~~% of the assumed annual operating cost for wet weather flows. However, there is an impact to the operating cost that can be directly attributed to wet weather flows, and this impact is based on an increase in power consumption, and an increase in chemical demand.

For the advanced primary treatment facilities, the four main contributors to the annual operating budgets, and the associated percentages of the overall budgets, assigned to each of these contributors are as follows:

	Proposed	Existing
Chemicals	22%	19%
Contract services	30%	35%
Power	11%	14%
Staffing and miscellaneous	37%	32%

~~1) Chemicals - 19%~~
~~2) Contract services - 35%~~

~~3) Power 14%~~

~~4) Staffing and miscellaneous 32%~~

For the advanced primary treatment facilities, considering these four contributors, only chemical addition ~~(19%)~~, power, pumping costs and UV disinfection costs~~, (14%)~~**,** increase significantly during wet weather flows versus dry weather flows.

Contract services**,** which mainly consists of biosolids transportation and biosolids processing, is not impacted significantly by wet weather flow~~, and accounts for approximately 35% of the overall cost~~. Staffing and miscellaneous costs are not impacted significantly by wet weather flows~~ and account for 32% of the overall budget~~.

Halifax Water calculated the amount of the assumed annual operating cost that would be assigned to power ~~(14%)~~ and chemicals ~~(19%)~~ would be: ~~$5,000,000 x 33 % = $1,650,000.~~

	Proposed	Existing				Proposed		Existing
Total annual operating cost				**A**	**$**	**5,000,000**	**$**	**5,000,000**
Assigned to power and chemicals:								
Power	11%	14%	B x A =	**D**	$	545,367	$	700,000
Chemicals	22%	19%	C x A =	**E**	$	1,082,783	$	950,000
	33%	33%		**F**	$	1,628,150	$	1,650,000

If wet weather did not impact power and chemical consumption, the following ~~Halifax Water would calculate that, $1,650,000 x 82% = $1,353,000~~ would be spent during dry and wet weather: ~~and the remaining 18% (or $297,000) would be spent during wet weather.~~

	Proposed	Existing				Proposed		Existing
Total annual operating cost				**A**	**$**	**5,000,000**	**$**	**5,000,000**
Assigned to power and chemicals:								
Power	11%	14%	B x A =	**D**	$	545,367	$	700,000
Chemicals	22%	19%	C x A =	**E**	$	1,082,783	$	950,000
	33%	33%		**F**	$	1,628,150	$	1,650,000
Power and chemicals allocation to:								
Dry weather	84%	82%	x F =	**G**	$	1,367,646	$	1,353,000
Wet weather	16%	18%	x F =	**H**	$	260,504	$	297,000

However wet weather does impact power and chemical costs ~~these contributors.~~

~~Based on wet weather flows being experienced 18% of the time, Halifax Water calculated $1,650,000 x 18% = $297,000 to be the amount spent from the operating budget to cover chemical and power costs during wet weather flow. Because these two components are impacted by wet weather~~ therefore an additional 16~~18~~% is~~has~~ to be~~en~~ added to the~~is~~ allocation~~number~~ for wet weather to account for the extra power and chemicals consumed during wet weather periods: ~~($297,000 + ($297,000 x 18%) = $350,460).~~

	Proposed	Existing			Proposed	Existing
Additional allocation for wet weather:						
Wet weather	16%	18% x H =	I	$	41,681	$ 53,460
		H + I =	J	$	302,185	$ 350,460

Of this, the allocation between power and chemicals is: ~~19/(19+14) X $350,460 = $201,780 is chemicals and 14/(19+14) X $350,460 = $148,680 is for power.~~

	Proposed	Existing			Proposed	Existing
Wet Weather costs assigned to:						
Power	33%	42% B / (B + C)) x J =	K	$	101,220	$ 148,680
Chemicals	67%	58% C / (B + C)) x J =	L	$	200,965	$ 201,780

The additional allocation for wet weather~~is increase ($350,460 - $297,000 = $53,460)~~ must be subtracted from the dry weather portion of the annual budget assigned to chemicals and power: ~~($1,353,000 - $53,460 = $1,299,540).~~

	Proposed	Existing			Proposed	Existing
Dry Weather costs assigned to power and chemicals						
		= G - I	M	$	1,325,965	$ 1,299,540

The assumed annual operating cost ~~($5,000,000)~~ excluding power and chemicals is: ~~($5,000,000 - $1,650,000 = $ 3,350,000).~~

	Proposed	Existing			Proposed	Existing
Annual operating cost excluding power and chemicals:						
		= A - F	N	$	3,371,850	$ 3,350,000

Based on an 84~~82~~% dry weather versus 16~~18~~% wet weather:

Proposed	Existing				Proposed	Existing
Total operating cost assigned to Dry Weather:						
Dry weather	84%	82% x N =		O	$ 2,832,354	$ 2,747,000
			= M + O	P	$ 4,158,319	$ 4,046,540
% attributed to Dry Weather Flow:			= P / A	Q	83%	81%
% attributed to Wet Weather Flow:				R	17%	19%

~~Dry weather flow~~

~~$3,350,000 x 82% = $2,747,000~~

~~$2,747,000 + $1,299,540 = $4,046,540~~

~~Dry weather flow - $4,046,540/ $5,000,000 x 100% = 81%~~

~~Wet weather flow - 100% - 81% = 19%~~

Based on the above calculation 83~~81~~% of yearly budget can be attributed to dry weather flow, and 17~~19~~% of the overall budget can be attributed to wet weather flow. Of these two functions, the amount attributed to TSS and BOD removal must be allocated from these amounts based on the percentage of the budget attributed to TSS and BOD removal.

The two main contributors to costs for TSS and BOD removal are: chemicals ~~(19%)~~, and contract services (biosolids transportation and treatment) ~~(35%)~~. The costs for chemicals are expended both during dry weather and wet weather conditions. The level of BOD and TSS removal achieved during wet weather conditions is minimal in most instances. However, the additional chemicals and power used is accounted for where a deduction is made to the dry weather component**.** Contract services is primarily for transporting and treatment of biosolids produced during dry-weather.[16]

The amount spent for chemicals during dry weather ~~is the total amount of $950,000 ($5,000,000 X 19%)~~ less the amount~~$201,780~~ assigned to wet weather~~, or $748,220. This~~ is added to the amount paid for contract services to obtain the cost assigned for TSS and BOD removal: ~~100% of the $1,750,000 or ($5,000,000 X 35%) paid for Contract Services.~~

~~$748,220 + $1,750,000 = $2,498,220~~

[16] Exhibit MCI-1 from Mr. Whalen's Direct Evidence 2013 general rate application

~~$2,498,220/ $5,000,000 x 100% = 50%~~

	Proposed	Existing				Proposed	Existing
TSS and BOD allocation:							
Dry weather chemical spend			= E - L	S	$ 881,818	$ 748,220
Contract services	30%	35% x A =		T	$ 1,505,881	$ 1,505,881
				U	$ 2,387,699	$ 2,254,101
			= U / A		48%	45%

For advanced primary treatment the cost for TSS and BOD removal are equal. Based on this Halifax Water will assign 25% for TSS removal and 25% for BOD removal.

The percentage~~81%~~ of the assumed operating cost assigned to dry weather flow must be adjusted for the amount assigned to TSS and BOD removal with a corresponding adjustment in the wet weather flow percentage. The assigning of a portion of costs of BOD and TSS removal requires an adjustment to wet weather flow costs to account for the fact that BOD and TSS removal costs are all dry weather-related costs. If the adjustment was not made, then wet weather flow would be receiving a portion of the BOD and TSS removal costs.

83~~81~~% / (83~~81~~% – adjusted wet weather flow portion) = 17~~25~~% / (adjusted wet weather flow portion).

The formula above lowers the portion of costs assigned to wet weather flow to account for the fact that BOD and TSS removal costs are dry weather flow costs based on the proportion of costs in the example related to the removal of TSS and BOD.

Therefore, adjusted wet weather flow portion = 14~~19.1~~%

Conclusion:

	Proposed	Existing
Adjusted wet weather flow portion =	14.0%	19.1%
TSS removal accounts for = (see above)	25.0%	25.0%
BOD removal accounts for = (see above)	25.0%	25.0%
Dry weather flow accounts for = (balance)	36.0%	30.9%

- ~~Dry weather flow accounts for 100% - (19.1% + 25.0% + 25.0%) = 30.9%~~
- ~~Adjusted wet weather flow portion = 19.1% (from calculation above)~~

- ~~TSS removal accounts for = 25.0% (see above)~~
- ~~BOD removal accounts for = 25.0%-see above)~~

2. Secondary Treatment:

Assumed annual operating cost - $5,000,000

Based on the Eastern Passage wastewater treatment facility, 82~~81~~% of the time this facility experiences dry weather conditions, and 18~~19~~% of the time wet weather conditions. The secondary treatment facility operating budget is not significantly impacted by wet weather flows versus dry weather flows (no additional ~~C~~chemicals required, no additional pumping (power costs) on site, and no additional BOD or TSS loadings, etc.).

Therefore, the total assumed annual operating budget can be broken down as follows: ~~based on 81% dry weather and 19% wet weather or $5,000,000 x 81% = $4,050,000 dry weather, and $5,000,000 x 19% = $ 950,000 wet weather.~~

	Proposed	Existing			Proposed	Existing
Total annual operating cost			**A**	**$ 5,000,000**	**$ 5,000,000**
Assigned to:					
Dry weather	82%	81% x A =	**B**	$ 4,100,000	$ 4,047,327
Wet weather	18%	19% x A =	**C**	$ 900,000	$ 952,673

For the secondary treatment facilities, the four contributors to the annual operating budgets, and the associated percentages of the overall budgets, assigned to each of these contributors are as follows:

~~1) Chemicals - 8%~~
~~2) Contract services (biosolids costs) - 27%~~
~~3) Power - 15%~~
~~4) Staffing and miscellaneous - 50%~~

	Proposed	Existing
Chemicals	8%	8%
Contract services	27%	27%
Power	13%	15%
Staffing and miscellaneous	52%	50%

Total power ~~consumption~~ for the plant accounts for 13~~15~~% of the overall operating cost. Of this ~~15%~~, Halifax Water analysis attributes 54% of the power consumption (based on a review of the power consumption) for the equipment used for the treatment process. Additional equipment in the plant would relate to items such as heating and ventilation, air scrubbing, disinfection, etc.) to TSS and BOD removal, therefore Halifax Water assigns 7~~8~~% (14~~15~~% x 54% = 7~~8~~%) to power consumption directly related to TSS and BOD removal.

For the secondary treatment process the main contributors from the operating costs for TSS and BOD removal are as follows~~: biosolids costs (27%), power (8%), and heating fuel (Digester heating) (2%) = total 37%~~ (~~T~~these are percentages of total operating budget for secondary treatment.):

	Proposed	Existing
Biosolids costs	27.00%	27.00%
Power	7.00%	8.00%
Heating fuel for digester	2.00%	2.00%
D	36.00%	37.00%

The calculated cost for TSS and BOD removal based on the dry weather flow portion of the total yearly operating cost as follows:

~~Cost of TSS and BOD removal - $4,050,000 X 37% = $1,498,500/year.~~

~~$1,498,500/$5,000,000 = 30% (of assumed annual operating cost)~~

			Proposed	Existing
Cost of TSS and BOD removal	= B x D	**E**	$ 1,476,000	$ 1,497,511
% of total annual operating cost	= E / A	**F**	30%	30%

For secondary treatment the amount for TSS removal and BOD removal are not equal because additional process equipment required for biological treatment (IE: secondary clarifiers, aeration basins, blowers etc., sludge pumps, etc.)~~ is required~~. To account for this, the amount assigned for TSS removal and BOD removal has been changed from advanced primary at 50/50 split to a 60/40 split based on operator experience and professional judgment.

Therefore~~ 30% X 60% = 18% is assigned to TSS removal, and 30% -18% = 12% to BOD removal.~~:

	Proposed	Existing		Proposed	Existing
Percentage assigned for removal of:					
TSS	60%	60%	x F =	18%	18%
BOD	40%	40%	x F =	12%	12%

The percentage~~81%~~ of the assumed operating cost assigned to dry weather flow must be adjusted for the amount assigned to TSS and BOD removal with a corresponding adjustment to the wet weather flow percentage.

82~~81~~% / (82~~81~~% – adjusted wet flow portion) = 18~~19~~% / (adjusted wet weather flow portion)

Therefore, the adjusted wet weather flow portion = 14.8~~16~~%

Conclusion:

	Proposed	Existing
Adjusted wet weather flow portion =	14.8%	16.0%
TSS removal accounts for = (see above)	18.0%	18.0%
BOD removal accounts for = (see above)	12.0%	12.0%
Dry weather flow accounts for = (balance)	55.2%	54.0%

- ~~Dry weather flow accounts for 100.0% - (18.0% + 12.0% + 16.0%) = 54.0%~~
- ~~Wet weather flow accounts for 16.0% (from calculations above)~~
- ~~TSS removal accounts for 18.0% (see above)~~
- ~~BOD removal accounts for 12.0% (see above)~~

3. Tertiary Treatment:

Assumed annual operating cost - $3,000,000

~~85% of the time t~~These facilities experience dry weather conditions 86% of the time, and 14~~15~~% of the time wet weather conditions. The tertiary treatment facility operating budget is not significantly impacted by wet weather flows versus dry weather flows (no additional chemicals required, no additional pumping (power costs) on site, and no additional BOD or TSS loadings, etc.).

Therefore, the total assumed operating cost can be broken down as follows: ~~based on 85% dry weather and 15% wet weather or $3,000,000 x 85% = $2,550,000 dry weather, and $3,000,000 x 15% = $450,000 wet weather.~~

	Proposed	Existing			Proposed		Existing
Total annual operating cost			**A**	**$**	**3,000,000**	**$**	**3,000,000**
Assigned to:							
Dry weather	86%	85% x A =	**B**	$	2,571,524	$	2,550,000
Wet weather	14%	15% x A =	**C**	$	428,476	$	450,000

For the tertiary treatment facilities, the four contributors to the annual operating budgets, and the associated percentages of the overall budgets, assigned to each of these contributors are as follows:

	Proposed	Existing
Chemicals	18%	11%
Contract services	14%	33%
Power	17%	9%
Staffing and miscellaneous	51%	47%

~~1) Chemicals - 11%~~

~~2) Contract services (Biosolids costs) - 33%~~

~~3) Power - 9%~~

~~4) Staffing and miscellaneous - 47%~~

Total power consumption for the plant accounts for 17~~9~~% of the overall operating budget. Of this ~~9%~~, we can attribute 54% of the power consumption to ~~TSS and BOD removal~~the treatment process, therefore we can assign (17~~9~~% x 54% = 9~~5~~%) to power consumption directly related to TSS and BOD removal

For the tertiary treatment process the main contributors from the operating costs~~budgets~~ for TSS and BOD removal are as follows (these are percentages of total operating budget):~~are: biosolids costs (33%), power (5%), chemicals (11%) = total 49% (These are percentages of total operating budget).~~

		Proposed	Existing
Biosolids costs		33%	33%
Power		9%	5%
Chemicals		11%	11%
	D	53%	49%

The calculated cost for TSS and BOD removal based on the dry weather flow portion of the total yearly operating costs as follows:

~~Cost of TSS and BOD removal - $2,550,000 x 49% = $1,249,500/year.~~

~~$1,249,500/ $3,000,000 = 42% (of assumed annual operating budget)~~

			Proposed	Existing
Cost of TSS and BOD removal	= B x D	**E**	$ 1,362,908	$ 1,249,500
% of total annual operating cost	= E / A	**F**	45%	42%

For tertiary treatment the amount for TSS and BOD removal are not equal because additional process equipment (*i.e.*, secondary clarifiers, aeration basins, blowers, sludge pumping, filters, chemical feed systems, equalization etc.) are required. To account for this, we have adjusted the amount assigned for TSS removal and BOD removal from a 50/50 split to a 60/40 split.

Therefore: ~~42% x 60% = 25.2% is assigned to TSS removal, and 42% - 25.2% = 16.8% BOD removal.~~

			Proposed	Existing
Percentage assigned for removal of:				
TSS	60%	x F =	27%	25%
BOD	40%	x F =	18%	17%

The percentage~~85 %~~ of the assumed operating cost assigned to dry weather flow must be adjusted for the amount assigned to TSS and BOD removal with a corresponding adjustment in the wet weather flow percentage.

8685% / (8385% – adjusted wet flow portion) = 1415% / (adjusted wet weather flow portion)

Therefore, the adjusted wet weather flow portion = 12.2~~12.8~~%

Conclusion:

	Proposed	Existing
Adjusted wet weather flow portion =	12.2%	12.8%
TSS removal accounts for = (see above)	27.0%	25.2%
BOD removal accounts for = (see above)	18.0%	16.8%
Dry weather flow accounts for = (balance)	42.8%	45.2%

- ~~Dry weather flow accounts for 100% - (12.8% + 16.8 + 25.2%) = 45.2%~~
- ~~Wet weather flow accounts for 12.8% (from calculation above)~~
- ~~TSS removal accounts for 25.2% (see above)~~
- ~~BOD removal accounts for 16.8% (see above)~~

Notes on Wastewater Capital Cost Classification

~~1. Based on a review of data from several representative treatment plants, Halifax Water determined that, on average, the Wastewater treatment facilities are in wet weather conditions approximately 18% of the time. A review of flow data from a representative sample of the plants operated by Halifax Water including Halifax, Mill Cove, Fall River and North Preston was conducted in order to confirm this estimate, the criteria used was percentage of the flow that the respective facilities were above design average daily flow. The data is as follows:~~

- ~~North Preston 24%~~
- ~~Fall River - 15%~~
- ~~Mill Cove - 13%~~
- ~~Halifax 13%~~

~~The Fall River sewershed is very tight and not affected by I&I, the North Preston sewershed is the opposite, other sewersheds are also highly variable so an average value of 15% was arrived at for these facilities.~~

~~2.~~1. Mains are designed based on a design flow that is calculated from an established formula in Halifax Water's Design and Construction Standards. The formulas were revised in 2012, have

not changed since, and will result in a ratio of 75% dry weather flow and 25% wet weather flow for an average size and density development which will be used in the COS allocation. The calculation of the 75% is derived from the Design and Construction Standards and is shown below.

The flow Q, in the Wastewater sewer system used for pipe sizing shall be as follows:

Q = [dry weather] + wet weather (I/I)

Q = [[1.25 × (a × M)] + (b x area)]/ 86.4

where:

1.25 is a safety factor;

M is Harmon Peaking Factor

a is identified here as the average dry weather flow. The allowance is 0.30 m^3 per person per day for residential development;

b is the future degradation of pipe long-term I/I allowance. The allowance is 24 m^3 per gross hectare/day;

Using the formula above and assuming a 1% slope on the pipes, the dry weather and wet weather components of the pipe capacity were determined.

Table 1 illustrates the dry weather versus wet weather flows for a development density of 45 people/ha (ppha). Typical greenfield development is 45 ppha, and constitutes 17% of non-infill development.

Table 1

Pipe Diameter (mm)	Dry Weather (m3/day)	Wet Weather (m3/day)	Total (m3/day)	Dry Weather %
250	3710	1428	5138	72
300	5933	2422	8355	71
350	8800	3803	12603	70
400	12350	5642	17993	69
450	16624	8009	24633	67
Average				**70**

Using the above methodology, the dry weather flows were determined for other development densities and the relative percentages are shown in Table 2:

Table 2

Pipe Diameter (mm)	60 ppha (14% of non-infill Development)	100 ppha (9% of non-infill Development)	200 ppha (5% of non-infill Development)
250	77%	85%	92%
300	76%	84%	91%
350	75%	83%	91%
400	74%	82%	90%
450	73%	82%	90%
Average	**75%**	**83%**	**91%**

Using the relative percentage of each density, the weighted average of dry weather flow is 77%, for rounding purposes, Halifax Water used 75%.

~~3.~~2. **Pump stations** are allocated similar to mains resulting in an allocation to dry weather of 75% and to wet weather is 25%.

~~4.~~3. **Advanced Primary Treatment**

Wastewater treatment plants are designed for dry weather flow based on plant loadings and are hydraulically sized for wet weather flow. In the case of the three Halifax Harbour Solution plants that are advanced primary they were designed to handle four times dry weather flow based on regulatory approval. The plants treat the flow up to four times the dry weather flow with the flow in excess of that being directed ~~to the overflow at the treatment plant or~~ to one of several Combined Sewer Overflows (CSO) located throughout the collection system. The plants are designed on a design criteria three-times average dry weather flow to account for daily peaks during dry weather conditions and four-times average day for wet weather flow based on regulatory requirements. Based on that ratio, 75 % of design flow is related to dry weather flow and 25% to wet weather flow. BOD and TSS are all related to dry weather flow as there is no addition treatment provided for BOD and TSS removal during wet weather flows. Therefore, the allocation to BOD and TSS are allocated from the dry weather flow component.

A review of the capital costs for the Harbour Solutions Plants indicates that approximately 66% of capital costs are related to the treatment process. Applying the 66% to the 75% allocated to dry weather flow indicates that approximately 50% of capital costs should be allocated to BOD and TSS and would be deducted from the dry weather flow portion. The 50% is allocated equally between BOD and TSS thus providing an allocation for advanced primary treatment is as follows:

Dry weather flow = 37.5% (50%*75%)

Wet weather flow	= 12.5% (50%*25)
BOD	= 25.0% (66%*75%)/2
TSS	= 25.0% (66%*75%)/2

As previously noted, BOD and TSS are all related to dry weather flow. There is no additional BOD and TSS removal during wet weather flows.

~~5.~~4. Secondary Treatment

The Eastern Passage WWTF was designed based on a regulatory approval for a dry weather flow of 25,000 m^3 per day with a peak daily flow of 75,000 m^3 per day and a bypass flow with screening and grit removal of 120,000 m^3 per day. Using an estimated peak of 2.5 times dry weather flow would result in an estimated peak daily flow of 62,500 (2.5 x 25,000). The estimated peak daily flow would then yield an allocation of 83% for dry weather flow (62,500/75,000) and 17% to wet weather flow. This amount was adjusted by 4% to recognize the wet weather flow bypass that was~~is being~~ built into the plant to handle wet weather flows. This amount was transferred from dry weather flow to wet weather flow to allow for the cost of the head works. Therefore, the adjusted allocation was dry weather flow = 79% (83%-4%) and wet weather flow = 21% (17%+4%).

The contract cost of the treatment portion of the Eastern Passage Treatment Plant was determined to be $33 M of the total construction cost of $52 M or 63% (33/52). This relates to the allocation of BOD and TSS and all relates to dry weather flow. Therefore 63% of the total cost allocated to dry weather flow (79%) is allocated to BOD and TSS (63% X 79%) = 50%. The 50% are equally allocated to BOD and TSS and therefore the revised allocations for Secondary Treatment are:

Dry weather flow	= 29%
Wet weather flow	= 21%
BOD	= 25%
TSS	= 25%

As previously noted, BOD and TSS are all related to dry weather flow. There is no additional BOD and TSS removal during wet weather flows.

~~6.~~5. Tertiary Treatment:

The Aerotech WWTF was designed based on a regulatory approval for a dry weather flow of 3,000 m^3 per day with a peak daily flow of 6,000 m^3 per day. The contract cost of the treatment portion of the facility was determined to be $16 M of the total construction cost of $24 M or 67% (16/24). This relates to the allocation of BOD and TSS and all relates to dry weather flow. Therefore 67% of the total cost allocated to dry weather flow (90%) is allocated to BOD and TSS (67% X 90%) = 60%. The 60% is equally allocated to BOD and TSS and therefore the revised allocations for tertiary treatment are:

Dry weather flow	= 30~~25~~%
Wet weather flow	= 10~~15~~%
BOD	= 30%
TSS	= 30%

As previously noted, BOD and TSS are all related to dry weather flow. There is no additional BOD and TSS removal during wet weather flows.

SECTION 6 - STORMWATER SYSTEM COST ALLOCATION

General Review

Pursuant to the 2007 Transfer Agreement with HRM, Halifax Water owns municipal stormwater systems in municipal HRM streets and roads and off-street drainage easements located within the Stormwater Boundary as defined in the Transfer Agreement. There are other stormwater systems within the Stormwater Boundary that are not owned by Halifax Water, including systems owned by the Province of Nova Scotia, bridges owned by HRM, and stormwater systems owned by private property owners, including Canadian National Railways, the Department of National Defense and others.

The operation of the Water and the Wastewater Systems are financed from revenues based on water consumption. This methodology clearly would not be representative of the amount of stormwater discharged from properties and managed by Halifax Water-owned infrastructure. Halifax Water is financing its Stormwater System by implementing ~~new~~ cost of service-based rates.

Stormwater is defined within the Halifax Water Regulations as “water from precipitation of all kinds, and includes water from the melting of snow and ice, groundwater discharge and surface water”. Halifax Water’s Stormwater Charge is comprised of two parts - a Right-of-Way Charge and a Site Related Flow Charge both on the basis of Impervious Area measures. Impervious Area is defined within the Halifax Water Regulations as “an area or surface which prevents or limits the entrance or passage of stormwater, including asphalt, concrete, bricks, roofs and gravel surfaces if they are hard packed, and all which are denoted as impervious by the satellite imagery utilized by the Commission in that determination”. Impervious surfaces generate a much higher rate and volume of stormwater runoff than do pervious surfaces. While some municipalities and utilities impose stormwater charges based upon both impervious and pervious surfaces, doing so is substantially more complex and costly from an administrative perspective. Accordingly, Halifax Water will charge stormwater rates on the basis of Impervious Area associated with street right-of-way and individual parcels.

Halifax Water is responsible for the Stormwater Systems located in and associated with all HRM streets within the Stormwater Service Boundary. All owners and users of properties located within the Stormwater Service Boundary benefit from Halifax Water's Stormwater System through their ability to access their property using HRM streets which are drained by Halifax Water’s Stormwater System. Stormwater

management within the street network helps enable safe transportation of people and goods, and provision of services. Most of the properties within the Stormwater Service Boundary receive one or both of the following services from Halifax Water:

- Processing and/or management of any amount of Stormwater from the property entering into Halifax Water's Stormwater System.
- The property is accessed directly by a driveway which crosses over a Halifax Water owned and maintained culvert within the road right-of-way.

To allow for some recognition of differentiation of the service provided, the rate is divided into two parts; one for street right-of-way related flows; and one for site related flows.

"Site Related Flow Charge" refers to the charge for the services and benefits the customer is receiving including, access to a property over a Halifax Water owned culvert, and management of stormwater, of any amount, from a property that enters any part of Halifax Water's Stormwater System.

"Right-of-Way Charge" refers to the charge to HRM for the Impervious Area in the street right-of-way.

~~In the first COS Manual and associated Stormwater rate application, Halifax Water proposed that all Stormwater Customers pay the right-of-way charge based on the Impervious Area of their property regardless of where they discharge their Stormwater. In doing so, this rate would recover revenues based on the respective benefit provided by Stormwater management in the rights-of-way.~~ The 2013 NSUARB decision[17] determined that HRM as the owner of the streets receives the benefit of the service and must pay for the cost that it imposes for Halifax Water's services, like any other Customer.~~[18]~~ In the 2022 rate application, the ~~NSUARB~~NSRAB approved the allocation of additional right-of-way costs to the Province and the Halifax and Dartmouth Bridge Commission.

Halifax Water uses the provincial property tax authority administered by Property Valuation Services Corporation's (PVSC) assessment data to determine if a property should be billed as Residential or Non-

[17] M05463 2013 ~~NSUARB~~NSRAB 127

~~[18] Feb. 2014 HRM Council passed a motion imposing a per lot charge of $39 per property for properties receiving Halifax Water's Site Related Flow Charge and asked Halifax Water to collect it on HRM's behalf. In June 2015 Halifax Council passed a motion to bill a $41 per property charge to all taxable properties within the Stormwater Service Boundary effective April 1, 2016 (replacing the $39 charge currently billed by Halifax Water on behalf of Halifax). Effective July 1, 2018, the charge is $40 per year.~~

Residential. PVSC identifies every property using an assessment number (AAN). PVSC regularly reviews property use and assesses which category properties fit into, such as residential, commercial, resource or a combination of commercial and residential and/or resource (mixed use). In addition, Halifax Water uses HRM's building use data, which provides the number of dwelling units in a building.

A property is identified as Residential for Stormwater purposes if it meets any of the following criteria:

- Any property that has been assessed by PVSC as residential only and has three or less dwelling units.
- Any property that has been assessed by PVSC with a combination of residential and resource and has three or less dwelling units.

A property is identified as Non-Residential for Stormwater purposes if it meets any of the following criteria:

- Any property that has any commercial assessed value by PVSC.
- Any property considered as mixed use (having commercial assessment along with residential and/or resource assessment).
- Any property having more than three dwelling units.
- Any property having more than three residential assessments associated with it.
- Any property having a multi-residential, institutional, commercial and/or industrial (MICI)use.

Any property categorized by Halifax Water as unknown or resource is not billed for Stormwater services.

Residential properties shall pay a Site Related Flow Charge based on the tier amount of Impervious Area in which the property falls. If part of a property is located outside Halifax Water's Stormwater Service Boundary, the Impervious Area located outside the Boundary is not used in determining the tier amount of the Impervious Area. However, if part of the property is located outside the Stormwater Catchment Boundary, the entire Impervious Area of the property is used in determining the relevant tier. As Residential properties are generally smaller and are not charged on the basis of the actual Impervious Area, billing on the basis of an average or a tier, based upon "Equivalent Residential Units" (ERUs) provides sufficient equity in cost effective manner.

Non-Residential customers pay the Site Related Flow Charge based on site specific measurement of the Impervious Area. Non-Residential customers include MICI properties. If part of a property is located outside Halifax Water's Stormwater Service Boundary and/or the Stormwater Catchment Boundary, that part of the property located outside either Boundary is exempt from the charge. As Non-Residential Customers are billed on the basis of actual Impervious Area and the properties in question are often large, this mechanism enhances equity.

System Data (for Allocation of Costs to Customers)

~~In 2012 and 2014, Halifax Water retained the services of EXELIS VIS (formerly ITT) to provide satellite imagery for the stormwater billing project, including delineation of impervious surfaces on lands within the Stormwater Service Boundary. The impervious areas delineated using the imagery were used as the basis for developing the rates for both the Right-of-Way Charge and the Site Related Flow Charge in past rate applications.~~ In May 2020, ~~U~~updated high-resolution satellite imagery was acquired ~~in May 2020~~ from Maxar, with the imagery processed/classified by Applied Geomatics Research Group (AGRG). The impervious areas delineated using the imagery ~~This updated satellite imagery~~ is currently being used for billing purposes and Right-of-Way and Site Related Flow Charges in the rate application.

Stormwater System Functions

Utilities incur varying levels of costs to perform the different system functions needed to adequately manage stormwater flows to keep street rights-of-way accessible and mitigate impacts of flood waters. The functionalization process involves categorizing revenue requirements according to functions to assign costs more appropriately to individual served parcels. Stormwater System cost functions and their definitions for both operating and capital are presented in Table 24.

Table 24

Stormwater System Function	Operating Costs Definition	Capital Cost Definition
Pipes, Manholes and Retention Ponds	Includes the cost centres for stormwater pipes, manholes and retention ponds.	Includes the design and construction costs associate with all gravity mains, manholes and retention ponds.
Combined Sewer Overflows	Includes all costs associated with maintaining the combined sewer overflows.	Includes the design and construction costs associated with all combined sewer overflows.
Ditches and Culverts	Includes the cost centre for ditches and culverts.	Includes the design and construction costs associated with all ditches and culverts.
Catchbasins	Includes the cost centre for catchbasins.	Includes the design and construction costs associated with all catchbasins.
~~Regulatory Services~~ Environment, Health and Safety	Includes the Environmental ~~Engineering~~Compliance, Regulatory Compliance, Regulatory Stormwater ~~Engineering~~, Environmental Management ~~System~~, Regulatory Customer Programs, Safety and Security, Water Quality, and Watersheds ~~and Development Approvals~~ cost centres.	Cost centres within ~~Regulatory~~ Environment, Health and Safety function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~	Includes the cost centres for Energy and Business Development, Asset Management and Capital Planning, Capital Project Delivery, Infrastructure Planning, Strategic Projects and Engineering Approvals.~~Records Management; Energy and Business Development, Engineering Information, Information Services.~~	Cost centres within Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~ function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Technical Services (SCADA)	Operate the SCADA systems for water and wastewater (both treatment and distribution)	Cost centres within Technical Services (SCADA) function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of other costs through depreciation.
Corporate Services	Includes the cost centres for Engineering Information, Data Analytics and Visualization, Cybersecurity and Information Services, I&T Project Management, Accounting, Finance, Procurement, and ERP Management and Development. ~~Includes the cost~~	Cost centres within Corporate Services function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles, etc.) are allocated as assets in proportion of the other costs through depreciation.

	~~centres for Accounting, Finance and Procurement.~~	
Customer Service	Includes the cost centres for Customer Care and Collecting.	Cost centres within Customer Service function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Administration	Includes the cost centres for Administration, Communications, Legal, Human Resources, Employee Benefits, and General.	Cost centres with Administration function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.

Stormwater System Cost Allocation – System Functions

Cost Functionalization Considerations

The engineers and superintendents, responsible for the Stormwater System review assignment of Stormwater assets and their associated operating and maintenance costs to System functions. Operating costs centres are set up to record financial information in categories that support functionalization.

The basis for the determination of functions is the operating cost centres that comprise the Stormwater Service from collection to discharge to the receiving environment. It includes the direct cost functions of providing the service as well as the common costs of providing support services across all utility Services that are assigned to Stormwater Service. The following point is noted in regard to the cost functions:

Retention ponds are budgeted and reported with pipes as the maintenance costs have historically been minimal. These are combined with pipes and manholes for COS reporting.

Functionalization of O&M expenses are shown in Worksheet SW-6 in Rate Studies, which is based on Table 24 as shown in this COS Manual. The percentages reported in Worksheet SW-6 are calculated based on actual dollar values included in the test year operating expenditures. Functionalization is shown with both percentage allocation and actual dollar values. Generally, inputs in the dollar value report are used to calculate in the percentages used in the report. Rounding on the percentage report would be expected

compared to the dollar value report, since the dollar values are absolute and balance to revenue requirements.

Classification of Functional Costs

Following the distribution of Stormwater System revenue requirements to designated functions, costs are distributed to Stormwater System service characteristics. Following WEF procedures outlined above for Wastewater Service applied in the Stormwater Service context, these service characteristics include flows from street rights-of-way and individual parcels and customer service attributes. Classification of system costs (by function) distributes costs to the characteristics of service that distinguish customer classes.

Halifax Water functionalized costs are classified to the following stormwater service characteristics:

- Street right-of-way flow
- Site related flow
- Customer Service
- Indirect

O&M Cost Classification

Functionalized Stormwater System costs are classified to service characteristics separately for O&M expenses and capital costs. O&M costs are classified as summarized in Table 25, explanations of which are provided in the subsequent notes. Supporting calculations are documented in the final section of the COS Manual section on Stormwater~~Wastewater~~ System Allocations.

Table 25

Stormwater System O&M Cost Classification Summary[19] (values highlighted in yellow have been updated since last filing)

[19] The cost and reduction in revenues associated with the implementation of a credit program would be added to revenue requirements and allocated 100% to site related flow.

O&M Cost Classifications					
Stormwater System Functions	**Street Right-of-Way Flow**	**Site Related Flow**	**Customer Service**	**Indirect**	**Notes**
Pipes, Manholes and Retention Ponds	33.8%	66.2%			2
Combined Sewer Overflows	33.8%	66.2%			3
Ditches and Culverts	33.8%	66.2%			4
Catchbasins	100.0%				5
Technical Services	33.8%	66.2%			6
Customer Service (excluding Metering Costs)			100.0%		7
Regulatory Compliance Services				100.0%	8
Engineering and Capital Infr. Services				100.0%	8
Corporate Services				100.0%	8
Administration				100.0%	8

~~Stormwater System Functions~~	~~Street Right-of-Way Flow~~	~~Site Related Flow~~	~~Customer Service~~	~~Indirect~~	~~Notes~~
~~Pipes, Manholes and Retention Ponds~~	~~33.6%~~	~~66.4%~~			~~2~~
~~Combined Sewer Overflows~~	~~33.6%~~	~~66.4%~~			~~3~~
~~Ditches and Culverts~~	~~33.6%~~	~~66.4%~~			~~4~~
~~Catchbasins~~	~~100.0%~~				~~5~~
~~Technical Services (SCADA)~~	~~33.6%~~	~~66.4%~~			~~6~~
~~Customer Service (less Metering Costs~~			~~100.0%~~		~~7~~
~~Regulatory Services~~				~~100.0%~~	~~8~~

~~Engineering and Technology Services (excluding Technical Services (SCADA))~~				~~100.0%~~	~~8~~
~~Corporate Services~~				~~100.0%~~	~~8~~
~~Administration~~				~~100.0%~~	~~8~~

Notes on Stormwater O&M Cost Classification

~~1)~~ Updated high-resolution satellite imagery was acquired in May 2020 from Maxar, with the imagery processed/classified by AGRG. Further updates were made subsequent to the Stormwater boundary expansion and other known changes to properties. ~~This updated satellite imagery resulted in a further refinement of the billable Impervious Area as follows:~~

~~2) Street Right-of-Way Area = 33.6%~~

~~3)~~1) ~~Impervious Area of Developed Lots = 66.4%~~

~~4)~~2) Pipes, manholes and retention ponds are allocated as per Table 25~~29% to street right-of-way and 71% to site related flow~~. This allocation reflects the source of the Stormwater to be directed to the pipes, manholes and retention ponds.

~~5)~~3) Combined Sewer Overflows are allocated as per Table 25~~29% to street right-of-way and 71% to site related flow~~. This allocation reflects the source of the Stormwater to be directed to the combined sewer overflows.

~~6)~~4) Ditches and Culverts are allocated as per Table 25 ~~29% to street right-of-way and 71% to site related flow~~. This allocation reflects the source of the Stormwater to be directed to the ditches and culverts.

~~7)~~5) Catchbasins are allocated 100% to street right-of-way. This allocation reflects the fact that catchbasins are generally designed with an inlet capacity that matches the flow generated in the street.

~~8)~~6) Technical Services (SCADA) operating costs are allocated based on the number of data points (tags) monitored in each activity. The result of the allocation is summarized in Table 11~~26~~.

~~Table 26~~

~~Function~~	~~No. of Data Points Monitored~~	~~Allocation percentage~~

~~WW Treatment~~	~~24,356~~	~~45.0%~~
~~WW Collection~~	~~11,954~~	~~22.0%~~
~~SW CSOs~~	~~456~~	~~0.8%~~
~~Water Distribution~~	~~5,204~~	~~9.6%~~
~~Water Treatment~~	~~12,265~~	~~22.6%~~
~~District Energy*~~		
~~Total~~	~~54,235~~	~~100.0%~~
~~*Allocation to DES will be established as the system is developed and is operational.~~		

Technical Services has been allocated as per Table 25~~29% to street right-of-way and 71% to site related flow~~.

~~9)~~7) Customer Service less metering costs is allocated 100% to Customer Service as these services are all Customer related.

~~10)~~8) ~~Regulatory Services~~Environment, Health and Safety, Engineering and ~~Technology~~ Capital Infrastructure Services, Corporate Services and Administration are allocated to indirect costs which are allocated in proportion to direct costs.

Capital Cost Classification

Functionalized Stormwater System costs are classified to service characteristics separately for O&M expenses and capital costs. Capital costs are classified as summarized in Table 27, explanations of which are provided in the subsequent notes. Supporting calculations can be found in the final section of the COS Manual section on Stormwater System Allocations in Table 27.

Stormwater System Capital Cost Classification Summary (values highlighted in yellow have been updated since last filing)

Capital Cost Classifications					
Stormwater System Functions	**Street Right-of-Way Flow**	**Site Related Flow**	**Customer Service**	**Indirect**	**Notes**
Pipes, Manholes and Retention Ponds	33.8%	66.2%			1
Combined Sewer Overflows	33.8%	66.2%			1
Ditches and Culverts	33.8%	66.2%			1
Catchbasins	100.0%				1
Technical Services					2
Customer Service (excluding Metering Costs)			100.0%		1
Health, Safety and Environment					2
Engineering and Capital Infrastructure Services				100.0%	1
Corporate Services				100.0%	1
Administration and General				100.0%	1

~~Stormwater System Functions~~	~~Right-of-Way Flow~~	~~Site Related Flow~~	~~Customer Service~~	~~Indirect~~	~~Notes~~
~~Pipes, Manholes and Retention Ponds~~	~~33.6%~~	~~66.4%~~			~~2~~
~~Combined Sewer Overflows~~	~~33.6%~~	~~66.4%~~			~~3~~
~~Ditches and Culverts~~	~~33.6%~~	~~66.4%~~			~~4~~
~~Catchbasins~~	~~100.0%~~				~~5~~
~~Technical Services (SCADA)~~					~~6~~
~~Customer Service (less Metering Costs~~			~~100.0%~~		~~7~~
~~Regulatory Services~~					~~8~~
~~Engineering and Technology Services (excluding Technical Services (SCADA))~~				~~100.0%~~	~~9~~
~~Corporate Services~~				~~100.0%~~	~~10~~
~~Administration~~				~~100.0%~~	~~10~~

Notes on Stormwater Capital Cost Classification

~~1) The street right-of-way flow and the site related flow percentages has been developed based on the measured Impervious Area of each as prepared for Halifax Water from satellite imagery for billing purposes. Updated high-resolution satellite imagery was acquired in May 2020 from Maxar, with the imagery processed/classified by AGRG. This updated satellite imagery resulted in a further refinement of the billable Impervious Area as follows:~~

~~Street Right-of-Way Area = 29%~~

~~Impervious Area of Developed Lots = 71%~~

~~2) Pipes, manholes and retention ponds allocated 29% to street right-of-way and 71% to site related flow. This allocation reflects the source of the Stormwater to be directed to the pipes, manholes and retention ponds.~~

~~3) Combined Sewer Overflows are allocated 29% to street right-of-way and 71% to site related flow. This allocation reflects the source of the Stormwater to be directed to the combined sewer overflows.~~

~~4) Ditches and culverts allocated 29% to street right-of-way and 71% to site related flow. This allocation reflects the source of the Stormwater to be directed to the ditches and culverts. Catchbasins allocated 100% to street right-of-way. This allocation reflects that catchbasins are generally designed with an inlet capacity that matches the flow generated in the street.~~

1) The capital costs for these classifications follow the same allocation methods as the O&M cost classification.

~~5)~~2) Technical Services (SCADA) and Environment, Health and Safety are charged directly to capital cost based on work performed. There is no separate allocation for capital for these~~is~~ items.

~~6) Customer Service is allocated 100% to Customer Service.~~

~~7) Regulatory Services are charged directly to capital cost based on worked performed. There is no separate allocation for capital for this item.~~

~~8) Engineering and Technology Services (excluding Technical Services (SCADA)) are charged to capital cost based on work performed. Other costs such as databases and other intangibles are allocated to indirect costs.~~

~~9) Corporate Services and Administration are allocated to indirect costs that are allocated in proportion to direct costs.~~

Allocation to Parcel Owners (Customers)

The Stormwater Charge proposed by Halifax Water is comprised of two parts - a Site Related Flow Charge, and a Right-of-Way Charge.

- Halifax Water's Site Related Flow Charge is a charge for the services and benefits the Customer is receiving including access to a property over a Halifax Water owned culvert, and management of Stormwater from a property that enters any part of Halifax Water's Stormwater System.
- The Right-of-Way Charge has been developed using the Impervious Area associated with all the municipal, provincial, and streets owned by the Halifax Dartmouth Bridge Commission within the Stormwater Service Boundary. ~~Per the NSUARB's 2013 rate application decision, t~~The Right-of-Way Charge is billed to HRM, the Province and the Halifax Dartmouth Bridge Commission. ~~who then determine how it is collected from residents.~~ This procedure is illustrated in Table 28 that offers an example template for these types of calculations. As noted, the distribution of costs by function, and subsequent classification of these costs by service characteristic (*e.g.*, site related

and right-of-way flows, and customer service related and indirect costs) results in the expression of each component of the utility's revenue requirements in terms of these service characteristics. Accordingly, in Table 28, Lines 1-3 list the outcomes of the cost classification by each major revenue requirement component. Because some of these costs are allocated on an indirect basis, calculations are made to distribute these costs to directly classify site related and right-of-way flow related costs based on those costs' share of total directly classified costs (for indirect costs) and the number of parcels billed (for Customer account related costs). So, for example, if site related flow costs represent 55% of directly classified costs, 55% of indirect costs are apportioned to site related flow costs. This is the procedure employed in Lines 1, 2 and 3 to yield complete cost classifications by cost component (Line 4) – that are summed (Line 5) to present total cost by service characteristic.

Table 28

Line	Revenue Requirement Component	Street Right-of-Way Flow Related Costs	Site Related Flow Related Costs	Customer Service Related Costs	Indirect Costs
1	Operations and Maintenance	$$ (%)	$$ (%)	$$	$$
2	Depreciation	$$ (%)	$$ (%)	$$	$$
3	Return on Rate Based	$$ (%)	$$ (%)	$$	$$
4	Allocated Customer Service and Indirect Costs*	$$$	$$$		
5	Total Cost-of-Service by Service Type	$$$	$$$		
6	Billable Impervious Area	XXX	XXX		
7	Charges per Unit	$$	$$		
8	Assigned Residential Tiers based on Square Metre / Lot	XX	XX		
9	Residential Parcel Bills				

- Indirect Costs in the column to the far right are distributed to site related and right-of-way flow related costs in proportion to their respective shares of directly allocated costs (exclusive of Customer Service-related costs). Customer Service-related costs are distributed to site related and right-of-way flow related costs in proportion to the respective numbers of parcels billed.

The respective rate calculations are then simply these costs (Line 5) divided by the amount of billable Impervious Area associated with site related or right-of-way flows (Line 6) to determine the charges per unit (Line 7). Residential bills are then determined based on a tier. The tiered rate structure is based upon an Equivalent Residential Unit, or "ERU". This concept is very similar to how "Equivalent Mete~~r~~es" are used in water and wastewater cost of service. The ERU is established based on the average residential impervious area and is calculated based on the Impervious Area associated with Residential Properties divided by the number of residential parcels. The tiers are based on the ERU, and the threshold limits established in a similar manner to those adopted by other entities. The example below shows tiers based on an ERU of 200 m^2 as the representative median value for the typical Residential Property or the ERU.

Table 29

Tier	From	To
1	0	50 m^2
2	50 m^2	200 m^2
3	210 m^2	400 m^2
4	410 m^2	800 m^2
5	810 m^2	Or greater

Properties with Impervious Area falling within a tier are billed the assigned charge for that tier, with Customers billed based on Impervious Area rounded to the nearest 10 m^2.

The revenue requirement per ERU or standard median charge billing unit is the total revenue requirement allocated to site related flow, divided by the total ERUs for the System, both Residential and Non-Residential Properties. ERUs for Residential Properties are those as described above using the tiered methodology, whereby the number of properties in each tier are assigned an equivalency factor as outlined in Table 30, which is then multiplied by the ERU to determine total ERUs for Residential Properties. Non-Residential Properties ERUs are calculated by dividing the total Impervious Area for Residential and Non-Residential Properties divided by the median Impervious Area ERU of 200 m^2.

Table 30

Line	Tier	Equivalent Residential Unit "ERU"	Revenue Requirement (RR) per ERU	Rate Adjustment	Tier Rate	Standard Annual Charge
1	1	X m^2	$X per m^2	0%	RR per ERU X Rate Adjustment	$0X

2	2	X m^2	$X per m^2	50%	RR per ERU X Rate Adjustment	$.5X
3	3	X m^2	$X per m^2	100%	RR per ERU X Rate Adjustment	$1X
4	4	X m^2	$X per m^2	200%	RR per ERU X Rate Adjustment	$2X
5	5	X m^2	$X per m^2	300%	RR per ERU X Rate Adjustment	$3X

The standard median charge, when divided by the ERU determines the billing rate per ERU. For Non-Residential Properties this billing rate becomes the rate charged per square meter of billable Impervious Area. For Residential Properties this billing rate, multiplied by the ERU, multiplied by the rate adjustment associated with each individual tier within the Residential grouping, determines the annual charge for properties falling within each respective tier.

Stormwater Service Delivery Via Ditches

The Stormwater Service area is a mixture of urban, suburban, and rural properties. The primary service objective of a Stormwater System is to manage Stormwater so as to protect municipal roads and streets and nearby private properties. The Stormwater System intercepts or diverts flows from a property, enables access to a property over a Halifax Water owned culvert, and/or manages stormwater from a property if it enters any part of Halifax Water's Stormwater System. This level and nature of service provided by Halifax Water varies depending on the location, the amount of stormwater generated and the surrounding properties. In some cases, Stormwater Service is provided by ditches and culverts and in others, pipes and catch basins and in still others, a combination of pipes and ditches.

Special Considerations for Rural Areas

Rural properties are different than urban properties in the context of Stormwater Service. Rural properties tend to have: larger Impervious Area often characterized by longer driveways, lower overall Impervious Area, and a higher proportion of Stormwater cost related directly to roadway related drainage.

Cost of Providing Service to Rural Customers

The cost of providing Stormwater Services on a per-person or per-unit of revenue generated basis is significantly higher in rural areas than in urban areas. While the density of drainage system is far less, the density of revenue generation is even less. The revenue generated from rural areas is less than the cost to Halifax Water to service those areas.

Halifax Water typically provides Stormwater Service using either a piped storm sewer system or a ~~Ditch~~ ditch and culvert system. Properties in rural areas typically are served by an open ditch configuration and have a driveway culvert. Currently the majority of operating costs for Stormwater Service pertain to providing service in rural areas – cleaning and repairing ~~Ditches~~ ditches and replacing driveway culvert or cross culverts in the street. Ditches and culverts are the largest functions when Halifax Water's Stormwater O&M expenses are functionalized[20]. Given that Stormwater-only Customers represent ~~18~~22% of Stormwater Customers, this illustrates that currently the revenue generated in rural areas does not match the cost of providing Service in those areas. The majority of service requests and work orders for Stormwater Service pertain to Customers served by a ditch and culvert, thereby attracting a higher allocation of customer service costs.

Halifax Water does not calculate rates for piped storm sewer systems versus ditch and culvert systems, as the rates for Service for rural Customers would be higher than the rates for Customers on a piped storm sewer system, and this would be contrary to the regional approach the utility employs, and akin to calculating different COS for different types of water production and distribution or wastewater treatment and collection.

[20] 28.5% of O&M costs (M07147 Exhibit H-1 page 250)

Stormwater System Appendix: Site Related Flow and Credit Calculations

Calculation of Site Related Flow

To arrive at the percentage of flow to be allocated to site related verses street right-of-way, Halifax Water retained a professional company to scan satellite images of the area and provide data on impervious area. The most current impervious area data is:

Halifax Water
Stormwater Rate Study

Service Area and Customer Balancing

Customer Data		
System Data		
Total Impervious Area within the Stormwater Boundary (in square meters)		104,463,531
Less:		
Non-qualifying impervious area in parcels flagged as "Excluded"		
Parcels outside the stormwater catchment	3,914,020	
SRF Exempted parcels	2,281,963	
Parcels identified as resource inside catchment	1,935,722	
Parcels identified as unknown inside catchment	2,196,838	
Non-qualifying impervious area in parcels flagged as "MICI"		
Parcels over 50m^2	-	
Parcels under 50m^2	-	
Parcels under 50m^2, having a culvert	-	
SRF Exempted Parcels within stormwater catchment having a culvert	42,495	
Parcels outside the stormwater catchment, having a culvert	19,557	
Non-qualifying impervious area in parcels flagged as "Not Applicable"		
Road parcel - arbitary	23,085,404	
Road parcel	9,282,768	
Railroad Parcel	993,154	
Water lot	145,850	
Interim iarcel	5,629	
Water parcel	17,241	
Unresolved parcel PID	9,798	
Non-qualifying impervious area in parcels flagged as "Residential"		
SRF Excempted Parcels within stormwater catchment having a culvert	69,676	
Parcels outside the stormwater catchment, having a culvert	63,797	
Interim parcel	-	(44,063,912)
Qualifying impervious area associated with Site Related Flow (SRF)		**60,399,619**

Qualifying impervious area associated with street rights-of-way, consists of:		
Road parcel - arbitary		23,085,404
Road parcel		9,282,768
		32,368,172
Less: impervious area of the following stakeholders		
Other		(751,521)
Billable impervious area associated with Right-of-Way (ROW)		**31,616,651**
Billable impervious area breakdown as follows:		
Halifax (HRM)	25,518,872	
Province of Nova Scotia	6,024,549	
Halifax Dartmouth Bridge Commission	73,230	**31,616,651**

2233

Halifax Water
Stormwater Rate Study

Service Area and Customer Balancing

Customer Data		
System Data		
Total Impervious Area within the Stormwater Boundary (in square meters)		98,809,690
Less:		
Non-qualifying impervious area in parcels flagged as "Excluded"		
Parcels outside the stormwater catchment	3,225,460	
SRF Exempted parcels	2,245,350	
Parcels identified as resource inside catchment	1,357,670	
Parcels identified as unknown inside catchment	452,110	
Non-qualifying impervious area in parcels flagged as "MICI"		
Parcels over 50m^2	3,724,430	
Parcels under 50m^2	394,265	
Parcels under 50m^2, having a culvert	14,500	
SRF Excempted Parcels within stormwater catchment having a culvert	7,030	
Parcels outside the stormwater catchment, having a culvert	4,460	
Non-qualifying impervious area in parcels flagged as "Not Applicable"		
Road parcel - arbitary	20,200,900	
Road parcel	8,695,070	
Railroad Parcel	994,050	
~~Water lot~~	~~113,820~~	
Interim iarcel	24,510	
Water parcel	9,310	
Unresolved parcel PID	4,910	
Non-qualifying impervious area in parcels flagged as "Residential"		
SRF Excempted Parcels within stormwater catchment having a culvert	109,270	
Parcels outside the stormwater catchment, having a culvert	65,940	
Interim parcel	1,390	(41,644,445)
Qualifying impervious area associated with Site Related Flow (SRF)		**57,165,245**
Qualifying impervious area associated with street rights-of-way, consists of:		
Road parcel - arbitary		20,200,900
Road parcel		8,695,070
		28,895,970
Less: impervious area of the following stakeholders		
Other		(14,780)
Billable impervious area associated with Right-of-Way (ROW)		**28,881,190**
Billable impervious area breakdown as follows:		
Halifax (HRM)	23,564,330	
Province of Nova Scotia	5,243,630	
Halifax Dartmouth Bridge Commission	73,230	**28,881,190**

This data was then used to calculate the percentage that street right-of way and site related flow represented of the total of billable Impervious Area.

- 31,616,651~~28,881,190~~/ (60,399,619 ~~57,165,245~~ + 31,616,651~~28,881,190~~) = ~~33.6%~~34.4% right-of-way allocation
- 60,399,619 ~~57,165,245~~/ (60,399,619 ~~57,165,245~~ + 31,616,651~~28,881,190~~) = ~~66.4%~~65.6% site related flow allocation

The Impervious Area data is based on satellite imagery from April 2020 during "leaf-off" conditions and represents an improvement in accuracy because a) it reflects new development and additional Impervious Area since the original data, and b) it is "leaf off", therefore there is less vegetation obscuring the measurements. Since 2020, updates have been made when there are known changes to properties, such as a~~n~~ ~~appeal~~ notice of objection for service not received and where new properties are built, ~~or~~and when the boundary area is expanded as it was in 2022 due to a road transfer from the Province of NS to HRM (M10295). Since the previous rate application, ~~T~~the Impervious Area has increased by ~~4~~87% ~~since the previous update~~, with the Impervious Area in the street right-of-way increasing by ~~16~~109% and the site related Impervious Area ~~de~~increasing by ~~1~~06%.

Given the large number of Residential Properties and the relatively small variation in the Impervious Area for these properties Halifax Water will develop a system wide median residential Impervious Area which will be used as the ERU to develop residential tiers that will recognize some differentiation between properties so that properties with less Impervious Area pay less than properties with more Impervious Area.

The table below and the information contained therein, including rates, is for illustrative purposes only. Revenue requirements, Impervious Area and number of parcels will change each time Halifax Water applies to adjust rates for Stormwater Service in the future.

Worksheet SW-11

Halifax Water
Stormwater Rate Study

Residential Charges and Revenue Reconciliation

Calculation of Rates for Residential Customers

Tier	Tier Parameters (in units) Each unit equals 10 square meters		Equivalent Residential Unit (ERU)	Rate per Billing Unit	Rate Adjustment	Tier Rate	Standard Annual Charge
Label			**A**	**B**	**C**	B x C	A x B x C, rounded to the nearest $
1	less than	5 units	221	$0.216	0%	$0.000	$0.000
2	6 units	20 units	221	$0.216	50%	$0.108	$24.000
3	21 units	40 units	221	$0.216	100%	$0.216	$48.000
4	41 units	80 units	221	$0.216	200%	$0.432	$95.000
5	81 units	or more	221	$0.216	300%	$0.648	$143.000

Reconciliation of Revenue Requirement

	Impervious Area	Number of Parcels	Billing Rate	Revenue Requirement
Street Right-of Way (ROW)				
Halifax (HRM)	25,518,872		$0.251	$6,416,300
Province of Nova Scotia	6,024,549		$0.251	$1,514,800
Halifax Dartmouth Bridge Commission	73,230		$0.251	$18,400
Site Related Flow (SRF)				
Industrial, Commercial, Institutional (ICI)	31,836,101		$0.216	$6,876,598
Residential				
Tier 1	26,772	3,771	$0.000	$0
Tier 2	5,475,113	35,662	$24.000	$855,888
Tier 3	11,977,721	43,159	$48.000	$2,071,632
Tier 4	5,410,970	10,205	$95.000	$969,475
Tier 5	3,277,623	2,085	$143.000	$298,155
Culvert only Customers	14,380	757	$24.000	$18,168
Preliminary Revenue Total				$19,039,416
Less: Revenue Requirement				($19,041,947)
Excess (deficiency) compared to Revenue Requirement				($2,532)

2257

Worksheet SW-11

October 26, 2016

Halifax Regional Water Commission
Stormwater Rate Study

Residential Charges and Revenue Reconciliation

Calculation of Rates for Residential Customers

Tier	Tier Parameters (in units) Each unit equals 10 square meters		Equivalent Residential Unit (ERU)	Rate per Billing Unit	Rate Adjustment	Tier Rate	Standard Annual Charge
Label			A	B	C	B X C	A X B X C, rounded to the nearest $
1	less than	5 units	200	$0.135	0%	$0.000	$0.000
2	6 units	20 units	200	$0.135	50%	$0.068	$14.000
3	21 units	40 units	200	$0.135	100%	$0.135	$27.000
4	41 units	80 units	200	$0.135	200%	$0.270	$54.000
5	81 units	or more	200	$0.135	300%	$0.405	$81.000

Reconciliation of Revenue Requirement

	Impervious Area	Number of Parcels	Billing Rate	Revenue Requirement
Street Right-of Way (ROW), levied to HRM				$3,835,012
Site Related Flow (SRF)				
Industrial, Commercial, Institutional (ICI)	34,748,200		$0.135	$4,691,007
Residential				
Tier 1	33,330	2,326	$0.000	$0
Tier 2	6,695,740	44,710	$14.000	$625,940
Tier 3	8,409,710	31,041	$27.000	$838,107
Tier 4	4,201,480	7,768	$54.000	$419,472
Tier 5	3,489,120	2,123	$81.000	$171,963
Preliminary Revenue Total				$10,581,501
Less: Revenue Requirement				($10,663,017)
Excess (deficiency) compared to Revenue Requirement				($81,516)

Exemptions

The Impervious Area associated with any properties deemed to be exempt from Stormwater charges pursuant to the Halifax Water Regulations is deducted in the calculation of billable Impervious Area and rates. Properties with an Impervious Area less than 50 m^2 are exempt.[21]

All properties are treated the same, with exemptions only considered based on specific circumstances on or near the property, including when part of a Non-Residential Property is outside of the Stormwater Service Boundary[22].

Credits

Any customer who pays charges for Non-Residential Properties may be eligible for a credit not less than 30% but not exceeding 50% of the Site Related Flow Charge if they ~~are~~have ~~-~~undertak~~ing~~en certain qualified Stormwater best management practices that detain peak stormwater flow on an on-going basis in accordance with the parameters and application process set out in the Commission's Stormwater Credit Manual[23] (COS Manual Appendix III).

[21] M07147 ~~NSUARB~~NSRAB Decision May 12, 2016, page 17, paragraph [55]
[22] M07147 ~~NSUARB~~NSRAB Decision May 12, 2016, page 19, paragraph [64]
[23] M07731 ~~NSUARB~~NSRAB Decision April 12, 2017 , page 24, paragraph [19]

SECTION 7 – DISTRICT ENERGY SYSTEM COST ALLOCATIONS

General Review

District Energy system COS analyses employs a multi-step procedure to assign revenue responsibilities to customer classes in proportion to their respective shares of system demands. Using a similar approach to the commodity demand method used for Water Systems, ATDES COS can be separated into four primary cost components: (1) connection costs, (2) energy costs, (3) demand costs, and (4) customer costs - often segregated into meter-related costs and those incurred for billing.

- **Connection costs** are associated with the recovery of a portion of the costs for the construction of the ATDES.
- **Energy costs** are those operating and maintenance (O&M) costs incurred to deliver energy and energy related services to customers.
- **Demand costs** are those capital costs incurred to deliver services under peak demand conditions.
- **Customer costs** comprise those costs associated with serving customers, irrespective of the amount or rate of energy use. They include energy meter reading, billing, and customer accounting and collecting expense, as well as maintenance and capital costs related to meters and services.

The classification of costs by function is based on the design and operation of the facilities used to perform the functions in question. District Energy functions typically include energy generation, distribution, energy transfer, metering, and customer related service.

In classifying costs to utility service characteristics, it is useful to develop as complete an accounting of utility system performance measures as is practicable. Accordingly, it is useful to develop a high-level reconciliation of system production data – identifying the shares of production associated with billed usage (by customer class).

Classified costs are allocated to customers through the calculation of unit costs of service for each service characteristic, and apportionment of costs to customer classes based on the number of service units required by the respective customer classes.

System and Customer Use Data (for Cost Allocation)

A map of the System is provided in the COS Manual Appendix. District Energy System production data, which will be established as the system is developed and is operational, is used to develop cost classification percentages as outlined in section 2 Methodology Review.

Table 31

District Energy System Production

Development of Demand-Related Cost Classification Percentages

Halifax Water – District Energy System Production*				
	Annual Heating Consumption	Annual Cooling Consumption	Peak Heating Demand	Peak Cooling Demand
System	TBD	TBD	TBD	TBD
*The allocations will be established as the system is developed and is operational.				

Additional classifications and allocation of System costs related to the ATDES will be established as the system is developed and is operational.

Finally, data employed for allocation to customer classes includes information on the distribution of piping serving the class, i.e., the distribution piping serving the customers within the Mandatory Zone versus the distribution outside of the Mandatory Zone, their designed energy transfer station capacity, and their billed usage. Provided in Table 32 below is an example format for presentation of these customer class usage characteristics:

Table 32

Customer Class User Characteristics

Energy Accounts and Usage			
Customer Class*	**Accounts****	**Total Billed Usage*****	**Total Capacity*****
Mandatory Zone			
Non-mandatory Zone			

*Customer class has been used as the metering strategy has not yet been defined. The number of customers classes has yet to be defined.

**The number of accounts has yet to be determined.

***Usage and Capacity are not yet known as the system is still under development and approval has not yet been received to expand the ATDES zoning to include a non-mandatory connection zone.

District Energy Systems Functions

Utilities incur varying levels of costs to perform the different system functions needed to meet customer demands and make services available. The functionalization process involves categorizing revenue requirements according to functions in order to more appropriately assign costs to customer classes. District Energy system cost functions and their definitions for both operating and capital are presented in Table 33. Further refinements to the list may be made as the system is established.

Table 33

District Energy System Cost Allocation – System Functions

District Energy System Function	Operating Costs Definition	Capital Cost Definition
Energy Centre	Includes the operations and maintenance costs for the energy centre and the delivery of energy to the distribution system.	Includes the design and construction costs associated with the energy centre.
Distribution	Includes the cost centres for distribution costs.	Includes the design and construction costs associated with all mains and any other capital costs associated with ATDES mains established as the system is developed and is operational.
Service Laterals	Includes the cost centre for district energy services.	Includes connection to the ATDES mains and the piping from the mains to the street line for District Energy services.

