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November 22, 2019

Craig MacMullin, MBA, CPA, CGA, Chair Halifax Water Halifax, NS

The regular meeting of the Halifax Water Board will be held on Thursday, November 28, 2019. The In-Camera meeting will be held at 9:00 am, followed by the Regular Meeting at 10:00 a.m. in the Boardroom at 455 Cowie Hill Road, Halifax.

AGENDA

In Camera Reports

- a) Approval of Minutes of the In-Camera Meeting held on Thursday, September 26, 2019
 b) Approval of Minutes of the Special In-Camera Meeting held on Thursday, October 31, 2019
- 2C Business Arising from Minutes

a)

- 3C Legal Matter Verbal
- 4C Land Matter

Motion: That the Halifax Water Board approve the recommendation as outlined in the confidential report dated November 22, 2019.

Regular Reports

- 1. a) Ratification of In-Camera Motions
 - b) Approval of the Order of Business and Approval of Additions and Deletions
- 2. a) Approval of Minutes of the Regular Meeting held on Thursday, September 26, 2019
 - b) Approval of Minutes of the Special Meeting held on Thursday, October 31, 2019
- 3. Business Arising from Minutes

a)

Financial

- 4.1 Operating Results for the Seven Months Ended October 31, 2019
- 4.2 Signing Authority Guideline

Motion: That the Halifax Water Board approve the Signing Authority Guideline as shown in attachment.





Capital Approvals

5.1 Capital Project Spending Summary – 2018/19

Motion: That the Halifax Water Board approve the individual project over expenditures as identified within Attachment 2, "Capital Project Spending Summary, Apr 1, 2018 – March 31, 2019" and direct staff to forward the subset of projects "over \$250,000" to the NSUARB for information and approval.

5.2 Capital Project Funding Approval Policy

Motion: That the Halifax Water Board approve the revised Capital Project Funding Approval Policy (dated November 1, 2019) as attached.

Total: \$436,000

Other

6. Integrated Resource Plan

Motion: That the Halifax Water Board endorse the 2019 Halifax Water Integrated Resource Plan.

7. Lead Service Line Replacement Program Enhancements

Motion: That the Halifax Water Board authorize staff to make an application to the Nova Scotia Utility and Review Board, as part of the next general rate application, to amend the Rules and Regulations to enhance the Lead Service Line Replacement Program. The proposed changes are intended to enable Halifax Water to meet its goals for lead service line replacement by 2050 by integrating with HRM street renewal projects and by replacing the portion of lead service lines on private property at utility expense.

8. Enterprise Risk Management Policy

Motion: That the Halifax Water Board approve the attached Enterprise Risk Management Policy.

Information Reports

- 1-I Financial and Operations Monthly Update
- 2-I Capital Budget Approvals to Date 2019/20
- 3-I Bank Balance
- 4-I Compliance Statement
- 5-I Disclosure of Lead Service Line and Testing Information
- 6-I Halifax Regional Water Commission Employees' Pension Plan Financial Report Third Quarter, 2019
- 7-I Amendment #12 Halifax Regional Water Commission Employees' Pension Plan

Original signed by:	
Heidi Schedler	



Secretary





ITEM # 4.1 HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair and Members of the Halifax

Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

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

APPROVED: *Original Signed By:*

Cathie O'Toole, MBA, CPA, CGA, ICD.D

General Manager

DATE: November 18, 2019

SUBJECT: Operating Results for the Seven Months Ended October 31, 2019

INFORMATION REPORT

ORIGIN

Financial Statements

BACKGROUND

The Board is required to review periodic financial information throughout the year.

DISCUSSION

Attached are the operating results for the first seven (7) months of the 2019/20 fiscal year, period ending October 31, 2019. The statements reflect direct operating costs by department and allocations among water, wastewater and stormwater for common costs shared across all the services provided by Halifax Regional Water Commission (HRWC).

HRWC is a fully regulated government business enterprise, falling under the jurisdiction of the Nova Scotia Utility and Review Board (NSUARB). The NSUARB requires that HRWC file Financial Statements and rate applications with the Board based on the NSUARB Handbook for Accounting and Reporting for Water Utilities. The Accounting Standards Board (AcSB) requires rate regulated entities to conform to International Financial Reporting Standards (IFRS). The Commission maintains the SAP financial records in IFRS for the purposes of the annual audit and consolidation of the financial statements with those of Halifax Regional Municipality (HRM). The

budget for the 2019/20 fiscal year was prepared using the NSUARB format and financial results continue to be provided in NSUARB format.

Summary information in NSUARB format is provided for the Balance Sheet on Page 1 and the Income Statement on Page 2. A detailed presentation of the Balance Sheet and Income Statement is provided on Pages 3 and 4. Pages 5 through 8 provide Income Statements by Service and for Regulated and Un-Regulated Services. Pages 9 and 10 provide the Balance Sheet and Income Statement in IFRS format.

Consolidated Income Statement - Page 2

Summarized Consolidated Operating Results				
	Actual YTD 2019/20	Prior YTD 2018/19		
	'000	'000	\$ Change	% Change
Operating Revenue	\$82,748	\$84,340	(\$1,592)	(1.9%)
Operating Expenses	\$61,854	\$57,765	\$4,089	7.1%
Operating Surplus (Deficit)	\$20,894	\$26,575	(\$5,681)	(21.4%)
Non Operating Revenue	\$984	\$1,030	(\$46)	(4.5%)
Non Operating Expenditures	\$17,922	\$19,826	(\$1,903)	(9.6%)
Net Surplus before OCI	\$3,956	\$7,779	(\$3,823)	(49.1%)
Pension Plan Expense	(\$4,674)	(\$3,033)	(\$1,641)	54.1%
OCI	\$0	\$0	\$0	0.0%
Net Surplus (Deficit)	(\$719)	\$4,746	(\$5,465)	(115.1%)

Figures used in the various tables throughout the report may contain differences due to Excel rounding.

Key items of note:

- Operating revenue to date of \$82.7 million is \$1.6 million lower than the prior year.
- Operating expenses to date of \$61.9 million are \$4.1 million higher than the prior year.
- Excluding OCI and Pension Plan Expense, the Net Surplus for the year to date is \$4.0 million, a decline of \$3.8 million from the prior year.
- The Net Deficit for the year to date is a loss of \$0.7 million, a decline of \$5.5 million from the prior year.
- The approved budget was for a loss of \$14.0 million for the full fiscal year.
- The Forecast is for a loss of \$12.0 million, an improvement of \$2.0 million from the approved Budget.
- Cumulative changes to the forecast include a reduction in Operating Expenses of \$2.7 million, a reduction in debt servicing costs of \$1.5 million and a reduction in Depreciation of \$0.6 million. The forecast for the Pension Plan Expense increased by \$2.3 million. This is an accrued expense and does not influence the rate regulated activities.

Balance Sheet - Page 3

Key indicators and balances from the Balance Sheet are provided on the following tables (figures shown are in thousands):

Cash On Hand		
	2019/20	2018/19
Cash On Hand	\$33,034	\$50,538

Balance Sheet Liquidity (Current Ratio)				
2019/20 2018/19				
Current Assets	\$75,159	\$96,508		
Current Liabilities	\$57,964	\$49,138		
Current Ratio	1.30	1.96		

Accounts Receivable				
2019/20 2018/19				
Customer Receivables	\$15,197	\$16,421		
Unbilled Services	\$20,001	\$18,291		
Halifax Regional Municipality	\$4,976	\$9,045		
Total	\$40,175	\$43,757		

Accounts Payable				
2019/20 2018/19				
Trade Payables	\$15,248	\$15,164		
LT Debt Interest	\$2,414	\$2,409		
Halifax Regional Municipality	\$10,399	\$3,652		
Total	\$28,061	\$21,226		

- Customer Receivables have declined \$1.2 million from the prior year. Approximately half of that reduction is a result of the transfer of outstanding balances on Stormwater only accounts to the customer's HRM tax account. The increase in the Unbilled Services balance is largely attributable to a timing difference in the weekly customer billing cycle in October as compared to the prior year. The amount receivable from HRM has declined because the prior year included a balance of \$3.1 million related to the Fall River Water Servicing project.
- Amounts payable to HRM are higher by \$6.7 million due to the timing of the semi-annual payment to HRM for debt associated with the Halifax Harbour Solutions Project.

Capital Assets Under Construction		
Cumulative		
AMI - Advanced Metering Infrastructure	\$16,093	
JD K line Filtration Replacement	\$7,991	
Lake Major Dam Replacement	\$7,388	
Lucasville Transmission Main Replacement	\$4,572	
All other projects	\$38,839	
Total Capital Expenditures	\$74,883	
External Funding Received	(\$6,355)	
Net Assets Under Construction	\$68,528	

Long Term Debt by Service			
	2019/20	2018/19	
Water	\$55,104	\$52,216	
Wastewater	\$98,496	\$117,885	
Stormwater	\$12,806	\$11,016	
Combined	\$166,406	\$181,118	

Debt Servicing Ratio by Service		
YTD Debt Servicing Cost Ratio		
	2019/20	2018/19
Water	11.1%	17.3%
Wastewater	23.3%	22.3%
Stormwater	19.8%	18.0%
Combined	18.0%	20.0%

- Long Term Debt is down \$14.7 million from the prior year as debt repayments have been greater than new debt acquired. A debt issue of \$6.5 million was due in October and has been re-financed in November. Additionally, \$30 million in new debt has been received.
- The debt servicing ratio for Water of 11.2% is substantially lower than the prior year because the prior year includes the final, large repayment for the original Lake Major debt.
- The debt servicing ratio of 18.0% is well below the maximum 35% ratio allowed under the blanket guarantee agreement with HRM.

Operating Surplus				
_	2019/20	2018/19		
Opening Operating Surplus	\$15,663	\$20,481		
Year to date Suplus/(Deficit)	(\$719)	\$4,746		
Cumulative Operating Surplus	\$14,944	\$25,227		

Income Statement - All Services - Page 4

The following tables compare the actual results for the year to date with the prior year actual results and forecasts for the year.

Summarized Consolidated Operating Results			
	Actual YTD 2019/20 '000	Prior YTD 2018/19 '000	\$ Variance
Operating Revenue	\$82,748	\$84,340	(\$1,592)
Operating Expenses	\$61,854	\$57,765	\$4,089
Operating Surplus (Deficit)	\$20,894	\$26,575	(\$5,681)
Non Operating Revenue	\$984	\$1,030	(\$46)
Non Operating Expenditures	\$17,922	\$19,826	(\$1,903)
Surplus (Deficit)	\$3,956	\$7,779	(\$3,823)

Summarized Consolidated Operating Results				
	Actual YTD 2019/20	Forecast YTD 2019/20	\$ Variance	
	'000	'000	\$ variance	
Operating Revenue	\$82,748	\$80,494	\$2,254	
Operating Expenses	\$61,854	\$65,219	(\$3,365)	
Operating Surplus (Deficit)	\$20,894	\$15,275	\$5,619	
Non Operating Revenue	\$984	\$915	\$69	
Non Operating Expenditures	\$17,922	\$18,543	(\$621)	
Surplus (Deficit)	\$3,956	(\$2,353)	\$6,309	

• The year to date surplus of \$4.0 million is \$3.8 million less than the surplus for the same period in the prior year. The surplus is \$6.3 million greater than the pro-rated forecast for the year.

Operating Revenue

Operating Revenue Results							
	Actual YTD 2019/20 '000	Prior YTD 2018/19 '000	\$ Variance				
Consumption Revenue Base Charge Revenue	\$51,899 \$19,537	\$51,718 \$19,511	\$182 \$26				
Wastewater Rebate Metered Sales Sub-total	(\$596) \$70,840	\$944 \$72,173	(\$1,540) (\$1,333)				
SW Site Generated Charge HRM Fire Protection &	\$3,585	\$3,642	(\$57)				
Right of Way	\$6,364	\$6,364	\$0				
Other Operating Revenue	\$1,959	\$2,161	(\$202)				
Operating Revenue Total	\$82,748	\$84,340	(\$1,592)				

Ope	Operating Revenue Results						
	Actual YTD 2019/20 '000	Forecast YTD 2019/20 '000	\$ Variance				
Consumption Revenue Base Charge Revenue Wastewater Rebate Metered Sales Sub-total	\$51,899 \$19,537 (\$596) \$70,840	\$50,053 \$19,529 (\$814) \$68,768	\$1,846 \$8 \$218 \$2,072				
SW Site Generated Charge HRM Fire Protection &	\$3,585	\$3,498	\$87				
Right of Way	\$6,364	\$6,364	\$0				
Other Operating Revenue	\$1,959	\$1,864	\$95				
Operating Revenue Total	\$82,748	\$80,494	\$2,254				

Operating revenue has declined \$1.6 million as compared to the previous year. Key items of note include:

- Water consumption is up 0.3% on a volumetric basis as compared to the previous year. Consumption had been budgeted to remain consistent with the prior year.
- Metered sales revenue for Water Service is up \$0.1 million (0.3%) as compared to the prior year as consumption revenue is up slightly and the Base Charge revenue is on par with the prior year.
- Wastewater Consumption revenue is up \$0.1 million and Base Charge revenue is on par with the prior year. The total of Metered Sales revenue for Wastewater is down \$1.4 million because the prior year included a change in the accrual of the Wastewater Rebate. The Wastewater Rebate is an offset to revenue. It is available to certain large customers whose water does not enter the Wastewater system.
- Stormwater Site Generated Charge revenue is below budget and the prior year. The decline is attributable in part to a change in the billable impervious area for two large customers which were reviewed in detail due to complexity and to assess eligibility for stormwater credits. A large portion of Stormwater revenue is billed annually to Stormwater-only customers in March.
- Other revenue categories are down slightly as compared to budget and forecasted amounts.

Operating Expenses

Summary of Operating Expenses by Department							
	Actual YTD 2019/20 '000	Prior YTD 2019/20 '000	\$ Variance				
Water Services	\$11,784	\$11,270	\$513				
WW Services SW Services	\$18,923 \$2,938	\$17,764 \$2,847	\$1,159 \$91				
Engineering & IS Regulatory Services	\$5,791 \$2,166	\$4,555 \$1,861	\$1,236 \$305				
Corporate Services Depreciation	\$6,557 \$13,695	\$6,597 \$12,870	(\$40) \$825				
Total Operating Expenses	\$61,854	\$57,765	\$4,089				

Summary of C	perating Expense	es by Department	
	Actual YTD	Forecast YTD	
	2019/20	2019/20	
	'000	'000	\$ Variance
Water Services	\$11,784	\$13,416	(\$1,632)
WW Services	\$18,923	\$19,997	(\$1,074)
SW Services	\$2,938	\$3,377	(\$439)
Engineering & IS	\$5,791	\$5,004	\$787
Regulatory Services	\$2,166	\$2,381	(\$215)
Corporate Services	\$6,557	\$8,326	(\$1,769)
Depreciation	\$13,695	\$14,633	(\$938)
Total Operating Expenses	\$61,854	\$67,135	(\$5,281)

Key items to note:

- Operating expenses of \$61.9 million are \$4.1 million higher than the prior year and \$5.3 million below the seven month forecast for the year.
- Costs for most departments are under the seven month budget.
- Compared to the prior year, expense categories with the largest increases in costs to date are Engineering and Information Systems, Wastewater Treatment Plants, and Depreciation.

Financial Revenue

Key items to note:

- Higher than anticipated cash balances and rising interest rates have generated higher interest income.
- Miscellaneous revenue includes various un-regulated activities such as tower leases, energy generation, consulting activities and some contracted services.

Financial Expenses

Key items to note:

- Long Term Debt principal and interest expenses are \$1.9 million lower than in the prior year.
- Debt servicing savings are a result of two factors: (1) new debt issues having lower interest rates than older, maturing issues; (2) lower debt appropriation expense resulting from a lower total debt balance. For the previous three years debt repayments have been greater than new debt, however, new debt issued in November of \$30.0 million will exceed the debt repayments of \$18.2 million this fiscal year.

Operating Results by Service - Pages 5-7

Year to Date Operating Results by Service						
	2019/20	2018/19				
	'000	'000				
Water	\$1,888	\$1,790				
Wastewater	(\$1,606)	\$3,350				
Stormwater	(\$1,001)	(\$395)				
Surplus (Deficit)	(\$719)	\$4,746				

Regulated and Unregulated Operations - Page 8

Results by Activity					
	2019/20	2018/19			
	'000	'000			
Regulated Activities	(\$1,139)	\$3,947			
Unregulated Activities	\$420	\$799			
Surplus (Deficit)	(\$719)	\$4,746			

Key items to note:

• Two factors have contributed to the decline in the surplus for Unregulated Activities. One factor is a decline in revenue from Septage Tipping. The other is a reduction in the recovery from regulated operations for the dewatering of biosolids at the unregulated dewatering facility at Aerotech. A greater portion of the dewatering process is being handled within the other HRWC facilities.

Results under International Financial Reporting Standards - Pages 9 & 10

As noted previously, the AcSB requires HRWC, as a rate regulated utility, to report financial results using IFRS.

On the IFRS Balance Sheet, Accumulated Depreciation is higher producing a lower value for assets, Contributed Capital is treated as a long term liability and amortized rather than being treated as a contribution to equity, and the Operating Surplus is much higher due to changes in the Income Statement.

On the IFRS Income Statement, revenue is the same. Depreciation expense is higher as contributed assets are depreciated and some assets are depreciated more quickly. Financial revenue is higher as the amortization of contributed capital is treated as revenue. The most significant change is financial expenses are lower as there is no expense for the Long Term Debt Principal appropriation – a difference of \$19.8 million for the full year.

The IFRS Surplus for the year to date is \$8.6 million.

ATTACHMENTS

Unaudited Operating Results for the seven (7) months ended October 31, 2019

Report prepared by: Original Signed By:

Warren Brake, B.Comm, CPA, CGA, Manager, Accounting, 902-490-4814

ITEM # 4.1

HRWC BOARD November 28, 2019 Page 1 of 10

HALIFAX WATER UNAUDITED BALANCE SHEET - CONSOLIDATED AS OF OCTOBER 31, 2019

	October 31, 2019 '000	October 31, 2018 '000
ASSETS		_
Cash	\$33,034	\$50,538
Accounts Receivable	\$40,175	\$43,757
Materials & Supplies	\$1,631	\$1,953
Prepaid Expenses	<u>\$319</u>	\$260
	\$75,159	\$96,508
Regulatory Asset	\$2,893	\$3,085
Plant in Service	\$1,250,385	\$1,206,585
Assets Under Construction	\$68,528	\$52,315
	\$1,321,806	\$1,261,985
Unamortized Debt Discount & Issue Expense	\$742	\$808
	\$1,397,707	\$1,359,301
LIABILITIES & CAPITAL		
Trade Payables & Accrued Liabilities	\$28,061	\$21,226
Deposits & Unearned Revenue	\$5,194	\$5,283
Current Portion of Long Term Debt	\$24,709	\$22,630
	\$57,964	\$49,138
Pension & Accrued Retirement Benefits	\$74,750	\$72,950
RDC & Special Purpose Reserves	\$46,211	\$34,487
Long Term Debt	\$166,406	\$181,118
Total Liabilities	\$345,331	\$337,693
Capital Surplus, Committed Reserves, & Accumulated OCI	\$1,037,432	\$996,381
Operating Surplus	\$15,663	\$20,481
Excess (Deficiency) of Revenue over Expenditure - Consolidated	(\$719)	\$4,746
Total Capital & Surplus	\$1,052,376	\$1,021,608
	\$1,397,707	\$1,359,301

HRWC BOARD November 28, 2019 Page 2 of 10

HALIFAX WATER UNAUDITED INCOME STATEMENT - CONSOLIDATED APRIL 1/19 - OCTOBER 31/19 (7 MONTHS) 58.33%

ACTU (CURRENT THIS YEAR	MONTH) LAST YEAR		ACTU (YEAR TO THIS YEAR	DATE) LAST YEAR	APR 1/19 MAR 31/20 BUDGET*	APR 1/19 MAR 31/20 FORECAST	% of
'000	'000	DESCRIPTION	'000	'000	'000	'000	FORECAST
\$11,897	\$12,159	OPERATING REVENUE	\$82,748	\$84,340	\$138,727	\$137,989	59.97%
\$9,698	\$8,394	OPERATING EXPENSES	\$61,854	\$57,765	\$115,088	\$111,804	55.32%
\$2,200	\$3,765	OPERATING SURPLUS BEFORE FINANCIAL REVENUE AND EXPENSES	\$20,894	\$26,575	\$23,639	\$26,186	79.79%
\$82 \$63 \$146	\$102 \$60 \$162	FINANCIAL REVENUE INVESTMENT INCOME MISCELLANEOUS	\$617 \$367 \$984	\$607 \$423 \$1,030	\$816 \$553 \$1,369	\$1,016 \$553 \$1,569	60.75% 66.30% 62.70%
		FINANCIAL EXPENSES					
\$575	\$609	LONG TERM DEBT INTEREST	\$4,157	\$4,375	\$8,182	\$7,619	54.56%
\$1,537	\$1,795	LONG TERM DEBT PRINCIPAL	\$10,666	\$12,388	\$19,822	\$18,880	56.50%
\$15	\$17	AMORTIZATION DEBT DISCOUNT	\$104	\$118	\$202	\$189	55.02%
\$423	\$417	DIVIDEND/GRANT IN LIEU OF TAXES	\$2,962	\$2,916	\$5,147	\$5,079	58.32%
\$20	(\$7)	MISCELLANEOUS	\$32	\$27	\$21	\$21	156.68%
\$2,570	\$2,831		\$17,922	\$19,826	\$33,374	\$31,788	56.38%
(\$224)	\$1,097	OPERATING SURPLUS (DEFICIT) BEFORE OTHER COMPREHENSIVE INCOME	\$3,956	\$7,779	(\$8,366)	(\$4,033)	198.08%
(\$1,840) \$0 (\$1,840)	(\$1,563) \$0 (\$1,563)	NON NSUARB ITEMS PENSION PLAN EXPENSE OTHER COMPREHENSIVE INCOME	(\$4,674) \$0 (\$4,674)	(\$3,033) \$0 (\$3,033)	(\$5,668) \$0 (\$5,668)	(\$8,013) \$0 (\$8,013)	58.33% 0.00% 58.33%
(\$2,064)	(\$466)	OPERATING SURPLUS (DEFICIT) AVAILABLE FOR CAPITAL EXPENDITURES	(\$719)	\$4,746	(\$14,034)	(\$12,047)	5.97%