Energy Transfer Station	Includes the cost centre for operations and maintenance costs for the energy transfer stations.	Includes the design and construction costs associated with the connection between the service laterals and the customer interconnection.
Operation & Maintenance of Meters	Includes the cost centre for operation and testing of meters (labour, materials, and programs).	Includes all capital expenditures for meters.
~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety	Includes Environmental ~~Engineering~~Compliance, Regulatory Compliance, Regulatory Stormwater ~~Engineering~~, Environmental Management, Regulatory Customer Programs and ~~Development~~ Engineering Approvals cost centres.	Cost centres within ~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~	Includes the cost centres for Energy and Business Development, Asset Management and Capital Planning, Capital Project Delivery, Infrastructure Planning and Strategic Projects.~~Records Management; Energy and Business Development, and, Information Services~~.	Cost centres within Engineering and ~~Technology~~ Capital Infrastructure ~~Services~~ function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Technical Services (SCADA)	Includes the costs to operate the SCADA systems for District Energy and costs will be apportioned	Cost centres within Technical Services function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Corporate Services	Includes the cost centres for Engineering Information, Data Analytics and Visualization, Cybersecurity and Information Services, I&T Project Management, Accounting, Finance, Procurement, ERP Management and Development, and Enterprise Risk Management.~~Includes the cost centres for Accounting, Finance and Procurement.~~	Cost centres within Corporate Services function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles, etc.) are allocated as assets in proportion of the other costs through depreciation.
Customer Service	Includes the cost centres for Customer Care, Collecting, Supervision and Administration/Overheads.	Cost centres within Customer Service function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Energy Meter Reading and Billing	Includes the cost centres for Energy Meter Reading and Customer Billing.	Cost centres within Energy Meter Reading and Billing function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.
Administration	Includes the cost centres for: Administration, Communications, Legal, Human Resources, Employee Benefits and General.	Cost centres within Administration function as operating cost centres. Any capital costs related to the provision of this service (equipment, buildings, intangibles etc.) are allocated as assets in proportion of the other costs through depreciation.

Cost Functionalization Considerations

The engineers and operators responsible for operation of the District Energy System review assignment of District Energy assets and their associated operating and maintenance costs to system functions. Operating cost centres are set up to record financial information in categories that support functionalization.

The basis for the determination of functions is the operating cost centers that comprise the District Energy System from source of supply to delivery to the Customer. It includes the direct cost functions of providing the service as well as the common costs of providing support services across all utility Services that are assigned to District Energy Services. Any considerations regarding cost functionalization will be established as the system is developed and is operational.

For Customer Service, input values (dollar costs) for the functions of energy meters and energy meter reading and billing are obtained from specific cost centres within Customer Service:

- Energy Meters
  Operation and Maintenance of Energy Meters

- Energy Meter Reading and Billing
  Energy Meter Reading
  Customer Billing

Once costs have been identified for the above functions, costs applicable to the Customer Service function are merely the residual amount.

Classification of Functional Costs

Following the distribution of District Energy system revenue requirements to designated functions, costs are distributed to District Energy System service characteristics. Service characteristics include energy demand metrics and customer service attributes. Classification of system costs (by function) distributes costs to the characteristics of service that distinguish customer classes.

Halifax Water's functionalized costs will be classified to the District Energy Service characteristics after additional analysis is completed and the system is developed, but may include:

- Annual heating consumption
- Annual cooling consumption
- Peak heating demand
- Peak cooling demand
- Customer Service
- Indirect

O&M Cost Classification

Functionalized District Energy System costs are classified to service characteristics separately for O&M expenses and capital costs. O&M costs are classified as summarized in Table 34, explanations of which are provided in the subsequent notes.

Table 34

District Energy System O&M Cost Classification Summary

District Energy System Functions	Annual Heating*	Annual Cooling*	Peak Heating **	Peak Cooling **	Equivalent Energy Meters	Customer Service	Indirect	Notes
Energy Centre								1
Distribution								1
Service Laterals								1
Energy Transfer Station								1
Technical Services (SCADA)								2
Customer Service								3
Operation & Maintenance of Energy Meters								4
Energy Meter Reading and Billing								3
Engineering and Capital Infrastructure ~~Technology~~ ~~Services~~								5
~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety								5
Corporate Services								5
Administration								5
* Total Energy Consumption ** Peak Demand								

Notes on District Energy System O&M Cost Classification

1. Energy Centre, Distribution, Service Laterals, and Energy Transfer Station O&M cost allocations will be determined as the system is developed and is operational.

2. Technical Services operating costs are distributed based on the number of data points (tags) monitored in each activity. The result of this allocation is shown in the table below:

Table 35

Function	Number of Data Points Monitored	Allocation percentage
WW Treatment	24,356	45.0%
WW Collection	11,954	22.0%
SW CSOs	456	0.8%
Water Distribution	5,204	9.6%
Water Treatment	12,265	22.6%
District Energy*	TBD	TBD
Total	54,235	100.0%
*The number of data points will be established as the system is developed and is operational.		

Function	Number of Data Points Monitored	Allocation percentage
WW Treatment	24,142	46.1%
WW Collection	9,924	18.9%
SW CSOs	456	0.9%
Water Distribution	4,558	8.7%
Water Treatment	13,324	25.4%
District Energy*	TBD	TBD
Total	52,404	100.0%

*The number of data points will be established as the system is developed and is operational.

Technical Services has been allocated based on a methodology that will be established as the system is developed and is operational.

3. Customer Service functions are shared by the four Services: Water, Wastewater, Stormwater, and District Energy, with the exception that no meter related costs are allocated to Stormwater. The customer service costs may be assigned either on a Customer basis or an equivalent energy meter basis, to be determined as the system is established and is operational. Energy Meter reading and billing are the cost of energy meter reading and billing costs that are part of Customer Service. They are assigned 100% to Customer Service.

4. Operation and maintenance of energy meters is assigned 100% to equivalent energy meters.

5. ~~Health, Safety and Environment~~Environment, Health and Safety~~Regulatory Services~~, Engineering and ~~Technology Services~~CIS, Corporate Services and Administration are indirect costs that are distributed in proportion to direct costs.

Capital Cost Classification

Functionalized District Energy System costs are classified to service characteristics separately for O&M expenses and capital costs. Capital costs are classified as summarized in Table 36, explanations of which are provided in the subsequent notes.

Table 36

District Energy System Capital Cost Classification Summary

District Energy System Functions	Annual Heating*	Annual Cooling*	Peak Heating **	Peak Cooling **	Equivalent Energy Meters	Customer Service	Indirect	Notes
Energy Centre								1
Distribution								1
Service Laterals								2

Energy Transfer Station								1
Technical Services (SCADA)								3
Customer Service								4
Operation & Maintenance of Energy Meters								5
Energy Meter Reading and Billing								6
Engineering and Capital Infrastructure ~~Technology~~ ~~Services~~								7
~~Regulatory Services~~~~Health, Safety and Environment~~Environment, Health and Safety								8
Corporate Services								9
Administration								9
* Total Energy Consumption ** Peak Demand								

Notes on District Energy System Capital Cost Classification

The following is a description of how capital costs may be classified but will be developed further as the system is developed and is operational.

1. Energy Centre, Distribution, and Energy Transfer Station capital cost allocations will be determined as the system is developed and is operational.
2. Service laterals are assigned 100% to equivalent energy meters as service laterals are totally dedicated to the customers.
3. Technical Services (SCADA) are charged directly to capital cost based on work performed. There is no separate allocation for capital for this item.
4. Customer Service is assigned 100% to customer service.
5. Operation and maintenance of energy meters are assigned 100% to equivalent energy meter.
6. Energy Meter reading and billing costs are part of Customer Service. They are assigned 100% to customer service as energy meters are totally dedicated to the customers.
7. Engineering and Technology Services related with capital works are assigned to the capital cost of the works and are included in the capital items. All other costs such as databases and other intangibles are assigned to indirect costs.
8. ~~Health, Safety and Environment~~Environment, Health and Safety ~~Regulatory Services~~ are assigned to the capital cost of the works and are included in the capital items. There is no separate assignment for capital for this item.
9. Corporate Services and Administration are assigned to indirect costs that are distributed in proportion to direct costs.

Allocation to Customer Classes

Costs are distributed to Customers (either by classes or individually) based on customer classification. For Halifax Water, there will likely be two customer classifications, mandatory and non-mandatory. Mandatory capital costs will be based on the cost of the energy center, DPS, laterals, energy meters, etc. within the

mandatory connection zone. Non-mandatory will be based on the cost of the energy center, DPS piping within both the mandatory and non-mandatory zones, plus the laterals and meters in the non-mandatory zone. Capital costs would be allocated based on peak demands for each customer.

Costs by Service characteristic are simply divided by the projected level of service to be rendered to determine the unit costs of a given Service parameter. Costs are distributed to customers in proportion to their respective demands and uses of the System.

This procedure is illustrated in Tables 37 and 38 that offer example templates for these types of calculations. As noted, the distribution of costs by function, and subsequent classification of these costs by Service characteristic results in the expression of each component of the utility's revenue requirements in terms of these Service characteristics.

Accordingly, in Table 37, Lines 1, 4 and 7 list the outcomes of the cost classification by each major revenue requirement component. Because some of these costs are distributed on an indirect basis, a calculation is made whereby the indirect costs are distributed to directly classified costs based on those costs share of total directly classified costs.

So, for example, if peak heating demand related O&M costs represent 40 percent of directly classified O&M costs, 40% of indirect O&M costs are apportioned to peak heating demand related costs. This is the procedure employed in Lines 2, 5 and 8 – to yield complete cost classifications by cost component (Lines 3, 6, and 9) – that are summed (Line 10) to present total costs by Service characteristic.

Table 37

District Energy System – Unit COS Calculation Template

Line	Revenue Requirement Component	Annual Heating Consumption Related Costs	Annual Cooling Consumption Related Costs	Peak Heating Demand Related Costs	Peak Cooling Demand Related Costs	Meter Equiv. Related Costs	Billing Related Costs	Indirect Costs
1	Operations & Maintenance	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$
2	Allocated Indirect O&M	$$	$$	$$	$$	$$	$$	
3	Operations & Maintenance (Net)	$$	$$	$$	$$	$$	$$	
4	Depreciation	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$
5	Allocated Indirect Depreciation	$$	$$	$$	$$	$$	$$	
6	Depreciation (Net)	$$	$$	$$	$$	$$	$$	
7	Return on Rate Base	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$ (%)	$$
8	Allocated Indirect Return	$$	$$	$$	$$	$$	$$	
9	Return on Rate Base (Net)	$$	$$	$$	$$	$$	$$	
10	Total Revenue Requirements Lines (3,6,9)	$$	$$	$$	$$	$$	$$	

The ultimate allocation of costs to Customer classes employs the service characteristic by customer class data developed in the "System and Customer Use Data (for Cost Allocation) – Table 31". Unit COS by characteristic (Line 3) are calculated by dividing total revenue requirements by Service characteristic (Line 1) by total system demands, capacity requirements, meter equivalents and customer accounts served (Line 2). Costs are then allocated to Customer classes simply by multiplying these unit costs by the demands, meter equivalents and accounts served for each Customer class.

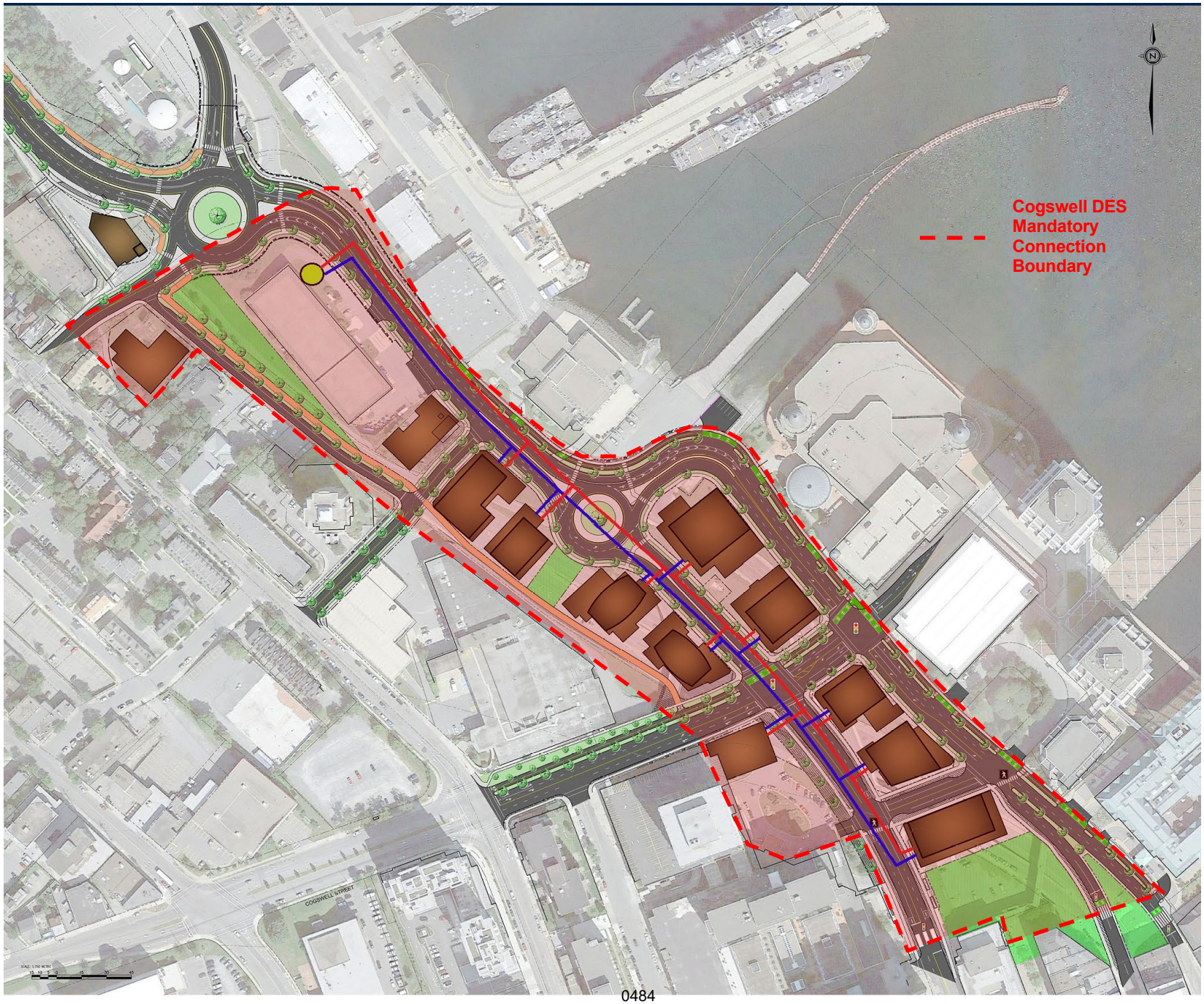
COS-based rates are those that recover these sums from respective Customer classes. While many rate designs may accomplish these ends, a basic rate design option is to recover volume-related costs, including average and maximum-demand related costs from volumetric rates while fixed charges (graduated by meter size) recover metering related costs and customer account related costs. This rate design calculation is presented in the template example in lines 6 & 9.

Table 38

District Energy System – Allocation of Costs to Customer Classes (System and Customer Use Data for Cost Allocation)

Line	Revenue Requirement Component	Annual Heating Consumption Related Costs	Annual Cooling Consumption Related Costs	Peak Heating Demand Related Costs	Peak Cooling Demand Related Costs	Meter Equiv. Related Costs	Billing Related Costs
1	Total Revenue Requirements Lines (3,6,9)	$$	$$	$$	$$	$$	$$
2	System Demands						
3	Unit Cost of Service Characteristic						
4	Mandatory Zone Demands						
5	Mandatory Zone Cost of Service (Line 3 x 4)						
6	Mandatory Zone Rates						
7	Non- Mandatory Zone Demands						
8	Non- Mandatory Zone Cost of Service (Line 3 x 7)						
9	Non- Mandatory Zone Rates						

Figure 1 - Cogswell DES Map - Mandatory Connection Zone



Halifax Water 2024 Demand Analysis: Econometric Water Demand Estimation

Thomas W. Chesnutt, Ph.D., PStat®, CAP®
David M. Pekelney, Ph.D.
Dana L. Holt, M.S.
A & N Technical Services, Inc.
839 Second Street, Suite 5
Encinitas, CA 92014
https://antechserv.com

Reviewed by Eric Rothstein, GRG

Final Report: April 2025

Table of Contents

List of Figures iii

List of Tables iv

I. Executive Summary 1

1. Findings 1

2. Recommendations 1

II. Introduction 3

1. Scope of Demand Analysis 3

2. Overview 3

III. Data and Methods 5

1. Data Development 5
Data provided by Halifax Water 5
Additional Data Collection: Historic Weather, Demographic, and Economic Data 5

Data on Water Economics 7
Data Quality and Validation 9

IV. Model Specification 13

1. Functional Specification of the Demand Model 13

2. Specification of the Residential Demand Model 15

V. Model Estimation Results 17
Estimated Residential Water Demand Model 17
Growth Assumptions for Accounts and Demand per Account 22
Short-run Price Elasticity Assumptions for Revenue Forecasting 23
Test Year Weather Normalized Demand Volume 23

VI. Revenue Forecasts 24
Forecast Results 24

VII. Conclusion 28

References 29

Appendix A: Estimated Peaking Factors for COSA 30

Appendix B: STATA Code Base 35

List of Figures

Figure 1 Population Trends by Source 6
Figure 2 Employment Trend and Annual Growth Rate 7
Figure 3 Inflation: Consumer Price Index (CPI) 8
Figure 4 Nova Scotia Disposable Income and Household Expenditures 8
Figure 5 Halifax Volumetric Rates over Time (Nominal $ and Real 2023 $) 9
Figure 6 The "Shape" of SFR Consumption Volume Distribution: FYE2007-FYE2024 11
Figure 7 The "Shape" of SFR Consumption per Connection: FYE2007-FYE2024 12
Figure 8 SFR Consumption per Connection Time Effects: FYE2007-FYE2024 20
Figure A-1 Trend in Daily Peak by Percentile over Time 33

List of Tables

Table 1 - Estimated Residential Water Demand Model 18
Table 2 – Number of Connections, Consumption, Consumption per Connection 21
Table 3 - Growth Assumptions for Accounts and Demand per Account 22
Table 4 - Summary of Recommended Short Run Price Elasticity Estimates for Sales Forecasting 23
Table 5 – Summary Demand Forecast Conditional on One Rate Scenario (FYE26 Change) 26
Table 6 – Demand Forecast by Class Conditional on One Rate Scenario (FYE26 Change) 27
Table A-1 – Estimated FYE2024 Daily Peaking Factor 31
Table A-2 – Estimated FYE2024 Hourly Peaking Factor 32
Table A-3 – Estimated FYE2024 Daily and Hourly Peaking Factors by class 34

I. Executive Summary

Halifax Water (HW) provides water and wastewater services to meet customer water demands. This Demand Analysis focuses on developing econometric models of HW customer water demand for ratemaking purposes. Specifically, this study develops volumetric water demand forecasts by customer class over the period FY2025-FY2027.

This modeling and forecasting effort required data mining of current and historical billed consumption, compilation of predictive data, and creation of a conditional revenue forecasting model. The resultant forecasts can be used to provide the basis for setting volumetric water rates. Empirical consideration of these variables using principles of scientific inference provides valid and robust forecasts that support HW's rate application.

1. Findings

Econometrically estimated relationships suggest that HW water demand has predictable historical variability. Key demand drivers include:

- Customer-specific differences – a separate constant term (intercept) is allowed for each customer meter.
- Seasonal differences separate load shape for each customer class
- Variations in weather (measured by precipitation and temperature)
- Ongoing deterministic trends (declining demand per meter due to plumbing code and socioeconomic forces)
- Response to the real price of water consumption

Thus, HW rate revenue forecasts for its rate application reflect normalizing the test year for weather and incorporating the predictable customer demand response (price elasticity) to proposed increases in the real price of water.

Peaking factors were estimated from the most recent available fiscal year to inform the Cost of Service (CoS) Model (Appendix A). Analysis of peaking factors over the 4 years after investment in AMI measurement reveals a diminution of load shape and smaller peaking factors over this period. This outcome supports preservation of a system-wide rate structure (rather than a customer class differentiated rate structure).

2. Recommendations

For the HW Revenue Model, we recommend use of "short-run" price elasticities, specifically the value of -0.128 for HW residential customers (econometrically derived) and -0.20 for nonresidential/commercial customers (derived from the empirical literature).

The Revenue Model developed for HW's rate application is a stepping stone toward a more complete probabilistic depiction of future demand and revenue. We recommend that HW consider building on this empirical scenario-based demand forecasting to deploy recent advancements in "Risk-Aware" forecasting and budgeting practices as advocated by the Government Finance Officers Association (GFOA).

Based on our analysis of demand load shape and quantified peaking factors, we anticipate that limited improvement in allocation of cost responsibilities would be realized with disaggregation of customer classes for rate setting. This preliminary conclusion is based on the limited differences in peaking factors evidenced by detailed analysis of billing and AMI data. We recommend preservation of system-wide (rather than class differentiated) rate and charges. We also recommend that HW continue to continuously monitor demand load shape—a real time capability afforded by HW's AMI measurement infrastructure—to determine if future changes to demand load shape warrant re-consideration of HW's system-wide rate structure.

II. Introduction

1. Scope of Demand Analysis

Halifax Water (HW) retained Galardi Rothstein Group (GRG) to support rate application development. As part of the GRG team, A&N Technical Services (A&N) focused on an empirical analysis of water demand to inform sales volume and revenue forecasts. This *Halifax Water 2025 Demand Analysis* statistically examined almost two decades of consumption history (including the most recent 4 years of high-resolution AMI measurement through March 2024), estimated long-term trends (plumbing-code efficiency) and short-term shocks (global pandemic), controlled for weather variability and the effect of price on demand, and developed forecasts of sales volume and service revenue for the period FYE25-FYE27. Additionally, this Demand Analysis examined AMI flow data to estimate peaking factors for use in the Cost of Service (CoS) model (found in Appendix A)

2. Overview

Halifax (HW) requires a valid and reliable demand forecast for budgetary, financial, and resource planning purposes. This forecast must reflect expected future patterns of account growth and changes in per-account usage. Forecasted demands also need to account for weather and the economic factors that, while uncertain, can cause predictable swings in future water demand.

The development of an econometrically estimated water demand model permits the application of scientific inference to questions about future HW water demand. This is important, as amply demonstrated by the causal effect of a very wet and cool FYE2024 test year: this effect of weather can be estimated and controlled for in a sales volume forecast. In North America, the cumulative effect of increasingly efficient plumbing fixture efficiency and the historical increases in the real price of delivered potable water—from which Halifax Water is not immune—can also be incorporated in a sales volume forecast.

The effects of the global pandemic can be detected and measured in a statistical analysis of the past and yet is insufficient for forecasting the future: the future may (and likely will) differ from the past. Global disruptions in economic flows cannot be known with certainty, but financial resilience will be relied on to adapt to disruptive effects.

This report describes the HW Revenue Forecast Model developed to support Halifax Water's rate application. It is an open spreadsheet, developed to forecast consumption and service revenues by customer class given customer account growth assumptions and rate change scenarios. This report outlines results for the

period FY2025 through FY2027.[1] The report describes the development of the forecast and the forecasting results. It is organized as follows:

I. **Executive Summary** (preceding section) summarizes this report.

II. **Introduction** (this section) provides an overview of the HW Demand Analysis, which develops customer class-specific water demand models and forecasts.

III. **Data and Methods** explains the data development work to compile data on water demand per meter and water demand drivers—season, price, weather, and conservation.

IV. **Model Specification** specifies the analytical form of the model.

V. **Model Estimation** presents the econometric water demand model estimation results for the quarterly residential customer class (approximately 89 percent of HW volumetric demand in FYE24. The estimated model then informs the forecasts.

VI. **Water Demand/Revenue Forecast** presents the HW Water Revenue Forecast model (Excel-based)

[1] The model may be readily updated for future rate application submittals and other HW planning efforts (e.g., Integrated Resource Plan, 5- Year Business Plan).

III. Data and Methods

1. Data Development

Data provided by Halifax Water

Halifax Water provided:

- Customer billing histories of anonymized consumption volume, consumption dates, numeric location identifiers, and customer class extending back to 2006 (more than 8.6 million records).
- AMI hourly flow measurements by FSA and month from Jan. 1, 2020 to May 29, 2024 (more than 21.9 million records) of exceptionally high data quality.
- A history of rates and charges from 2006 to present.
- A time series of the Halifax Consumer Price Index

Additional Data Collection: Historic Weather, Demographic, and Economic Data

The consulting team gathered additional, non-HW billing system data from a diverse set of data sources. This included daily temperature and precipitation from the Halifax Stanfield International Airport (Climate IDs 8202249, 8202250, and 8202251), population and employment/wage data (Statistics Canada, Table 14-10-0287-01 Labour force characteristics), income and household expenditure (Statistics Canada).

We note that population and employment are key water demand drivers typically used in long term demand forecasting. Figures 1 and 2 depict the shape of population and employment patterns over time. These Figures can give a sense of how population and employment have changed over the long-term. Figure 1 plots Halifax (CMA) population on the left axis and Nova Scotia population using the right axis. Steep population growth in the province can be observed in the last decade.

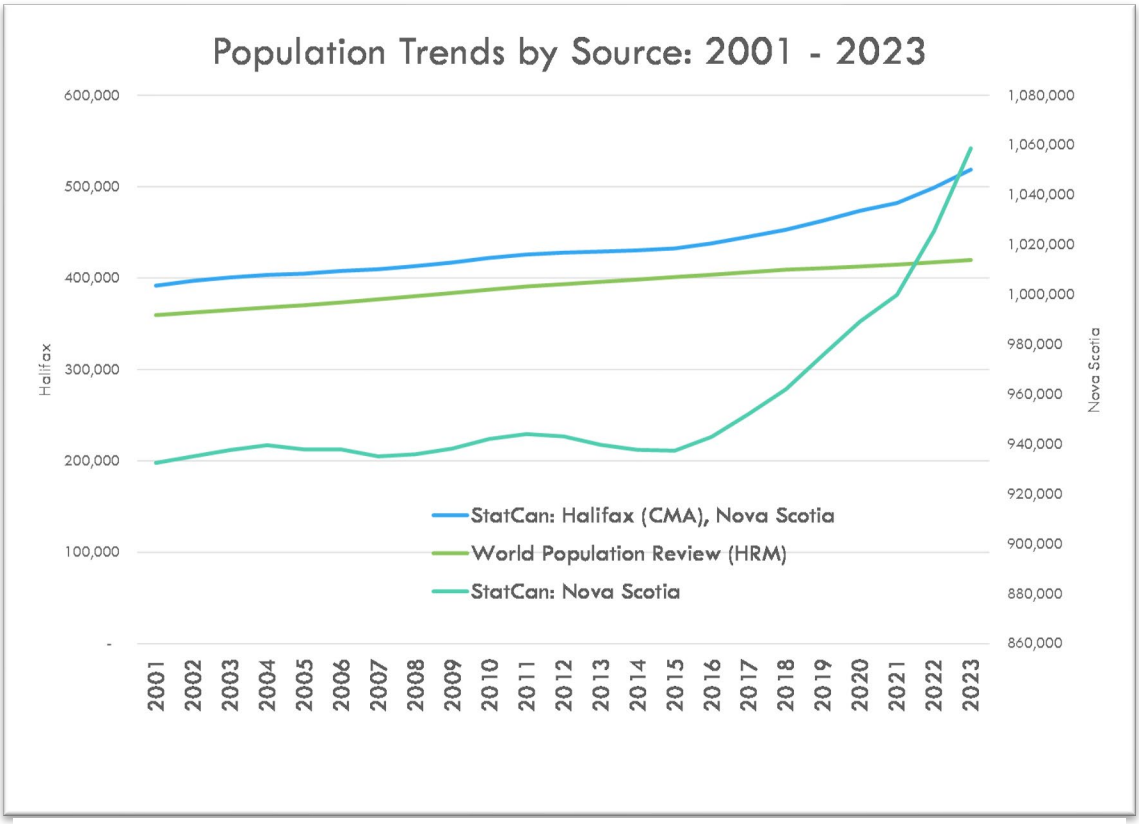


Figure 1 Population Trends by Source

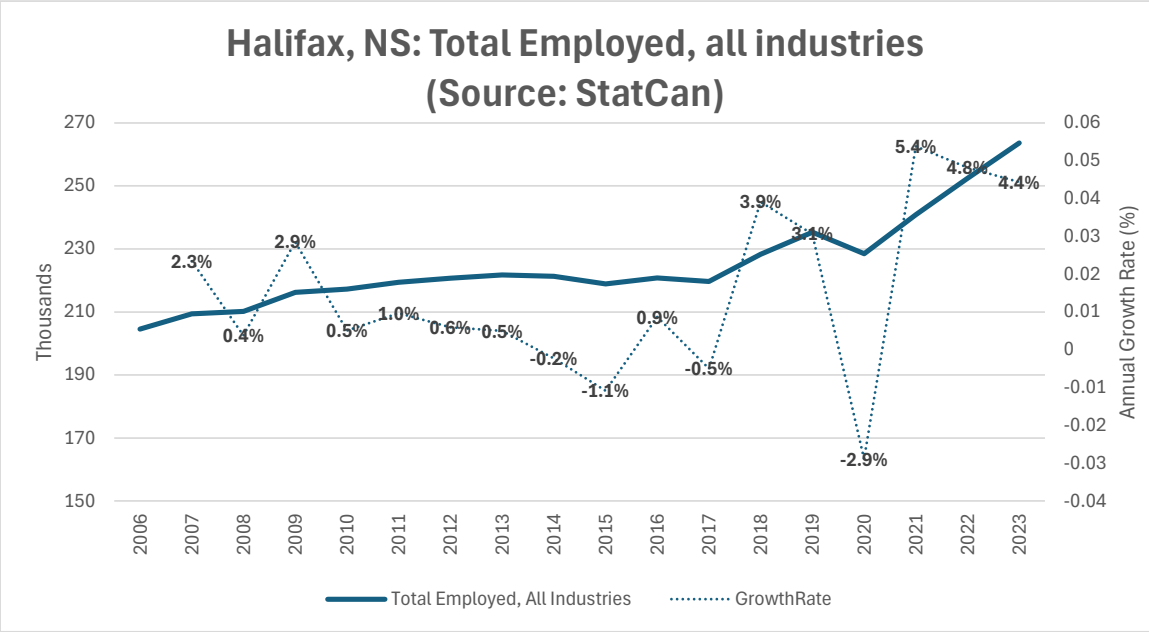


Figure 2 Employment Trend and Annual Growth Rate

Since the water demand forecasting horizon for financial analysis may be described as short to medium term (3-5 years: FY2025 to FY2027 or more), population and employment are not directly used in the demand models.[2] The number of customer accounts is used as the key driver for the short-term forecasts.

Data on Water Economics

Figure 3 depicts the annual percentage increase in the Halifax NS CPI-Consumer Price Index (Source: CPI_indexcalc.xlsx, www.statcan.cg.ca). The green line is an inflator, showing how many dollars would be needed in any historical year to survive the effects of inflation to arrive at one 2023 dollar. Figure 3 plots back to 2006, the first year of historical consumption data. This data provides historical context for estimation of price elasticities by enabling assessment of responses to changes in real prices of water.

Figure 4 displays Nova Scotia Disposable Income and Household Expenditures (Source: StatCan) where the effect of the global pandemic can be observed. Similar to price as a demand driver, pandemic-induced changes in income and household expenditures can effect the customer demand for water. Even though household income display a distinct dip during the pandemic, government support payments helped household expenditures from taking a similar dip.

[2] However, it should be acknowledged that population growth is a key driver of new connections to the HW system and employment growth can attract population growth in the long term. These factors will be important for use of the demand forecasting model in longer-term applications.

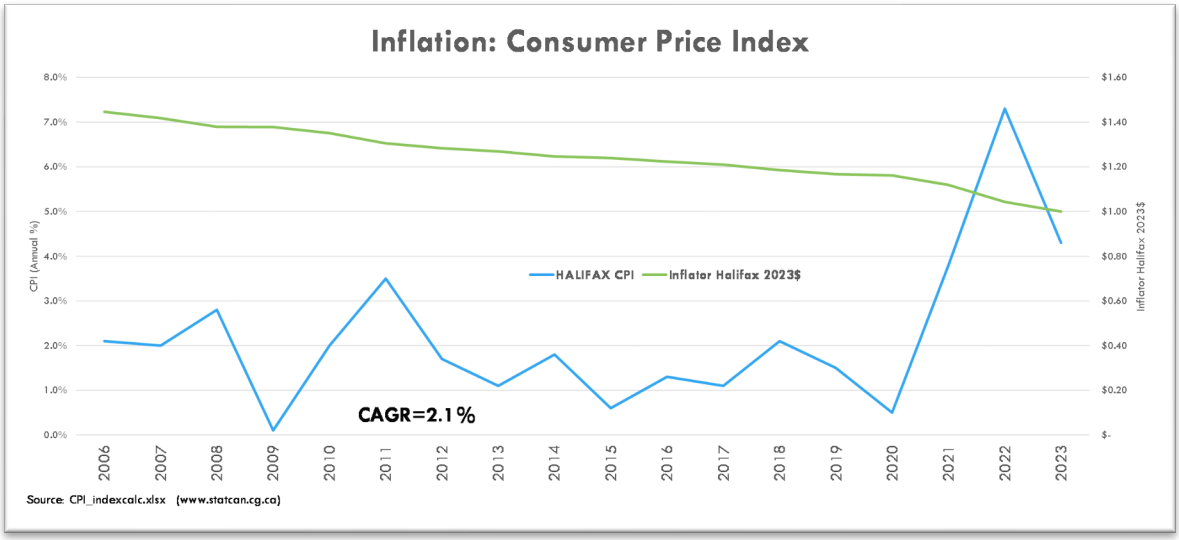


Figure 3 Inflation: Consumer Price Index (CPI)

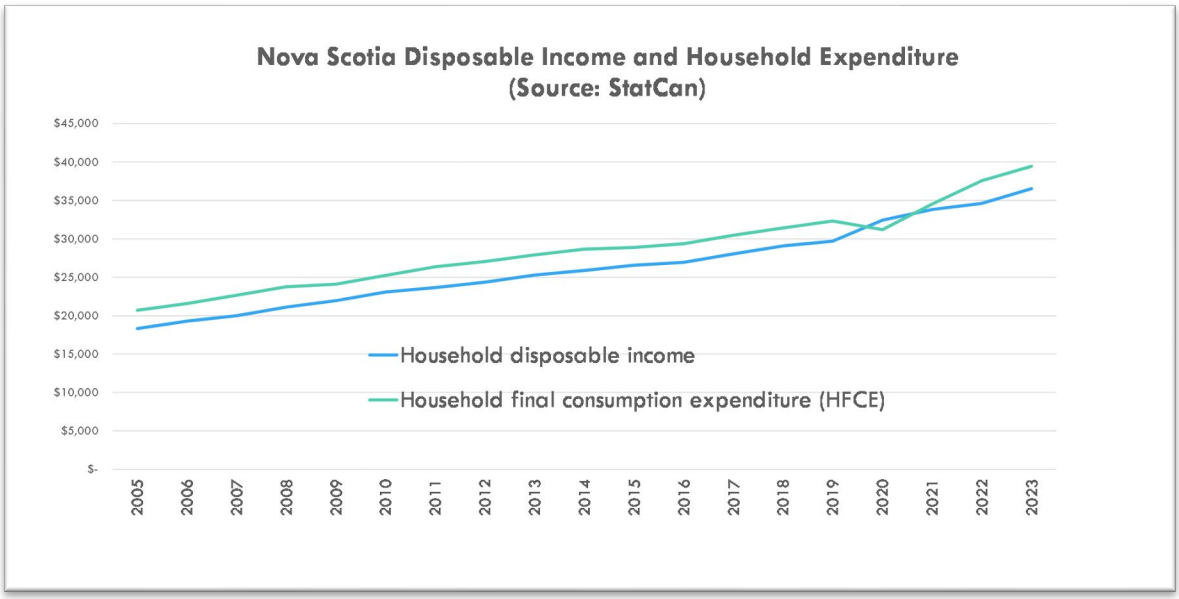


Figure 4 Nova Scotia Disposable Income and Household Expenditures

Halifax Water has an interesting history of service rate development including a variety of increases to fixed charges and volumetric rates for water and wastewater service as well as implementation of stormwater rates based on impervious area measures. These rate increases have been necessitated by historical infrastructure challenges, evolving regulatory requirements, and other factors.[3])

Figure 5 plots the Total Volumetric Rates faced by Halifax customers from FYE07 to FYE23 in nominal and inflation adjusted terms (Nominal $ and Real 2023$). The nominal

[3] Including, for example, the need to address surface water runoff into the harbor and the challenges of growth external to the historical center of Halifax.

rates have grown at a 8.3% compound annual growth rate over this period, significantly greater than the CPI. A linear trend line has been added and is used in the demand model.

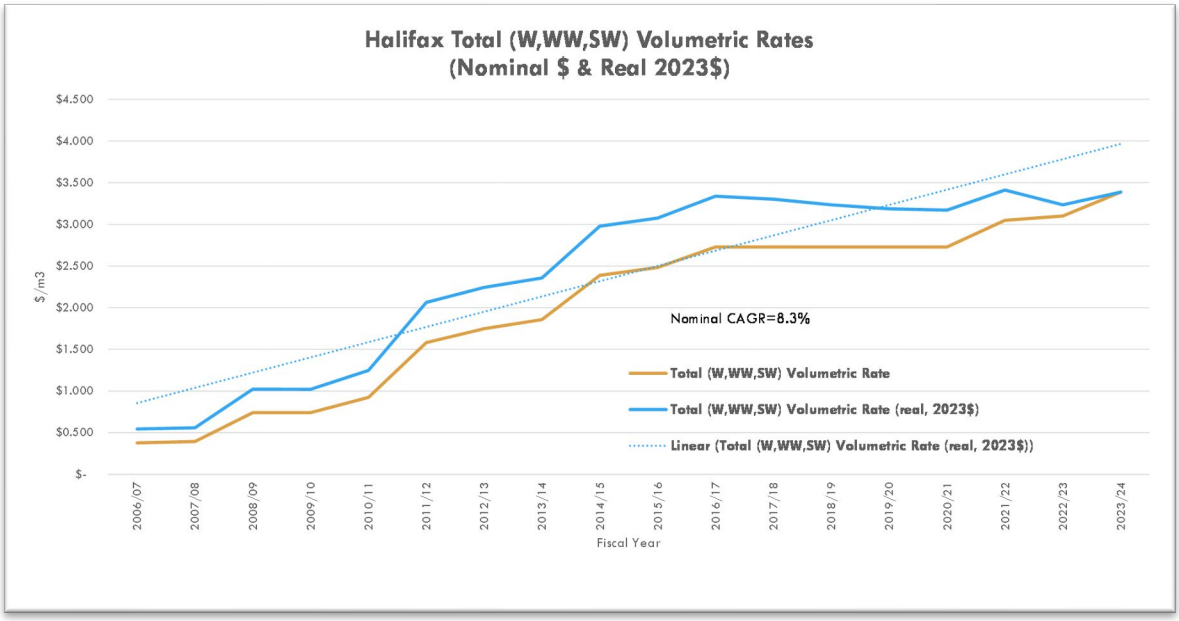


Figure 5 Halifax Volumetric Rates over Time (Nominal $ and Real 2023 $)

Data Quality and Validation

Data used in the demand analysis were first checked for consistency and errors. Utility billing data, in particular, were carefully screened. This step was important because utility billing data can be noisy due to the presence of estimated meter reads, erroneous meter reads, extreme meter reads caused by leaks, and missed meter reads. Additionally, billing corrections may result in negative meter reads.

Billing data meeting any of the following conditions were excluded from the analysis:

1) Missing consumption value
2) Negative consumption value
3) Outlier consumption value
4) Monthly reading covers less than 20 or more than 120 days
5) Meter in service for less than one year
6) Residential account flagged as atypical
7) Robust regression data quality flag

A consumption value was flagged as an outlier if it was more than 3 standard deviations from the monthly mean consumption value on the log scale. Additionally, a residential account was flagged as potentially misclassified if its average consumption was more than 3 standard deviations from the residential sample mean water use on the log scale.[4]

Robust regression techniques were used to detect which observations contain potential data quality errors. This methodology determines the relative level of inconsistency of each observation with a given model form. A measure is constructed to depict the level of inconsistency between zero and one; this measure is then used as a weight in subsequent regressions. Less consistent observations are down weighted. Other model-based outlier diagnostics were also employed to screen the data for any egregious data quality issues.

The practical import of the data quality and validation effort is not large in terms of the entire sample size—less than 4 percent of the residential 2020-2024 consumption sample were flagged for data quality issues.[5] As a result, the consulting team was able to reliably estimate a sophisticated demand forecast model for the drivers of residential water demand. Notably, the quality of HW measured consumption data in the last 4 years is very high compared to other North American water utilities.[6]

Though consumption records for all customer classes were combined for the historical period of available data, non-residential customer classes display much less in the way of predictable long-term effects. This is typical for North American water utilities. In addition, the reclassification of customers that gradually occurred during the Enterprise system integration period implies a shift in the definition of nonresidential customer classes. As a consequence, descriptive statistics over the most recent three-year period are used for inference of non-residential connection growth and per-connection consumption. The high variability of CII customer consumption over time—as businesses change, move, and evolve—is a well understood phenomenon in North American water utilities.

Figure 6 shows a birds-eye view of the "shape" of the residential consumption distribution for the single-family residential customers over the last decade and a half—

[4] Residential billing data roughly follows a log-normal distribution. This was confirmed using a Box-Cox test of functional form. The log transformed data is therefore approximately normally distributed. Under a normal distribution, the 99.7th percentile is 3 standard deviations above the mean.

[5] Readers are reminded that the economic demand models predict expected water demand per account that is then multiplied by the expected number of accounts. Hence, omitting 4 percent of the outliers does not reduce the predicted volume since the number of accounts serves as the basis.

[6] Construction of a long time-series of customer consumption required combining consumption measures from different historical billing systems. Enterprise AMI system integration over the last five years have brought a higher level of resolution to measured consumption.

based on more than 5.2 million meter read observations. Figure 6 is known as a box-stem plot and can be understood as follows: the center line of the box is the median (50th percentile) of the consumption distribution for that fiscal year, the entire box shows the consumption range of half of the observed customers (from the 25th percentile to the 75th percentile, a.k.a. the interquartile range, IQR) and the length of each stem is 1.5 times the length of the box (1.5 times the IQR).

Figure 6 depicts declining residential consumption volume over time. The median (center line in each box) consumption per connection has declined and the dispersion of consumption has narrowed. The demand analysis will seek to control for weather-induced demand variability while measuring the magnitude of decline.

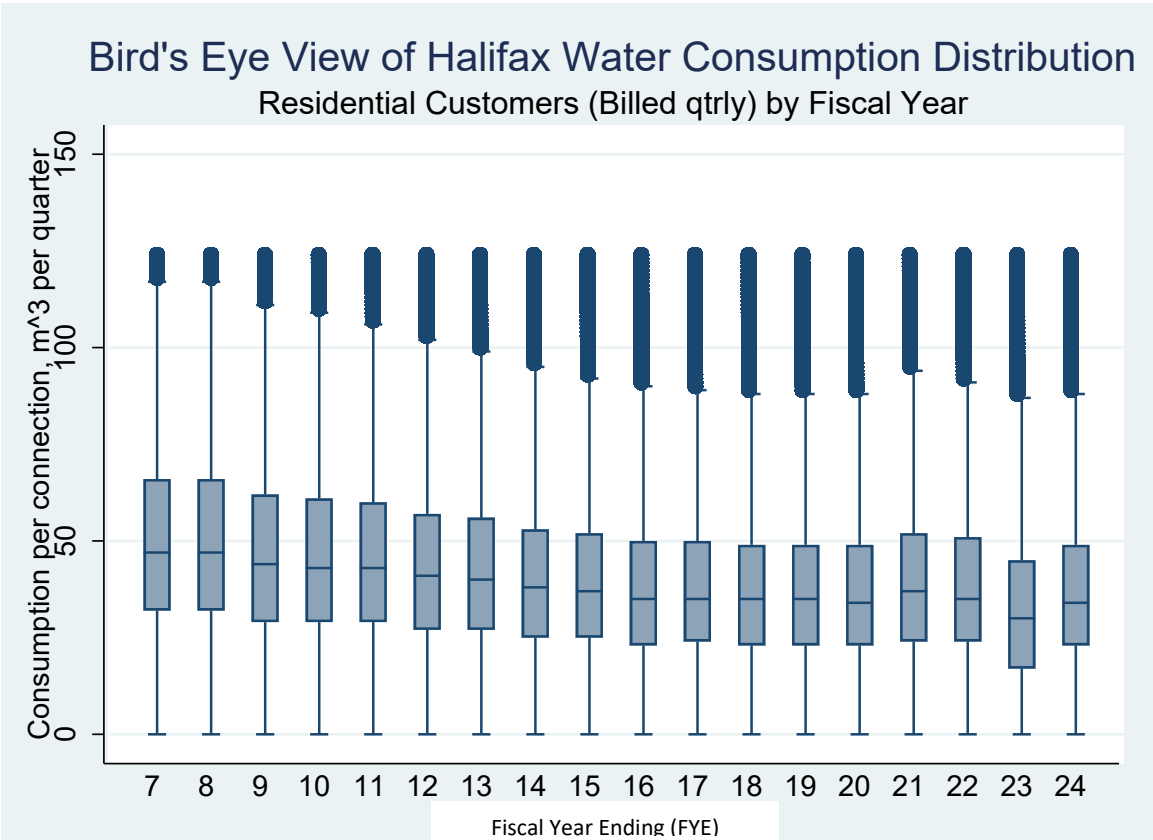


Figure 6 The "Shape" of SFR Consumption Volume Distribution: FYE2007-FYE2024

To sharpen the focus, one can standardize by the number of days in the read period. Figure 7 displays the same residential consumption per connection in Imperial gallons per day (gpd): this forms the basis for the dependent variable in the econometric demand model[7]. A downward trend can again be visually detected. In addition, an uptick can be observed occurring in FYE21 and thereafter, coincident with the global pandemic and the consequences of customer work-from-home behavior on residential

[7] The change in volumetric units from cubic meters to Imperial gallons is done to prevent the creation of "inliers" when standardizing by the number of days in the read period.

demand for water. The econometric residential demand model seeks to quantify the magnitude of the downward demand trend and pandemic-related upticks in demand while controlling for weather variation and the effect of the real price of water.

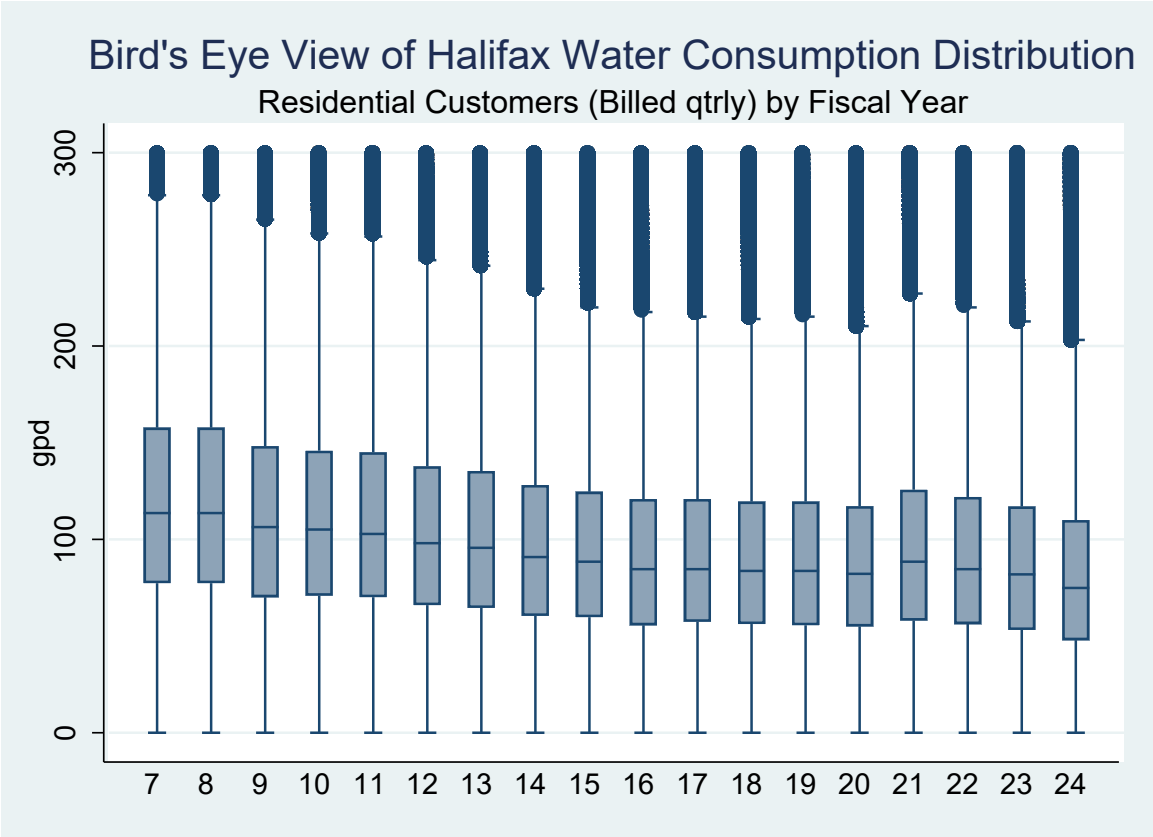


Figure 7 The "Shape" of SFR Consumption per Connection: FYE2007-FYE2024

Detailed analysis of the historical data indicate that a downward trend in per connection residential demand was masked by increases in residential connections (that effectively overwhelmed the per connection usage declines). For demand and revenue forecasting, these counter-balancing influences require consideration as residential class demands may not be reliably forecasted by applying historical per account average demands to forecasted residential connection values given the exhibited trends in (normalized) residential usage patterns.

IV. Model Specification

The econometric model for HW residential customer demand seeks to separate several important driving forces. In the short run, changes in weather can make demand increase or decrease in a given year. These models are estimated by customer class and, as such, should be interpreted as a condensation of many types of relationships—meteorological, physical, behavioral, managerial, legal, and chronological. Nonetheless, these models depict key short-run and long-run relationships and serve as a solid point of departure for improved quantification of these linkages.

1. Functional Specification of the Demand Model

This section specifies a water demand function that has several unique features.

1. First, it models seasonal and climatic effects as a continuous (as opposed to discrete monthly, quarterly, or annual) function of time. Thus, the seasonal component in the water demand model can be specified on a continuous basis, then aggregated to a level comparable to measured water use (e.g., daily, monthly, or quarterly).
2. Second, the climatic component is specified as the portion different from what is expected in the season. (Precipitation in January would appear in the model as the amount of rain in January that is different from the average amount of rain in January.) The weather measures are therefore made independent of the seasonal component.
3. Third, the model permits interactions between the seasonal component and the climatic component. Thus, the season-specific response of water demand can be specific to the season of the year.
4. Last, the model captures deterministic trends and economic drivers of water demand, focusing on the real (inflation-adjusted) price of water. The number of service connections are also affected by the economic cycle and are captured in the denominator of customer-class specific mean water use.

Any water demand model can be functionally described as deriving from a separation of the explanatory variables into systematic and nonsystematic portions: $Y = f(X) + \varepsilon$. Each functional portion of the demand model specification is discussed below.

Dependent Variable: Y

The dependent variable of the residential demand model uses the quarterly/monthly measure of customer-specific water consumption. The dependent variable is directly formed by dividing quarterly/monthly billed consumption volume (in Imperial gallons)

by the number of days in the billing period to yield average consumption in Imperial gallons per day per meter.

Customer meter readings in a calendar period (quarter or month) occur continuously over the days of the period. This has two key implications. First, water consumption in a calendar month represents consumption across two calendar months for monthly meter reads: meters read on January 1st contain the volume of consumption from December 2nd to January 1st. Clearly, matching monthly weather to monthly consumption cannot be done by discrete calendar months. (The average monthly read date is close to day 15 of any month resulting in aggregated consumption that is centered on the first of the month.) Thus, matching weather measures to rolling consumption required the creation of rolling weather averages to match to mean gallon per day consumption for any read date. Second, the continuous nature of meter reading lends a natural justification for a model specification using a continuous depiction of time. Continuous demand load shapes can be derived from the monthly demand models that provide inference on a finer time step: predicting the peak day of the load shape, for example. This is formally addressed below.

Functional Form of Model: f(X)

Sophisticated panel data (also known as time series-cross section) models were specified and estimated. By retaining the granularity of meter-specific water demand data, more robust and statistically powerful models can be estimated. For example, a constant term (intercept) is attached to each customer meter in this panel data model specification. This specification avoids heterogeneity bias in model estimates.[8] The seasonal component—capturing the seasonal shape of demand, also known as "demand load" —is also allowed to differ for customer classes. Separate slope parameters are estimated for each demand driver and for the different customer classes. A Box-Cox test[9] was performed for the functional form *f* and a logarithmic transformation monthly consumption per connection was preferred (as compared with alternative variance-stabilizing transformations, say a natural root or remaining on the raw scale.)

Estimation Method of Model: $\hat{f}$ and ε

A statistical estimator describes the method that is used to estimate model parameters from the given data. Modern panel data estimators were tested, both fixed- and random-effects estimators. Based on a Hausman (1978) specification test[10], the random-effects estimator was selected. Maximum likelihood estimation of the econometric models was enacted with STATA software.

[8] See Hsiao, Cheng (2014): Analysis of panel data. 3nd ed. Cambridge: Cambridge University Press (Econometric Society monographs, 34), p. 10. DOI: 10.1017/CBO9780511754203

[9] Box, G. E. P.; Cox, D. R. (1964): An Analysis of Transformations. In Journal of the Royal Statistical Society: Series B (Methodological) 26 (2), pp. 211–243. DOI: 10.1111/j.2517-6161.1964.tb00553.x.

[10] Hausman, J.A. (1978) Specification Tests in Econometrics. *Econometrica*, 46, 1251-1271. https://doi.org/10.2307/1913827

2. Specification of the Residential Demand Model

The systematic form of the residential water demand model is:

$$ln\frac{Consumption_{i,t}}{Days\ in\ Read_{i,t}} = \mu_i + \beta_S \cdot Season_t + \beta_W \cdot Weather_{i,t} + \beta_E \cdot Economic_{i,t} + \beta_T \cdot Trend_t$$

where $\frac{Consumption_{i,t}}{Days\ in\ Read_{i,t}}$ is the daily water consumption per residential connection *i* within month *t*,
the parameter μ_i represents a fixed intercept parameter for each customer *i*,
$Season_t$ is the seasonal component,
$Weather_t$ is a weather component containing measures of precipitation and temperature,
$Economic_t$ is a set of socioeconomic measures, and
$Trend_t$ is an annual long trend indicator.

Next, each type of demand driver—Season, Weather, Economic, and Trend—is formally specified:

- One specification of a monthly seasonal component includes 11 binary indicator variables, one for each month:

$$Season_t = Jan + Mar + Apr + May + Jun + Jul + Aug + Sep + Oct + Nov + Dec$$

(Since 12 monthly indicator variables are perfectly correlated with the intercept, one month must be excluded.) An exactly equivalent specification of the seasonal component (yielding exactly the identical model predictions) can be done using continuous functions of time instead of the discrete monthly time-step function. In this form the following "harmonics"[11] are defined for a given day *t*, ignoring the slight complication of leap years:

$$Season_t = \sum_{j=1}^{6}(B_{1j} \cdot \sin\frac{2\pi jt}{365} + B_{2j} \cdot \cos\frac{2\pi jt}{365})$$

Where *t* =1…365 within a year and *j* is the harmonic index.[12] The first harmonic, is the annual sine harmonic, beginning at zero on January 1st going up to the

[11] A layman's definition of time series harmonics: continuous curves that wiggle up and down in a year. Annual harmonics wiggle up and down once per year; Biannual harmonics wiggle up and down twice per year.

[12] If daily measures of water use are available, the harmonics defined by this equation may be calculated directly. When measures of water demand are only observed on a monthly or quarterly basis, two additional steps are necessary to ensure comparability. First, water demand should be divided by the number of days in the period to obtain average daily use. Otherwise, the estimated seasonal component will be distorted because of the differing number of days in a given month (period). The comparable measures of the seasonal component are obtained by averaging each harmonic measure by the number of days in a given period. Use of harmonic functions in regression is attributed to Hannan, E. J. (1960):

value of one by the beginning of April, declining to zero around mid-year, bottoming out at the value of negative one by October 1 and rising back to zero by year end. Just as the first sine harmonic is annual, the second sine harmonic is biannual—going up and down twice per year. Cosine harmonics begin at the value of 1 but follow a similar pattern. The seasonal component, defined by these 12 discrete terms in the frequency domain, produces a continuous representation in the time domain. Because the lower frequencies (annual and biannual) tend to account for most of the seasonal fluctuation, the higher frequencies (e.g., the sixth sine and cosine harmonics are bimonthly) can often be omitted with little predictive loss. The continuous function of time requires sine and cosine functions known as a Fourier series. A Fourier series has the advantage that higher frequency sines and cosines can be dropped if they do not add to predictive improvement. The econometrically estimated water demand models use the continuous specification of seasonality enabling the forecasting model to provide water demand projections on an annual level.

- The weather component is comprised of weather measures (quarterly or monthly rainfall and air temperature) that are transformed logarithmically with their read period average subtracted away. Contemporaneous values (rain in the same month as consumption) as well as lagged values of rainfall are tested for:

$$
\begin{aligned}
&Weather_{i,t} \equiv dlR_{i,t} + FreezingDays + dlT_{i,t} \\
&where \\
&dlR \equiv ln(Rain_{i,t} + 1) - \overline{ln(Rain_{i,t} + 1)} \\
&Freezing\ Days \equiv Number\ of\ Frezeing\ days\ in\ period \\
&dlT_{i,t} \equiv ln(Temp_{i,t}) - \overline{ln(Temp_{i,t})}
\end{aligned}
$$

For applications of the estimated model such as weather normalization, the predicted effect of weather on demand (on the log scale) is the difference between predicted demand conditional on actual rainfall and temperature ($\hat{Y}$) and the predicted demand conditional on seasonally normal rainfall and temperature ($\hat{Y}|\overline{\boldsymbol{W}}$). The predicted effect on the *raw* scale of consumption per connection[13] is:

$$Monthly\ Weather\ Effect\ (raw\ scale) = \left[\exp\left(\hat{Y}\right) - \exp(\hat{Y}|\overline{\boldsymbol{W}})\right]$$

These monthly weather effects can be summed for each year and converted to a percentage annual weather effect. This estimated effect of weather on demand

Time-Series Analysis. Methuen's Monographs on Applied Probability and Statistics. London, New York: Wiley.

[13] Note that any second order correction to the predicted demand will drop out in the subtraction between the two exponentiated conditional demand predictions.

in any year can be used to estimate what demand would have occurred if weather had been normal.

- The economic component for the residential model can include a measure of the real water price (detrended price).

$$Economic_{i,t} = [ln(real\_marginal\_price_{i,t}) - Trend\ in\ ln(real\_marginal\_price_{i,t})]$$

The trend in the (natural log of the) real price of water is obtained by regressing against the annual trend term. This implementation can be interpreted as a two-stage least squares regression. Because the deterministic trend in the real price of water is removed from price variable, then the trend term will absorb all effects on declining demand; the detrended price variable will detect a "pure" price effect based on price variation different than trend. This is the exact construct needed for the HW Revenue Forecast Model.

- The annual *Trend* term (by fiscal year, Apr. 1 to Mar. 31) captures any remaining ongoing deterministic trend; its coefficient must be interpreted with respect to the other drivers in the equation, including passive conservation (due to the North American plumbing code changes brought about by the US Energy Protection Act of 1992 and similar updates to the National Plumbing Code of Canada (NPC)) and visitor arrivals other unmeasured variables (household size and income).. In this way we can separate the effect of historical natural ongoing water conservation attributable to higher standards for water efficiency.

V. Model Estimation Results

Estimated Residential Water Demand Model

The Residential customer class is important, comprising about 93% of HW water customers and, due to low consumption per meter, about 39% of total volumetric consumption. Table 2 presents the estimated coefficients of the Residential Water Demand Model. The first column of Table 2 provides the name of the predictor variable, the second column provides the model-estimated coefficient, and the third column provides the estimated standard error surrounding the estimated coefficient. Multiplying the coefficients by the value of the predictor variable yields the model prediction. The seasonal component of the model (Sine 1-Cosine 3) can be used to infer seasonal demand load shapes. Weather effects can detect seasonal differences in response to precipitation and maximum air temperature. For the purposes of the demand forecasts the focus will be on the trend effects.[14]

[14] The seasonal shape of demand within the year is not used within the demand/revenue forecasting model and the effect of weather is used to control for weather that departs from normal (weather normalization).

Dependent variable: ln Res. Demand (gpd per connection)	**Coef.** $\bar{\beta}$	**Std. Err.** σ_{β}
Annual Trend (Fiscal Year)	-0.0254	0.0000
Ln Marginal Price (detrended)	-0.1281	0.0015
First Sine harmonic, 12 month (annual) frequency	-0.0211	0.0007
First Cosine harmonic, 12 month (annual) frequency	-0.0933	0.0015
Second Sine harmonic, 6 month (biannual) frequency	-0.0277	0.0008
Second Cosine harmonic, 6 month (biannual) frequency	0.0108	0.0007
Third Sine harmonic, 4/12 frequency	0.0120	0.0010
Third Cosine, 4/12 frequency	-0.0062	0.0009
Contemporaneous Rainfall Deviation [(ln (Rain+1)) – quarterly mean]	0.0079	0.0008
Interaction of contemporaneous rain with annual sine harmonic	0.0597	0.0012
Interaction of contemporaneous rain with annual cosine harmonic	0.0194	0.0013
Number of Freezing Days in read period	0.1990	0.0058
Contemporaneous deviation from mean ln (temperature) in the quarter	0.0692	0.0031
Interaction of contemporaneous temperature deviation with annual sine harmonic	-0.0575	0.0022
Interaction of contemporaneous temperature deviation with annual cosine harmonic	-0.0725	0.0031
Binary Indicator for FYE21 (1=yes, 0=no)	0.1091	0.0009
Binary Indicator for FYE22 (1=yes, 0=no)	0.0884	0.0010
Binary Indicator for FYE23 (1=yes, 0=no)	0.0529	0.0011
Mean Intercept	4.3354	0.0019
sigma_u	0.42623	
sigma_e	0.42467	
Rho (fraction of variance due to u_i)	0.50183	
Wald chi2(17)	396,834.44	
Adj. R-square (post-intercept)	0.5151	
Observations	80,991	
Period of time	2006 to May 2024	
Random Effects Estimator		

Table 1 - Estimated Residential Water Demand Model

Interpretations:

- There is a detectable and significant negative long-term trend in Residential average consumption per connection, about 2.5 percent per annum. This finding of a persistent long-term negative trend is likely related to both increasing real price of water and is directly related to North American plumbing code changes since 1994 and matches the experience of other North American water utilities. Additional causal modeling of the determinants of long-term trends in residential demand will need to await further empirical research. For now, the long-term trend in residential demand can be treated as a descriptive feature of HW's recent past.

- Separate from this deterministic trend, the econometric model identified a "pure" price effect (that is, separate from long-term deterministic trend in residential demand): an estimated price elasticity is -0.128 for residential customers. Translating the meaning of the estimated price elasticity coefficient, at the first order, a ten-percentage increase in the real volumetric price of water would result in an approximate 1.28 percentage decline in per connection residential water demand.

- The external shock of the global pandemic has been measured in three indicator variables for fiscal years FYE21 to FYE23. For residential customers, work-from-home requirements can be expected to increase consumption per meter, as residential customers use water within their residence during the day. Outdoor water end uses can also increase with more gardening and yard care. The estimated coefficients suggest that an increase of 10.9%, in FYE21, declining to 8.8%, in FYE22, and to 5.2%, in FYE23. All of these upticks in consumption could be distinguished at high levels of statistical confidence. No lingering effect could be detected in FYE24. Figure 8 depicts the econometrically estimated trend and pandemic effects on the shape of residential demand per connection that previously appeared as Figure 7.

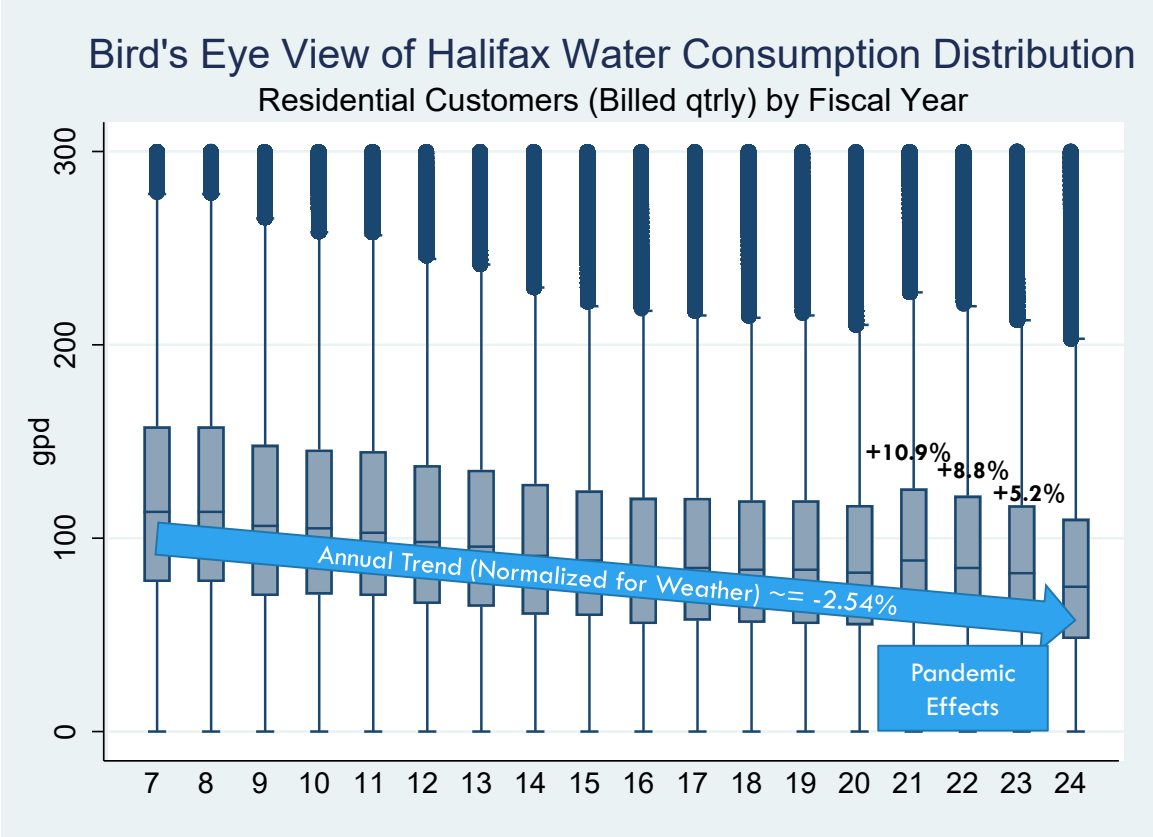


Figure 8 SFR Consumption per Connection Time Effects: FYE2007-FYE2024

How does a declining long-term trend in residential demand per customer square with the increasing total volume of Halifax Water demand observed in the past 3 years?

To answer this question fully, we will need to pull in the consumption data for non-residential customers and disentangle connections from demand per connection.

Table 2 displays the descriptive statistics for Connection, Consumption, Consumption per Connection for all customer classes.

	FYE 2022	**FYE 2023**	**FYE 2024**	
Customer Class	**Number of Connections**	**Number of Connections**	**Number of Connections**	**CAGR - 2 Year**
Commercial	3,180	3,208	3,231	0.8%
Industrial	45	46	47	2.2%
Institutional	461	463	468	0.8%
Multi-Family Res	2,616	2,649	2,658	0.8%
Single Family Res	79,511	80,094	80,483	0.6%
Total	**85,813**	**86,460**	**86,887**	0.6%
*All numbers including AEROT				

	FYE 2022	FYE 2023	FYE 2024	
Customer Class	**Consumption (cubic meters)**	**Consumption (cubic meters)**	**Consumption (cubic meters)**	**CAGR - 2 Year**
Commercial	5,991,985	6,605,005	6,724,101	5.9%
Industrial	1,945,000	1,757,151	1,753,824	-5.0%
Institutional	3,667,985	3,710,173	3,818,567	2.0%
Multi-Family Res	7,430,058	7,806,248	8,080,410	4.3%
Single Family Res	13,094,090	12,641,623	12,943,799	-0.6%
Total	**32,129,118**	**32,520,201**	**33,320,701**	1.8%
*All numbers including AEROT				

	FYE 2022	FYE 2023	FYE 2024	
Customer Class	**Consumption per Connection (cubic meters)**	**Consumption per Connection (cubic meters)**	**Consumption per Connection (cubic meters)**	**CAGR - 2 Year**
Commercial	1,884	2,059	2,081	5.1%
Industrial	43,222	38,199	37,315	-7.1%
Institutional	7,957	8,013	8,159	1.3%
Multi-Family Res	2,840	2,947	3,040	3.5%
Single Family Res	165	158	161	-1.2%
Total	**374**	**376**	**383**	1.2%
*All numbers including AEROT				

Table 2 – Number of Connections, Consumption, Consumption per Connection

Observations on Table 2:

1. Residential connections have grown over this period.
2. Non-Residential connections have grown over this period.
3. The Commercial customer class has seen a 5.1 percent growth in per connection demand since FYE2022, appearing to stabilize in FYE24.
4. The Industrial customer class saw a decline in per connection demand, with much of the decline occurring in FYE23.
5. The Institutional customer class has seen a small increase in per connection demand.
6. Multi-Family Residential has seen a modest growth in per connection demand since FYE2022.
7. (Single Family) Residential has seen a decline since FYE2022 in per connection raw demand.
8. In general, customer classes have seen inconsistent or small changes in per connection demand.

Critical questions for demand and revenue forecasting are whether growth in connections will persist, whether the determinants of per connection demand changes will persist, whether non-residential price elasticities will mirror industry literature estimates, and whether forecasted economic / population growth in the province will be realized.

Growth Assumptions for Accounts and Demand per Account

The HW Revenue Model requires working assumptions for future forecast years for the annual growth in accounts and demand per account. These assumptions were reviewed with HW staff and can be changed if better information is available. Table 3 shows the assumed annual growth rates for accounts and demand per account.

Customer accounts/connections are assumed to grow per the most two recent years of connection growth.

The customer demand per account growth was negative (-2.5%) for Residential (econometric basis). A constant demand per account is assumed for the remaining classes.

These assumptions are user-adjustable in the HW Revenue Model to allow testing of alternative growth scenarios.

Table 3 - Growth Assumptions for Accounts and Demand per Account

Account Growth by Class: Assumed Growth Rates (CAGR) FYE25-FYE27

	Assumed 3-yr CAGR	Notes
COMM	+0.8%	Recent Trend
IND	+2.2%	Recent Trend
INST	+0.8%	Recent Trend
MULTI	+0.8%	Recent Trend
RES	+0.6%	Recent Trend

Demand per Account Growth by Class: Assumed Growth Rates (CAGR) FYE25-FYE27

	Assumed 3-yr CAGR	Notes
COMM	0.0%	Professional Judgement
IND	0.0%	Professional Judgement
INST	0.0%	Professional Judgement
MULTI	0.0%	Professional Judgement
RES	-2.5%	Econometric basis

Short-run Price Elasticity Assumptions for Revenue Forecasting

Readers should note that the vast bulk of the economic literature on econometrically estimated water demand focuses on long-run price elasticities and is, thus, largely inapplicable to the task of short-run sales forecasting. A summary of recommendations for short-run empirical price elasticities by customer class is provided in Table 4 below.[15]

Customer Class	Range of Estimates	Potential Short Run Reduction in Demand for a 10% Real Price Increase
Single Family Residential		
Winter Season	-.00 to -.10	0.0% to 1.0%
Summer Season	-.10 to -.20	1.0% to 2.0%
Multi-Family Residential		
Winter Season	-.00 to -.05	0.0% to 0.5%
Summer Season	-.05 to -.10	0.5% to 1.0%
Irrigation Only Customers	-.20 to -.30	2.0% to 3.0%
Commercial and Industrial	-.15 to -.25	1.5% to 2.5%

Table 4 - Summary of Recommended Short Run Price Elasticity Estimates for Sales Forecasting (Source, Chesnutt et al. 2014)

The authors of the above research project—representing 4 water industry rate firms and a collective century of practice—use a consensus short-run price elasticity of -0.20 for entire water systems.

We recommend use of "short-run" price elasticities, specifically the value of -0.128 for HW Residential customers (econometrically derived for HW in the residential demand model above) and -0.20 for Commercial/Industrial customers (derived from the empirical literature) for the Revenue Forecasts. These values fall within the range of short-run demand response measured in other North American water utilities.

Test Year Weather Normalized Demand Volume

The HW Revenue model provides a user-selectable adjustment to normalize demand in the FYE24 test year. Based on the econometric model, the effect of cool wet weather in FYE24 was estimated to suppress demand by 0.8%. Restated, had historically normal weather occurred, consumption in the FYE24 test year would have been about 0.8% higher.

[15] Chesnutt, T.W., D. Mitchell, E. Rothstein, J. Beecher, and J. Farnkopf (2014): *Building Better Water Rates in an Uncertain World: Balancing Revenue Management, Resource Efficiency, and Fiscal Sustainability*. A Water Rates Handbook for the AWE as part of the Financing Sustainable Water project. Alliance for Water Efficiency. Available online at http://www.financingsustainablewater.org/tools.

VI. Revenue Forecasts

The developed HW Revenue Model takes econometrically-estimated parameters and growth assumptions to predict future demand volume. Given demand uncertainties,[16] assuming constancy in future demand invites under-prediction and subsequent revenue under-recovery.

To illustrate, one key parameter is the customer response to an increasing real price of water. If the real costs to Halifax Water of building and maintaining sustainable water infrastructure continue to rise faster than the general rate of inflation, the increases in service rate revenue required to recover these costs will inevitably translate into higher customer-facing water rates and charges. Customers desiring to reduce their water bills can reasonably be expected to reduce their water consumption. The HW Revenue Model empirically embeds the predictable response of customers to increasing water prices in its predictions of water demand and revenue.

Forecast Results

Forecast results are first summarized, followed by a discussion of each customer class. Table 5 generates a service-area-wide summary of actual and forecast demand for HW in cubic meters for each fiscal year. The overall result of the forecast shows a growth in total volumetric demand over the forecast years from FYE25 to FYE27.

The explanation becomes apparent by examining each of the customer classes. Table 6 on the following page shows the customer class specific demand for the three years of actual data presented as well as the three-year forecast period under a rate scenario where a large rate adjustment arrives in FYE26. The customer demand response can be observed in FYE27.

The customer class forecasts are driven by account growth and demand per account summarized in Table 6.

- Commercial demand is expected to increase over the forecast horizon driven by a forecasted growth in the number of meters of 0.8%.
- Industrial, Institutional, and Multi-Family Res. are forecast to grow at the rate of connection growth (2.2%, 0.8%, and 0.8% respectively).

[16] We note that the pandemic disruption to the Halifax community and water demand was empirically modeled, measured, and overcome: The pandemic-driven changes to residential demand diminished over time and are thus left out of future residential demand forecasts.

- Residential demand is expected to decline by 2027 driven by the decline in demand per account (-2.5%) that outweighs the growth in the number of meters (0.6%).

Table 5 – Summary Demand Forecast Conditional on One Rate Scenario (FYE26 Change)

Summary Statistics						
	Fiscal Year Ending					
	2022	2023	2024	2025	2026	2027
Customer Population						
Actual - Projected Water Accounts	85,613	86,307	86,770	87,422	87,960	88,501
Water Account Increase		694	463	652	538	541
Percent Account Increase		0.81%	0.54%	0.75%	0.62%	0.62%
System-Wide Consumption						
Actual_- Unadjusted Projected Usage	32,129,118	32,520,201	33,320,701	33,521,204	33,600,471	33,020,346
Usage Increase		391,083	800,500	200,503	79,267	(580,125)
Percent Usage Increase		1.22%	2.46%	0.60%	0.24%	-1.73%
Actual_- ADJUSTED Projected Usage	32129118	32520201	33320701	33,660,031	33,070,964	33,155,452
		391,083	800,500	339,330	(589,067)	84,488
		1.22%	2.46%	1.02%	-1.75%	0.26%
Unadjusted Usage Per Account	375.28	376.80	384.01	383.44	382.00	373.11
Adjusted Usage Per Account	375.28	376.80	384.01	385.03	375.98	374.63

Table 6 – Demand Forecast by Class Conditional on One Rate Scenario (FYE26 Change)

Annual Forecasted Consumption (m3)								
				0.8%	adjustment	Average Annual Consumption/Connection		
			Consumption Actual FYE24	Consumption Normal Weather FYE24		Test year Actual (m3) FYE24	Annual Long Term Trend	Price Elasticity (x100%)
	Commercial	Annual	6,724,101	6,777,894		2,097.77	0.0%	-20.0%
	Industrial	Annual	1,753,824	1,767,855		37,613.93	0.0%	-20.0%
	Institutional	Annual	3,818,567	3,849,116		8,224.61	0.0%	0.0%
	Multi-Family Res	Annual	8,080,410	8,145,053		3,064.35	0.0%	0.0%
	Single Family Res	Annual	12,943,799	13,047,349		162.11	-2.5%	-12.8%
	Total		33,320,701	33,587,267				

FYE 25				FYE 26				FYE 27			
			FYE25				FYE26				FYE27
Trend & Price Effects on Cons.		-4.12%	Consumption Per Connection	Trend&Price Effects on Cons		15.68%	Consumption Per Connection	Trend&Price Effects on Cons.		-4.12%	Consumption Per Connection
Unadjusted Cons	Rate-PE Adj	Adj. Consumption		Unadjusted C	Rate-PE Adj	Adj. Consumption		Unadjusted Co	Rate-PE Adj	Adj. Consumption	
6,832,117	0.825%	6,888,451	2,115.07	6,943,558	-3.136%	6,725,816	2,048.74	6,779,622	0.82454%	6,835,523	2,065.63
1,806,747	0.825%	1,821,645	37,924.07	1,861,721	-3.136%	1,803,339	36,734.81	1,843,013	0.825%	1,858,209	37,037.71
3,879,908	0.000%	3,879,908	8,224.61	3,910,948	0.000%	3,910,948	8,224.61	3,942,235	0.000%	3,942,235	8,224.61
8,210,214	0.000%	8,210,214	3,064.35	8,275,895	0.000%	8,275,895	3,064.35	8,342,103	0.000%	8,342,103	3,064.35
12,792,217	0.528%	12,859,813	158.83	12,608,348	-2.010%	12,354,965	151.68	12,113,372	0.528%	12,177,381	148.61
33,521,204		33,660,031		33,600,471		33,070,964		33,020,346		33,155,452	

VII. Conclusion

This Demand Analysis statistically estimated water demand for residential consumption per meter from FYE 2006 to 2024. The modeling and forecasting effort required data mining of current and historical billed consumption, compilation of predictive analytics data, and creation of a revenue forecasting model. The resultant forecasts provide the basis for setting volumetric water rates.

References

Box, G.E.P.; Cox, D.R. (1964): "An Analysis of Transformations", In *Journal of the Royal Statistical Society: Series B (Methodological)* 26 (2), pp. 211–243. DOI: 10.1111/j.2517-6161.1964.tb00553.x.

Chesnutt, T.W., D. Mitchell, E. Rothstein, J. Beecher, and J. Farnkopf (2014): "Building Better Water Rates in an Uncertain World,. Balancing Revenue Management, Resource Efficiency, and Fiscal Sustainability" *A Water Rates Handbook for the AWE as part of the Financing Sustainable Water project*. Alliance for Water Efficiency. Available online at http://www.financingsustainablewater.org/tools.

Hannan, E. J. (1960): *Time-Series Analysis*. Methuen's Monographs on Applied Probability and Statistics. London, New York: Wiley.

Hausman, J. A. (1978): "Specification Tests in Econometrics" In *Econometrica* 46 (6), p. 1251. DOI: 10.2307/1913827.

Hsiao, Cheng (2003): *Analysis of panel data*. 2nd ed. Cambridge: Cambridge University Press (Econometric Society monographs, 34).

Kavanagh, S. and S. Savage (2016): "Speaking Uncertainty To Power: Risk-Aware Forecasting and Budgeting", *Government Finance Review* April.

Kavanagh, S. C., & Williams, D. W. (2017): *Informed Decision-Making through Forecasting. A Practitioner's Guide to Government Revenue Analysis.* Government Finance Officers Association.

Kiefer, J., et al. (2011): *Methodology for Evaluating Water Use in the Commercial, Institutional, and Industrial Sectors*. Project No. 4375. Water Research Foundation.

Appendix A: Estimated Peaking Factors for COSA

This Demand Analysis includes an examination of hourly flow data to empirically update peaking factors needed by a Cost of Service Analysis. Descriptive statistics are used to estimate each component needed for the daily and hourly peaking factors for the test year FYE2024. We present results side by side with the previous demand study that estimated peaking factors (Loudon 2014) with a brief description of the calculation steps.

Table A.1 presents the estimated components for the daily peaking factor of system demand. We note that the desired construct of a daily peaking factor for system demand (based on system production) includes main breaks and maintenance days; the construct of hourly peaking factor across customer classes is designed to exclude high flow periods attributable to main breaks or maintenance days. The estimated daily system peaking factor (1.20) is less than that estimated almost a decade ago (1.27). This is consonant with the econometrically estimated demand model that documented declining level of consumption per meter over the historical period.

Table A.2 presents the estimated components for the hourly peaking factor of system demand. The peak system hour in FYE2024 now appears around the start of the work day (9am-10am) instead of the observed evening hourly peak of 7pm in FYE2013-14 estimate.

Figure A.1 presents an empirical summary of system-wide peaking behavior using percentiles of the demand load distribution, making a few observations and inferences across the 4 years of available high resolution hourly flow data compared with historical estimates.

Table A.3 presents the estimated components for the daily and hourly peaking factors by customer class, concluding that inter-class peaking behavior differences are small.

Table A-1 – Estimated FYE2024 Daily Peaking Factor

Daily Peaking Factor	2013-14*	2023-24	Steps
System Daily Profile			
Total Annual Demand (m^3)	43,442,772	31,792,319	Sum of hourly demand over entire year
Average Day (m^3/day)	119,021	89,556	Divide total annual demand by 365
Maximum Day (m^3/day)	150,964	107,735	Sum hourly demand for each day in year, then find max daily demand
Max. Day Date	July 5, 2014	July 13, 2023	List date of max day
Max. Average Day	1.27	1.20	Ratio of maximum day demand by average day demand
Withdrawal Capacity (m3/day)	258,000		Engineered capacity value
Max. Day vs. Withdrawal Capacity (%)	59%		Divide maximum day demand by withdrawal capacity
*Adapted from Halifax Regional Water Commission Cost of Service Demand Analysis Report 2014, page 35, Prepared by R. M. Loudon Ltd., November 2014			

Table A-2 – Estimated FYE2024 Hourly Peaking Factor

Hourly Peak Factor	2013-14*	2023-24	Steps
System Hourly Profile			
Daily Demand (m^3/day)	Min: 96,343 Max: 150,964		Sum hourly demand for each day in year
Max Daily Demand (m^3/day) Excluding Maintenance Days	143,948	97,810	Rank order daily demand. Then, manually select and exclude maintenance days
Max. Day Date (Ex Maint Days)	June 24, 2013	August 3, 2023	List date of max day
Average Hourly Demand on Max Day (m^3/hr)	5,998	4,075	Divide max day demand (m^3/hr) by 24 hrs
Average Daily Demand (m^3/day)	120,000	90,198	Calculate the average of daily demand over the whole year
Average Hourly Demand on Avg. Day (m^3/hr)	5,000	3,758	Divide avg day demand (m^3/hr) by 24 hrs
Max Hourly Demand on Max Day (m3/hr)	6,824	5,408	Select hourly demand for peak day
System Max Hour	7:00 p.m.	10:00am	Read from graph p. 38
Average Day Ratio	1.00	1.00	Ratio of avg day demand to average day demand
Max Day Ratio	1.20	1.08	Ratio of max day demand to average day demand
Max Hour Ratio	1.36	1.44	Ratio of max hourly demand to average day demand
*Adapted from Halifax Regional Water Commission Cost of Service Demand Analysis Report 2014, page 36-38, Prepared by R. M. Loudon Ltd., November 2014			

Selecting daily flow volumes by percentile can be used to both exclude main breaks and maintenance days and to observe the trend in daily peaking factor over this time period. (The 100% maximal day for FYE2022 is excluded as it's daily peaking factor—very likely a main break or recording issue—was over 1.78.)

Figure A-1 demonstrates the use of an empirical percentile of each year's demand flow volume can both exclude anomalous main breaks and reveal a declining pattern of daily system peaking behavior. This downward trend is consonant with the investments in infrastructure (AMI) and institutional capacity (water loss control programs.)

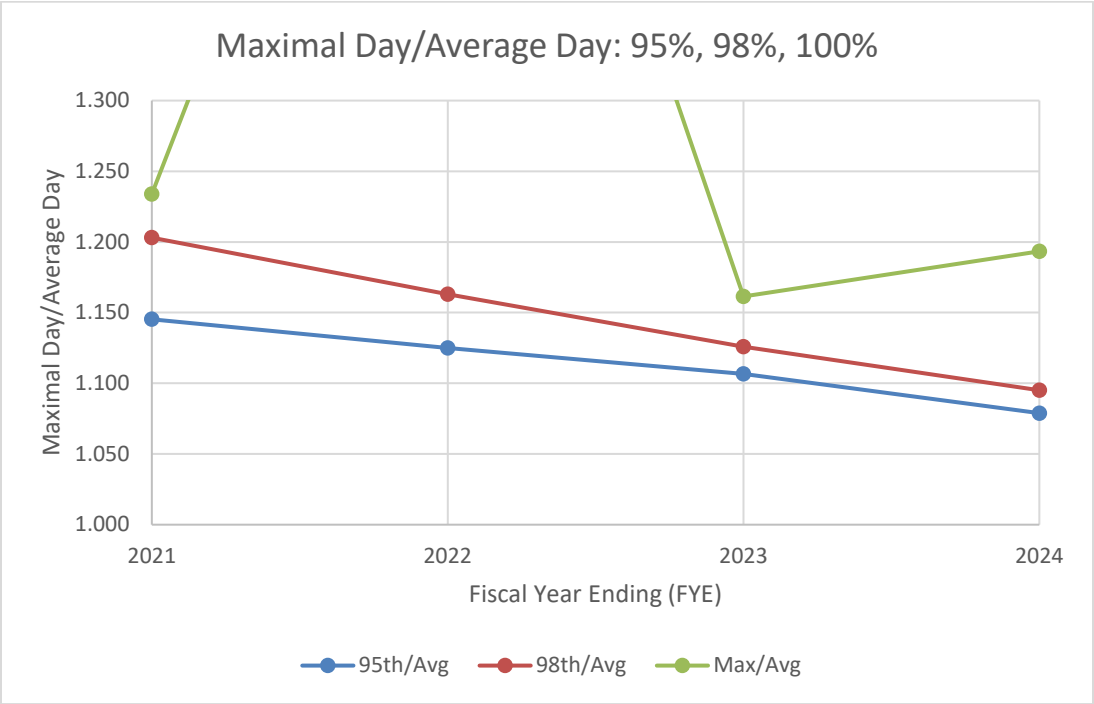


Figure A-1 – Trend in Daily Peak by Percentile over Time

Table A-3 presents the estimated components for the daily and hourly peaking factors by customer class. The customer class peaking factor differences are relatively limited (as compared to other utilities and even as suggested by the AWWA M1 manual). These difference may even be dampened since the Loudon 2014 Demand Analysis concluded that class differentiated rates were not warranted so preservation of the current system-wide rate design is supported.

Table A-3 – Estimated FYE2024 Daily and Hourly Peaking Factors by class

Peaking Ratios by Class from Hourly Flow data						
FYE24 by Class	COMM	IND	INST	MULTI	RES	Total
Annual Volume (m3)	6,695,517	1,751,716	3,797,565	7,970,963	12,706,513	32,922,274
Average Daily Demand (m3/day)	18,344	4,799	10,404	21,838	34,812	90,198
Average Hourly Demand on Avg. Day (m3/hr)	764	200	434	910	1,451	3,758
Peak Day	21,495	5,858	13,004	20,950	36,504	97,810
Peak Hour	1,273	264	762	1,095	2,014	5,408
Peak Day Ratio	1.17	1.22	1.25	0.96	1.05	1.08
Peak Hour Ratio	1.67	1.32	1.76	1.20	1.39	1.44

Appendix B: STATA Code Base

All analytics were conducted using STATA, a commercial statistical software package. For purposes of replicability, the code base of STATA programs was made available to Halifax Water. A summary table of these STATA programs follows.

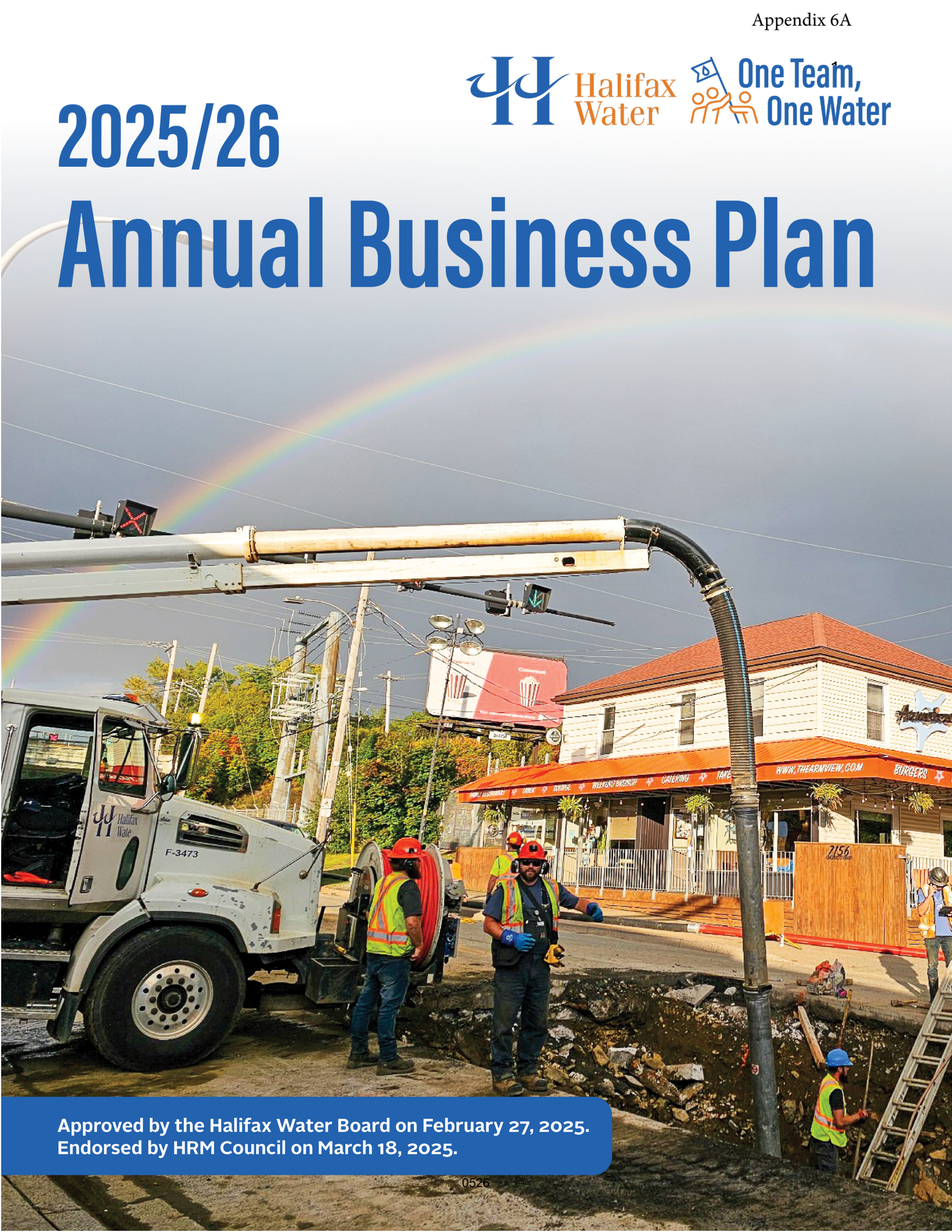
Demand Analysis – Econometric Demand Estimation by Customer Class

		local in1 "C:\Common_2_HalifaxWater\Analytics\"			
	Date	**Stata Do file**	**Input**	**Output**	**Notes**
Path			local in2 "F:\dropbox\halifaxwater\2008 - 2024 Location based consumption\"		
	24-Jun	import_hour.do	202001.csv to 202405.csv	HW_hour.dta via 202001.dta to 202405.dta	Imports Enterprise system hourly flow data (.csv), appends, computes hourly volume m^3, describes
		import_qtr.do	2006-07_water consumption_working.xlsx to 2023-24	cons_qtr0624.dta (via 0607.dta to 2324.dta)	Imports historical billingconsumption data, quarterly
		import_qtrb.do			FY21-FY24 with actual readdates
				local in2 "F:\dropbox\halifaxwater\2008 - 2024 Location based cons	
		import_month.do	..import_month\2006-07*.xlsx to 2023-24	cons_month0624_.dta (via 0607.dta to 2324.dta)	Imports historical billingconsumption data, monthly
				cons_month0624.dta	Remove strings (after encoding to numberic)
				cons_month2 (= cons_mo_noflag [already unique] | cons_mo_flag_u	unique premiseID/locationID, (drop nonunique: change of bpnum, new customers, NULL)
				cons_mo.dta	convert wide to long
		import_monthb.do	..import_month\Fiscal Year 2022.xlsx to 2023-24	cons_month2224b_.dta	Imports FY22-FY24 with actual readdates, Monthly
				cons_month2224b.dta	Remove strings (after encoding to numberic)
				cons_month2224b_u.dta	unique premiseID/locationID, (drop nonunique: change of bpnum, new customers, NULL)
				cons_mo2224b_u_long.dta	convert wide to long
Path			local in1 "C:\Common_2_HalifaxWater\Analytics\"	local in1 "C:\Common_2_HalifaxWater\Analytics\"	
		describe_hour.do	HW_hour.cta		
		describe_hour_5.do	HW_hr.dta	hw_fsa_day.dta	Collapse hour volume to day volume, by fsa|class|day,
				hw_class_day.dta	by class|day,
				hw_day.dta	total by day
		merge_hour_1.do	Daily HIS weather (_temp.dta)	weather_hsi_day	Merges weather to (hours summed to) day
			hw_class_day.dta	vol_class_day.dta	Models of seasonal demand load by class
			hw_day.dta	vol_day.dta	Model of seasonal demand load
		*describe_month.do	cons_month0624.dta		
		*merge_hw_mo.do	cons_mo.dta, weather_hsi_ma30.dta	use_hw_mo.dta	Merges consumption and weather, creates use variable (gpd lngpd), data validation metrics
		reshape_month.do	cons_mo.dta	cons_mob.dta	Swaps in most recent 3 FY with readdates, inputes readdate for 2006-2021
			cons_mo2224b_u_long.dta		
		merge_mo.do	cons_mob.dta, weather_hsi_ma30.dta	use_hw_mo.dta	Merges consumption and weather, creates use variable (gpd lngpd), data validation metrics
		describe_mo.do	use_hw_mo.dta	use_hw_mo2.dta	Adds variables, trend pandemic intervention, marginal price
		reshape_qtrb.do	cons_qtr0624.dta	cons_qtrb.dta	converts wide to long, describes for validation
		merge_qtr.do	cons_qtrb.dta, weather_hsi_ma90.dta	use_hw_qtr.dta	Merges consumption and weather, creates use variable (gpd lngpd)
		describe_qtr.do	use_hw_qtr.dta	use_hw_qtr2.dta	
					Merges consumption and weather, creates use variable (gpd lngpd), data validation metrics
			..\Data\Weather\"		
		weather_hsi.do	climate-daily(1).csv	weather_hsi.dta, weather_hsi_ma30.dta,weather_hsi_ma90.dta	Imports weather for Halifax Stanfield Airport, appends, creates weather variables for rolling quarterly, mor
			climate-daily(2).csv		Filled version
			climate-daily HALIFAX STANFIELD Airport.csv	weather_hsi_discrete_mo.dta	Collapsed version by month
		box_plot.do			Create STATA graphs of Consumption
		mod0.do	use_hw_qtr2.dta, use_hw_mo2		Initial models, robust reg, diagnostics
		mod_mo0.do	use_hw_mo2.dta		Diagnostics, data quality, robust regression, Trends for monthly data
		mod1.do	use_hw_qtr2.dta		Effect of Weather on Demand
		mod2.do	use_hw_qtr3.dta		Specification testing on trend term

Halifax Water

One Team, One Water

2025/26 Annual Business Plan



Approved by the Halifax Water Board on February 27, 2025.
Endorsed by HRM Council on March 18, 2025.

Contents

Introduction 3
Business Plan for Fiscal 2025/26 5
OUR PURPOSE 5
VISION 5
VALUES 5
STRATEGIC INITIATIVES AND PROGRAMS 2025/26 6
People 6
Environment, Health, Safety & Social Responsibility 8
Financial & Regulatory Compliance 12
Operational Effectiveness 16
BUDGET SUMMARY 20
Capital Budget 20
Operating Budget 21
PERFORMANCE MEASUREMENT 23
Appendix A: 2025/26 Capital Budget 25
Appendix B: 2025/26 Operating Budget 39
Appendix C: 2025/26 Business Plan on a Page 45

Introduction

Halifax Water is committed to delivering sustainable, high-quality water services at the best value for our customers. As we develop the 2025/26 Annual Business Plan, we embark on the next stage of our journey through a 5-year Strategic Plan, (2025-2030) titled Halifax Water 2030. By prioritizing leadership, accountability, and operational resiliency, we will empower our people to enhance operational performance.

We recognize our significant role in fostering a healthy, growing, and prosperous community. To demonstrate value, we must earn our customers' confidence and trust through reliable service.

To help achieve this, Halifax Water's leadership has worked to ensure that long-term business strategy and annual business plan are closely aligned. This establishes that the organization's overall success is based on accountability and that the executive team is ultimately responsible.

Over the next five years, we will focus on fostering a culture of change to create an organization that is more engaged, resilient, and innovative. We will continuously work to improve how we utilize and manage our assets and our service to our customers. We will make deliberate decisions to increase overall accountability and operational resiliency.

We can achieve greater reliability by embracing best practices that clearly define the relationships between infrastructure needs, investment requirements, financial prudence, and regulatory obligations. We will instill operational resiliency to anticipate, prepare, respond to, and recover from potential disruptions and challenges facing the utility.

In fiscal 2025/26, Halifax Water will begin planning for the next Integrated Resource Plan (IRP). This long-term plan identifies the resources and programs needed to provide water and wastewater services to the Halifax Regional Municipality (HRM). Last updated in 2019, this document will be pivotal in guiding our long-term business planning process.

Once completed in fiscal 2027/28, the IRP will help transform the organization through a more interconnected planning process. This includes an ambitious capital infrastructure delivery program with major initiatives implemented over multiple years with plans, studies, and programs to support initiatives such as the Burnside Operations Centre, Water Supply Enhancement Program, Water Safety Plan, and Biosolids Facility Upgrade Project.

As Halifax Water continues to invest in people and infrastructure, we are currently operating in a financial deficit. Accordingly, we will file a General Rate Application with the Nova Scotia Utility and Review Board this year.

While the municipality continues to grow, increased service demands require adding more skilled individuals. We are committed to a diverse and inclusive environment that protects our employees'

physical and psychological health and safety. As we start the next stage of this journey, Halifax Water will remain committed to serving the people of Halifax.

Kenda MacKenzie P. Eng
General Manager and CEO
Halifax Water

Business Plan for Fiscal 2025/26

Halifax Water is an integrated water, wastewater, stormwater and district energy service utility that serves more than 111,000 customers in the Halifax Regional Municipality. This document outlines the utility's fiscal 2025/26 business plan, which officially begins on April 1, 2025.

For 2025/26, Halifax Water has developed a plan that addresses growth challenges, aging infrastructure, and customers' evolving requirements. This plan focuses on ensuring Halifax Water customers receive quality service and that the utility's employees are empowered and supported with the required resources.

OUR PURPOSE

To supply and safeguard sustainable, high-quality water services.

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 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.

STRATEGIC INITIATIVES AND PROGRAMS 2025/26

People

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Build a psychologically safe and engaged workplace culture that attracts, develops, and retains talent.	• Launch the Psychological Health and Safety 3-year strategic plan by Q1. • Renew the Diversity, Equity and Inclusion (DE&I) plan by Q2. • Develop a strategic recruitment and attraction plan by Q4. • Conceptualize an enhanced training and development plan to explore the possibility of building a Halifax Water learning academy by Q4.	Develop a comprehensive employee engagement roadmap highlighting employee contributions and creating a culture of belonging and respect. Continue to focus on expanding talent management strategies to enhance attraction and retention programs.	Enhanced engagement motivates employees to develop their careers within our psychologically safe and engaged workplace culture.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Implement an effective leadership framework that defines and guides all employees at Halifax Water	• Develop and launch a Leadership Accountability framework by Q3. • Create a communication and change plan to roll out leadership behaviours to the organization by Q3. • Define leadership objectives and expectations by Q4.	This will provide clarity and better alignment between the organization's purpose and goals and the day-to-day work of our employees. Regardless of your position, leadership is a mindset. Empowering and enabling our employees at all levels is crucial to growing and developing our people.	It develops increased trust across the organization, provides employees with stretch opportunities, and creates a consistent approach to leadership accountability.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Execute the talent management strategy through collaborative partnerships with organizational leaders.	• Launch a succession planning framework focused on critical roles and skills by Q2. • By Q3, fully integrate succession planning discussions into the business. • Consider high-potential talent pathways by Q3. • Launch a talent assessment process by Q3. • Incorporate an annual talent review process by Q4.	To ensure Halifax Water has a strong pipeline of talent for the future, it is important to identify critical skills and roles and ensure a robust succession plan. Talent should be reviewed annually to ensure succession plans align with the success of the organization's current and future states.	Investing in the growth and development of employees is a critical component of attraction and retention.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Enhance the employee experience by improving touchpoints throughout an employee's career.	• Increase the annual Employee Survey participation rate by the end of Q4. • Establish an Employee Engagement Council to help develop accountability and empowerment within the organization, by the end of Q1. • Incorporate the Council's and employee feedback and recommendations into an action plan by the end of Q2.	Employees have valuable perspectives and feedback, and we want to incorporate their insights into survey action planning, People and Culture processes, and career development conversations.	Fostering positive interactions at every stage, from talent acquisition to retirement, will improve engagement, retention, and overall performance.

Environment, Health, Safety & Social Responsibility

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Strengthen our safety policies and procedures to ensure a safe working environment for all employees.	• Complete the review of the existing Occupational Health Safety Manual and develop a gap closure plan to meet regulatory and current practices by the end of Q3. • Complete Fire Safety Plans for all Halifax Water facilities by the end of Q4 • Develop a framework for the Halifax Water Security Plan by the end of Q4. • Complete and operationalize the first iteration of a comprehensive organizational electrical safety program by the end of Q4. • Improve the quality of incident reporting, investigation, root cause analysis, corrective/preventive action process, and verifications/closure process by the end of Q4. • Develop an action plan to reduce at-fault motor vehicle accidents by the end of Q3.	By prioritizing safety education and awareness, Halifax Water will foster a workplace environment where employees feel valued and secure. This can increase job satisfaction and morale while reducing the risk of accidents and injuries. This will help enhance Halifax Water's reputation, building trust and credibility with customers, regulatory bodies, and the community. It also demonstrates Halifax Water's dedication to protecting its workforce and supports its long-term sustainability and success by ensuring safe and efficient operation.	Empowering employees with the knowledge and skills to identify and mitigate hazards can help reduce the risk of accidents and injuries. At the same time, standardized safety processes ensure consistent compliance with regulations and best practices.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Implement an emergency management program that ensures business continuity to safeguard water supply, public health and the environment.	• By the end of Q4, complete a three-phase emergency management project to include: 1. Benchmarking the current state of Halifax Water's emergency management program compared to best practices. 2. Develop a strategic plan for the Comprehensive Emergency Management Program. 3. Formalize an action plan for the emergency management program to meet Emergency Management Accreditation Program requirements. • Establish training and emergency response exercise plan by the end of Q4.	Water utilities are responsible for critical infrastructure, and any disruption can severely affect public health, safety, and economic stability. With a well-developed emergency management program, Halifax Water can proactively identify potential risks, such as natural disasters, cyber-attacks, and equipment failures, and implement mitigation strategies to minimize their impact and respond accordingly.	It promotes preparedness through communication, collaboration, and coordination among local government agencies, emergency responders, and the community, allowing those involved to act quickly and efficiently in an emergency. Identifying and addressing gaps creates a more robust emergency management program that can safeguard public health, protect the environment, and maintain the utility's reputation and operational integrity. This approach helps protect assets, maintains regulatory compliance, and fosters public trust and confidence in Halifax Water's ability to respond effectively to emergencies.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Launch sustainability programs that recognize climate impacts and address the long-term viability of water resources, infrastructure, and environmental impacts.	• Develop an action plan for determining the safe yield for all surface water supplies in support of the Integrated Resource Plan and for future water withdrawal approval requirements by the end of Q4.	Ensuring that safe yields for all water supplies are well understood is critical to planning for growth and ensuring the sustainability of water supplies.	A more up-to-date understanding of the water availability of current supplies will ensure proper decision-making for long-term planning.
	• Building on existing methodologies, develop a multi-year strategy to reduce the amount of water produced but not billed (water loss) by the end of Q4.	Halifax Water has practiced water loss control approaches for over twenty years. As the impact of water loss methods has plateaued, additional initiatives to reduce water losses are required.	Customers will ultimately benefit from reducing the amount of water produced at the treatment plants, protecting water resources, and reducing energy consumption.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Increase customer compliance through education and enforcement of the appropriate use of water, wastewater and stormwater systems.	• Review programs for opportunities to increase customer education and awareness by the end of Q4. • Conduct engagement with interested parties specific to the proposed New Service Account Compliance Program by the end of Q4. • Define the scope and requirements for software tools to support customer compliance with pollution prevention programs by the end of Q4. • Complete scan of customer programs of other utilities to reduce private side inflow and infiltration (I&I) by the end of Q4.	Proactive education and awareness programs promote more efficient water use, proper disposal practices, and effective stormwater management.	It helps prevent overuse, strain on the systems, and contamination risks, ensures consistent and effective wastewater treatment, and provides proper stormwater control. Informing customers about compliance with regulations and mandates fosters a community-wide commitment to sustainable water system management.

Financial & Regulatory Compliance

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Deliver the next Integrated Resource Plan (IRP) that will inform the organization's next five-year strategy, future annual plans, and long-term financial framework for operating and capital requirements.	• Obtain regulatory approval and launch the IRP update project to the organization by the end of Q1. • Develop engagement and communications plans, including identification of feedback and engagement sessions with staff (to be delivered over the life of the project) by the end of Q2. • Work with the HRM to confirm population projections by the end of Q3.	Fosters collaboration and support during the IRP Update and enables departments, teams, and individuals to be aligned in understanding growth within the systems and their respective roles in helping ensure resiliency through asset renewal, growth, and compliance.	All Halifax Water employees will better understand the IRP, its significance to the organization's overall purpose, and how they, as individuals, can contribute to its success. Population projections will form the basis of the growth requirements within the IRP update. Halifax Water will be better positioned to meet current and future service demands while maintaining a focus on compliance, asset renewal, and growth.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Implement an enhanced project management framework to effectively plan and deliver projects.	• Complete the first phase of the Engineering Processes Project (EPP) 's target state, focusing on financial reporting and scheduling, by the end of Q2.	Developing and documenting best practices will help inform the further development of capital planning and project management tools, demonstrate the value of timely and accurate updates on project planning and delivery.	This will help improve the overall delivery of capital projects, increase staff engagement, and better understand the benefits of adopting best practices. Greater access to consistent reporting will also enable more informed decisions on future strategies for implementing the capital investment program.
	• Establish the level of organizational oversight for all capital projects by the end of Q4.	It provides a clear structure for project planning, decision-making, and oversight with checkpoints for evaluating project viability, ensuring that only well-justified projects proceed.	It provides more consistency and transparency for decision-making within the capital investment program. Project teams will be more accountable for meeting specific milestones/stages through clear responsibility and ownership of outcomes.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Adopt more effective internal processes and tools to support regulatory oversight.	• Identify internal regulatory process gaps by the end of Q3. • Create a process framework for addressing identified regulatory gaps by the end of Q4.	It provides clearer guidelines and reduces uncertainty in regulatory processes while enhancing compliance. Improving the consistency and quality of regulatory engagement allows for better identification and mitigation of risks associated with the regulatory process.	It creates a more effective regulatory process, with improved timelines and a more standardized method for training and educating staff. This enables greater accountability and understanding of roles and responsibilities through increased collaboration.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Adapt organizational processes to enhance financial management, accountability and corporate governance.	• Establish the process to regularly update infrastructure projects in the long-term financial model by the end of Q1. • Seek regulatory approval to establish rates that fund the operating and capital requirement by the end of Q1. • Support Regional Development Charges application to fund the capital requirements for growth by the end of Q3. • Outline the impact of rate increases and review options to make rates more affordable for lower-income customers by the end of Q2. • Complete the energy center concept design and establish a plan for rate design for the District Energy System by the end of Q4.	An updated long-term financial model clearly indicates the impact on revenue requirements for changing infrastructure needs. As funding is required to deliver capital and operating plans, Halifax Water must determine the short—and long-term impact on customer rates. Halifax Water must establish rates to fund the costs of building and operating the new District Energy System.	The rate structure that supports capital and operating budgets and the funding of long-term infrastructure growth is critical.
	• Identify key financial controls and confirm that all are operating effectively by the end of Q3. • Work with Halifax Water Board to review corporate governance and oversight by the end of Q4.	Additional oversight and the testing of internal controls are effective means of ensuring regulatory compliance and effective management.	Gaps will be identified, allowing for improved efficiency and effectiveness across the organization.

Operational Effectiveness

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Make prudent investments to improve system resiliency and reliability.	• Formalize an operational water supply resilience plan for the 5-to-10-year horizon by the end of Q4. This plan should include addressing near-term corrective measures that have been identified in accordance with timelines outlined in the Boil Water Advisory Reports. • Develop a plan to address water quality, quantity and system redundancy within the distribution system by the end of Q4. • Develop a project delivery strategy for the Water Supply Enhancement Program (WSEP) by the end of Q4. Seek approval for capital investment for the upgraded Biosolids Processing Facility by the end of Q4.	Halifax Water's focus on reliable and resilient services is only possible through robust planning and prudent asset investment.	This allows for continuity of service through improved infrastructure reliability and the ability to promptly respond to and recover from incidents and challenges.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Create a disciplined culture of accountability, continuous improvement, and risk mitigation.	• Establish an Integrated Management System (IMS) committee that will harmonize the structure and components of well-established management systems within Halifax Water to create greater efficiencies and strengthen the utility's risk mitigation culture as other systems are added by the end of Q1 • Develop an IMS roadmap by the end of Q4. • Develop a structure that aligns all risks into a single register for the organization by the end of Q3.	A disciplined and consistent IMS enhances Halifax Water's operational effectiveness and resilience. By fostering a culture of continuous improvement and risk mitigation, the utility aligns all employees with best practices, identifies inefficiencies, and mitigates potential threats.	Embedding risk management into Halifax Water's culture will encourage employee accountability and collaboration. It will help build trust in Halifax Water's ability to deliver reliable and safe water services, ensuring long-term sustainability and resilience for the organization and the communities it serves.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Improve and support our relationships with customers.	• Implement new bill design and launch, including communication of changes and benefits to customers, by the end of Q2. • Review options to promote the use of online services by the end of Q3. • Estimate the net savings of increasing the number of customers using online services by the end of Q3.	Enhancing information available through the Customer Connect Portal and a new bill design will provide a more integrated and cost-effective means of providing service to customers.	Online services are a more cost-effective means of providing services to customers. The Portal allows customers to access significantly more information about their accounts to help them manage their services. The new bill design is a more customer-focused format that aligns with the look and feel of the portal.
	• Map future process flow for stormwater inquiries and appeals, establish customer service levels, and develop a plan to implement efficiencies by the end of Q3. • Implement a process to address the backlog of stormwater inquiries and appeals by the end of Q4. • Final Draft of Integrated Stormwater Management with HRM Policies by the end of Q4.	Clearly defining and communicating levels of service and streamlining the processes for appeals and non-emergency drainage investigations will allow for more efficient resource use.	By addressing stormwater issues and improving customer service through an efficient and consistent response that meets a defined level of service, Halifax Water can meet customer expectations and build trust within the community. Improved processes will ensure accurate resource tracking so that Halifax Water ensures adequate cost recovery for services delivered.

5-year Strategic Initiatives	Annual Goals for 2025/26	Rationale	Impact
Enhance our organizational decision-making processes to deliver more financially prudent and effective services.	• Review and update strategy for document management by the end of Q4.	Improved document management helps streamline processes and enhance organizational knowledge.	Reduced storage costs by digitizing documents and enhanced organizational knowledge and productivity through ease of access.
	• Review the existing data analytics program to ensure focus on key priorities by the end of Q2. • Establish a clear go-forward strategy and implementation plan for data analytics by the end of Q3.	An effective means of analyzing and using data provides information that can be used throughout the organization to support decisions and improve services.	Improves services and supports business decisions for a more efficient and cost-effective utility.
	• Complete a review of the existing operational structure (water, wastewater and stormwater) and prepare an options analysis and implementation plan by Q3. • Begin implementing the plan by the end of Q4 in advance of the Burnside Operations Centre coming online.	The upcoming amalgamation of four operations depots into the new Burnside Operations Centre presents an opportunity to review how operational services are provided.	Changing how we deliver services will lead to more effective operations and a positive work culture.
	• Develop a strategy to align with municipal development intensification and the mid to long-term impacts on infrastructure by the end of Q3.	Alignment with municipal strategies helps identify internal ownership of specific development processes and improves engagement with interested parties.	More timely and informed support from HRM on development intensification helps Halifax Water identify future challenges to development intensification and the required infrastructure.

BUDGET SUMMARY

Capital Budget

Halifax Water's 2025/26 capital budget is at a total value of $132,996,000 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 – 2019 $) and a requirement to achieve an average level of spend of $135 million per year. In relation to the IRP, the capital budget program focuses on providing the required infrastructure for asset renewal, regulatory compliance, and growth.

The 2025/26 capital budget recognizes Halifax Water's significant challenge in increasing a capital budget from $61.4 million ten years ago to an average annual IRP target of $135 million and, in some years, exceeding $135 million.

Preparation of the 2025/26 capital budget was founded on the recent re-alignment of the Engineering and Capital Infrastructure Department and initial steps in creating the capacity to deliver the IRP program. The Department realignment provides for improved planning for larger projects and improved project governance to ensure projects align fully with the utility's objectives throughout the project life cycle. Developing a budget based on our growing workforce and enhancing business process constraints will help improve our performance tracking to the capital budget targets. At the same time, delivering on our recommended annual IRP capital program target provides improved service sustainability and a reduced risk of service interruption.

The proposed capital budget for 2025/26 is a decrease from last year's budget of $152,497,000 as several large strategic projects move closer to the construction stage.

The funding plan for the capital budget comprises the following funding sources; depreciation and debt, regional development charges, capital cost contributions and external funding such as Federal/Provincial infrastructure funding, HRM cost sharing and energy rebates.

2025/26 Capital Budget Funding Sources (in 000's)					
Funding Source	**Water**	**Wastewater**	**Stormwater**	**District Energy**	**Totals**
Debt and Depreciation	$49,380	$48,681	$25,753	$0	**$123,814**
Regional Development Charges	$3,062	$2,486	$0	$0	**$5,548**
External Funding	$0	$242	$ 3,391	$0	**$3,634**
Capital Cost Contributions	$0	$0	$0	$0	**$0**
SUB-TOTAL	**$52,442**	**$51,409**	**$29,144**	**$0**	**$132,996**

Operating Budget

The operating budget for 2025/26 shows a budgeted deficit of $34.1 million. The budget reflects requirements to maintain current service levels, deliver projects already in progress or approved, and address any changing environmental or regulatory requirements.

Operating Budget Summary

Summarized Statement of Earnings

	Budget 2024/25 '000	Budget 2025/26 '000	From 2024/25 Budget $ Change	% Change
Operating revenues	**172,059**	**174,618**	2,559	1.49%
Operating expenditures	**150,835**	**169,005**	18,170	12.05%
Earnings from operations before financial and other revenues and expenditures	**21,224**	**5,613**	(15,612)	(278.16%)
Financial and other revenues				
Interest	**511**	**468**	(43)	(8.44%)
Other	**615**	**617**	2	0.41%
	1,126	**1,085**	(41)	(3.61%)
Financial and other expenditures				
Interest	**128**	**323**	195	152.23%
Interest on long term debt	**9,375**	**12,291**	2,916	31.10%
Repayment on long term debt	**24,078**	**20,514**	(3,564)	(14.80%)
Amortization of debt discount	**245**	**279**	34	13.87%
Dividend/grant in lieu of taxes	**7,031**	**7,236**	205	2.91%
Other	**175**	**130**	(45)	(25.68%)
	41,033	**40,773**	(260)	(0.63%)
Loss for the year	**$ (18,683)**	**$ (34,075)**	$ (15,393)	82.39%

All three services (water, wastewater, and stormwater) are budgeting a deficit for 2025/26, and Halifax Water is in the final stages of preparing a rate application for rate increases to offset these deficits.

Operating Budget Key Assumptions

Halifax Water's main revenue sources are derived from rate-regulated activities, with approximately 76% of water and wastewater revenues coming from consumption/discharge rates and to be updated 24% from base charges. The 2025/26 Operating Budget is based on regulated rates and charges approved by the NSUARB effective April 1, 2023. Base charges for both water and wastewater have remained unchanged since April 1, 2023. The water and wastewater consumption rate, stormwater non-residential per square meter, and residential properties rates per tier have not been increased in the operating budget. For 2025/26, a 2% increase in total consumption was used to budget revenue compared to a 0% increase in the prior year. New customer connections are estimated at 565 for both water and wastewater services based on historical trends.

Halifax's Consumer Price Index is currently at 2.7%. The increase in Halifax Water's operating costs is related to an increase of 33 new positions to support customer growth, regulatory requirements, capital delivery, and infrastructure. Increases in unionized salary rates were determined under a new collective agreement signed in 2024 with our two union locals and the non-union compensation will be based on our current non-union compensation policy.

Significant operations have increased in 2025/26. For energy and chemical costs, the budgeted increases are as follows:

Electricity	5.0%
Furnace Oil	15.0%
Natural Gas	5.0%
Chemicals	5.0%

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

There has been considerable uncertainty related to the impact tariffs will have on the operating costs of Halifax Water. The current operating budget has not factored in any increases related to increases in tariffs. Halifax Water continues to monitor the situation very closely and is reviewing its contracts and origin of our purchases to determine the potential impact on our operating budget.

PERFORMANCE MEASUREMENT

At the end of the 2025/26 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. The Halifax Water Board sets organizational indicators each year and reviews performance results. For 2025/26, these indicators will be revisited and presented to the Board for approval in March 2025.

As noted above, the CBS is currently under review. The following was used for fiscal 2024/2025.

People	Environment, Health, Safety and Social Responsibility
• Customer satisfaction about water quality - Percentage from the annual customer survey. • Customer satisfaction with service - Percentage from the customer survey. • Number of arbitrations divided by total number of grievances. • Percentage of jobs filled with internal candidates. • Employee satisfaction survey result. • Average number of days of absenteeism.	• Average score on internal safety audits • NS Labour and Advanced Education compliance – Number of Incidents with written compliance orders. • Lost time accidents -Number of accidents resulting in lost time per 100 employees. • Safe driving - Number of traffic Accidents per 1,000,000 km driven (maximum of 5). • Training - Number of employees trained or re-certified before due date. • Percentage of completed safety talks. • Percentage of public health and environmental regulatory infractions resulting in summary offence tickets. • Percentage of WWTFs complying with NSE approval permits. • Number of ICI properties engagements by Pollution Prevention each year.
Financial & Regulatory Compliance	**Operational Efficiency**
• Operating expense/revenue ratio percentage (excluding depreciation). • Annual cost per customer connection – Water (excluding depreciation). • Annual cost per customer connection – Wastewater (excluding depreciation). • Capital budget expenditures - Percentage of budget spent by the end of the fiscal year. • Total capital spend in the fiscal year (in millions).	• Adherence with five objectives of the Water Safety Plan for all water systems - Percentage of sites achieving targets. • Bacteriological tests - Percentage free from Total Coliform. • Water service outages - Number of connection hours/1000 customers. • Wastewater service outages – Number of connection hours/1000 customers. • Average speed of answer – Percentage of calls answered within 20 seconds. • Response time for service connection permits – the percentage of formal responses provided from Halifax Water within 3 days or less.