HALIFAX WATER UNAUDITED BALANCE SHEET AS OF OCTOBER 31, 2019

Accounts Receivable		October 31, 2019 '000	October 31, 2018 '000
Accounts Receivable	ASSETS		
Customers & Contractual – Unbilled Services \$20,001 \$18,291 Customers & Contractual – Unbilled Services \$20,001 \$18,291 Materials & Supplies \$4,976 \$9,045 Prepaid Expenses \$319 \$200 Regulatory Asset \$2,893 \$30,85 Plant in Service – Water \$659,143 \$635,225 Plant in Service – Wastewater \$60,011 \$761,829 Plant in Service – Wastewater \$80,011 \$761,829 Plant in Service – Wastewater \$271,499 \$263,952 Less: Accumulated Depreciation - Water \$236,661) \$(586,702) Accumulated Depreciation - Wastewater \$(56,615) \$(49,609) Accumulated Depreciation - Stormwater \$1,253,278 \$1,209,670 Assets Under Construction \$68,528 \$52,315 Assets Under Construction \$1,321,806 \$1,261,985 Unamortized Debt Discount & Issue Expense \$742 \$808 **** **Independent *** **Independent *** **Independent **In	Cash	\$33,034	\$50,538
Customers & Contractual - Unbilled Services	Accounts Receivable		
Halifax Regional Municipality \$4,976 \$9,045 Materials & Supplies \$1,631 \$1,953 Prepaid Expenses \$319 \$260 Regulatory Asset \$2,893 \$30,855 Plant in Service - Water \$659,143 \$635,225 Plant in Service - Wastewater \$808,011 \$761,829 Plant in Service - Stormwater \$808,011 \$761,829 Plant in Service - Stormwater \$271,499 \$263,9852 Less: Accumulated Depreciation - Wastewater \$194,991 \$263,9852 Less: Accumulated Depreciation - Stormwater \$152,93,278 \$1,209,070 Accumulated Depreciation - Stormwater \$1,253,278 \$1,209,070 Assets Under Construction \$86,852 \$52,315 Assets Under Construction \$86,852 \$52,315 Assets Under Construction \$1,397,707 \$1,359,307 Unamortized Debt Discount & Issue Expense \$742 \$608 \$1,397,707 \$1,359,301 \$1 LABILITIES & CAPITAL \$24 \$24 Trade Payables \$15,248 \$15,164	Customers & Contractual	\$15,197	\$16,421
Materials & Supplies	Customers & Contractual - Unbilled Services	\$20,001	\$18,291
Prepaid Expenses \$319 \$260 \$75,159 \$05,050 \$75,159 \$05,050 \$75,159 \$305,050 \$75,159 \$305,050 \$75,159 \$305,050 \$75,159 \$305,050 \$75,159 \$305,050 \$75,159 \$305,050 \$75,159 \$305,050 \$75,159 \$305,050 \$75,159 \$305,050 \$75,159 \$305,050 \$75,152 \$305,050 \$75,152 \$305,050 \$75,152 \$305,050 \$75,152 \$305,050 \$75,152 \$305,050 \$75,152 \$305,050 \$75,152 \$305,050 \$75,152 \$305,050 \$75,150 \$305,050 \$75,150 \$7	Halifax Regional Municipality	\$4,976	\$9,045
Regulatory Asset	Materials & Supplies	\$1,631	\$1,953
Regulatory Asset \$3,893 \$3,085	Prepaid Expenses		
Plant in Service - Water \$655,143 \$635,225 Plant in Service - Water \$600,111 \$761,829 Plant in Service - Stormwater \$271,499 \$263,952 Less: Accumulated Depreciation - Water \$194,991 \$(\$186,702) \$(\$186,702) Accumulated Depreciation - Water \$(\$236,661) \$(\$218,109) Accumulated Depreciation - Water \$(\$256,615) \$(\$218,109) Accumulated Depreciation - Stormwater \$(\$256,615) \$(\$49,609) Accumulated Depreciation - Stormwater \$(\$256,615) \$(\$49,609) Accumulated Depreciation - Stormwater \$(\$256,615) \$(\$49,609) \$(\$		\$75,159	\$96,508
Plant in Service - Wastewater \$808,011 \$761,829 \$263,952 Plant in Service - Stormwater \$271,499 \$263,952 Less: Accumulated Depreciation - Water \$236,6611 \$(\$186,702) Accumulated Depreciation - Wastewater \$236,6615 \$(\$49,609) Accumulated Depreciation - Stormwater \$1253,278 \$1,209,670 Assets Under Construction \$56,565 \$58,655 \$52,315 Assets Under Construction \$1,253,278 \$1,209,670 Assets Under Construction \$1,321,806 \$1,261,985 Unamortized Debt Discount & Issue Expense \$742 \$808 \$1,397,707 \$1,359,301 LIABILITIES & CAPITAL Trade Payables \$15,248 \$15,164 Interest on Long Term Debt \$2,414 \$2,409 Halifax Regional Municipality \$10,399 \$3,652 Contractor & Customer Deposits \$212 \$213 Unearned Revenue \$4,983 \$5,070 Current Portion of Long Term Debt \$24,709 \$22,630 Accrued Post-Retirement Benefit \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Water \$346,631 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Cacimulated Other Comprehensive Income \$44,640 \$44,943 Operating Surplus used to Fund Capital \$12,300 \$1,026,553 Committed Reserves \$2,391 \$2,391 Capital Surplus \$1,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated \$51,052,376 \$1,021,050 Total Capital & Surplus \$44,670 \$44,670 \$44,670 Sarplus \$44,670 \$44,6			
Plant in Service - Stormwater			
Less: Accumulated Depreciation - Water			
Accumulated Depreciation - Wastewater (\$236,661) (\$248,109) Accumulated Depreciation - Stormwater (\$56,615) (\$49,609) Assets Under Construction \$68,528 \$52,315 \$1,321,806 \$1,261,985 Unamortized Debt Discount & Issue Expense \$742 \$808 \$1,397,707 \$1,359,301 LIABILITIES & CAPITAL Trade Payables \$15,248 \$15,164 Interest on Long Term Debt \$2,414 \$2,409 Halifax Regional Municipality \$10,399 \$3,652 Contractor & Customer Deposits \$212 \$213 Unearned Revenue \$4,983 \$5,070 Current Portion of Long Term Debt \$24,709 \$22,630 Accrued Post-Retirement Benefits \$380 \$430 Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefit \$1,941 \$4,001 Deferred Pension Liability \$72,2430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge			
Accumulated Depreciation - Stormwater (\$56,615) (\$49,609) Assets Under Construction \$1,253,278 \$1,209,670 Assets Under Construction \$68,528 \$52,315 \$1,321,806 \$1,261,985 Unamortized Debt Discount & Issue Expense \$742 \$808 \$13,97,707 \$1,359,301 LIABILITIES & CAPITAL Trade Payables \$15,248 \$15,164 Interest on Long Term Debt \$2,414 \$2,409 Halifax Regional Municipality \$10,399 \$3,652 Contractor & Customer Deposits \$212 \$213 Unearned Revenue \$4,983 \$5,070 Current Portion of Long Term Debt \$24,709 \$22,630 Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefits \$1,941 \$4,013 Accrued Pre-Retirement Benefit \$1,941 \$4,019 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$98,496 </td <td></td> <td></td> <td></td>			
S1,253,278 \$1,209,670			
Assets Under Construction \$68,528 \$52,315 Unamortized Debt Discount & Issue Expense \$1,321,806 \$1,261,985 Unamortized Debt Discount & Issue Expense \$742 \$808 \$1,397,707 \$1,359,301 LIABILITIES & CAPITAL Trade Payables Interest on Long Term Debt \$15,248 \$15,164 (accorded to the property of t	Accumulated Depreciation - Stormwater		
S1,321,806 S1,261,985			
Unamortized Debt Discount & Issue Expense \$742 \$808 \$1,397,707 \$1,359,301 LIABILITIES & CAPITAL Trade Payables Interest on Long Term Debt Interest on Long Term Debt Interest on Long Term Debt Indigrated Sevenue \$15,248 \$15,164 Halifax Regional Municipality \$10,399 \$3,652 Contractor & Customer Deposits Unearned Revenue \$4,963 \$5,070 Current Portion of Long Term Debt \$24,709 \$22,630 Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefits \$1,941 \$4,001 Accrued Pre-Retirement Benefit \$1,941 \$4,001 Accrued Pre-Retirement Benefit \$1,941 \$4,001 Special Purpose Reserves not allocated to projects \$1,940 \$13,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Waster \$98,496 \$117,885 Long Term Debt-Stormwater \$98,496 \$117,085 Long Term Debt-Stormwater \$98,496 \$11,016 Total Liabilities \$345,331 \$337,693 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income \$2,391 \$2,391 <td>Assets Under Construction</td> <td></td> <td></td>	Assets Under Construction		
LIABILITIES & CAPITAL \$1,397,707 \$1,359,301 Trade Payables Interest on Long Term Debt Interest Outside Interest on Long Term Debt Interest Inter		\$1,321,806	\$1,261,985
Trade Payables	Unamortized Debt Discount & Issue Expense	\$742	\$808
Trade Payables \$15,248 \$15,164 Interest on Long Term Debt \$2,414 \$2,409 Hallfax Regional Municipality \$10,399 \$3,652 Contractor & Customer Deposits \$212 \$213 Unearned Revenue \$4,983 \$5,070 Current Portion of Long Term Debt \$24,709 \$22,630 Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefits \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Water \$98,496 \$117,885 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943)		\$1,397,707	\$1,359,301
Trade Payables \$15,248 \$15,164 Interest on Long Term Debt \$2,414 \$2,409 Hallfax Regional Municipality \$10,399 \$3,652 Contractor & Customer Deposits \$212 \$213 Unearned Revenue \$4,983 \$5,070 Current Portion of Long Term Debt \$24,709 \$22,630 Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefits \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Water \$98,496 \$117,885 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943)			
Interest on Long Term Debt Halifax Regional Municipality \$2,414 \$2,409 Halifax Regional Municipality \$10,399 \$3,652 Contractor & Customer Deposits \$212 \$213 Unearned Revenue \$4,983 \$5,070 Current Portion of Long Term Debt \$24,709 \$22,630 Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefit \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Water \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$15,663	LIABILITIES & CAPITAL		
Halifax Regional Municipality	·		
Contractor & Customer Deposits \$212 \$213 Unearned Revenue \$4,983 \$5,070 Current Portion of Long Term Debt \$24,709 \$22,630 Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefit \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Water \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$3345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus used to Fund Capital \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated <			
Unearned Revenue \$4,983 \$5,070 Current Portion of Long Term Debt \$24,709 \$22,630 \$57,964 \$49,138 Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefit \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$110,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income \$41,209 \$44,4943 Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus used to Fund Capital \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated \$7719 \$4,746	Halifax Regional Municipality	\$10,399	\$3,652
Current Portion of Long Term Debt \$24,709 \$22,630 \$57,964 \$49,138 Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefit \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,021,608		•	· ·
Accrued Post-Retirement Benefits \$380 \$430 Accrued Pre-Retirement Benefit \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$3345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus Excess (Deficiency) of Revenue over Expenditure - Consolidated \$11,052,376 \$1,021,608	Unearned Revenue	\$4,983	\$5,070
Accrued Post-Retirement Benefit \$380 \$430 Accrued Pre-Retirement Benefit \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus used to Fund Capital \$1,280 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608	Current Portion of Long Term Debt	\$24,709	\$22,630
Accrued Pre-Retirement Benefit \$1,941 \$4,001 Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608		\$57,964	\$49,138
Deferred Pension Liability \$72,430 \$68,519 Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,022,376 \$1,021,608	Accrued Post-Retirement Benefits	\$380	\$430
Special Purpose Reserves not allocated to projects \$1,540 \$1,307 Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608	Accrued Pre-Retirement Benefit	\$1,941	\$4,001
Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608	Deferred Pension Liability	\$72,430	\$68,519
Regional Development Charge \$44,670 \$33,180 Long Term Debt-Water \$55,104 \$52,216 Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608	Special Purpose Reserves not allocated to projects	\$1,540	\$1,307
Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608		\$44,670	\$33,180
Long Term Debt-Wastewater \$98,496 \$117,885 Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608	Long Term Debt-Water	\$55,104	\$52,216
Long Term Debt-Stormwater \$12,806 \$11,016 Total Liabilities \$345,331 \$337,693 Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608	Long Term Debt-Wastewater	\$98,496	\$117,885
Capital Surplus \$1,063,870 \$1,026,553 Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608			\$11,016
Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608	Total Liabilities	\$345,331	\$337,693
Committed Reserves \$2,391 \$2,391 Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608	Capital Surplus	\$1,063,870	\$1,026,553
Accumulated Other Comprehensive Income (\$41,209) (\$44,943) Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608			
Operating Surplus used to Fund Capital \$12,380 \$12,380 Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608			
Operating Surplus \$15,663 \$20,481 Excess (Deficiency) of Revenue over Expenditure - Consolidated (\$719) \$4,746 Total Capital & Surplus \$1,052,376 \$1,021,608	·		
Excess (Deficiency) of Revenue over Expenditure - Consolidated Total Capital & Surplus (\$719) \$4,746 \$1,052,376 \$1,021,608			
Total Capital & Surplus \$1,052,376 \$1,021,608			
<u>\$1,397,707</u> \$1,359,301			
		\$1,397,707	\$1,359,301

HALIFAX WATER UNAUDITED INCOME STATEMENT - ALL SERVICES APRIL 1/19 - OCTOBER 31/19 (7 MONTHS) 58.33%

ACTI (CURRENT			ACTUA (YEAR TO	DATE)	APR 1/19 MAR 31/20	APR 1/19 MAR 31/20 FORECAST	0/ -5	0/ -5
THIS YEAR '000	'000	DESCRIPTION	THIS YEAR '000	LAST YEAR '000	BUDGET* '000	'000	% of BUDGET*	% of FORECAST
		OPERATING REVENUE						
\$3,935	\$4,208	METERED SALES - WATER	\$28,730	\$28,642	\$47,758	\$47,858	60.16%	60.03%
\$6,224	\$6,162	METERED SALES - WATER METERED SALES - WASTEWATER	\$42,111	\$43,531	\$70,031	\$70,031	60.13%	60.13%
\$6,224 \$545	\$6,162 \$527	STORMWATER SITE GENERATED SERVICE	\$42,111 \$3,585	\$3,642	\$6,351	\$70,031 \$5,997	56.45%	59.78%
·	\$527 \$590	FIRE PROTECTION	. ,			. ,	58.33%	
\$590			\$4,127	\$4,127	\$7,074	\$7,074		58.33%
\$320	\$320	STORMWATER RIGHT OF WAY SERVICE	\$2,237	\$2,237	\$3,835	\$3,835	58.33%	58.33%
\$212	\$287	OTHER SERVICES AND FEES	\$1,438	\$1,676	\$2,825	\$2,341	50.91%	61.42%
\$39	\$33	CUSTOMER LATE PAY./COLLECTION FEES	\$270	\$238	\$453	\$453	59.53%	59.53%
\$34	\$34	MISCELLANEOUS	\$251	\$247	\$400	\$400	62.68%	62.68%
\$11,897	\$12,159		\$82,748	\$84,340	\$138,727	\$137,989	59.65%	59.97%
		OPERATING EXPENSES						
\$901	\$710	WATER SUPPLY & TREATMENT	\$4,637	\$4,514	\$9,596	\$9,452	48.32%	49.06%
\$890	\$1,128	TRANSMISSION & DISTRIBUTION	\$5,788	\$5,559	\$11,128	\$10,618	52.01%	54.52%
\$1,153	\$987	WASTEWATER COLLECTION	\$6,637	\$6,348	\$10,972	\$11,093	60.49%	59.83%
\$1,624	\$1,300	WASTEWATER TREATMENT PLANTS	\$10,200	\$9,648	\$19,139	\$18,428	53.29%	55.35%
\$559	\$355	STORMWATER COLLECTION	\$2,906	\$2,820	\$5,750	\$5,337	50.54%	54.45%
\$293	\$223	SMALL SYSTEMS AND OTHER SERVICES	\$1,943	\$1,690	\$3,622	\$3,388	53.63%	57.34%
\$257	\$177	SCADA, CONTROL & PUMPING	\$1,535	\$1,303	\$2,861	\$2,856	53.66%	53.75%
\$610	\$543	ENGINEERING & INFORMATION SERVICES	\$5,791	\$4,555	\$8,579	\$8,925	67.50%	64.89%
\$383	\$264	REGULATORY SERVICES	\$2,166	\$1,861	\$4,081	\$4,264	53.07%	50.79%
\$532	\$395	CUSTOMER SERVICE	\$3,086	\$2,787	\$5,727	\$5,757	53.90%	53.61%
\$557	\$528	ADMINISTRATION & PENSION	\$3,471	\$3,810	\$8,547	\$7,188	40.61%	48.29%
\$1,939	\$1,784	DEPRECIATION	\$13,695	\$12,870	\$25,085	\$24,498	54.59%	55.90%
\$9,698	\$8,394		\$61,854	\$57,765	\$115,088	\$111,804	53.75%	55.32%
40,000	+0,00 .			40. j. 60	* ,	\$111,00 1		00.0270
		OPERATING SURPLUS BEFORE FINANCIAL						
\$2,200	\$3,765	REVENUE AND EXPENSES	\$20.894	\$26.575	\$23.639	\$26,186	88.39%	79.79%
. ,	, , , , , , ,			,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		
		FINANCIAL REVENUE						
\$82	\$102	INVESTMENT INCOME	\$617	\$607	\$816	\$1,016	75.63%	60.75%
\$63	\$60	MISCELLANEOUS	\$367	\$423	\$553	\$553	66.30%	66.30%
\$146	\$162	WIGGELLY WALGES	\$984	\$1,030	\$1,369	\$1,569	71.86%	62.70%
<u> </u>	Ψ10 <u>2</u>		Ψ304	ψ1,000	Ψ1,000	ψ1,003	7 1.00 /0	02.1070
		FINANCIAL EXPENSES						
\$575	\$609	LONG TERM DEBT INTEREST	\$4,157	\$4,375	\$8,182	\$7,619	50.81%	54.56%
\$1,537	\$1,795	LONG TERM DEBT PRINCIPAL	\$10,666	\$12,388	\$19,822	\$18,880	53.81%	56.50%
\$1,557 \$15	\$1,793	AMORTIZATION DEBT DISCOUNT	\$104	\$118	\$202	\$189	51.48%	55.02%
\$423	\$417	DIVIDEND/GRANT IN LIEU OF TAXES	\$2,962	\$2,916	\$5,147	\$5,079	57.55%	58.32%
			\$2,902 \$32		\$5,147 \$21	\$5,079 \$21		
\$20 \$2.570	(\$7)	MISCELLANEOUS	\$17,922	\$27 \$10.826			156.68% 53.70%	156.68%
\$2,570	\$2,831		\$17,922	\$19,826	\$33,374	\$31,788	53.70%	56.38%
		OPERATING CURRILIE (PERIOIT) REPORT						
(6004)	64 007	OPERATING SURPLUS (DEFICIT) BEFORE	£2.0E6	67 770	(60.366)	(64.022)	4.47.000/	198.08%
(\$224)	\$1,097	OTHER COMPREHENSIVE INCOME	\$3,956	\$7,779	(\$8,366)	(\$4,033)	147.28%	198.08%
		NON NOUADD ITEMS						
(4.4.0.4=)	/A + = 0 = 1	NON NSUARB ITEMS	/A 4 A = 11	(40.00=)	(0= 00=)	(00.010)	00.400/	E0 000/
(\$1,840)	(\$1,563)	PENSION PLAN EXPENSE	(\$4,674)	(\$3,033)	(\$5,668)	(\$8,013)	82.46%	58.33%
\$0	\$0	OTHER COMPREHENSIVE INCOME	\$0	\$0	\$0	\$0	0.00%	0.00%
(\$1,840)	(\$1,563)		(\$4,674)	(\$3,033)	(\$5,668)	(\$8,013)	82.46%	58.33%
		OPERATING SURPLUS (DEFICIT) AVAILABLE						
(\$2,064)	(\$466)	FOR CAPITAL EXPENDITURES	(\$719)	\$4,746	(\$14,034)	(\$12,047)	5.12%	5.97%

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HALIFAX WATER UNAUDITED INCOME STATEMENT - WATER OPERATIONS APRIL 1/19 - OCTOBER 31/19 (7 MONTHS) 58.33%

(CURRENT MONTH) THIS YEAR LAST YEAR '000 '000 '000 \$3,935 \$4,20 \$590 \$59 \$75 \$7 \$19 \$3 \$25 \$2 \$14 \$1 \$4,657 \$4,94 \$901 \$71 \$890 \$1,12 \$137 \$8 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9 \$148 \$15	OPERATING REVENUE METERED SALES FIRE PROTECTION PRIVATE FIRE PROTECTION SERVICES BULK WATER STATIONS CUSTOMER LATE PAY./COLLECTION FEES MISCELLANEOUS OPERATING EXPENSES WATER SUPPLY & TREATMENT TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING FINGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$28,730 \$4,127 \$514 \$229 \$146 \$105 \$33,850 \$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$28,642 \$4,127 \$507 \$231 \$136 \$102 \$33,746 \$4,514 \$5,559 \$724 \$473 \$2,038 \$419 \$1,420	\$47,758 \$7,074 \$873 \$292 \$223 \$166 \$56,387 \$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142 \$2,918	\$47,858 \$7,074 \$873 \$292 \$223 \$166 \$56,487 \$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239 \$2,933	% of FORECAST 60.03% 58.33% 58.85% 78.31% 65.41% 63.29% 59.93% 49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$590 \$59 \$75 \$7 \$19 \$3 \$25 \$2 \$14 \$1 \$4,657 \$4,94 \$901 \$71 \$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	8 METERED SALES 0 FIRE PROTECTION 6 PRIVATE FIRE PROTECTION SERVICES 4 BULK WATER STATIONS 1 CUSTOMER LATE PAY./COLLECTION FEES 4 MISCELLANEOUS 3 OPERATING EXPENSES 0 WATER SUPPLY & TREATMENT 1 TRANSMISSION & DISTRIBUTION 6 SMALL SYSTEMS (inc. Contract Systems) 1 SCADA, CONTROL & PUMPING 2 ENGINEERING & INFORMATION SERVICES 3 REGULATORY SERVICES 1 CUSTOMER SERVICE	\$4,127 \$514 \$229 \$146 \$105 \$33,850 \$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$4,127 \$507 \$231 \$136 \$102 \$33,746 \$4,514 \$5,559 \$724 \$473 \$2,038 \$419	\$7,074 \$873 \$292 \$223 \$166 \$56,387 \$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$7,074 \$873 \$292 \$223 \$166 \$56,487 \$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239	58.33% 58.85% 78.31% 65.41% 63.29% 59.93% 49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$590 \$59 \$75 \$7 \$19 \$3 \$25 \$2 \$14 \$1 \$4,657 \$4,94 \$901 \$71 \$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	8 METERED SALES 0 FIRE PROTECTION 6 PRIVATE FIRE PROTECTION SERVICES 4 BULK WATER STATIONS 1 CUSTOMER LATE PAY./COLLECTION FEES 4 MISCELLANEOUS 3 OPERATING EXPENSES 0 WATER SUPPLY & TREATMENT 1 TRANSMISSION & DISTRIBUTION 6 SMALL SYSTEMS (inc. Contract Systems) 1 SCADA, CONTROL & PUMPING 2 ENGINEERING & INFORMATION SERVICES 3 REGULATORY SERVICES 1 CUSTOMER SERVICE	\$4,127 \$514 \$229 \$146 \$105 \$33,850 \$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$4,127 \$507 \$231 \$136 \$102 \$33,746 \$4,514 \$5,559 \$724 \$473 \$2,038 \$419	\$7,074 \$873 \$292 \$223 \$166 \$56,387 \$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$7,074 \$873 \$292 \$223 \$166 \$56,487 \$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239	58.33% 58.85% 78.31% 65.41% 63.29% 59.93% 49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$590 \$59 \$75 \$7 \$19 \$3 \$25 \$2 \$14 \$1 \$4,657 \$4,94 \$901 \$71 \$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	FIRE PROTECTION PRIVATE FIRE PROTECTION SERVICES BULK WATER STATIONS CUSTOMER LATE PAY./COLLECTION FEES MISCELLANEOUS OPERATING EXPENSES WATER SUPPLY & TREATMENT TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING FINGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$4,127 \$514 \$229 \$146 \$105 \$33,850 \$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$4,127 \$507 \$231 \$136 \$102 \$33,746 \$4,514 \$5,559 \$724 \$473 \$2,038 \$419	\$7,074 \$873 \$292 \$223 \$166 \$56,387 \$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$7,074 \$873 \$292 \$223 \$166 \$56,487 \$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239	58.33% 58.85% 78.31% 65.41% 63.29% 59.93% 49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$75 \$7 \$19 \$3 \$25 \$2 \$14 \$1 \$4,657 \$4,94 \$901 \$71 \$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$93	PRIVATE FIRE PROTECTION SERVICES BULK WATER STATIONS CUSTOMER LATE PAY./COLLECTION FEES MISCELLANEOUS OPERATING EXPENSES WATER SUPPLY & TREATMENT TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING PINGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$514 \$229 \$146 \$105 \$33,850 \$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$507 \$231 \$136 \$102 \$33,746 \$4,514 \$5,559 \$724 \$473 \$2,038 \$419	\$873 \$292 \$223 \$166 \$56,387 \$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$873 \$292 \$223 \$166 \$56,487 \$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239	58.85% 78.31% 65.41% 63.29% 59.93% 49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$19 \$3 \$25 \$2 \$14 \$1 \$4,657 \$4,94 \$901 \$71 \$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	BULK WATER STATIONS CUSTOMER LATE PAY./COLLECTION FEES MISCELLANEOUS OPERATING EXPENSES WATER SUPPLY & TREATMENT TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING FINGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$229 \$146 \$105 \$33,850 \$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$231 \$136 \$102 \$33,746 \$4,514 \$5,559 \$724 \$473 \$2,038 \$419	\$292 \$223 \$166 \$56,387 \$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$292 \$223 \$166 \$56,487 \$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239	78.31% 65.41% 63.29% 59.93% 49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$25 \$2 \$14 \$1 \$4,657 \$4,94 \$901 \$71 \$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5	CUSTOMER LATE PAY./COLLECTION FEES MISCELLANEOUS OPERATING EXPENSES WATER SUPPLY & TREATMENT TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING FINGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$146 \$105 \$33,850 \$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$136 \$102 \$33,746 \$4,514 \$5,559 \$724 \$473 \$2,038 \$419	\$223 \$166 \$56,387 \$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$223 \$166 \$56,487 \$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239	65.41% 63.29% 59.93% 49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$14 \$1 \$4,657 \$4,94 \$901 \$71 \$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	MISCELLANEOUS OPERATING EXPENSES WATER SUPPLY & TREATMENT TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING ENGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$105 \$33,850 \$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$102 \$33,746 \$4,514 \$5,559 \$724 \$473 \$2,038 \$419	\$166 \$56,387 \$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$166 \$56,487 \$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239	63.29% 59.93% 49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$4,657 \$4,94 \$901 \$71 \$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	OPERATING EXPENSES WATER SUPPLY & TREATMENT TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING ENGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$33,850 \$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$33,746 \$4,514 \$5,559 \$724 \$473 \$2,038 \$419	\$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$56,487 \$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239	59.93% 49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$901 \$71 \$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	OPERATING EXPENSES WATER SUPPLY & TREATMENT TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING FINGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$4,637 \$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$4,514 \$5,559 \$724 \$473 \$2,038 \$419	\$9,596 \$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$9,452 \$10,618 \$1,224 \$1,055 \$4,083 \$1,239	49.06% 54.52% 65.18% 53.15% 61.05% 38.94%
\$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	WATER SUPPLY & TREATMENT TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING FINGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$5,559 \$724 \$473 \$2,038 \$419	\$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$10,618 \$1,224 \$1,055 \$4,083 \$1,239	54.52% 65.18% 53.15% 61.05% 38.94%
\$890 \$1,12 \$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	TRANSMISSION & DISTRIBUTION SMALL SYSTEMS (inc. Contract Systems) SCADA, CONTROL & PUMPING ENGINEERING & INFORMATION SERVICES REGULATORY SERVICES CUSTOMER SERVICE	\$5,788 \$798 \$560 \$2,493 \$482 \$1,575	\$5,559 \$724 \$473 \$2,038 \$419	\$11,128 \$1,237 \$1,037 \$3,901 \$1,142	\$10,618 \$1,224 \$1,055 \$4,083 \$1,239	54.52% 65.18% 53.15% 61.05% 38.94%
\$137 \$8 \$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	6 SMALL SYSTEMS (inc. Contract Systems) 0 SCADA, CONTROL & PUMPING 7 ENGINEERING & INFORMATION SERVICES 5 REGULATORY SERVICES 1 CUSTOMER SERVICE	\$798 \$560 \$2,493 \$482 \$1,575	\$724 \$473 \$2,038 \$419	\$1,237 \$1,037 \$3,901 \$1,142	\$1,224 \$1,055 \$4,083 \$1,239	65.18% 53.15% 61.05% 38.94%
\$87 \$6 \$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	0 SCADA, CONTROL & PUMPING 7 ENGINEERING & INFORMATION SERVICES 5 REGULATORY SERVICES 1 CUSTOMER SERVICE	\$560 \$2,493 \$482 \$1,575	\$473 \$2,038 \$419	\$1,037 \$3,901 \$1,142	\$1,055 \$4,083 \$1,239	53.15% 61.05% 38.94%
\$235 \$27 \$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	7 ENGINEERING & INFORMATION SERVICES 5 REGULATORY SERVICES 1 CUSTOMER SERVICE	\$2,493 \$482 \$1,575	\$2,038 \$419	\$3,901 \$1,142	\$4,083 \$1,239	61.05% 38.94%
\$81 \$6 \$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	5 REGULATORY SERVICES 1 CUSTOMER SERVICE	\$482 \$1,575	\$419	\$1,142	\$1,239	38.94%
\$273 \$20 \$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9	1 CUSTOMER SERVICE	\$1,575				
\$1,225 \$1,06 \$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9						53.68%
\$746 \$71 \$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9		\$4,167	\$3,507	\$7,243	\$7,745	53.80%
\$4,575 \$4,30 \$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9		\$5,308	\$5,157	\$9,955	\$9,575	55.43%
\$82 \$63 \$37 \$4 \$56 \$5 \$93 \$9		\$25,808	\$23,813	\$48,159	\$47,925	53.85%
\$37 \$4 \$56 \$5 \$93 \$9	OPERATING SURPLUS BEFORE FINANCIAL	+20,000	+	¥ 10,100	VIII,020	00:0070
\$56 \$5 \$93 \$9		\$8,042	\$9,933	\$8,229	\$8,562	93.93%
\$56 \$5 \$93 \$9	FINANCIAL REVENUE					
\$56 \$5 \$93 \$9		\$278	\$274	\$367	\$457	60.75%
\$93 \$9		\$306	\$359	\$431	\$431	70.95%
· · · · · · · · · · · · · · · · · · ·		\$584	\$632	\$798	\$888	65.70%
\$148 \$15	<u>s</u>	Ψ30+	Ψ032	Ψ130	ΨΟΟΟ	03.7070
\$148 \$15	FINANCIAL EXPENSES					
	9 LONG TERM DEBT INTEREST	\$1,031	\$1,122	\$2,239	\$1,897	54.31%
\$388 \$67		\$2,694	\$4,673	\$5,165	\$4,832	55.74%
\$5 \$	8 AMORTIZATION DEBT DISCOUNT	\$36	\$54	\$67	\$65	54.40%
\$423 \$41		\$2,962	\$2,916	\$5,147	\$5,079	58.32%
\$19 (\$	6) MISCELLANEOUS	\$16	\$11	\$11	\$11	151.74%
\$984 \$1,25		\$6,738	\$8,775	\$12,630	\$11,885	56.70%
(\$809) (\$52					(\$2,434)	177.56%

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HALIFAX WATER UNAUDITED INCOME STATEMENT - WASTEWATER OPERATIONS APRIL 1/19 - OCTOBER 31/19 (7 MONTHS) 58.33%

ACT (CURREN			ACTU (YEAR TO	DATE)	APR 1/19 MAR 31/20	APR 1/19 MAR 31/20	
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	BUDGET*	FORECAST	% of
'000	'000	DESCRIPTION	'000	'000	'000	'000	FORECAST
		OPERATING REVENUE					
\$6,224	\$6,162	METERED SALES	\$42,111	\$43,531	\$70,031	\$70,031	60.13%
\$0	\$1	WASTEWATER OVERSTRENGTH AGREEMENTS	\$13	\$38	\$50	\$36	35.89%
\$30	\$24	LEACHATE CONTRACT	\$214	\$179	\$394	\$394	54.22%
\$6	\$8	CONTRACT REVENUE	\$47	\$46	\$86	\$86	55.28%
\$0	\$17	DEWATERING FACILITY/SLUDGE LAGOON	\$0	\$122	\$210	\$0	0.00%
\$25	\$28	AIRLINE EFFLUENT	\$52	\$58	\$160	\$160	32.77%
\$57	\$98	SEPTAGE TIPPING FEES	\$369	\$494	\$760	\$500	73.78%
\$13	\$15	CUSTOMER LATE PAY./COLLECTION FEES	\$109	\$100	\$164	\$164	66.06%
\$12	\$11	MISCELLANEOUS	\$89	\$88	\$139	\$139	64.14%
\$6,367	\$6,365		\$43,004	\$44,656	\$71,993	\$71,509	60.14%
		OPERATING EXPENSES					
\$1,153	\$987	WASTEWATER COLLECTION	\$6,637	\$6,348	\$10,972	\$11,093	59.83%
\$1,624	\$1,300	WASTEWATER TREATMENT PLANTS	\$10,200	\$9,648	\$19,139	\$18,428	55.35%
\$121	\$98	SMALL SYSTEMS	\$700	\$691	\$1,323	\$1,310	53.48%
\$9	\$18	DEWATERING FACILITY/ SLUDGE MGM'T	\$258	\$118	\$636	\$478	53.93%
\$0	\$0	BIOSOLIDS TREATMENT	\$1	\$1	\$101	\$51	1.14%
\$26	\$21	LEACHATE CONTRACT	\$186	\$156	\$325	\$325	57.20%
\$164	\$113	SCADA, CONTROL & PUMPING	\$942	\$803	\$1,784	\$1,761	53.49%
\$323	\$229	ENGINEERING & INFORMATION SERVICES	\$2,837	\$2,162	\$3,556	\$3,695	76.77%
\$102	\$82	REGULATORY SERVICES	\$665	\$507	\$1,007	\$1,524	43.60%
\$223	\$167	CUSTOMER SERVICE	\$1,300	\$1,176	\$2,536	\$2,549	51.01%
\$1,008	\$880	ADMINISTRATION & PENSION	\$3,422	\$2,869	\$5,997	\$6,413	53.36%
\$1,108	\$997	DEPRECIATION	\$7,785	\$7,183	\$13,921	\$13,768	56.55%
\$5,860	\$4,892	DEFRECIATION	\$34,932	\$31,660	\$61,299	\$61,396	56.90%
ψ5,000	Ψ 4 ,092	OPERATING SURPLUS BEFORE FINANCIAL	\$34,932	\$31,000	φ01,299	φ01,390	30.30 /6
\$507	\$1,473	REVENUE AND EXPENSES	\$8,071	\$12,996	\$10,695	\$10,113	79.81%
, , , , , , , , , , , , , , , , , , , 	ψ 1, 11 0	NEVENOE AND EXICENSES	Ψο,σ: :	ψ.2,000	ψ10,000	ψ.ιο,ο	7 010 1 70
		FINANCIAL REVENUE					
\$37	\$46	INVESTMENT INCOME	\$278	\$273	\$367	\$457	60.75%
\$8	\$8	MISCELLANEOUS	\$61	\$64	\$122	\$122	49.88%
\$45	\$ 54	WIIGOLLE WALCOO	\$339	\$337	\$489	\$579	58.46%
Ψ-10	ΨΟΨ		Ψ000	ΨΟΟΙ	Ψ-100	ΨΟΙΟ	00.4070
		FINANCIAL EXPENSES					
\$379	\$405	LONG TERM DEBT INTEREST	\$2,784	\$2,934	\$5,133	\$5,077	54.83%
\$1,030	\$1,010	LONG TERM DEBT PRINCIPAL	\$7,154	\$6,974	\$12,965	\$12,569	56.92%
\$9	\$8	AMORTIZATION DEBT DISCOUNT	\$62	\$59	\$113	\$111	55.58%
\$9 \$1	(\$0)	MISCELLANEOUS	\$16	\$17	\$10	\$10	161.89%
\$1,419	\$1,424	WIIOOELEAINEOOO	\$10,016	\$9,983	\$18,220	\$17,766	56.37%
Ψ1,-13	Ψ1,724		Ψ10,016	ψ3,303	Ψ10,220	ψ11,100	30.37 /0
		OPERATING SURPLUS (DEFICIT) AVAILABLE					
(\$866)	\$103	FOR CAPITAL EXPENDITURES	(\$1,606)	\$3,350	(\$7,036)	(\$7,074)	22.70%
(4000)	Ψ.00		(ψ1,000)	Ψ0,000	(41,000)	(41,017)	

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HALIFAX WATER UNAUDITED INCOME STATEMENT - STORMWATER OPERATIONS APRIL 1/19 - OCTOBER 31/19 (7 MONTHS) 58.33%

ACT (CURREN ⁻ THIS YEAR	T MONTH)		ACTU (YEAR TO THIS YEAR		APR 1/19 MAR 31/20 BUDGET*	APR 1/19 MAR 31/20 FORECAST	% of
'000	'000	DESCRIPTION	'000	'000	'000	'000	FORECAST
		OPERATING REVENUE					
\$545	\$527	STORMWATER SITE GENERATED SERVICE	\$3,585	\$3,642	\$6,351	\$5,997	59.78%
\$320	\$320	STORMWATER RIGHT OF WAY SERVICE	\$2,237	\$2,237	\$3,835	\$3,835	58.33%
\$1	(\$3)	CUSTOMER LATE PAY./COLLECTION FEES	\$15	\$2	\$66	\$66	23.23%
\$8	\$8	MISCELLANEOUS	\$57	\$57	\$95	\$95	59.49%
\$873	\$851		\$5,894	\$5,938	\$10,347	\$9,993	58.98%
· · · · · · · · · · · · · · · · · · ·	· · · · · ·	OPERATING EXPENSES		. ,		, ,	
\$559	\$355	STORMWATER COLLECTION	\$2,906	\$2,820	\$5,750	\$5,337	54.45%
\$6	\$4	SCADA, CONTROL & PUMPING	\$32	\$27	\$39	\$40	81.60%
\$53	\$37	ENGINEERING & INFORMATION SERVICES	\$462	\$356	\$1,122	\$1,146	40.27%
\$200	\$117	REGULATORY SERVICES	\$1,018	\$934	\$1,932	\$1,501	67.87%
\$36	\$27	CUSTOMER SERVICE	\$211	\$191	\$273	\$275	76.91%
\$164	\$143	ADMINISTRATION & PENSION	\$557	\$467	\$975	\$1,043	53.37%
\$85	\$73	DEPRECIATION	\$602	\$530	\$1,208	\$1,154	52.14%
\$1,103	\$756		\$5,788	\$5,325	\$11,299	\$10,496	55.15%
'-		OPERATING SURPLUS BEFORE FINANCIAL					
(\$230)	\$95	REVENUE AND EXPENSES	<u>\$106</u>	\$613	(\$952)	(\$503)	121.07%
		FINANCIAL REVENUE					
\$8	\$10	INVESTMENT INCOME	\$62	\$61	\$82	\$102	60.75%
\$0	\$0	MISCELLANEOUS	\$0	\$0	\$0	\$0	0.00%
\$8	\$10		\$62	\$61	\$82	\$102	60.75%
		FINANCIAL EXPENSES					
\$48	\$45	LONG TERM DEBT INTEREST	\$343	\$320	\$810	\$645	53.17%
\$119	\$107	LONG TERM DEBT PRINCIPAL	\$818	\$742	\$1,692	\$1,479	55.34%
\$1	\$1	AMORTIZATION DEBT DISCOUNT	\$7	\$6	\$22	\$13	53.41%
\$167	\$153		\$1,169	\$1,068	\$2,524	\$2,137	54.67%
		OPERATING SURPLUS (DEFICIT) AVAILABLE					
(\$389)	(\$48)	FOR CAPITAL EXPENDITURES	(\$1,001)	(\$395)	(\$3,395)	(\$2,539)	39.42%

HALIFAX WATER UNAUDITED INCOME STATEMENT - REGULATED AND UNREGULATED OPERATIONS APRIL 1/19 - OCTOBER 31/19 (7 MONTHS) 58.33%

DESCRIPTION	ACTUA (YEAR TO THIS YEAR		APR 1/19 MAR 31/20 BUDGET*	APR 1/19 MAR 31/20 FORECAST	% of FORECAST
REGULATED ACTIVITIES					
OPERATING REVENUE					
METERED SALES	\$74,425	\$75,815	\$124,139	\$123,885	60.08%
FIRE PROTECTION	\$4,127	\$4,127	\$7,074	\$7,074	58.33%
PRIVATE FIRE PROTECTION	\$514	\$507	\$873	\$873	58.85%
STORMWATER SERVICE	\$2,237	\$2,237	\$3,835	\$3,835	58.33%
OTHER OPERATING REVENUE	\$740	\$732	\$1,158	\$1,144	64.73%
	\$82,043	\$83,418	\$137,079	\$136,811	59.97%
PERATING EXPENSES					
WATER SUPPLY & TREATMENT	\$4,637	\$4,514	\$9,596	\$9,452	49.06%
TRANSMISSION & DISTRIBUTION	\$5,788	\$5,559	\$11,128	\$10,618	54.52%
WASTEWATER & STORMWATER COLLECTION	\$9,527	\$9,145	\$16,604	\$16,312	58.40%
WASTEWATER TREATMENT PLANTS	\$10,200	\$9,648	\$19,139	\$18,428	55.35%
SMALL SYSTEMS	\$1,490	\$1,405	\$2,534	\$2,508	59.41%
SCADA, CONTROL & PUMPING	\$1,535	\$1,303	\$2,861	\$2,856	53.75%
ENGINEERING & INFORMATION SERVICES	\$5,791	\$4,555	\$8,579	\$8,925	64.89%
REGULATORY SERVICES	\$2,166	\$1,861	\$4,081	\$4,264	50.79%
CUSTOMER SERVICE	\$3,064	\$2,767	\$5,687	\$5,717	53.58%
ADMINISTRATION & PENSION	\$8,122	\$6,819	\$14,195	\$15,180	53.50%
DEPRECIATION	\$13,684	\$12,859	\$25,050	\$24,463	55.94%
	\$66,004	\$60,435	\$119,454	\$118,723	55.59%
		· · ·			
NANCIAL REVENUE					
INVESTMENT INCOME	\$617	\$607	\$816	\$1,016	60.75%
MISCELLANEOUS	\$94	\$155	\$110	\$110	85.82%
	\$712	\$763	\$926	\$1,126	63.20%
NANCIAL EXPENSES		7.00	7	¥ -,	
LONG TERM DEBT INTEREST	\$4,157	\$4,375	\$8,182	\$7,619	54.56%
LONG TERM DEBT PRINCIPAL	\$10,666	\$12,388	\$19,822	\$18,880	56.50%
AMORTIZATION DEBT DISCOUNT	\$104	\$118	\$202	\$189	55.02%
DIVIDEND/GRANT IN LIEU OF TAXES	\$2,962	\$2,916	\$5,147	\$5,079	58.32%
	\$17,890	\$19,799	\$33,354	\$31,768	56.32%
PERATING SURPLUS (DEFICIT) AVAILABLE	4 , 6	4.0,.00	400,001	40.1,1.00	00.0270
OR CAPITAL EXPENDITURES	(\$1,139)	\$3,947	(\$14,802)	(\$12,553)	9.07%
UNREGULATED ACTIVITIES					
	\$369	\$494	\$760	\$500	73.78%
PERATING REVENUE	\$369 \$214	\$494 \$179	\$760 \$394	\$500 \$394	73.78% 54.22%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE	\$214 \$47		·		54.22% 55.28%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING	\$214	\$179	\$394	\$394	54.22% 55.28% 0.00%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT	\$214 \$47 \$0 \$52	\$179 \$46 \$122 \$58	\$394 \$86 \$210 \$160	\$394 \$86 \$0 \$160	54.22% 55.28% 0.00% 32.77%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS	\$214 \$47 \$0 \$52 \$94	\$179 \$46 \$122 \$58 \$92	\$394 \$86 \$210 \$160 \$168	\$394 \$86 \$0 \$160 \$168	54.22% 55.28% 0.00% 32.77% 55.72%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT	\$214 \$47 \$0 \$52 \$94 \$22	\$179 \$46 \$122 \$58 \$92 \$22	\$394 \$86 \$210 \$160 \$168 \$38	\$394 \$86 \$0 \$160 \$168 \$38	54.22% 55.28% 0.00% 32.77% 55.72% 58.33%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS	\$214 \$47 \$0 \$52 \$94	\$179 \$46 \$122 \$58 \$92	\$394 \$86 \$210 \$160 \$168	\$394 \$86 \$0 \$160 \$168	54.22% 55.28% 0.00% 32.77% 55.72%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES	\$214 \$47 \$0 \$52 \$94 \$22 \$798	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT	\$214 \$47 \$0 \$52 \$94 \$22 \$798	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88%
SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75%
SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION NANCIAL REVENUE	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98%
ERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION MANCIAL REVENUE MISCELLANEOUS	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION NANCIAL REVENUE MISCELLANEOUS NANCIAL EXPENSES	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363 \$175	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094 \$275	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98% 64.96%
SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION NANCIAL REVENUE MISCELLANEOUS	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525 \$179 \$179	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363 \$175 \$175	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302 \$275	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094 \$275 \$275	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98% 64.96% 156.68%
SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION NANCIAL REVENUE MISCELLANEOUS NANCIAL EXPENSES	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363 \$175	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094 \$275	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98% 64.96%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION NANCIAL REVENUE MISCELLANEOUS NANCIAL EXPENSES MISCELLANEOUS PERATING SURPLUS (DEFICIT) AVAILABLE	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525 \$179 \$179	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363 \$175 \$175	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302 \$275 \$275	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094 \$275 \$275	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98% 64.96% 64.96% 156.68%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION NANCIAL REVENUE MISCELLANEOUS NANCIAL EXPENSES MISCELLANEOUS PERATING SURPLUS (DEFICIT) AVAILABLE	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525 \$179 \$179	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363 \$175 \$175	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302 \$275	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094 \$275 \$275	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98% 64.96% 156.68%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION NANCIAL REVENUE MISCELLANEOUS NANCIAL EXPENSES MISCELLANEOUS PERATING SURPLUS (DEFICIT) AVAILABLE DR CAPITAL EXPENDITURES	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525 \$179 \$179	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363 \$175 \$175	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302 \$275 \$275	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094 \$275 \$275	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98% 64.96% 64.96% 156.68%
PERATING REVENUE SEPTAGE TIPPING FEES LEACHATE CONTRACT CONTRACT REVENUE DEWATERING AIRLINE EFFLUENT ENERGY PROJECTS MISCELLANEOUS PERATING EXPENSES WATER SUPPLY & TREATMENT WASTEWATER TREATMENT SPONSORSHIPS & DONATIONS DEPRECIATION NANCIAL REVENUE MISCELLANEOUS NANCIAL EXPENSES MISCELLANEOUS PERATING SURPLUS (DEFICIT) AVAILABLE	\$214 \$47 \$0 \$52 \$94 \$22 \$798 \$8 \$460 \$46 \$10 \$525 \$179 \$179	\$179 \$46 \$122 \$58 \$92 \$22 \$1,014 \$11 \$297 \$44 \$10 \$363 \$175 \$175	\$394 \$86 \$210 \$160 \$168 \$38 \$1,816 \$26 \$1,180 \$61 \$35 \$1,302 \$275 \$275	\$394 \$86 \$0 \$160 \$168 \$38 \$1,346 \$26 \$972 \$61 \$35 \$1,094 \$275 \$275	54.22% 55.28% 0.00% 32.77% 55.72% 58.33% 59.31% 32.27% 47.30% 75.75% 29.88% 47.98% 64.96% 64.96% 156.68%