	• Response time for subdivisions involving system extensions – the percentage of formal responses from Halifax Water provided within 4 weeks or less review. • Water leakage control – target leakage allowance of 160 litres/service connection/day • I&I reduction - Number of inspections to identify private property discharge of stormwater into the wastewater system. • Peak flow reduction from wet weather management capital projects • Percentage of time GIS and Cityworks are available. • Energy management kwh/m3 reduction associated with capital projects. • Bio-solids residual handling - percentage of sludge meeting bio-solids concentration targets

Capital Budget Summary by Program 2025/26

Appendix A

Program Category	Program Sub Category	All $ in 000s Program Costs
Corporate	Corporate - Asset Management	7,015
Corporate	Corporate - Equipment	300
Corporate	Corporate - Facility Projects	2,850
Corporate	Corporate - Fleet	5,608
Corporate	Corporate - Information & Technology	25,777
Corporate	TOTAL	41,550
Stormwater	Stormwater - Culverts/Ditches	7,925
Stormwater	Stormwater - Pipes	16,836
Stormwater	Stormwater - Structures	50
Stormwater	TOTAL	24,811
Wastewater	Wastewater - Collection System	13,211
Wastewater	Wastewater - Equipment	305
Wastewater	Wastewater - Forcemains	550
Wastewater	Wastewater - Structures	7,227
Wastewater	Wastewater - Treatment Facility	9,755
Wastewater	Wastewater - Trunk Sewers	530
Wastewater	TOTAL	31,578
Water	Water - Distribution	14,749
Water	Water - Equipment	165
Water	Water - Land	125
Water	Water - Security	25
Water	Water - Structures	4,630
Water	Water - Transmission	6,977
Water	Water - Treatment Facilities	8,384
Water	TOTAL	35,055
	GRAND TOTAL	132,996

Program Sub Category	Project Code	Project Name	All $ in 000s Y1 2025/26
Corporate - Asset Management			
Corporate - Asset Management	4.0000359	AMP Continuous Improvement	125
Corporate - Asset Management	4.0000163	Annual Asset Management Plan Update	20
Corporate - Asset Management	4.0000156	Asset Management Program Roadmap Update – Implementation	250
Corporate - Asset Management	2.0000043	Corporate Flow Monitoring Program	2,300
Corporate - Asset Management	4.0000308	Growth Servicing Strategy	75
Corporate - Asset Management	4.0000170	Integrated Resource Plan Update	1,970
Corporate - Asset Management	4.0000168	Model Enhancements	30
Corporate - Asset Management	4.0000358	Sewer Inspection Program Review - Target State	350
Corporate - Asset Management	2.0001074	SSO and CSO Management Program	760
Corporate - Asset Management	1.0000254	Storm Sewer Condition Assessment	305
Corporate - Asset Management	2.0000872	Wastewater Sewer Condition Assessment	705
Corporate - Asset Management	3.0000644	Water Efficiency Strategy	80
Corporate - Asset Management	4.0000318	Water Survey of Can Hydro Monitoring	45
Corporate - Asset Management	**Total**		**7,015**
Corporate - Equipment			
Corporate - Equipment	4.0000154	Customer Meters - New and Replacement	300
Corporate - Equipment	**Total**		**300**
Corporate - Facility Projects			
Corporate - Facility Projects	4.0000077	Building Capital Improvements	750
Corporate - Facility Projects	4.0000187	Burnside Operations Centre	1,900
Corporate - Facility Projects	4.0000009	Security Upgrade Program (water and wastewater)	200
Corporate - Facility Projects	**Total**		**2,850**
Corporate - Fleet			
Corporate - Fleet	4.0000315	Fleet Upgrade Program SW	778
Corporate - Fleet	4.0000007	Fleet Upgrade Program W	1,718
Corporate - Fleet	4.0000316	Fleet Upgrade Program WW	3,112
Corporate - Fleet	**Total**		**5,608**
Corporate - Information & Technology			
Corporate - Information & Technology	4.0000327	3rd party Risk Management Program	150
Corporate - Information & Technology	4.0000193	AMI Communications Upgrade	180
Corporate - Information & Technology	4.0000341	Architectural Service Delivery	200
Corporate - Information & Technology	4.0000336	Artificial Intelligence (Cyber Security)	330
Corporate - Information & Technology	4.0000365	Automated Equalized Overtime	500
Corporate - Information & Technology	4.0000269	Automated Test Tools	500
Corporate - Information & Technology	4.0000352	Automations & Integrations for Business Units	500
Corporate - Information & Technology	4.0000339	Booster Stations Operational Transition	500

Corporate - Information & Technology	4.0000263	Business Continuity Management	350
Corporate - Information & Technology	4.0000295	CAD/BIM	150
Corporate - Information & Technology	4.0000356	Capital Delivery Upgrades – EPP	700
Corporate - Information & Technology	4.0000355	Capital Delivery Upgrades - I&T	500
Corporate - Information & Technology	4.0000354	Capital Planning Upgrades	250
Corporate - Information & Technology	4.0000347	Central Event Management	700
Corporate - Information & Technology	4.0000189	Central Spread Spectrum Radio Network Replacement Program	250
Corporate - Information & Technology	4.0000105	CMMS/GIS Upgrades	150
Corporate - Information & Technology	4.0000348	Consumption & Demand Management	500
Corporate - Information & Technology	4.0000319	Customer Calling Software Enhancements	200
Corporate - Information & Technology	4.0000322	Customer Portal Enhancements	200
Corporate - Information & Technology	4.0000337	Customer Workorder Tracking	600
Corporate - Information & Technology	4.0000324	Cyber Awareness Program Enhancements	410
Corporate - Information & Technology	4.0000326	Cyber Security Metrics	250
Corporate - Information & Technology	4.0000335	Cyber Security Roadmap	36
Corporate - Information & Technology	4.0000283	Digital Twin - Virtual Facility Tours	300
Corporate - Information & Technology	4.0000360	DR Enhancements	830
Corporate - Information & Technology	4.0000342	EA Collaboration Platform Rollout	350
Corporate - Information & Technology	4.0000343	EA Software Rollout	300
Corporate - Information & Technology	4.0000219	EE - Electrical Safety Program	500
Corporate - Information & Technology	4.0000218	EE- ITSM Process	250
Corporate - Information & Technology	4.0000261	Electrical Planned Maintenance Program	800
Corporate - Information & Technology	4.0000297	Emergency Management Office	50
Corporate - Information & Technology	4.0000228	Enterprise Architecture	450
Corporate - Information & Technology	4.0000262	Enterprise Risk Management	300
Corporate - Information & Technology	4.0000206	ERP Upgrades	200

Program Sub Category	Project Code	Project Name	All $ in 000s Y1 2025/26
Corporate - Information & Technology	4.0000338	Gas Monitor Review	500
Corporate - Information & Technology	4.0000255	General IT System Upgrades	500
Corporate - Information & Technology	4.0000353	Generative AI	500
Corporate - Information & Technology	4.0000040	GIS Data Program	250
Corporate - Information & Technology	4.0000340	GIS Schema Changes	100
Corporate - Information & Technology	4.0000363	Information Services R&D	300
Corporate - Information & Technology	4.0000323	IR Enhancements	200
Corporate - Information & Technology	4.0000284	IS Equipment Replacement	800
Corporate - Information & Technology	4.0000349	Linear Asset Management	500
Corporate - Information & Technology	4.0000331	MSSP Enhancements	375
Corporate - Information & Technology	4.0000361	NAC Enhancements	375
Corporate - Information & Technology	4.0000332	Network Enhancements	630
Corporate - Information & Technology	4.0000012	Network Upgrades	400
Corporate - Information & Technology	4.0000334	OnDemand Assessment	75
Corporate - Information & Technology	4.0000330	OT DR Enhancements	340
Corporate - Information & Technology	4.0000321	OT Enhancements	575
Corporate - Information & Technology	4.0000328	OT Network Enhancements	300
Corporate - Information & Technology	4.0000333	OT Server Replacement	175
Corporate - Information & Technology	4.0000320	OT Standards & Specifications	300
Corporate - Information & Technology	4.0000288	PASS Project	500
Corporate - Information & Technology	4.0000192	PI System Enhancements	250
Corporate - Information & Technology	4.0000357	PMO Strategy & Transformation	700
Corporate - Information &	4.0000309	Pollution Prevention Inspection	300

Technology			
Corporate - Information & Technology	4.0000351	Power BI Reports	500
Corporate - Information & Technology	4.0000310	Property Management	400
Corporate - Information & Technology	4.0000362	Record Drawings for Closed Work Orders 25/26	50
Corporate - Information & Technology	4.0000364	Records Management Project	600
Corporate - Information & Technology	4.0000306	SCADA Alarm Management	150
Corporate - Information & Technology	4.0000350	Scaling Data Governance	500
Corporate - Information & Technology	4.0000345	Service Delivery Efficiency	250
Corporate - Information & Technology	4.0000010	Service Gap Project	150
Corporate - Information & Technology	4.0000155	Stormwater Billing Imagery Acquisition and Analysis	150
Corporate - Information & Technology	4.0000232	Strategic Planning Business Cases	350
Corporate - Information & Technology	4.0000344	Technical Knowledge Hub	300
Corporate - Information & Technology	4.0000311	Technical Services Capital Tools	80
Corporate - Information & Technology	4.0000346	Technology Change Management	250
Corporate - Information & Technology	4.0000329	TRA Remediation	350
Corporate - Information & Technology	4.0000239	TS Work Tracking	50
Corporate - Information & Technology	4.0000325	TUM	266
Corporate - Information & Technology	**Total**		**25,777**
TOTAL			**41,550**

Program Sub Category	Project Code	Project Name	All $ in 000s Y1 2025/26
Stormwater - Culverts/Ditches			
Stormwater - Culverts/Ditches	1.0000351	Cole Harbour Road @ Bissett Run Culvert Replacement	100
Stormwater - Culverts/Ditches	1.0000279	Cross Culvert Replacement Program - Field Investigation & Operations Replacements	100
Stormwater - Culverts/Ditches	1.0000288	Cross Road Culvert Replacement Program - Engineering Design	100
Stormwater - Culverts/Ditches	1.0000348	Culvert Replacement - 1 Fergusons Cove Road	25
Stormwater - Culverts/Ditches	1.0000344	Culvert Replacement - 109 Fergusons Cove Road	25
Stormwater - Culverts/Ditches	1.0000347	Culvert Replacement - 1165 Purcells Cove Road	25
Stormwater - Culverts/Ditches	1.0000339	Culvert Replacement - 1302 Waverley Road	75
Stormwater - Culverts/Ditches	1.0000338	Culvert Replacement - 1322 Waverley Road	75
Stormwater - Culverts/Ditches	1.0000343	Culvert Replacement - 139 Fergusons Cove Road	370
Stormwater - Culverts/Ditches	1.0000327	Culvert Replacement - 15 Village Crescent	537
Stormwater - Culverts/Ditches	1.0000326	Culvert Replacement - 154 Kaye Street	572
Stormwater - Culverts/Ditches	1.0000336	Culvert Replacement - 179 Thomas Street	25
Stormwater - Culverts/Ditches	1.0000324	Culvert Replacement - 2120 Hammonds Plains Road	50
Stormwater - Culverts/Ditches	1.0000337	Culvert Replacement - 215 Thomas Street	25
Stormwater - Culverts/Ditches	1.0000340	Culvert Replacement - 2405 Lawrencetown Road	35
Stormwater - Culverts/Ditches	1.0000335	Culvert Replacement - 2884 Lawrencetown Road	188
Stormwater - Culverts/Ditches	1.0000329	Culvert Replacement - 29 Carlheath Drive	75
Stormwater - Culverts/Ditches	1.0000341	Culvert Replacement - 34 Kent Drive	226
Stormwater - Culverts/Ditches	1.0000330	Culvert Replacement - 4132 Highway #2	626
Stormwater - Culverts/Ditches	1.0000328	Culvert Replacement - 519 Old Sackville Road	584
Stormwater - Culverts/Ditches	1.0000345	Culvert Replacement - 6 Iris Avenue	50
Stormwater - Culverts/Ditches	1.0000346	Culvert Replacement - 61 Pinetree Crescent	25
Stormwater - Culverts/Ditches	1.0000332	Culvert Replacement - 71 Concord Avenue	540
Stormwater - Culverts/Ditches	1.0000331	Culvert Replacement - 76 Richardson Drive	540
Stormwater - Culverts/Ditches	1.0000333	Culvert Replacement - Glendale Drive @ Metropolitan Avenue	100
Stormwater - Culverts/Ditches	1.0000334	Culvert Replacement - Glendale Drive @ Raymond Drive	109
Stormwater - Culverts/Ditches	1.0000313	Culvert Replacement - Highway 2, near Civic 2774	317
Stormwater - Culverts/Ditches	1.0000325	Culvert Replacement - Miller Lake Road @ Highway #2	356
Stormwater - Culverts/Ditches	1.0000104	Driveway Culvert Replacement Program	2,000
Stormwater - Culverts/Ditches	1.0000342	Hammonds Plains Road (Stillwater Lake area)	50
Stormwater - Culverts/Ditches	**Total**		**7,925**
Stormwater - Pipes			
Stormwater - Pipes	1.0000355	Catchbasin Leads Replacement Program	150
Stormwater - Pipes	1.0000103	Catchbasin Renewals SW Program	60
Stormwater - Pipes	1.0000350	Farrell Street Storm Sewer Replacement	2,500
Stormwater - Pipes	1.0000038	Integrated Stormwater Projects - Program	1,000
Stormwater - Pipes	1.0000135	Lateral Replacements SW Program	18

Stormwater - Pipes	1.0000102	Manhole Renewals SW Program	20
Stormwater - Pipes	1.0000322	Moore Road Stormwater Renewal	50
Stormwater - Pipes	1.0000352	Oathill Lake Outfall Pipe Structural Lining	250
Stormwater - Pipes	1.0000034	Raymond Street / Lakecrest Drive - Storm Sewer Replacement	1,847
Stormwater - Pipes	1.0000354	Sullivan's Pond Storm Sewer System Replacement - Phase 2 Part 1 - Irishtown Rd to Harbour (Additional Funding)	2,262
Stormwater - Pipes	1.0000145	Sullivan's Pond Storm Sewer System Replacement - Phase 2 Part 2 - Irishtown Rd to Harbour	6,056
Stormwater - Pipes	1.0000321	Tobin Run Stormwater Renewal	1,026
Stormwater - Pipes	1.0000349	Windsor Street Exchange Redevelopment - Stormwater Infrastructure - Construction	1,000
Stormwater - Pipes	2.0001133	Windsor Street Exchange Redevelopment - Stormwater Infrastructure - Design	597
Stormwater - Pipes	**Total**		**16,836**
Stormwater - Structures			
Stormwater - Structures	1.0000353	Flood List Access Improvements	50
Stormwater - Structures	**Total**		**50**
TOTAL			**24,811**

Program Sub Category	Project Code	Project Name	All $ in 000s Y1 2025/26
Wastewater - Collection System			
Wastewater - Collection System	2.0001196	Bedford RDII Reduction Program FMZ02 & 03	50
Wastewater - Collection System	2.0000835	Canal Street Separation	531
Wastewater - Collection System	2.0001198	Cole Harbour RDII Reduction Program	50
Wastewater - Collection System	2.0000834	Ellenvale Area RDII Reduction Program FMZ27	100
Wastewater - Collection System	2.0001195	Fairview, Clayton Park and Bridgeview RDII Reduction Program	50
Wastewater - Collection System	2.0001028	Herring Cove Road Wastewater Stormwater Renewal - HRM Integrated Project	100
Wastewater - Collection System	2.0000052	Integrated Wastewater Projects - Program	1,600
Wastewater - Collection System	2.0000358	Lateral Replacements WW (non-tree roots)	1,350
Wastewater - Collection System	2.0000563	Lateral Replacements WW (tree roots)	450
Wastewater - Collection System	2.0000357	Manhole Renewals WW	60
Wastewater - Collection System	2.0000852	Maynard Lake and Clement Street Wetland Separation	250
Wastewater - Collection System	2.0000833	Mill Cove RDII Reduction Program FMZ10 - Bedford Common	50
Wastewater - Collection System	2.0001141	Park Avenue CSO Sewer Separation	100
Wastewater - Collection System	2.0001200	Private I&I Program Incentives	40
Wastewater - Collection System	2.0001071	Raymond Street / Lakecrest Drive - Sanitary Sewer Replacement	469
Wastewater - Collection System	2.0001073	Spring Garden Road Sewer Separation Pocket	250
Wastewater - Collection System	2.0001036	Wastewater Reservicing - Hollis Street	50
Wastewater - Collection System	2.0000168	Wastewater System - Trenchless Rehabilitation Program	4,000
Wastewater - Collection System	2.0000223	Wet Weather Management Program	400
Wastewater - Collection System	2.0001130	Windmill Road Functional Study	250
Wastewater - Collection System	2.0001182	Windsor Street Exchange Redevelopment - Wastewater Infrastructure - Construction	1,000
Wastewater - Collection System	2.0000905	Windsor Street Exchange Redevelopment - Wastewater Infrastructure - Design	411
Wastewater - Collection System	2.0001197	Woodside RDII Reduction Program	50
Wastewater - Collection System	2.0000837	Wyse Road Separation Phase 2	200
Wastewater - Collection System	2.0000836	Wyse Road Sewer Separation	300
Wastewater - Collection System	2.0001137	Young Avenue CN Bridge - Sewer Replacement	50
Wastewater - Collection System	2.0000982	Young Street Pocket - Sewer Separation - Route to Harbour	1,000
Wastewater - Collection System	**Total**		**13,211**
Wastewater - Equipment			
Wastewater - Equipment	2.0001038	FOG software	50
Wastewater - Equipment	2.0000161	I&I Reduction Program Flow Meters and Related Equipment	30
Wastewater - Equipment	2.0000451	Miscellaneous Equipment Replacement	120
Wastewater - Equipment	2.0001029	Wet Well Wizard	105

Wastewater - Equipment	**Total**		**305**
Wastewater - Forcemains			
Wastewater - Forcemains	2.0001189	Bluewater Road PS Elimination	50
Wastewater - Forcemains	2.0001117	Eastern Passage Gravity Pressure Sewer - Cleanout Manhole Replacement	500
Wastewater - Forcemains	**Total**		**550**
Wastewater - Structures			
Wastewater - Structures	2.0001199	Duffus Street PS - Pump Hoist System Upgrades	100
Wastewater - Structures	2.0001030	Duffus Street Pumping Station - Mechanical & Electrical Upgrades	1,200
Wastewater - Structures	2.0000420	Emergency Pumping Station Pump Replacements	650
Wastewater - Structures	2.0001132	Fairfield Holding Tank Capacity Assessment	150
Wastewater - Structures	2.0001032	Pier A Pumping Station - Mechanical Upgrades	3,100
Wastewater - Structures	2.0001135	PS Control Panel / Electrical Replacement Program	300
Wastewater - Structures	2.0001194	Pump Station Hatch Replacements	150
Wastewater - Structures	2.0001122	Quigley's Corner PS Relocation	252
Wastewater - Structures	2.0001136	Sackville Street Tangent Drop Repair	750
Wastewater - Structures	2.0001119	South East Passage PS Upgrade	300
Wastewater - Structures	2.0000444	Wastewater Pumping Station Component Replacement Program - Central Region	275
Wastewater - Structures	**Total**		**7,227**
Wastewater - Treatment Facility			
Wastewater - Treatment Facility	2.0001174	Aerotech WWTF - Centrifuge Pump Refurbishment	40
Wastewater - Treatment Facility	2.0001175	Aerotech WWTF - Heated Storage Area	100
Wastewater - Treatment Facility	2.0001103	Aerotech WWTF - Lagoon Cleaning and Rehabilitation	500
Wastewater - Treatment Facility	2.0001185	Biosolids Processing Facility - Biofilter Post-Replacement	70
Wastewater - Treatment Facility	2.0001184	Biosolids Processing Facility - Compressor Replacement	60
Wastewater - Treatment Facility	2.0000919	Biosolids Processing Facility - Gas Sensor Upgrade Program	15
Wastewater - Treatment Facility	2.0001186	Biosolids Processing Facility - Liner Replacement	70
Wastewater - Treatment Facility	2.0001183	Biosolids Processing Facility - Live bottom Bin #2 Floor Rebuild	50
Wastewater - Treatment Facility	2.0001187	Biosolids Processing Facility - Serpentix Track Rebuild	30
Wastewater - Treatment Facility	2.0001087	Dartmouth WWTF - Outfall Liner and Multiport Diffuser Repair	625
Wastewater - Treatment Facility	2.0000876	Dartmouth WWTF - Raw Water Pump Refurbishment Program	70
Wastewater - Treatment Facility	2.0001152	Dartmouth WWTF - Chemical Piping Replacement	100
Wastewater - Treatment Facility	2.0001150	Dartmouth WWTF - Gate Controller Comms Replacement	35

Program Sub Category	Project Code	Project Name	All $ in 000s Y1 2025/26
Wastewater - Treatment Facility	2.0001151	Dartmouth WWTF - MCC Refurbishment	100
Wastewater - Treatment Facility	2.0001047	Dartmouth WWTF - OCS - Refurbishment - Canisters & Components	50
Wastewater - Treatment Facility	2.0001159	Eastern Passage WWTF - Aeration Tank pH Probes	35
Wastewater - Treatment Facility	2.0000666	Eastern Passage WWTF - Asset Renewal Program	225
Wastewater - Treatment Facility	2.0000907	Eastern Passage WWTF - Centrifuge Rebuild	60
Wastewater - Treatment Facility	2.0001162	Eastern Passage WWTF - Generator Transfer Switch Replacement Scoping	15
Wastewater - Treatment Facility	2.0001158	Eastern Passage WWTF - Polymer System Replacement	300
Wastewater - Treatment Facility	2.0001095	Eastern Passage WWTF - Primary Clarifier Refurbishment Program	80
Wastewater - Treatment Facility	2.0001163	Eastern Passage WWTF - Primary Pipe Gallery MAU Replacement	250
Wastewater - Treatment Facility	2.0001098	Eastern Passage WWTF - Pump Replacement Program	100
Wastewater - Treatment Facility	2.0001160	Eastern Passage WWTF - Spectrophotometer	15
Wastewater - Treatment Facility	2.0001161	Eastern Passage WWTF - UV Building Heat Recovery Unit Replacement	225
Wastewater - Treatment Facility	2.0000522	Emergency WWTF Equipment Replacements	650
Wastewater - Treatment Facility	2.0001179	Fall River WWTF - Influent pH Sensors	20
Wastewater - Treatment Facility	2.0001107	Fall River WWTF - Replace EQ Pumps	30
Wastewater - Treatment Facility	2.0001124	Frame WWTF - Access Road to Waverley Road	800
Wastewater - Treatment Facility	2.0001109	Frame WWTF - Generator with ATS	100
Wastewater - Treatment Facility	2.0001178	Frame WWTF - Process Building - Phase 1 Scoping	15
Wastewater - Treatment Facility	2.0001149	Halifax WWTF - Aerial Lift	25
Wastewater - Treatment Facility	2.0001147	Halifax WWTF - Densadeg Cover Replacement	75
Wastewater - Treatment Facility	2.0001191	Halifax WWTF - Dewatering Sludge Feed Pump Replacement	250
Wastewater - Treatment Facility	2.0001143	Halifax WWTF - Fire Alarm System Replacement	60
Wastewater - Treatment Facility	2.0001145	Halifax WWTF - Floor Regrade - Lower Level	50
Wastewater - Treatment Facility	2.0001123	Halifax WWTF - Main Isolation Gate Replacement	100
Wastewater - Treatment Facility	2.0001146	Halifax WWTF - Masonry Repairs - Lower Level	75
Wastewater - Treatment Facility	2.0001126	Halifax WWTF - Polymer System Upgrade	450
Wastewater - Treatment Facility	2.0000765	Halifax WWTF - Raw Water Pump Replacement	700
Wastewater - Treatment Facility	2.0001144	Halifax WWTF - Upper Floor Hoist Way Cover Replacement	70
Wastewater - Treatment Facility	2.0001148	Halifax WWTF - UV Area Access Door	50
Wastewater - Treatment Facility	2.0001155	Herring Cove WWTF - Compactor Access Platform	30
Wastewater - Treatment Facility	2.0001051	Herring Cove WWTF - Epoxy Coat Floor	15
Wastewater - Treatment Facility	2.0001156	Herring Cove WWTF - Generator Rebuild	50
Wastewater - Treatment Facility	2.0001153	Herring Cove WWTF - Grit System Refurbishment	50
Wastewater - Treatment Facility	2.0001157	Herring Cove WWTF - Phoneline and Comms Replacement	25

Wastewater - Treatment Facility	2.0001154	Herring Cove WWTF - Waste Oil Storage/Boiler Replacement - Phase 1 Scoping	50
Wastewater - Treatment Facility	2.0001078	HHSP WWTFs - Raw Water Pump Variable Frequency Drive (VFDs)	130
Wastewater - Treatment Facility	2.0001142	HHSP WWTFs Control Room Upgrades	75
Wastewater - Treatment Facility	2.0001140	HHSP WWTFs Distributed Control System Upgrades	350
Wastewater - Treatment Facility	2.0001181	Middle Musquodoboit WWTF - Flow Meter	20
Wastewater - Treatment Facility	2.0001108	Middle Musquodoboit WWTF – Replace WWTF LS Control Panel and SCADA Panel	25
Wastewater - Treatment Facility	2.0000505	Mill Cove WWTF - Asset Renewal Program	125
Wastewater - Treatment Facility	2.0001111	North Preston WWTF - Replace Factory Talks with VTScada- Phase 1 Scoping	25
Wastewater - Treatment Facility	2.0001168	Timberlea WWTF - SCADA Critical Replacements	50
Wastewater - Treatment Facility	2.0001167	Timberlea WWTF - Alum Tank Refurbishment	25
Wastewater - Treatment Facility	2.0001165	Timberlea WWTF - Digester Refurbishment	100
Wastewater - Treatment Facility	2.0001173	Timberlea WWTF - Generator Capacity Review Phase 1 Scoping	25
Wastewater - Treatment Facility	2.0001171	Timberlea WWTF - Headworks Scrubber Replacement	50
Wastewater - Treatment Facility	2.0001172	Timberlea WWTF - Hoist Way & Lower Level Equipment Access	25
Wastewater - Treatment Facility	2.0001166	Timberlea WWTF - RBC Cover Replacement	120
Wastewater - Treatment Facility	2.0001169	Timberlea WWTF - Roadway Refurbishment	50
Wastewater - Treatment Facility	2.0001170	Timberlea WWTF - Roof Repairs	25
Wastewater - Treatment Facility	2.0001180	Uplands WWTF - Auto Fine Screen Distribution Arm Replacement	35
Wastewater - Treatment Facility	2.0000668	WWTF - Research Program Pilot Plant	250
Wastewater - Treatment Facility	2.0001139	WWTFs - Building Automation System (BAS) Software Upgrade	65
Wastewater - Treatment Facility	2.0001023	WWTFs - Critical Electrical Equipment Refurbishment Program	300
Wastewater - Treatment Facility	2.0001081	WWTFs - Critical Spare Parts Program	300
Wastewater - Treatment Facility	2.0000056	WWTFs - Plant Optimization Program	175
Wastewater - Treatment Facility	2.0001138	WWTF UV Disinfection System Refurbishment Program	450
Wastewater - Treatment Facility	**Total**		**9,755**
Wastewater - Trunk Sewers			
Wastewater - Trunk Sewers	2.0001131	Herring Cove Road Sewershed Infrastructure Study	530
Wastewater - Trunk Sewers	**Total**		**530**
TOTAL			**31,578**

Program Sub Category	Project Code	Project Name	All $ in 000s Y1 2025/26
Water - Distribution			
Water - Distribution	3.0000068	~ Hydrants Renewals	75
Water - Distribution	3.0000069	~ Service Lines Renewals	75
Water - Distribution	3.0000067	~ Valves Renewals	425
Water - Distribution	3.0000294	Automated Flushing Program	75
Water - Distribution	3.0000772	Fire Flow Study	50
Water - Distribution	3.0000022	Integrated Water Projects - Program	8,000
Water - Distribution	3.0000390	Lead Service Line Replacement Program	2,300
Water - Distribution	3.0000688	Little Salmon River Bridge Watermain Replacement	140
Water - Distribution	3.0000782	Pressure Monitoring - Critical Locations	100
Water - Distribution	3.0000699	Raymond St / Lakecrest Drive Storm Sewer Replacement - Watermain	1,243
Water - Distribution	3.0000696	Tower Road CN Bridge - Watermain Replacement	290
Water - Distribution	3.0000787	Windsor Street Exchange Redevelopment - Water Infrastructure - Construction	1,000
Water - Distribution	3.0000704	Windsor Street Exchange Redevelopment - Water Infrastructure - Design	926
Water - Distribution	3.0000746	Young Avenue CN Bridge - Watermain Replacement	50
Water - Distribution	**Total**		**14,749**
Water - Equipment			
Water - Equipment	3.0000785	Central Valve Maintenance Trailer	85
Water - Equipment	3.0000101	Miscellaneous Equipment Replacement (Water)	60
Water - Equipment	3.0000738	Water Quality Lab Infrastructure	20
Water - Equipment	**Total**		**165**
Water - Land			
Water - Land	3.0000033	Watershed Land Acquisition	125
Water - Land	**Total**		**125**
Water - Security			
Water - Security	3.0000791	Middle Musquodoboit Reservoir Fence	25
Water - Security	**Total**		**25**
Water - Structures			
Water - Structures	3.0000589	Aerotech Booster Station Replacement	183
Water - Structures	3.0000623	Booster Station - Building Envelope - Capital Upgrade Program	30
Water - Structures	3.0000784	Bulk Fill Station Driveway Paving	25
Water - Structures	3.0000601	Control Chamber Valve Replacement Program	125
Water - Structures	3.0000774	Cowie Hill Booster Station - Pump replacement and upgrades	250
Water - Structures	3.0000263	District Metered Areas (DMA) Program	100
Water - Structures	3.0000705	Esson Road PRV Replacement	285
Water - Structures	3.0000789	Fall River Rechlorination Station	50
Water - Structures	3.0000779	Geizer 123 Dump Valve Chamber CSE Retrofit	280

Water - Structures	3.0000453	Geizer 123 Reservoir Rehabilitation	300
Water - Structures	3.0000606	Highway #7 Booster Station - Fire Pump Replacement	452
Water - Structures	3.0000762	Lake Major Dam - DFO Offsetting - Follow-Up Monitoring (2025)	30
Water - Structures	3.0000710	Lennox Drive PRV Chamber - CSE Retrofit and Upgrade	280
Water - Structures	3.0000580	Lyle Emergency Booster Station Upgrades	150
Water - Structures	3.0000379	New Aerotech Reservoir	200
Water - Structures	3.0000776	North Preston Booster Station Roof Replacement	40
Water - Structures	3.0000792	Park Avenue Depot - HVAC Upgrades	25
Water - Structures	3.0000651	Riverside Drive PRV Chamber Replacement	50
Water - Structures	3.0000698	Robie Control Chamber Upgrades	1,300
Water - Structures	3.0000454	Robie Street Reservoir Rehabilitation	300
Water - Structures	3.0000788	Rockmanor Booster Station Pump Replacement	150
Water - Structures	3.0000771	Water Chamber Laser Scanning	25
Water - Structures	**Total**		**4,630**
Water - Transmission			
Water - Transmission	3.0000703	Bedford Connector Realignment - Sandy Lake	150
Water - Transmission	3.0000042	Critical Valve Replacement Program	50
Water - Transmission	3.0000554	North End Feeder Replacement	2,000
Water - Transmission	3.0000553	Peninsula Intermediate Looping - Quinpool Road to Young St (Connaught-Chebucto 2025)	2,900
Water - Transmission	3.0000660	Peninsula Low North Transmission Main Replacement - Maritime Life and CN Crossing	150
Water - Transmission	3.0000775	Peninsula Low Transmission Main Replacement near Windsor & Young	100
Water - Transmission	3.0000436	Pockwock Transmission Main Twinning - WSP to Hammonds Plain Road	200
Water - Transmission	3.0000761	Port Wallace CCC Water Main Oversizing - Benefit to Existing	65
Water - Transmission	3.0000587	Prince Albert Road Transmission Main / PRV Replacement	752
Water - Transmission	3.0000752	Quinpool Road Transmission Main Upgrades - Quinn St to Beech Street (W6.1 and 6.2)	200
Water - Transmission	3.0000743	Spruce Hill Transmission Main Replacement	210
Water - Transmission	3.0000773	Windmill Road Transmission Main Upgrades	200
Water - Transmission	**Total**		**6,977**

Program Sub Category	Project Code	Project Name	All $ in 000s Y1 2025/26
Water - Treatment Facilities			
Water - Treatment Facilities	3.0000489	Bennery Lake WSP - Manganese Removal Strategy	400
Water - Treatment Facilities	3.0000757	Bennery Lake WSP - Replace Process Residual Sludge Pumps	30
Water - Treatment Facilities	3.0000799	Collins Park Signs	60
Water - Treatment Facilities	3.0000680	JD Kline WSP - Lime System Renewal	260
Water - Treatment Facilities	3.0000610	JD Kline WSP - Low lift pump station - WSEP JDK-800.35	655
Water - Treatment Facilities	3.0000795	JD Kline WSP - New Dry Polymer System	200
Water - Treatment Facilities	3.0000796	JD Kline WSP - New Low Lift Generator	200
Water - Treatment Facilities	3.0000797	JD Kline WSP - New Plant Generator Installation	1,400
Water - Treatment Facilities	3.0000768	JD Kline WSP - Pumping Station - Raw Water Valve Actuators Replacement Phase 2 - Pipe 5 & 4	720
Water - Treatment Facilities	3.0000798	JD Kline WSP - Third Backwash Pump	1,200
Water - Treatment Facilities	3.0000621	Lake Major WSP - Filter upgrades - WSEP MAJ-800.45	734
Water - Treatment Facilities	3.0000781	Lemont Lake Dam Stabilization	100
Water - Treatment Facilities	3.0000764	Pilot Plant - Lake Major Water Supply Plant	950
Water - Treatment Facilities	4.0000366	Pilot Project for Ecological Maintenance Flow Determination	100
Water - Treatment Facilities	3.0000758	Pockwock Dam Replacement	500
Water - Treatment Facilities	3.0000691	Pump and Equipment Overhauls Program for WSPs	350
Water - Treatment Facilities	3.0000740	Receiving Environment Assessment - Bomont	25
Water - Treatment Facilities	3.0000731	Small Systems - Filter Column Replacement Program	20
Water - Treatment Facilities	3.0000754	Water Supply Plants Asset Renewal and Emergency Repairs	350
Water - Treatment Facilities	3.0000690	WSP Plants - Instrumentation and Controls Equipment Program	130
Water - Treatment Facilities	**Total**		**8,384**
TOTAL			**35,055**
	GRAND TOTAL		**132,996**

Appendix B: 2025/26 Operating Budget

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - ALL SERVICES - NSUARB

	APR 1/24 MAR 31/25 BUDGET '000	APR 1/25 MAR 31/26 BUDGET '000
Operating revenues		
Water	$ 54,832	$ 56,210
Wastewater	89,330	90,770
Stormwater site generated service	8,864	8,865
Stormwater right of way service	6,515	6,515
Fire protection (public and private)	9,804	9,794
Other services and fees	1,551	1,340
Late payment and other connection fees	640	589
Miscellaneous	524	534
	172,059	**174,618**
Operating expenditures		
Water supply and treatment	13,662	16,146
Water transmission and distribution	14,066	16,910
Wastewater collection	14,344	15,530
Stormwater collection	5,819	6,969
Wastewater treatment	26,368	28,640
Engineering and technology services	17,757	5,813
Regulatory compliance services	5,922	5,360
Customer services	4,507	5,186
Corporate services	3,743	20,880
Administration services	10,240	7,647
Depreciation and amortization	34,406	39,924
	150,835	**169,005**
Earnings from operations before financial and other revenues and expenditures	**21,224**	**5,613**
Financial and other revenues		
Interest	511	468
Other	615	617
	1,126	**1,085**
Financial and other expenditures		
Interest	128	323
Interest on long term debt	9,375	12,291
Repayment on long term debt	24,078	20,514
Amortization of debt discount	245	279
Dividend/grant in lieu of taxes	7,031	7,236
Other	175	130
	41,033	**40,773**
Earnings (loss) for the year	**$ (18,683)**	**$ (34,075)**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - WATER - NSUARB

	APR 1/24 MAR 31/25 BUDGET '000	APR 1/25 MAR 31/26 BUDGET '000
Operating revenues - Water		
Water	$ 54,832	$ 56,210
Public fire protection	8,083	8,083
Private fire protection	1,721	1,711
Bulk water stations	369	340
Late payment and other connection fees	205	202
Miscellaneous	269	234
	65,480	**66,781**
Operating expenditures - Water		
Water supply and treatment	13,662	16,146
Water transmission and distribution	14,066	16,910
Engineering and capital infrastructure services	6,410	2,017
Health, safety and Environment	1,647	1,576
Customer services	2,299	2,645
Corporate and technology services	1,909	10,236
Administration services	5,223	3,900
Depreciation and amortization	12,959	15,127
	58,176	**68,557**
Earnings from operations before financial and other revenues and expenditures	**7,304**	**(1,776)**
Financial and other revenues		
Interest	372	295
Other	458	477
	830	**772**
Financial and other expenditures		
Interest on long term debt	4,109	5,484
Repayment on long term debt	6,997	8,303
Amortization of debt discount	112	119
Dividend/grant in lieu of taxes	6,005	6,158
Other	130	115
	17,353	**20,179**
Loss for the year	**$ (9,219)**	**$ (21,183)**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - WASTEWATER - NSUARB

		APR 1/24 MAR 31/25 BUDGET '000	APR 1/25 MAR 31/26 BUDGET '000
Operating revenues - Wastewater			
Wastewater	$	89,330	90,770
Leachate and other contract revenue		507	323
Septage tipping fees		570	572
Overstrength surcharge		0	0
Airplane effluent		105	105
Late payment and other connection fees		253	207
Miscellaneous		187	232
		90,952	**92,210**
Operating expenditures - Wastewater			
Wastewater collection		14,344	15,530
Wastewater treatment		26,368	28,640
Engineering and technology services		9,337	2,823
Regulatory compliance services		1,889	1,763
Customer services		2,030	2,338
Corporate services		1,651	9,793
Administration services		4,516	3,372
Depreciation and amortization		18,396	20,850
		78,530	**85,110**
Earnings from operations before financial and other revenues and expenditures		**12,422**	**7,099**
Financial and other revenues			
Interest		139	172
Other		157	140
		296	**313**
Financial and other expenditures			
Interest on long term debt		4,122	5,287
Repayment on long term debt		14,587	9,942
Amortization of debt discount		104	126
Dividend/grant in lieu of taxes		844	898
Other		45	15
		19,703	**16,267**
Earnings (loss) for the year	**$**	**(6,986)**	**$ (8,855)**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - STORMWATER - NSUARB

		APR 1/24 MAR 31/25 BUDGET '000		APR 1/25 MAR 31/26 BUDGET '000
Operating revenues - Stormwater				
Stormwater site generated service	$	8,864	$	8,865
Stormwater right of way service		6,515		6,515
Late payment and other connection fees		181		180
Miscellaneous		67		67
		15,627		**15,627**
Operating expenditures - Stormwater				
Stormwater collection		5,819		6,969
Engineering and technology services		2,010		973
Regulatory compliance services		2,386		2,020
Customer services		179		203
Corporate services		183		851
Administration services		502		375
Depreciation and amortization		3,050		3,948
		14,129		**15,339**
Earnings from operations before financial and other revenues and expenditures		**1,499**		**289**
Financial and other expenditures				
Interest		128		323
Interest on long term debt		1,144		1,520
Repayment on long term debt		2,493		2,269
Amortization of debt discount		28		34
Dividend/grant in lieu of taxes		182		180
		3,976		**4,327**
Earnings (loss) for the year	**$**	**(2,478)**	**$**	**(4,038)**

HALIFAX WATER

UNAUDITED STATEMENT OF EARNINGS - REGULATED AND UNREGULATED ACTIVITIES - NSUARB

	APR 1/24 MAR 31/25 BUDGET '000	APR 1/25 MAR 31/26 BUDGET '000
REGULATED ACTIVITIES		
Operating revenues		
Water	$ 54,832	$ 56,210
Wastewater	89,330	90,770
Stormwater	15,379	15,381
Public fire protection	8,083	8,083
Private fire protection	1,721	1,711
Miscellaneous	1,532	1,463
	170,878	**173,618**
Operating expenditures		
Water supply and treatment	13,662	16,146
Water transmission and distribution	14,066	16,910
Wastewater collection	14,283	15,468
Stormwater collection	5,819	6,969
Wastewater treatment	25,571	27,725
Engineering and technology services	17,757	5,813
Regulatory compliance services	5,922	5,360
Customer services	4,467	5,146
Corporate services	3,730	20,867
Administration services	10,103	7,510
Depreciation and amortization	34,371	39,887
	149,753	**167,801**
Earnings from operations before financial and other revenues and expenditures	**21,125**	**5,816**
Financial and other revenues		
Interest	511	468
Other	28	17
	539	**485**
Financial and other expenditures		
Interest	128	323
Interest on long term debt	9,375	12,291
Repayment on long term debt	24,078	20,514
Amortization of debt discount	245	279
Dividend/grant in lieu of taxes	7,031	7,236
	40,858	**40,643**
Earnings (loss) for the year - Regulated	**$ (19,193)**	**$ (34,341)**

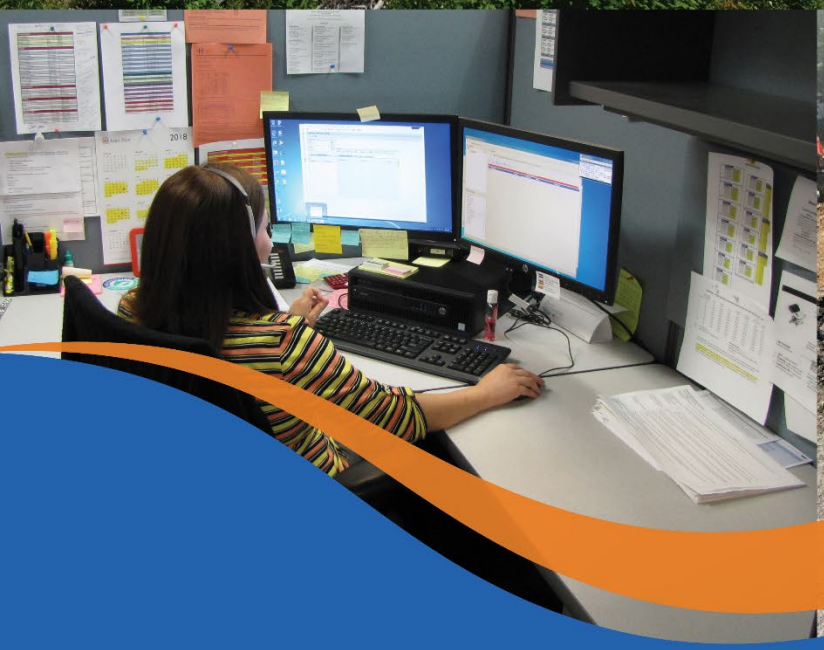
HALIFAX WATER

UNAUDITED STATEMENT OF EARNINGS - REGULATED AND UNREGULATED ACTIVITIES - NSUARB

	APR 1/24 MAR 31/25 BUDGET '000	APR 1/25 MAR 31/26 BUDGET '000
UNREGULATED ACTIVITIES		
Operating revenues		
Septage tipping fees	$ 570	$ 572
Leachate and other contract revenue	507	323
Airplane effluent	105	105
	1,182	**1,000**
Operating expenditures		
Water supply and treatment	0	0
Wastewater treatment	797	915
Wastewater collection	61	62
Sponsorships and donations	80	80
Corporate services	13	13
Administration services	97	97
Depreciation and amortization	34	37
	1,083	**1,204**
Earnings from operations before financial and other revenues and expenditures	**99**	**(204)**
Financial and other revenues		
Other - leases and rentals	368	365
Other - energy projects	219	235
	587	**600**
Financial and other expenditures		
Other	175	130
	175	**130**
Earnings for the year - Unregulated	**$ 511**	**$ 266**
Total earnings (loss) for the year (Regulated and Unregulated)	**$ (18,683)**	**$ (34,075)**

Appendix C: 2025/26 Business Plan on a Page

Note: This will be developed when after this plan is approved as finalized by the Halifax Water Board of Commissioners



Halifax Water 2030
Empowering People, Transforming Service

Five Year Business Plan 2025/26 - 2029/30

Approved by the Halifax Water Board on February 27, 2025.
Endorsed by HRM Council on March 18, 2025.

Halifax Water

Introduction

Halifax Water's 5-Year Strategic Plan, spanning 2025 to 2030, signifies a vital step in our commitment to providing sustainable, high-quality water, wastewater, and stormwater services to the Halifax Regional Municipality.

At Halifax Water, we take immense pride in our essential role in safeguarding public health and safety, supporting economic growth, and enhancing the overall quality of life in our community. Our dedicated employees are the heart of our organization, and their commitment to excellence enables us to deliver reliable services to our customers.

Reflecting on our 80-year history, we recognize that change is constant in our industry. We are committed to evolving and innovating to meet our customers' needs and regulatory requirements.

Our five-year strategic plan has been shaped by a thorough re-examination of leadership, accountability, and operational resiliency. Empowering our employees and fostering their development as future leaders can reinforce our service delivery and enhance our organization's overall performance.

Halifax Water's purpose of supplying and safeguarding sustainable, high-quality water services highlights our integral role in nurturing a vibrant, healthy community. This commitment guides our next Integrated Resource Plan (IRP), which is instrumental in our long-term business planning process. By incorporating comprehensive planning data and metrics, the IRP will help us track key performance measures, ensuring we meet our goals effectively and transparently.

With the completion of the next IRP scheduled for fiscal 2027/28, this Strategic Plan will lay the groundwork for a transformative approach known as Halifax Water 2030. We believe this interconnected planning process will strengthen our business areas and enhance our ability to respond to future challenges.

We are committed to maintaining your trust and delivering the highest level of service to our community.

Kenda MacKenzie, P. Eng
General Manager and CEO
Halifax Water

About Halifax Water

Halifax Water is an integrated water, wastewater, and stormwater utility serving more than 111,000 customers on a cost-of-service basis across Halifax, Nova Scotia. Owned by the Halifax Regional Municipality, Halifax Water is regulated by the Nova Scotia Utility and Review Board (NSUARB). Halifax Water employs approximately 600 dedicated people. The organization owns and manages more than $1.4 billion in assets with a five-year average annual capital budget of $133 million. In May 2020, it received approval from the NSUARB to own and operate a District Energy System in the Cogswell redevelopment area of downtown Halifax.

Purpose

Our purpose is to supply and safeguard sustainable, high-quality water services.

Vision

We will provide our customers with high-quality water, wastewater, and stormwater services. Through the 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 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.

Strategic Pillars

People

- Our employees are vital to our success. We are committed to being an employer of choice, attracting and retaining high-quality team members in an inclusive and respectful work environment.

Environment, Health, Safety and Social Responsibility

- Our safety-first work culture and respect for the environment enable us to provide our customers with safe, reliable, and sustainable services.

Financial and Regulatory Accountability

- It is fundamental to ensure that Halifax Water can fund existing and future infrastructure. We prudently manage assets and operate our business by balancing costs and the needs of the customers today and long into the future.

Operational Effectiveness

- We are focused on safety and resiliency. We efficiently build, operate, and maintain our critical infrastructure to support a more sustainable and prosperous community.

SWOT ANALYSIS

Strengths

- Committed employees
- Engaged board members and owner
- Focused on cost of service and not by profit
- New leadership team members with a fresh perspective
- Provides an essential service

Weaknesses

- Capacity to keep up with growth
- Change/adaptation
- Community presence is transactional
- Competitive/tight labour market
- Recent service disruptions have impacted on customer trust
- Employee engagement
- Impact of increasing operational costs on rates and charges
- Lengthy process for capital approvals
- Old and aging infrastructure
- Perception of stormwater service value

Opportunities

- Create a more engaged and resilient workforce
- Financial planning decisions that allow for better rate predictability
- Prepare the future leaders of Halifax Water
- Proactively engage and show the value of our services to customers
- Redefine leadership and accountability at Halifax Water
- To create more alignment between the various plans and long-term strategy
- Enhance capital approval and delivery

Threats

- Affordability for customers
- Aging infrastructure and the need for significant investment
- Aging workforce
- Economy and Canadian dollar's purchasing power
- Federal and Provincial Regulatory Changes
- Availability of funding support beyond rates
- Growth Projections and impact on existing infrastructure

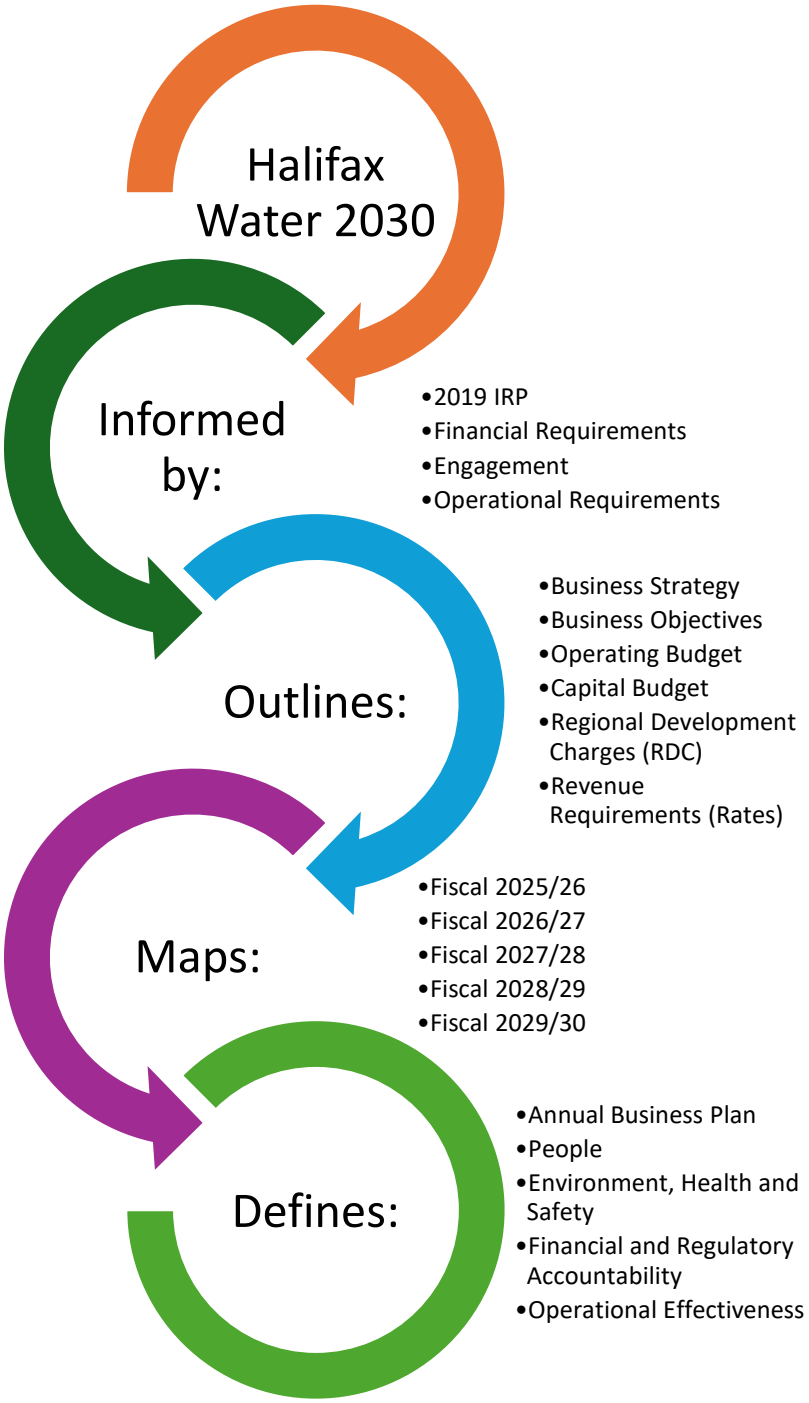
Interconnected Planning Process

This five-year strategic plan, Halifax Water 2030, defines Halifax Water's objectives and strategic initiatives to achieve them. It has been informed by our existing Integrated Resource Plan (IRP), a long-term plan that identifies the resources and programs needed to provide water and wastewater services to the Halifax Regional Municipality (HRM), customer and stakeholder engagement, and a review of our financial and operational requirements.

Halifax Water 2030 will guide our annual planning and activities for the next five years. Our annual plans will include the organization's strategic initiatives and operational tactics, as well as establishing metrics to help empower and engage our employees, demonstrate customer value, build stronger relationships with those who depend on our services, and hold the organization accountable.

It will also help inform the development of our next IRP, which will be completed in 2027/28. This IRP will integrate its long-term planning processes to address structural, process, and resource gaps more efficiently and effectively.

Halifax Water 2030 is our roadmap to supplying and safeguarding sustainable, high-quality water services and will guide overall decision-making.



The 5-year Journey

5-year Strategic Objectives

Halifax Water has established five-year objectives under the four strategic pillars that will support the Business Strategy from 2025 to 2030. These objectives will be the basis for annual business plans and help define and measure success for the next five years.

People

Objective

To create a thriving and inclusive workplace culture by fostering strong leadership and collaborative talent management and enhancing every step of our employees' career journey together over the next five years.

Strategic Initiatives

- Build a psychologically safe and engaged workplace culture that attracts, develops, and retains talent.
- Implement an effective leadership framework that defines and guides all employees at Halifax Water.
- Execute the talent management strategy through collaborative partnerships with organizational leaders.
- Enhance the employee experience by improving engagement throughout an employee's career.

Environment, Health, Safety, and Social Responsibility

Objective

To establish disciplined processes and effectively manage risks to create a safer, more resilient future for our water resources and communities.

Strategic Initiatives

- Strengthen our safety policies and procedures to ensure a safe working environment for all employees.
- Implement an emergency management program that ensures business continuity to safeguard water supply, public health and the environment.
- Launch sustainability programs that recognize climate impacts and address the long-term viability of water resources, infrastructure, and environmental impacts.
- Increase customer compliance through education and enforcement of the appropriate use of water, wastewater and stormwater systems.

Financial and Regulatory Accountability

Objective

To enhance our internal processes for regulatory oversight, financial management and corporate governance.

Strategic Initiatives

- Deliver the next Integrated Resource Plan (IRP) that will inform the organization's next five-year strategy, future annual plans, and the long-term financial framework for operating and capital requirements.
- Implement an enhanced project management framework to effectively plan and deliver projects.
- Adopt more effective internal processes and tools to support regulatory oversight.
- Adapt organizational processes to enhance financial management, accountability and corporate governance.

Operational Effectiveness

Objective

Improve customer experience and build trust and confidence by focusing on service reliability.

Strategic Initiatives

- Make prudent investments to improve system resiliency and reliability.
- Create a disciplined culture of accountability, continuous improvement, and risk mitigation.
- Improve and support our relationships with customers.
- Enhance our organizational decision-making processes to deliver more financially prudent and effective services.

Financial Statements

Halifax Regional Water Commission

March 31, 2024

Contents

	Page
Independent auditor's report	1-2
Statement of financial position	3
Statement of earnings and comprehensive earnings	4
Statement of changes in equity	5
Statement of cash flows	6
Notes to the financial statements	7-20
Schedules	
A Schedule of utility plant in service	
Water	21
Wastewater	22
Stormwater	23
B Schedule of long term debt	24
C Schedule of earnings	
Water	25
Wastewater	26
Stormwater	27
D Schedule of earnings	
Regulated activities	28
Unregulated activities	29
E Nova Scotia Utility and Review Board information	30

Grant Thornton

Grant Thornton LLP
Nova Centre, North Tower
Suite 1000, 1675 Grafton Street
Halifax, NS
B3J 0E9

T +1 902 421 1734
F +1 902 420 1068

Independent auditor's report

To the Members of the Board of the
Halifax Regional Water Commission

Opinion

We have audited the financial statements of the Halifax Regional Water Commission ("Halifax Water"), which comprise the statement of financial position as at March 31, 2024, and the statements of earnings and comprehensive earnings, changes in equity and cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly in all material respects, the financial position of Halifax Water as at March 31, 2024, and its financial performance and its cash flows for the year then ended in accordance with IFRS Accounting Standards as issued by the International Accounting Standards Board (IFRS Accounting Standards).

Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of Halifax Water in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other matter – supplemental schedules

Our audit was conducted for the purposes of forming an opinion on the financial statements taken as a whole as prepared in accordance with IFRS Accounting Standards. Schedules A through E are presented in accordance with the Nova Scotia Utility and Review Board Water Utility Accounting and Reporting Handbook. Such information has been subjected to the auditing procedures applied for the purpose of the audit of the financial statements as a whole as at and for the period ended March 31, 2024.

Responsibilities of management and those charged with governance for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRS Accounting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing Halifax Water's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate Halifax Water or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing Halifax Water's financial reporting process.

Audit | Tax | Advisory
© Grant Thornton LLP. A Canadian Member of Grant Thornton International Ltd.

Grant Thornton

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Halifax Water's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on Halifax Water's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause Halifax Water to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Grant Thornton LLP

Halifax, Canada
June 20, 2024

Chartered Professional Accountants

Audit | Tax | Advisory
© Grant Thornton LLP. A Canadian Member of Grant Thornton International Ltd.

Halifax Regional Water Commission
Statement of financial position

March 31 (in thousands)	2024	2023
Assets		
Current		
Cash and cash equivalents	$ 44,021	$ 44,596
Receivables		
Customer charges and contractual (Note 8)	21,546	17,824
Unbilled service revenues (Note 8)	20,959	19,265
Halifax Regional Municipality	-	1,953
Inventory	2,364	3,517
Prepaids	1,735	1,282
	90,625	88,437
Intangible assets (Note 10)	35,989	22,807
Capital work in progress	114,374	79,447
Utility plant in service (Note 11)	1,297,942	1,302,514
Total assets	1,538,930	1,493,205
Regulatory deferral account (Note 5)	2,044	2,236
Total assets and regulatory deferral account	$ 1,540,974	$ 1,495,441
Liabilities		
Current		
Payables and accruals		
Trade	$ 23,393	$ 24,492
Non-trade	5,579	4,717
Interest on long term debt	3,062	2,205
Halifax Regional Municipality	5,047	-
Contractor and customer deposits	1,095	2,841
Current portion of deferred contributed capital (Note 12)	19,260	18,836
Current portion of long term debt (Note 13)	39,832	45,962
Unearned revenue	157	76
	97,425	99,129
Deferred contributed capital (Note 12)	928,048	919,422
Long term debt (Note 13)	196,622	172,489
Employee benefit obligations (Note 4)	2,353	8,078
Total liabilities	1,224,448	1,199,118
Equity		
Accumulated other comprehensive income	60,396	51,651
Accumulated surplus	256,130	244,672
Total equity	316,526	296,323
Total liabilities and equity	$ 1,540,974	$ 1,495,441

Contingent liabilities (Note 3)
Commitments (Note 6)

Approved by the Halifax Regional Water Commission Board

Chair

Cathy Deagle Gammon Vice Chair

See accompanying notes to the financial statements.

Halifax Regional Water Commission
Statement of earnings and comprehensive earnings

Year ended March 31 (in thousands)	2024	2023
Operating revenues		
Water	$ 54,938	$ 49,134
Wastewater	89,512	82,592
Stormwater	15,196	11,402
Public fire protection	8,083	7,744
Private fire protection	1,698	1,398
Other operating revenue	2,552	2,819
	171,979	155,089
Operating expenditures (Note 14)		
Water supply and treatment	14,786	11,646
Water transmission and distribution	13,768	11,757
Wastewater collection	14,554	13,691
Stormwater collection	5,755	4,719
Wastewater treatment	24,782	23,420
Engineering and technology services	16,053	13,677
Regulatory services	5,532	4,434
Customer services	4,631	4,447
Corporate services	3,114	3,075
Administration services	6,263	5,578
Pension services	3,012	6,851
Depreciation and amortization	53,654	51,438
	165,904	154,733
Income from operations before financial and other revenues and expenditures	6,075	356
Financial and other revenues		
Interest	412	482
Amortization of deferred contributed capital	18,997	18,793
Other	488	870
	19,897	20,145
Financial and other expenditures		
Interest	103	53
Interest on long term debt	7,276	6,851
Amortization of debt issue costs	222	227
Dividend/grant in lieu of taxes (Note 6)	6,589	6,524
Other	132	129
	14,322	13,784
Earnings for the year before regulatory deferral account depreciation	11,650	6,717
Regulatory deferral account depreciation	192	192
Earnings for the year	11,458	6,525
Other comprehensive earnings		
Items that will not be reclassified subsequently to earnings:		
Re-measurement on defined benefit plans	8,745	40,426
Total comprehensive earnings for the year	$ 20,203	$ 46,951

See accompanying notes to the financial statements.

Halifax Regional Water Commission
Statement of changes in equity
Year ended March 31 (in thousands)

	Accumulated other comprehensive income	Accumulated surplus	Total
Balance, April 1, 2022	$ 11,225	$ 238,147	$ 249,372
Earnings for the year	-	6,525	6,525
Other comprehensive earnings	40,426	-	40,426
Comprehensive earnings for the year	40,426	6,525	46,951
Balance, March 31, 2023	$ 51,651	$ 244,672	$ 296,323
Earnings for the year	**-**	**11,458**	**11,458**
Other comprehensive earnings	**8,745**	**-**	**8,745**
Comprehensive earnings for the year	**8,745**	**11,458**	**20,203**
Balance, March 31, 2024	**$ 60,396**	**$ 256,130**	**$ 316,526**

See accompanying notes to the financial statements.

Halifax Regional Water Commission
Statement of cash flows

Year ended March 31 (in thousands)	2024	2023
Increase (decrease) in cash and cash equivalents		
Operating		
Comprehensive earnings for the year	**$ 20,203**	$ 46,951
Depreciation and amortization	**36,395**	33,836
Employee benefit obligation	**5,725**	(33,872)
Gain on disposal of utility plant in service	**8**	-
	62,331	46,915
Change in non-cash operating working capital items		
Receivables, customer charges and contractual	**(3,722)**	(1,924)
Receivables, unbilled service revenues	**(1,694)**	(427)
Receivable from Halifax Regional Municipality	**-**	(1,102)
Inventory	**1,153**	(1,475)
Prepaids	**(453)**	1,126
Payables and accruals, trade	**(1,099)**	1,204
Payables and accruals, non-trade	**862**	(343)
Payables and accruals, accrued interest on long term debt	**857**	167
Payable to Halifax Regional Municipality	**7,000**	-
Contractor and customer deposits	**(1,746)**	136
Unearned revenue	**81**	(4)
	1,239	(2,642)
	63,570	44,273
Financing		
Proceeds from issuance of long term debt	**39,988**	15,749
Contributed capital and interest	**3,512**	29,962
Debt issue costs	**(251)**	(71)
Principal repayment on Halifax Regional Municipality long term debt	**(6,500)**	(6,500)
Principal repayments on long term debt	**(15,234)**	(14,909)
	21,515	24,231
Investing		
Proceeds from sale of utility plant in service	**75**	-
Purchase of capital work in progress, utility plant in service and intangible assets	**(85,735)**	(89,494)
	(85,660)	(89,494)
Net decrease in cash and cash equivalents	**(575)**	(20,990)
Cash and cash equivalents, beginning of year	**44,596**	65,586
Cash and cash equivalents, end of year	**$ 44,021**	$ 44,596

See accompanying notes to the financial statements.

1. Nature of operations

The Halifax Regional Water Commission (Halifax Water) is a public utility owned and controlled by the Halifax Regional Municipality (HRM). Halifax Water is responsible for the supply of municipal Water, Wastewater and Stormwater Services to the residents of HRM. Halifax Water's principal place of business is 450 Cowie Hill Road, Halifax, Nova Scotia. Halifax Water is exempt from income tax.

2. Summary of material accounting policies

(a) Statement of compliance

The financial statements have been prepared in accordance with International Financial Reporting Standards Accounting Standards (IFRS Accounting Standards) issued by the International Accounting Standards Board (IASB). The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all years presented, unless otherwise stated.

The financial statements were authorized for issue by the Board of Commissioners on June 20, 2024.

(b) Basis of measurement

Halifax Water's financial statements are prepared on the historical cost basis, except for certain financial instruments measured at fair value. The financial statements are presented in Canadian dollars and all values are rounded to the nearest thousand. The financial statements are presented in accordance with International Accounting Standards (IAS) 1: Presentation of Financial Statements.

(c) Regulation

In matters of administrative policy relating to customers, rates and other charges, capital expenditures, depreciation rates and accounting matters, Halifax Water is subject to the jurisdiction of the Nova Scotia Utility and Review Board (NSUARB). Rates and other charges charged to and collected from customers are designed to recover the cost of providing the regulated services. Halifax Water is required to prepare submissions in accordance with the Water Utility Accounting and Reporting Handbook (the NSUARB Handbook) issued by the NSUARB. There are differences in the accounting treatment of certain transactions from IFRS Accounting Standards including the accounting of principal debt payments, employee future benefits, depreciation and amortization, gains and losses on the disposal of utility plant in service, and accumulated surplus.

Regulatory assets represent costs incurred that have been deferred as approved by the NSUARB and will be recovered through future rates collected from customers. These assets are described as the "regulatory deferral account" and are disclosed in Note 5.

(d) Utility plant in service

Utility plant in service (Note 11) is recorded at cost, being the purchase price and directly attributable cost of acquisition or construction. Losses or gains related to assets retired, demolished or sold are charged or credited to the statement of earnings.

(e) Leased assets

Halifax Water makes use of lease arrangements for office space and equipment, and assesses whether a contract is, or contains a lease at the inception of the contract. A lease conveys the right to direct the use and obtain substantially all of the economic benefits of an identified asset for a period of time in exchange for consideration.

At lease commencement date, Halifax Water assess whether the recognition of a right-of-use asset and lease liability would have a material impact on the financial statements.

2. Summary of significant accounting policies (continued)

(e) Leased assets (continued)

A right-of-use asset is initially measured at cost, which is comprised of the initial measurement of the lease liability, any initial direct costs incurred, an estimate of any costs to dismantle and remove the asset at the end of the lease, and any lease payments made in advance of the lease commencement date (net of any incentives received). A right-of-use asset is subsequently measured at cost less any accumulated depreciation or impairment losses and adjusted for certain re-measurements of the lease liability. A lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, Halifax Water's incremental borrowing rate.

Halifax Water has elected to apply the practical expedients available under IFRS 16 for short-term leases and leases for which the underlying asset is of low value. Short-term leases and low value leases are expensed in the period incurred.

Halifax Water maintains very few lease arrangements and management will assess future leases as they arise to determine whether the impact of the recognition of a right-of-use asset and lease liability on the statements of financial position, where Halifax Water is acting as a lessee, is material to the financial statements. All existing leases have been assessed and recognition in the financial statements has been deemed immaterial.

(f) Deferred contributed capital

Contributions towards capital projects are treated as deferred contributed capital on the statement of financial position and amortized over the estimated useful lives of the assets (Note 12). Deferred contributed capital is initially measured at cost, being the value of contributions received by Halifax Water for the acquisition of utility plant in service. Contributions for capital expenditures are amortized over the estimated useful lives of the assets and show as a reduction in the amortization of utility plant in service.

(g) Cash and cash equivalents

Cash and cash equivalents consist of cash on hand and cash balances managed by HRM that are held within financial institutions.

(h) Depreciation of utility plant in service

Depreciation is calculated using the straight-line method over the estimated useful lives of the assets.

The estimated useful lives for the major classifications of utility plant in service are as follows:

Office equipment and furniture and transportation equipment	3 to 10 years
Supervisory control and data acquisition (SCADA) equipment	5 to 25 years
Meters	20 to 25 years
Pumping equipment	5 to 30 years
Tools and work equipment	5 to 30 years
Culverts	25 to 50 years
Purification and treatment equipment	20 to 50 years
Services and laterals	50 to 60 years
Hydrants	50 to 80 years
Structures and improvements	50 to 100 years
Water, Wastewater and Stormwater mains	50 to 100 years

2. Summary of significant accounting policies (continued)

(h) Depreciation of utility plant in service (continued)

Depreciation commences in the year an asset is placed into service and ready for its intended use. In the year of acquisition, depreciation is calculated at 50% of the above rates unless a project is significant, in which case depreciation is prorated for the number of months the asset was in use. Halifax Water does not maintain a depreciation fund per regulatory reporting requirements. Halifax Water has received NSUARB approval for exemption from establishing a depreciation fund as long as net depreciable additions to utility plant in service exceed the depreciation expense included within the rates.

(i) Inventory

Inventory is comprised of direct materials and supplies. Inventory is valued at the lower of cost and net realizable value with cost being determined on the weighted average cost method.

(j) Revenues and expenditures

Halifax Water recognizes revenue in a manner that depicts the transfer of goods or services to customers at an amount that reflects the consideration Halifax Water is entitled to in exchange for those goods or services rendered.

All revenues and expenditures are recorded on an accrual basis. Revenues relating to supplying Water, Wastewater and Stormwater Services are recorded based on cyclical billings and include an accrual for estimated amounts not yet billed. Fire protection revenue is recorded based on approved rates. Other revenues are recorded at the time services are performed, the amount can be measured reliably, and collection is reasonably assured.

(k) Long term debt

Debt issue costs are deferred and amortized over the term of the debt to which they relate.

(l) Use of estimates and critical accounting judgments

In preparing Halifax Water's financial statements, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenue and expenditures during the period. Significant estimates and assumptions include the following:

- At year end, unbilled service revenues from Water, Wastewater and Stormwater Services have been earned, but not yet billed due to the timing of the billing cycles. Management estimates the unbilled service revenues accrual based on historic billing trends.
- Management assumptions are used in the actuarial determination of employee benefit obligations, such as standard rates of inflation, mortality, discount rates, and anticipation of future salary increases.
- Useful lives of utility plant in service are reviewed based on expected patterns of usage and historical information.
- Recognition and measurement of provisions and contingencies.

Actual results could differ from these estimates.

(m) Financial instruments

Recognition and derecognition
Financial assets and financial liabilities are recognized when Halifax Water becomes a party to the contractual provisions of the financial instrument. Financial assets are derecognized when the contractual rights to the cash flows from the financial asset expire, or when the financial asset and substantially all the risks and rewards are transferred. A financial liability is derecognized when it is extinguished, discharged, cancelled or expired.

2. Summary of significant accounting policies (continued)

(m) Financial instruments (continued)

Classification and initial measurement of financial instruments
All financial instruments are initially measured at fair value and adjusted for transaction costs, where applicable. Financial instruments are classified as: those measured at amortized cost, fair value through other comprehensive income (assets only), or fair value through profit and loss (FVTPL).

Halifax Water has classified its financial instruments as follows:

Asset/Liability	Classification
Cash and cash equivalents	Amortized cost
Receivables	Amortized cost
Payables and accruals	Amortized cost
Long term debt	Amortized cost
Contractor and customer deposits	Amortized cost

The classification is determined by both the Halifax Water business model for managing the financial instrument and the contractual cash flow characteristics of the financial instrument.

Subsequent measurement of financial assets
Financial assets are measured subsequently at amortized cost if the assets meet the following conditions, and are not designated as FVTPL:

- they are held within a business model whose objective is to hold the financial assets and collect its contractual cash flows; and
- the contractual terms of the financial assets give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding.

After initial recognition, financial instruments are measured at amortized cost using the effective interest method. Discounting is omitted where the effect of discounting is immaterial.

Impairment of financial assets
Impairment requirements use more forward-looking information to recognize expected credit losses, the expected credit loss (ECL) model. Financial assets that are subject to the ECL model include cash and cash equivalents and receivables.

Subsequent measurement of financial liabilities
Financial liabilities are subsequently measured at amortized cost using the effective interest method. All interest charges are included in interest costs or revenues within the statement of earnings and comprehensive earnings.

(n) Provisions

A provision is recognized in the statement of financial position when Halifax Water has a legal or constructive obligation as a result of a past event, and it is probable that an outflow of economic benefits will be required to settle the obligation. If the effect is material, provisions are determined by discounting the expected future cash flows at a rate that reflects current market assessment of the time value of money and, where appropriate, the risks specific to the obligation.

(o) Impairments

At the end of each reporting period, Halifax Water reviews the carrying amounts of its tangible and intangible assets to determine whether there is an indication of an impairment loss. If any such indication exists, the recoverable amount of the assets is estimated in order to determine the extent of impairment loss, if any. The recoverable amount of any asset is the higher of its fair value less costs to sell and its value in use.

2. Summary of significant accounting policies (continued)

(o) Impairments (continued)

Where it is not possible to estimate the recoverable amount of an individual asset, the impairment test is carried out on the asset's cash-generating unit (CGU), which is the lowest group of assets to which the asset belongs for which there are separately identifiable cash inflows that are largely independent of the cash inflows from other assets. Halifax Water has three CGU's (Water, Wastewater and Stormwater) for which impairment testing is performed.

If the recoverable amount of the asset is estimated to be less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. An impairment loss is recognized immediately in earnings. When an impairment loss is subsequently reversed, the carrying amount of the assets is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset in prior years.

(p) Intangible assets

Intangible assets include land rights, water removal rights, studies, and capital master plans. These are recorded at cost less accumulated amortization. Land rights include payment for easements and right of use over land and have an indefinite useful life. Intangibles with finite useful lives are amortized annually over the estimated useful lives. The expected useful lives are as follows:

Intangible assets	10 to 30 years

(q) Employee benefit obligations

Halifax Water accrues annually, the estimated liabilities for pension and other employee benefits.

Pension benefits
Halifax Water provides employment, post-retirement and pre-retirement benefits through defined benefit plans and supplemental retirement plans.