HRWC BOARD November 28, 2019 Page 9 of 10

HALIFAX WATER UNAUDITED BALANCE SHEET - IFRS FORMAT AS OF OCTOBER 31, 2019

	October 31, 2019 '000	October 31, 2018 '000
ASSETS		
Cash	\$33,034	\$50,538
Accounts Receivable		
Customers & Contractual	\$15,197	\$16,421
Customers & Contractual - Unbilled Services	\$20,001	\$18,291
Halifax Regional Municipality	\$4,976	\$9,045
Materials & Supplies	\$1,631	\$1,953
Prepaid Expenses	\$319	\$260
	\$75,159	\$96,508
Regulatory Asset	\$2,893	\$3,085
Plant in Service - Water	\$659,143	\$635,225
Plant in Service - Wastewater	\$808,011	\$761,829
Plant in Service - Stormwater	\$271,499	\$263,952
Less: Accumulated Depreciation - Water	(\$208,676)	(\$196,053)
Accumulated Depreciation - Wastewater	(\$251,002)	(\$227,429)
Accumulated Depreciation - Stormwater	(\$56,672)	(\$49,606)
	\$1,225,195	\$1,191,002
Assets Under Construction	\$68,528	\$52,315
	\$1,293,724	\$1,243,318
Unamortized Debt Discount & Issue Expense	\$742	\$808
	\$1,369,625	\$1,340,633
LIABILITIES		
Trade Payables	\$15,248	\$15,164
Interest on Long Term Debt	\$2,414	\$2,409
Halifax Regional Municipality	\$10,399	\$3,652
Contractor & Customer Deposits	\$212	\$213
Unearned Revenue	\$4,983	\$5,070
Current Portion of Deferred Contributed Capital	\$13,846	\$13,405
Current Portion of Long Term Debt	\$24,709	\$22,630
Canonic Cities of Eorig Term Best	\$71,810	\$62,543
Accrued Post-Retirement Benefits	\$380	\$430
Accrued Pre-Retirement Benefit	\$1,941	\$4,001
Deferred Pension Liability	\$72,430	\$68,519
Deferred Contributed Capital	\$864,307	\$842,569
Long Term Debt-Water	\$55,104	\$52,216
Long Term Debt-Wastewater	\$98,496	\$117,885
Long Term Debt-Stormwater	\$12,806	\$11,016
Total Liabilities	\$1,177,273	\$1,159,179
EQUITY		
Accumulated Other Comprehensive Income	(\$41,209)	(\$44,943)
Accumulated Surplus	\$225,007	\$212,604
Excess (Deficiency) of Revenue over Expenditure	\$8,553	\$13,794
Total Equity	\$192,352	\$181,454
	\$1,369,625	\$1,340,633

HALIFAX WATER UNAUDITED INCOME STATEMENT - IFRS FORMAT - ALL SERVICES APRIL 1/19 - OCTOBER 31/19 (7 MONTHS) 58.33%

ACT (CURREN			ACTI (YEAR TO		APR 1/19 MAR 31/20	APR 1/19 MAR 31/20		
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	BUDGET*	FORECAST	% of	% of
'000	'000	DESCRIPTION	'000	'000	'000	'000	BUDGET*	FORECAST
		OPERATING REVENUE						
\$3,935	\$4,208	METERED SALES - WATER	\$28,730	\$28,642	\$47,758	\$47,858	60.16%	60.03%
\$6,224	\$6,162	METERED SALES - WASTEWATER	\$42,111	\$43,531	\$70,031	\$70,031	60.13%	60.13%
\$545	\$527	STORMWATER SITE GENERATED SERVICE	\$3,585	\$3,642	\$6,351	\$5,997	56.45%	59.78%
\$590	\$590	FIRE PROTECTION	\$4,127	\$4,127	\$7,074	\$7,074	58.33%	58.33%
\$320	\$320	STORMWATER RIGHT OF WAY SERVICE	\$2,237	\$2,237	\$3,835	\$3,835	58.33%	58.33%
\$212	\$287	OTHER SERVICES AND FEES	\$1,438	\$1,676	\$2,825	\$2,341	50.91%	61.42%
\$39	\$33	CUSTOMER LATE PAY./COLLECTION FEES	\$270	\$238	\$453	\$453	59.53%	59.53%
\$34	\$34	MISCELLANEOUS	\$251	\$247	\$400	\$400	62.68%	62.68%
\$11,897	\$12,159	-	\$82,748	\$84,340	\$138,727	\$137,989	59.65%	59.97%
		OPERATING EXPENSES						
\$901	\$710	WATER SUPPLY & TREATMENT	\$4,637	\$4,514	\$9,596	\$9,452	48.32%	49.06%
\$890	\$1,128	TRANSMISSION & DISTRIBUTION	\$5,788	\$5,559	\$11,128	\$10,618	52.01%	54.52%
\$1,153	\$987	WASTEWATER COLLECTION	\$6,637	\$6,348	\$10,972	\$11,093	60.49%	59.83%
\$1,624	\$1,300	WASTEWATER TREATMENT PLANTS	\$10,200	\$9,648	\$19,139	\$18,428	53.29%	55.35%
\$559	\$355	STORMWATER COLLECTION	\$2,906	\$2,820	\$5,750	\$5,337	50.54%	54.45%
\$293	\$223	SMALL SYSTEMS AND OTHER SERVICES	\$1,943	\$1,690	\$3,622	\$3,388	53.63%	57.34%
\$257	\$177	SCADA, CONTROL & PUMPING	\$1,535	\$1,303	\$2,861	\$2,856	53.66%	53.75%
\$610	\$543	ENGINEERING & INFORMATION SERVICES	\$5,791	\$4,555	\$8,579	\$8,925	67.50%	64.89%
\$383	\$264	REGULATORY SERVICES	\$2,166	\$1,861	\$4,081	\$4,264	53.07%	50.79%
\$532	\$395	CUSTOMER SERVICE	\$3,086	\$2,787	\$5,727	\$5,757	53.90%	53.61%
\$2,397	\$2,091	ADMINISTRATION & PENSION	\$8,145	\$6,843	\$14,216	\$15,201	57.30%	53.58%
\$3,647	\$3,837	DEPRECIATION	\$25,787	\$27,307	\$25,085	\$37,610	102.80%	68.57%
\$13,246	\$12,010	·	\$78,621	\$75,235	\$120,756	\$132,929	65.11%	59.15%
		•						
		OPERATING SURPLUS BEFORE FINANCIAL						
(\$1,349)	\$149	REVENUE AND EXPENSES	\$4,127	\$9,104	\$17,971	\$5,060	22.97%	81.56%
		FINANCIAL REVENUE						
\$82	\$102	INVESTMENT INCOME	\$617	\$607	\$816	\$1,016	75.63%	60.75%
\$1,557	\$1,618	MISCELLANEOUS	\$11,002	\$11,374	\$553	\$13,078	1988.23%	84.12%
\$1,639	\$1,720		\$11,619	\$11,981	\$1,369	\$14,094	848.51%	82.44%
		FINANCIAL EXPENSES						
\$575	\$609	LONG TERM DEBT INTEREST	\$4,157	\$4,375	\$8,182	\$7,619	50.81%	54.56%
\$15	\$17	AMORTIZATION DEBT DISCOUNT	\$104	\$118	\$202	\$189	51.48%	55.02%
\$423	\$417	DIVIDEND/GRANT IN LIEU OF TAXES	\$2,962	\$2,916	\$5,147	\$5,079	57.55%	58.32%
\$20	(\$75)	MISCELLANEOUS	(\$31)	(\$119)	\$15	\$15	-204.04%	-204.04%
\$1,033	\$968		\$7,193	\$7,292	\$13,547	\$12,903	53.09%	55.74%
		•						
		SURPLUS (DEFICIT) BEFORE						
(\$742)	\$900	OTHER COMPREHENSIVE INCOME	\$8,553	\$13,794	\$5,793	\$6,251	147.66%	136.82%
-		•						
\$0	\$0	OTHER COMPREHENSIVE INCOME	\$0	\$0	\$0	\$0	0.00%	0.00%
								
(\$742)	\$900	SURPLUS (DEFICIT)	\$8,553	\$13,794	\$5,793	\$6,251	147.66%	136.82%
		•	•	•				



ITEM # 4.2 HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

Heidi Schedler, Corporate Legal Counsel

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D, General Manager

DATE: November 21, 2019

SUBJECT: Signing Authority Guideline

ORIGIN

January 28, 2016 Halifax Water Board Resolution regarding Governance Manual March 30, 2017 Halifax Water Board Resolution regarding Signing Authority Protocol September 26, 2019 Halifax Water Board Resolution regarding Financial Approval Limits

RECOMMENDATION

It is recommended that the Halifax Regional Water Commission Board approve:

1. The Signing Authority Guideline as shown in Attachment.

BACKGROUND

Periodically Halifax Water reviews governance and internal controls to ensure the organization is keeping up to date with best practices and updating key policies to reflect any organizational changes.

The Signing Authority Guideline applies to both rate regulated and unregulated transactions.

DISCUSSION

The Halifax Water Board of Directors or Commissioners has the ultimate responsibility for the good governance and management of the organization. It is the Board's fiduciary responsibility to ensure that the resources of the organization are well managed by implementing necessary checks and balances.

In January 2016, the Board approved the Governance Manual, which reflects how authority is delegated to the General Manager and outlines how the organization is governed. In March 2017, the Board approved the Signing Authority Guideline that is currently in place, along with a Signing Authority Resolution and a Financial Approval List. The Financial Approval list was updated with approval by the Board on September 26, 2019.

Updating the Signing Authority Guideline, as noted in Attachment A will strengthen Halifax Water's internal control environment, assist with risk management, provide clarity for staff, and increase efficiency. A redline version of the Guideline is provided for reference purposes in Attachment B.

BUDGET IMPLICATIONS

There are no human resource or budget implications associated directly with this report. The recommended updates to the Guideline are sufficient to ensure adequate internal control and meet operational requirements.

Any changes in transactions that various positions within the organization can authorize do not impact job title, job description, job rating or compensation.

ALTERNATIVES

The Board could choose to make alternate amendments to the Guideline.

<u>ATTACHMENT</u>

Signing Authority Guideline

Report Prepared by: *Original signed by:*

Heidi Schedler, Corporate Legal Counsel, 902-490-6101

Financial Reviewed by: N/A

SIGNING AUTHORITY GUIDELINE

Purpose and Scope

In January 2016, the Halifax Water Board approved the Governance Manual to provide direction and clarity on the roles and responsibilities of the Board and staff. This Guideline builds on that direction and clarity and ensures the efficient operation of Halifax Water by identifying appropriate delegation of authority required for various transactions and activities.

Guideline Statement

Accountability for the management of the property, assets, financial and human resources of Halifax Water rests with the General Manager and the Board. This Guideline aids in administering this accountability, safeguarding utility resources by establishing and maintaining sound business controls for contractual commitments, management of risk and proper use of resources. This Guideline identifies signature authority delegations for various Halifax Water transactions, approvals and other decisions.

Levels of Signature Authority

Signature Authority levels are as follows:

Level 1: Board Chair, Board Vice-Chair

Level 2: General Manager, Corporate Treasurer

Level 3: Directors, Corporate Secretary

Level 4: Superintendents, Managers, Operation Engineers

Level 5: Supervisors, Intermediate Engineers

Level 6: Technical Staff, Junior Engineers

Staff cannot delegate an authority under this Guideline to a lower level authority. Any delegation as 'acting' status includes the signature authority delegations in this Guildeline.

For transactions not specifically listed in the Signing Authority Guideline, please seek advice from the General Manager, Corporate Secretary or Treasurer.

Accounting & Finance

Budget transfer request	Level 4
Delegation authority request	Level 4
Establish petty cash fund	Level 4
Establish account or program	Level 3
Financial information provided to actuaries	Level 3
Correspondence with CRA	Level 2
Financial statements	Level 2
Management representation letter	Level 2
Financial review of board reports	Level 3
Correspondence regarding pension	Level 3
Pension annual information return	Level 2
Journal entries	Level 4
Confirmation letter	Level 4
Annual indexation for pensioners	Level 2
SAP – new cost centres or general ledger accounts	Level 3
SAP – FI/CO/AA modules	Level 3
SAP – creation of new orders	Level 4
SAP – MM module	Level 3
Purchase card administration	Level 5
Lead service rebate	Level 3
Wastewater rebate	Level 3
Lateral loan program	Level 3
Capital cost contribution invoicing / refund	Level 4
Regional development charge invoicing / refund	Level 4

Contracts, Agreements and Legal Submissions

Agreement/Contract/MOU =/> \$5,000,000	Level 1
Agreement/Contract/MOU =/> \$250,000 and < \$5M	Level 2
Agreement/Contract/MOU < \$250,000	Level 3
MOU – non-monetary	Level 3
Collective agreement	Level 2
Employment contract	Level 3
Banking contract	Level 2
Debenture agreement	Level 2
MOU and LOU's with union	Level 2
Water systems agreement	Level 2
Submission to Municipal Auditor General (not including staff responses	Level 2
to specific requests for information)	Level 2
Submission to WCB	Level 2
Application (initiating proceedings) to NSUARB	Level 2
IRs to NSUARB	Level 3
Appeal to NSUARB	Level 3
Easement agreement	Level 2
Temporary access agreement	Level 2
Lease	Level 2
Non-disclosure agreement	Level 3

Lien	Level 2
Data licensing contract	Level 3
Customer Service and Billing	
Water shut off – regulatory non-compliance	Level 3
Water shut off – collection	Level 3
Non-payment letter	Level 4
Acceptance of payment arrangement	Level 4
Stormwater exemption	Level 4
SAP – changes to billing	Level 3
Adjustment to customer account	Level 3
Human Resources	
In-range progression	Level 2
Appointment letter	Level 3
Professional development plan	Level 5
Position description	Level 2
Confirmation of employment letter	Level 6
LTD benefit application	Level 4
Life insurance claim application	Level 4
Annual adjustments to non-union compensation	Level 1
Payroll approval	Level 4
Discipline letter - warning	Level 4
Discipline letter - suspension	Level 3
Discipline letter - termination	Level 2
SAP – payroll changes	Level 3
Return to work accommodation	Level 4
	<u> </u>
Procurement	,
Pre-tender review approval letter	Level 5
Tender document	Level 4
Request for proposal	Level 3
RFP / Tender evaluation	Level 4
Technical study / report (from consultant)	Level 3
Award letter	Level 5
Alternative purchase arrangement	Level 2
Dogulatory	
Regulatory Compliance agreement	Level 3
Enforcement action	Level 3
Corrective action agreement	Level 4
Corrective action required	Level 5
Temporary discharge agreement	Level 5
Requests for customer action / information	Level 6
Distribution of educational material / notice	Level 6
Service connection inspection	Level 6
Subdivision approval letter – concept	Level 4
Subdivision approvar ieuer – concept	Level 4

Subdivision approval letter – preliminary	Level 4
Subdivision approval letter – final	Level 4
Building permit approval letter	Level 5
New service application approval letter	Level 5
Demolition or development permit approval letter	Level 5
Planning application letter	Level 5
Domestic meter and BFP approval letter	Level 5
Sprinkler and BFP approval letter	Level 5
Change in meter size approval	Level 6
Temporary meter approval	Level 6
Clearance letter	Level 6
Inter-office memo infrastructure acceptance	Level 6
Infrastructure acceptance	Level 4
Design and construction specification variance	Level 4
BFP testers list	Level 5
Drainage complaint letter	Level 4

Stormwater / Water/ Wastewater Operations

Locate certification	Level 6
Repair letter to customer	Level 4
Planned service interruption letter to customer	Level 4

Travel

Travel for GM	Level 1
Travel for directors	Level 2
Travel claims/reimbursement for GM	Level 1
Travel claims/reimbursements for directors	Level 2



ITEM # 5.1 HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

Jamie Hannam, P.Eng.

Director, Engineering & Information Services

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D

General Manager

DATE: October 1, 2019

SUBJECT: Capital Project Spending Summary – 2018/19

ORIGIN

NSUARB requirement for reconciliation of Capital Budget expenditures.

RECOMMENDATION

It is recommended that the Halifax Water Board approve the individual project over expenditures as identified within Attachment 2, "Capital Project Spending Summary, Apr 1, 2018 – March 31, 2019" and direct staff to forward the subset of projects "over \$250,000" to the NSUARB for information and approval.

BACKGROUND

The Halifax Water Board and the NSUARB approve annual Capital Budget plans for required capital projects and equipment. The specific funding for individual projects are further approved by the General Manager, Halifax Water Board, and the NSUARB as required based on total project cost, as per the Capital Funding Approval Policy.

DISCUSSION

During the 2018/19 fiscal year, a series of capital projects were completed, placed in service, and "closed out" from a fiscal work order perspective. These projects were funded from the 2018/19 Capital Budget and previous years' capital budgets for projects with multi-year delivery time lines.

The first attached report entitled, "Capital Project Spending Summary, April 1, 2018 to March 31, 2019", identifies all capital projects funded from the Halifax Water Capital Budget that were completed prior to March 31, 2019. For water projects, the total expenditure for these completed projects totals \$18,589,643, with an aggregate net surplus of \$127,148 relative to the total funding approvals. For wastewater projects, the total expenditure for these completed projects totals \$42,083,844, with an aggregate net surplus of \$1,343,348. For stormwater projects, the total expenditures for these completed projects totals \$5,106,701, with an aggregate net surplus of \$19,417.

The second attached report entitled, "Capital Project Spending Summary – Projects Over \$250,000, April 1, 2018 to March 31, 2019", identifies all capital projects funded from the Halifax Water Capital Budget that were completed prior to March 31, 2019 that required specific NSUARB approval based on the \$250,000 threshold. For water projects, the total expenditure for these completed projects totals \$14,351,544, with an aggregate net deficit of \$176,444. For wastewater projects, the total expenditure for these completed projects totals \$37,672,653, with an aggregate net deficit of \$807,947. For stormwater projects, the total expenditure for these completed projects totals \$2,204,518, with an aggregate net surplus of \$564,250. The "Projects Over \$250,000" will be forwarded to the NSUARB as part of our annual financial submission requirements.

Halifax Water's Capital Funding Policy requires all material funding increases for capital projects to be approved at the time of the funding need. This process promotes fiscal accountability and improves management of available funds.

The Board will note that a variety of the projects from the 2018/19 Summary Report were completed with final expenditures greater than the original budget. Staff is seeking HRWC Board approval for these expenditures with funding available from the identified surpluses as per the BUDGET IMPLICATIONS section of this report.

BUDGET IMPLICATIONS

Water capital projects closed during the fiscal year 2018/19 represent an approved total budget of \$18,716,791 and when compared to the actual total project costs of \$18,589,643, results in a net surplus of \$127,148. This aggregate net difference represents a surplus which can be utilized for capital funding sources in future years, and for funding 2018/19 and previous years' projects not yet completed

Wastewater capital projects closed during the fiscal year 2018/19 represent an approved total budget of \$43,427,192, and when compared to the actual total project costs of \$42,083,844, results in a net surplus of \$1,343,348. This aggregate net difference represents a surplus which can be utilized for capital funding sources in future years, and for funding 2018/19 and previous years' capital projects not yet completed.

Stormwater capital projects closed during the fiscal year 2018/19 represent an approved total budget of \$5,126,118, and when compared to the actual total project costs of \$5,106,701 results in a net difference of \$19,417. This aggregate net difference represents a surplus which can be utilized for capital funding sources in future years, and for funding 2018/19 and previous years' capital projects not yet completed.

ATTACHMENTS

Attachment 1 - Capital Project Spending Summary, April 1, 2018 – March 31, 2019

Attachment 2 - Capital Project Spending Summary
Projects over \$250,000, April 1, 2018 - March 31, 2019

Report Prepared by: *Original signed by:*

Michelle Bennett, B.Comm Accountant, 902-490-5242

Financial Review by: Original signed by:

Allan Campbell, B.Comm, CPA, CMA Manager, Finance, 902-490-4288

ITEM #5.1 HRWC BOARD November 28, 2019 ATTACHMENT 1

April 1, 2018 - March 31, 2019

		T		1			ATTACHWENT
Project	Project Name	HRWC Board	NSUARB Approval	Amount Spent: Cumulative to March	Project Budget	Over Budget	(Under Budget)
Number	Project Name	Approval Date	Date	31/19	r Toject Buuget	Over Budget	(Olider Budget)
300001742	GOVERNOR'S BROOK PH 3 OVERSIZING 13/14	26-Feb-13	n/a	198,285.80	196,690.69	\$1,595.11	\$0.00
300001753	JD KLINE DRYING BED EXPANSION 13/14	21-Mar-13	n/a	117,957.22	100,000.00	\$17,957.22	\$0.00
300001880	JD KLINE HEAT RECOVERY STUDY & UPGRADE	16-Jan-14	7-Oct-13	840,791.70	1,125,000.00	\$0.00	(\$284,208.30)
300002068	JD KLINE WATERSHED ACCESS RD BRIDGE	4-May-15	n/a	130,818.44	131,000.00	\$0.00	(\$181.56)
300002103	WATER DATABASE MODEL (W)	18-Apr-16	n/a	0.00	25,000.00	\$0.00	(\$25,000.00)
300002134	LIGHTING IN FILTER GALLERY - LAKE MAJOR	12-Aug-15	n/a	3,160.32	5,000.00	\$0.00	(\$1,839.68)
300002282	SCADA MASTER PLAN IMPLEMENTATION (W)	29-Oct-15	21-Dec-15	211,483.58	231,300.00	\$0.00	(\$19,816.42)
300002312	LAKESIDE CONTROL CHAMBER CSE RETROFIT	26-Jan-15	n/a	44,752.83	39,000.00	\$5,752.83	\$0.00
300002328	Water Sampling Stn Relocation Program	24-May-16	n/a	28,595.17	29,000.00	\$0.00	(\$404.83)
300002329	Rechlorination Station Upgrades	25-May-16	n/a	25,609.84	26,000.00	\$0.00	(\$390.16)
300002338	Lyle Street Control Chamber Access Imp	22-Feb-16	n/a	10,417.48	11,000.00	\$0.00	(\$582.52)
300002423	SCADA CONTROL SYSTEM ENHANCEMENTS 16/17	5-Jul-16	n/a	107,880.80	100,000.00	\$7,880.80	\$0.00
300002446	FALL RIVER WATER SERVICING PROJECT	27-Sep-16	n/a	0.00	10,000.00	\$0.00	(\$10,000.00)
300002508	TOMAHAWK LAKE WATERSHED LAND PURCHASE	21-Dec-16	n/a	231,185.13	240,000.00	\$0.00	(\$8,814.87)
300002522	CLIFF ST 2017 IP (W)	18-Jan-17	n/a	142,806.14	160,000.00	\$0.00	(\$17,193.86)
300002523	BADGER / RATTLING AVE 2017 IP (W)	18-Jan-17	n/a	241,493.10	238,000.00	\$3,493.10	\$0.00
300002540	JDK WATER SUPPLY PLANT MULTILIN REPL	15-Feb-17	n/a	26,450.52	25,000.00	\$1,450.52	\$0.00
300002574	CRESTVIEW BOOSTER STATION PRV CONVERSION	28-Mar-17	n/a	54,206.33	57,000.00	\$0.00	(\$2,793.67)
300002580	INLINE ZITA POTENTIAL METERS	29-Mar-17	n/a	104,932.57	100,000.00	\$4,932.57	\$0.00
300002588	AMPGUARD III TO VACUUM CONTACTOR CONVER	28-Mar-17	n/a	39,650.01	40,000.00	\$0.00	(\$349.99)
300002591	ph Meter Replacements	28-Mar-17	n/a	9,997.85	10,000.00	\$0.00	(\$2.15)
300002592	RAW WATER PS LADDER EXT & FALL PROT EQUI	28-Mar-17	n/a	8,224.75	9,000.00	\$0.00	(\$775.25)
300002609	BENCH TOP TURBIDIMETER-LAKE MAJOR	28-Mar-17	n/a	5,266.44	6,000.00	\$0.00	(\$733.56)
300002611	LOW LIFT VFD PUMP REPLACEMENT PROGRAM	28-Mar-17	n/a	109,987.24	180,000.00	\$0.00	(\$70,012.76)
300002613	POST FILTER CHEMICAL ADDTN OPTIMIZATION	28-Mar-17	n/a	0.00	32,000.00	\$0.00	(\$32,000.00)
300002621	SECURITY UPGRADE	28-Mar-17	n/a	157,255.06	160,000.00	\$0.00	(\$2,744.94)
300002622	MISC EQUIPMENT REPLACEMENT 17/18	28-Mar-17	n/a	42,392.02	50,000.00	\$0.00	(\$7,607.98)
300002681	HOST STATIC WEBSITE - PH 1	28-Nov-17	4-May-18	249,641.11	234,250.00	\$15,391.11	\$0.00
300002683	MATILAND ST WM RENEWAL	2-Jan-18	n/a	156,605.75	165,000.00	\$0.00	(\$8,394.25)
300002686	WARREN ST WM RENEWAL	2-Jan-18	n/a	154,082.16	155,000.00	\$0.00	(\$917.84)
300002687	EMSCOTE/MACLEOD WM RENEWAL 18/19	2-Jan-18	5-Apr-18	403,194.71	405,800.00	\$0.00	(\$2,605.29)
300002689	WOODCREST WM RENEWAL 18/19	2-Jan-18	5-Apr-18	373,850.74	375,900.00	\$0.00	(\$2,049.26)
300002690	SUMAC WM RENEWAL 18/19	2-Jan-18	5-Apr-18	241,381.00	243,000.00	\$0.00	(\$1,619.00)
300002692	SINCLAIR ST WM RENEWAL 18/19	2-Jan-18	5-Apr-18	726,044.01	719,350.00	\$6,694.01	\$0.00
300002694	RIDGEVIEW WM RENEWAL 18/19	2-Jan-18	5-Apr-18	443,086.42	443,500.00	\$0.00	(\$413.58)
300002703	BEDFORD WATERFRONT DR INTERCONNECTION WM	5-Feb-18	n/a	120,402.64	121,000.00	\$0.00	(\$597.36)
300002704	JDK WSP 2ND BOILER REPLACEMENT	5-Feb-18	n/a	71,287.13	70,000.00	\$1,287.13	\$0.00
300002706	PORTFOLIO & PROJECT LIFECYCLE-INIT/ PLAN	5-Feb-18	16-Apr-18	177,436.10	190,000.00	\$0.00	(\$12,563.90)
300002711	VALVES 18/19	1-Apr-18	25-Apr-18	115,827.97	125,000.00	\$0.00	(\$9,172.03)
300002712	HYDRANTS 18/19	1-Apr-18	25-Apr-18	25,361.00	75,000.00	\$0.00	(\$49,639.00)
300002713	SERVICE LINES 18/19	1-Apr-18	25-Apr-18	64,168.57	100,000.00	\$0.00	(\$35,831.43)
300002714	LEAD SERVICE LINE REPLACEMENT 18/19	1-Apr-18	25-Apr-18	1,124,473.56	600,000.00	\$524,473.56	\$0.00
300002715	AUTOMATED FLUSHING PROGRAM 18/19	22-Feb-18	n/a	0.00	3,000.00	\$0.00	(\$3,000.00)

ITEM #5.1
HRWC BOARD
November 28, 2019
ATTACHMENT 1

April 1, 2018 - March 31, 2019

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/19	Project Budget	Over Budget	(Under Budget)
300002717	COLLINS PK RAW WATER INTAKE STRAINER REP	27-Apr-18	n/a	10,601.98	12,000.00	\$0.00	(\$1,398.02)
300002729	BULK FILL SERVICE CONNECTION-COWIE OPS	22-Feb-18	n/a	11,979.87	13,500.00	\$0.00	(\$1,520.13)
300002730	MAIN CONTROL CHAMBER ANNUBAR METER REPL	28-Feb-18	n/a	14,117.91	15,000.00	\$0.00	(\$882.09)
300002734	JDK RAW WATER INTAKE SCREEN REPL PROG	17-Apr-18	14-Nov-18	1,156,766.32	1,230,000.00	\$0.00	(\$73,233.68)
300002736	JDK STORAGE BUILDING IMPROVEMENTS	26-Feb-18	n/a	50,764.59	76,000.00	\$0.00	(\$25,235.41)
300002737	JDK PURCHASE NEW BOAT FOR SAMPLING	22-Feb-18	n/a	31,941.25	32,000.00	\$0.00	(\$58.75)
300002740	JDK CAUSTIC TANK LINER REPLACEMENTS	22-Feb-18	n/a	27,116.81	26,500.00	\$616.81	\$0.00
300002745	JDK AMPGARD III TO VACUUM CONTRACTOR CON	22-Feb-18	n/a	39,708.98	40,000.00	\$0.00	(\$291.02)
300002751	LM BUTTERFLY VALVE REPLACEMENT PROG	27-Feb-18	n/a	188,472.00	172,000.00	\$16,472.00	\$0.00
300002755	LM PURCHASE H-FRAME FOR FALL ARREST SYS	26-Feb-18	n/a	6,503.53	9,000.00	\$0.00	(\$2,496.47)
	BENNERY SLUDGE VALVE REPLACEMENT PROGRAM	22-Feb-18	n/a	4,165.18	7,000.00	\$0.00	(\$2,834.82)
300002774	DESKTOP COMPUTER REPL PROG (W) 18/19	1-Apr-18	25-Apr-18	170,323.35	145,000.00	\$25,323.35	\$0.00
300002775	NETWORK INFRASTRUCTURE UPGRADE (W) 18/19	1-Apr-18	25-Apr-18	110,099.13	110,000.00	\$99.13	\$0.00
300002777	SHAREPOINT IMPLEMENTATION (W) 18/19	28-Mar-19	n/a	46,592.37	50,000.00	\$0.00	(\$3,407.63)
300002788	GIS APPL SUPPORT PROG/FORMS ENHANCEMENT	8-Aug-18	n/a	17,911.59	18,000.00	\$0.00	(\$88.41)
	GIS CHANGE DATUM & PROJECTION PROJECT	8-Aug-18	n/a	27,960.72	30,000.00	\$0.00	(\$2,039.28)
300002798	BUILDING CAPITAL IMPROVEMENTS (W) 18/19	31-Oct-18	n/a	50,409.72	49,250.00	\$1,159.72	\$0.00
	GPS UNITS REPLACEMENT (W) 18/19	28-Feb-18	25-Apr-18	42,763.52	42,000.00	\$763.52	\$0.00
	GNSS RECEIVER-ASSET MGMT DATA COLL - W	5-Apr-18	25-Apr-18	7,203.27	8,000.00	\$0.00	(\$796.73)
	METERS 2018/19	1-Apr-18	25-Apr-18	465,008.33	460,000.00	\$5,008.33	\$0.00
	FLEET UPGRADE 18/19 (W)	1-Apr-18	25-Apr-18	577,930.38	580,000.00	\$0.00	(\$2,069.62)
	PRINCE ARTHUR AVE WM RENEWAL	9-Mar-18	n/a	116,039.55	117,000.00	\$0.00	(\$960.45)
	RESID PORTION OF CMMS PH 2B POST APR 1	5-Apr-18	n/a	234,697.30	235,000.00	\$0.00	(\$302.70)
	GEIZER 158 RESERVOIR - TANK SHARK PILOT	20-Apr-18	n/a	46,376.99	40,000.00	\$6,376.99	\$0.00
	COLLINS PARK WSP-VENTILATION SYS UPGRADE	8-May-18	n/a	22,704.80	35,000.00	\$0.00	(\$12,295.20)
	MIDDLE MUSQUODOBOIT WSP VENT SYS UPGRADE	15-Jun-18	n/a	35,830.29	35,000.00	\$830.29	\$0.00
	GIS UPDATING FOR CLOSED WORK ORDERS 1819	8-May-18	n/a	15,858.00	16,000.00	\$0.00	(\$142.00)
	RECORD DRAWING PROD-CLOSED WOs 18/19	8-May-18	n/a	1,722.65	1,750.00	\$0.00	(\$27.35)
	CATAMARAN RD WM RENEWAL 1819	29-Jun-18	5-Apr-18	279,461.27	278,000.00	\$1,461.27	\$0.00
	PARKMOOR AVE WM RENEWAL 1819	29-Jun-18	5-Apr-18	321,497.86	322,000.00	\$0.00	(\$502.14)
	WRIGHT AVE WM RENEWAL 1819	29-Jun-18	5-Apr-18	100,928.60	100,000.00	\$928.60	\$0.00
	JDK PURCH BOSUN CHAIR LIFTING SAFETY EQU	14-Aug-18	n/a	7,208.70	9,000.00	\$0.00	(\$1,791.30)
	GEIZER 158 RESERVOIR PERIMETER DRAINAGE	6-Sep-18	n/a	45,920.69	48,500.00	\$0.00	(\$2,579.31)
	EAST HBR SOLUTIONS SCADA REDESIGN/UPGRAD	6-Sep-18	n/a	48,680.51	60,000.00	\$0.00	(\$11,319.49)
	WINDSOR JCT RD RAILWAY CROSSING WM LININ	19-Sep-18	n/a	122,032.06	123,000.00	\$0.00	(\$967.94)
	GEIZER 158 RESERVOIR - MECHANICAL MIXER	27-Sep-18	n/a	51,004.88	50,000.00	\$1,004.88	\$0.00
	PURCH HAND-HELD WATER QUAL SONDE EQUIP	5-Oct-18	n/a	13,077.41	17,000.00	\$1,004.88	(\$3,922.59)
	BLOWERS/GRAFTON INTERSECTION WM REPL	23-Oct-18	n/a	119.534.66	130.000.00	\$0.00	(\$3,922.39)
	COWIE OFFICES-ADDN'L WORK STNS (W)	23-Oct-18 24-Apr-18	n/a	12,426.31	12,500.00	\$0.00	(\$70,465.34)
	AMI METERS 18/19	29-Apr-19	n/a	6,595,856.64	6,600,000.00	\$0.00	(\$4,143.36)
300003002	WINIT INIT IT IT 2 TO 173	29-Api-19	11/4	0,393,630.04	6,600,000.00	φυ.υυ	(94, 143.30)
	Water Canital Difference			\$18,589,643.18	\$18,716,790.69	\$650,952.85	(\$778,100.36)

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Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/19	Project Budget	Over Budget	(Under Budget)
	water Capital Difference					(\$12	7,147.51)
600000685	AEROTECH WWTF PRELIM DESIGN 12/13	27-Sep-12	22-Nov-12	1,062,310.69	1,055,000.00	\$7,310.69	\$0.00
600001018	AEROTECH WWTF MEMBRANE BIOREACTOR	31-Oct-14	n/a	62,517.15	25,000.00	\$37,517.15	\$0.00
600001085	AWWTF EXPANSION & UPGRADE PH 1 - DESIGN	23-Oct-14	11-Feb-15	1,263,267.89	1,304,634.00	\$0.00	(\$41,366.11)
600001087	ABPF - WAREHOUSE VENT & HVAC CONTROLS	24-Jul-15	n/a	100,114.11	184,000.00	\$0.00	(\$83,885.89)
600001113	WATER DATABASE MODEL (WW)	18-Apr-16	n/a	0.00	20,000.00	\$0.00	(\$20,000.00)
600001180	AWWTF - MBR COMPONENT PROCUREMENT	21-Jul-15	17-Sep-15	427,503.49	427,503.49	\$0.00	\$0.00
600001282	SCADA MASTER PLAN IMPLEMENTATION (WW)	29-Oct-15	21-Dec-15	241,794.05	250,000.00	\$0.00	(\$8,205.95)
600001340	Gantry Road Manhole Rehab	8-Mar-17	n/a	10,872.99	30,000.00	\$0.00	(\$19,127.01)
600001356	EPWWTF - Process Optimization	25-Jul-17	n/a	39,410.21	70,000.00	\$0.00	(\$30,589.79)
600001359	Aerotech WWTF Upgrade Construction	19-Apr-16	22-Aug-16	21,181,876.36	21,157,862.51	\$24,013.85	\$0.00
600001365	BPF - Biofilter Media Replacement	1-Mar-17	n/a	29,450.28	50,000.00	\$0.00	(\$20,549.72)
600001380	MCWWTF - UV Upgrade	9-Mar-16	5-Oct-16	1,608,344.99	1,885,000.00	\$0.00	(\$276,655.01)
600001401	DOYLE ST WW IP 16/17	20-Jan-16	24-Mar-16	0.00	19,000.00	\$0.00	(\$19,000.00)
600001440	SCADA CTRL SYS ENHANCEMENTS (WW 16/17)	11-Jan-17	n/a	90,546.50	100,000.00	\$0.00	(\$9,453.50)
600001497	SEWER CONDITION ASESSMENT	18-Apr-17	n/a	309,802.28	310,000.00	\$0.00	(\$197.72)
600001535	SECURITY UPGRADE PROGRAM 17/18	28-Mar-17	n/a	195,462.84	200,000.00	\$0.00	(\$4,537.16)
600001537	MISC EQUIPMENT 17/18	31-Mar-17	n/a	63,621.61	70,000.00	\$0.00	(\$6,378.39)
600001545	FIRST ST WW IP 17/18	6-Mar-17	n/a	193,985.25	199,000.00	\$0.00	(\$5,014.75)
600001624	WEYBRIDGE LANE PS CCC - DESIGN PH	23-Oct-17	n/a	101,811.00	100,000.00	\$1,811.00	\$0.00
600001626	GLENDALE TO SACKVILLE TRUNK SEWER UPGR	1-Nov-17	4/16/2018 & 6/19/18	758,272.09	759,000.00	\$0.00	(\$727.91)
600001629	PEMBROOKE ST SEWER REPL-DESIGN PHASE	10-Nov-17	n/a	0.00	10,000.00	\$0.00	(\$10,000.00)
600001641	FAIRVIEW CLAYTON PARK BRIDGEVIEW I/I RED	28-Nov-17	18-Apr-18	2,559,532.69	2,661,000.00	\$0.00	(\$101,467.31)
600001642	WW LATERAL LINING 2018	28-Nov-17	2-May-18	1,980,203.32	1,970,800.00	\$9,403.32	\$0.00
600001647	HHSPs SURGE SUPPRESSION INVESTIGATION	15-Jan-18	n/a	103,224.32	140,000.00	\$0.00	(\$36,775.68)
600001661	HHSP MAIN WW INFLUENT GATE ACTUATORS	29-Jan-18	n/a	127,675.24	130,000.00	\$0.00	(\$2,324.76)
600001665	ATWWTF SEPTAGE COMPACTOR REPLACEMENT	8-Feb-18	n/a	60,000.00	60,000.00	\$0.00	\$0.00
600001667	NORTHWEST ARM SEWER REHAB-ADDIT'L WORK	28-May-18	n/a	121,276.02	119,702.00	\$1,574.02	\$0.00
600001668	WW SYS-TRENCHLESS REHABILITATION PROGRAM	8-Feb-18	18-Apr-18	1,189,952.34	1,189,900.00	\$52.34	\$0.00
600001669	CORONATION WW LATERAL REPLACEMENT	18-Jun-18	n/a	102,065.03	100,000.00	\$2,065.03	\$0.00
600001674	MANHOLE RENEWALS WW EAST 18/19	1-Apr-18	25-Apr-18	0.00	9,000.00	\$0.00	(\$9,000.00)
600001675	MANHOLE RENEWALS WW WEST 18/19	1-Apr-18	25-Apr-18	0.00	8,000.00	\$0.00	(\$8,000.00)
600001676	MANHOLE RENEWALS WW CENTRAL 18/19	1-Apr-18	25-Apr-18	0.00	8,000.00	\$0.00	(\$8,000.00)
600001677	LATERAL REPL (non tree roots) EAST 18/19	1-Apr-18	25-Apr-18	702,999.38	550,000.00	\$152,999.38	\$0.00
600001678	LATERAL REPL (non tree roots) CTRL 18/19	1-Apr-18	25-Apr-18	431,351.88	550,000.00	\$0.00	(\$118,648.12)
600001679	LATERAL REPL (non tree roots) CTRL 18/19	1-Apr-18	25-Apr-18	202,537.67	550,000.00	\$0.00	(\$347,462.33)
600001680	LATERAL REPLACE (tree roots) EAST 18/19	1-Apr-18	25-Apr-18	154,089.44	200,000.00	\$0.00	(\$45,910.56)
600001681	LATERAL REPLACE (tree roots) WEST 18/19	1-Apr-18	25-Apr-18	250,505.88	200,000.00	\$50,505.88	\$0.00
600001682	LATERAL REPLACE (tree roots) CTRL 18/19	1-Apr-18	25-Apr-18	6,107.82	120,000.00	\$0.00	(\$113,892.18)
	WET WEATHER MANAGEMENT PROGRAM 18/19	30-May-18	n/a	50,074.29	225,000.00	\$0.00	(\$174,925.71)
600001692	WW PS COMPONENT REPL PROGRAM-CENTRAL	20-Sep-18	n/a	147,596.01	150,000.00	\$0.00	(\$2,403.99)
600001703	HWWTF DUCT WORK REPLACEMENT	9-May-18	n/a	26,896.47	27,000.00	\$0.00	(\$103.53)