The cost of pension benefits for the supplemental retirement plans are expensed at the time active employees are compensated.

The defined benefit plan sponsored by Halifax Water determines the amount of pension benefits employees will receive on retirement by reference to length of service and salary levels. Obligations associated with the defined benefit plan reside with Halifax Water, even if plan assets for funding the plan are set aside.

The liability recognized in the statement of financial position for the defined benefit plan sponsored by Halifax Water is the present value of the defined benefit obligation at the end of the reporting date less the fair value of plan assets.

Management estimates the defined benefit obligation annually with assistance from an independent actuary using the projected unit credit method. The defined benefit obligation uses estimates for inflation, medical cost trends, mortality, and anticipated salary levels. The discount factor used to present value estimated future cash flows is determined with reference to high quality corporate bonds that have terms to maturity approximating the terms of the related pension liability.

Gains and losses resulting from re-measurements of the net defined benefit liability are charged to other comprehensive income in the period in which they arise. Service costs are recognized immediately into earnings.

Net interest cost related to pension obligations and returns on plan assets are included in salary and benefits on the statement of earnings.

2. Summary of significant accounting policies (continued)

(q) Employee benefit obligations (continued)

Halifax Water is responsible for funding the employer share of contributions to the HRM pension plan for certain employees that transferred from HRM as of August 1, 2007. HRM administers this defined benefit pension plan and Halifax Water reimburses HRM for the pension costs related to Halifax Water's proportionate share of the employees covered under the plan. Due to the nature of the plan, Halifax Water does not have sufficient information to account for the plan as a defined benefit pension plan; therefore, the multi-employer defined benefit plan is accounted for in the same manner as the supplemental retirement plans. An expense is recorded in the period when Halifax Water is obligated to make contributions for services rendered by the employee.

Short-term employee benefits
Short-term employee benefit obligations that are due to be settled wholly within twelve months after the end of the annual reporting period in which the employees rendered the related service are measured on an undiscounted basis and are expensed as the related service is provided.

(r) Regulatory deferral account

The regulatory deferral account is recognized and measured at historical cost less depreciation. Management continually assesses the likelihood of recovery of regulatory assets. If recovery through future rates is no longer considered probable, the amounts would be charged to the results of operations in the period that the assessment is made.

3. Contingent liabilities

Halifax Water has reviewed environmental risk factors at properties owned to determine whether there is an obligation for reclamation. As of the date of issue of the financial statements the likelihood of any related liability is not determinable.

There are active claims against Halifax Water; however, the likelihood of actual liability is not determinable at this time. If Halifax Water's defence of active claims is unsuccessful, the potential exposure would be $1,000 - $2,000.

4. Employee benefit obligations

Retirement benefit plan – employees transferred from HRM
For employees that transferred from HRM, Halifax Water records an expense for the employer's share of the contributions to the Halifax Regional Municipality Pension Plan (HRM Pension Plan) in the period when Halifax Water is obligated to make contributions for services rendered by the employee. During 2024, Halifax Water funded $431 (2023 - $458) in contributions to the HRM Pension Plan. The number of employees included in this plan is 44 (2023 - 48) and this number is reducing over time. As former HRM employees retire, they are replaced with employees in the Halifax Regional Water Commission Employee Pension Plan (the Plan).

Supplemental retirement plans sponsored by Halifax Water
For employees who participate in the supplemental retirement plans, the cost of pension benefits are expensed at the time active employees are compensated. During 2024, Halifax Water funded $21 (2023 - $28) in contributions to these plans. The number of employees included in these plans is 5 (2023 - 6).

4. Employee benefit obligations (continued)

Defined benefit plan sponsored by Halifax Water and other long term employment benefits
For all other employees, Halifax Water maintains a defined benefit pension plan and offers post-retirement health and insurance benefits. The defined benefit pension plan provides pensions based upon length of service and best seven consecutive years' earnings. The defined benefit pension plan is funded by employer and employee contributions with employees contributing 9.60% (10.34% to December 31, 2021) of pensionable employee earnings and Halifax Water matching employee contributions. The defined benefit pension plan assets are managed by the HRM Pension Committee.

Employees, who retired prior to July 1, 1998, have extended health benefits coverage for life, and drug coverage until age 65. Employees, who retired after July 1, 1998 and before December 31, 2008, had coverage for extended health, drug, dental and life insurance until age 65 on a 50/50 cost shared basis. Employees who retired after December 31, 2008 have coverage for extended health, drug, dental and life insurance until age 65 on a 100% retiree paid basis. As of March 31, 2024, only pre-July 1998 participants remain, as such the actuarial assumptions for the post-retirement benefits reflect only the remaining health benefit trending percentage. Extended health coverage for retirees and their spouses after the age of 65 is available on an optional basis at 100% retiree cost and drug coverage is available through the provincially managed drug program.

Halifax Water has a non-funded pre-retirement benefit that is accrued annually, and is payable on retirement, termination or death of the employee. For individuals who elected to defer receipt of their benefit until the time which they leave employment, their individual benefit equates to approximately three days' pay for each year of completed service. Completed service for unionized employees was frozen as at June 7, 2019, and June 20, 2019 for non-union employees, for the purposes of determining their pre-retirement benefit. Pre-retirement benefits accrue to a maximum of six months' salary and can be taken as a lump sum payment at the time of retirement in lieu of pre-retirement leave.

Information about Halifax Water's plans, based on an actuarial extrapolation of the defined benefit pension plan, and an actuarial valuation of the pre-retirement benefits and the post-retirement benefits as at March 31, 2024, is as follows:

	Defined benefit pension plan		Post-retirement benefits		Pre-retirement benefits		Total	
	2024	2023	**2024**	2023	**2024**	2023	**2024**	2023
Change in accrued benefit obligation								
Balance, April 1	**$ 186,747**	$ 208,627	**$ 290**	$ 310	**$ 1,357**	$ 1,637	**$ 188,394**	$ 210,574
Current service cost	**10,710**	11,628	**-**	-	**71**	89	**10,781**	11,717
Interest cost	**9,245**	8,450	**12**	10	**68**	62	**9,325**	8,522
Benefit payments	**(6,877)**	(6,407)	**(39)**	(45)	**(76)**	(273)	**(6,992)**	(6,725)
Re-measurements – actuarial (gains)/ losses from changes in financial/experience assumptions	**-**	(35,551)	**(51)**	15	**21**	(158)	**(30)**	(35,694)
Balance, March 31	**199,825**	186,747	**212**	290	**1,441**	1,357	**201,478**	188,394
Change in fair value of plan assets								
Balance, April 1	**180,316**	168,624	**-**	-	**-**	-	**180,316**	168,624
Investment income	**8,865**	6,746	**-**	-	**-**	-	**8,865**	6,746
Administrative expenses	**(109)**	(149)	**-**	-	**-**	-	**(109)**	(149)
Actual return on plan assets	**8,743**	4,872	**-**	-	**-**	-	**8,743**	4,872
Benefit payments	**(6,877)**	(6,407)	**(39)**	(45)	**(76)**	(273)	**(6,992)**	(6,725)
Contributions: Employee	**4,505**	3,377	**-**	-	**-**	-	**4,505**	3,377
Employer	**3,682**	3,253	**39**	45	**76**	273	**3,797**	3,571
Balance, March 31	**199,125**	180,316	**-**	-	**-**	-	**199,125**	180,316
Accrued benefit liability, March 31	**$ 700**	$ 6,431	**$ 212**	$ 290	**$ 1,441**	$ 1,357	**$ 2,353**	$ 8,078

4. Employee benefit obligations (continued)

Included in the statement of earnings and comprehensive earnings is pension expense of $6,514 (2023 - $10,628).

The significant actuarial assumptions adopted in measuring Halifax Water's accrued benefit obligations are as follows:

	2024 Defined benefit pension plan	2023 Defined benefit Pension plan	**2024 Post-retirement benefits**	2023 Post-retirement benefits	**2024 Pre-retirement benefit**	2023 Pre-retirement benefit
Discount rate	4.90%	4.90%	4.75%	4.75%	4.90%	3.90%
Expected return on plan assets	4.90%	4.90%	N/A	N/A	N/A	N/A
Rate of compensation increase	3.75%	3.75%	N/A	N/A	3.75%	3.75%
Expenses for life benefits as a % of claims	N/A	N/A	0.00%	9.36%	N/A	N/A
Health benefit trending per year	N/A	N/A	6.30%	6.06%	N/A	N/A
Dental benefit trending per year	N/A	N/A	0.00%	4.00%	N/A	N/A

The measurement date used to determine the plan assets and the accrued benefit obligation was March 31, 2024. The most recent actuarial valuation for the defined benefit pension plan was January 1, 2023, with the next actuarial valuation scheduled for January 1, 2025. Going concern extrapolations of the defined benefit pension plan occur annually between the actuarial valuation dates.

The estimated employer contributions expected to be paid to the pension plans for the next fiscal year are $4,344.

5. Regulatory deferral account

In 2011, the NSUARB granted Halifax Water approval to defer depreciation charges on certain assets transferred in 2010 from HRM relating to the Halifax Harbour Solutions Project (HHSP). Depreciation of $2,078 was deferred in each of fiscal 2011 and 2012. As a result, Halifax Water recognized a $4,156 regulatory deferral account. In absence of rate regulation, this regulatory deferral account would have been expensed as depreciation in fiscal 2011 and 2012. In 2012, the NSUARB granted approval of the depreciation of this deferral account over the remaining useful lives of the underlying assets, beginning in 2014. The expense recognized in 2024 is $192 (2023 - $192).

	2024	2023
Balance, April 1	**$ 2,236**	$ 2,428
Depreciation	**(192)**	(192)
Balance, March 31	**$ 2,044**	$ 2,236

6. Commitments

An agreement with HRM for the dividend/grant in lieu of taxes (dividend) for the period from April 1, 2023 through March 31, 2028 was signed in the fiscal year. Dividend payments are approved as part of revenue requirements by the NSUARB. The total amount payable will be calculated based on Property Valuation Services Corporation's (PVSC) assessed value of Halifax Water properties and the property tax rates set by HRM each fiscal year. The assessed value of Halifax Water properties will be reduced by a declining percentage over the five-year period to phase in this new approach. For the fiscal year ended March 31, 2024, the assessed values of the properties were reduced by 8% for the calculation. In addition, the agreement states that the amount payable by Halifax Water to HRM in the fiscal year ending March 31, 2024 shall not exceed $6,589. The payment will be allocated to each service based on no more then 1.56% times the water rate base, at least 0.25% times the wastewater rate base, and at least 0.25% times the stormwater rate base. In the event these allocations are not sufficient to fund the payment in any given fiscal year, the allocations for wastewater and stormwater will be increased to an amount sufficient to fund the payment.

7. Capital management

Halifax Water's objective when managing capital is to ensure sufficient liquidity to support its financial obligations and execute its operating and capital plans. Halifax Water monitors and adjusts its capital structure through additional borrowings of long term debt which are used to finance capital projects.

Halifax Water considers its total capitalization to include all long term debt and total equity. The calculation is set out as follows:

	2024	2023
Long term debt	**$ 236,454**	$ 218,451
Equity	**316,526**	296,323
Capital under management	**$ 552,980**	$ 514,774

Halifax Water has obtained regulatory approval for all borrowings during the fiscal year. Halifax Water is not subject to financial borrowing covenants other than as outlined in Note 9.

8. Financial instruments and risk management

Halifax Water applies a three-tier hierarchy framework for disclosing fair value of financial instruments, based on whether the inputs into the various valuation techniques are observable or unobservable. Observable techniques reflect market data obtained from independent sources, while unobservable inputs reflect management assumptions. Changes in valuation techniques of financial instruments may result in transfers of assigned levels. The hierarchy of input is as follows:

Level I Quoted prices in active markets for identical assets or liabilities;
Level II Inputs other than quoted prices included in Level I that are observable, either directly or indirectly; and
Level III Inputs that are not based on observable market data.

The carrying values of current assets and current liabilities approximate their fair value due to the relatively short period to maturity of these financial instruments. The fair value of fixed rate long-term debt is assumed to approximate its carrying value given the limitations where Halifax Water can obtain long-term debt.

There were no transfers between classes of the fair value hierarchy during the year.

Halifax Water is exposed to risks as a result of holding financial instruments. Management considers and evaluates those risks on an on-going basis to ensure that the risks are appropriately managed. These potential risks include credit risk, interest risk, market risk and liquidity risk.

Credit risk
Credit risk arises from the possibility that Halifax Water's customers may experience financial difficulty and be unable to fulfill their obligations. Halifax Water's maximum exposure to credit risk corresponds to customer charges and contractual receivables. However, Halifax Water's customers are numerous and diverse, which reduces the concentration of credit risk.

Halifax Water makes use of a simplified approach in accounting for receivables and records the loss allowance as lifetime ECL. These are the expected shortfalls in contractual cash flows, considering the potential for default at any point during the life of the financial instrument. In calculating, Halifax Water uses its historical experience, external indicators and forward-looking information to calculate the ECL for non-government balances using a provision matrix. Halifax Water includes 75% of the balance of closed accounts in the allowance and 1% of active accounts. Halifax Water assesses impairment of receivables on a collective basis. As receivables possess shared credit risk characteristics, receivables have been grouped based on the days past due.

8. Financial instruments and risk management (continued)

An analysis of Halifax Water's receivables and continuity of Halifax Water's provision for impairment losses on receivables is as follows:

		2024		2023
Customer charges, contractual, and unbilled service revenues	**$**	**45,521**	$	40,141
Less: allowance for doubtful accounts		**(3,016)**		(3,052)
	$	**42,505**	$	37,089

The credit quality of financial assets that are neither past due nor impaired are assessed with reference to historical information and includes the following considerations; new customers, existing customers and payment pattern history.

Interest risk
Interest risk arises from the possibility that changes in interest rates will cause fluctuations in expenses and/or cash flows associated with Halifax Water's long term debt. Halifax Water's long term debt has been acquired with a variety of fixed rates and has staggered maturity dates which mitigates the interest rate risk.

Market risk
Market risk arises from the possibility that the value of an investment will fluctuate as a result of changes in market prices. These changes could affect the market value of the investments in Halifax Water's Plan and consequently the Plan's surplus. The risk is mitigated by the Plan diversifying the types of investments in its portfolio.

Liquidity risk
Liquidity risk arises from the possibility of Halifax Water not being able to meet its cash requirements in a timely and cost-effective manner. Halifax Water manages this risk by closely monitoring the cash on hand in comparison to upcoming cash commitments.

9. Related party transactions

The immediate parent and ultimate controlling party of Halifax Water is HRM.

Halifax Water is obligated to make payments on debt, held in the name of HRM, associated with Wastewater and Stormwater assets which were transferred to Halifax Water in 2007 and subsequent years.

Amounts receivable from HRM have normal credit terms.

Halifax Water had the following related party transactions with HRM:

		2024		2023
Revenue for provision of Water, Wastewater and Stormwater Services	**$**	**7,563**	$	6,029
Public fire protection revenue		**8,083**		7,744
Dividend/grant in lieu of taxes		**(6,589)**		(6,524)
Operating expenditures		**(2,428)**		(1,015)
Net revenue and expenditures	**$**	**6,629**	$	6,234

The debt issued by Halifax Water was covered by a blanket guarantee from HRM subject to Halifax Water maintaining a debt service ratio of less than 35%. The debt service ratio at March 31, 2024 is 17.50% (2023 - 18.94%).

9. Related party transactions (continued)

Compensation of key management personnel

Members of the Board of Commissioners and Executive Management team are deemed to be key management personnel. It is the Board of Commissioners and Executive Management team who have the responsibility for planning, directing and controlling the activities of Halifax Water.

The following is compensation expense for key management personnel:

	2024	2023
Compensation and benefits	**$ 1,769**	$ 1,364
Post-employment benefits	**118**	123
Total compensation	**$ 1,887**	$ 1,487

10. Intangible assets

	2024	2023
Cost		
Balance, April 1	**$ 36,423**	$ 31,967
Additions	**16,505**	4,456
Balance, March 31	**52,928**	36,423
Accumulated amortization		
Balance, April 1	**13,616**	11,162
Amortization	**3,323**	2,454
Balance, March 31	**16,939**	13,616
Net book value, March 31	**$ 35,989**	$ 22,807

11. Utility plant in service

	Land	Structures and improvements	Treatment and network equipment	Distribution and collection network	Tools and work equipment	**Total**
Cost						
Balance, April 1, 2023	$ 25,771	$ 284,830	$ 292,869	$ 1,037,049	$ 41,861	**$ 1,682,380**
Additions	-	6,926	6,390	29,487	4,569	**47,372**
Disposals	-	-	(245)	-	-	**(245)**
Balance, March 31, 2024	25,771	291,756	299,014	1,066,536	46,430	**1,729,507**
Accumulated depreciation						
Balance, April 1, 2023	$ -	$ 90,865	$ 118,184	$ 149,457	$ 21,360	**$ 379,866**
Depreciation	-	9,301	18,121	17,958	6,497	**51,877**
Depreciation retired	-	-	(178)	-	-	**(178)**
Balance, March 31, 2024	-	100,166	136,127	167,415	27,857	**431,565**
Net book value, March 31, 2024	$ 25,771	$ 191,590	$ 162,887	$ 899,121	$ 18,573	**$ 1,297,942**

	Land	Structures and improvements	Treatment and network equipment	Distribution and collection network	Tools and work equipment	Total
Cost						
Balance, April 1, 2022	$ 25,771	$ 272,587	$ 282,749	$ 990,615	$ 35,554	$ 1,607,276
Additions	-	12,243	10,120	46,434	6,307	75,104
Disposals	-	-	-	-	-	-
Balance, March 31, 2023	25,771	284,830	292,869	1,037,049	41,861	1,682,380
Accumulated depreciation						
Balance, April 1, 2022	$ -	$ 81,781	$ 102,153	$ 130,694	$ 15,255	$ 329,883
Depreciation	-	9,084	16,031	18,763	6,105	49,983
Depreciation retired	-	-	-	-	-	-
Balance, March 31, 2023	-	90,865	118,184	149,457	21,360	379,866
Net book value, March 31, 2023	$ 25,771	$ 193,965	$ 174,685	$ 887,592	$ 20,501	$ 1,302,514

12. Deferred contributed capital

	2024	2023
Balance, April 1	**$ 938,258**	$ 908,589
Assets contributed during the year	**24,535**	18,500
Contributions and interest	**3,512**	29,962
Amortization	**(18,997)**	(18,793)
Balance, March 31	**947,308**	938,258
Less: current portion	**(19,260)**	(18,836)
	$ 928,048	$ 919,422

Deferred contributed capital is comprised of contributions received by Halifax Water for the acquisition of utility plant in service. Contributions for capital expenditures are amortized over the estimated useful lives of the assets.

13. Long-term debt

	Interest rates	2024	2023
Payable to NS Finance and Treasury Board			
Water	0.565% to 5.460%	**$ 101,166**	$ 86,712
HHSP	2.205% to 2.561%	**3,900**	4,550
Wastewater	0.565% to 5.460%	**96,634**	89,859
Stormwater	0.565% to 5.460%	**29,427**	25,252
		231,127	206,373
Payable to Halifax Regional Municipality			
Wastewater/Stormwater	3.041% to 5.940%	**6,500**	13,000
		237,627	219,373
Less: debt issue costs		**(1,173)**	(922)
		236,454	218,451
Less: amount payable within one year		**(39,832)**	(45,962)
		$ 196,622	$ 172,489

During the year Halifax Water acquired $39,988 in new debt with a ten year term and thirty year amortization period and refinanced $24,228 in existing debt for the remaining ten year term.

The debentures are repayable in fixed annual principal instalments plus interest payable semi-annually. Interest expensed during the year was $7,277 (2023 - $6,851). Principal instalments for the next five years are as follows:

2024/25	$ 39,832
2025/26	$ 28,934
2026/27	$ 16,766
2027/28	$ 17,687
2028/29	$ 19,687
Thereafter	$ 114,721

14. Operating expenditures by nature

	2024	2023
Salaries and benefits	**$ 47,492**	$ 42,473
Pension	**3,012**	6,851
Training and conferences	**789**	681
Contract services	**18,208**	15,791
Electricity	**8,476**	7,090
Operating supplies	**17,140**	15,351
Professional services	**4,840**	5,351
Chemicals	**10,747**	8,708
Depreciation on assets allocated to departments	**1,546**	999
Depreciation and amortization	**53,654**	51,438
	$ 165,904	$ 154,733

15. Comparative figures

Certain of the comparative figures have been reclassified to conform to the financial statement presentation adopted for the current fiscal year.

16. Revenue Deficiency Account

Halifax Water is in the process of establishing an Ambient Temperature District Energy System (DES) and as such, has approval from the NSUARB to establish a Revenue Deficiency Account (RDA). The RDA will accumulate expenditures being made in relation to the DES. Once the DES is operational, RDA amounts will be recovered through the setting of rates which reflect the cost of providing this service together with a provision for the recovery of the amounts accumulated in the RDA over a reasonable period of time. There is no balance in the RDA as of March 31, 2024 as the infrastructure is not yet complete. Capital costs to March 31, 2024 reflected in the total balance of work in progress, are $1,390.

Halifax Regional Water Commission

Schedule A

Schedule of utility plant in service

Year ended March 31, 2024 (in thousands)

Water

	Land	Structures and improvements	Pumping equipment	Purification equipment	SCADA equipment	Transmission & distribution mains	Services	Meters	Hydrants	Aerotech and small systems	Tools and work equipment	**Total**
Cost												
Balance, April 1, 2023	$ 18,215	$ 131,837	$ 10,778	$ 32,106	$ 12,185	$ 434,296	$ 49,019	$ 19,372	$ 23,300	$ 10,048	$ 39,870	**$ 781,026**
Additions	-	6,185	-	774	56	7,893	1,421	-	206	8	9,430	**25,973**
Disposals	-	-	-	-	-	-	-	-	-	-	(18)	**(18)**
Balance, March 31, 2024	18,215	138,022	10,778	32,880	12,241	442,189	50,440	19,372	23,506	10,056	49,282	**806,981**
Accumulated depreciation												
Balance, April 1, 2023	$ -	$ 37,900	$ 8,771	$ 22,448	$ 5,919	$ 110,677	$ 10,678	$ 7,621	$ 5,958	$ 4,626	$ 23,203	**$ 237,801**
Depreciation	-	2,347	298	1,507	557	5,539	892	909	401	420	4,317	**17,187**
Depreciation retired	-	-	-	-	-	-	-	-	-	-	(18)	**(18)**
Balance, March 31, 2024	-	40,247	9,069	23,955	6,476	116,216	11,570	8,530	6,359	5,046	27,502	**254,970**
Net book value, March 31, 2024	$ 18,215	$ 97,775	$ 1,709	$ 8,925	$ 5,765	$ 325,973	$ 38,870	$ 10,842	$ 17,147	$ 5,010	$ 21,780	**$ 552,011**

	Land	Structures and improvements	Pumping equipment	Purification equipment	SCADA equipment	Transmission & distribution mains	Services	Meters	Hydrants	Aerotech and small systems	Tools and work equipment	Total
Cost												
Balance, April 1, 2022	$ 18,215	$ 122,825	$ 10,778	$ 29,411	$ 11,293	$ 418,465	$ 45,052	$ 19,234	$ 22,447	$ 10,048	$ 35,131	$ 742,899
Additions	-	9,012	-	2,695	892	15,831	3,967	138	853	-	4,739	38,127
Disposals	-	-	-	-	-	-	-	-	-	-	-	-
Balance, March 31, 2023	18,215	131,837	10,778	32,106	12,185	434,296	49,019	19,372	23,300	10,048	39,870	781,026
Accumulated depreciation												
Balance, April 1, 2022	$ -	$ 35,665	$ 8,468	$ 21,069	$ 5,375	$ 105,279	$ 9,850	$ 6,717	$ 5,581	$ 4,296	$ 19,490	$ 221,790
Depreciation	-	2,235	303	1,379	544	5,398	828	904	377	330	3,713	16,011
Depreciation retired	-	-	-	-	-	-	-	-	-	-	-	-
Balance, March 31, 2023	-	37,900	8,771	22,448	5,919	110,677	10,678	7,621	5,958	4,626	23,203	237,801
Net book value, March 31, 2023	$ 18,215	$ 93,937	$ 2,007	$ 9,658	$ 6,266	$ 323,619	$ 38,341	$ 11,751	$ 17,342	$ 5,422	$ 16,667	$ 543,225

Schedule A is presented in accordance with the NSUARB Handbook.

Utility plant in service under IFRS differs from the NSUARB Handbook due to exclusion of intangible assets, componentization of certain assets and differences in useful lives for depreciation.

Halifax Regional Water Commission

Schedule A

Schedule of utility plant in service

Year ended March 31, 2024 (in thousands)

Wastewater

	Land	Structures and improvements	Pumping equipment	Purification equipment	SCADA equipment	Collection system	Laterals	Meters	Aerotech and small systems	Tools and work equipment	**Total**
Cost											
Balance, April 1, 2023	$ 7,083	$ 202,942	$ 29,151	$ 180,499	$ 16,040	$ 355,662	$ 37,207	$ 9,109	$ 12,784	$ 52,323	**$ 902,800**
Additions	-	452	809	3,912	293	7,278	1,684	-	762	9,244	**24,434**
Disposals	-	-	-	-	-	-	-	-	-	(478)	**(478)**
Balance, March 31, 2024	7,083	203,394	29,960	184,411	16,333	362,940	38,891	9,109	13,546	61,089	**926,756**
Accumulated depreciation											
Balance, April 1, 2023	$ -	$ 77,345	$ 11,993	$ 99,369	$ 6,049	$ 84,927	$ 4,932	$ 1,857	$ 5,600	$ 28,233	**$ 320,305**
Depreciation	-	4,007	1,245	9,065	827	5,017	772	457	1,276	4,657	**27,323**
Depreciation retired	-	-	-	-	-	-	-	-	-	(478)	**(478)**
Balance, March 31, 2024	-	81,352	13,238	108,434	6,876	89,944	5,704	2,314	6,876	32,412	**347,150**
Net book value, March 31, 2024	$ 7,083	$ 122,042	$ 16,722	$ 75,977	$ 9,457	$ 272,996	$ 33,187	$ 6,795	$ 6,670	$ 28,677	**$ 579,606**

0603

	Land	Structures and improvements	Pumping equipment	Purification equipment	SCADA equipment	Collection system	Laterals	Meters	Aerotech and small systems	Tools and work equipment	Total
Cost											
Balance, April 1, 2022	$ 7,083	$ 199,497	$ 26,142	$ 178,188	$ 15,954	$ 349,151	$ 32,279	$ 8,971	$ 12,784	$ 46,900	$ 876,949
Additions	-	3,445	3,009	2,311	86	6,511	4,928	138	-	5,423	25,851
Disposals	-	-	-	-	-	-	-	-	-	-	-
Balance, March 31, 2023	7,083	202,942	29,151	180,499	16,040	355,662	37,207	9,109	12,784	52,323	902,800
Accumulated depreciation											
Balance, April 1, 2022	$ -	$ 73,004	$ 10,834	$ 90,122	$ 5,146	$ 80,026	$ 4,227	$ 1,407	$ 5,209	$ 24,127	$ 294,102
Depreciation	-	4,341	1,159	9,247	903	4,901	705	450	391	4,106	26,203
Depreciation retired	-	-	-	-	-	-	-	-	-	-	-
Balance, March 31, 2023	-	77,345	11,993	99,369	6,049	84,927	4,932	1,857	5,600	28,233	320,305
Net book value, March 31, 2023	$ 7,083	$ 125,597	$ 17,158	$ 81,130	$ 9,991	$ 270,735	$ 32,275	$ 7,252	$ 7,184	$ 24,090	$ 582,495

Schedule A is presented in accordance with the NSUARB Handbook.

Utility plant in service under IFRS differs from the NSUARB Handbook due to exclusion of intangible assets, componentization of certain assets and differences in useful lives for depreciation.

Halifax Regional Water Commission
Schedule of utility plant in service
Year ended March 31, 2024 (in thousands)

Schedule A

Stormwater

	Land	Structures and improvements	Collection system	Laterals	Tools and work equipment	**Total**
Cost						
Balance, April 1, 2023	$ 473	$ 12,732	$ 295,041	$ 5,784	$ 6,919	**$ 320,949**
Additions	-	-	10,498	42	2,192	**12,732**
Disposals	-	-	-	-	-	**-**
Balance, March 31, 2024	473	12,732	305,539	5,826	9,111	**333,681**
Accumulated depreciation						
Balance, April 1, 2023	$ -	$ 2,681	$ 74,819	$ 925	$ 4,431	**$ 82,856**
Depreciation	-	237	7,186	116	822	**8,361**
Depreciation retired	-	-	-	-	-	**-**
Balance, March 31, 2024	-	2,918	82,005	1,041	5,253	**91,217**
Net book value, March 31, 2024	$ 473	$ 9,814	$ 223,534	$ 4,785	$ 3,858	**$ 242,464**

	Land	Structures and improvements	Collection system	Laterals	Tools and work equipment	Total
Cost						
Balance, April 1, 2022	$ 473	$ 12,732	$ 279,900	$ 5,525	$ 6,388	$ 305,018
Additions	-	-	15,141	259	531	15,931
Disposals	-	-	-	-	-	-
Balance, March 31, 2023	473	12,732	295,041	5,784	6,919	320,949
Accumulated depreciation						
Balance, April 1, 2022	$ -	$ 2,444	$ 67,865	$ 812	$ 3,691	$ 74,812
Depreciation	-	237	6,954	113	740	8,044
Depreciation retired	-	-	-	-	-	-
Balance, March 31, 2023	-	2,681	74,819	925	4,431	82,856
Net book value, March 31, 2023	$ 473	$ 10,051	$ 220,222	$ 4,859	$ 2,488	$ 238,093

Collective utility plant in service	Water	Wastewater	Stormwater	Total
Net book value, March 31, 2024	$ 552,011	579,606	$ 242,464	$1,374,081
Net book value, March 31, 2023	$ 543,225	$ 582,495	$ 238,093	$1,363,813

Schedule A is presented in accordance with the NSUARB Handbook.

Utility plant in service under IFRS differs from the NSUARB Handbook due to exclusion of intangible assets, componentization of certain assets and differences in useful lives for depreciation.

Halifax Regional Water Commission — Schedule B

Schedule of long term debt

Year ended March 31, 2024 (in thousands)

	Interest rate	Maturity	Balance Remaining 2024	2023
Payable to NS Finance and Treasury Board				
Water				
Debenture 34 B 1	3.041% to 3.190%	2024	**$ 7,520**	$ 8,203
Debenture 35 A 1	2.573% to 2.894%	2025	**8,080**	8,754
Debenture 36 A 1	2.443% to 2.925%	2026	**600**	800
Debenture 36 B 1	2.048% to 2.506%	2026	**2,820**	3,036
Debenture 37 A 1	2.617% to 3.073%	2027	**2,450**	2,625
Debenture 38 A 1	2.884% to 3.300%	2028	**500**	700
Debenture 38 B 1	3.048% to 3.389%	2028	**4,500**	4,800
Debenture 39 A 1	2.205% to 2.561%	2029	**8,800**	9,350
Debenture 40 A 1	0.995% to 1.879%	2030	**10,200**	10,800
Debenture 40 B 1	0.565% to 2.376%	2031	**9,000**	9,500
Debenture 42 A 1	2.575% to 3.782%	2032	**12,700**	13,138
Debenture 42 B 1	4.177% to 4.116%	2032	**4,999**	5,367
Debenture 43 A 1	4.550% to 4.714%	2033	**5,056**	5,562
Debenture 43 B 1	4.897% to 5.460%	2033	**3,706**	4,077
Debenture 43 B 1	4.897% to 5.460%	2033	**20,235**	-
Wastewater				
Debenture 34 A 1	3.193% to 3.347%	2024	**3,063**	3,342
Debenture 34 B 1	3.041% to 3.190%	2024	**4,722**	5,151
Debenture 35 A 1	2.573% to 2.894%	2025	**8,466**	9,172
Debenture 36 B 1	2.048% to 2.506%	2026	**1,178**	1,268
Debenture 37 A 1	2.617% to 3.073%	2027	**4,270**	4,575
Debenture 38 B 1	3.048% to 3.389%	2028	**4,800**	5,120
Debenture 39 A 1	2.205% to 2.561%	2029	**12,000**	12,750
Debenture 40 A 1	0.955% to 1.879%	2030	**7,480**	8,020
Debenture 40 B 1	0.565% to 2.376%	2031	**5,400**	5,700
Debenture 42 A 1	2.575% to 3.782%	2032	**15,478**	17,198
Debenture 42 B 1	4.177% to 4.116%	2032	**1,900**	2,297
Debenture 43 A 1	4.550% to 4.714%	2033	**8,430**	9,275
Debenture 43 B 1	4.897% to 5.460%	2033	**5,446**	5,991
Debenture 43 B 1	4.897% to 5.460%	2033	**14,001**	-
HHSP				
Debenture 39 A 1	2.205% to 2.561%	2029	**3,900**	4,550
Stormwater				
Debenture 34 B 1	3.041% to 3.190%	2024	**3,247**	3,542
Debenture 35 A 1	2.573% to 2.894%	2025	**1,938**	2,100
Debenture 36 B 1	2.048% to 2.506%	2026	**586**	630
Debenture 37 A 1	2.617% to 3.073%	2027	**280**	300
Debenture 38 B 1	3.048% to 3.389%	2028	**1,950**	2,080
Debenture 39 A 1	2.205% to 2.561%	2029	**3,200**	3,400
Debenture 40 A 1	0.955% to 1.879%	2030	**4,760**	5,040
Debenture 40 B 1	0.565% to 2.376%	2031	**3,600**	3,800
Debenture 42 A 1	2.575% to 3.782%	2032	**2,524**	2,611
Debenture 43 A 1	4.550% to 4.714%	2033	**270**	297
Debenture 43 B 1	4.897% to 5.460%	2033	**1,320**	1,452
Debenture 43 B 1	4.897% to 5.460%	2033	**5,752**	-
			231,127	206,373
Payable to Halifax Regional Municipality				
Wastewater/Stormwater				
Debenture 24 B 1	5.920% to 5.940%	2024	**5,500**	11,000
Debenture 34 B 1	3.041% to 3.190%	2024	**1,000**	2,000
			6,500	13,000
			237,627	219,373
Less: debt issue costs			**(1,173)**	(922)
			236,454	218,451
Less: amount payable within one year			**(39,832)**	(45,962)
Total long term debt			**$ 196,622**	$ 172,489

Halifax Regional Water Commission — Schedule C

Schedule of earnings

Year ended March 31, 2024 (in thousands)

Water

	2024	2023
Operating revenues		
Water	**$ 54,938**	$ 49,134
Public fire protection	**8,083**	7,744
Private fire protection	**1,698**	1,398
Other operating revenue		
Bulk water stations	**257**	356
Late payment and connection fees	**191**	157
Miscellaneous	**187**	322
	65,354	59,111
Operating expenditures		
Water supply and treatment	**14,786**	11,646
Water transmission and distribution	**13,768**	11,757
Engineering and technology services	**6,003**	4,724
Regulatory services	**2,052**	1,446
Customer services	**2,380**	2,218
Corporate services	**1,588**	1,622
Administration services	**3,179**	2,974
Depreciation and amortization	**13,212**	12,186
	56,968	48,573
Earnings from operations before financial and other revenues and expenditures	**8,386**	10,538
Financial and other revenues		
Interest	**300**	343
Other	**392**	446
	692	789
Financial and other expenditures		
Interest on long term debt	**2,833**	2,434
Repayment of long term debt	**6,164**	6,148
Amortization of debt issue costs	**88**	87
Dividend/grant in lieu of taxes	**5,824**	5,608
Other	**129**	119
	15,038	14,396
Loss for the year	**$ (5,960)**	$ (3,069)

Schedule C is presented in accordance with the NSUARB Handbook.

Halifax Regional Water Commission — Schedule C

Schedule of earnings

Year ended March 31, 2024 (in thousands)

Wastewater

	2024	2023
Operating revenues		
Wastewater	**$ 89,512**	$ 82,592
Other operating revenue		
Leachate and other contract revenue	**551**	454
Septage tipping fees	**577**	598
Over strength surcharge	**7**	9
Airplane effluent	**94**	79
Late payment and connection fees	**309**	247
Miscellaneous	**184**	217
	91,234	84,196
Operating expenditures		
Wastewater collection	**14,554**	13,691
Wastewater treatment	**24,782**	23,420
Engineering and technology services	**8,281**	6,846
Regulatory services	**1,604**	1,491
Customer services	**2,062**	2,044
Corporate services	**1,373**	1,308
Administration services	**2,779**	2,344
Depreciation and amortization	**17,809**	16,698
	73,244	67,842
Earnings from operations before financial and other revenues and expenditures	**17,990**	16,354
Financial and other revenues		
Interest	**112**	139
Other	**96**	424
	208	563
Financial and other expenditures		
Interest on long term debt	**3,581**	3,668
Repayment of long term debt	**13,954**	14,021
Amortization of debt issue costs	**110**	116
Dividend/grant in lieu of taxes	**630**	778
Other	**11**	10
	18,286	18,593
Loss for the year	**$ (88)**	$ (1,676)

Schedule C is presented in accordance with the NSUARB Handbook.

Halifax Regional Water Commission — Schedule C

Schedule of earnings

Year ended March 31, 2024 (in thousands)

Stormwater

	2024	2023
Operating revenues		
Stormwater site generated service	**$ 8,676**	$ 6,927
Stormwater right-of-way service	**6,520**	4,475
Other operating revenue		
Late payment and connection fees	**80**	262
Miscellaneous	**115**	118
	15,391	11,782
Operating expenditures		
Stormwater collection	**5,755**	4,719
Engineering and technology services	**1,769**	2,107
Regulatory services	**1,876**	1,497
Customer services	**189**	185
Corporate services	**153**	145
Administration services	**305**	260
Depreciation and amortization	**3,065**	2,710
	13,112	11,623
Earnings from operations before financial and other expenditures	**2,279**	159
Financial and other expenditures		
Interest	**103**	53
Interest on long term debt	**862**	749
Repayment of long term debt	**2,486**	2,210
Amortization of debt issue costs	**24**	24
Dividend/grant in lieu of taxes	**135**	138
	3,610	3,174
Loss for the year	**$ (1,331)**	$ (3,015)

Schedule C is presented in accordance with the NSUARB Handbook.

Halifax Regional Water Commission
Schedule of earnings

Schedule D

Year ended March 31, 2024 (in thousands)

Regulated activities

	2024	2023
Operating revenues		
Water	**$ 54,938**	$ 49,134
Wastewater	**89,512**	82,592
Stormwater	**15,196**	11,402
Public fire protection	**8,083**	7,744
Private fire protection services	**1,698**	1,398
Other operating revenue	**1,330**	1,659
	170,757	153,929
Operating expenditures		
Water supply and treatment	**14,781**	11,619
Water transmission and distribution	**13,768**	11,757
Wastewater collection	**14,499**	13,631
Stormwater collection	**5,755**	4,719
Wastewater treatment	**23,888**	22,670
Engineering and technology services	**16,053**	13,677
Regulatory services	**5,532**	4,434
Customer services	**4,627**	4,402
Corporate services	**3,095**	3,057
Administration services	**6,132**	5,422
Depreciation and amortization	**34,066**	31,575
	142,196	126,963
Earnings from operations before financial and other revenues and expenditures	**28,561**	26,966
Financial and other revenues		
Interest	**412**	482
Other	**11**	32
	423	514
Financial and other expenditures		
Interest	**103**	53
Interest on long term debt	**7,276**	6,851
Repayment of long term debt	**22,604**	22,379
Amortization of debt issue costs	**222**	227
Dividend/grant in lieu of taxes	**6,589**	6,524
	36,794	36,034
Loss for the year	**$ (7,810)**	$ (8,554)

Schedule D is presented in accordance with the NSUARB Handbook.

Halifax Regional Water Commission
Schedule of earnings

Schedule D

Year ended March 31, 2024 (in thousands)

Unregulated activities

	2024	2023
Operating revenues		
Septage tipping fees	**$ 577**	$ 598
Leachate treatment and contract revenue	**551**	454
Airplane effluent	**94**	79
Other operating revenue	**-**	29
	1,222	1,160
Operating expenditures		
Water supply and treatment	**5**	27
Wastewater treatment	**894**	750
Wastewater collection	**55**	60
Customer services	**4**	45
Corporate services	**19**	18
Administration services	**131**	156
Depreciation and amortization	**20**	19
	1,128	1,075
Earnings from operations before financial and other revenues and expenditures	**94**	85
Financial and other revenues		
Other	**477**	838
Financial and other expenditures		
Other	**140**	129
Earnings for the year	**$ 431**	$ 794

Schedule D is presented in accordance with the NSUARB Handbook.

Halifax Regional Water Commission
Nova Scotia Utility and Review Board information

Schedule E

Year ended March 31, 2024 (in thousands)

Return on rate base	**2024**	2023
Rate of return on rate base for Water Service	**0.67%**	1.32%
Rate of return on rate base for Wastewater Service	**5.37%**	4.90%
Rate of return on rate base for Stormwater Service	**2.98%**	0.03%

Return on rate base is calculated based on earnings from operations before financial and other revenues and expenditures divided by the net book value of funded utility plant in service.

Special purpose reserves

	Wastewater and Stormwater Reserves	Regional Development Charge Water Reserve	Regional Development Charge Wastewater Reserve	Other Capital Reserves	**2024 Total**	2023 Total
Reserve, April 1	$ 1,964	$ 5,836	$ 85,165	$ 912	**$ 93,877**	$ 69,961
Contributions and interest	-	4,394	15,054	168	**19,615**	27,919
Expenditures	-	(9,570)	(7,846)	-	**(17,416)**	(4,003)
Reserve, March 31	$ 1,964	$ 660	$ 92,373	$ 1,079	**$ 96,076**	$ 93,877

Summarized consolidated operating results	**2024**	2023
Operating revenues	**$ 171,979**	$ 155,089
Operating expenditures	**143,324**	128,038
Earnings from operations before financial and other revenues and expenditures	**28,655**	27,051
Financial and other revenues	**900**	1,352
Financial and other expenditures	**36,934**	36,163
Loss for the year	**$ (7,379)**	$ (7,760)

Schedule E is presented in accordance with the NSUARB Handbook.

ITEM # 3

Halifax Water Audit & Finance Committee

March 6, 2025

TO: Chair and Members of the Audit & Finance Committee

SUBMITTED BY: Signed by: A05D0874EBC1407...
Louis de Montbrun, CPA, CGA
Director, Corporate Services/CFO

APPROVED BY: Signed by: Kenda MacKenzie 0C084AC81379 4F6...
Kenda MacKenzie, P.Eng
General Manager & CEO

DATE: February 27, 2025

SUBJECT: Financial Results for the ten (10) months ended January 31, 2025

ORIGIN

Financial information reporting.

RECOMMENDATION

It is recommended the Audit and Finance Committee forward the Financial Results for the ten months ended January 31, 2025, to the Halifax Water Board for their information.

DISCUSSION

Attached are the operating results for Halifax Water for the ten (10) months year ended January 31, 2025, with comparative figures for January 31, 2024.

The following discussion of the operating results reflect direct operating costs by department and allocations among water, wastewater and stormwater for common costs shared across all the services provided by Halifax Water.

Statement of Financial Position (NSUARB) – Page 3 of Attachment 1

Key indicators and balances from the Statement of Financial Position are provided in the following tables.

Table 1: Assets

January 31 (in thousands)	Notes	2025	2024	March 31 2024	From Prior Year $ Change	% Change
Assets						
Current						
Cash and cash equivalents	A	$ 77,667	$ 54,661	$ 44,021	$ 23,006	42.1%
Receivables						
Customer charges and contractual		18,826	19,245	21,546	(419)	(2.2%)
Unbilled service revenues		24,496	24,270	20,959	226	0.9%
Inventory		2,590	2,513	2,364	77	3.1%
Prepaids	B	973	1,726	1,735	(753)	(43.6%)
		124,553	102,415	90,625	22,138	21.6%
Utility plant in service		1,359,155	1,277,268	1,374,665	81,887	6.4%
Capital work in progress	C	196,180	145,162	114,374	51,018	35.1%
Total assets		1,679,888	1,524,845	1,579,665	155,043	10.2%
Regulatory deferral account		1,885	2,093	2,044	(208)	(9.9%)
Total assets and regulatory deferral account		**$ 1,681,773**	**$1,526,938**	**$ 1,581,709**	**$ 154,835**	**10.1%**

Notes related to Table 1:

A) *Cash and cash equivalents* have increased by $23.0 million from the prior year. The total balance of the Regional Development Charge (RDC) reserves.

B) *Prepaids* has decreased $0.8 million due to the timing of invoices received on prepaid services.

C) The $51.0 million increase in *capital work in progress* relates to the expenditures on active capital projects as of January 31.

Table 2: Liabilities and Equity

January 31 (in thousands)	Notes	2025	2024	March 31 2024	From Prior Year $ Change	% Change
Liabilities						
Current						
Payables and accruals						
Trade	A	20,969	19,415	23,393	1,554	8.0%
Non-trade		4,822	3,453	5,579	1,369	39.6%
Interest on long term debt		2,292	1,400	3,062	892	63.7%
Halifax Regional Municipality	B	5,011	(2,613)	5,047	7,624	291.8%
Contractor and customer deposits		1,617	3,394	1,095	(1,777)	(52.4%)
Current portion of long term debt	C	32,881	56,933	39,832	(24,052)	(42.2%)
Unearned revenue		2,766	2,590	157	176	6.8%
		70,358	84,572	78,163	(14,214)	(16.8%)
Long term debt	D	260,089	179,483	196,622	80,606	44.9%
Deferred contributions		122,695	110,394	97,673	12,301	11.1%
Total liabilities		453,141	374,449	372,458	78,692	21.0%
Equity						
Accumulated capital surplus		1,221,056	1,105,151	1,195,016	115,905	10.5%
Accumulated operating surplus		4,879	28,925	9,233	(24,046)	(83.1%)
Operating surplus used to fund capital		12,380	12,380	12,380	(0)	(0.0%)
Deficiency of revenues over expenditures		(9,684)	6,033	(7,381)	(15,717)	(260.5%)
Total equity		1,228,632	1,152,489	1,209,248	76,143	6.6%
Total liabilities and equity		**$ 1,681,773**	**$1,526,938**	**$ 1,581,706**	**$ 154,835**	**10.1%**

Notes related to Table 2:

A) *Trade payables and accruals* have increased by $1.6 million from the prior year. The volume of invoices payable has increased by 64% due to a higher level of activity. The average invoice amount has increased 2.4%.

Payables and Accruals				
	2024/25	2023/24		
	'000	'000	$ Change	% Change
Trade payables	**$ 12,079**	$ 9,809	$ 2,269	23.1%
Trade accrued payables	**7,371**	8,493	(1,122)	(13.2%)
Accrued wastewater rebate	**1,521**	1,112	408	36.7%
	$ 20,969	$ 19,415	$ 1,555	8.0%

B) *Halifax Regional Municipality payable* has increased by $7.6 million from prior year as a result of higher accruals for the dividend/grant in lieu of taxes and other amounts payable to HRM.

HRM Receivables and Payables				
	2024/25	2023/24		
	'000	'000	$ Change	% Change
Receivables	**$ 289**	$ 1,894	$ (1,605)	(84.8%)
RDC	**6,116**	6,745	(629)	(9.3%)
Payables	**(11,416)**	(6,026)	(5,390)	89.4%
Net receivables (payables)	**$ (5,011)**	$ 2,613	$ (7,624)	(291.8%)

C) *Current portion of long-term debt* has decreased $24.1 million due to the repayment of HRM debt in September 2024 and balloon payments in November 2024.

D) Increase in *long term debt* by $80.6 million due to the addition of new debt in November 2024.

Debt servicing ratio is a function of total interest and principal payments (including accrued amounts) plus the amortization of debt issue costs divided by total operating revenue per service. Debt servicing ratio by service as of January 31, 2025, is as follows:

Debt Servicing Ratio by Service		
	2024/25	2023/24
Water	**15.80%**	13.24%
Wastewater	**17.30%**	18.83%
Stormwater	**27.47%**	22.67%
Combined	**17.46%**	17.02%

The combined debt servicing ratio has increased from the prior year. Debt servicing ratios have increased for water and stormwater because of the addition of new debt and decreased for wastewater because of the repayment of HRM debt in September 2024. The combined debt servicing ratio of 17.46% is below the maximum 35.00% ratio allowed under the blanket guarantee agreement with Halifax.

Statement of Earnings (NSUARB) – Page 4 of Attachment 1

Table 3: Summarized Statement of Earnings (NSUARB)

Summarized Statement of Earnings								
		Budget 2024/25	Actual 2024/25	Actual 2023/24	From Prior Year		Actual to Budget	
	Notes	**'000**	'000	'000	$ Change	% Change	$ Change	% Change
Operating revenues		**$ 172,059**	$ 147,871	$ 146,351	$ 1,520	1.04%	$ (24,188)	(14.06%)
Operating expenditures		**150,859**	126,455	111,010	15,445	13.91%	(24,404)	(16.18%)
Earnings from operations before financial and other revenues and expenditures		**21,201**	21,417	35,341	(13,925)	(39.40%)	216	1.02%
Financial and other revenues		**998**	619	656	(37)	(5.68%)	(379)	(38.00%)
Financial and other expenditures		**40,905**	31,719	29,964	1,755	5.86%	(9,186)	(22.46%)
Loss for the year	**A**	**$ (18,706)**	$ (9,684)	$ 6,033	$ (15,717)	(260.51%)	$ 9,023	(48.23%)

Notes related to Table 3:

A) The *loss for the year* of $9.7 million is a decrease of $15.7 million from the prior year *earnings*. The following is a discussion of factors influencing the change.

Table 4: Operating Revenues:

Operating Revenues								
		Budget 2024/25	**Actual 2024/25**	Actual 2023/24	From Prior Year		Actual to Budget	
	Notes	**'000**	**'000**	'000	$ Change	% Change	$ Change	% Change
Consumption revenue	**B**	**$ 111,427**	**$ 97,812**	$ 96,429	$ 1,383	1.43%	$ (13,615)	(12.22%)
Base charge revenue		**34,356**	**28,756**	28,818	(62)	(0.22%)	(5,600)	(16.30%)
Wastewater rebate		**(1,629)**	**(1,758)**	(1,418)	(340)	23.94%	(129)	7.92%
Metered sales total		**144,154**	**124,810**	123,829	982	0.79%	$ (19,344)	(13.42%)
Stormwater site generated charge		**8,864**	**6,878**	6,757	121	1.79%	(1,986)	(22.41%)
Stormwater right of way		**6,515**	**5,430**	5,429	1	0.01%	(1,086)	(16.66%)
Public fire protection		**8,083**	**6,736**	6,736	(0)	(0.00%)	(1,347)	(16.67%)
Private fire protection		**1,721**	**1,437**	1,413	24	1.68%	(284)	(16.52%)
Other operating revenue		**2,714**	**2,581**	2,187	394	18.02%	(133)	(4.90%)
Operating revenue total	**A**	**$ 172,051**	**$ 147,871**	$ 146,351	$ 1,521	1.04%	$ (24,180)	(14.05%)

Notes related to Table 4:

Operating revenues are presented above, broken down by type:

A) *Operating revenues* have increased $1.5 million as compared to the previous year.

B) *Consumption revenue* has increased $1.4 million over the prior year due to an increase in water consumption of 1.3%.

Consumption by Customer Class (m³)				
	2024/25	2023/24	m³ Change	% Change
Commercial	**5,817,855**	5,945,292	(127,437)	(2.1%)
Industrial	**1,457,864**	1,455,046	2,818	0.2%
Institutional	**3,213,602**	3,280,435	(66,833)	(2.0%)
Multi-residential	**6,936,355**	6,743,791	192,564	2.9%
Residential	**10,969,833**	10,613,423	356,410	3.4%
	28,395,509	28,037,988	357,521	1.3%

Table 5: Operating expenditures:

Operating Expenditures								
		Budget	**Actual**	Actual	From Prior Year		Actual to Budget	
	Notes	**2024/25**	**2024/25**	2023/24	$ Change	% Change	$ Change	% Change
		'000	**'000**	'000				
Water supply and treatment	**B**	**$ 13,661**	**$ 12,659**	$ 13,046	$ (387)	(2.98%)	$ (1,002)	(7.33%)
Water transmission and distribution	**C**	**14,066**	**12,980**	9,923	3,058	30.81%	(1,086)	(7.72%)
Wastewater collection		**14,346**	**12,426**	11,588	838	7.23%	(1,920)	(13.38%)
Stormwater collection	**D**	**5,816**	**5,202**	4,218	983	23.32%	(614)	(10.56%)
Wastewater treatment	**E**	**26,368**	**21,698**	19,644	2,054	10.46%	(4,670)	(17.71%)
Engineering and technology service:	**F**	**17,757**	**15,635**	12,031	3,604	29.95%	(2,122)	(11.95%)
Regulatory services		**5,922**	**4,443**	3,688	755	20.43%	(1,479)	(24.97%)
Customer services		**4,507**	**3,890**	3,680	210	5.71%	(617)	(13.69%)
Corporate services		**3,743**	**3,340**	2,465	874	35.48%	(403)	(10.77%)
Administration services	**G**	**10,267**	**4,594**	3,767	827	21.95%	(5,673)	(55.25%)
Depreciation and amortization	**H**	**34,406**	**29,587**	26,960	2,628	9.75%	(4,819)	(14.01%)
Total operating expenditures	**A**	**$ 150,859**	**$ 126,454**	$ 111,010	$ 15,444	13.91%	$ (24,405)	(16.18%)

Notes related to Table 5:

A) *Operating expenditures* of $126.5 million are $15.4 million higher than the prior year.

B) *Water supply and treatment* expenditures have decreased $0.4 million from prior year due to a decrease in chemicals including alum, phosphate and caustic soda.

C) *Water transmission and distribution* expenditures have increased $3.1 million from prior year due to an increase in vehicle cost allocation, hired equipment, road and street repairs, contract services, wages, materials and supplies, and traffic control services. Increased costs are primarily in core maintenance activities for distribution mains, hydrants, and services.

D) *Stormwater collection* expenditures have increased $1.0 million from prior year due to an increase in contract services and traffic control which was required for an increase in ditching work required for recently acquired stormwater infrastructure through the boundary expansion.

E) *Wastewater treatment* expenditures have increased $2.1 million from prior year due mainly to an increase in electricity, equipment repairs and biosolid treatment costs.

F) *Engineering and technology services* expenditures have increased $3.6 million from prior year due to an increase in computer software and licenses, network equipment, and salaries.

G) *Administration services* expenditures of $4.6 million have increased $0.8 million from the prior year. The current year total is well below budget due to the budget including $0.5 million for the Organizational Award which is not accrued or recorded until approved by the Board, and the estimate for increases based on union negotiations. The actual costs for salary increases were assigned directly to employee departments when paid in December 2024.

H) *Depreciation and amortization* increased $2.6 million over prior year because of additions to assets, including capitalization of the Cayenta ERP system, added in the prior year.

Table 6: Financial and other revenues:

Financial and other revenues								
		Budget 2024/25	**Actual 2024/25**	Actual 2023/24	From Prior Year		Actual to Budget	
	Notes	**'000**	**'000**	'000	$ Change	% Change	$ Remaining	% Remaining
Interest		**$ 383**	**$ 91**	$ 249	$ (158)	(63.48%)	$ (292)	(76.26%)
Other		**615**	**528**	407	121	29.67%	(87)	(14.16%)
Total financial and other revenues	**A**	**$ 998**	**$ 619**	$ 656	$ (37)	(5.68%)	$ (379)	(38.00%)

Notes related to Table 6:

A) *Financial and other revenues* have decreased from prior year due to lower interest rates resulting in less revenue earned on cash balances.

Table 7: Financial and other expenditures:

Financial and other expenditures								
		Budget 2024/25	**Actual 2024/25**	Actual 2023/24	From Prior Year		Actual to Budget	
	Notes	**'000**	**'000**	'000	$ Change	% Change	$ Remaining	% Remaining
Interest on long term debt		**9,375**	**7,523**	5,473	2,050	37.45%	(1,853)	(19.76%)
Repayment on long term debt		**24,078**	**18,057**	18,774	(717)	(3.82%)	(6,020)	(25.00%)
Amortization of debt discount		**245**	**203**	183	20	11.15%	(42)	(17.03%)
Dividend/grant in lieu of taxes		**7,031**	**5,823**	5,501	322	5.85%	(1,209)	(17.19%)
Other		**175**	**113**	33	80	241.72%	(62)	(35.65%)
Total financial and other expenditures	**A**	**$ 40,905**	**$ 31,719**	$ 29,964	$ 1,755	5.86%	$ (9,186)	(22.46%)

Notes related to Table 7:

A) *Financial and other expenditures* have increased $1.8 million when compared to prior year due to an increase in interest on new debt.

Table 8: Operating Results by Service:

Operating Results by Service							
	Budget 2024/25 '000	Actual 2024/25 '000	Actual 2023/24 '000	From Prior Year $ Change	From Prior Year % Change	Actual to Budget $ Change	Actual to Budget % Change
Water	**$ (9,233)**	$ (8,276)	$ (669)	$ (7,607)	1137.10%	$ 957	(10.36%)
Wastewater	**(6,998)**	988	7,068	(6,080)	(86.03%)	7,985	(114.11%)
Stormwater	**(2,476)**	(2,395)	(366)	(2,029)	554.65%	81	(3.26%)
Earnings (loss) for the year	**$ (18,706)**	$ (9,684)	$ 6,033	$ (15,717)	(260.51%)	$ 9,023	(48.23%)

The results in Table 8 are explained in more detail in Tables 9 to 11.

Table 9: Operating Results by Service – Water:

Operating Results by Service - Water								
	Notes	**Budget 2024/25 '000**	**Actual 2024/25 '000**	Actual 2023/24 '000	From Prior Year $ Change	From Prior Year % Change	Actual to Budget $ Change	Actual to Budget % Change
Operating revenues	**A**	**$ 65,480**	**$ 56,184**	$ 55,519	$ 665	1.20%	$ (9,295)	(14.20%)
Operating expenditures	**B**	**58,189**	**50,904**	44,754	6,150	13.74%	(7,286)	(12.52%)
Earnings from operations		**7,290**	**5,280**	10,765	(5,485)	(50.95%)	(2,010)	(27.57%)
Financial and other revenues		**830**	**632**	569	63	11.08%	(198)	(23.87%)
Financial and other expenditures	**C**	**17,353**	**14,189**	12,003	2,186	18.21%	(3,165)	(18.24%)
Earnings (loss) for the year		**$ (9,233)**	**$ (8,276)**	$ (669)	$ (7,607)	1137.10%	$ 957	(10.36%)

Water services loss of $8.3 million has increased from the prior year loss by $7.6 million due to the following factors:

A) Increase in *operating revenues* of $0.6 million due to an increase in consumption as previously discussed under Notes to Table 4.

B) Increase in *operating expenditures* of $6.2 million due to higher costs in water transmission and distribution, engineering and technology services, and depreciation and amortization.

C) Increase in *financial and other expenditures* of $2.2 million due to higher interest rates on new long-term debt as compared to existing debt, higher repayment of long-term debt, and a higher dividend/grant in lieu of taxes.

Table 10: Operating Results by Service – Wastewater:

Operating Results by Service - Wastewater								
		Budget 2024/25	**Actual 2024/25**	Actual 2023/24	From Prior Year		Actual to Budget	
	Notes	**'000**	**'000**	'000	$ Change	% Change	$ Change	% Change
Operating revenues	**A**	**$ 90,952**	**$ 79,183**	$ 78,491	$ 692	0.88%	$ (11,769)	(12.94%)
Operating expenditures	**B**	**78,542**	**63,975**	56,456	7,519	13.32%	(14,567)	(18.55%)
Earnings (loss) from operations		**12,410**	**15,208**	22,035	(6,827)	(30.98%)	2,798	22.55%
Financial and other revenues		**296**	**189**	170	19	11.13%	(107)	(36.07%)
Financial and other expenditures	**C**	**19,703**	**14,409**	15,137	(728)	(4.81%)	(5,294)	(26.87%)
Earnings (loss) for the year		**$ (6,998)**	**$ 988**	$ 7,068	$ (6,080)	(86.03%)	$ 7,985	(114.11%)

Wastewater services earnings of $1.0 million has decreased $6.1 million from prior year due to the following factors:

A) *Operating revenues* increase of $0.7 million is attributable to an increase in consumption and the resulting wastewater discharge revenue as previously discussed under Notes to Table 4.

B) *Operating expenditures* increase of $7.5 million is attributable primarily to increases in costs associated with wastewater treatment, engineering and technology services, and depreciation and amortization because of additions to assets as previously discussed under Notes to Table 5.

C) *Financial and other expenditures* decrease of $0.7 million is due to lower repayment of long-term debt following the final payment on a large debt issue payable to HRM to finance wastewater assets. Repayments will be higher in future months with the new debt received in November.

D) *Earnings (loss) for the year* decrease of $6.1 million is due to increases in expenditures exceeding the increase in revenues, as noted above. Despite the decline in earnings, expenditures are below budget. The allocation of *Administration services* is below budget, as noted under Table 4 and is on pace to be $2.0 million under budget for the year. Repayment of long-term debt is under budget due to the budget including a full year of appropriation of a large debt issue owed to HRM. The issue matured in September resulting in an excess budget amount of $3.2 million.

Table 11: Operating Results by Service – Stormwater:

Operating Results by Service - Stormwater								
		Budget	**Actual**	Actual	From Prior Year		Actual to Budget	
	Notes	**2024/25**	**2024/25**	2023/24				
		'000	**'000**	'000	$ Change	% Change	$ Change	% Change
Operating revenues	**A**	**$ 15,627**	**$ 12,504**	$ 12,341	$ 163	1.32%	$ (3,123)	(19.98%)
Operating expenditures	**B**	**14,127**	**11,576**	9,800	1,776	18.12%	(2,551)	(18.06%)
Loss from operations		**1,500**	**928**	2,541	(1,613)	(63.47%)	(572)	(38.13%)
Financial and other revenues	**C**	**(128)**	**(202)**	(83)	(119)	143.71%	(74)	58.11%
Financial and other expenditures	**D**	**3,849**	**3,121**	2,824	297	10.53%	(727)	(18.90%)
Earnings (loss) for the year		**$ (2,476)**	**$ (2,395)**	$ (366)	$ (2,029)	554.65%	$ 81	(3.26%)

Stormwater services loss of $2.4 million is $2.0 million greater than the prior year loss. The following factors influenced the results:

A) Increase of $0.2 million in *operating revenues* from prior year due to an increase in site generated service revenue from growth in customer billable impervious area and an increase in drawing review fees generated by continuing growth in development activity.

B) Increase of $1.8 million in *operating expenditures* from prior year due to an increase in contract services, traffic control, ditching, catch basin cleaning and hired equipment as previously discussed in Notes to Table 5.

C) Change in *financial and other revenues* is the result of higher allocation of the interest cost as the stormwater service has a larger accumulated loss than in the prior year.

D) Increase in *financial and other expenditures* due to increasing interest rates on long-term debt and principal payments for new debt.

Results under NSUARB Handbook as compared to International Financial Reporting Standards

As a rate regulated utility, the Accounting Standards Board (AcSB) requires Halifax Water to report financial results using IFRS. The NSUARB requires Halifax Water to report in accordance with the NSUARB Handbook. The differences between IFRS and the NSUARB Handbook include Non-cash pension expense, principal payments of long term debt, depreciation expense on contributed assets, various depreciation adjustments and other comprehensive income gain.

Attachments

Attachment 1: Financial results for the ten (10) months ended January 31, 2025.

Report prepared by: Signed by: Warren Brake FF7DA207844542C...