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Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/19	Project Budget	Over Budget	(Under Budget)
600001705	DWWTF DUCT WORK REPLACEMENT	9-May-18	n/a	42,200.62	43,000.00	\$0.00	(\$799.38)
600001706	HCWWTF DUCT WORK REPLACEMENT PROGRAM	9-May-18	n/a	29,478.29	30,000.00	\$0.00	(\$521.71)
600001707	HCWWTF DENSADEG FLOW METERS	8-May-18	n/a	11,994.85	20,000.00	\$0.00	(\$8,005.15)
600001710	MCWWTF RAS PIPING REPLACEMENT	28-Feb-18	n/a	249,780.25	245,000.00	\$4,780.25	\$0.00
600001717	FALL RIVER/LOCKVIEW WWTF-DRIVEWAY REPL	25-Sep-18	n/a	36,538.61	38,000.00	\$0.00	(\$1,461.39)
600001722	WW PS-NSPI METER RELOCATIONS	8-Feb-18	n/a	38,838.60	39,000.00	\$0.00	(\$161.40)
600001725	SIR PRG FLOW METERS & REL EQUIP 18/19	1-Apr-18	25-Apr-18	22,974.21	25,000.00	\$0.00	(\$2,025.79)
600001727	SEWER CONDITION ASSESSMENT 18/19	30-Jul-18	n/a	169,647.71	170,000.00	\$0.00	(\$352.29)
600001728	CORPORATE FLOW MONITORING PROGRAM 18/19	19-Mar-18	16-Apr-18	1,559,588.63	1,563,000.00	\$0.00	(\$3,411.37)
600001729	FLEET UPGRADE 18/19 (WW)	1-Apr-18	25-Apr-18	561,378.31	564,000.00	\$0.00	(\$2,621.69)
600001730	TIMERLEA WWTF RBC REPAIR	21-Feb-18	n/a	106,932.40	120,000.00	\$0.00	(\$13,067.60)
600001736	BISSETT FORCEMAIN REPL-AC PIPE REMOVAL	11-Apr-18	31-Oct-18	293,936.84	304,000.00	\$0.00	(\$10,063.16)
600001740	SINCLAIR ST/LORNE AVE WW IP 1819	5-Feb-18	5-Apr-18	183,705.19	180,000.00	\$3,705.19	\$0.00
600001745	ROLEIKA DR WW IP 1819	5-Feb-18	5-Apr-18	17,398.02	17,500.00	\$0.00	(\$101.98)
600001748	WOODCREST AVE WW IP 1819	5-Feb-18	5-Apr-18	23,502.66	24,000.00	\$0.00	(\$497.34)
600001750	GARDEN ST WW IP 1819	5-Feb-18	5-Apr-18	19,638.02	19,500.00	\$138.02	\$0.00
600001751	ROBIE ST WW IP 1819	5-Feb-18	5-Apr-18	86,549.89	87,500.00	\$0.00	(\$950.11)
600001752	SUMAC/LAURENTIDE/LAUREL DR WW IP 1819	5-Feb-18	5-Apr-18	263,099.27	265,500.00	\$0.00	(\$2,400.73)
600001753	MAITLAND ST WW IP 1819	5-Feb-18	5-Apr-18	0.00	6,000.00	\$0.00	(\$6,000.00)
600001754	FALL RIVER WWTF WATER LINE INSTALLATION	19-Jun-18	n/a	69,749.89	84,000.00	\$0.00	(\$14,250.11)
600001756	RIDGEVIEW DR WW IP 1819	5-Feb-18	5-Apr-18	30,084.37	30,500.00	\$0.00	(\$415.63)
600001759	MCWWTF - PS SIDING & ASPHALT	26-Apr-18	n/a	38,971.68	40,000.00	\$0.00	(\$1,028.32)
600001760	450-455 COWIE OFFICES-ADDT'L WORK STNS	24-Apr-18	n/a	9,941.04	10,000.00	\$0.00	(\$58.96)
600001761	HIGH ST WW IP 18/19	27-Apr-18	5-Apr-18	25,606.12	26,000.00	\$0.00	(\$393.88)
600001762	MIDDLE MUSQUODOBOIT WWTF UPGRADE UV SYS	16-May-18	n/a	10,298.65	15,000.00	\$0.00	(\$4,701.35)
	EMERG PS PUMP REPL-GREENWOOD/VILLAGE RD	28-Jun-18	n/a	13,156.63	14,000.00	\$0.00	(\$843.37)
600001765	TRENCHLESS REHAB PROGRAM - PART 2	28-Jun-18	n/a	233,916.87	238,000.00	\$0.00	(\$4,083.13)
600001766	FAIRVIEW/CLAYTON PK/BRIDGEVIEW I/I- PT 2	28-Jun-18	n/a	249,330.35	244,000.00	\$5,330.35	\$0.00
600001769	MC EMERGENCY OVERFLOW OUTFALL PIPE REPL	16-Jul-18	n/a	2,106.58	2,090.00	\$16.58	\$0.00
600001771	AT BIOSOLIDS PROCESSING FAC-CS1 CONVEYOR	24-Jul-18	n/a	80,052.60	95,000.00	\$0.00	(\$14,947.40)
600001772	SOUTH PARK ST WW IP 18/19	8-Aug-18	5-Apr-18	7,717.03	10,000.00	\$0.00	(\$2,282.97)
600001774	COBURG @ ROBIE ST WW IP 18/19	8-Aug-18	5-Apr-18	235,123.27	239,000.00	\$0.00	(\$3,876.73)
600001775	EMERG PUMP REBUILD AT FISH HATCHERY PS	17-Aug-18	n/a	28,230.57	28,000.00	\$230.57	\$0.00
600001777	EMERG PS PUMP REPL-PIER A WW PS	5-Sep-18	n/a	68,174.48	73,000.00	\$0.00	(\$4,825.52)
600001778	600001778 MCWWTF-LAB DISHWASHER REPLACEMENT	13-Sep-18	n/a	2,046.63	2,500.00	\$0.00	(\$453.37)
600001780	EMERGENCY PS PUMP REPL-DUFFUS ST WW PS	20-Sep-18	n/a	72,910.43	72,500.00	\$410.43	\$0.00
	EMERGENCY PS PUMP REPL-MANN ST	20-Sep-18	n/a	19,969.35	20,000.00	\$0.00	(\$30.65)
600001802	EMERGENCY PS PUMP REPL-HC WWTF	2-Oct-18	n/a	72,948.95	73,000.00	\$0.00	(\$51.05)
600001806	PIER A CSP EQUIPMENT PROGRAM	18-Oct-18	n/a	47,513.55	70,000.00	\$0.00	(\$22,486.45)
600001809	EMERG PS PUMP REPL-ATL SCHOOL OF THEOLOG	29-Oct-18	n/a	55,846.88	55,000.00	\$846.88	\$0.00
600001812	HWWTF MAIN ACCESS GATE UPGRADE	16-Nov-18	n/a	10,309.93	25,000.00	\$0.00	(\$14,690.07)
600001821	CATAMARAN DR WW IP 18/19	21-Nov-18	5-Apr-18	18,124.76	18,000.00	\$124.76	\$0.00

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Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/19	Project Budget	Over Budget	(Under Budget)
600001822	DWWTF CN DRIVEWAY CROSSING RENEWAL	22-Nov-18	n/a	17,309.80	17,200.00	\$109.80	\$0.00
600001840	MUNROE SUBDIVISION-SEWER MAIN REPL	20-Dec-18	n/a	41,571.80	42,000.00	\$0.00	(\$428.20)
600001841	1 ROACH'S POND TRASH RACK-ADDT'L COSTS	21-Jan-19	n/a	26,555.20	23,000.00	\$3,555.20	\$0.00
600001845	EMERG PS PUMP REPL-CENTRAL (3 LOCATIONS)	29-Jan-19	n/a	22,314.68	22,100.00	\$214.68	\$0.00
600001937	HOST STATIC WEBSITE - PH 1 WW	31-Mar-19	n/a	198,529.00	187,400.00	\$11,129.00	\$0.00
600001938	PORTFOLIO & PROJECT LIFECYCLE MGMT (WW)	31-Mar-19	n/a	141,948.88	152,000.00	\$0.00	(\$10,051.12)
600001939	DESKTOP COMPUTER REPLACEMENT 1819 (WW)	31-Mar-19	25-Apr-18	136,258.68	116,000.00	\$20,258.68	\$0.00
600001940	NETWORK INFRASTRUCTURE UPGRADES 1819 W	31-Mar-19	25-Apr-18	88,079.31	88,000.00	\$79.31	\$0.00
600001941	1 GIS UPDATING FOR CLOSED WO 1819 (WW)	31-Mar-19	n/a	12,686.41	12,800.00	\$0.00	(\$113.59)
600001942	REC DRAWING PROD FOR CLOSED WO 1819 (WW)	31-Mar-19	n/a	1,378.13	1,400.00	\$0.00	(\$21.87)
600001946	GIS APPL SUPPORT PROG-FORMS (WW)	31-Mar-19	n/a	14,329.28	14,400.00	\$0.00	(\$70.72)
600001947	GIS DATUM AND PROJECTION PROJ (WW)	31-Mar-19	n/a	22,368.58	24,000.00	\$0.00	(\$1,631.42)
600001948	SHAREPOINT 18/19 (WW)	31-Mar-19	n/a	37,273.90	40,000.00	\$0.00	(\$2,726.10)
600001949	BUILDING CAPITAL IMPROVEMENTS (WW)	31-Oct-18	n/a	40,327.78	39,400.00	\$927.78	\$0.00
600001950	RESID PORTION OF CMMS (WW)	31-Mar-19	n/a	187,757.82	188,000.00	\$0.00	(\$242.18)
600001951	1 ASSET MANAGEMENT PROGRAM PH 2 (WW)	31-Mar-19	n/a	18,790.01	19,500.00	\$0.00	(\$709.99)
	Mostowater Conital Difference			\$42,083,843.82	\$43,427,192.00	\$339,110.14	(\$1,682,458.32)
	Wastewater Capital Difference					(\$1,3	43,348.18)
700000692	2 WATER DATABASE MODEL (SW)	18-Apr-16	n/a	0.00	5,000.00	\$0.00	(\$5,000.00)
700001022	STORM SEWER CONDITION ASSESSMENT	18-Apr-17	n/a	149,667.39	150,000.00	\$0.00	(\$332.61)
700001046	CULVERT REPLACEMENT LUCASVILLE RD	28-Feb-17	n/a	138,358.31	139,000.00	\$0.00	(\$641.69)
700001047	CULVERT REPLACEMENT COBEQUID RD	28-Feb-17	n/a	160,078.96	155,403.00	\$4,675.96	\$0.00
700001051	1 BADGER AVE SW IP 17/18	6-Mar-17	n/a	59,405.95	72,500.00	\$0.00	(\$13,094.05)
700001061	1 CLIFF ST SW IP 17/18	6-Mar-17	n/a	34,279.06	34,500.00	\$0.00	(\$220.94)
700001066	WHITE BIRCH DR SW IP 17/18	6-Mar-17	n/a	87,372.66	87,500.00	\$0.00	(\$127.34)
700001084	18/19 CROSS CULVERT REPLAC PROG-DESIGN	3-Jul-17	n/a	0.00	50,000.00	\$0.00	(\$50,000.00)
700001122	DOYLE ST STORM SEWER	29-Aug-18	2-Nov-18	687,341.50	636,000.00	\$51,341.50	\$0.00
700001123	MANHOLE RENEWALS SW EAST 18/19	1-Apr-18	25-Apr-18	0.00	7,000.00	\$0.00	(\$7,000.00)
700001124	4 MANHOLE RENEWALS SW WEST 18/19	1-Apr-18	25-Apr-18	7,553.09	7,000.00	\$553.09	\$0.00
700001125				7,555.05	,,000.00		
	MANHOLE RENEWALS SW CENTRAL 18/19	1-Apr-18	25-Apr-18	0.00	7,000.00	\$0.00	(\$7,000.00)
700001126	MANHOLE RENEWALS SW CENTRAL 18/19 CATCHBASIN RENEWALS SW EAST 18/19	· · · · · · · · · · · · · · · · · · ·	<u> </u>	·		\$0.00 \$0.00	(\$7,000.00) (\$18,000.00)
		1-Apr-18	25-Apr-18	0.00	7,000.00		(\$7,000.00) (\$18,000.00) \$0.00
700001127	CATCHBASIN RENEWALS SW EAST 18/19	1-Apr-18 1-Apr-18	25-Apr-18 25-Apr-18	0.00 0.00	7,000.00 18,000.00	\$0.00	(\$18,000.00)
700001127 700001128	CATCHBASIN RENEWALS SW EAST 18/19 CATCHBASIN RENEWALS SW WEST 18/19	1-Apr-18 1-Apr-18 1-Apr-18	25-Apr-18 25-Apr-18 25-Apr-18	0.00 0.00 41,470.02	7,000.00 18,000.00 18,000.00	\$0.00 \$23,470.02	(\$18,000.00) \$0.00
700001127 700001128 700001129	5 CATCHBASIN RENEWALS SW EAST 18/19 7 CATCHBASIN RENEWALS SW WEST 18/19 8 CATCHBASIN RENEWALS SW CENTRAL 18/19	1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18	25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18	0.00 0.00 41,470.02 15,627.28	7,000.00 18,000.00 18,000.00 14,000.00	\$0.00 \$23,470.02 \$1,627.28	(\$18,000.00) \$0.00 \$0.00
700001127 700001128 700001129 700001130	CATCHBASIN RENEWALS SW EAST 18/19 CATCHBASIN RENEWALS SW WEST 18/19 CATCHBASIN RENEWALS SW CENTRAL 18/19 DIATERAL REPLACEMENTS SW EAST 18/19	1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18	25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18	0.00 0.00 41,470.02 15,627.28 0.00	7,000.00 18,000.00 18,000.00 14,000.00 5,000.00	\$0.00 \$23,470.02 \$1,627.28 \$0.00	(\$18,000.00) \$0.00 \$0.00 (\$5,000.00)
700001127 700001128 700001129 700001130 700001131	CATCHBASIN RENEWALS SW EAST 18/19 7 CATCHBASIN RENEWALS SW WEST 18/19 8 CATCHBASIN RENEWALS SW CENTRAL 18/19 9 LATERAL REPLACEMENTS SW EAST 18/19 0 LATERAL REPLACEMENTS SW WEST 18/19	1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18	25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18	0.00 0.00 41,470.02 15,627.28 0.00	7,000.00 18,000.00 18,000.00 14,000.00 5,000.00 5,000.00	\$0.00 \$23,470.02 \$1,627.28 \$0.00 \$0.00	(\$18,000.00) \$0.00 \$0.00 (\$5,000.00) (\$5,000.00)
700001127 700001128 700001129 700001130 700001131 700001133	CATCHBASIN RENEWALS SW EAST 18/19 7 CATCHBASIN RENEWALS SW WEST 18/19 8 CATCHBASIN RENEWALS SW CENTRAL 18/19 9 LATERAL REPLACEMENTS SW EAST 18/19 1 LATERAL REPLACEMENTS SW WEST 18/19 1 LATERAL REPLACEMENTS SW CENTRAL 18/19	1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18	25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18	0.00 0.00 41,470.02 15,627.28 0.00 0.00	7,000.00 18,000.00 18,000.00 14,000.00 5,000.00 5,000.00	\$0.00 \$23,470.02 \$1,627.28 \$0.00 \$0.00	(\$18,000.00) \$0.00 \$0.00 (\$5,000.00) (\$5,000.00) (\$5,000.00)
700001125 700001125 700001125 700001136 700001131 700001133	CATCHBASIN RENEWALS SW EAST 18/19 7 CATCHBASIN RENEWALS SW WEST 18/19 8 CATCHBASIN RENEWALS SW CENTRAL 18/19 9 LATERAL REPLACEMENTS SW EAST 18/19 1 LATERAL REPLACEMENTS SW WEST 18/19 1 LATERAL REPLACEMENTS SW CENTRAL 18/19 3 DRIVEWAY CULVERT REPLACEMENTS EAST 18/19	1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18	25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18	0.00 0.00 41,470.02 15,627.28 0.00 0.00 0.00 208,498.88	7,000.00 18,000.00 18,000.00 14,000.00 5,000.00 5,000.00 5,000.00 300,000.00	\$0.00 \$23,470.02 \$1,627.28 \$0.00 \$0.00 \$0.00 \$0.00	(\$18,000.00) \$0.00 \$0.00 (\$5,000.00) (\$5,000.00) (\$5,000.00) (\$91,501.12)
700001128 700001128 700001139 700001130 700001131 700001134 700001134	CATCHBASIN RENEWALS SW EAST 18/19 CATCHBASIN RENEWALS SW WEST 18/19 CATCHBASIN RENEWALS SW CENTRAL 18/19 CATCHBASIN RENEWALS SW CENTRAL 18/19 CATCHBASIN RENEWALS SW EAST 18/19 CATERAL REPLACEMENTS SW WEST 18/19 LATERAL REPLACEMENTS SW CENTRAL 18/19 CATCHARL REPLACEMENTS SW CENTRAL 18/19 CORNEWAY CULVERT REPLACEMENTS WEST 18/19 CORNEWAY CULVERT REPLACEMENTS WEST 18/19	1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18 1-Apr-18	25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Apr-18 25-Jul-18	0.00 0.00 41,470.02 15,627.28 0.00 0.00 0.00 208,498.88 217,660.93	7,000.00 18,000.00 18,000.00 14,000.00 5,000.00 5,000.00 5,000.00 300,000.00 195,000.00	\$0.00 \$23,470.02 \$1,627.28 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$22,660.93	(\$18,000.00) \$0.00 \$0.00 (\$5,000.00) (\$5,000.00) (\$5,000.00) (\$91,501.12) \$0.00

April 1, 2018 - March 31, 2019

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/19	Project Budget	Over Budget	(Under Budget)
700001139	CULVERT REPL-WINDGATE DR near civic 107	4-Jun-18	n/a	27,495.08	80,000.00	\$0.00	(\$52,504.92)
700001140	CULVERT REPL-ORCHARD DR near civic 32	4-Jun-18	n/a	37,223.83	37,000.00	\$223.83	\$0.00
700001141	CULVERT REPL-NOTTINGHAM DR near civic 53	4-Jun-18	n/a	31,774.91	26,800.00	\$4,974.91	\$0.00
700001142	CULVERT REPL-PENNY LANE @ WINDSOR DR	8-Aug-18	n/a	81,490.06	82,500.00	\$0.00	(\$1,009.94)
700001143	CULVERT REPL-KNIGHT BRIDGE @ BUCKINGHAM	4-Jun-18	n/a	21,097.20	17,000.00	\$4,097.20	\$0.00
700001144	CULVERT REPL-ALLENBY DR near civic 34	4-Jun-18	n/a	30,039.35	22,400.00	\$7,639.35	\$0.00
700001146	CULVERT REPL-MINNA DR near civic 6	4-Jun-18	n/a	21,682.10	17,600.00	\$4,082.10	\$0.00
700001148	CULVERT REPL-STELLA CRT, near civic 1	16-Oct-18	n/a	24,869.95	27,000.00	\$0.00	(\$2,130.05)
700001149	CULVERT REPL-RAMAR DR near civic 6	8-Aug-18	n/a	81,613.40	84,000.00	\$0.00	(\$2,386.60)
700001150	CULVERT REPL-ST MARG'S BAY RD (2nd C LK)	4-Jun-18	n/a	54,122.42	46,800.00	\$7,322.42	\$0.00
700001151	CULVERT REPL-ROSS RD near civic 241	4-Jun-18	n/a	22,036.06	15,400.00	\$6,636.06	\$0.00
700001152	CULVERT REPL-CLARENCE AVE @ HOWARD	8-Aug-18	n/a	61,160.06	63,000.00	\$0.00	(\$1,839.94)
700001153	CULVERT REPL-CLARENCE AVE near MORRIS	8-Aug-18	n/a	62,655.95	64,000.00	\$0.00	(\$1,344.05)
700001154	CULVERT REPL-BRAESIDE AVE near civic 2	4-Jun-18	n/a	51,792.82	47,000.00	\$4,792.82	\$0.00
700001155	CULVERT REPL-COW BAY RD near civic 1174	8-Aug-18	n/a	37,610.93	50,000.00	\$0.00	(\$12,389.07)
700001156	CULVERT REPL-SHORE RD near civic 1796	8-Aug-18	n/a	67,587.05	88,000.00	\$0.00	(\$20,412.95)
700001157	CULVERT REPL-HINES RD near civic 195	4-Jun-18	n/a	23,336.62	24,000.00	\$0.00	(\$663.38)
700001160	STORM SEWER CONDITION ASSESSMENT	30-Jul-18	n/a	112,223.29	110,000.00	\$2,223.29	\$0.00
700001162	FLEET UPGRADE 18/19 (SW)	1-Apr-18	25-Apr-18	232,307.55	236,000.00	\$0.00	(\$3,692.45)
700001171	SINCLAIR ST/LORNE AVE SW IP 1819	1-Apr-08	5-Apr-18	87,125.36	87,500.00	\$0.00	(\$374.64)
700001176	ELMRIDGE/STAYNER/OVERBROOK DR SW IP 1819	1-Apr-08	5-Apr-18	306,407.86	309,000.00	\$0.00	(\$2,592.14)
700001180	EMSCOTE DR/MACLEOD DR SW IP 1819	1-Apr-08	5-Apr-18	145,519.12	147,000.00	\$0.00	(\$1,480.88)
700001182	GARDEN ST SW IP 1819	1-Apr-08	5-Apr-18	51,763.61	13,000.00	\$38,763.61	\$0.00
700001183	ROBIE ST SW IP 1819	1-Apr-08	5-Apr-18	12,239.44	14,000.00	\$0.00	(\$1,760.56)
700001184	SUMAC/LAURENTIDE DR SW IP 1819	1-Apr-08	5-Apr-18	58,946.34	60,000.00	\$0.00	(\$1,053.66)
700001185	HOMECREST TERRACE SW IP 1819	1-Apr-08	5-Apr-18	39,200.81	40,000.00	\$0.00	(\$799.19)
700001189	RIDGEVIEW DR SW IP 1819	1-Apr-08	5-Apr-18	78,348.10	78,500.00	\$0.00	(\$151.90)
700001190	LAKELAND / PINEHAVEN ST SW IP 1819	1-Apr-08	5-Apr-18	152,816.48	153,000.00	\$0.00	(\$183.52)
700001192	COCKBURN/MAYFAIR./STEEVES SW IP 1819	1-Apr-08	5-Apr-18	173,338.39	175,000.00	\$0.00	(\$1,661.61)
700001196	HIGH ST SW IP 18/19	27-Apr-18	5-Apr-18	9,360.33	10,000.00	\$0.00	(\$639.67)
700001198	CHALAMONT DR SW IP 18/19	27-Apr-18	n/a	120,262.67	120,500.00	\$0.00	(\$237.33)
700001200	MANCHESTER DR (near civic 3) CULVERT REP	4-Jun-18	n/a	23,020.60	21,000.00	\$2,020.60	\$0.00
700001201	WINDSOR DR (near civic 234) CULVERT REP	4-Jun-18	n/a	21,942.83	20,000.00	\$1,942.83	\$0.00
700001202	COBURG @ ROBIE ST SW IP 18/19	8-Aug-18	n/a	109,537.84	77,000.00	\$32,537.84	\$0.00
700001224	CULVERT REPL-BRISTOL AVE, near civic 47	16-Oct-18	n/a	21,759.60	25,000.00	\$0.00	(\$3,240.40)
700001225	CULVERT REPL-BUCKINGHAM DR, civic 115	16-Oct-18	n/a	25,842.93	27,000.00	\$0.00	(\$1,157.07)
700001226	CULVERT REP-KINGSWOOD DR, near civic 370	16-Oct-18	n/a	44,170.77	45,000.00	\$0.00	(\$829.23)
700001227	CULVERT REPL-SHERWOOD DR, near civic 15	16-Oct-18	n/a	22,939.73	26,000.00	\$0.00	(\$3,060.27)
700001260	MANSION AVE STORM SEWER RENEWAL	2-Jan-19	n/a	39,365.38	39,365.00	\$0.38	\$0.00
700001331	HOST STATIC WEBSITE - PH 1 SW	31-Mar-19	n/a	49,632.25	46,850.00	\$2,782.25	\$0.00
700001332	PORTFOLIO & PROJECT LIFECYCLE MGMT (SW)	31-Mar-19	n/a	35,487.22	38,000.00	\$0.00	(\$2,512.78)
700001333	DESKTOP COMPUTER REPLACEMENT 1819 (SW)	31-Mar-19	25-Apr-18	34,064.67	29,000.00	\$5,064.67	\$0.00

April 1, 2018 - March 31, 2019

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/19	Project Budget	Over Budget	(Under Budget)
700001334	NETWORK INFRASTRUCTURE UPGRADES 1819 SW	31-Mar-19	25-Apr-18	22,019.83	22,000.00	\$19.83	\$0.00
700001335	GIS UPDATING FOR CLOSED WO 1819 (SW)	31-Mar-19	n/a	3,171.60	3,200.00	\$0.00	(\$28.40)
700001336	REC DRAWING PROD FOR CLOSED WO 1819 (SW)	31-Mar-19	n/a	344.52	350.00	\$0.00	(\$5.48)
700001337	GIS APPL SUPPORT PROG-FORMS (SW)	31-Mar-19	n/a	3,582.31	3,600.00	\$0.00	(\$17.69)
700001338	GIS CHANGE DATUM AND PROJECT PROJ (SW)	31-Mar-19	n/a	5,592.15	6,000.00	\$0.00	(\$407.85)
700001339	SHAREPOINT 18/19 (SW)	31-Mar-19	n/a	9,318.47	10,000.00	\$0.00	(\$681.53)
700001340	COWIE OFFICES-ADDN'L WORK STNS (SW)	31-Mar-19	n/a	2,485.26	2,500.00	\$0.00	(\$14.74)
700001341	BUILDING CAPITAL IMPROVEMENTS (SW)	31-Oct-18	n/a	10,081.94	9,850.00	\$231.94	\$0.00
700001342	RESID PORTION OF CMMS (SW)	31-Mar-19	n/a	46,939.47	47,000.00	\$0.00	(\$60.53)
700001343	ASSET MANAGEMENT PROGRAM PH 2 (SW)	31-Mar-19	n/a	6,263.34	6,500.00	\$0.00	(\$236.66)
	Stormwater Capital Difference	\$5,106,700.79	\$5,126,118.00	\$315,862.31	(\$335,279.52)		
	Stormwater Capital Difference			(\$1	9,417.21)		

Net Difference	\$65,780,187.79	\$67,270,100.69	\$1,305,925.30	(\$2,795,838.20)
Net Difference			(\$1,4	89,912.90)

	Capital Project Spending Summary April 1, 2018 - March 31, 2019							Attachment #2				
Tab #	Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/17	Staged Design	Tender / Construction	Total Project Budget	Project Adjustments	Revised Total Project Budget	Over Budget	(Under Budget)
* 1	300001880	JD KLINE HEAT RECOVERY STUDY & UPGRADE	16-Jan-14	7-Oct-13	840,791.70	\$0	\$0	\$550,000.00	\$575,000	\$1,125,000	\$0	(\$284,208)
* 2	300002282	SCADA MASTER PLAN IMPLEMENTATION	29-Oct-15	21-Dec-15	211,483.58	\$0	\$0	\$250,000.00	(\$18,700)	\$231,300	\$0	(\$19,816)
* 3	300002681	HOST STATIC WEBSITE PH 1	28-Nov-17	4-May-18	249,641.11	\$0	\$0	\$234,250.00		\$234,250	\$15,391	\$0
* 4	300002687	EMSCOTE/MACLEOD WM RENEWAL 18/19	2-Jan-18	5-Apr-18	403,194.71	\$0	\$0	\$405,800.00		\$405,800	\$0	(\$2,605)
* 5	300002689	WOODCREST WM RENEWAL 18/19	2-Jan-18	5-Apr-18	373,850.74	\$0	\$0	\$343,900.00	\$32,000	\$375,900	\$0	(\$2,049)
* 6	300002692	SINCLAIR ST WM RENEWAL 18/19	2-Jan-18	5-Apr-18	726,044.01	\$0	\$0	\$772,350.00	(\$53,000)	\$719,350	\$6,694	\$0
* 7	300002694	RIDGEVIEW WM RENEWAL 18/19	2-Jan-18	5-Apr-18	443,086.42	\$0	\$0	\$463,500.00	(\$20,000)	\$443,500	\$0	(\$414)
* 8	300002706	PORTFOLIO & PROJECT LIFECYCLE	5-Feb-18	16-Apr-18	177,436.10	\$0	\$0	\$190,000.00		\$190,000	\$0	(\$12,564)
* 9	300002714	LEAD SERVICE LINE REPLACEMENT 18/19	1-Apr-18	25-Apr-18	1,124,473.56	\$0	\$0	\$600,000.00		\$600,000	\$524,474	\$0
10	300002734	JDK RAW WATER INTAKE SCREEN REPL PROG	17-Apr-18	14-Nov-18	1,156,766.32	\$0	\$0	\$100,000.00	\$1,130,000	\$1,230,000	\$0	(\$73,234)
11	300002774	DESKTOP COMPUTER REPL PROG	1-Apr-18	??	170,323.35	\$0	\$0	\$145,000.00		\$145,000	\$25,323	\$0
* 12	300002801	METERS 2018/19	1-Apr-18	25-Apr-18	465,008.33	\$0	\$0	\$460,000.00		\$460,000	\$5,008	\$0
13	300002809	RESIDUAL PORTION OF CMMS	5-Apr-18	15-Oct-15	234,697.30	\$0	\$0	\$235,000.00		\$235,000	\$0	(\$303)
* 14	300002802	FLEET UPGRADE 18/19 (W)	1-Apr-18	25-Apr-18	577,930.38	\$0	\$0	\$755,000.00	(\$175,000)	\$580,000	\$0	(\$2,070)
* 15	300002827	CATAMARAN RD WM RENEWAL 1819	29-Jun-18	5-Apr-18	279,461.27	\$0	\$0	\$220,000.00	\$58,000	\$278,000	\$1,461	\$0
* 16	300002828	PARKMOOR AVE WM RENEWAL 1819	29-Jun-18	5-Apr-18	321,497.86	\$0	\$0	\$246,000.00	\$76,000	\$322,000	\$0	(\$502)
17	300003002	AMI METERS 18/19	29-Apr-19	15-Oct-15	6,595,856.64	\$0	\$0	\$6,600,000.00	ļ	\$6,600,000	\$0	(\$4,143)
		Water Capital Difference			\$14,351,543	\$0	\$0	\$12,570,800	\$1,604,300	\$14,175,100	\$578,352	(\$401,908)
		Water Capital Difference			\$14,351,543	\$0	\$0	\$12,570,800	\$1,604,300	\$14,175,100		(\$401,908) 5,443
* 18	600000685	Water Capital Difference AEROTECH WWTF PRELIM DESIGN 12/13	27-Sep-12	22-Nov-12	\$14,351,543 1,062,310.69			\$12,570,800 \$600,000.00				
. 18	600000685		27-Sep-12 23-Oct-14	22-Nov-12 11-Feb-15					T	***************************************	\$176	5,443
		AEROTECH WWTF PRELIM DESIGN 12/13			1,062,310.69	\$0	\$0 \$0	\$600,000.00	\$455,000	\$1,055,000	\$7,311 \$0	\$0 (\$41,366)
19	600001085	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN	23-Oct-14	11-Feb-15	1,062,310.69 1,263,267.89	\$0 \$0	\$0 \$0	\$600,000.00 \$1,304,634.00	\$455,000	\$1,055,000 \$1,304,634	\$7,311 \$0	\$0 (\$41,366)
19 20	600001085 600001180	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT	23-Oct-14 21-Jul-15	11-Feb-15 17-Sep-15	1,062,310.69 1,263,267.89 427,503.49	\$0 \$0 \$0	\$0 \$0 \$0	\$600,000.00 \$1,304,634.00 \$4,285,000.00	\$455,000	\$1,055,000 \$1,304,634 \$427,503	\$176 \$7,311 \$0 \$0	\$0 (\$41,366) (\$0)
. 19 . 20	600001085 600001180 600001282	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION	23-Oct-14 21-Jul-15 29-Oct-15	11-Feb-15 17-Sep-15 21-Dec-15	1,062,310.69 1,263,267.89 427,503.49 241,497.05	\$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0	\$600,000.00 \$1,304,634.00 \$4,285,000.00 \$250,000.00	\$455,000 (\$3,857,497) \$5,072,497	\$1,055,000 \$1,304,634 \$427,503 \$250,000	\$176 \$7,311 \$0 \$0 \$0	\$0 (\$41,366) (\$0) (\$8,503)
. 19	600001085 600001180 600001282 600001359	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION Aerotech WWTF Upgrade Construction	23-Oct-14 21-Jul-15 29-Oct-15 19-Apr-16	11-Feb-15 17-Sep-15 21-Dec-15 22-Aug-16	1,062,310.69 1,263,267.89 427,503.49 241,497.05 21,181,876.36	\$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0	\$600,000,00 \$1,304,634,00 \$4,285,000,00 \$250,000,00 \$16,085,366,00	\$455,000 (\$3,857,497) \$5,072,497	\$1,055,000 \$1,304,634 \$427,503 \$250,000 \$21,157,863	\$176 \$7,311 \$0 \$0 \$0 \$0 \$24,014	\$0 (\$41,366) (\$0) (\$8,503)
20 21 22 23 23	600001085 600001180 600001282 600001359 600001380	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION Aerotech WWTF Upgrade Construction MCWWTF - UV Upgrade	23-Oct-14 21-Jul-15 29-Oct-15 19-Apr-16 9-Mar-16	11-Feb-15 17-Sep-15 21-Dec-15 22-Aug-16 5-Oct-16	1,062,310.69 1,263,267.89 427,503.49 241,497.05 21,181,876.36 1,608,344.99	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0	\$600,000.00 \$1,304,634.00 \$4,285,000.00 \$250,000.00 \$16,085,366.00 \$2,080,000.00	\$455,000 (\$3,857,497) \$5,072,497 (\$195,000)	\$1,055,000 \$1,304,634 \$427,503 \$250,000 \$21,157,863 \$1,885,000	\$176 \$7,311 \$0 \$0 \$0 \$0 \$24,014	\$0 (\$41,366) (\$0) (\$8,503) \$0 (\$276,655)
. 19	600001085 600001180 600001282 600001359 600001380 600001497	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION Aerotech WWTF Upgrade Construction MCWWTF - UV Upgrade SEWER CONDITION ASESSMENT	23-Oct-14 21-Jul-15 29-Oct-15 19-Apr-16 9-Mar-16 18-Apr-17	11-Feb-15 17-Sep-15 21-Dec-15 22-Aug-16 5-Oct-18	1,062,310.69 1,263,267.89 427,503.49 241,497.05 21,181,876.36 1,608,344.99 309,802.28	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0	\$600,000.00 \$1,304,634.00 \$4,285,000.00 \$250,000.00 \$16,085,366.00 \$2,080,000.00	\$455,000 (\$3,857,497) \$5,072,497 (\$195,000) \$10,000	\$1,055,000 \$1,304,634 \$427,503 \$250,000 \$21,157,863 \$1,885,000 \$310,000	\$7.311 \$0 \$0 \$0 \$0 \$0 \$24,014 \$0 \$0	\$0 (\$41,366) (\$0) (\$8,503) \$0 (\$276,655) (\$198)
20 21 22 23 24 25	600001085 600001180 600001282 600001359 600001380 600001497 600001626	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION Aerotech WWTF Upgrade Construction MCWWTF - UV Upgrade SEWER CONDITION ASESSMENT GLENDALE TO SACKVILLE TRUNK SEWER UPGR	23-Oct-14 21-Jul-15 29-Oct-15 19-Apr-16 9-Mar-16 18-Apr-17 1-Nov-17	11-Feb-15 17-Sep-15 21-Dec-15 22-Aug-16 5-Oct-16 9-May-17 4/16/2018 & 6/19/18	1,062,310.69 1,263,267.89 427,503.49 241,497.05 21,181,876.36 1,608,344.99 309,802.28 758,272.09	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	\$600,000.00 \$1,304,634.00 \$4,285,000.00 \$250,000.00 \$16,085,366.00 \$2,080,000.00 \$300,000.00	\$455,000 (\$3,857,497) \$5,072,497 (\$195,000) \$10,000	\$1,055,000 \$1,304,634 \$427,503 \$250,000 \$21,157,863 \$1,885,000 \$310,000	\$7,311 \$0 \$0 \$0 \$0 \$24,014 \$0 \$0	\$0 (\$41,366) (\$0) (\$8,503) \$0 (\$276,655) (\$198) (\$728)
. 19	600001085 600001180 600001282 600001359 600001380 600001497 600001626 600001641	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION Aerotech WWTF Upgrade Construction MCWWTF - UV Upgrade SEWER CONDITION ASESSMENT GLENDALE TO SACKVILLE TRUNK SEWER UPGR FAIRVIEW CLAYTON PARK BRIDGEVIEW I/I RED	23-Oct-14 21-Jul-15 29-Oct-15 19-Apr-16 9-Mar-16 18-Apr-17 1-Nov-17 28-Nov-17	11-Feb-15 17-Sep-15 21-Dec-15 22-Aug-16 5-Oct-16 9-May-17 4/16/2018 & 6/19/18 18-Apr-18	1,062,310.69 1,263,267.89 427,503.49 241,497.05 21,181,876.36 1,608,344.99 309,802.28 758,272.09 2,559,532.69	\$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 \$	\$600,000.00 \$1,304,634,00 \$4,285,000.00 \$250,000.00 \$16,085,366,00 \$2,080,000.00 \$300,000.00 \$25,000.00	\$455,000 (\$3,857,497) \$5,072,497 (\$195,000) \$10,000 \$734,000 \$2,636,000	\$1,055,000 \$1,304,634 \$427,503 \$250,000 \$21,157,863 \$1,885,000 \$310,000 \$759,000	\$176 \$7,311 \$0 \$0 \$0 \$0 \$24,014 \$0 \$0 \$0 \$0 \$0 \$24,014	\$0 (\$41,366) (\$0) (\$8,503) \$0 (\$276,655) (\$198) (\$728)
. 19	600001085 600001180 600001282 600001359 600001380 600001497 600001626 600001641 600001642	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION Aerotech WWTF Upgrade Construction MCWWTF - UV Upgrade SEWER CONDITION ASESSMENT GLENDALE TO SACKVILLE TRUNK SEWER UPGR FAIRVIEW GLAYTON PARK BRIDGEVIEW I/I RED WW LATERAL LINING 2018	23-Oct-14 21-Jul-15 29-Oct-15 19-Apr-16 9-Mar-16 18-Apr-17 1-Nov-17 28-Nov-17	11-Feb-15 17-Sep-15 21-Dec-15 22-Aug-16 5-Oct-16 9-May-17 4/16/2018 & 6/19/18 18-Apr-18 2-May-18	1,062,310.69 1,263,267.89 427,503.49 241,497.05 21,181,876.36 1,608,344.99 309,802.28 758,272.09 2,559,532.69 1,980,203.32	\$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 \$	\$600,000.00 \$1,304,634,00 \$4,285,000.00 \$250,000.00 \$16,085,366,00 \$2,080,000.00 \$300,000.00 \$25,000.00 \$25,000.00	\$455,000 (\$3,857,497) \$5,072,497 (\$195,000) \$10,000 \$734,000 \$2,636,000 \$1,945,800 (\$300,100)	\$1,055,000 \$1,304,634 \$427,503 \$250,000 \$21,157,863 \$1,885,000 \$310,000 \$759,000 \$2,661,000 \$1,970,800	\$7,311 \$0 \$0 \$0 \$0 \$0 \$24,014 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 (\$41,366) (\$0) (\$8,503) \$0 (\$276,655) (\$198) (\$728)
20 21 22 23 24 25 26 27 28	600001085 600001180 600001282 600001389 600001380 600001497 600001626 600001641 600001642	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION Aerotech WWTF Upgrade Construction MCWWTF - UV Upgrade SEWER CONDITION ASESSMENT GLENDALE TO SACKVILLE TRUNK SEWER UPGR FAIRVIEW CLAYTON PARK BRIDGEVIEW I/I RED WW LATERAL LINING 2018 WW SYS-TRENCHLESS REHABILITATION PROGRAM	23-Oct-14 21-Jul-15 29-Oct-15 19-Apr-16 9-Mar-16 18-Apr-17 1-Nov-17 28-Nov-17 8-Feb-18	11-Feb-15 17-Sep-15 21-Dec-15 22-Aug-16 5-Oct-16 9-May-17 4/16/2018 & 6/19/18 18-Apr-18 2-May-18	1,062,310.69 1,263,267.89 427,503.49 241,497.05 21,181,876.36 1,608,344.99 309,802.28 758,272.09 2,559,532.69 1,980,203.32 1,189,952.34	\$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 \$	\$600,000.00 \$1,304,634,00 \$4,285,000.00 \$250,000.00 \$16,095,366,00 \$2,080,000.00 \$25,000.00 \$25,000.00 \$25,000.00 \$25,000.00 \$21,490,000.00	\$455,000 (\$3,857,497) \$5,072,497 (\$195,000) \$10,000 \$734,000 \$2,636,000 \$1,945,800 (\$300,100)	\$1,055,000 \$1,304,634 \$427,503 \$250,000 \$21,157,863 \$1,885,000 \$310,000 \$759,000 \$2,661,000 \$1,970,800 \$1,189,900	\$176 \$7,311 \$0 \$0 \$0 \$0 \$24,014 \$0 \$0 \$0 \$0 \$0 \$24,014	\$0 (\$41,366) (\$0) (\$8,503) \$0 (\$276,655) (\$198) (\$728) \$0 (\$101,467) \$0
20 21 22 23 24 25 26 27 28 29	600001085 600001180 600001282 600001359 600001380 600001497 600001626 600001641 600001668 600001677	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION Aerotech WWTF Upgrade Construction MCWWTF - UV Upgrade SEWER CONDITION ASESSMENT GLENDALE TO SACKVILLE TRUNK SEWER UPGR FAIRVIEW CLAYTON PARK BRIDGEVIEW I/I RED WW LATERAL LINING 2018 WW SYS-TRENCHLESS REHABILITATION PROGRAM LATERAL REPL (non tree roots) EAST 18/19	23-Oct-14 21-Jul-15 29-Oct-15 19-Apr-16 9-Mar-16 18-Apr-17 1-Nov-17 28-Nov-17 8-Feb-18 1-Apr-18	11-Feb-15 17-Sep-15 21-Dec-15 22-Aug-16 5-Oct-16 9-May-17 4/16/2018 & 6/19/18 18-Apr-18 2-May-18 18-Apr-18	1,062,310.69 1,263,267.89 427,503.49 241,497.05 21,181,876.36 1,608,344.99 309,802.28 758,272.09 2,559,532.69 1,980,203.32 1,189,952.34 702,999.38	\$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 \$	\$600,000,000 \$1,304,634,00 \$4,285,000,00 \$250,000,00 \$2,000,000,00 \$2,000,000 \$25,000,00 \$25,000,00 \$25,000,00 \$1,490,000,00	\$455,000 (\$3,857,497) \$5,072,497 (\$195,000) \$10,000 \$734,000 \$2,636,000 \$1,945,800 (\$300,100)	\$1,055,000 \$1,304,634 \$427,503 \$250,000 \$21,157,863 \$1,885,000 \$310,000 \$759,000 \$1,970,800 \$1,189,900 \$550,000	\$176 \$7,311 \$0 \$0 \$0 \$24,014 \$0 \$0 \$0 \$0 \$0 \$24,014 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$0 (\$41,366) (\$0) (\$8,503) \$0 (\$276,655) (\$198) (\$728) \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
. 19	600001085 600001180 600001282 600001359 600001380 600001497 600001626 600001641 600001642 600001668 600001677 600001678	AEROTECH WWTF PRELIM DESIGN 12/13 AWWTF EXPANSION & UPGRADE PH 1 - DESIGN AWWTF - MBR COMPONENT PROCUREMENT SCADA MASTER PLAN IMPLEMENTATION Aerotech WWTF Upgrade Construction MCWWTF - UV Upgrade SEWER CONDITION ASESSMENT GLENDALE TO SACKVILLE TRUNK SEWER UPGR FAIRVIEW CLAYTON PARK BRIDGEVIEW I/I RED WW LATERAL LINING 2018 WW SYS-TRENCHLESS REHABILITATION PROGRAM LATERAL REPL (non Iree roots) EAST 18/19	23-Oct-14 21-Jul-15 29-Oct-15 19-Apr-16 9-Mar-16 18-Apr-17 1-Nov-17 28-Nov-17 28-Nov-17 8-Feb-18 1-Apr-18	11-Feb-15 17-Sep-16 21-Dec-15 22-Aug-16 5-Oct-16 9-May-17 4/16/2018 & 6/19/18 18-Apr-18 2-May-18 18-Apr-18 25-Apr-18	1,062,310.69 1,263,267.89 427,503.49 241,497.05 21,181,876.36 1,608,344.99 309,802.28 758,272.09 2,559,532.69 1,980,203.32 1,189,952.34 702,999.38 431,351.88	\$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 \$	\$600,000.00 \$1,304,634.00 \$4,285,000.00 \$250,000.00 \$2,000,000.00 \$25,000.00 \$25,000.00 \$25,000.00 \$25,000.00 \$25,000.00 \$25,000.00 \$25,000.00	\$455,000 (\$3,857,497) \$5,072,497 (\$195,000) \$10,000 \$734,000 \$2,636,000 \$1,945,800 (\$300,100)	\$1,055,000 \$1,304,634 \$427,503 \$250,000 \$21,157,863 \$1,885,000 \$310,000 \$759,000 \$2,661,000 \$1,189,900 \$550,000	\$7,311 \$0 \$0 \$0 \$0 \$0 \$24,014 \$0 \$0 \$0 \$0 \$0 \$0 \$1 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$1 \$1 \$1 \$2 \$1 \$1 \$2 \$1 \$2 \$1 \$2 \$1 \$2 \$1 \$2 \$1 \$2 \$1 \$2 \$2 \$1 \$2 \$1 \$2 \$1 \$2 \$2 \$1 \$2 \$2 \$3 \$3 \$4 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5	\$0 (\$41,366) (\$0) (\$8,503) \$0 (\$276,655) (\$198) (\$728) (\$101,467) \$0 \$0 (\$118,648)