Warren Brake, CPA, CGA
Manager of Accounting (902) 719-4814

HALIFAX WATER
UNAUDITED STATEMENT OF FINANCIAL POSITION - IFRS
January 31, 2025 (in thousands)

January 31 (in thousands)	2025	2024	March 31 2024	From Prior Year $ Change	% Change
Assets					
Current					
Cash and cash equivalents	$ 77,667	$ 54,661	$ 44,021	$ 23,006	42.1%
Receivables					
Customer charges and contractual	18,826	19,245	21,546	(419)	(2.2%)
Unbilled service revenues	24,496	24,270	20,959	226	0.9%
Inventory	2,590	2,513	2,364	77	3.1%
Prepaids	973	1,726	1,735	(753)	(43.6%)
	124,553	102,415	90,625	22,138	21.6%
Intangible assets	34,622	20,723	35,989	13,899	67.1%
Capital work in progress	196,180	145,162	114,374	51,018	35.1%
Utility plant in service	1,279,232	1,264,995	1,297,942	14,237	1.1%
Total assets	1,634,587	1,533,295	1,538,931	101,292	6.6%
Regulatory deferral account	1,885	2,093	2,044	(208)	(9.9%)
Total assets and regulatory deferral account	**$ 1,636,472**	**$ 1,535,388**	**$ 1,540,974**	**$ 101,084**	**6.6%**
Liabilities					
Current					
Payables and accruals					
Trade	20,969	19,415	23,393	1,554	8.0%
Non-trade	4,822	3,453	5,579	1,369	39.6%
Interest on long term debt	2,292	1,400	3,062	892	63.7%
Halifax Regional Municipality	5,011	(2,613)	5,047	7,624	291.8%
Contractor and customer deposits	1,617	3,394	1,095	(1,777)	(52.4%)
Current portion of deferred contributed capital	19,260	18,836	19,260	424	2.3%
Current portion of long term debt	32,881	56,933	39,832	(24,052)	(42.2%)
Unearned revenue	2,766	2,590	157	176	6.8%
	89,618	103,408	97,423	(13,790)	(13.3%)
Deferred contributed capital	938,818	925,008	928,048	13,810	1.5%
Long term debt	260,089	179,483	196,622	80,606	44.9%
Employee benefit obligation	3,190	13,622	2,353	(10,432)	(76.6%)
Total liabilities	1,291,715	1,221,521	1,224,445	70,194	5.7%
Equity					
Accumulated other comprehensive loss	60,395	51,651	60,396	8,744	16.9%
Accumulated surplus	284,362	262,216	256,130	22,145	8.4%
Total equity	344,757	313,867	316,526	30,890	9.8%
Total liabilities and equity	**$ 1,636,472**	**$ 1,535,388**	**$ 1,540,972**	**$ 101,084**	**6.6%**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS AND COMPREHENSIVE EARNINGS - ALL SERVICES - IFRS
APRIL 1, 2024 - JANUARY 31, 2025 (10 MONTHS)
ACTUAL YEAR TO DATE COMPLETE: 83.33%

	ACTUAL YEAR TO DATE THIS YEAR '000	ACTUAL YEAR TO DATE LAST YEAR '000	APR 1/24 MAR 31/25 BUDGET '000	ACTUAL YEAR TO DATE as % of BUDGET	From Prior Year $ Change	From Prior Year % Change	Actual to Budget $ Remaining	Actual to Budget % Remaining
Operating revenues								
Water	$ 47,378	$ 46,733	$ 54,832	86.41%	$ 645	1.38%	$ (7,454)	(13.59%)
Wastewater	77,432	77,096	89,330	86.68%	336	0.44%	(11,897)	(13.32%)
Stormwater	12,307	12,186	15,379	80.03%	121	1.00%	(3,072)	(19.97%)
Public fire protection	6,736	6,736	8,083	83.33%	(0)	(0.00%)	(1,347)	(16.67%)
Private fire protection	1,437	1,413	1,721	83.48%	24	1.68%	(284)	(16.52%)
Other operating revenue	2,581	2,187	2,714	95.09%	394	18.02%	(133)	(4.91%)
	147,871	**146,351**	**172,059**	**85.94%**	**1,520**	**1.04%**	**(24,188)**	**(14.06%)**
Operating expenditures								
Water supply and treatment	12,659	13,046	13,661	92.66%	(387)	(2.97%)	(1,002)	(7.34%)
Water transmission and distribution	12,980	9,923	14,066	92.28%	3,057	30.81%	(1,086)	(7.72%)
Wastewater collection	12,426	11,588	14,346	86.62%	838	7.24%	(1,920)	(13.38%)
Stormwater collection	5,202	4,218	5,816	89.44%	984	23.32%	(614)	(10.56%)
Wastewater treatment	21,698	19,644	26,368	82.29%	2,054	10.46%	(4,670)	(17.71%)
Engineering and technology services	15,635	12,031	17,757	88.05%	3,604	29.96%	(2,122)	(11.95%)
Regulatory compliance services	4,443	3,688	5,922	75.03%	755	20.48%	(1,479)	(24.97%)
Customer services	3,890	3,680	4,507	86.32%	210	5.71%	(617)	(13.68%)
Corporate services	3,340	2,465	3,743	89.24%	875	35.50%	(403)	(10.76%)
Administration services	4,594	3,767	10,267	44.75%	827	21.96%	(5,673)	(55.25%)
Pension services	956	5,496	2,889	33.08%	(4,540)	(82.61%)	(1,933)	(66.92%)
Depreciation and amortization	47,437	41,167	53,666	88.39%	6,270	15.23%	(6,229)	(11.61%)
	145,261	**130,713**	**173,008**	**83.96%**	**14,548**	**11.13%**	**(27,747)**	**(16.04%)**
Earnings (loss) from operations before financial and other revenues and expenditures	**2,610**	**15,638**	**(948)**	**(275.23%)**	**(13,028)**	**(83.31%)**	**3,559**	**(375.23%)**
Financial and other revenues								
Interest	91	249	383	23.74%	(158)	(63.48%)	(292)	(76.26%)
Amortization of contributed capital	11,316	12,439	19,260	58.75%	(1,123)	(9.03%)	(7,944)	(41.25%)
Other	528	408	615	85.84%	120	29.49%	(87)	(14.16%)
	11,935	**13,096**	**20,258**	**58.91%**	**(1,161)**	**(8.87%)**	**(8,323)**	**(41.09%)**
Financial and other expenditures								
Interest	0	0	0	0.00%	0	0.00%	0	0.00%
Interest on long term debt	7,523	5,473	9,375	80.24%	2,050	37.45%	(1,853)	(19.76%)
Amortization of debt discount	203	183	245	82.97%	20	11.15%	(42)	(17.03%)
Dividend/grant in lieu of taxes	5,823	5,501	7,031	82.81%	322	5.85%	(1,209)	(17.19%)
Other	113	32	175	64.35%	80	249.36%	(62)	(35.65%)
	13,662	**11,189**	**16,827**	**81.19%**	**2,472**	**22.10%**	**(3,166)**	**(18.81%)**
Earnings for the year before other comprehensive earnings	**$ 883**	**$ 17,545**	**$ 2,482**	**35.58%**	**$ (16,662)**	**(94.97%)**	0	0.00%
							$ (1,599)	**(64.42%)**
							0	0.00%
Other comprehensive earnings	0	0	0	0.00%	0	0.00%	0	0.00%
							0	0.00%
Total comprehensive earnings for the year	**$ 883**	**$ 17,545**	**$ 2,482**	**35.58%**	**$ (16,662)**	**(94.97%)**	**$ (1,599)**	**(64.42%)**

HALIFAX WATER
UNAUDITED STATEMENT OF FINANCIAL POSITION - NSUARB
January 31, 2025 (in thousands)

January 31 (in thousands)	2025	2024	March 31 2024	From Prior Year $ Change	% Change
Assets					
Current					
Cash and cash equivalents	$ 77,667	$ 54,661	$ 44,021	$ 23,006	42.1%
Receivables					
Customer charges and contractual	18,826	19,245	21,546	(419)	(2.2%)
Unbilled service revenues	24,496	24,270	20,959	226	0.9%
Inventory	2,590	2,513	2,364	77	3.1%
Prepaids	973	1,726	1,735	(753)	(43.6%)
	124,553	102,415	90,625	22,138	21.6%
Utility plant in service	1,359,155	1,277,268	1,374,665	81,887	6.4%
Capital work in progress	196,180	145,162	114,374	51,018	35.1%
Total assets	1,679,888	1,524,845	1,579,665	155,043	10.2%
Regulatory deferral account	1,885	2,093	2,044	(208)	(9.9%)
Total assets and regulatory deferral account	**$ 1,681,773**	**$ 1,526,938**	**$ 1,581,709**	**$ 154,835**	**10.1%**
Liabilities					
Current					
Payables and accruals					
Trade	20,969	19,415	23,393	1,554	8.0%
Non-trade	4,822	3,453	5,579	1,369	39.6%
Interest on long term debt	2,292	1,400	3,062	892	63.7%
Halifax Regional Municipality	5,011	(2,613)	5,047	7,624	291.8%
Contractor and customer deposits	1,617	3,394	1,095	(1,777)	(52.4%)
Current portion of long term debt	32,881	56,933	39,832	(24,052)	(42.2%)
Unearned revenue	2,766	2,590	157	176	6.8%
	70,358	84,572	78,163	(14,214)	(16.8%)
Long term debt	260,089	179,483	196,622	80,606	44.9%
Deferred contributions	122,695	110,394	97,673	12,301	11.1%
Total liabilities	453,141	374,449	372,458	78,692	21.0%
Equity					
Accumulated capital surplus	1,221,056	1,105,151	1,195,016	115,905	10.5%
Accumulated operating surplus	4,879	28,925	9,233	(24,046)	(83.1%)
Operating surplus used to fund capital	12,380	12,380	12,380	(0)	(0.0%)
Deficiency of revenues over expenditures	(9,684)	6,033	(7,381)	(15,717)	(260.5%)
Total equity	1,228,632	1,152,489	1,209,248	76,143	6.6%
Total liabilities and equity	**$ 1,681,773**	**$ 1,526,938**	**$ 1,581,706**	**$ 154,835**	**10.1%**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - ALL SERVICES - NSUARB
APRIL 1, 2024 - JANUARY 31, 2025 (10 MONTHS)
ACTUAL YEAR TO DATE COMPLETE: 83.33%

	ACTUAL YEAR TO DATE THIS YEAR '000	ACTUAL YEAR TO DATE LAST YEAR '000	APR 1/24 MAR 31/25 BUDGET '000	ACTUAL YEAR TO DATE as % of BUDGET	From Prior Year $ Change	From Prior Year % Change	Actual to Budget $ Remaining	Actual to Budget % Remaining
Operating revenues								
Water	$ 47,378	$ 46,733	$ 54,832	86.41%	$ 645	1.38%	$ (7,454)	(13.59%)
Wastewater	77,432	77,096	89,330	86.68%	336	0.44%	(11,897)	(13.32%)
Stormwater site generated service	6,878	6,757	8,864	77.60%	121	1.79%	(1,986)	(22.40%)
Stormwater right of way service	5,430	5,429	6,515	83.33%	1	0.01%	(1,086)	(16.67%)
Fire protection (public and private)	8,173	8,149	9,804	83.36%	24	0.29%	(1,631)	(16.64%)
Other services and fees	1,543	1,274	1,551	99.49%	269	21.10%	(8)	(0.51%)
Late payment and other connection fees	460	456	640	71.94%	4	0.94%	(180)	(28.06%)
Miscellaneous	578	457	524	110.38%	121	26.46%	54	10.38%
	147,871	**146,351**	**172,059**	**85.94%**	**1,520**	**1.04%**	**(24,188)**	**(14.06%)**
Operating expenditures								
Water supply and treatment	12,659	13,046	13,661	92.66%	(387)	(2.97%)	(1,002)	(7.34%)
Water transmission and distribution	12,980	9,923	14,066	92.28%	3,057	30.81%	(1,086)	(7.72%)
Wastewater collection	12,426	11,588	14,346	86.62%	838	7.24%	(1,920)	(13.38%)
Stormwater collection	5,202	4,218	5,816	89.44%	984	23.32%	(614)	(10.56%)
Wastewater treatment	21,698	19,644	26,368	82.29%	2,054	10.46%	(4,670)	(17.71%)
Engineering and technology services	15,635	12,031	17,757	88.05%	3,604	29.96%	(2,122)	(11.95%)
Regulatory compliance services	4,443	3,688	5,922	75.03%	755	20.48%	(1,479)	(24.97%)
Customer services	3,890	3,680	4,507	86.32%	210	5.71%	(617)	(13.68%)
Corporate services	3,340	2,465	3,743	89.24%	875	35.50%	(403)	(10.76%)
Administration services	4,594	3,767	10,267	44.75%	827	21.96%	(5,673)	(55.25%)
Depreciation and amortization	29,587	26,960	34,406	85.99%	2,627	9.74%	(4,819)	(14.01%)
	126,455	**111,010**	**150,859**	**83.82%**	**15,445**	**13.91%**	**(24,404)**	**(16.18%)**
Earnings from operations before financial and other revenues and expenditures	**21,417**	**35,341**	**21,201**	**101.02%**	**(13,925)**	**(39.40%)**	**216**	**1.02%**
Financial and other revenues								
Interest	91	249	383	23.74%	(158)	(63.48%)	(292)	(76.26%)
Other	528	407	615	85.84%	121	29.67%	(87)	(14.16%)
	619	**656**	**998**	**62.00%**	**(37)**	**(5.68%)**	**(379)**	**(38.00%)**
Financial and other expenditures								
Interest on long term debt	7,523	5,473	9,375	80.24%	2,050	37.45%	(1,853)	(19.76%)
Repayment on long term debt	18,057	18,774	24,078	75.00%	(717)	(3.82%)	(6,020)	(25.00%)
Amortization of debt discount	203	183	245	82.97%	20	11.15%	(42)	(17.03%)
Dividend/grant in lieu of taxes	5,823	5,501	7,031	82.81%	322	5.85%	(1,209)	(17.19%)
Other	113	33	175	64.35%	80	241.72%	(62)	(35.65%)
	31,719	**29,964**	**40,905**	**77.54%**	**1,755**	**5.86%**	**(9,186)**	**(22.46%)**
Earnings (loss) for the year	**$ (9,684)**	**$ 6,033**	**$ (18,706)**	**51.77%**	**$ (15,717)**	**(260.51%)**	**$ 9,023**	**(48.23%)**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - WATER - NSUARB
APRIL 1, 2024 - JANUARY 31, 2025 (10 MONTHS)
ACTUAL YEAR TO DATE COMPLETE: 83.33%

	ACTUAL YEAR TO DATE THIS YEAR '000	LAST YEAR '000	APR 1/24 MAR 31/25 BUDGET '000	ACTUAL YEAR TO DATE as % of BUDGET	From Prior Year $ Change	% Change	Actual to Budget $ Remaining	% Remaining
Operating revenues - Water								
Water	$ 47,378	$ 46,733	$ 54,832	86.41%	$ 645	1.38%	$ (7,454)	(13.59%)
Public fire protection	6,736	6,736	8,083	83.33%	(0)	(0.00%)	(1,347)	(16.67%)
Private fire protection	1,437	1,413	1,721	83.48%	24	1.68%	(284)	(16.52%)
Bulk water stations	191	239	369	51.76%	(48)	(20.07%)	(178)	(48.24%)
Late payment and other connection fees	155	148	205	75.74%	7	5.06%	(50)	(24.26%)
Miscellaneous	287	250	269	106.76%	37	14.80%	18	6.76%
	56,184	**55,519**	**65,480**	**85.80%**	**665**	**1.20%**	**(9,295)**	**(14.20%)**
Operating expenditures - Water								
Water supply and treatment	12,659	13,046	13,661	92.66%	(387)	(2.97%)	(1,002)	(7.34%)
Water transmission and distribution	12,980	9,923	14,066	92.28%	3,057	30.81%	(1,086)	(7.72%)
Engineering and technology services	6,030	4,566	6,412	94.05%	1,464	32.07%	(382)	(5.95%)
Regulatory compliance services	1,452	883	1,647	88.13%	569	64.39%	(195)	(11.87%)
Customer services	1,984	1,966	2,299	86.30%	18	0.92%	(315)	(13.70%)
Corporate services	1,703	1,366	1,909	89.23%	337	24.70%	(206)	(10.77%)
Administration services	2,288	2,060	5,236	43.70%	228	11.08%	(2,948)	(56.30%)
Depreciation and amortization	11,807	10,944	12,959	91.11%	863	7.89%	(1,152)	(8.89%)
	50,904	**44,754**	**58,189**	**87.48%**	**6,150**	**13.74%**	**(7,286)**	**(12.52%)**
Earnings from operations before financial and other revenues and expenditures	**5,280**	**10,765**	**7,290**	**72.43%**	**(5,485)**	**(50.95%)**	**(2,010)**	**(27.57%)**
Financial and other revenues								
Interest	185	242	372	49.78%	(57)	(23.46%)	(187)	(50.22%)
Other	447	327	458	97.52%	120	36.65%	(11)	(2.48%)
	632	**569**	**830**	**76.13%**	**63**	**11.08%**	**(198)**	**(23.87%)**
Financial and other expenditures								
Interest on long term debt	3,196	2,072	4,109	77.79%	1,124	54.25%	(913)	(22.21%)
Repayment on long term debt	5,827	5,100	6,997	83.28%	727	14.26%	(1,170)	(16.72%)
Amortization of debt discount	86	72	112	76.19%	14	18.89%	(27)	(23.81%)
Dividend/grant in lieu of taxes	4,976	4,729	6,005	82.86%	247	5.21%	(1,029)	(17.14%)
Other	104	30	130	80.12%	74	247.85%	(26)	(19.88%)
	14,189	**12,003**	**17,353**	**81.76%**	**2,186**	**18.21%**	**(3,165)**	**(18.24%)**
Loss for the year	**$ (8,276)**	**$ (669)**	**$ (9,233)**	**89.64%**	**$ (7,607)**	**1137.10%**	**$ 957**	**(10.36%)**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - WASTEWATER - NSUARB
APRIL 1, 2024 - JANUARY 31, 2025 (10 MONTHS)
ACTUAL YEAR TO DATE COMPLETE: 83.33%

	ACTUAL YEAR TO DATE THIS YEAR '000	ACTUAL YEAR TO DATE LAST YEAR '000	APR 1/24 MAR 31/25 BUDGET '000	ACTUAL YEAR TO DATE as % of BUDGET	From Prior Year $ Change	From Prior Year % Change	Actual to Budget $ Remaining	Actual to Budget % Remaining
Operating revenues - Wastewater								
Wastewater	$ 77,432	$ 77,096	$ 89,330	86.68%	$ 336	0.44%	$ (11,897)	(13.32%)
Leachate and other contract revenue	453	458	507	89.41%	(5)	(1.08%)	(54)	(10.59%)
Septage tipping fees	714	482	570	125.26%	232	48.13%	144	25.26%
Overstrength surcharge	118	0	0	0.00%	118	0.00%	118	0.00%
Airplane effluent	67	95	105	63.72%	(28)	(29.57%)	(38)	(36.28%)
Late payment and other connection fees	252	243	253	99.58%	9	3.80%	(1)	(0.42%)
Miscellaneous	147	117	187	78.17%	30	25.24%	(41)	(21.83%)
	79,183	**78,491**	**90,952**	**87.06%**	**692**	**0.88%**	**(11,769)**	**(12.94%)**
Operating expenditures - Wastewater								
Wastewater collection	12,426	11,588	14,346	86.62%	838	7.24%	(1,920)	(13.38%)
Wastewater treatment	21,698	19,644	26,368	82.29%	2,054	10.46%	(4,670)	(17.71%)
Engineering and technology services	7,876	6,165	9,335	84.38%	1,711	27.76%	(1,459)	(15.62%)
Regulatory compliance services	1,492	1,292	1,889	79.00%	200	15.51%	(397)	(21.00%)
Customer services	1,757	1,574	2,029	86.57%	183	11.60%	(272)	(13.43%)
Corporate services	1,473	989	1,651	89.22%	484	48.94%	(178)	(10.78%)
Administration services	2,064	1,539	4,528	45.58%	525	34.10%	(2,464)	(54.42%)
Depreciation and amortization	15,188	13,665	18,396	82.56%	1,523	11.15%	(3,208)	(17.44%)
	63,975	**56,456**	**78,542**	**81.45%**	**7,519**	**13.32%**	**(14,567)**	**(18.55%)**
Earnings from operations before financial and other revenues and expenditures	**15,208**	**22,035**	**12,410**	**122.55%**	**(6,827)**	**(30.98%)**	**2,798**	**22.55%**
Financial and other revenues								
Interest	108	90	139	77.77%	18	20.01%	(31)	(22.23%)
Other	81	80	157	51.66%	1	1.15%	(76)	(48.34%)
	189	**170**	**296**	**63.93%**	**19**	**11.13%**	**(107)**	**(36.07%)**
Financial and other expenditures								
Interest on long term debt	3,356	2,782	4,122	81.42%	574	20.65%	(766)	(18.58%)
Repayment on long term debt	10,251	11,605	14,587	70.27%	(1,354)	(11.67%)	(4,337)	(29.73%)
Amortization of debt discount	95	91	104	91.04%	4	4.40%	(9)	(8.96%)
Dividend/grant in lieu of taxes	699	656	844	82.76%	43	6.51%	(146)	(17.24%)
Other	8	3	45	18.69%	5	180.35%	(37)	(81.31%)
	14,409	**15,137**	**19,703**	**73.13%**	**(728)**	**(4.81%)**	**(5,294)**	**(26.87%)**
Earnings (loss) for the year	**$ 988**	**$ 7,068**	**$ (6,998)**	**(14.11%)**	**$ (6,080)**	**(86.03%)**	**$ 7,985**	**(114.11%)**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - STORMWATER - NSUARB
APRIL 1, 2024 - JANUARY 31, 2025 (10 MONTHS)
ACTUAL YEAR TO DATE COMPLETE: 83.33%

	ACTUAL YEAR TO DATE THIS YEAR '000	LAST YEAR '000	APR 1/24 MAR 31/25 BUDGET '000	ACTUAL YEAR TO DATE as % of BUDGET	From Prior Year $ Change	% Change	Actual to Budget $ Remaining	% Remaining
Operating revenues - Stormwater								
Stormwater site generated service	$ 6,878	$ 6,757	$ 8,864	77.60%	$ 121	1.79%	$ (1,986)	(22.40%)
Stormwater right of way service	5,430	5,429	6,515	83.33%	1	0.01%	(1,086)	(16.67%)
Late payment and other connection fees	53	65	181	29.01%	(12)	(19.11%)	(129)	(70.99%)
Miscellaneous	144	90	67	214.70%	54	60.41%	77	114.70%
	12,504	**12,341**	**15,627**	**80.02%**	**163**	**1.32%**	**(3,123)**	**(19.98%)**
Operating expenditures - Stormwater								
Stormwater collection	5,202	4,218	5,816	89.44%	984	23.32%	(614)	(10.56%)
Engineering and technology services	1,728	1,300	2,010	85.98%	428	32.93%	(282)	(14.02%)
Regulatory compliance services	1,499	1,513	2,386	62.84%	(14)	(0.90%)	(887)	(37.16%)
Customer services	150	140	179	83.60%	10	6.89%	(29)	(16.40%)
Corporate services	164	110	183	89.43%	54	48.79%	(19)	(10.57%)
Administration services	242	168	503	48.15%	74	44.17%	(261)	(51.85%)
Depreciation and amortization	2,591	2,351	3,050	84.96%	240	10.21%	(459)	(15.04%)
	11,576	**9,800**	**14,127**	**81.94%**	**1,776**	**18.12%**	**(2,551)**	**(18.06%)**
Earnings from operations before financial and other revenues and expenditures	**928**	**2,541**	**1,500**	**61.87%**	**(1,613)**	**(63.47%)**	**(572)**	**(38.13%)**
Financial and other revenues								
Interest	(202)	(83)	(128)	158.11%	(119)	143.71%	(74)	58.11%
Other	0	0	0	0.00%	0	0.00%	0	0.00%
	(202)	**(83)**	**(128)**	**158.11%**	**(119)**	**143.71%**	**(74)**	**58.11%**
Financial and other expenditures								
Interest on long term debt	970	619	1,144	84.79%	351	56.75%	(174)	(15.21%)
Repayment on long term debt	1,980	2,069	2,493	79.40%	(89)	(4.31%)	(514)	(20.60%)
Amortization of debt discount	23	20	28	80.15%	3	14.02%	(6)	(19.85%)
Dividend/grant in lieu of taxes	148	116	182	81.36%	32	27.94%	(34)	(18.64%)
	3,121	**2,824**	**3,849**	**81.10%**	**297**	**10.53%**	**(727)**	**(18.90%)**
Earnings (loss) for the year	**$ (2,395)**	**$ (366)**	**$ (2,476)**	**96.74%**	**$ (2,029)**	**554.65%**	**$ 81**	**(3.26%)**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - REGULATED AND UNREGULATED ACTIVITIES - NSUARB
APRIL 1, 2024 - JANUARY 31, 2025 (10 MONTHS)
ACTUAL YEAR TO DATE COMPLETE: 83.33%

	ACTUAL YEAR TO DATE THIS YEAR '000	LAST YEAR '000	APR 1/24 MAR 31/25 BUDGET '000	ACTUAL YEAR TO DATE as % of BUDGET	From Prior Year $ Change	% Change	Actual to Budget $ Remaining	% Remaining
REGULATED ACTIVITIES								
Operating revenues								
Water	$ 47,378	$ 46,733	$ 54,832	86.41%	$ 645	1.38%	$ (7,454)	(13.59%)
Wastewater	77,432	77,096	89,330	86.68%	336	0.44%	(11,897)	(13.32%)
Stormwater	12,307	12,186	15,379	80.03%	121	1.00%	(3,072)	(19.97%)
Public fire protection	6,736	6,736	8,083	83.33%	(0)	(0.00%)	(1,347)	(16.67%)
Private fire protection	1,437	1,413	1,721	83.48%	24	1.68%	(284)	(16.52%)
Miscellaneous	1,347	1,152	1,532	87.90%	195	16.94%	(185)	(12.10%)
	146,637	**145,316**	**170,878**	**85.81%**	**1,321**	**0.91%**	**(24,240)**	**(14.19%)**
Operating expenditures								
Water supply and treatment	12,655	13,041	13,661	92.63%	(386)	(2.96%)	(1,006)	(7.37%)
Water transmission and distribution	12,980	9,923	14,066	92.28%	3,057	30.81%	(1,086)	(7.72%)
Wastewater collection	12,372	11,540	14,285	86.61%	833	7.22%	(1,912)	(13.39%)
Stormwater collection	5,202	4,218	5,816	89.44%	984	23.32%	(614)	(10.56%)
Wastewater treatment	20,953	18,964	25,571	81.94%	1,988	10.49%	(4,618)	(18.06%)
Engineering and technology services	15,635	12,031	17,757	88.05%	3,604	29.96%	(2,122)	(11.95%)
Regulatory compliance services	4,443	3,688	5,922	75.03%	755	20.48%	(1,479)	(24.97%)
Customer services	3,852	3,684	4,467	86.23%	168	4.56%	(615)	(13.77%)
Corporate services	3,325	2,461	3,730	89.15%	865	35.14%	(405)	(10.85%)
Administration services	4,501	3,734	10,130	44.43%	767	20.55%	(5,629)	(55.57%)
Depreciation and amortization	29,570	26,943	34,371	86.03%	2,627	9.75%	(4,801)	(13.97%)
	125,489	**110,226**	**149,776**	**83.78%**	**15,263**	**13.85%**	**(24,287)**	**(16.22%)**
Earnings from operations before financial and other revenues and expenditures	**21,148**	**35,090**	**21,101**	**100.22%**	**(13,942)**	**(39.73%)**	**47**	**0.22%**
Financial and other revenues								
Interest	91	249	511	17.80%	(158)	(63.48%)	(420)	(82.20%)
Other	17	5	28	60.20%	12	215.21%	(11)	(39.80%)
	108	**254**	**539**	**20.02%**	**(146)**	**(57.58%)**	**(431)**	**(79.98%)**
Financial and other expenditures								
Interest on long term debt	7,523	5,473	9,375	80.24%	2,050	37.45%	(1,853)	(19.76%)
Repayment on long term debt	18,057	18,774	24,078	75.00%	(717)	(3.82%)	(6,020)	(25.00%)
Amortization of debt discount	203	183	245	82.97%	20	11.15%	(42)	(17.03%)
Dividend/grant in lieu of taxes	5,823	5,501	7,031	82.81%	322	5.85%	(1,209)	(17.19%)
	31,606	**29,931**	**40,730**	**77.60%**	**1,675**	**5.60%**	**(9,123)**	**(22.40%)**
Earnings (loss) for the year - Regulated	**$ (10,350)**	**$ 5,413**	**$ (19,089)**	**54.22%**	**$ (15,764)**	**(291.19%)**	**$ 8,739**	**(45.78%)**

HALIFAX WATER
UNAUDITED STATEMENT OF EARNINGS - REGULATED AND UNREGULATED ACTIVITIES - NSUARB
APRIL 1, 2024 - JANUARY 31, 2025 (10 MONTHS)
ACTUAL YEAR TO DATE COMPLETE: 83.33%

	ACTUAL YEAR TO DATE THIS YEAR '000	ACTUAL YEAR TO DATE LAST YEAR '000	APR 1/24 MAR 31/25 BUDGET '000	ACTUAL YEAR TO DATE as % of BUDGET	From Prior Year $ Change	From Prior Year % Change	Actual to Budget 33	Actual to Budget % Remaining
UNREGULATED ACTIVITIES								
Operating revenues								
Septage tipping fees	$ 714	$ 482	$ 570	125.26%	$ 232	48.13%	$ 144	25.26%
Leachate and other contract revenue	453	458	507	89.41%	(5)	(1.08%)	(54)	(10.59%)
Airplane effluent	67	95	105	63.72%	(28)	(29.57%)	(38)	(36.28%)
	1,234	**1,035**	**1,182**	**104.42%**	**199**	**19.22%**	**52**	**4.42%**
Operating expenditures								
Water supply and treatment	4	5	0	0.00%	(2)	(29.16%)	4	0.00%
Wastewater treatment	745	680	797	93.53%	66	9.66%	(52)	(6.47%)
Wastewater collection	54	48	61	88.26%	6	12.05%	(7)	(11.74%)
Sponsorships and donations	38	1	80	47.88%	37	3473.32%	(42)	(52.12%)
Corporate services	15	4	13	113.67%	10	233.33%	2	13.67%
Administration services	93	28	97	95.65%	65	233.33%	(4)	(4.35%)
Depreciation and amortization	17	17	34	47.91%	(1)	(4.69%)	(18)	(52.09%)
	966	**784**	**1,083**	**89.19%**	**182**	**23.17%**	**(117)**	**(10.81%)**
Earnings from operations before financial and other revenues and expenditures	**268**	**251**	**99**	**270.54%**	**17**	**6.89%**	**169**	**170.54%**
Financial and other revenues								
Other - leases and rentals	338	222	368	91.71%	115	51.85%	(30)	(8.29%)
Other - energy projects	173	179	219	79.25%	(6)	(3.39%)	(45)	(20.75%)
	511	**402**	**587**	**87.07%**	**109**	**27.18%**	**(76)**	**(12.93%)**
Financial and other expenditures								
Other	113	33	175	64.35%	80	241.72%	(62)	(35.65%)
	113	**33**	**175**	**64.35%**	**80**	**241.72%**	**(62)**	**(35.65%)**
Earnings for the year - Unregulated	**$ 666**	**$ 620**	**$ 511**	**130.51%**	**$ 47**	**7.54%**	**$ 156**	**30.51%**
Total earnings (loss) for the year (Regulated and Unregulated)	**$ (9,684)**	**$ 6,033**	**$ (18,578)**	**52.12%**	**$ (15,717)**	**(260.51%)**	**$ 8,895**	**(47.88%)**

APPENDIX A

SCHEDULE OF RATES, RULES & REGULATIONS
FOR WATER, WASTEWATER, AND STORMWATER SERVICES
EFFECTIVE ~~OCTOBER 15, 2023~~ JANUARY 1, 2026

Table of Contents

PART I - INTERPRETATION

1. Short Title
2. Adoption of Statutory Definitions
3. Definitions
4. Interpretation

PART II - RATE

5. Rates for Water Service
6. Rates for Wastewater Service
7. Charges for Stormwater Service
8. Charge for Temporary Water. Wastewater or Stormwater Service
9. New Water. Wastewater or Stormwater Account Charge

PART III - BILLING

10. Payment of Bills
11. Adjustment of Bills
12. Estimated Reading for Billing Customers
13. Suspension or Refusal of Service
14. Collection of Overdue Bills
15. Customer Bill Retrievals/Copies
16. Dishonoured Payments
17. Deposits

PART IV - CHARGES

18. Connection/Disconnection of Service
19. Water Meter Installation
20. Customer Monitoring Service
21. Inspection of Service Connections and Driveway Culverts
22. Wastewater Rebate
23. Water Service Connection Tapping Connection Fee
24. Audit Inspections and Review of Drawings
25. Missed Appointment by Customer
26. Theft of Service
27. Designated Bulk Fill Station
28. Area Master Capital Cost Contribution Charge
29. Regional Development Charge for Wastewater Infrastructure
30. Regional Development Charge for Water Infrastructure
31. Recovery of Costs

31A. Fire Hydrant Flow Testing

31B. Commissioning Water Service(s)

PART V - FIRE PROJECTION CHARGES

32. Public Fire Service Charge
33. Public Fire Protection Rate
34. Special Service Supplied from Fire Hydrants
35. Building Fire Protection Systems

PART VI - PROVISION OF SERVICE

36. Liability for Payment of Service
37. Plumbing to be Satisfactory
38. Prohibited Appliances
39. Improper Use of Water, Wastewater, or Stormwater
40. Capacity of Wastewater and/or Stormwater Systems
41. Pipe Installation
42. Unauthorized Extensions. Additions, or Connections
43. Interference with Commission Water System
44. Interference with Commission Wastewater or Stormwater Services

PART VII - METERING

45. Water to be Supplied Only by Meter
45A. AMI Meters
46. Installation and Removal of Water Meters
47. Location of Water Meters
48. Master Water Meters
49. Damage to Water Meters
50. Meter Testing

PART VIII - WATER SERVICE

51. Water Service Connection
51A. Lead Water Service Connection Replacement
52. Water Service Cross Connection Control & Backflow Prevention
53. Alternate Water Supply Prohibited
54. Repairs to Water Service Connection
55. Water Service Pressure Reducing Valves
56. Water Service Control Valves
57. Water Conservation Directives
58. Acceptance of Private Community Water. Wastewater and Stormwater Systems

PART IX – FIRE PROTECTION

59. Fire Protection Service Pipes
60. Private Fire Protection

PART X - WASTEWATER AND/OR STORMWATER SERVICE

61. Wastewater and/or Stormwater Service Connections
62. Repairs to Wastewater and/or Stormwater Service Connections

PART XI - WASTEWATER AND STORMWATER DISCHARGE

63. Discharge into the Wastewater System
64. Stormwater Discharge to the Wastewater System
65. Discharge of Extra Strength Wastewater and Extraneous Water or Wastewater
66. Discharge into and Obstruction of the Stormwater System
67. Wastewater Discharges to Stormwater Systems
68. Swimming Pools and Spas

PART XII - PRETREATMENT

69. Pretreatment Facilities
70. Food Related Grease Interceptors
71. Vehicle and Equipment Service Oil and Grease Interceptors
72. Sediment Interceptors

PART XIII - MONITORING. SAMPLING AND REPORTING

73. Wastewater Service Reporting Requirements
74. Wastewater Service Compliance Agreement
75. Monitoring. Sampling, and Reporting
76. Wastewater and/or Stormwater Service Sampling and Analytical Requirements
77. Wastewater and/or Stormwater Monitoring Access Point
78. Releases

PART XIV - DISPUTE RESOLUTION OFFICER

78A. Dispute Resolution Office Established
78B. Term of Office
78C. Removal or Suspension
78D. Extent of Disclosure in Report of DRO
78E. Refusal or Cessation of Review
78F. Notification of Investigation
78G. Nature of Investigation
78H. Report of DRO
78I. Order of DRO
78J. Appeal from Order of DRO

PART XV – OFFENCES AND DIRECTIVES

79. Offences
80. Directives

Attachment 1: Procedure for Acceptance of Private Community Water, Wastewater and Stormwater Systems

Attachment 2: Water, Wastewater, and Stormwater Capital Cost Contribution Policy

Regulations Respecting Rates and Charges for the Provision of Water, Wastewater, Stormwater, Public and Private Fire Protection Service

PART I - INTERPRETATION

Short Title

These Regulations may be cited as the “Halifax Water Regulations”.

Adoption of Statutory Definitions

All terms defined in the *Halifax Regional Water Commission Act* have the same meaning in these Regulations, unless otherwise defined.

Definitions

In these Regulations,

(a) "Accredited Laboratory" means any laboratory accredited by an authorized accreditation body in accordance with a standard based on "CAN-P-1585: Requirements for the Accreditation of Environmental Testing Laboratories" established by the Standards Council of Canada, as amended, or "ISO/IEC/EN 17025: General Requirements for Competence of Calibration and Testing Laboratories" established by the International Organization for Standardization, as amended;

(b) "Adverse Effect" means an effect that impairs or damages the environment or the operation of a Water System, Wastewater System or Stormwater System, including an adverse effect respecting the health of humans or the reasonable enjoyment of life or property;

(c) “Animal” means any creature that is not human and includes any other thing prescribed as an animal, but does not include any thing prescribed as excluded;

(d) “Animal by-product” means a part of an Animal or its carcass that is extracted, collected or otherwise obtained from an Animal or its carcass for purposes that are not a principal intention of growing or raising the Animal and includes blood and any of its components, antlers, bones, bristles, feathers, flesh, hair, hides, skins, hoofs, horns, offal and anything containing any of those things or derived from any of those things;

(e) “Appeal” means an appeal to the Board, of a DRO Decision Letter;

(f) “Automated Meter Infrastructure (AMI)” means a system which uses radio frequency transmission technology for measuring individual Customer’s water consumption at intervals of an hour or less and communicating such information at frequent intervals to the Commission;

(g) "Best Management Practices” means an integrated plan to control and reduce the Release of restricted and prohibited substances into Wastewater or Stormwater Systems, through methods including physical controls, pretreatment processes, operational procedures and staff training;

(h) "Biochemical Oxygen Demand” (BOD) means the five-day BOD being the determination

of the molecular oxygen utilized during a five-day incubation period for the biochemical degradation of organic material (carbonaceous demand), and the oxygen used to oxidize inorganic material, including sulphides and ferrous iron, and the amount of oxygen used to oxidize reduced forms of nitrogen (nitrogenous demand) as determined by the applicable procedure in Standard Methods;

(i) "Biosolids" means an organic, stabilized material produced during the treatment of domestic Wastewater and septage sludge which has undergone treatment to reduce pathogen content;

(j) “Board” means the Nova Scotia Regulatory and Appeals Board~~Utility and Review Board~~;

(k) "Chemical Oxygen Demand” means a measure of the capacity of water to consume oxygen as a result of oxidation of inorganic chemicals and decomposition of organic matter;

(l) "Combined Sewer" means a sewer intended to function simultaneously as a Stormwater and a Wastewater sewer;

(m) "Combustible Liquid" means a liquid that has a flash point not less than 37.8 degrees Celsius and not greater than 93.3 degrees Celsius;

(n) “Commission” means the Halifax Regional Water Commission;

(o) “Common Customer Location” means two or more locations in respect of which Service is provided by way of separate accounts to the same Customer;

(p) “Complaint” means the complaint that is referred to the DRO, at the conclusion of the Commission’s formal complaint process, by a Customer of Record, requesting the DRO to review the Commission’s response;

~~(o)~~(q)"Composite Sample" means a volume of Wastewater, Stormwater, Uncontaminated Water, or effluent made up of three or more Grab Samples that have been combined automatically or manually and taken at intervals during the sampling periods;

(r) "Customer" means a ~~person~~Person who is a Customer of Record or ~~arranges to be or~~ is supplied with water and/or Wastewater Service at a specified location or locations and includes a ~~person~~Person receiving Stormwater Service

(s) “Customer of Record” means the Person that applies for Service at a specified location or locations and is identified in the account records of the Commission as the Person responsible for payment of the bill.

~~(p)~~(t) “Decision Letter” means the outcome of a review, made by the DRO, respecting a Complaint;

~~(q)~~(u)"Discharge" means to directly or indirectly discharge, Release, permit or cause to be discharged or Released into Wastewater or Stormwater Systems;

(v) "Discharger" means an owner, occupant or ~~person~~Person who has charge, management or control of effluent, Wastewater, Stormwater, Uncontaminated Water or any combination thereof, which is Discharged to Wastewater or Stormwater Systems;

(w) "Directive" means an instruction mandated ~~issued~~ by the Commission requiring a ~~person~~Person to take certain actions to become compliant with these Regulations.

~~(r)~~(x) "Ditch" means an excavated or constructed open channel, which is vested in or under the control of the Commission;

~~(s)~~(y) "Driveway Culvert" means a culvert pipe within a portion of a street right of way intended for the purpose of providing passage of water along a drainage Ditch, under a driveway, from one side of the driveway to the other side of the driveway, and such culvert pipe is deemed to be part of the Stormwater System;

~~(t)~~(z) "Dwelling Unit" means the whole or any part of a building or structure that is kept or occupied as a permanent or temporary residence and includes (i) a building within the curtilage of a dwelling that is connected to it by a doorway or by a covered and enclosed passage-way, and (ii) a unit that is designed to be mobile and to be used as a permanent or temporary residence, regardless of whether it is being used as such a residence;

~~(u)~~(aa) "Encoder Receiver Transmitter" (ERT) means a device used to transmit data from a water meter to the Commission and is deemed to be a part of such meter;

~~(v)~~(bb) "Extraneous Water or Wastewater" means water, ~~or~~ Wastewater or Stormwater, originating from a source other than the Commission's water supply, but does not include water originating from private wells for domestic use where a connection to the Commission's Water System is not available;

~~(w)~~(cc) "Extra Strength Wastewater" means Wastewater Released to a sewer that is higher in concentration for one or more constituent concentrations than those set out in Table 6 in these Regulations;

~~(x)~~(dd) "Fuel" includes alcohol, gasoline, naphtha, diesel fuel, fuel oil or any other ignitable substance intended for use as a fuel;

~~(y)~~(ee) "Grab Sample" means a volume of Wastewater, Stormwater, Uncontaminated Water or effluent which is collected over a period not exceeding 15 minutes;

~~(z)~~(ff) "Hauled Waste" means any Waste, including Hauled Wastewater, which is transported to and deposited into, or proposed to be deposited into, any location in a Wastewater or Stormwater System;

~~(aa)~~(gg) "Hauled Wastewater" means Waste removed from a Wastewater facility, including a cesspool, a septic tank, a vault privy or pit privy, a chemical toilet, a portable toilet or a Wastewater holding tank;

~~(bb)~~(hh) "Hazardous Substance" means:

i) any substance or mixture of substances, other than a Pesticide, that exhibits characteristics of flammability, corrosivity, reactivity or toxicity; and
ii) any substance that is designated as a hazardous substance within the meaning of any applicable provincial or federal legislation, as amended from time ~~to~~ to time;

~~(cc)~~(ii) "Hazardous Waste" means any Hazardous Substance disposed of as Waste;

~~(dd)~~(jj) "HRM" means the Halifax Regional Municipality;

~~(ee)~~(kk) "Ignitable Waste" means a substance that:

i) is a liquid, other than an aqueous solution containing less that 24 percent alcohol by volume, and has a flash point less than 93 degrees Celsius, as determined by the Tag Closed Cup Tester (ASTM D-56-97a), the Setaflash Closed Cup Tester (ASTM D-3828-97 or ASTM D-3278-96e1), the PenskyMartens Closed Cup Tester (ASTM D-93-97), or as determined by an equivalent test method;
ii) is a solid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a danger;
iii) is an ignitable compressed gas as defined in regulations made under applicable provincial or federal legislation, as amended; or
iv) is an oxidizing substance as defined in regulations made under applicable provincial or federal legislation, as amended;

~~(ff)~~(ll) "Impervious Area" means an area or surface which prevents or limits the entrance or passage of stormwater, including asphalt, concrete, bricks, roofs and gravel surfaces if they are hard packed, and all of which are denoted as impervious by the satellite imagery utilized by the Commission in that determination;

~~(gg)~~(mm) "Industrial, Commercial or Institutional" (ICI) includes or pertains to industry, manufacturing, commerce, trade, business, or institutions and includes multi-unit dwellings ~~of four or more units~~;

~~(hh)~~(nn) "Infrastructure Charge" means a development charge levied as a condition of subdivision approval or at a building permit stage;

~~(ii)~~(oo)"Interceptor" means a receptacle that is installed to prevent oil, grease, sand or other materials from passing into a Wastewater System or a Stormwater System;

~~(jj)~~(pp)"Landlord" has the same meaning as set out in Section 2 of the Residential Tenancies Act;

~~(kk)~~(qq) "Leachate" includes any liquid that has percolated through solid waste and, during percolation, has extracted dissolved or suspended materials from such solid waste, including the liquid produced from the decomposition of waste materials and liquid that has entered the waste material from external sources including surface drainage, rainfall and groundwater;

~~(ll)~~(rr) "Monitoring Access Point" means an access point, including a chamber, in a Wastewater or Stormwater Service Connection to allow for observation, sampling and flow measurement of the Wastewater, Uncontaminated Water or Stormwater within such a Service Connection;

~~(mm)~~(ss) "No-Corrode Pipe" means a coal tar impregnated wood fibre pipe, also known generically as Orangeburg pipe;

~~(nn)~~(tt) "Non-C~~c~~ontact Cooling Water" means water that is used in a process for the purpose of removing heat and that has not, by design, come into contact with any raw material, intermediate product, waste product, or finished product, but may include blow down water;

~~(oo)~~(uu) "Non-Residential Property" means a property that has more than three Dwelling Units, or has a commercial building, or has been identified by property tax authorities as

commercial, mixed use (i.e., as both residential and non-residential), or as having more than three residential assessments, as it relates to Stormwater Services billing;

(vv) "NORM" means naturally occurring radioactive material found in industrial wastes or by-products enriched with radioactive elements found in the environment, including uranium, thorium and potassium and any of their decay products, including radium and radon;

(ww) "Notice of Objection" means the notice that is submitted by a Customer to the Commission objecting to not being exempt from the Site-Related Flow Charge portion of the charge as set out in PART II RATES, Charges for Stormwater Service, section 7. subsections (5), (6) or (7);

(xx) "Notice of Objection Fee" means the fee required to be paid contemporaneously with filing of a Notice of Objection.

(yy) "Notice of Objection Complaint Fee" means the fee required to be paid contemporaneously with the filing of a Notice of Objection Complaint, with the DRO;

(zz) "Notice of Objection Appeal Fee" means the fee required to be paid contemporaneously with the filing of a Notice of Objection Appeal, with the Board;

(aaa) "PAHs" means the total of all of the following polycyclic aromatic hydrocarbons: Acenaphthene, acenaphthylene, anthracene, benza(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysenes, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, methylnaphthalene~~methylnaphthanlene~~, naphthalene, phenanthrene, pyrene;

(bbb) "Pathological Waste" includes fluids or materials which may contain pathogens of human or Animal origin;

(ccc) "PCBs" means any monochlorinated or polychlorinated biphenyls or any mixture of them or a mixture that contains one or more of them;

(ddd) "Person" means an individual, firm, joint venture, partnership, association, public agency, trust, organization or other legal entity, and includes a body corporate, and any trustee, receiver or personal representative;

~~(ccc)~~(eee) "Pesticides" includes any substance that is a pest control product within the meaning of the *Pest Control Products Act* (Canada) or a fertilizer within the meaning of the *Fertilizers Act* (Canada) and that contains a pest control product;

~~(ddd)~~(fff) "Phenolic Compounds" means hydroxyl derivatives of benzene and its condensed nuclei;

~~(eee)~~(ggg) "Pretreatment Facility" means Wastewater treatment processes designed to remove pollutants from Wastewater prior to Discharge to the Commission's Wastewater System;

~~(fff)~~(hhh) "Prime" means the prime rate of interest set by the Commission's chartered bank from time to time.

~~(ggg)~~(iii) "Reactive Waste" means a substance that:

(i) is normally unstable and readily undergoes violent changes without detonating;
(ii) reacts violently with water;

(iii) forms potentially explosive mixtures with water;
(iv) when mixed with water, generates toxic gases, vapours or fumes in a quantity sufficient to present danger to human health or the environment;
(v) is a cyanide or sulphide bearing Waste which, when exposed to pH conditions between 2 and 12.5 can generate toxic gases, vapours or fumes in a quantity sufficient to present danger to human health or the environment;
(vi) is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement;
(vii) is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or
(viii) is an explosive (Class 1) as defined in the Explosives Regulations, C.R.C., c. 599, as amended from time to time;

~~(hhh)~~(jjj) "Regular Working Hours" means any time between the hours of eight o'clock in the morning ~~forenoon~~ and four o'clock in the afternoon on any day which is not a Saturday, a Sunday or a holiday, as that term is defined in the Interpretation Act; or Truth and Reconciliation Day.

~~(iii)~~(kkk) "Release" means a substance that has spilled, leaked, seeped, drained, sprayed, emptied or has been emitted, Released, Discharged, disposed of, injected, inoculated, abandoned, deposited, poured, thrown, dumped, pumped, exhausted or placed in the environment or the Water, Wastewater or Stormwater System;

~~(jjj)~~(lll) "Residential Property" means a property that has three or less Dwelling Units or has been identified by property tax authorities as residential or a combination of residential and resource, as it relates to Stormwater Services billing.

~~(kkk)~~(mmm)"Right of Way Charge" means the charge imposed by the Regulations on ~~HRM~~ any land parcels designated ~~Right of Way~~ within the Stormwater Service Boundary for the Impervious Area in the street right of way.

~~(lll)~~(nnn) "Service" means water Service, Wastewater Service or Stormwater service or any combination of each of them;

~~(mmm)~~(ooo) "Service Connection" means Water Service Connection, Wastewater Service Connection, or Stormwater Service Connection, or any combination of each of them;

~~(nnn)~~(ppp) "Site Related Flow Charge" means the charge for service and for the benefit a Customer receives, including access to a property over a Commission owned culvert, and management of stormwater from a property that enters any part of the Commission's stormwater system.

~~(ooo)~~(qqq) "Standard Methods" means *Standard Methods for the Examination of Water and Wastewater* (the edition current at the time of testing), published jointly from time to time by the American Public Health Association, the American Water Works Association and the Water Environment Federation;

~~(ppp)~~(rrr) "Stormwater" means water from precipitation of all kinds, and includes water from the melting of snow and ice, groundwater discharge and surface water;

~~(qqq)~~(sss) "Stormwater Service Connection" includes a piping system that conveys Stormwater from a property to a Stormwater System;

~~(rrr)~~(ttt) "Stormwater System" means the method or means of conveying stormwater, within Ditches, swales, mains, drains, canals, retention ponds, and culverts under public streets, private roads, public easements and driveways, which are vested in or under control of the Commission;

~~(sss)~~(uuu) “Stormwater Catchment Boundary” an area of land that drains to the Stormwater System which may encompass a number of properties either in whole or in part.

~~(ttt)~~(vvv) “Stormwater Service Boundary” means the boundary within which the Commission provides Stormwater Service using the Stormwater System.

~~(uuu)~~(www) "Total Kjeldahl Nitrogen" means the sum of organic nitrogen and ammonia nitrogen;

~~(vvv)~~(xxx) "Toxic Substance" means any substance defined as toxic under the Canadian Environmental Protection Act 1999, as amended from time to time;

~~(www)~~(yyy) "Uncontaminated Water" means potable water or any other water to which no matter has been added as a consequence of its use;

~~(xxx)~~(zzz) "Waste" means a substance that would cause or tend to cause an Adverse Effect if added to the environment, or the Water, Wastewater or Stormwater System, and includes rubbish, slimes, tailings, or other industrial wastes, effluent, sludge, Wastewater, garbage, refuse, scrap, litter or other waste products of any kind;

~~(yyy)~~(aaaa) "Waste Radioactive Substances" includes uranium, thorium, plutonium, neptunium, deuterium, their respective derivatives and compounds and such other substances as the Atomic Energy Control Board (Canada) may designate from time to time as being capable of releasing ionizing radiation;

~~(zzz)~~(bbbb) "Wastewater" means liquid waste containing Animal, vegetable, mineral or chemical matter as well as water from sanitary appliances that contains human fecal matter or human urine in solution or suspension together with such groundwater, surface water or Stormwater as may be present;

~~(aaaa)~~(cccc) "Wastewater Service Connection" means a piping system that conveys Wastewater from a property to a Wastewater System;

~~(bbbb)~~(dddd) "Wastewater System" means the structures, pipes, devices, equipment, processes and related equipment used, or intended to be used, for the collection, transportation, pumping or treatment of Wastewater and disposal of effluent, which are vested in or under the control of the Commission;

~~(cccc)~~(eeee) "Watercourse" means:

(i) the bed and shore of every river, stream, lake, creek, pond, spring, lagoon or other natural body of water, and the water therein, within the jurisdiction of the Province, whether it contains water or not; and
(ii) all ground water;

~~(dddd)~~(ffff) "Water Service Connection" means a piping system that conveys water from a water main to a property;

~~(eeee)~~(gggg) "Water System" means the source, structures, pipes, hydrants, meters, devices, equipment or other things used, or intended to be used, for the collection, transportation, pumping or treatment of water, and which are vested in or under the control of the Commission.

Interpretation

4. (1) These Regulations shall be interpreted in accordance with the principles for the interpretation of legislation.
(2) The *Interpretation Act* (Nova Scotia) applies to these Regulations, except where a contrary intention appears.

PART II – RATES

Rates for Water Service

5. (1) Bills for water Service, other than for a specific one-time Service, shall be issued on a monthly or quarterly basis and shall be comprised of a base rate and a consumption rate, each applicable as follows:

(a) Table 1. Base Rate for Water Service

Service on or after April 1, 2016:

Size of Meter (mm)	Minimum Water Monthly Bill	Minimum Water Quarterly Bill
15	$13.00	$39.00
19	$18.00	$54.00
25	$29.00	$87.00
38	$55.00	$165.00
50	$85.00	$255.00
75	$170.00	$510.00
100	$264.00	$792.00
150	$527.00	$1,581.00
200	$946.00	$2,838.00
250	$1,575.00	$4,725.00

(b) Consumption Rate

~~The consumption rate for water is $0.976/m³ for water sold on or after April 1, 2016[DATE].~~

The consumption rate for water is $1.681~~1.017~~/m³ for water sold on or after January 1, 2026~~December 1, 2022~~.

The consumption rate for water is $2.273~~1.128~~/m³ for water sold on or after April 1, 2026.

(2) Non-metered Customers will be charged the approved base water rate and the consumption rate for an equivalent size meter, as estimated by the Commission based on the best information available to the Commission.

Table 2. Non-metered Water Service Rates

~~Service on or after December 1, 2022:~~		
	~~Monthly Bill~~	~~Quarterly Bill~~
~~(15 mm) 161 m³ /year (Domestic)~~	~~$27.00~~	~~$81.00~~
~~(19 mm) 524 m³/year~~	~~$63.00~~	~~$189.00~~
~~(25 mm) 1016 m³/year~~	~~$116.00~~	~~$348.00~~

~~Service on or after April 1, 2023:~~		
	~~Monthly Bill~~	~~Quarterly Bill~~
~~(15 mm) 160 m³ /year (Domestic)~~	~~$29.00~~	~~$87.00~~
~~(19 mm) 516 m³/year~~	~~$67.00~~	~~$201.00~~
~~(25 mm) 1004 m³/year~~	~~$124.00~~	~~$372.00~~
Service on or after January 1, 2026:		
	Monthly Bill	Quarterly Bill
(15 mm) 163 m³ /year (Domestic)	$36.00	$108.00

(19 mm) ~~535~~537 m³/year	$94.00	$282.00
(25 mm) ~~1081~~1083 m³/year	$181.00	$543.00

Service on or after April 1, 2026:		
	Monthly Bill	Quarterly Bill
(15 mm) ~~163~~164 m³ /year (Domestic)	$45.00	$135.00
(19 mm) ~~535~~537 m³/year	$120.00	$360.00
(25 mm) ~~1081~~1088 m³/year	$~~236~~235.00	$~~708~~705.00

Rates for Wastewater Service

6. (1) Bills for Wastewater Service, other than those charges for a specific one time Service shall be issued on a monthly or quarterly basis and shall be comprised of a base rate and a volumetric rate, each applicable as follows;

(a) Table 3. Base Rate for Wastewater Service

(b) Service on or after April 1, 2016:

Size of Meter (mm)	Minimum WW Monthly Bill	Minimum WW Quarterly Bill
15	$14.00	$42.00
19	$20.00	$60.00
25	$33.00	$99.00
38	$64.00	$192.00
50	$103.00	$309.00
75	$206.00	$618.00
100	$321.00	$963.00
150	$641.00	$1,923.00
200	$1,154.00	$3,462.00
250	$1,923.00	$5,769.00

(c) Wastewater Discharge Rate
The Discharge rate for all Wastewater Discharged to the Wastewater System is~~$2.073/m³ for Wastewater Discharged on or after April 1, 2021~~, $$~~2.552~~2.189/m³ for Wastewater Discharged on or after January 1, 2026~~December 1, 2022~~ and $~~2.259~~3.003/m³ for Wastewater Discharged on or after April 1, 2026~~2023~~.

(2) Non-metered Customers will be charged the approved Wastewater base charge and the consumption Discharge rate for an equivalent size meter, as determined by the Commission and based on the projected usage of the customer, as estimated by the Commission based on the best information available to the Commission, including comparison with other similar customers and/or the use of private meters.

Table 4. Non-metered Wastewater Service Rates

	Monthly Bill	Quarterly Bill
~~Service on or after April 1, 2021:~~		
~~(15 mm) 164 m³ /year (Domestic)~~	~~$42.00~~	~~$126.00~~
~~(19 mm) 539 m³/year~~	~~$110.00~~	~~$330.00~~
~~(25 mm) 1046 m³/year~~	~~$205.00~~	~~$615.00~~
~~Service on or after December 1, 2022~~		

(15 mm) 161 m³ /year (Domestic)	$44.00	$132.00
(19 mm) 512 m³/year	$114.00	$342.00
(25 mm) 991 m³/year	$214.00	$642.00
Service on or after April 1, 2023		
(15 mm) 159 m³ /year (Domestic)	$45.00	$135.00
(19 mm) 505 m³/year	$115.00	$345.00
(25 mm) 981 m³/year	$218.00	$654.00
Service on or after January 1, 2026		
(15 mm) 163 m³ /year (Domestic)	$49.00	$147.00
(19 mm) 540541 m³/year	$136.00	$408.00
(25 mm) 10741077 m³/year	$262.00	$786.00
Service on or after April 1, 2026		
(15 mm) 163164 m³ /year (Domestic)	$55.00	$165.00
(19 mm) 540541 m³/year	$153156.00	$459468.00
(25 mm) 10741081 m³/year	$299304.00	$897912.00

(3) Despite subsections (1) and (2), where a Non-Residential Property Customer is discharging Extraneous Water or Wastewater from sources other than the Commission's system, or where a Non-Residential Property Customer may be discharging Stormwater into the Wastewater System, or where, in the opinion of the Commission, a Discharge into the Wastewater System by a Non- Residential Property Customer may not be accurately reflected by use of a similar size and class of Non-Residential Property Customer water meter, the Commission mayshall require a Non-Residential Property Customer in any such circumstances to measure actual Discharge in a manner approved by the Commission, in which case the volumetric charge will be based on the actual measured Discharge into the Commission's Wastewater System.

Charges for Stormwater Service

7. (1) Bills for Stormwater Service, other than any charges for a specific or one-time Service, shall be issued on a monthly, quarterly, semi-annual or annual basis, and levied based on Impervious Area calculated and rounded to the nearest 10m2.

(2) The Person identified in Table XX shall pay the stormwater right of way charge for the impervious area for their respective Pparcels designated street right of way within the Stormwater Service bBoundary. Increases in their respective charges can be updated to reflect the addition of new street ROW at the incremental rate noted in Table 4A(i). as included in the Table [

(2) (a) Effective April 1, 2018 HRM shall pay annually to the Commission for Stormwater Service associated with the HRM owned street right of way (ROW) the amount of $3,835,012 calculated based on the Impervious Area within the HRM owned ROW.

(b) Effective December 1, 2022, HRM shall pay annually to the Commission for Stormwater Service associated with the HRM owned street right of way the amount of $4,602,014 plus an incremental amount calculated based on $0.145 per m² of Impervious Area within the HRM owned street right of way. Effective April 1, 2023, HRM shall pay annually to the Commission for Stormwater Service associated with the HRM owned street right of way the amount of $5,316,000 plus an incremental amount calculated based on $0.173 per m² of Impervious Area within the HRM owned street right of way.

(c) Effective December 1, 2022, the Province of Nova Scotia shall pay annually to the Commission for Stormwater Service associated with the Province of Nova Scotia owned street right of way the amount of $1,089,900 plus an incremental amount calculated based on $0.145 per m² of Impervious Area within the Province of Nova Scotia owned street right of way. Effective April 1, 2023, the Province of Nova Scotia shall pay annually to the Commission for Stormwater Service associated with the

~~Province of Nova Scotia owned street right of way the amount of $1,182,900 plus an incremental amount calculated based on $0.173 per m² of Impervious Area within the Province of Nova Scotia owned street right of way.~~

~~(d) Effective December 1, 2022, the Halifax Dartmouth Bridge Commission shall pay annually to the Commission for Stormwater Service associated with the Halifax Dartmouth Bridge Commission owned street right of way the amount of $15,200 plus an incremental amount calculated based on $0.145 per m² of Impervious Area within the Halifax Dartmouth Bridge Commission owned street right of way. Effective April 1, 2023, the Halifax Dartmouth Bridge Commission shall pay annually to the Commission for Stormwater Service associated with the Halifax Dartmouth Bridge Commission owned street right of way the amount of $16,500 plus an incremental amount calculated based on $0.173 per m² of Impervious Area within the Halifax Dartmouth Bridge Commission owned street right of way.~~

Table 4A(i)

		Effective date	
		1-Jan-26	1-Apr-26
HRM	ROW	$ 6,416,300	$ 8,093,760
	Incremental (m2)	$ 0.251	$ 0.281
Province of Nova Scotia	ROW	$ 1,514,800	$ 1,910,792
	Incremental (m2)	$ 0.251	$ 0.281
Halifax Dartmouth Bridge Commission	ROW	$ 18,400	$ 23,226
	Incremental (m2)	$ 0.251	$ 0.281

(3) Non-Residential Property Customers shall pay a Site Related Flow Charge of ~~$0.135 per m2 of Impervious Area on and after July 1, 2017, $0.145 on and after December 1, 2022 and $0.173 on and after April 1, 2023~~$0.216 m² on and after January 1, 2026 and $0.277m² on and after April 1, 2026. Impervious Area being measured through satellite imagery, provided that where a part of a property is located outside the Commission's Stormwater Service Boundary and/or the Stormwater Catchment Boundary, that part of the property located outside the boundary is exempt from the Charge.

(4) Residential Property Customers shall pay a Site Related Flow Charge which shall be based on the Impervious Area of their property, provided that properties with Impervious Area falling within a tier set out in this subsection shall be subject to the standard annual charge for that tier, billed at such frequency as the Commission may determine.

Table 4A(ii). Charges for Stormwater Service

Tier	Tier Parameters (Based on Impervious Area m^2		Charge
	From	To	
Service up to November 30, 2022:			
1	0	Less than 50	$0
2	50	200	$14
3	210	400	$27
4	410	800	$54
5	810	or more	$81
Culvert Only			$14
Service on or after December 1, 2022			
1	0	Less than 50	$0
2	50	200	$16
3	210	400	$32
4	410	800	$64
5	810	or more	$96
Culvert Only			$16
Service on or after April 1, 2023			
1	0	Less than 50	$0
2	50	200	$19
3	210	400	$38
4	410	800	$76
5	810	or more	$115
Culvert Only			$19

Service on or after January 1, 2026			
1	0	Less than 50	$0
2	50	200	$24
3	210	400	$48
4	410	800	$95
5	810	or more	$143
Culvert Only			$24

Service on or after April 1, 2026			
1	0	Less than 50	$0
2	50	200	$30
3	210	400	$61
4	410	800	$122
5	810	or more	$183
Culvert Only			$30

(5) Properties that are within the Commission's Stormwater Service Boundary and do not receive Stormwater Service from the Commission are exempt from the Site Related Flow Charge.

(6) Properties that have Impervious Area less than 50 m^2 are exempt from the Site Related Flow Charge.

(7) Notwithstanding (5) and (6), a Residential Property or Non-Residential Property that has a Driveway Culvert, is deemed to be receiving Stormwater Service and will be charged ~~therefor~~therefore in accordance with the Culvert Only amount ~~tier 2~~ as set out in Table 4A(ii) subsection (4).

(8) Non-Residential Property Customers may be eligible for a credit not less than 30% but not exceeding 50% of the Site Related Flow Charge if they are undertaking certain qualified Stormwater Best Management Practices that detain their peak flow on an on-going basis in accordance with the parameters and application process set out in the Commission's Stormwater Credit Manual.

(9)(1)Any ~~person~~Customer who objects to not being exempt from the Site-Related Flow Charge portion of the charge under subsections (5), (6) or (7) may file a ~~n~~Notice of Objection with the Commission setting out the reasons for the objection and the relevant facts on which that Customer~~person~~ relies, such N~~n~~otice of O~~o~~bjection to be accepted by the Commission by way of email, letter, facsimile, telephone or in p~~p~~erson.

(a) the Customer shall pay the Commission a $100.00 Notice of Objection Fee contemporaneously with the filing of a Notice of Objection to defray, in part, the cost of responding to the Notice of Objection.

(b) On receipt of a N~~n~~otice of O~~o~~bjection and upon receipt of payment of the Notice of Objection Fee, the Commission shall, with all due dispatch, vary or confirm, in writing, its original determination ~~cision~~that the Customer receives Stormwater Service and is not exempt from the Site-Related Flow Charge, the onus being on the Commission to show, based on engineering or other evidence, that the property in question receives Stormwater Service.
~~Such notice of objection shall be subject to an appeal fee of $100.00 to defray in part the cost of responding to the notice of objection.~~

~~The Commission will reimburse the Customer The appealthe Notice of Objection Ffee is subject to reimbursement together with interest at the simple interest rate being paid on savings accounts by the Commission's Chartered bank if the Commission:~~

~~the personPerson does not receive a response to the notice of objection within 12 weeks of initiating the objection or if at the conclusion of the investigation into the Notice of Objection, the Commission determines finds that the Customer's property does not receive Sstormwater Sservice.~~

(c) The Commission will reimburse the Notice of Objection Fee if, after investigation, the Commission finds that the property does not receive Stormwater Service. For greater clarity, the Commission will not reimburse ~~T~~the Notice of Objection Fee ~~he appeal fee~~ to the Customer ~~shall not be reimbursed if the appeal~~if the investigation into the Notice of Objection ~~investigation~~confirms that ~~finds that~~the Customer's ~~the~~ property receives Stormwater S~~s~~ervice.

(2) ~~For greater certainty,~~A ~~any person~~Customer may refer ~~register~~a Complaint about the Commission's determination on the Notice of Objection ~~complaint~~ with the Dispute Resolution Officer under Part XIV of these Regulations respecting a matter which is the subject of this section.

(a) Such Notice of Objection Complaint appealshall be subject to a nNotice of Objection Complaint appealFfee of $100.00 to defray, in part, the cost of responding to the compliantcNotice of Objection Complaint.

The appeal fee is subject to reimbursement together with interest at the simple interest rate being paid on savings accounts by the Commission's Chartered bank or if the investigation finds that property does not receive stormwater service.

(a) The Commission will reimburse the Notice of Objection Complaint Fee if the Dispute Resolution Officer's Decision Letter finds that the property does not receive Stormwater Service. For greater clarity, Ththe Notice of Objection Complaint appeal Ffee shall not be reimbursed to the Customer if the Dispute Resolution Officer's Ddecision Letter finds that the property receives Stormwater Service. service.

(b)

(3) Any Customerperson who disputes a decision in the Decision Letter ofof the DROCommission under subsection (10, after referral to the Dispute Resolution Officer,may Appealrefer the matter to the Board for resolution.

(a) Such Notice of Objection aAppeal shall be subject to a Notice of Objection n aAppeal fFee of $100.00 to defray in part the cost of responding to the aAppeal. e appeal fee is subject to reimbursement together with interest at the simple interest rate being paid on savings accounts by the Commission's Chartered bank or if the investigation finds that property does not receive stormwater service.

(a)(b) The Commission will reimburse the Notice of Objection Appeal Fee if, on Appeal, the Board finds that the property does not receive Stormwater Service. For greater clarity, Tthe Notice of Objection Appeal Feeappeal fee shall not be reimbursed to the Customer if the Board's decision finds that the property receives Stormwater Service.

Charge for Temporary Water, Wastewater or Stormwater Service

8. (1) The Commission may furnish water, Wastewater or Stormwater Service to personPersons requiring temporary Service for construction of buildings or other work.

(2) PersonPersons referred to in subsection (1) who require water Service shall deposit with the Commission such sum as may be determined by the Commission as being sufficient to defray the cost of making the necessary connection to the Services provided, together with the cost of the meter to be installed to measure the water consumed.

(3) Upon completion of the work referred to in subsection (2) and the return to the Commission of the undamaged meter, the Commission shall refund the deposit referred to in subsection (2) after payment for the Services provided and the Commission's determination of connection or disconnection charges calculated based on the time and materials used in providing the Service, together with the meter base charge and the consumption and/or Discharge rates in respect of such Service installation.

(4) The Commission may approve the temporary Discharge of Wastewater or Stormwater to the Wastewater or Stormwater Systems, upon such terms and conditions as the Commission determines appropriate in the circumstances, such temporary Discharges to be subject to the Discharge rate approved by these Regulations.

(5) Costs incurred by the Commission to sample, analyze, monitor or inspect a temporary Discharge may be charged to and recovered from the ~~person~~Person to whom permission to Discharge has been given.

New Water, Wastewater or Stormwater Account Charge

9. The Commission shall charge $25.00 for the creation of a water, Wastewater, or Stormwater account except when a mass update to and/or creation of accounts is undertaken.

PART III - BILLING

Payment of Bills

10. (1) Bills for Service issued by the Commission to Customers shall be payable on the date indicated thereon and will provide as follows:

(a) Bills issued on a quarterly basis and which are not paid within 30 days after the billing date shall be subject to an interest charge of 1.1% per month or part thereof, or a maximum of 14.0% per annum, such amount being due and payable within such 30 day period, and the effective date of the interest charge shall be clearly shown on the bill.

(b) Bills issued on a monthly basis and which are not paid within 30 days after the billing date shall be subject to an interest charge of 1.1% per month or part thereof, or a maximum of 14.0% per annum, such amount being due and payable within such 30 day period, and the effective date of the interest charge shall be clearly shown on the bill.

(c) Bills may be issued annually and if not paid within 30 days after the billing date shall be subject to an interest charge of 1.1% per month or part thereof, or a maximum of 14.0% per annum, such an amount being due and payable within such 30 day period and the effective date of the interest charge shall be clearly shown on the bill.

Adjustment of Bills

11. (1) Any Customer desiring to question their bill shall do so in writing within two years from the date shown on such bill.

(2) In the event the Commission determines it is necessary to make a billing adjustment as a result of a Customer being under-billed, such adjustment shall be retroactive for a maximum period of one year.

(3) Despite subsection (2), in the event that a billing adjustment is the result of the Customer's unauthorized connection to the Water, Wastewater and/or Stormwater System or willful interference with or damage to metering equipment, the Customer shall be responsible for all payments of such accounts from the date such unauthorized connection to the Water, Wastewater and/or Stormwater System or interference with meter equipment occurred.

(4) In the event the Commission determines it is necessary to make a billing adjustment as a result of a Customer being over-billed, such adjustment will be estimated by the Commission, and, based upon such estimate, the Commission will pay to such Customer the overbilled amount together with interest at the simple interest rate being paid on savings accounts by the Commission's chartered bank, such period not to exceed two years.

(5) If a water meter security seal is broken or if a meter does not register correctly or has been removed without the Commission's authorization, the charge for water, and Wastewater Service shall be estimated in accordance with the best data available to the Commission, provided that if the subject premises are unmetered or a non-user of the Commission's Water System, then the charge for Service will be estimated in accordance with the best available data to the Commission.

(6) In the event a Customer has been billed in error for a Service they did not receive, the Commission will reimburse such Customer the amount billed to and paid by the Customer, together with interest at the simple interest rate being paid on savings accounts by the

Commission's chartered bank, respecting the period during which the Customer was incorrectly billed by the Commission, such period not to exceed five years.

(7) In the event, as a result of a decision respecting a ~~n~~Notice of O~~o~~bjection pursuant to subsection 7(10) or as a result of any other review carried out under the Regulations it is determined the billing determinant of chargeable Impervious Area for Stormwater accounts is inaccurate or yields an inequitable result the Commission may adjust the chargeable Impervious Area in order to rectify such inequity.

(8) In the event, as a result of a decision respecting a N~~n~~otice of O~~o~~bjection pursuant to subsection 7(9), or through a credit application process, it is determined that a portion of the Stormwater from a Non-Residential Property does not reach a Commission Stormwater System, or the Customer is only receiving the benefit of a culvert at the end of their driveway, the chargeable Impervious Area may be adjusted downward.

Estimated Reading for Billing Customers

12. (1) The Commission may estimate a meter reading provided that under no circumstances will an estimated reading be used for more than ~~three~~ two consecutive billing periods or six months, whichever is greater.

(2) In the event an estimated bill is utilized by the Commission for three consecutive billing periods, the Commission shall make every reasonable effort to obtain a meter reading.

(3) For the purposes of subsection (2), if entry to the property on which such meter is located is required, the Commission shall notify the Customer by first class mail and undertake its reasonable efforts to obtain a reading, and failing such arrangements being made despite its reasonable efforts, the Commission may suspend Service until arrangements are made with the Customer for the Commission to obtain a reading of such meter.

(4) When a meter reading referred to in subsection (3) has been obtained, any previously estimated bill or bills provided in respect of Service measured by such meter shall be adjusted by the Commission if required by its reconciliation of metered Service data to previously estimated Service.

Suspension or Refusal of Service

13. (1) The Commission shall have the right to suspend Service to a Customer, including a Customer at any Common Customer Location, where such Customer's water, Wastewater or Stormwater account remains unpaid for more than 40 days.

(2) With respect to

(a) water, Wastewater and Stormwater accounts referred to in subsection 13(1); and
(b) a Landlord who is in default for more than 40 days under the terms of repayment arrangement referred to in subsection 31(2),

unpaid balances will be transferred to HRM with a request from the Commission that they be registered as a lien against the property to which Service is provided or in respect of which a repayment arrangement exists under subsection (2) of Section 31, and in respect of which such accounts have been rendered as evidence of such Service or repayment arrangement.

(3) In the event of a violation of these Regulations by a ~~person~~Person or Customer, including liabilities and obligations owed to the Commission by any ~~person~~Person or Customer

under a private contract for Services entered into between the Commission and such ~~person~~Person or Customer, the Commission may refuse or immediately suspend Service to such ~~person~~Person or Customer, and may continue such refusal or suspension until the violation has been cured.

Collection of Overdue Bills

14. The Commission may charge a $50~~45~~.00 fee for each visit by Commission staff to a Customer whose payment is overdue, if in the opinion of the Commission, such fee is warranted.

Customer Bill Retrievals/Copies

15. The Commission shall charge a fee of $20~~12~~.00 per copy for water, Wastewater, and/or Stormwater bill retrievals or copies issued to Customers outside the Customer's regular billing cycle, except that no such fee shall be charged for the provision of electronic copies of such bills.

Dishonoured Payments

16. The Commission shall charge a $25.00 fee plus bank charges for cheques or pre- authorized payments that have been dishonoured by the Customer's bank or other financial institution.

Deposits

17. (1) The Commission may require an applicant for water, Wastewater and/or Stormwater Service to deposit with the Commission a sum equal to the estimated charges for six months of Service, which deposit shall be held by the Commission as security for the payment of the applicant's bills as a Customer of the Commission.

(2) When a Customer referred to in subsection (1) ceases to be a Customer, a deposit paid in accordance with subsection (1) shall be returned to the Customer with interest thereon at the simple interest rate being paid on savings accounts by the Commission's chartered bank.

PART IV - CHARGES

Connection/Disconnection of Service

18. (1) The Commission shall charge $75~~55~~.00 for a connection or disconnection of Service during Regular Working Hours, which charge shall be $400~~210~~.00 for a connection or disconnection of Service outside Regular Working Hours.

(2) When water, Wastewater, or Stormwater Service has been suspended for any violation of these Regulations, such Service shall not be re-established until a connection charge has been paid.

(3) Despite subsections (1) and (2), where suspension of Service is for non-payment only, the fees set out therein respecting connection or disconnection of Service during Regular Working Hours do not apply in respect of one disconnection and one connection of Service every year, or in any 12-month period.

(4) The Commission may, in considering the circumstances respecting a request to reconnect Service, decline to reconnect such Service outside Regular Working Hours where the Service was disconnected as a result of a violation of these Regulations.

Water Meter Installation

19. (1) The Commission shall charge $230~~60~~.00 for the installation of a meter in a Customer's premises during Regular Working Hours for a meter size up to and including 25 mm, in a meter setting specified by the Commission and provided by the Customer unless the meter installation is initiated by the Commission as part of an implementation of AMI or other technology, in which case no charge will be applied.

(2) Installation of a meter referred to in subsection (1) which takes place outside of Regular Working Hours shall be subject to a charge of $250~~210~~.00, unless the meter installation is initiated by the Commission as part of an implementation of AMI or other technology change, in which case no charge will be applied.

(3) In respect of the installation by the Commission of meters of a meter size of 38 mm or larger in a Customer's premises in a meter setting specified by the Commission and provided by the Customer, such charge shall be calculated based on the Commission's determination of any difficulties or challenges it encountered in carrying out such installation including access to the location of the meter.

Customer Monitoring Service

20. (1) The Commission may enter into an agreement with a Customer to monitor the metered flow of Service to the Customer and to provide the Customer access to the data generated by such monitoring.

(2) The cost of providing the monitoring referred to in subsection (1) will be charged to the Customer at the rate of $120.00 per month per meter and billed to the Customer monthly.

Inspection of Service Connections and Driveway Culverts

21. (1) The Commission shall require all Water, Wastewater and Stormwater Service Connections, including renewals and repairs, to be inspected by the Commission prior to activation of such water, Wastewater or Stormwater Service, subject to the following fees:

(a) Water, Wastewater or Stormwater Service Connections shall be subject to a fee of $175~~150~~.00 per inspection visit.
(b) Water, Wastewater or Stormwater Service Connections requiring an acceptance package under the Commission's design specifications shall be subject to a fee of $200~~75~~.00 per application.
(c) where Service Connection installations require work conducted on mains, inspection by the Commission shall occur as deemed necessary by the Commission and shall be subject to a fee of $75.00 per hour during Regular Working Hours.
(d) where multiple Service Connections are inspected within the same inspection visit, the inspection fee shall be charged once.

(2) Driveway Culverts inspected by the Commission shall be subject to a fee of $150.00 per inspection visit.

(3) Backflow prevention device installations inspected by the Commission shall be subject to a fee of $175~~150~~.00 per inspection visit.

(4) Inspections outside Regular Working Hours may be subject to an overtime surcharge to be determined by the Commission.

(5) Except for the overtime surcharge set out in subsection (4), replacement of a lead Water Service Connection shall be exempt from the fees set out in this section.

Wastewater Rebate

22. (1) A Customer who uses more than 1,000 m^3 of water in a one-year period is eligible for a Wastewater rebate if they can demonstrate to the satisfaction of the Commission that the volume of Wastewater Discharged by the Customer into the Commission's Wastewater System is less than the volume of water used by the Customer.

(2) Upon application for a rebate referred to in subsection (1) being made by a Customer to the Commission, a rebate of the Wastewater Discharge Charge attributable to the difference between the amount of the water used and the amount of Wastewater Discharged to the Commission's Wastewater System shall be paid to the Customer.

(3) The rebate referred to in subsection (1) does not apply to the Wastewater Discharge Base Charge nor to leakage or wastage from a metered water supply.

(4) Application for a rebate under subsection (1) shall be made annually by a Customer to the Commission, together with such documentation required by the Commission in support of such application for rebate, such application to be submitted to the Commission no later than 6 months after the year in respect of which the application for rebate is made.

(5) The Commission, in its sole discretion, may deny a Wastewater rebate application if the Customer has violated these Regulations within the preceding 12 months.

Water Service Connection Tapping Connection Fee

23. (1) Installations of Water Service Connections requiring the Commission to perform a tapping connection to the water main shall be subject to the following fees:

(a) Water Service Connections of 19mm, 25mm, 38mm, or 50mm~~, and 75mm~~ in diameter ~~Water Service Connections~~ shall be subject to a tapping fee of $425.00~~375.00~~ per tapping connection during Regular Working Hours and $675.00 per tapping connection outside of Regular Working Hours;

(b) Water Service Connections greater than ~~75~~50mm in diameter shall be subject to a tapping fee of $875.00~~125.00 per 25mm in diameter~~ per tapping connection during Regular Working Hours and $1,250.00 per tapping connection outside of Regular Working Hours.

(2) The Commission shall not be responsible to supply any parts, materials, rigging, traffic control or miscellaneous requirements needed to perform the tapping connection set out in this section.

Audit Inspections and Review of Drawings

24 (1) The Commission shall levy a charge pursuant to a services agreement with any ~~person~~Person requesting a review of final design drawings for additions or extensions to the Commission's system, at the following rates:

(a) water mains	$3~~2~~.00 per linear metre
(b) Wastewater mains	$3~~2~~.00 per linear metre
(c) Stormwater mains/Ditches/culverts	$3~~2~~.00 per linear metre

(2) The charges referred to in subsection (1) are due upon receipt by the Commission of a signed systems agreement with the counterparty to such agreement.

(3) The Commission will undertake audit inspections of w~~W~~ater, Wastewater and Stormwater Systems in respect of an extension of Commission infrastructure resulting from a subdivision application by an applicant to HRM or in support of a new Service Connection.~~, such audit inspection fee being equal to 0.5% of the estimate of the construction cost of the project or $2,500, whichever is greater, to which such systems relate~~. An audit inspection fee is charged based on the actual cost incurred by the Commission to inspect the infrastructure on the Property during its construction, with audit inspections being charged at $175.00 per inspection visit.

~~(3)~~(4) Audit inspections fees referred to in subsection (3) which are in respect of an extension of Commission infrastructure incorporated in a subdivision application to HRM shall be remitted to HRM.

~~(4)~~(5) The Commission shall levy a charge of $75.00 with any Person requesting a review of an HRM subdivision application that is not covered by subsection (1).~~In the event the Commission incurs costs more than or less than the fees described in subsection (3), an amount equal to the difference between such estimated fees and actual cost incurred shall be payable to the Commission or reimbursed to the payor of such estimated cost, as the case may be~~

Missed Appointment by Customer

25. (1) Where the Commission makes an appointment with a Customer respecting:

(a) a Water, Wastewater, and/or Stormwater Service Connection;
(b) the installation of a water meter;
(c) water turned on or off to a property;
(d) a Service-related visit requested by the Commission; or
(e) a Customer's request to have the Commission visit a property, and the Customer fails to keep or permit such appointment or the required plumbing is not completed to allow for the installation of a water meter, the Commission may levy a charge of $55.00 for each missed appointment.

(2) Where the Commission fails to keep an appointment with a Customer under subsection (1), the Commission shall credit the customer's account in the amount of $55.00 for each missed appointment.

(3) Despite subsection (2), the $55.00 charge referred to therein shall not apply in respect of an appointment with a Customer related to an implementation of AMI.

Theft of Service

26. The Commission may impose penalties in addition to charges for Service approved by these Regulations for each unauthorized Water, Wastewater, and/or Stormwater Service Connection and bulk fill, as follows:

1st incident	$300.00
2nd incident (and each incident thereafter)	$750.00

Designated Bulk Fill Station

27. (1) The Commission may permit a ~~person~~Person to have access to bulk fill water stations in accordance with the fees, consumption rates and access card use as follows:
~~(a) An annual permit fee of $115.00 will be charged for each vehicle equipped for access to the bulk fill stations.~~

~~(b)~~(a) Consumption rates for water accessed through the bulk fill stations will be $3.36~~2~~.~~24~~ per cubic metre effective January 1, 2026~~April 1, 2016~~, and $ 3.6~~5~~2~~$2.35~~ per cubic metre effective April 1, 2026~~1~~.

~~(c)~~(b) Bulk fill station account:

(i) bulk fill station accounts will be pre-loaded in specific dollar amounts and will be recorded as deferred revenue;
(ii) individual accounts and personal identification numbers (PIN) will be assigned to each vehicle to use the station to access water;
(iii) when an account is closed by an authorized user any outstanding balance will be refunded to such user.

(2) Consumption charges will be deducted from an account based on the volume of water sold in accordance with the rate structure authorized by these Regulations.

(3) Vehicles accessing a designated bulk fill station shall meet the requirements established by the Commission for connecting to a bulk fill station.. ~~be inspected and approved by the Commission on an annual basis, beginning April 1, as part of its permitting process.~~

(4) Designated bulk fill station procedures as prescribed by the Commission shall be adhered to at all times by authorized users as a condition of retaining such permit.

(5) Failure to comply with the permitting requirements set out in this section shall result in termination of a designated bulk fill station permit.

(6) The Commission reserves the right to control flow rates at each designated fill station.

Area Master Capital Cost Contribution Charge

28. (1) The Commission may establish a water, Wastewater and Stormwater capital cost contribution charge to be collected from developers and/or future Customers requiring extension of oversized infrastructure.

(2) The total amount of a capital cost contribution charge shall ensure that the cost impact to the Commission is neutral to the design, construction, financing and applicable overhead costs, as prescribed by the Commission.

(3) The water, Wastewater and Stormwater capital cost contribution charge shall be calculated for charge areas referred to in Attachment 2 and allocated on the basis of the water, Wastewater and Stormwater capital cost contribution formula, as set out in Attachment 2.

(4) Funds collected under the water, Wastewater and Stormwater capital cost contribution charge shall be placed in a reserve account and will be used for extension or improvements of the applicable system within the area related to the charge upon application and subject to the approval of the Board.

(5) The Commission may require a capital cost contribution from developers and/or future users requiring extension or improvements of the Water, Wastewater or Stormwater System, the total amount of such capital cost contribution having a cost impact to the Commission which is neutral to the design, construction, financing and applicable overhead as prescribed by the Commission.

(6) Cost factors to be used in calculating the capital cost contribution in subsection (5) shall include, but not be limited to the supply, storage, transmission, distribution, pressure control and fire protection requirements as required by the Commission from time to time.

(7) The Commission will allocate capital costs in accordance with the rates and charges approved by these Regulations.

Regional Development Charge for Wastewater Infrastructure

29. (1) In this Section,

(a) "Regional Development Charge" means a regional development charge for Regional Wastewater Infrastructure;
(b) "Regional Wastewater Infrastructure" means core regional Wastewater treatment facilities and trunk sewer systems directly conveying Wastewater to, or between, such facilities, including
(i) existing Wastewater treatment facilities (WWTF) that provide a regional Service including the facilities generally known as the Halifax WWTF, Dartmouth WWTF, Herring Cove WWTF, Eastern Passage WWTF, Mill Cove WWTF Beechville/Lakeside/Timberlea WWTF, and Aerotech WWTF,

(ii) trunk sewers and related appurtenances which directly convey Wastewater to regional treatment facilities,

(iii) trunk sewers and related appurtenances which divert Wastewater from one regional treatment facility to another due to environmental concerns, capacity constraints or operational efficiency, and

(iv) inflow and infiltration reduction and/or sewer separation projects for the purposes of gathering capacity within the wastewater system for the benefit of planned growthbut does not include infrastructure within or directly adjacent to approved or planned development areas which is required to directly support development within an approved or planned development area;

c) "Infrastructure Master Plan" is the long-term infrastructure planning and engineering study that identifies the optimal regional water and wastewater infrastructure implementation plan for the Commission to service growth for 30 years.

(2) A Regional Development Charge shall be established to ensure the cost impact to the Commission is neutral to the design, construction and financing during construction of capacity expansion to Regional Wastewater Infrastructure related to planned growth.

(3) A Regional Development Charge applicable to new buildings that will be connected to a Wastewater System, as detailed in Table 4B, shall be paid to HRM as agent for the Commission prior to the ~~issuance of a building permit or permit to connect to the Wastewater System, as applicable~~request to the Commission for Wastewater Service Connection Inspection.

Table 4B. Regional Development Charge - Wastewater

Type of Development	~~May 31, 2021~~April 1, 2023	~~April 1, 2022~~
SUD/TH[1]	$ ~~5,495.68~~6,126.84	~~$5,710.01~~
MUD[2]	$ ~~3,691.13~~4,115.04/unit	~~$3,835.08~~
ICI[3]	$ ~~27.12~~30.24/sq. m. ~~($2.52/sq. ft.)~~	~~$28.18/sq. m.~~

1 SUD/TH – Single Unit Dwelling/Townhouse/Row Houses
2 MUD – Multiple Unit Dwelling

3 ICI – Industrial, Commercial or Institutional

(4) The wastewater Regional Development Charge shall be indexed each year on April 1st, in accordance with the indexing set out in the Consumer Price Index for Halifax, as published by Statistics Canada for the immediately preceding month, when compared to the same month for the immediately preceding year.

(5) For new buildings, building additions and renovations that are undertaken as the redevelopment of an existing serviced building, the Regional Development Charge applicable under subsection (3) shall be based on the net increase in residential units

and/or square footage of floor space for non-residential construction, as applicable, but not including interior or underground parking.

(6) When an un-serviced lot of land, occupied by a building, existed prior to July 14, 2014, the Regional Development Charge applicable under subsection (3) shall be payable to the Commission, when the building is connected to the Wastewater System.

(7) A Regional Development Charge applicable to Industrial, Commercial or Institutional premises will be determined by applying the Charge in subsection (3) to the area of the building.

(8) The Regional Development Charge set out in Table 4B shall be collected by HRM on behalf of the Commission ~~at the time an~~prior to application to the Commission for Wastewater Service Connection inspection~~for construction approval is submitted~~.

~~(2)~~(9) Funds collected under the Regional Development Charge pursuant to this section shall be placed in a reserve account and shall be used for providing capacity in Regional Wastewater Infrastructure as defined in the current Infrastructure Master Plan.

~~(3)~~(10) Subject to subsections (11) and (12) the Commission may consider and approve deferral of payment of a Regional Development Charge in its sole discretion where such Charge otherwise payable is $100,000 or greater.

~~(4)~~(11) The deferral of payment referred to in subsection (10) may be, in the Commission`s sole discretion, up to 25% of the Regional Development Charge otherwise payable under this Section, which deferral shall be placed as a lienable charge on the property, to be collected by HRM, pursuant to clause 33(2)(a) of the Halifax Regional Water Commission Act.

(12) The regional level infrastructure to be supported by the Regional Development Charge is deemed to be for the benefit of the properties to be liened.

~~(5)~~(13) The Regional Development Charge may be deferred for units considered within the Housing Affordability initiatives as defined by Halifax Regional Municipality. Deferrals may be considered for these units up to ten years. Interest will be charged after year two. Halifax Regional Municipality will place a lien on the Property to ensure payment of the Regional Development Charge.

~~(6)~~(14) Subject to subsections (15) and (16), the administration of the Regional Development Charge shall, every five years after, May 31, 2021, be reviewed by the Commission, including with reference to any changes to the Infrastructure Master Plan.

~~(7)~~(15) In the event changes to the inputs to the Infrastructure Master Plan, including growth projections, land use, consumption rates, inflow/infiltration assumptions, capital costs, financing costs, and benefit to existing Customers, result in changes to the infrastructure requirements identified in the Infrastructure Master Plan, including the timing of their implementation, the Regional Development Charge, will be reviewed by the Commission and adjusted, subject to Board approval, prior to a five year review described in subsection (14).

~~(8)~~(16) In the event the changes to infrastructure requirements described in subsection (15) result in an impact of 15%, either in the positive or the negative, to the Regional Development Charge, the Commission will change the Regional Development Charge, subject to Board approval, to reflect such impact in infrastructure requirements.

Regional Development Charge for Water Infrastructure

30. (1) In this Section,

(a) "Regional Development Charge" means a regional development charge for Regional Water Infrastructure;

(b) "Regional Water Infrastructure" means core regional water supply facilities and the water transmission systems directly conveying water from such facilities to the various distribution systems, including

(i) existing water supply facilities that provide a regional Service including the facilities generally known as the J.D. Kline water supply facility at Pockwock Lake and the Lake Major water supply facility at Lake Major,

(ii) water transmission mains and related appurtenances which directly convey water from regional treatment facilities to the distribution system,

(iii) water transmission mains and related appurtenances which divert water from one regional treatment facility supply area to another due to environmental concerns, capacity constraints or operational efficiency, and

(iv) demand reduction measures to provide capacity for growth and are a cost-effective alternative to new regional hard infrastructure are considered eligible but does not include infrastructure within or directly adjacent to approved or planned development areas which is required to directly support development within an approved or planned development area;

(c) "Infrastructure Master Plan" is the long-term infrastructure planning and engineering study that identifies the optimal regional water and wastewater infrastructure implementation plan for the Commission to service growth for 30 years.

(2) A Regional Development Charge shall be established to ensure the cost impact to the Commission is neutral to the design, construction and financing during construction of capacity expansion to Regional Water Infrastructure related to planned growth.

(3) A Regional Development Charge applicable to new buildings that will be connected to a Water System, as detailed in Table 4C, shall be paid to HRM as agent for the Commission prior to ~~the issuance of a building permit or application to connect to the Water System, as applicable~~water meter installation.

Table 4C. Regional Development Charge - Water

Type of Development	~~May 31, 2021~~April 1, 2023	~~April 1, 2022~~
SUD/TH[1]	$ ~~1,723.84~~1,921.82	~~$1,791.07~~
MUD[2]	$ 1,290.77~~1,157.80~~/unit	~~$1,202.95~~
ICI[3]	$ 9.49~~8.51~~/sq. m. ~~($0.79/sq. ft.)~~	~~$8.84/sq. m.~~

1 SUD/TH – Single Unit Dwelling/Townhouse/Row Houses
2 MUD – Multiple Unit Dwelling

(4) The water Regional Development Charge shall be indexed each year on April 1st, in accordance with the indexing set out in the Consumer Price Index for Halifax, as published by Statistics Canada for the immediately preceding month, when compared to the same month for the immediately preceding year.

(5) For new buildings, building additions and renovations that are undertaken as the redevelopment of an existing serviced building, the Regional Development Charge applicable under subsection (3) shall be based on the net increase in residential units and/or square foot of floor space for non-residential construction, as applicable, but not including interior or underground parking.

~~(4)~~(6) When an un-serviced lot of land, occupied by a building, existed prior to July 14, 2014, the Regional Development Charge applicable under subsection (3) shall be payable to the Commission, when the building is connected to the Water System.

(7) A Regional Development Charge applicable to Industrial, Commercial or Institutional premises will be determined by applying the Charge in subsection (3) to the area of the building.

(8) The Charge set out in Table 4C will be collected by HRM on behalf of the Commission ~~at the time an application for construction approval is submitted~~ prior to water meter installation.

(9) Funds collected under the Regional Development Charge pursuant to this section shall be placed in a reserve account and shall be used for providing capacity in Regional Water Infrastructure as defined in the current Infrastructure Master Plan.

~~(5)~~(10) Subject to subsections (11) and (12) the Commission may consider and approve deferral of payment of a Regional Development Charge in its sole discretion where such Charge otherwise payable is $100,000 or greater.

~~(6)~~(11) The deferral of payment referred to in subsection (10) may be, in the Commission`s sole discretion, up to 25% of the Regional Development Charge otherwise payable under this Section, which deferral shall be placed as a lienable charge on the property, to be collected by HRM pursuant to clause 33(2)(a) of the Halifax Regional Water Commission Act.

~~(7)~~(12) The regional level infrastructure to be supported by the Regional Development Charge is deemed to be for the benefit of the properties to be liened.

~~(8)~~(13) The Regional Development Charge may be deferred for units considered within the Housing Affordability initiatives as defined by Halifax Regional Municipality. Deferrals may be considered for these units up to ten years. Interest will be charged after year two. Halifax Regional Municipality will place a lien on the Property to ensure payment of the Regional Development Charge.

~~(9)~~(14) Subject to subsections (15) and (16), the administration of the Regional Development Charge for water shall, every five years after May 31, 2021, be reviewed by the Commission, including with reference to any changes to the Infrastructure Master Plan.

(15) In the event changes to the inputs to the Infrastructure Master Plan, including growth projections, land use, consumption rates, inflow/infiltration assumptions, capital costs, financing costs, and benefit to existing Customers, result in changes to the infrastructure

requirements identified in the Infrastructure Master Plan, including the timing of their implementation, the Regional Development Charge, will be reviewed by the Commission and adjusted, subject to Board approval, prior to a five year review described in subsection (14).

~~(10)~~(16) In the event the changes to infrastructure requirements described in subsection (15) result in an impact of 15%, either in the positive or the negative, to the Regional Development Charge, the Commission will change the Regional Development Charge, subject to Board approval, to reflect such impact in infrastructure requirements.

Recovery of Costs

31. (1) The Commission may recover from a ~~person~~Person who has violated these Regulations its costs incurred as a result of any such violation.

(2) The Commission may recover costs and expenses from a ~~person~~Person who has entered into a repayment arrangement with the Commission, respecting an amount not to exceed $10,000.00, to enable full replacement of the private portion of a lead service line, full replacement of the private portion of No-Corrode Pipe, full replacement of a non-compliant water, Wastewater or Stormwater lateral, or installation of the private portion of a new deep Stormwater sewer lateral, such repayment arrangement not to exceed 60 months at an interest rate not to exceed Prime plus 2%.

Fire Hydrant Flow Testing

31A. (1) The Commission may, upon request, attend a site to operate the Water System for the purpose of facilitating fire hydrant flow testing.

(2) Where a ~~person~~Person ~~or company~~has made a request pursuant to subsection (1), such ~~person~~Person ~~or company~~ shall:

(a) Pay for all traffic control expenses, as deemed necessary by the Commission; and
~~(a)~~(b) Pay the Commission the cost of having Commission staff attend as follows:
(i) One Commission staff attending: $300;
(ii) Two Commission staff attending: $600;
(iii) More than two Commission staff attending: cost-recovery basis.

Commissioning Water Service(s)

31B (1) The Commission may, upon request, attend a site to operate the Water System for the purpose of facilitating the commissioning of a ~~Multiple Unit Dwelling and~~ Industrial, Commercial or Institutional (~~M~~ICI) Water Service. ~~This would include but not limited to isolation for connections, filling, chlorination, de-chlorination and samples.~~

(2) Where a Person ~~or company~~has made a request pursuant to subsection (1), such ~~person~~Person ~~or company~~ shall:

(a) Pay for all traffic control expenses, as deemed necessary by the Commission; and
(b) Pay the Commission the cost of having Commission staff attended at a rate of $400 per visit.

PART V - FIRE PROTECTION CHARGES

Public Fire Service Charge

32. The Commission shall annually render to HRM not later than the last day of August, an invoice for fire protection service calculated in accordance with these Regulations.

Public Fire Protection Rate

33. (1) For the period April 1, 2021 to March 31, 2022, HRM shall pay to the Commission for 34. public fire protection services the sum of $7,627,564.
35.33. Effective For the period April 1, 2023, to December 31, 2025, HRM shall pay annually to the Commission for public fire protection services the sum of $8,083,080 prorated for this time period,.

(2) For the period January 1, 2026, to March 31, 2026, HRM shall pay annually to the Commission for public fire protection services the sum of $10,542,602, prorated for this time period,

(3) Effective April 1, 2026, HRM shall pay annually to the commissioner for public fire protection services the sum of $13,290,574.

Special Service Supplied from Fire Hydrants

36.34. (1) Water supplied from fire hydrants is reserved for firefighting or for Commission Water, Wastewater or Stormwater System maintenance purposes.

(2) Any personPerson, other than the Halifax Regional Fire and Emergency Service or the Commission, who desires to use a fire hydrant for the supply of water, shall obtain prior written approval from the Commission.

(3) The Commission may furnish water from a fire hydrant to personPersons requiring temporary supply pursuant to section 8 of these Regulations.

(4) Any connection to a fire hydrant other than in accordance with this section shall constitute an offence against these Regulations.

Building Fire Protection Systems

37.35. (1) A Customer, in respect of each of its buildings having a fire protection system installed shall
pay annually to the Commission fees for such service as follows:

Table 5. Charges for Sprinklers

Service on or after April 1, 2021:			
Description	Diameter mm	Ratio of Area to Reference Size	Annual Charge
Reference size	25	1.0	$50.00
Fire Lines	50	4.0	$68.00
Fire Lines	75	9.0	$170.00
Fire Lines	100	16.0	$269.00
Fire Lines	150	36.0	$544.00
Fire Lines	200	64.0	$697.00
Fire Lines	250	100.0	$697.00

~~Fire Lines~~	~~300~~	~~144.0~~	~~$697.00~~
~~Service on or after December 1, 2022 up to and including March 31, 2023:~~			
~~Reference size~~	~~25~~	~~1.0~~	~~$50.00~~
~~Fire Lines~~	~~50~~	~~4.0~~	~~$69.00~~
~~Fire Lines~~	~~75~~	~~9.0~~	~~$170.00~~
~~Fire Lines~~	~~100~~	~~16.0~~	~~$272.00~~
~~Fire Lines~~	~~150~~	~~36.0~~	~~$582.00~~
~~Fire Lines~~	~~200~~	~~64.0~~	~~$801.00~~
~~Fire Lines~~	~~250~~	~~100.0~~	~~$801.00~~
~~Fire Lines~~	~~300~~	~~144.0~~	~~$801.00~~
~~Service on or after April 1, 2023:~~			
~~Reference size~~	~~25~~	~~1.0~~	~~$50.00~~
~~Fire Lines~~	~~50~~	~~4.0~~	~~$69.00~~
~~Fire Lines~~	~~75~~	~~9.0~~	~~$170.00~~
~~Fire Lines~~	~~100~~	~~16.0~~	~~$275.00~~
~~Fire Lines~~	~~150~~	~~36.0~~	~~$619.00~~
~~Fire Lines~~	~~200~~	~~64.0~~	~~$904.00~~
~~Fire Lines~~	~~250~~	~~100.0~~	~~$904.00~~
~~Fire Lines~~	~~300~~	~~144.0~~	~~$904.00~~

Service on or after January 1, 2026 up to and including March 31, 2026:		
25	1.0	$50.00
50	4.0	$98.00
75	9.0	$228.00
100	16.0	$391.00
150	36.0	$880.00
200	64.0	$1,466.00
250	100.0	$1,871.00
300	144.0	$1,871.00
Service on or after April 1, 2026:		
25	1.0	$50.00
50	4.0	$127.00
75	9.0	$285.00
100	16.0	$507.00
150	36.0	$1,140.00
200	64.0	$2,027.00
250	100.0	$2,838.00
300	144.0	$2,838.00

(2) A Customer shall be responsible for the cost of installing a private fire line from the street water main to a building, including a shut-off valve approved by the Commission.

(3) The charges set out in Table 5 shall be based on the size of the line of a building fire protection system at the point of its connection with a hydrant line or sprinkler line.

PART VI - PROVISION OF SERVICE

Liability for Payment of Service

38.36. (1) Any personPerson who applies to the Commission for water or Wastewater Service is deemed to agree to take and pay for such Service according to the rates and charges in accordance with these Regulations, and will be the Customer of Record.

(2) Any personPerson receiving Stormwater Service is liable for payment for such Service according to rates and charges in accordance with these Regulations, and will be a Customer.

(3) Any personPerson who receives water or Wastewater Service whether metered or unmetered, without the consent of the Commission, shall be liable for the cost of such Service as determined in the sole discretion of the Commission based upon its reasonable estimate of the amount of Service utilized.

(4) Where Service is supplied to a condominium unit, the condominium corporation in which the unit is situated shall be deemed to be the Customer of Rrecord and shall be liable for payment of Service to the condominium unit, except where the Commission determines an alternate arrangement to be appropriate.

(4)(5) The Commission shall require any The Commission may, in its sole discretion, require a property owner who rents or leases a property, or a self-contained unit within such property, to open retain an account with the Commission for Service to such property or self-contained unitto be the Customer of Record. For greater clarity, any property owner or Landlord who wants to open a new account with the Commission for Service to such property or self-contained unit shall be the Customer of Record. The Commission shall transfer any existing customer accounts in the name of tenants to the property owner or Landlord as the Customer of Record. If a property owner or Landlord becomes the Customer of Record, then the Commission will not thereafter transfer any accounts in the name of the Customer of Record to any tenant.

Plumbing to be Satisfactory

37. (1) (a) All plumbing, pipes, fittings, vents, fixtures, and other devices used by a Customer in receiving Service from the Commission but which devices are not the property of the Commission, shall be installed in a manner provided by the *Building Code Act* (Nova Scotia) and regulations made thereunder and be approved by a personPerson appointed as a building inspector under HRM's By-law B-201 respecting the Building Code, including its successor, and as amended from time to time.

(b) Despite clause (a), in order to facilitate a conversion to AMI technology and eliminate the requirements for multiple visits to a Customer's premises, any additional costs to the Commission related to the implementation of AMI, including meter installation, shall be borne by the Commission.

(2) Service shall not be provided, except for construction and testing purposes, until an applicant for Service has complied with the requirements set out in subsection (1).

(3) Water Service may be discontinued at any time, if in the opinion of the Commission, a personPerson has not complied with the requirements of subsection (1).

(4) Water Service to a Customer may be discontinued at any time if, in the opinion of the Commission, the water meter measuring such Service is in a dirty, unsanitary or inaccessible place.

Prohibited Appliances

38. (1) Water Service may be refused or suspended by the Commission to a Customer who installs or uses any device or appurtenance, including booster pumps, quick opening or quick closing valves, water operated pumps or siphons, stand pipes, private fire hydrants or large outlets for supplying ships, which may cause sudden large demands of any duration or affect the stability of regulation of water pressure in the Commission's Water System.

(2) Permission to install or use any device or appurtenance listed in subsection (1) shall be obtained from the Commission.

Improper Use of Water, Wastewater, or Stormwater

39. No Customer shall permit the improper use of water, Wastewater, or Stormwater, nor sell or give water to any ~~person~~Person, except upon such conditions and for such purposes as shall~~may~~ be approved in writing by the Commission.

Capacity of Wastewater and/or Stormwater Systems

40. In the event the Commission deems that the water, Wastewater and/or Stormwater Systems, or any portion thereof, have insufficient capacity to accept existing or proposed Wastewater and/or Stormwater flows, the Commission may require that the amount of flow which can be Discharged into the Wastewater and/or Stormwater Systems be limited according to such terms and conditions as the Commission may approve.

Pipe Installation

41. The Commission shall not be required to install pipe in any short term or seasonal conditions which, in its opinion, are not suitable for such installations and under which the Commission cannot guarantee a free flow of water, Wastewater and/or Stormwater in service pipes.

Unauthorized Extensions, Additions, or Connections

42. No ~~person~~Person shall, without the prior written consent of the Commission, make or cause to be made any connection to any part of the water, Wastewater or Stormwater System, or in any way obtain or use the Water, Wastewater or Stormwater System in any manner other than as set out in these Regulations.

Interference with Commission Water System

43. (1) No ~~person~~Person shall, unless authorized by the Commission in writing:

(a) draw water from, open, close, cut, break, infill, alter or in any way injure or interfere with any fire hydrant, water main, service pipe, or property of the Commission;
(b) obstruct the free access to any hydrant, valve, service box, meter, or property of the Commission.

Nothing in this section shall be deemed to prevent an officer or member of the Halifax Regional Fire and Emergency engaged in discharge of his duties and responsibilities, from using any hydrant or other source of water supply of the Commission for such purpose.

Interference with Commission Wastewater or Stormwater System

44. No ~~person~~Person shall, unless authorized by the Commission in writing:

(a) Discharge Wastewater or Stormwater into the Wastewater System or Stormwater System in a manner that is not permitted by these Regulations;
(b) open, cut, break into, or in any way injure or interfere with any part of the Wastewater System or Stormwater System, or any property of the Commission;
~~(a)~~(c) obstruct the free access by the Commission to any portion of the Wastewater System or Stormwater System.

PART VII – METERING

Water to be Supplied Only by Meter

45. (1) All water Service shall be metered, except as otherwise provided in these Regulations.

(2) The Commission shall approve the size and type of meter to be installed for water Service, which meters remain the property of the Commission while metering such Service.

(3) Where a Customer chooses to sub-meter to allocate costs, such sub-meter shall be installed downstream of the Commission's meter.

(4) Sub-meters referred to in subsection (3) shall be considered by the Commission to be owned, installed, read and maintained by the Customer at the Customer's expense.

(5) Despite subsections (3) and (4), data provided by the Commission's meter shall be used to prepare billings for Service.

(6) In the event of a discrepancy between readings displayed by a meter and a meter reading device located on the exterior of a building to which water service is provided the reading of the meter shall govern.

(7) A Customer shall not sell unmetered water to any ~~person~~Person without the prior written approval of the Commission.

AMI Meters

45A (1) Where AMI becomes available to a Customer, the Commission is authorized to require such Customer to have an AMI meter installed for the metering of Service.

(2) Where AMI is the standard meter in use, and an AMI meter is not installed, such Customer will be subject to a charge of $50.00 per read for the measurement of Service by a meter which is required to be read manually and such meter will be read on a quarterly basis.

(3) Where a Customer has water Service measured by a meter using radio frequency technology to report meter readings to a receiving device, such Customer cannot refuse replacement of such meter with an AMI meter.

Installation and Removal of Water Meters

46. (1) All meters, outside register devices, and radio frequency units, shall be installed, maintained and removed with the approval of and under the supervision of the Commission.

(2) No ~~person~~Person shall install, alter, change or remove a meter without the prior written permission of the Commission.

(3) Each metered Service shall have a stop device located at the property line or outside the building foundation wall of a premises where Service is provided, as determined by the Commission, to permit control of such Service.

(4) Each water Service line shall be metered individually.

(5) A Service Connection to a meter shall be installed with a shut-off valve on both sides of the meter, inside the building, to the satisfaction of and without expense to the Commission, and as prescribed by the Commission.

Location of Water Meters

47. (1) The Commission shall have the right to refuse water Service to, or suspend the water ~~Service~~ Service ~~of~~ of any ~~Customer~~ Customer who does ~~not~~ not ~~provide~~ provide ~~a~~ a place which, in the ~~opinion~~ opinion ~~of~~ of the Commission, is suitable for a meter, and a related reading device located on the exterior of the building to which Service is provided.

(2) A meter shall be located in the building to which water Service is provided in close proximity to the point of entry into such building of the service pipe, in a location where it can be easily read, and replaced, and where it will not be exposed to temperatures below the freezing point of water.

(3) A meter reading device located on the exterior of a building to which water Service is provided shall be located where it can be easily read and replaced.

(4) In the event of an alteration or renovation to a building to which water Service is provided, the Customer shall be responsible, as required by the Commission, to relocate the meter, including, as may be required by the Commission, a meter reading device located on the exterior of such building, at the Customer's expense and to a location approved by the Commission.

(5) Where the premises of a Customer are of such a nature that a meter cannot be adequately installed in a building or if the building is not sufficiently resistant to the effects of frost to maintain the proper and accurate functioning of the meter, the Commission may order the Customer to provide a reasonably frost resistant insulated receptacle in which the meter can be placed for its safe and accurate functioning.

(6) Until a Customer complies with the requirements set out in subsection (5) the Commission may refuse or suspend water Service to the premises.

(7) In order for a Customer to comply with the requirements set out in subsection (5), the Commission may require such Customer to have installed at the Customer's expense a by-pass around a meter which is 75 mm or larger in diameter.

Master Water Meters

48. (1) In circumstances where a Customer or Customers is or are, as the case may be, provided Service by the Commission with multiple water meters, the Commission may supply, at its expense, a master meter and install such master meter in a location on such Customer's premises in a manner approved by the Commission.

(2) A Customer is liable to pay for water which passes through the meter measuring Service to such Customer, provided, however, that if the aggregate of the amounts of water passing through the meters of individual Customers is less than the amount of water passing through the master meter associated with the meters of such individual Customers, the difference in cost of Service obtained by subtracting the aggregate cost of metered water Service measured by the meters of individual Customers from the cost of metered water Service measured by the master meter shall be shared equally among such individual Customers.

(3) The Commission may suspend water Service without notice to those individual Customers referred to in subsection (2) who fail to pay their respective portion of the difference in cost of water Service described therein.

(4) Customers receiving water Service where there is a master meter providing Service as described in subsection (1) are jointly and severally liable for all water passing through such master meter and for the minimum charges therefor as provided herein.

(5) The Customer, or group of individual Customers referred to in this section, as the case may be, is responsible for the distribution of water from the Commission's master meter to the properties of a Customer or Customers, and the Commission shall be under no obligation to install, maintain or replace any pipes, appliances, fixtures, or other apparatus connected therewith.

Damage to Water Meters

49. (1) A Customer is responsible for the condition of the ERT and the water meter installed on the Service Connection through which Service is provided to the Customer's premises and shall take reasonable measures to protect the condition of such water meter.

(2) A Customer is liable for any damage to a water meter, ERT and related equipment, providing Service to such Customer's premises, including damage resulting from any willful act, carelessness, hot water, steam, or the action of frost.

(3) Where the Commission determines a Customer is liable pursuant to subsection (2), such customer shall pay to the Commission:

(i) Damaged ERT	$320~~80~~.00
(ii) Wire to ERT cut	$320~~80~~.00
(iii) Damaged 15mm water meter	$310~~110~~.00
(iv) Damaged 19mm water meter	$360~~145~~.00
(v) Damaged 25mm or larger water meter	market price/cost recovery

(4) After tendering a bill to a Customer for costs referred to in subsection (3), and such bill remains unpaid 30 days thereafter, the Commission may suspend water Service to such Customer.

Meter Testing

50. (1) Subject to subsection (2), and in respect of meter sizes 15mm to 50mm, upon receiving a request from a Customer to have such Customer's meter tested the Commission may charge the sum of $100.00 to defray in part the cost of conducting the test.

(2) If the test referred to in subsection (1) indicates that:

(a) for positive disc type displacement meters the meter is over-registering by more than 1.5 %, or
(b) for turbine or compound meters the meter is over-registering by more than 3%,

the sum charged to a Customer under subsection (1) shall be refunded to such Customer and the bill for Service rendered to that Customer shall be adjusted accordingly, provided that no volumetric adjustment shall be made for a period beyond two years prior to such test and one refund shall be made only to the Customer who, based on such test results, overpaid for Service.

(3) For meters of 75 mm and larger which require on-site testing, the Commission shall levy a fee to cover the expenses in contracting a third party to conduct testing.

(4) The amount referred to in subsection (3) shall be billed to the Customer if the testing conducted confirms to the satisfaction of the Commission that the meter was providing accurate readings prior to the Customer's request that the meter be tested.

(5) If a meter has been removed from service due to its replacement any dispute between the Commission and the Customer will be resolved based on the best information available in the absence of the meter, including historic metered consumption and occupancy and use of the premises in respect of which such Service is provided.

PART VIII - WATER SERVICE

Water Service Connection

51. (1) Upon receipt of an application for water Service to any premises fronting on a public street, where there exists adjacent to such section of public street a Commission owned and active water main and such premises are not already provided with water Service, the Commission shall allow the installation of a Service Connection which it considers to be of suitable size to provide the Service required, provided that

(a) no Water Service Connection smaller than 19 mm in diameter shall be installed;
(b) the necessary excavation for the laying of the Service Connection, backfilling, and replacement of the street and sidewalk surfaces from the water main in the street to the premises, including the supply and laying of the Service Connection and fittings to the specifications of the Commission, shall be the responsibility of the applicant for water Service and all such work shall be performed without cost to the Commission;
(c) such excavation may be the same excavation as is used for the Service Connection or if minimum horizontal and vertical separation between water and Service Connections cannot be obtained, a separate excavation for the water Service Connection shall be required, provided, however, that in either case, the excavation shall be carried out by the applicant to the satisfaction of the Commission;
(d) should any ~~person~~Person make application for more than one Service Connection to a premises, the decision respecting the necessity of the additional service pipe shall be made by the Commission;
~~(a)~~(e) all Service Connections shall be installed in accordance with the *Building Code Act*, R.S.N.S. 1989, c. 46 and regulations made under the authority of that Act and to the satisfaction of the Commission;
(f) when a Service Connection has been installed without objection from the Customer as to its location, no subsequent removal of or alteration to the position of the Service Connection shall be made except at the expense of the Customer requesting such removal or alteration;
(g) each water Service Connection shall be individually metered;
(h) in the event of a change of the use of such premises, including by way of rezoning, re-subdivision, condominium conversion or otherwise, where such use would result in an increased occupancy of the premises, the owner of such premises shall apply to the Commission for a determination of whether the existing Service Connection or Connections is or are, as the case may be, of a suitable size to provide the increased demand required, pursuant to which application:

(i) the applicant may be required to provide a hydraulic analysis of the proposed water use and existing system to determine the suitability of the Service for the new use, subject to the Commission, in its sole discretion, determining whether existing Service Connections are not suitable;
(ii) all such Service Connections shall be installed at the owner's expense, from the main water line in the public street or right of way to the applicant's premises, such installation to be in accordance with the *Building Code Act*, R.S.N.S. 1989, c.46 and regulations made under the authority of that Act and to the satisfaction of the Commission.

(2) When a Water Service Connection is abandoned or is to be abandoned, the Commission may require the owner of the property serviced by such Water Service Connection to, at its expense, cap off such Water Service Connection at the water main water line or as otherwise prescribed by the Commission.

(3) The Commission may require the owner referred to in subsection (2) to provide either a maintenance bond in the amount of ten thousand dollars ($10,000.00) respecting residential Water Service Connections and twenty thousand dollars ($20,000.00) respecting ICI Water Service Connections, or a certified cheque payable to the Commission to ensure performance of such abandonment.

(4) Where an owner fails to carry out an abandonment referred to in subsection (3) within six months of issuance of a demolition permit by HRM, the Commission shall be entitled to negotiate the maintenance bond or certified cheque, as the case may be, referred to in subsection (3) without notice to the owner, and apply the proceeds to the cost of completing such abandonment, together with other costs related thereto, and the balance of the proceeds, if any shall be returned to the owner without interest.

(5) Where an application for a Service Connection is submitted to the Commission with a building permit for a construction project with a value greater than $100,000.00, or where a property is being redeveloped, and the Service Connection is 30 years of age or older, the owner shall install a replacement or new Service Connection at the owner's expense and in accordance with the Commission's design specifications.

(6) The Commission reserves the right to schedule any connection to the system in a manner that has the least impact to their customers and does not impede the safety and operation of the Commission system(s). The Commission cannot be held liable, at fault or charged for any delay(s) that scheduling the service connection has on ~~an~~ overall project schedule. The safe operation of the system ~~comes at~~is ~~a~~the priority.

Lead Water Service Connection Replacement [NTD these changes are contained in M12101]

51A. (1) The Commission shall implement a program to replace all public and Customer-owned lead Water Service Connections within its water Service boundary, which shall consider:

(a) Overall cost to the Commission;
(b) Disturbance to the public and environment;
(c) Public health impacts;
(d) Sensitive and vulnerable populations; and
(e) Other factors as determined by the Commission.

(2) For the purposes of this section, a Customer-owned lead Water Service Connection is deemed to begin at the Customer's property line abutting the street right of way and terminate at the point it connects to the water meter on the Customer's premises.

(3) Where the Commission causes a~~n~~ ~~unplanned~~disturbance of a lead Water Service Connection, the Commission shall replace any disturbed Customer-owned lead Water Service Connections as soon as practicable at the Commission's expense.

(4) Where the Commission determines in its sole discretion, that replacement of a Customer-owned lead Water Service Connection should be undertaken on a priority basis, the Commission shall replace such lead Water Service Connection as soon as practicable. The Commission is authorized to pay reasonable expenses for replacements pursuant to this subsection up to a maximum of twenty~~ten~~ thousand dollars ($20~~10~~,000.00) plus tax per replacement.

(5) The Commission shall integrate replacement of public and Customer-owned lead Water Service Connections with HRM paving renewal programs as well as large scale capital

projects which may not be integrated with HRM, where such integration would be cost-effective and practical. The Commission is authorized to pay reasonable expenses as deemed by the Commission, for replacements of Customer-owned lead Water Service Connections pursuant to this subsection~~ up to a maximum of ten thousand dollars ($10,000.00) per replacement~~.

(6) The Commission shall consider replacement of Customer-owned lead Water Service Connections where an application has been submitted to the Commission for replacement, and the Commission has, in its discretion approved such application. The Commission is authorized to pay reasonable expenses for replacements pursuant to this subsection up to a maximum of twenty~~ten~~ thousand dollars ($20~~10~~,000.00) plus tax per replacement.

(7) The Commission shall offer reimbursement of reasonable expenses for replacements of Customer-owned Water Service Connections done at the Customer's expense. Reimbursements pursuant to this subsection shall not exceed 25% of the total reasonable expenses up to a maximum of ~~two~~ five thousand ~~five hundred~~ dollars ($5000~~2,500~~.00) plus tax per replacement.

(8) Where a Customer-owned lead Water Service Connection is replaced, the Commission shall replace the lead Water Service Connection leading to such Customer's property as soon as practicable thereafter.

(9) The Commission shall obtain the consent of the Customer in advance of the Commission replacing any Customer-owned lead Water Service Connection. In the event a Customer refuses such consent, and the Commission determines refusal of consent may result in an increase in lead levels in drinking water within the Customer's premises, the Commission may suspend water service until such time as consent is provided.

(10) Upon receipt of consent pursuant to subsection (9), the Customer shall grant access to the Commission to such portions of the Customer's lead Water Service Connection as deemed necessary by the Commission. Such access shall be at the Customer's expense, including any costs associated with restorations inside the Customer's premises.

(11) A Customer who refuses consent pursuant to subsection (9) may not be entitled to the benefit of any payment or reimbursement by the Commission pursuant to this section.

Water Service Cross Connection Control & Backflow Prevention

52. (1) In the event of any breach, contravention or non-compliance by a ~~person~~Person of any of the provisions in subsections (2), (3), (4) or (5), the Commission may:

(a) suspend water Service to such ~~person~~Person, or
(b) give notice to the ~~person~~Person to correct the breach, contravention or non-compliance within 96 hours, or a specified lesser period, provided that, if such ~~person~~Person fails to comply with such notice, the Commission may immediately suspend water Service to such ~~person~~Person.

(2) No ~~person~~Person shall connect, cause to be connected, or allow to remain connected to a Water System, or a plumbing installation, without the prior written approval of the Commission, any piping fixtures, fittings container or sanitary appliance in a manner which may cause water, Wastewater, or any other liquid, chemical or substance, to ingress or egress the Water System.

(3) Where, in the opinion of the Commission, there may exist a risk of contamination to the Water System, the Commission may, despite subsection (1), require a Customer, at the Customer's sole cost and expense, to install at any point on the Customer's Water Service Connection, one or more backflow prevention (BFP) devices, which devices shall be of a quality and type approved by the Commission.

(4) All BFP devices installed pursuant to subsection (3) shall be maintained in good working order, inspected and tested by a certified tester approved by the Commission, at the expense of the Customer, and carried out annually or at such other intervals as the Commission may require.

(5) A Customer shall submit a report in a form approved by the Commission respecting all tests performed pursuant to subsection (4) on a BFP device within 7 days of a test, such report form to be displayed on or adjacent to the BFP device on which the tester shall record:

(a) the name and address of the owner of the device;
(b) the location, type, manufacturer, serial number, and size of the device;
(c) the test date, the tester's initials, the tester's name, the name of the tester's employer, and the tester's license number.

(6) The Commission shall maintain a program for the issuance, renewal and cancellation of cross connection control tester's licenses, which shall include minimum standards, insurance requirements, fees and administrative procedures.

(7) Installation, maintenance, field-testing and selection of all BFP devices shall conform to the standards and requirements as approved by the Commission.

Alternate Water Supply Prohibited

53. (1) Subject to subsection (2), where a Customer's plumbing is connected to the Commission's Water System, connection to any other source of water supply is prohibited.

(2) The prohibition in subsection (1) does not apply where a Customer has installed on its private water supply or Water Service Connection a device acceptable to the Commission to prevent the flow of water from another source of water supply into the Commission's Water System.

Repairs to Water Service Connection

54. Where a repair to a Water Service Connection is required:

(a) it shall be carried out as soon as practicable at the Commission's expense if the repair is located between the main and the street boundary line or the easement boundary, and otherwise at the Customer's expense;
~~(a)~~(b) despite clause (a) the Commission may make such repairs for any Customer provided the Customer agrees to pay the cost of repair and provided the Customer requesting the Commission carry out such work deposits with the Commission a sum equal to the estimated cost of the work; and
(c) should a repair be required on the Customer's portion of the Service Connection, and the Customer, after being notified, refuses or unreasonably delays to have repairs made, the Commission may, upon notice to the Customer, discontinue the Customer's water Service in order to prevent impact to public safety, wastage of water or property damage;

~~(b)~~(d) for greater clarity, a repair does not include lead Water Service Connection replacement.

Water Service Pressure Reducing Valves

55. Where, in the opinion of the Commission, a pressure reducing valve is required for proper Service to a Customer:

(a) the valve shall be installed on the service pipe between the meter and the shutoff valve on the supply side of the meter;
(b) the type of valve shall be satisfactory to the Commission; and
(c) the Customer shall be responsible for the cost of purchasing, installing and maintaining the valve.

Water Service Control Valves

56. In respect of water service control valves:

(a) the service box or valve housing the premises' control valve shall be exposed for access by Commission personnel at all times,
(b) all control valve service boxes or valves shall be fully exposed and adjusted to final landscape grade before the installation of the premises' water meter,
(c) any adjustment to the service box or valve box shall be the responsibility of the Customer,
(d) the Commission may provide the service to adjust the service box or valve box and invoice the Customer for all expenses incurred in providing such service,
(e) in the event the service box is buried, paved over, back-filled or damaged as a result of carelessness, willful obstruction or any other like occurrence that, in the opinion of the Commission, results in the Commission being required to expose, adjust or repair the service box and/or valve box, such activity of the Commission shall be at the Customer's expense,
(f) the Commission may undertake such activities as it deems necessary to gain access to the premises' control valve or curb-stop without expense to the Commission,
~~(a)~~(g) in respect of actions undertaken by the Commission pursuant to clauses (e) and (f), reinstatement of the road, right-of-way, driveway, sidewalk, curb or landscape will, at the discretion of the Commission, be charged to and recovered from the Customer.

Water Conservation Directives

57. (1) The Commission may implement water conservation measures, if in the opinion of the Commission, such measures will permit the Commission to provide a reliable, continuous water supply to all Customers serviced by the Commission.

(2) During such times as water conservation measures referred to in subsection (1) are implemented, Customers who do not comply with such measures may have their water Service suspended during such period as the Commission's water conservation measures are in place.

(3) The cost of turning on a water Service suspended pursuant to subsection (2) will be the responsibility of the Customer.

Acceptance of Private Community Water, Wastewater and Stormwater Systems

58. The acceptance of private community water, Wastewater and Stormwater systems by the Commission shall be in accordance with Attachment 1 to these Regulations, entitled

"Procedure for Acceptance of Private Community Water, Wastewater and Stormwater Systems".

PART IX - FIRE PROTECTION

Fire Protection Service Pipes

59. (1) Upon receipt of an application, the Commission will permit an applicant to install a fire protection service pipe from the street main to the applicant's premises, subject to the applicant being responsible for all excavation, backfill, labour, material and street and sidewalk restoration costs related to such fire protection Service pipe installation and subject to the Commission making the required connection to the street main at the applicant's cost.

(2) If requested by an applicant, and subject to the applicant having applied for and received all required approvals, a metered Service pipe may be connected to the fire protection Service pipe outside the serviced premises provided such metered Service pipe is fitted with a shutoff valve approved by the Commission.

(3) The portion of a private fire line that extends from the water main in a street to the street boundary line of a property shall be, and is hereby deemed to be, vested in the Commission and the Commission's portion of such line shall be maintained by the Commission.

(4) Discharge of water from fire protection systems for maintenance purposes shall be in accordance with these Regulations.

Private Fire Protection

60. (1) Fire protection plumbing within buildings shall be installed in such manner that all pipes will be open and readily accessible for inspection at any time by authorities having jurisdiction in such matters, and no connection for any purpose other than fire protection shall be made thereto,

(2) Unless approved by the Commission in writing, no fire protection charge line shall be connected in any manner to a metered Service,

(3) A Customer is solely responsible for the maintenance, repair and replacement of all privately-owned fire protection systems, including fire protection plumbing, valves, sprinklers, hydrants, and related appurtenances.

PART X - WASTEWATER AND/OR STORMWATER SERVICE

Wastewater and/or Stormwater Service Connections

61. (1) Every Wastewater and Stormwater Service Connection shall be designed and constructed at the expense of the Customer served by such Service Connection, whether on privately owned property or otherwise.

(2) No ~~person~~Person shall make a physical pipe connection to the Wastewater System or the Stormwater System without the prior written approval of the Commission.

(3) The Commission may require a Wastewater or Stormwater Service Connection to be inspected and brought into compliance with these Regulations and the Commission's design and construction specifications as amended from time to time.

(4) The Commission shall determine the necessity of having more than one Wastewater Service Connection or more than one Stormwater Service Connection to a premises upon application by any ~~person~~Person requesting more than one such Connection.

(5) When the portion of a Wastewater or Stormwater Service Connection located within a street right of way or easement has been installed without objection from a Customer respecting location of such Service Connection, no subsequent removal or alteration of the location of such Service Connection shall be made except at the expense of the Customer requesting such removal or alteration.

(6) In the event of a change of the use of premises, by way of rezoning, re-subdivision, condominium conversion or otherwise, where such use would result in an increased occupancy of the premises, the owner of such premises shall apply to the Commission for a determination as to whether the existing Wastewater or Stormwater Service Connection or Connections is or are, as the case may be, of a suitable size to provide the increased demand required on such Service Connection or Connections and, in respect of such application:

(a) the applicant may be required to provide a hydraulic analysis of the proposed Wastewater and/or Stormwater generation and existing downstream system capacity to determine the suitability of the Service Connection for a proposed new use;
(b) should the Commission determine that the existing Wastewater and/or Stormwater Service Connection or Connections is or are, as the case may be, not suitable, the property owner shall comply with the requirements of the Commission with respect to its determination of the appropriate type and size of Wastewater or Stormwater Service Connection to be utilized; and
~~(a)~~(c) such Wastewater and/or Stormwater Service Connections shall be installed at the
owner's expense and all installation shall be to the satisfaction of the Commission.

(7) When Wastewater or Stormwater Service Connections are abandoned or are to be abandoned, the Commission shall require the owner of the property serviced by such Wastewater or Stormwater Service Connections to, at its expense, cap off such Service Connection or Connections at the main, or as otherwise prescribed by the Commission.

(8) The Commission may give notice in writing to an owner of a property serviced by the Wastewater System or Stormwater System, requiring such owner, within the time specified in such notice, to connect to the Wastewater System or Stormwater System through a Wastewater or Stormwater Service Connection.

(9) Where an application for a Service Connection is submitted to the Commission with a building permit for a construction project with a value greater than $100,000, or where a property is being redeveloped, and the Service Connection is 30 years of age or older, the owner shall install a replacement or new Service Connection at the owner's expense and in accordance with the Commission's design specifications.

Repairs to Wastewater and/or Stormwater Service Connections

62. In the event a Wastewater or Stormwater Service Connection is obstructed, the following procedure shall be followed in removing the obstruction:

(a) at the Customer's expense, the Customer shall be responsible for the initial investigation and clearing of the obstruction with the services of a licensed plumber to identify the cause and the location of the obstruction and take all necessary measures to remove the obstruction before requesting the Commission for assistance;

(b) if the obstruction is located in the portion of the Service Connection on private property, the Customer shall be responsible for all the costs of removal of the obstruction, including the expenses of any contractor to excavate and replace the pipe if necessary and including obtaining any permits required by HRM by-laws or the Commission before commencing any excavation;

~~(a)~~(c) if the obstruction is located in the portion of the Service Connection on HRM property, between the main and the street line or the easement boundary, and a plumber is unable to remove it, the Customer shall submit to the Commission a written report from a plumber and a video identifying the location and probable cause of the obstruction and on receipt of such report and video, the Commission shall investigate the obstruction and if it is determined by the Commission that the cause of the obstruction was:

(i) non-structural, the Commission shall advise the Customer of its determination and the Customer shall be responsible for clearing the obstruction, including replacing the pipe, if necessary;

(ii) caused by a broken, sheared, sagged, or collapsed pipe or some other structural cause, the Commission will rectify the deficiency and reimburse the Customer for the cost of ~~plumbing and~~ video services and associated plumbing work necessary for the video work in an amount not exceeding $~~400~~700.00, including HST; and

(iii) caused by the roots from an HRM owned tree, the Commission will clear the obstruction and, on behalf of HRM, reimburse the Customer for the cost of ~~plumbing and~~ video services and associated plumbing work necessary for the video work in an amount not exceeding $~~400~~700.00, including HST.

PART XI - WASTEWATER AND STORMWATER DISCHARGE

Discharge into the Wastewater System

63. (1) No ~~person~~Person shall Discharge into a Wastewater System, Wastewater which causes or may cause:

(a) a health or safety hazard;
(b) obstructions or restrictions to the flow in the Wastewater System;
(c) an offensive odour to emanate from the Wastewater System, including with respect to Wastewater containing hydrogen sulphide, mercaptans, carbon disulphide, other reduced sulphur compounds, amines, or ammonia in such quantity that may cause an offensive odour;
(d) damage to a Wastewater System;
(e) interference with the operation and maintenance of the Wastewater System;
(f) a restriction of the beneficial use of Biosolids from the Wastewater System;
(g) effluent from the Wastewater System to be in violation of any Provincial or Federal Acts or Regulations;
(h) capacity or hydraulic impacts which may interfere with the operation of the Wastewater System.

(2) No ~~person~~Person shall Discharge into the Wastewater System, Wastewater with any one or more of the following characteristics:

(a) a pH less than 5.5 or greater than 9.5;
(b) two or more separate liquid layers;
(c) a temperature greater than 65 degrees Celsius.

(3) No ~~person~~Person shall Discharge, into the Wastewater System, one or more of the following:

(a) Combustible Liquids;
(b) Fuel;
(c) Hauled Waste or Leachate, except with the prior written approval of the Commission;
(d) Ignitable Waste including but not limited to, flammable liquids, solids, or gases, capable of causing or contributing to an explosion or supporting combustion in the Wastewater System;
(e) detergents, surface-active agents or other substances that may cause excessive foaming in the Wastewater System;
(f) dyes or colouring materials which pass through the Wastewater System and discolour the Wastewater infrastructure or effluent;
(g) Pathological Waste in any quantity;
(h) PCBs;
(i) Pesticides;
(j) Reactive Waste;
(k) Waste Radioactive Substances, including NORM, in excess of concentrations greater than those specified for Release to the environment under the *Nuclear Safety and Control Act* and Regulations made thereunder, each as amended from time to time;
(l) Hazardous Waste;
(m) Extraneous Water or Wastewater without the prior written approval of the Commission;
(n) Animal by-product;
(o) S~~s~~eawater;
(p) Garbage and any form of solid waste
(q) Food Waste
~~(o)~~(r) Groundwater or surface water used for or caused by a renovation, repair, demolition,

maintenance, construction or land development activity, except as authorized in writing by the Commission, in the form of a dewatering approval.

(4) Subject to Sections 65 and 74, no ~~person~~Person shall Discharge into the Wastewater System, Wastewater containing a substance with a concentration in excess of any of the limits set out in Table 6:

Table 6: Limits for Discharge to Wastewater System

Parameter	Milligrams Per Litre
Aluminum, Total	50
Antimony, Total	5
Arsenic, Total	1
Barium, Total	5
Benzene	0.01
Beryllium, Total	5
Biochemical Oxygen Demand	300
Bismuth, Total	5
Cadmium, Total	0.7
Chemical Oxygen Demand	600
Chloride	1500
Chloroform	0.05
Chromium, Total	2
Cobalt, Total	5
Copper, Total	1
Cyanide, Total	2
1,2 - Dichlorobenzene	0.05
1,4 - Dichlorobenzene	0.08
cis - 1,2 - Dichloroethylene	4.0
trans - 1,3 - Dichloropropylene	0.15
Ethylbenzene	0.06
Fluoride	10
Iron, Total	50
Lead, Total	1
Manganese, Total	5
Mercury, Total	0.01
Methylene chloride	0.2
Molybdenum, Total	5
Nickel, Total	2
Oil & Grease - mineral or synthetic in origin ~~(TPH)~~	15
Oil & Grease - Animal or vegetable in origin	100
Phenolic Compounds (4AAP)	1
Phosphorus, Total	10
Selenium, Total	1
Silver, Total	2
Sulphates Expressed as SO4	1500

Parameter	Milligrams Per Litre
Suspended Solids, Total	300
Sulphide (as H_2S)	1.0

1,1,2,2 - Tetrachloroethane	0.5
1,1,2,2 - Tetrachloroethylene	0.5
Tin, Total	5
Titanium, Total	5
Toluene	0.01
Total Kjeldahl Nitrogen	100
Trichloroethylene	0.5
Vanadium, Total	5
Xylene, Total	0.3
Zinc, Total	2

*Refer to section 63(2) for pH limit

**A reference to "Total" in this table denotes total concentrations of all forms of the metal and ion including both particulate and dissolved species.

(5) No ~~person~~Person shall dilute Wastewater in order to become compliant with these Regulations, without the prior written approval of the Commission.

(6) No ~~person~~Person shall Discharge Uncontaminated Water into the Wastewater System without the prior written approval of the Commission.

~~(6)~~(7) All Discharge into the Wastewater System, as described in 63. (3) (r) of these Regulations, requires a dewatering approval. All dewatering approval applications shall be subject to a fee of $325. A volumetric charge will be applied to the actual discharge volume at the current Wastewater Discharge Rate in section 6 of these Regulations.

Stormwater Discharge to the Wastewater System

64. (1) The Commission may from time to time undertake testing or inspections to identify and locate connections that convey Stormwater into the Wastewater System.

(2) No ~~P~~~~person~~Person shall, without the prior written approval of the Commission connect, cause to be connected, or allow to remain connected to the Wastewater System or plumbing installation, any piping, fixtures, sump pumps, downspouts, fittings appliances or like equipment or device in a manner which allows or may allow Stormwater to ingress or flow into the Wastewater System.

(3) No Person shall allow a Customer owned Wastewater Service Connection to remain connected to the Wastewater System, ~~a Wastewater Service Connection~~ that allows or may allow Stormwater to ingress or flow into the Wastewater System through cracks, breaks, offset joints, or other defects

~~(3)~~(4) The Commission may direct a ~~person~~Person to Discharge Stormwater to the Stormwater System, a surface area or Watercourse.

~~(4)~~(5) Upon the Commission creating a new Service account for a ~~person~~Person, the Commission may require a Wastewater Service Connection to be inspected and brought into compliance with these Regulations, at such ~~person~~Person's expense.

~~(5)~~(6) The inspection required in subsection ~~(4)~~(5) shall include the Discharge location of any roof or foundation drain or sump pump and such other inspection activities as will permit the Commission to determine whether a Wastewater Service Connection is in compliance with these Regulations.

(7) The Commission may determine, in its discretion, that this Section does not apply to existing premises connected to an existing Combined Sewer system or to new premises intended to be connected to a Combined Sewer system, provided that those premises are not serviced or able to be serviced by a separate Stormwater System.

Discharge of Extra Strength Wastewater and Extraneous Water or Wastewater

65. (1) The Commission, at its sole discretion, may enter into an agreement with a ~~person~~Person or Customer who Discharges Extra Strength Wastewater and/or Extraneous Water or Wastewater.

(2) An agreement referred to in subsection (1) shall include:

(i) terms and conditions under which such Discharge will be permitted by the Commission;
(ii) the testing program, as approved by the Commission, to determine value of the Discharge load;
(iii) the measurement mechanism and frequency, as approved by the Commission, to determine the Discharge flow; and
(iv) costs and fees, as determined by the Commission.

Discharge into and Obstruction of the Stormwater System

66. (1) No ~~person~~Person shall Discharge into a Stormwater System, matter which causes or may cause:

(a) a health or safety hazard;
(b) interference with the operation of a Stormwater System;
(c) obstruction or restriction of a Stormwater System or the flow therein;
(d) damage to a Stormwater System;
(e) impairment to the quality of the water in a Stormwater System; or
(f) the quality of the water Discharged from a Stormwater System owned or operated by the Commission to be in violation of Provincial or Federal Acts or regulations.

(2) No ~~person~~Person shall Discharge into a Stormwater System, matter which results in one or more of the following:

(a) visible sheen, film or discolouration;
(b) two or more separate layers;
(c) a pH less than 6.0 or greater than 9.5;
(d) a temperature greater than 40 degrees Celsius; or
(e) foam or any matter which, by itself or in combination with another substance, is capable of producing foam that will persist for 5 minutes or more.

(3) No ~~person~~Person shall Discharge into a Stormwater System:

(a) Hazardous Waste;
(b) Combustible Liquids;
(c) floating debris;
(d) Fuel;
(e) Hauled Waste;
(f) Pathological Waste;
(g) PCB's;

(h) Pesticides;
(i) Reactive Waste;
(j) Toxic Substances;
(k) Waste Radioactive Substances, in excess of concentrations greater than those specified for Release to the environment under the *Nuclear Safety and Control Act* and regulations made thereunder, each as amended from time to time;
(l) E. coli colonies in excess of 200 per 100 mL;
(m) water from sprinkler systems and Non-contact Cooling Water,
(n) water from washing equipment used in the mixing and delivery of concrete and cement based products;
(o) Animal by-product or Animal waste;
(p) oil and grease, Animal or vegetable in origin;
(q) any substance other than Stormwater or Uncontaminated Water except as authorized in writing by the Commission; or
(r) groundwater or surface water used for or caused by a renovation, repair, demolition, maintenance, construction or land development activity, except as authorized in writing by the Commission.

(4) No ~~person~~Person shall Discharge into a Stormwater System, matter containing a concentration, expressed in milligrams per litre, in excess of the limits set out in Table 7 as follows:

Table 7. Limits for Discharge to Stormwater System

Parameter	Milligrams per litre
Arsenic, Total	0.02
Benzene	0.002
Biochemical Oxygen Demand	15
Cadmium, Total	0.008
Carbon tetrachloride	0.02
Chloroform	0.002
Chromium, Total	0.02
Copper, Total	0.03
Cyanide, Total	0.02
Ethylbenzene	0.002
Fluoride	1.5
Lead, Total	0.05
Mercury, Total	0.0004
Nickel, Total	0.08
Phenols	0.008
Phosphorus, Total	0.4
Selenium, Total	0.01
Silver, Total	0.001
Suspended Solids, Total	15
Thallium, Total	0.01
Toluene	0.002
1,1,2 - Trichloroethylene	0.0076
Xylene, Total	0.0044
Zinc, Total	0.04
1,2 - Dichlorobenzene	0.0056
1,4 - Dichlorobenzene	0.0056
cis -1,2 - Dichloroethylene	0.0056

trans - 1,3 - Dichloropropylene	0.0056
Methylene chloride	0.0052
1,1,2,2 - Tetrachloroethane	0.017
1,1,2,2 - Tetrachloroethylene	0.0044
Di-n-butyl phthalate	0.015
Bis (2-ethylhexyl) phthalate	0.0088
PAHs	0.002

*Refer to section 66(2) for pH limit **A reference to "Total" in this table denotes total concentrations of all forms of the metal and ion including both particulate and dissolved species.

(5) No ~~person~~Person shall permit erosion or sediment runoff which results in an exceedance of any of the limits in Table 7 to enter a Stormwater System.

(6) No ~~person~~Person shall infill or alter a Stormwater Ditch unless authorized by the Commission in writing.

(7) The Commission may direct and require a ~~person~~Person or property owner who infilled or altered a Stormwater Ditch to remove the infill or remediate any alteration.

(8) The cost of removal or remediation of Ditch alterations not authorized by the Commission shall be the responsibility of the ~~person~~Person or property owner.

(9) The Commission may prohibit a ~~person~~Person or Customer from connecting sump pumps or downspouts to a Stormwater Service Connection and may require a ~~person~~Person or a Customer to disconnect sump pumps or downspouts from the Stormwater Service Connection if, in the opinion of the Commission, the Stormwater System may be subject to capacity restrictions as a result of the connection of such sump pumps and downspouts.

Wastewater Discharges to Stormwater Systems

67. (1) The Commission may, from time to time, undertake testing or inspections to identify and locate Wastewater entering into a Stormwater System.

(2) No ~~person~~Person or Customer shall connect, cause to be connected, or allow to remain connected to the Stormwater System or plumbing installation, without the express written consent of the Commission, any piping, fixtures, fitting or appliance in a manner which may allow Wastewater or any other liquid not authorized by these Regulations to ingress or flow into the Stormwater System.

(3) No ~~person~~Person or Customer shall Discharge Wastewater anywhere except into the Wastewater System, a private on-site Wastewater system or a private central Wastewater collection system and treatment facility.

(4) Where in the opinion of the Commission, there exists a risk of Wastewater or any other liquid not authorized by these Regulations, flowing into a Stormwater System, the Commission may require a Person or a Customer, at such Person or Customer's sole cost and expense, to install or remove at any point on a Stormwater System, one or more fittings or appurtenances to prevent such connection.

(5) The Commission may require a Stormwater Service Connection to be inspected and brought into compliance with the provisions of these Regulations, at the property owner's expense, when a new Service account is created.

Swimming Pools and Spas

68. (1) Water from swimming pools, wading pools, whirlpools, hot tubs, spas and other similar facilities may be Discharged into the Wastewater or Stormwater System, subject to compliance with these Regulations, including Part II of these Regulations if the water is Extraneous Water or Wastewater.

PART XII - PRETREATMENT

Pretreatment Facilities

69. (1) Where a ~~Customer person~~Person installs a Pretreatment Facility, such Facility shall be installed upstream of a Monitoring Access Point, where a Monitoring Access Point exists, ~~or~~ is proposed, or is required.~~of a Monitoring Access Point, where a Monitoring Access Point exists, or is proposed, or is required.~~

(2) An owner or operator of a Pretreatment Facility shall ensure the design, operation and maintenance of a Pretreatment Facility achieves its treatment purpose in accordance with its manufacturer's operating specifications.

(3) An owner or operator of a Pretreatment Facility shall ensure that any waste products recovered from a Pretreatment Facility are not Discharged into the Wastewater or Stormwater System

(4) Maintenance records and waste disposal records respecting a Pretreatment Facility shall be available to the Commission upon request, which records shall be retained by an owner or operator of a Pretreatment Facility for a minimum of two years following the generation of such records.

(5) Requirements for ~~p~~Pretreatment F~~f~~acilities are stipulated in the most recent addition of the 'Pretreatment Requirements Manual for Wastewater & Stormwater Systems'

Food Related Grease Interceptors

70. (1) Any ~~person~~Person who has a permit to operate a restaurant or like food service establishment, or an ICI premises where food is cooked, processed or prepared, and which premises are connected directly or indirectly to a Wastewater System, shall install a grease Interceptor and comply with these Regulations.

(2) Where a grease Interceptor is installed or is required to be installed pursuant to subsection (1),

(a) the grease Interceptor shall not Discharge to the Stormwater System;
(b) the grease Interceptor shall be installed in compliance with the most current requirements of the *Building Code Act*, R.S.N.S. 1989, c. 46 and regulations made under the authority of that Act;
(c) the grease Interceptor shall be installed and maintained to meet the standards and requirements of the most recent edition of the Commission's 'Pretreatment Requirements Manual for Wastewater & Stormwater Systems'~~as determined and approved by the Commission, including but not limited to~~:
(d) when a grease Interceptor is required to service a dishwasher, it shall be a dedicated grease Interceptor or a bypass of such Interceptor as may be approved by the Commission;
(e) grease Interceptors shall be cleaned by removing 100% of intercepted substances when the thickness of the grease and solids layers therein become greater than 25% of the Interceptor volumes with a cleaning frequency of at least once every four weeks, unless otherwise permitted by the Commission;
(f) during each cleaning, grease Interceptors shall be inspected while empty to ensure that the internal components, such as baffles and walls are structurally sound and damaged components will be replaced to ensure that the grease Interceptor will continue to perform as intended;

(g) all grease Interceptors not approved in accordance with the standards and requirements set out in clause (c) shall be replaced with grease Interceptors meeting the standards and requirements set out in clause (c) by January 1, 2024.
(h) maintenance requirements for grease Interceptors shall be posted in the workplace in proximity to the grease Interceptor;
(i) a maintenance schedule and record of maintenance for each grease Interceptor shall be made available to the Commission upon request for each such device installed, and, if requested, such record of maintenance shall include a measurement of the thickness of the grease and solids layer present at each cleaning, expressed as a percentage of the liquid volume of the grease Interceptor, together with an indication of the structural condition of its internal components;
(j) the owner or operator of a premises referred to in subsection (1) shall keep documentation respecting proof of the grease Interceptor clean-out and maintenance and oil and grease disposal for a period of two years following the generation of such a record;
(k) no ~~person~~Person shall use enzymes, bacteria, solvents, hot water or other agents to facilitate the conveyance of oil and grease through a grease Interceptor to a sewer system; and
(l) removal of retained or trapped materials from a grease Interceptor shall be accomplished by pumping or other physical means and the resulting recovered material shall be hauled away and disposed in accordance with applicable statutes and regulations.

~~Requirements for grease Interceptors are stipulated in the most recent addition of the 'Pretreatment Requirements Manual for Wastewater & Stormwater Systems'~~

Vehicle and Equipment Service Oil and Grease Interceptors

71. (1) Every owner or operator of a vehicle or equipment service station, repair shop or garage or of an ICI premises or any like establishment where motor vehicles are repaired, lubricated or maintained, and from which premises the Wastewater Discharge is directly or indirectly connected to a sewer, shall install an oil and grease Interceptor in accordance with these Regulations, and otherwise comply with these Regulations.

(2) Where an oil and grease Interceptor is installed or is required to be installed pursuant to subsection (1),

(a) the oil and grease Interceptors shall not Discharge to the Stormwater System;
(b) oil and grease Interceptors shall be installed in compliance with the most current requirements of the *Building Code Act*, R.S.N.S. 1989, c. 46 and regulations made under the authority of that Act;
(c) all oil and grease Interceptors and separators shall be installed and maintained in accordance with standards approved by the Commission, and otherwise shall be maintained in good working order by the owner or operator of the premises where they are located, according to the product manufacturer's recommendations and shall be inspected regularly to ensure performance of such Interceptors is maintained to the manufacturer's specifications for performance and to ensure oil and grease concentrations do not exceed the recommended level;
(d) a maintenance schedule and record of maintenance for each oil and grease Interceptor installed shall be available to the Commission upon request;
(e) the owner or operator of a premises referred to in subsection (1) shall keep documentation respecting proof of the Interceptor clean-out and oil and grease disposal for a period of two years following the generation of such a record;

(f) no ~~person~~Person shall use enzymes, solvents, hot water or other agents to facilitate the conveyance of oil and grease through an oil and grease Interceptor to a sewer system; and

(g) removal of retained or trapped materials from an oil and grease Interceptor shall be accomplished by pumping or other physical means and the resulting recovered material shall be hauled away and disposed of in accordance with applicable statutes and regulations.

~~(g)~~(h) Requirements for oil and grease Interceptors are stipulated in the most recent addition of the 'Pretreatment Requirements Manual for Wastewater & Stormwater Systems'

Sediment Interceptors

72. (1) Every owner or operator of a premises from which sediment may directly or indirectly enter the Wastewater System or Stormwater System, including premises using a ramp drain or area drain and including vehicle wash establishments, shall install a sediment Interceptor in accordance with these Regulations, and otherwise comply with these Regulations.

(2) Where a sediment Interceptor or similar facility is installed or is required to be installed pursuant to subsection (1):

(a) catch basins installed on private property for the purpose of collecting Stormwater and carrying it into the Stormwater System shall be equipped with an Interceptor, as required by the Commission;

(b) the installation of catch basins referred to in clause (a) shall comply with the Commission's design and construction specifications, as amended from time to time;

(c) all sediment Interceptors shall be maintained in good working order by the owner or operator of the premises, according to the product manufacturer's recommendations and shall be inspected regularly to ensure performance of such Interceptors is maintained to the manufacturer's specifications for performance;

(d) despite clause (c), sediment or other retained or trapped materials shall be removed from a catch basin Interceptor when the sump basin has been filled or when accumulated materials are capable of passing into a Wastewater System or Stormwater System;

(e) removal of retained or trapped materials from a sediment Interceptor shall be accomplished by pumping or other physical means and the resulting recovered material shall not be Discharged to the Wastewater or Stormwater System;

(f) the owner or operator of a premises referred to in subsection (1) shall keep documentation respecting proof of the of the Interceptor clean-out and sediment disposal for a period of two years following generation of such a record; and

(g) a maintenance schedule and record of maintenance for each sediment Interceptor shall be available to the Commission upon its request.

PART XIII - MONITORING, SAMPLING AND REPORTING

Wastewater Service Reporting Requirements

73. (1) No ~~person~~Person shall Discharge Wastewater, Stormwater, Non-contact Cooling Water, or any combination thereof, from an ICI premises to the Wastewater System without first submitting to the Commission, a report~~s~~ in a form prescribed by the Commission, known as ~~Form 1: Abbreviated~~ a Discharger Information Report ~~and Form 2: Detailed Discharger Information Report, and~~ as amended from time to time.

(2) A ~~person~~Person who files a Discharger Information ~~r~~Report~~s~~ with the Commission shall file further Discharger Information R~~r~~eports ~~in Form 1 and Form 2~~ as information ~~contained in such Forms, as filed,~~ changes.

(3) The Commission may require additional information to that which is contained in a Discharger Information Report ~~either Form 1 or Form 2~~ at any time.

Wastewater Service Compliance Agreement

74. (1) The Commission may enter into a compliance agreement with a ~~P~~~~person~~Person who Discharges or intends to Discharge into a Wastewater System but who is not in compliance with these Regulations, for the purpose of having such ~~person~~Person comply with these Regulations.

(2) A compliance agreement referred to in subsection (1) shall:

(a) be for a fixed term;
(b) contain requirements to report to the Commission on significant stages in a process or a ~~person~~Person to comply with these Regulations;
(c) include terms and conditions for Discharges into a Wastewater System during the term of such compliance agreement; and
(d) include a termination clause providing for termination by the Commission where, in the opinion of the Commission, any party to a compliance agreement is not meeting the terms and conditions thereof.

Monitoring, Sampling, and Reporting

75. (1) The Commission may require a ~~person~~Person to undertake monitoring, flow metering, ~~or~~ sampling, laboratory analysis, and/or reporting to the Commission of any Discharge to a Wastewater System or Stormwater System on such terms and conditions as may be required by the Commission.

(2) All sampling and analysis ~~conducted as part of monitoring~~ referred to in subsection (1) shall be carried out in accordance with Standard Methods by an Accredited Laboratory at the expense of the ~~person~~Person referred to in subsection (1).

~~(2)~~(3) The Commission will require satisfactory documentation, where a ~~person~~Person is required to undertake repairs and/or upgrades to a private Wastewater System or Stormwater System.

Wastewater and/or Stormwater Service Sampling and Analytical Requirements

76. (1) Where the Commission requires sampling to determine the concentration of substances in Wastewater or Stormwater, the sample may:

(a) be collected manually or by using an automatic sampling device;
(b) be collected by Grab Sample or Composite Samples; and
(c) contain additives for its preservation.

(2) All sampling and analysis conducted as part of monitoring referred to in subsection (1) shall be carried out in accordance with Standard Methods and by an Accredited Laboratory.

Wastewater and/or Stormwater Monitoring Access Point

77. (1) The Commission shall require the installation of a Monitoring Access Point or the upgrading of an existing Monitoring Access Point, for each connection to a Wastewater System or a Stormwater System for the purpose of monitoring, flow metering or sampling Discharges, unless exempted by the Commission.

(2) A Monitoring Access Point under this section shall be:

(a) located on the property of the ~~person~~Person discharging into a Wastewater System or a Stormwater System, unless the Commission permits an alternate location;
(b) constructed and maintained at the expense of the ~~person~~Person referred to in clause (a);
(c) accessible at all times by the Commission;
(d) constructed in a manner which meets the standards of the Commission;
(e) maintained to ensure access and structural integrity;
(f) offset behind the street line, unless otherwise approved by the Commission, or located on the property of the owner or operator of the premises, as close to the property line as possible, unless otherwise permitted by the Commission; and
(g) maintained so as to be free of buildup, deposits, or such other condition as may interfere with monitoring, flow metering or sampling.

Releases

78. (1) In the event of a Release capable of having an Adverse Effect on a Water, Wastewater or Stormwater System or the environment, including the health of humans and reasonable enjoyment of life or property, the ~~person~~Person having responsibility for or management or control of such Release or its source shall immediately notify the Commission and provide any requested information with regard to the Release.

(2) [Repealed.]

(3) The ~~person~~Person referred to in subsection (1) shall take all reasonable measures to contain the Release, protect the health and safety of citizens, minimize damage to property, protect the environment, clean up the Release and contaminated residue, and restore the affected area to its condition prior to the Release.

(4) The ~~person~~Person referred to in subsection (1), or such other ~~person~~Person with knowledge of the Release, shall, at the request of the Commission, provide a detailed report on the Release to the Commission within five business days after the request, containing, to the best of his or her knowledge, all of the following:

(a) the location where the Release occurred;

(b) the name and telephone number of the ~~person~~Person who reported the Release and the location and time where they can be contacted;
(c) the date and time of Release;
(d) the material Released;
(e) the characteristics and composition of material Released;
(f) the volume of material Released;
(g) the duration of Release event;
(h) the work completed and any work still in progress in the remediation of the Release;
(i) the preventive actions being taken to ensure a similar Release does not occur again;
(j) copies of applicable Release prevention and Release response plans for future events.

(5) The Commission may invoice a ~~person~~Person responsible for a Release to recover its costs of time, materials and services as a result of the Commission's response to the effect of such Release on the Commission's Water, Stormwater or Wastewater System, and such ~~person~~Person responsible for a Release shall pay the Commission's costs as invoiced.

PART XIV – DISPUTE RESOLUTION OFFICER

Dispute Resolution Office Established

78A. (1) There is established an officer, ~~for investigations respecting Service,~~ to be called the Dispute Resolution Officer (DRO), for reviewing complaints, made by Customers of Record, respecting Service, who are dissatisfied with the Commission's response respecting the Board-approved Schedule of Rates, Rules and Regulations for water, Wastewater and Stormwater Services. Before referring a complaint to the DRO for review, a Customer of Record must first follow the Commission's formal complaint process. At the conclusion of the formal complaint process, the Commission will provide a response to the Customer of Record. If a Customer of Record is dissatisfied with the Commission's response, then the Customer of Record can refer the Complaint for review by the DRO.

(2) The DRO shall be appointed by the Commission.

(3) The DRO shall not be a current or former employee of the Commission, a current or former member of the Commission, or a family member of a current employee or member of the Commission.

(4) The DRO shall not divulge any information received under these Regulations except for the purpose of giving effect to these Regulations.

(5) The DRO shall be compensated for hours worked and reasonable disbursements according to a rate to be established by the Commission in consultation with the DRO and to be monitored with reference to rates for consultants and professionals with similar qualifications and experience.

(6) The DRO shall submit to the Commission on a monthly basis invoices for services and claims for expenses and reimbursable disbursements in accordance with the Commission's expense reimbursement policy.

(7) The costs and expenses incurred by the DRO may be paid from the rate regulated revenues of the Commission.

Term of Office

78B. (1) Unless the DRO office becomes vacant sooner, the DRO shall hold office for five years from the date of appointment under Section 78A and, if otherwise qualified, is eligible to be re-appointed.

(2) The DRO may resign by notice in writing to the General Manager of the Commission.

Removal or Suspension

78C. With the approval of the Board, the Commission may remove or suspend the DRO from office for cause or incapacity.

Extent of Disclosure in Report of DRO

78D. Despite subsection (4) of section 78A, the DRO may disclose, in a Decision Letter, ~~report~~ pursuant to these Regulations, any matters which are necessary to disclose in order to establish grounds for any conclusions and recommendations.

Refusal or Cessation of ~~Investigation~~Review

78E. (1) The DRO may refuse to review~~investigate~~ or may cease to review~~investigate~~ a ~~c~~Complaint if:

(a) an adequate remedy or right of appeal already exists (not including a direct appeal to the Board) whether or not the complainant has availed himself or herself of such remedy or right of appeal;
(b) the C~~c~~omplaint is trivial, frivolous, vexatious or not made in good faith;
(c) having regard to all the circumstances of the matter,~~case,~~ further review~~investigation~~ is unnecessary;
(d) the C~~c~~omplaint relates to any decision, recommendation, act or omission ~~of which~~ that is one-year after the earliest date on which ~~e~~ the Customer of Record ~~complainant has~~ had knowledge or should have known, after reasonable inquiry ~~for more than one year before complaining~~;
(e) the Customer of Record~~complainant~~ does not have sufficient personal interest in the subject matter of the C~~c~~omplaint; or
(f) upon a balance of convenience between the public interest and the Customer of Record, ~~complainant~~ the DRO is of the opinion that the ~~c~~Complaint should not be reviewed. ~~be reviewedinvestigated.~~

(2) The DRO shall refuse to review or shall cease to review a Complaint if:

(a) ~~C~~the Complaint is outside the scope ~~not~~ of determining whether the Commission has followed Board approved Schedule of Rates, Rules and Regulations for water, Wastewater and Stormwater Services in its dealings with Customers; ~~based on the Commission's interpretation of the Regulations~~
(b) the Complaint is not referred for review by a Customer of Record~~complainant is not a customer~~.

(3) Where the DRO decides not to review~~investigate~~, or ~~to~~ ceases to review~~investigate~~ a C~~c~~omplaint, the complainant and any other interested ~~person~~Person shall be informed of such D~~d~~ecision and the DRO may state reasons therefor.

Notification of Review ~~Investigation~~

78F. Where the DRO intends to review~~investigate~~ a ~~c~~Complaint under these Regulations, the Commission shall be notified.

Nature of Review~~Investigation~~

78G. (1) Every review~~investigation~~ under these Regulations is to be conducted ~~in~~ on a private and confidential basis.

(2) The DRO may hear or obtain information from any ~~person~~Person and make inquiries.

(3) The Customer of Record ~~complainant~~ and the Commission shall respond to all reasonable requests of the DRO for information which the DRO considers relevant to the review~~the~~~~his review~~.~~investigation.~~

(4) The DRO may, at any time during or after a review~~n investigation~~, consult the General Manager or a Director at the Commission or the Customer of Record ~~complainant~~ regarding ~~in~~ the matter of ~~the Complaint under review. investigation.~~the C~~c~~omplaint under review.

Decision Report of DRO

78H. (1) By investigation Tthe DRO shall shall review the Complaint and determine inquire into a valid customer complaint that the whether the Commission administered or is administering these Regulations in respect of Service:

(a) unreasonably, unjustly, oppressively or in a discriminatory manner, or pursuant to a rule of law, enactment or practice that so results;
(b) under mistake of law or fact, in whole or in part;
(c) wrongly;
(d) contrary to law;
(e) by using a discretionary power for an improper purpose, or on irrelevant grounds, or by taking irrelevant considerations into account, or by failing to give reasons for the use of discretionary power when reasons should have been given.

(2) Where, upon review,investigation pursuant to subsection (1), the DRO is of the opinion that

(a) the Ccomplaint should be referred to the Commission for further consideration;
(b) an omission should be rectified;
(c) a Commission's response decision should be cancelled or rectified;
(d) a practice by reason of which the Ccomplaint arose or may arise should be altered;
(e) a provision of these Regulations by reason of which the Ccomplaint arose or may arise should be reconsidered;
(f) reasons should be given for the use of a discretionary powerother steps should be taken, the DRO shall report to the Customer of Recordcomplainant and the Commission, the reasons therefor and any recommendations for resolution of the Ccomplaint.

then the DRO shall provide a Decision Letter in accordance with 78I.

Order of DRO Decision Letter of DRO

78I. (1) Where, after investigating a matter, the DRO determines that the complainant and the Commission are unlikely to settle the complaint by mediation, or the Commission refuses to follow a recommendation, the DRO shall, within 14 days, make an order to adjudicate the complaint.

78I. The DRO shall communicate the outcome of the review in the form of a written Decision Letter, to the Customer of Record and the Commission. The Decision Letter of the DRO shall be binding on the Customer of Record and the Commission.

(2)An order Decision of the DRO under subsection (1) shall be binding on the complainant and the Commission.

Appeal from Order the Decision Letter of the DRO

78J. (1) The Customer of Record or Despite subsection 78I(2), the complainant oor the Commission may appeal the Decision Letter to the Board within thirty (30) days from the date of the an order Decision Letter of the DRO.

(32) The Board shall inquire into an appeal *de novo* and make such inquiries and receive such information as the Board deems appropriate.

PART XV – OFFENCES AND DIRECTIVES

Offences

79. Where the Commission believes that a ~~person~~Person has contravened any provision of these Regulations, it may commence proceedings by issuing a Summary Offence Ticket in accordance with the *Nova Scotia Summary Proceedings Act*, and any regulations made thereunder.

Directives

80. (1) Where the Commission believes that a ~~P~~~~person~~Person has contravened any provision of these Regulations, it may issue a Directive to become compliant with these Regulations.

(2) Where the Commission, at its sole discretion, requires a ~~person~~Person to undertake monitoring, flow metering, sampling and/or reporting of any Discharge to a Wastewater System or Stormwater System, this requirement may be in the form of a Directive.

ATTACHMENT 1

HALIFAX REGIONAL WATER COMMISSION
PROCEDURE FOR ACCEPTANCE OF

PRIVATE COMMUNITY WATER, WASTEWATER AND STORMWATER SYSTEMS

INTENT:

This procedure sets out the requirements for the Halifax Regional Water Commission (the Commission) to accept existing private community water, Wastewater and Stormwater Systems into the Commission's plant.

SYSTEM DEFINITION:

A private community water, Wastewater or Stormwater System (a community system) is defined as an existing system serving at least ten (10) individual dwellings. The portion of the system eligible for acceptance by the Commission includes:

- The treatment plant(s) and/or pumping station(s) within the public road right of way, public easement or community system owned land, and
- The system pipes and appurtenances within the public road right of way or public easement, and
- The portion of the individual service laterals within the public road right of way or public easement.

The portion of the service lateral on private property shall remain the responsibility of the individual property owner.

The Commission will not consider acceptance of a standalone community stormwater system. Stormwater systems may be considered for acceptance as an ancillary part of an existing community wastewater system.

INTRODUCTION:

The Commission's infrastructure generally conforms to industry standards and the Commission Design Specifications. Further, Nova Scotia Environment (NSE) has published its Surface Water Treatment Standard and Groundwater Treatment Standard which identify the acceptable level of treatment for surface and ground waters, respectively. Existing Commission systems meet these standards. For a community system to be accepted into the Commission's plant, the Commission requires that the community system meets or can be upgraded to Commission and Federal/Provincial standards.

PROCEDURES FOR ACCEPTANCE:

A. Pre-Qualification

1. To qualify for consideration of acceptance and subject to all other conditions in this Procedure being met by the applicant, it must be demonstrated by the applicant that the community system will meet, or can be upgraded to meet, the following basic design standards:

   Water System

   a) A reliable source of supply from a quantity point of view.
   b) Compliance with the NSE Groundwater Treatment Standard or Surface Water Treatment Standard, as applicable.
   c) Water meters for each individual customer, and individual service lines with shutoff valves.
   d) Adherence with the Commission's Design Specifications, where directly applicable.
   e) In addition to the appropriate Treatment Standard, adherence with the health and aesthetic parameters of the Guidelines for Canadian Drinking Water Quality.

   Wastewater and Stormwater Systems

   a) Wastewater and Piped Stormwater Systems Compliance with all applicable Federal and Provincial legislation, regulations and requirements.
   b) Adherence with the Atlantic Canada Wastewater Guidelines Manual for Collection, Treatment and Disposal.
   c) Adherence with the Commission's Design Specifications, where directly applicable.

2. To qualify for consideration of acceptance, it must be demonstrated by the applicant that the Commission will have the ability to legally take over the system if all other conditions are met.

3. If the above requirements in 1 and 2 above cannot be established, the community system cannot be accepted by the Commission, and the application will proceed no further.

B. Application for Acceptance

If the requirements of 'A' have been met, the application for acceptance of the community system will be made by the community system customers. The cost of the application will be borne by the applicants. The application will consist of:

a) A petition signed by two-thirds of the ~~person~~Persons identified by the community system as its customers.
b) The engineering drawings, as available.
c) A System Assessment Report, conducted in accordance with NSE's Terms of Reference for System Assessment Reports, and sealed by a professional engineer.
d) A pre-design report for all required upgrades to the system(s) to meet the Commission design standards including a detailed estimate of costs.

Note - The engineering drawings shall consist of:

a) Record drawings for the water supply or wastewater treatment plant.
b) Layout of the community showing the location of distribution and collection piping and services.

c) Survey plan identifying property parcels and easements necessary for conveyance of the system to the Commission.

C. Commission Board and NSRABUARB Approval

With receipt of a complete and compliant Application for Acceptance, Commission staff shall prepare a report for recommendation of acceptance of the community system by the Commission Board. Subsequent to Commission Board approval, a request shall be sent to the NSUARB for approval of the community system acceptance.

D. Transfer Agreement

Subsequent to the approval of the NSRABUARB, an agreement will be executed with the applicant finalizing the transfer.

The terms and conditions of the agreement shall include:

- Requirement to design, construct and commission all required system upgrades by the applicant with all costs paid by the applicant.
- Upon completion of the required upgrade work at no cost to the Commission, certification from the applicant's engineer that all required upgrades have been completed to the required standards.
- Transfer of all assets of the community system, including any land or easements to the Commission with all costs paid by the applicant.

As an alternative mechanism for the payment of the upgrade costs, HRM Council may establish a betterment charge for the utility customers to collect the project costs.

Once the agreement with the applicant has been executed, betterment charge notices will be sent to all customers of the system. The amount of assessment will be based on equivalent units of a 15 mm water meter (or an equivalently equitable means for Wastewater Systems), with all utility customers being responsible for the total cost of the project.

The betterment charges shall be paid in accordance with the HRM Local Improvement By-law Policy and until payment is complete, shall constitute a lien against the property in respect to which the charges levied, as provided for in the Local Improvement By-law, subject to approval by HRM Council.

Upon completion of the project, staff will recommend to HRM Council that the betterment charges be levied.

When all conditions of the agreement have been met, including the full payment of all associated costs (including the final levying of any associated HRM betterment charge), the Commission will take formal ownership of the system(s) and establish customer contracts to provide Service.

E. Rate Structure:

The rate structure for newly accepted community systems will be based on full cost recovery with a cap at 2.5 times the actual urban core rates in effect.

ATTACHMENT 2

HALIFAX REGIONAL WATER COMMISSION

WATER, WASTEWATER AND STORMWATER CAPITAL COST CONTRIBUTION POLICY

PART I:

Introduction

The Water, Wastewater and Stormwater Capital Cost Contribution (WWS CCC) Policy provides for the recovery of costs required to provide oversized water, Wastewater and Stormwater infrastructure within a 'charge area'. The costs of providing this infrastructure are shared by developers, and in some cases, by the Commission. After the completion of a Master Plan Study, a charge area will be established that becomes the basis for the development of a WWS CCC Charge. The WWS CCC Charge shall take into consideration all aspects of the required infrastructure, financial risks to the Commission, timing of contributions, phasing of development and any other considerations that could have a financial impact on the Commission.

Section 1: Master Plan Study Area & Charge Area

a) The Master Plan area and terms of reference for the study as it relates to the Commission must consider such factors as density, existing Water, Stormwater and Wastewater Systems, drainage basins, existing & proposed water service districts, service boundaries, land use development areas, soil conditions, topography, and other factors deemed appropriate. The Master Plan area is not constrained by land ownership.
b) The charge area will generally be the Master Plan study area. However, depending on service considerations, the charge area may also include areas outside the Master Plan area.
c) Oversized water, Wastewater and Stormwater infrastructure will be defined in the Master Plan for the charge area. Notwithstanding, the impact on existing or planned infrastructure outside the Master Plan study area will be taken into account in the Master Plan Study.

The Commission may require information from the developer(s) regarding the planning and system requirements in the preparation of the Master Plan.

Section 2: Oversized Components

a) Oversizing components of a charge area may include, but are not necessarily limited to water distribution and transmission system including pumping stations, pressure reducing chambers and reservoirs, Wastewater collection system including pumping stations and stormwater collection systems including retention ponds. The infrastructure required to service a charge area may be located outside of the charge area and may include land costs (including easements) associated with providing required infrastructure.
b) Infrastructure which is exterior to a charge area, such as water and Wastewater treatment plants and related infrastructure may be included in the capital cost calculations. In any event, all costs of Oversized Infrastructure to provide service to the charge area will form part of the WWS CCC.

Section 3: Oversized Infrastructure Required to Serve Future Developments

a) Where oversizing of infrastructure within a charge area is identified as providing benefit to future development, the Commission may invest in the Oversized Water, Wastewater and Stormwater Infrastructure required for the future development.
b) The oversizing required to service future development on lands adjacent the charge area, shall be determined, and the investment by the Commission shall be evaluated in accordance with the Funding Criteria defined in Section 18.

Section 4: Drainage from Adjacent Lands

In a Master Plan Area, if drainage from adjacent lands requires the oversizing of storm sewers, the cost of providing the oversizing will form part of the WWS CCC for the charge area.

Section 5: Oversized Infrastructure that Benefits Existing Developed Areas

a) Where an existing developed area receives a direct service benefit from Oversized Water, Wastewater and Stormwater Infrastructure, the Commission may pay a share of the oversized system costs based upon the Capital Costs per acre. The Commission's share is not included in the WWS CCC recovered from new development within the charge area.
b) The Commission will establish the extent to which the existing developed areas receive a benefit from Oversized Water, Wastewater and Stormwater Infrastructure. This benefit will be determined according to the procedures and guidelines of this Policy.
c) Where system capacity provided by new infrastructure within a charge area is used by existing serviced areas, to a degree less than or equal to that existing system capacity used by the charge area, the Oversized Water, Wastewater and Stormwater Infrastructure required for the charge area will not be considered a benefit to the existing area.
d) Existing developed areas may be excluded from a charge area if they are not included in the new infrastructure design calculation, or do not derive a direct benefit from these new systems.
e) Where the Commission has contributed to existing developed areas contained in a charge area, the Commission may recover from WWS CCC from infilling or by way of rezoning, or subdivision, the Equivalent Capital Cost Contributions from new development within the existing community. In effect, the Commission may make payment of water, Wastewater and Stormwater Capital Cost Contributions in advance for future development in existing areas and recover the contributions when new development occurs.
f) The Commission's expenditures shall be evaluated in accordance with the Funding Criteria defined in Section 18, Funding Criteria.

Section 6: Upfront Payment of Oversized Infrastructure by the Commission

a) To fulfill its leadership role, the Commission may consider it necessary to invest in the oversized and required water, Wastewater and Stormwater infrastructure in a charge area in advance of the revenue stream necessary to construct the systems.
b) The Commission may also decide to facilitate the acquisition of rights-of-ways, land, and other required systems or facilities beyond the control of one or more developers. Commission investments shall be evaluated in accordance with the criteria determined in Section 18, Funding Criteria.

Section 7: Infrastructure Exterior to the Charge Area

a) Oversized and required infrastructure exterior to the charge area will be included in the capital Oversized water, Wastewater and Stormwater Infrastructure for the charge area. The Commission will be required to accurately establish the Oversized Infrastructure that is attributed to a specific charge area.
b) water, Wastewater or Stormwater facilities would only be included in the capital cost if their upgrade or expansion can be directly attributable to a specific charge area.

Section 8: Cost Estimates

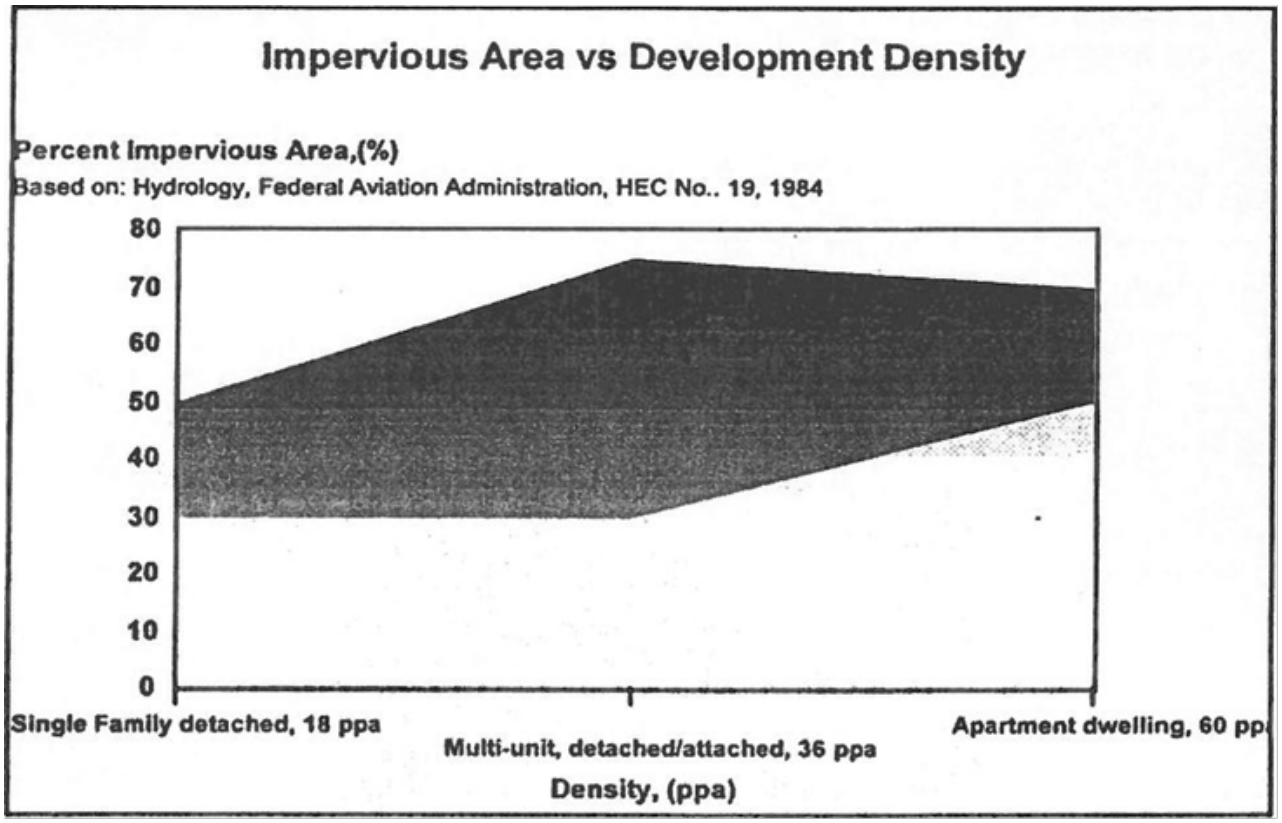
a) The basis for the WWS CCC is an estimate of the Oversized Infrastructure required to service the charge area. The estimated costs shall be escalated to account for the year in which the construction takes place and shall include interest during construction. The Commission will use the ENR Canada Indices to estimate costs in the future, in accordance with Section 14, Timing and Sequencing of Development. In addition, the Commission will include appropriate administration costs for the projects.
b) The Commission, in consultation with the developers, will develop the cost estimates for Oversized water, Wastewater and Stormwater Infrastructure, both within and outside the charge area, that will form the basis of the CCC. The Commission will make every effort to establish cost estimates in consultation with the Stakeholders. The Commission may accept the developers' estimates to construct the systems if the developers agree to construct the Oversized water, Wastewater and Stormwater Infrastructure at the estimated cost.

Section 9: Cost Apportionment Criteria

a) The revenue stream arising from cost apportionment will be used in the Financial Plan of the charge area.
b) For water, wastewater and stormwater infrastructure costs, a density factor related to system demand will be utilized to apportion costs.
c) The WWS CCC is based on average density per acre for the entire charge area, adjusted for the actual density or land use within the parcel being subdivided. Actual density of the parcel being subdivided shall be determined at the time of Subdivision Approval using the maximum density which is permitted by the Municipal Planning Strategy or land use permitted by HRM's Land Use Bylaw.
d) If the density in a sub-division is lower than the average, the WWS CCC may be accelerated based on the average, ratio amount until the total WWS CCC for the subdivision is collected from a developer. This process may be applied if cash flow requirements dictate more funds are needed to pay for required infrastructure.
e) In Industrial, Commercial or Institutional zones or uses, the average density for the charge area will apply. The area of the parcel being developed will be adjusted to allow for multiple units or equivalent people.
f) Stormwater Collection Systems are considered in the same manner as Wastewater systems. This approach implies there is a relationship between development density and the amount of Stormwater run-off which is generated. Given the accuracy and factor of safety inherent in estimating run-off, there is a direct relationship between density and run-off for residential development. (Refer to Figure 1).
g) Although the same relationship does not exist for Industrial, Commercial or Institutional uses, this policy accepts that apportioning Stormwater collection system costs on the basis of density is a reasonable, fair, and equitable approach. This approach is also supported by the fact that storm sewers often share the same trench as other services, and are administered in the same construction contract.

h) The fairness and equity of this approach may be enhanced by implementing design specifications which require run-off levels to be maintained at residential levels. Such policies are easily implemented through the site design specifications.

Figure 1: Impervious Area vs Development Density



Section 10: Charge Area Boundary Changes

After a charge area has been established and phased development has commenced, there may be reasons to increase or decrease the charge area. The Commission may permit a change in the charge area based on the Oversized water, Wastewater and Stormwater Infrastructure capacity to provide service to the new area. Changes to charge area boundaries will be considered as either minor additions or major changes.

a) A minor addition to a charge area may be considered when the infrastructure within the existing charge area is adequate to provide the required service to the additional area. All new development within the adjusted charge area boundary will pay WWS CCCs, based on the same charges that apply to the original charge area.
b) A major change to a charge area is required when the proposed additional area cannot be adequately serviced by the existing infrastructure. New, Oversized water, Wastewater and Stormwater Infrastructure will be required and a new WWS CCC must be calculated. Capital costs collected from the original charge area will be applied to the funding of the new infrastructure.

Where a major change in the charge area is required, a revised Master Plan Study, a new charge area and corresponding WWS CCC will be calculated. These changes may require amendments to the Rules and Regulations or established Charge Area as per NSUARB to the charge area under consideration. Major changes may include expansion or extension of the charge area

boundary or; a combination of two existing charge areas requiring a revision to the capital cost contributions calculated from the area.

A developer in the original charge area will not be required to pay a WWS CCC which exceeds the amount calculated in the original charge area.

Section 11: Combined Charge Areas

Where two charge areas are adjacent and there are valid reasons to share some or all of the entire Oversized water, Wastewater and Stormwater Infrastructure, the Commission may combine the charge areas and recalculate the WWS CCC.

The Commission will determine the components of Oversized water, Wastewater and Stormwater Infrastructure that will be included in the new charge area. WWS CCC collected from the original charge area will be included in the new charge area, and they will be collected on a go forward basis.

Section 12: Cost Exceptions

Costs that will be deducted from the developers' portion of the WWS CCC include the following:

The proportion which is considered to benefit the existing Customers of the Commission, as determined in accordance with Section 5.

Commission investments in infrastructure for future development or another charge area determined in accordance with Section 3.

Section 13: Interest and Risk Mitigation

a) The Commission supports new development; however, it is not prepared to accept the financial risk of new development. As a result, where the Commission decides to invest in the Oversized water, Wastewater and Stormwater Infrastructure before the required contribution is collected, interest will be added to the WWS CCC.
b) In the event that a major component of infrastructure is required before the contributions are collected, the Commission may require the developers to assume the risk and invest in the infrastructure. The developer(s) would be subsequently reimbursed when CCCs are received by the Commission through continued development in the charge area.
c)
   (i) The WWS CCC shall be indexed by the Commission on July 1, 2012, and in each subsequent year on April 1, in accordance with the indexing set out in the Consumer Price Index for Halifax, as published by Statistics Canada for the immediately preceding month, when compared to the same month for the immediately preceding year.
   (ii) If the Consumer Price Index calculated in (i) is negative, the WWS CCC will not be adjusted if the resulting CCC:
      A. is lower than the initial WWS CCC; or
      B. results in a cash flow model that does not indicate a full recovery of capital costs within the time period specified in such model.

d) The WWS CCC as indexed in clause (c) shall be:

   (i) Reduced to the next nearest dollar where it indicates a part of a dollar less than $0.50; and

(ii) Increased to the next nearest dollar where it indicates a part of a dollar equal to or greater than $0.50.

e) The Commission will revise rates in accordance with the results of the application of calculation in clauses (c) and (d) and shall provide an annual information report of such results to the Board.

Section 14: Timing and Sequencing of Development

a) The development phasing will be taken into consideration when designing and costing oversized infrastructure in the charge area. Since WWS CCCs are calculated on the basis of best estimates, reasonable and appropriate estimates must also be made in respect of development timing and corresponding cost escalators and interest rates that are dependent on the developers' schedule.
b) The infrastructure capital cost estimate will be factored upwards to reflect prudent and appropriate cost escalators based upon interests and escalated cost of servicing, indicated through the ENR Canada index factor.
c) The Commission will track and record all WWS CCC funds and expenditures. Interest will be charged when the account is in deficit and will be credited when the account is in surplus.
d) The Commission may require significant components of infrastructure be built at a predetermined time frame; or based upon system demands or capacity loading arising from new or existing development. The significant components will be constructed within the time frame established by the Commission. As an example, the timing of a major interchange, pumping station or water reservoir which may be required and administered by an outside agency.
e) The timing and sequence of development phasing may also have an impact upon the design capacity (or size) of infrastructure needed to provide adequate interim service standards throughout development stages in the charge area. It would be inappropriate for the Commission to approve the installation of services that did not adequately meet the design guidelines and minimum service standards to provide requisite services to its citizens.
f) Additional Oversized water, Wastewater and Stormwater Infrastructure may be required at interim stages of the development as deemed appropriate by the Commission. Costs associated with interim infrastructure needed to advance the timing of the development may not be included in the CCC costs if no benefit is achieved by the Commission.
g) The Commission may require security (irrevocable, automatically renewing letter of credit) on the property when a development agreement has been approved by HRM, to indemnify the Commission in the event that the development does not proceed in the prescribed period of time. The amount of the lien will be equal to the WWS CCC that would have been collected from the area in question.
h) The Commission will determine the sequence of oversized system construction, based upon information from the developer, and the requirements of the development. The Commission in consultation with HRM will determine the densities for each phase of the development in the charge area.
i) The Commission may, in some cases, construct infrastructure prior to receiving the necessary WWS CCC; or require the developers to construct the Oversized water, Wastewater and Stormwater Infrastructure. Developers may be required to construct Oversized water, Wastewater and Stormwater Infrastructure in an earlier phase that will be used in latter phases of the development.

Section 15: Developers Acting as Contractors

a) A developer may be allowed to construct some or all of the Oversized water, Wastewater and Stormwater Infrastructure based on the agreed upon estimates in compliance with the

Commission's standards and guidelines. In most cases developers will be required to construct Oversized Systems in their development lands, but the Commission reserves the right to construct oversized or required infrastructure for the charge area.

b) When the Developer is acting as a contractor, the Commission will inspect service system construction to ensure the system(s) meet Commission Design Guidelines. The developer will be required to build the infrastructure as required by the phased development determined in the Master Plan Study.
c) Cost estimates for Oversized Systems and associated payment schedules will require a WWS Service Agreement to determine & implement WWS CCCs. The payment to the developer is based upon agreed cost estimates amongst the participating Stakeholders and approved by the Board.
d) The Commission will inspect the system construction to ensure it meets its guidelines. The Developer will provide full inspection services and certification by a consultant for design compliance.

Section 16: Specific Infrastructure Components

a) Specific components of Water, Wastewater and Stormwater Systems such as Wastewater pumping stations and Stormwater storage facilities will form part of the Capital Cost if they provide a Direct Benefit to more than one developer within the charge area. In this instance, the costs will be apportioned in accordance with the WWS CCC Policy using the appropriate design criteria, and may include land costs
b) Components that provide only local benefits, and service a part of one development within the charge area, are solely the responsibility of the developer of the parcel.
c) The Commission may require the developer who first requires a pumping station to build the Oversized Infrastructure and subsequently reimburse oversizing costs when the Commission has collected from future developments or apply a WWS CCC credit to the developer for the Oversized water, Wastewater and Stormwater Infrastructure investment.

Section 17: Oversized Infrastructure Criteria

a) Oversizinq Criteria

The cost of providing Oversized water, Wastewater and Stormwater Infrastructure will be funded through the WWS CCCs levied in a charge area.

The cost of providing Oversized water, Wastewater and Stormwater Infrastructure may also include discrete upgrades of, or new connections to, existing systems outside of the charge area.

There are several methods of calculating the oversize cost, which generally fall into one of the following categories:

i. Incremental basis:

Where the oversize cost would be calculated by determining the incremental or marginal cost of up-sizing to the required Oversized water, Wastewater and Stormwater Infrastructure defined in the Master Plan. This method is most fairly applied if there is a base value or benefit associated with providing the minimum service requirements without considering oversizing. For the purpose of oversizing, minimum service requirements would be those necessary to provide service to an area being developed and may be based on minimum pipe sizes and local road standards.

ii. Flow Proportioning:

The incremental costs of the oversized component(s) in a Master Plan Area may be distributed amongst the land owners on a flow proportionate basis as determined by their allowable densities noted in the Municipal Planning Strategies or land use in the Land Use Bylaws.

iii. Capacity basis:

Where the oversize cost is determined on the basis of capacity allocated to the charge area. The cost to be recovered through a WWS CCC would be calculated by pro-rating total cost on the basis of capacity. This method is most fairly applied for a discrete upgrade of an existing system outside of the charge area.

b) Water, Wastewater and Stormwater Systems within a Charge Area

The oversized costs to provide Water, Wastewater and Stormwater Systems within a charge area will be determined on an incremental basis. There are various methods for calculating incremental costs of piped systems:

i. Dual Design Method:

Where the oversize cost is determined by deducting the total cost of the minimum required pipe size from the total cost of the oversized pipe.

ii. Cost Ratio Method:

This method assumes a direct relationship between the cost of providing a service and the size of the pipe. A cost factor can be determined and applied similar to the Cost Sharing Policy of the former City of Halifax, or a simple percentage based on nominal dimensions may be applied.

c) Infrastructure Exterior to a Charge Area

The portion of the cost of an upgrade, expansion, or provision of a discrete component of water, Wastewater and Stormwater infrastructure to be recovered through a WWS CCC will be determined on the basis of capacity allocated to the charge area.

Section 18: Funding Criteria

a) Opportunity costs should be considered and calculated in an effort to prioritize the Commission's investment. These costs may be used to compare and contrast the investment potential in one charge area versus another request for funding. Opportunity costs may include consideration of existing system capacities, potential diversion of demand and capacity allocations, or mitigation of future capital expenditures arising from strategic Commission investments from a regional perspective. Other cost factors for consideration include treatment plants, trunk piping systems and other support services including operations and maintenance.
b) The Commission in consultation with the HRM may opt to encourage development and growth in strategic areas by supporting Master Plan funding on a priority basis. The Commission may initially invest in comprehensive Master Plan studies where it wishes to promote growth and development optimizing use of existing systems and services.
c) Inevitably, the demand for the Commission's and the HRM's contributions and investments for Capital Cost Contribution Policy may require priority decisions from the Commission's

Board and Council. A balance of strategic master planning will mitigate future capital costs through good planning and optimized infrastructure utilization.

d) The Commission may determine the risk too high in consideration of upfront payments for Oversized water, Wastewater and Stormwater Infrastructure. In this case, development may proceed if the developers build the required infrastructure. The developers may be given water, Wastewater and Stormwater Capital Cost credits to future contributions or may be re-paid when the Commission collects future WWS CCC from subsequent development utilizing these Oversized water, Wastewater and Stormwater Systems.

The requirement for security would reduce the risk to the Commission if development does not proceed. Time will be the essence of any agreement and may determine the type and condition of the security required to mitigate the Commission's financial risk.

Section 19: WWS CCC Payment

The applicable WWS CCC shall be payable to the Commission at:

a) the issuance of a subdivision approval; or
b) where development is permitted to occur without a subdivision approval, prior to connection by the Commission of a water meter.

PART II:

WWS CCC Policy Templates

The capital cost templates and supporting notes will be used to calculate Water, Wastewater and Stormwater Capital Cost Contributions.

WATER, WASTEWATER AND STORMWATER CAPITAL COST CONTRIBUTION FORMULAS

Water, Wastewater and Stormwater		
A	Total cost of Oversized Infrastructure and other required infrastructure (Wastewater, Stormwater)	
B	Total cost of Oversized Infrastructure and other required infrastructure (water)	
C	Interest during construction	
D	Total cost of infrastructure	(A + B + C)
E	Deduct infrastructure that benefits the Commission	
F	Deduct fire protection charges paid by the HRM - From water Infrastructure only (Item "B" above)	
G	Total Capital Cost Contribution	(D - E - F)
H	Gross area (acres) in charge area	
I	Area of land that cannot be developed	
J	Area of land that can be developed	(H - I)
K	Development charge per acre	(G / J)
L	Average Density (ppa) of charge area	

Adjustments for Density of the Parcel being Subdivided		
M	Area of Parcel Being Subdivided	
N	Density (ppa) for parcel being subdivided	
O	Capital Cost Contribution per Acre	K x (N / L)
P	Total Capital Cost Contribution	O x M

Notes to Capital Cost Formula

1. The cost of Oversized Infrastructure and other required infrastructure is based on an estimate of construction that includes engineering design. Other items to be included are planning studies, land purchases, surveying costs, legal costs and Commission audit inspection costs. The costs will be escalated based on the ENR index to the year costs are incurred for each component of the infrastructure.

2. The interest rate shall be Prime plus one percent. The construction period is assumed to be two years.

3. Benefits to the Commission may include infrastructure costs that benefit the existing population of the Commission.

   a) If there is an area within the charge area that benefits the Commission and the Commission pays a portion of the oversized and other infrastructure costs, any vacant land within the area that is developed shall pay a WWS CCC equal to cost per acre paid by the Commission.

4. The fire protection charge paid by HRM to the Commission is a percentage of the cost of the oversized water related infrastructure. The current 29% has been calculated based on the fire protection component of the demand assets of the utility as contained in the current rate study. Future rate studies may result in a change in the percentage.

5. Gross area includes all land, including streams and lakes within the charge area.

6. Area that cannot be developed will include streams, lakes, flood plains and any other land deemed non-developable by the Commission.

7. Average density shall be established by the Commission or HRM.

8. For Industrial, Commercial or Institutional uses with multiple storeys, the area of the parcel being sub-divided shall be increased by an amount equal to the *allowable* floor space of the additional storeys.

   For the purpose of this calculation, underground parking is considered an additional storey.

9. Development of a parcel of land within a charge area that has density below the average may be required to accelerate contributions on the basis of the average density, until the total required WWS CCC for the original parcel has been made.

   For Industrial, Commercial and Institutional uses, density shall be taken as the average density for the charge area.