1

Capital Project Spending Summary
April 1, 2018 - March 31, 2019

			HRWC	HRWC Board	RWC Board	Amount Spent:	Staged	d Approvals	Total Project	Project	Revised Total		
	Tab #	Project Number	Project Name	Approval Date	NSUARB Approval Date	Cumulative to March 31/17	Design	Tender / Construction	Budget	Adjustments	Project Budget	Over Budget	(Under Budget)
ľ	34	600001682	LATERAL REPLACE (tree roots) CTRL 18/19	1-Apr-18	25-Apr-18	6,107.82	\$0	\$0	\$120,000.00		\$120,000	\$0	(\$113,892)
	35	600001728	CORPORATE FLOW MONITORING PROGRAM 18/19	19-Mar-18	16-Apr-18	1,559,588.63	\$0	\$0	\$1,700,000.00	(\$137,000)	\$1,563,000	\$0	(\$3,411)
	36	600001729	FLEET UPGRADE 18/19 (WW)	1-Apr-18	25-Apr-18	561,378.31	\$0	\$0	\$1,084,000.00	(\$520,000)	\$564,000	\$0	(\$2,622)
	37	600001736	BISSETT FORCEMAIN REPL-AC PIPE REMOVAL	11-Apr-18	31-Oct-18	293,936.84	\$0	\$0	\$150,000.00	\$154,000	\$304,000	\$0	(\$10,063)
	38	600001752	SUMAC/LAURENTIDE/LAUREL DR WW IP 1819	5-Feb-18	5-Apr-18	263,099.27	\$0	\$0	\$191,000.00	\$74,500	\$265,500	\$0	(\$2,401)
	39	600001937	HOST STATIC WEBSITE PH 1	28-Nov-17	4-May-18	198,529.00	\$0	\$0	\$187,400.00		\$187,400	\$11,129	\$0
	40	600001938	PORTFOLIO & PROJECT LIFECYCLE	5-Feb-18	16-Apr-18	141,948.88	\$0	\$0	\$152,000.00		\$152,000	\$0	(\$10,051)
	41	600001939	DESKTOP COMPUTER REPL PROG	1-Apr-18	??	136,258.68	\$0	\$0	\$116,000.00		\$116,000	\$20,259	\$0
	42	600001950	RESIDUAL PORTION OF CMMS	5-Apr-18	15-Oct-15	187,757.82	\$0	\$0	\$188,000.00		\$188,000	\$0	(\$242)
			Wastewater Capital Difference	1		\$37,672,653	\$0	\$0	\$32,408,400	\$6,072,200	\$38,480,600	\$275,673	(\$1,083,620)
			wasiewaiei Gapitai Dillerence									(\$80)	7,947)

Capital Project Spending Summary April 1, 2018 - March 31, 2019

			HRWC Board		Amount Spent:	Stage	d Approvals	Total Project	Project	Revised Total		
Tab #	Project Number	Project Name	Approval Date	NSUARB Approval Date	Cumulative to March 31/17	Design	Tender / Construction	Budget	Adjustments	Project Budget	Over Budget	(Under Budget)
43	700001122	DOYLE ST STORM SEWER	29-Aug-18	2-Nov-18	687,341.50	\$0	\$0	\$250,000.00	\$386,000	\$636,000	\$51,342	\$0
44	700001133	DRIVEWAY CULVERT REPL EAST 18/19	1-Apr-18	25-Jul-18	208,498.88	\$0	\$0	\$300,000.00		\$300,000	\$0	(\$91,501)
45	700001134	DRIVEWAY CULVERT REPL WEST 18/19	1-Apr-18	25-Jul-18	217,660.93	\$0	\$0	\$195,000.00		\$195,000	\$22,661	\$0
46	700001135	DRIVEWAY CULVERT REPL CENTRAL 18/19	1-Apr-18	25-Jul-18	386,177.60	\$0	\$0	\$300,000.00		\$300,000	\$86,178	\$0
47	700001162	FLEET UPGRADE 18/19 (SW)	1-Apr-18	25-Apr-18	232,307.55	\$0	\$0	\$271,000.00	(\$35,000)	\$236,000	\$0	(\$3,692)
48	700001176	ELMRIDGE/STAYNER/OVERBROOK DR SW IP 1819	1-Apr-08	5-Apr-18	306,407.86	\$0	\$0	\$309,000.00		\$309,000	\$0	(\$2,592)
49	700001331	HOST STATIC WEBSITE PH 1	28-Nov-17	4-May-18	49,632.25	\$0	\$0	\$46,850.00		\$46,850	\$2,782	\$0
50	700001332	PORTFOLIO & PROJECT LIFECYCLE	5-Feb-18	16-Apr-18	35,487.22	\$0	\$0	\$38,000.00		\$38,000	\$0	(\$2,513)
51	700001333	DESKTOP COMPUTER REPL PROG	1-Apr-18	??	34,064.67	\$0	\$0	\$29,000.00		\$29,000	\$5,065	\$0
52	700001342	RESIDUAL PORTION OF CMMS	5-Apr-18	15-Oct-15	46,939.47	\$0	\$0	\$47,000.00		\$47,000	\$0	(\$61)
			\$2,204,518	\$0	\$0	\$1,785,850	\$351,000	\$2,136,850	\$168,027	(\$100,359)		
		Stormwater Capital Difference									\$67	7,668
		Net Difference			\$54,228,714	\$0	\$0	\$46,765,050	\$8,027,500	\$54,792,550	\$1,022,052	(\$1,585,888)
		Not Difference									(\$56	3,836)



ITEM # 5.3 HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: *Original signed by:*

Jamie Hannam, P. Eng.

Director, Engineering & Information Services

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D, General Manager

DATE: November 21, 2019

SUBJECT: 450 Cowie Hill HVAC Controls Upgrade – Additional Funding

Request

ORIGIN

2017/2018 Capital Budget

RECOMMENDATION

It is recommended the Halifax Water Board approve additional funding of \$60,000 for the 450 Cowie Hill – HVAC Controls Upgrade Project for a revised total cost of \$285,000.

BACKGROUND & DISCUSSION

Capital work began in late 2017 to find a solution to replace two independent building control systems. The original Alerton control system was coming to the end of its life, while the newer Johnson Controls system was under performing and expensive to maintain.

In 2018 a solution was identified to replace the old Alerton and Johnson Control systems with new Alerton components to create a single integrated building control system. Work began in 2019.

During functional testing of the new control system, failed components from the original Alerton system were discovered and now require replacement.

The estimated cost to replace the malfunctioning components is \$60,000. The total revised project cost is \$285,000

BUDGET IMPLICATIONS

Funding in the amount of \$60,000 is available within the 2019/2020 Capital Budget Water-Energy Lake Major WSP – Process Area HVAC Upgrades. This original project is being re-scoped and therefore will be underspent in 2019/20.

The proposed expenditure meets the "No Regrets – Unavoidable Needs" approach of the 2012 Integrated Resource Plan.

ALTERNATIVES

There are no recommended alternatives.

ATTACHMENTS

- 1. 450 Cowie HVAC Controls Study GM Report (June 5, 2017)
- 2. 450 Cowie Hill HVAC Controls Upgrade Additional Funding (Dec. 12, 2018)

Report Prepared by: *Original signed by:*

Jeremy Stewart., BSc., P.Eng., CEM., CAPM., PMP.

Project Engineer, Energy & WWTI Engineering, 902-817-1327

Financial Reviewed by: *Original signed by:*

Allan Campbell, B. Comm, CPA, CMA,

Manager, Finance, 902-266-8655

ITEM # 5.3 HRWC Board November 28, 2019 Attachment 1



Page 1 of 2

TO:

Carl Yates M.A.Sc., P. Eng., General Manager

SUBMITTED BY:

Jamie Hannam, P. Eng.

Director, Engineering & Information Services

DATE:

June 5, 2017

SUBJECT:

450 Cowie – HVAC Controls Study

ORIGIN

The 2017/18 Capital Budget.

RECOMMENDATION

The General Manager approves the "450 Cowie – HVAC Controls Upgrade project" at an estimated cost of \$100,000.

BACKGROUND & DISCUSSION

The Halifax Water administration building located at 450 Cowie Hill Road, Halifax, was originally constructed in 2005 and was expanded to include a cafeteria, Environmental Services, and Engineering and IS staff in 2014. The original building has a Heating, Ventilation and Air Conditioning (HVAC) control system manufactured by Alerton. The new addition has an HVAC control system manufactured by Johnson Controls. Neither system has the ability to communicate with the other, both are proprietary software based systems, and offer little ability for Halifax Water to make independent system adjustments without engaging one or more service providers.

The proposed solution is to first look at the potential for replacement of one or both of the existing systems with a newer, more flexible and more open and accessible control system, and depending on final costs, implement the proposed solution. The initial analysis would also include a review of our existing air conditioning and heating systems to identify areas of operational constrain and inefficiencies, and to complete a Life Cycle Cost Analysis identifying potential operational, energy and cost savings.

The scope of this project would include the following:

- Examine the existing Alerton and Johnson Controls control systems and their current states. Identify options to modify/replace the existing controls with one centralized control system.
- Examine the existing HVAC systems and their current state. Identify potential energy and cost savings and create a Life Cycle Cost Analysis for the various options.
- Implementation of the new control system, including the necessary hardware, software and programming.

Any other areas or systems identified as potential solutions for improvement and operational cost savings would be considered and completed as part of future capital spending, and independent from this controls project.

The total project cost is estimated at \$100,000 including net HST.

BUDGET IMPLICATIONS

The 450 Cowie – HVAC Controls Study is expected to cost \$100,000 including net HST and overheads. \$100,000 in capital funding for this project was identified within the 2017/2018 (Corporate) Capital Budget under "CORPORATE - FACILITY -Heating/Ventilation Upgrades in New Phase 450 Cowie Hill Building", Item 4.076.

The proposed expenditures meets the "No Regrets – Unavoidable Needs" approach of the 2012 Integrated Resource Plan The proposed work meets the NR-UN criteria of the requirement to ensure infrastructure and system safety and integrity.

Approval: , P. Eng., General Manager

Report Prepared By:

Jeft Knapp, FEC, PEng, CEM, Manager, Energy Efficiency

Engineering & IS Department, 902-471-2791

Financial Approved by:

Allan Campbell, B. Comm, CPA, CMA, Manager, Finance

902-266-8655



ITEM # 5.3 HRWC Board November 28, 2019 Attachment 2

Page 1 of 2

TO:

Carl Yates, M.A.Sc., P. Eng., General Manager

SUBMITTED BY:

Jamie Hannam, P. Eng.

Director, Engineering & Information Services

DATE:

December 12, 2018

SUBJECT:

450 Cowie Hill HVAC Controls Upgrade - Additional Funding

ORIGIN

2017/18 Capital Budget

RECOMMENDATION

The General Manager approve additional funding of \$125,000 for the 450 Cowie Hill – HVAC Controls Upgrade Project for a revised total cost of \$225,000.

BACKGROUND & DISCUSSION

An engineering review and upgrade study of the existing HVAC Control System at 450 Cowie Hill Road has been completed. The goals of the study were to:

- 1. Examine the existing Alerton and Johnson Controls control systems in their current state. Identify options to modify/replace the existing controls with one centralized control system;
- 2. Examine the existing HVAC systems in their current state. Identify potential energy and cost savings and create a Life Cycle Cost Analysis for the various options.

The study identified improvements to the operability and lifecycle costs of the HVAC control system through implementing one centralized control system and performing upgrades to aging equipment. A total of \$20,000 has been spent to-date. The total estimated project cost of the recommended improvements is \$205,000, for a total revised project cost of \$225,000.

BUDGET IMPLICATIONS

The original funding allotment of \$100,000 was approved on June 5, 2017. Thus, an additional \$125,000 is required to complete the project.

Funding in the amount of \$30,000 is available under the JD Kline – 2nd Boiler Replacement Project (3-2704) and funding in the amount of \$95,000 is available under the JD Kline – HVAC System Upgrades Project (3-1880) (both projects have come in under budget).

The proposed expenditure meets the "No Regrets- Unavoidable Needs" approach of the 2012 Integrated Resource Plan. The proposed work meets the NR-UN criteria of "Ensures integrity and safety".

<u>A</u>	LTERNATIVES
Tl	nere are no recommended alternatives.
A	oproval: Jal Vates
	Carl Yates M.A.Sc., P. Eng., General Manager
D	ate: <u>Dec. 13/18</u>
	Λ ,
	Report Prepared By:
*	Jeremy Stewart, P. Eng., CEM., CAPM., Energy Engineer
	(902) 817-1327
	Financial Approved by:
	Allan Campbell, B. Comm, CPA, CMA, Manager, Finance (902) 266-8655



ITEM # 5.4 HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

Jamie Hannam, P. Eng.

Director, Engineering & Information Services

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D, General Manager

DATE: November 20, 2019

SUBJECT: Security – IT Foundations Project – Analysis Phase

ORIGIN

IT Strategic Plan – 2020/21 Roadmap

	Fiscal Year →	2019/20						
	Calendar Year/Month → Calendar Month →	2019						
		Apr-Jun	Jul-	Sep	Oct-Dec	Jan-Mar		
Thomas	Fiscal Quarter →	Q1	Q	2	Q3	Q4		
<u>Theme</u>	Project/Program name							
		IT serv	er hostin	g, Migrate	Apps, Manage V	endors		
		Inte	egrate S	Vice Des	sk and IT asset M	<u>amt</u>		
Saura IT	IT Foundations							
Secure IT Foundation		WIFI Infrastructi	ure in Po	wock				
				arate to	Office 365			
						MDM App		
	ERP Solution							
	IT Routine							

RECOMMENDATION

It is recommended the Halifax Water Board approve the budget increase for this project at an estimated increase of \$170,000 for a revised total project cost estimate of \$410,000.

BACKGROUND

The total estimated cost of the Security Project – Analysis Phase is \$410,000 including net HST.

A competitive RFQ process was used to select PWC as the security firm to lead this analysis. Preliminarily planning activities have been completed with PWC, and we have a better understanding of the total budget to complete the analysis phase of this project.

Additional funding of \$170,000 in addition to the previously approved \$240,000 is required to complete this phase of the project.

DISCUSSION

With water systems being such a vital part of public infrastructure, it is imperative that these systems be kept safe and secure. Besides the necessary physical security, a utility should also have effective security with regards to its computer systems – i.e. cyber security. Cyber security is a combination of technologies, processes and practices designed to protect networks, computers, programs and data from attack, damage or unauthorized access.

Halifax Water currently manages a number of policies and practices related to the delivery of IT security within the utility. However, given the pace of technological change today, it is easy for an organization to fall behind if processes are not in place to assess and continuously improve their IT security practices.

The American Water Works Association has stated that:

Cyber security is the top threat facing business and critical infrastructure in the United States, according to reports and testimony from the Director of National Intelligence, the Federal Bureau of Investigation and the Department of Homeland Security.

It is critical that Halifax Water assess its current security practices, implement the changes required to improve its overall security practice, and ensure there is a framework in place to continuously improve these practices going forward.

The purpose of the Security – IT Foundations Project, shown in the IT Strategic Plan 'Security', is to improve the overall IT Security Practices of Halifax Water and ensure a model for continuous improvement exists going forward.

This project will conduct the analysis and testing required to understand the strengths and weaknesses of our current Cyber Security Practices and develop a roadmap to manage their improvement

BUDGET IMPLICATIONS

Funding of \$240,000 was already approved using funds from 4.086: IT Foundations (\$100,000) and 4.087: Wi-Fi Infrastructure in Plants (\$140,000).

Additional funding for \$170,000 is available in the 2019/20 Capital budget for project number 4.091 Permit Approvals.

The proposed expenditure meets the "No Regrets – Unavoidable Needs" approach of the 2012 Integrated Resource Plan. The proposed work meets the NR-UN criteria of "directly supports the implementation of the Asset Management Program."

ALTERNATIVES

There are no recommended alternatives.

ATTACHMENT

Budget Allocation Table – Security Analysis Phase (Budget Estimate)

Report Prepared by: *Original signed by:*

Kirk MacDonald, PMP, Project Manager, IS, 902-497-0584

Financial Reviewed by: *Original signed by:*

Allan Campbell, B. Comm, CPA, CMA,

Manager, Finance, 902-266-8655



Budget Allocation Table

ITEM # 5.4 HRWC Board November 28, 2019 ATTACHMENT

Project Management Plan Known Cost Information

Budget Breakdown	dget Breakdown Project Duration: 290			Days		
Human Resources	Budget Type Effort or % Allocation	Effort on Project	Daily Rate	Cost of Engagement		
Project Manager	30%	90	\$900.00	\$81,000.00		
IS SME	10%	35	\$370.00	\$12,950.00		
Project Owner	5%	15	\$500.00	\$7,500.00		
		Total HR	Resource Costs	\$101,450.00		
Material Resources:	Quantity	Unit \$		Cost		
PWC Fixed Price Analysis	1	\$230,0	00.00	\$230,000.00		
Travel Expenses	5	\$2,000.00		\$10,000.00		
		Total Material	Resource Costs	\$240,000.00		
		SI	JB TOTAL (1)	\$341,450.00		
	Overhead & Interest		1%	\$3,414.50		
	IT Facility Overhead		3%	\$10,243.50		
	Net HST		4.286%	\$14,634.55		
	(Sub tota	Sl l 1 + interest, lease	JB TOTAL (2) costs and HST)	\$369,742.55		
	P1 Contingency (Subtotal 2 * contingency %)	P1 Contingency 10% (Subtotal 2 * contingency %)				
	\$406,716.80					
	\$410,000.00					



ITEM # 5.5 HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

Jamie Hannam, P. Eng.,

Director, Engineering & Information Services

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D, General Manager

DATE: November 21, 2019

SUBJECT: Lake Major WSP - New Alum Tank

ORIGIN

The 2019/2020 Capital Budget.

RECOMMENDATION

It is recommended the Halifax Water Board approves additional funding in the amount of \$206,000 for the Lake Major WSP - New Alum Tank project, for a revised estimated total cost of \$340,000.

BACKGROUND

The Lake Major Water Supply Plant Optimization study, completed in 2015, included a review of chemical feed infrastructure within the plant. A recommendation from the report included that a review of the Alum and Fluoride storage tanks be completed. Based on the age and condition of the tanks, it had been recommended that they be replaced. Also, an additional Alum tank is required to meet operational demand and satisfy logistic constraints with delivery of Alum.

DISCUSSION

Halifax Water contracted CBCL to complete the detailed design and tendering services for the replacement of the two existing Alum tanks and installation of one new Alum storage tank. As part of this work, it was recommended that non-destructive testing (NDT) of the existing tanks be completed to determine the anticipated life remaining. The NDT determined that the Alum tanks have at least 26 years of life remaining. Because of these results, the decision was made to proceed with the detailed design of adding one new tank to the current Alum system. This also includes adding a service platform, and replacing existing pipe and instrumentation that has reached the end of its serviceable life.

A variety of different bulk storage tank options were review including fiber-reinforced plastic (FRP), PVC, HDPE, and wood stave. The wood stave option was chosen due to the cost and ease of installation as the other three option would require significant structural modification to the building.

The estimated total cost of the Lake Major WSP - New Alum Tank project, including detailed design and tendering and construction is \$340,000 including net HST.

BUDGET IMPLICATIONS

Funding in the amount of \$155,000 was previously approved from the 2019/2020 Capital Budget under Lake Major WSP – New Alum and Fluoride Tanks. Approximately \$20,700 (Engineering/Design costs) has been allocated to the Fluoride Tank Project, which is to be included in the 2020/2021 Capital Budget. This leaves \$134,000 of approved amount available for the Alum Tank Project.

Additional funding in the amount of \$206,000 is available within the 2019/20 Capital Budget under the Peninsula Transmission Main. This project was proposed as a candidate for the Federal/Provincial Infrastructure Program. However, Halifax Water was not successful in receiving infrastructure funding for this project, thus, this project will not be proceeding this year.

The proposed expenditure meets the "No Regrets – Unavoidable Needs" approach of the 2012 Integrated Resource Plan. The proposed work meets the NR-UN criteria of Firm regulatory requirement and ensures integrity and safety.

ALTERNATIVES

There are no recommended alternatives.

ATTACHMENT

Cost Estimate

Report Prepared by: *Original signed by:*

Tom Gorman, P.Eng, Manager, Water Infrastructure Engineering & Information Service, 902-490-4176

Report Reviewed By: Original signed by:

Reid Campbell, M.Eng., P.Eng.

Director, Water Services, 902-490-4977

Financial Reviewed by: Original signed by:

Allan Campbell, B. Comm, CPA, CMA,

Manager, Finance, 902-266-8655

ALUM COST ESTIMATE

SUMMARY BUDGET					
Category Description	Total Project Cost Estimate (\$)				
	\$				
Construction Cost (Includes 15% contingency)	264,500.00				
	\$				
Engineering/Design Consulting Services 12	20,740.50				
	\$				
Construction Services/Record Package ²	8,779.45				
	\$				
NDP Testing	18,437.90				
	\$				
SUB-TOTAL	312,457.85				
	\$				
HST (4.286%)	3,391.94				
0 1 142	\$				
Overhead (1%)	3, 24.58				
SUB-TOTAL	229 074 27				
SUD-TOTAL	\$ 328,974.37				
HRWC Project Management/Technical	10,000.00				
The wear region with a general recinical	\$				
TOTAL	338,974.37				
	\$				
ROUNDED TOTAL	340,000.00				

¹ \$155,000 available in the 2019-2020 capital budget under 3-2753 of which \$134,259.50 is available for this project.

² 50% of construction/ ecord package cost presented in CBCL proposal (the remaining 50% is attributed to the fluoride tank)



ITEM # 6 HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

Jamie Hannam, P. Eng.

Director, Engineering & Information Services

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D,

General Manager

DATE: November 19, 2019

SUBJECT: Integrated Resource Plan

ORIGIN

The 2012 Integrated Resource Plan was completed under the direction of the NSUARB with the direction to update the Integrated Resource Plan on a 5 year cycle.

RECOMMENDATION

It is recommended that the Halifax Water Board endorse the 2019 Halifax Water Integrated Resource Plan.

BACKGROUND

Halifax Water completed its first comprehensive Integrated Resource Plan (IRP) in October 2012. Halifax Water defines integrated resource planning as a long-term planning initiative that incorporates the key drivers (asset renewal, compliance, and growth) across the water, wastewater, and stormwater infrastructure. Integration involves bringing together all factors that may influence the capital needs over the planning horizon. The IRP is essentially a "sustainable cost-effective capital infrastructure investment plan". Halifax Water initiated the Integrated Resource Plan Update project in fall 2018. The IRP is closely linked to several other corporate planning exercises including:

<u>Infrastructure Master Plan</u> – is a long-term infrastructure planning and engineering study to identify the optimal regional-level water and wastewater infrastructure implementation plan for Halifax Water to service growth until 2046.

<u>Asset Management Plans</u> – form the basis of outlining the current state of good repair and a projection of reinvestment needs over a 30-year horizon for fourteen (14) asset classes over the water, wastewater, and stormwater infrastructure systems.

<u>Compliance Plan</u> – recently completed draft of Halifax Water's Compliance Plan intended to provide understanding of the current state of compliance for the utility, emerging compliance issues, and plans to enable Halifax Water to meet current and future compliance requirements. The Compliance Plan covers water and wastewater infrastructure systems.

DISCUSSION

The 2019 Integrated Resource Plan Update is built on the foundation of the 2012 IRP and provides Halifax Water with the required programs and resources for a 30-year period covering each of the three drivers: Compliance, Asset Renewal and Growth. The total 30-year program recommended in the IRP Update is \$4,054 million. This represents a net present value (NPV) of \$2,691 million and a yearly average of approximately \$135 million for the next 30 years.

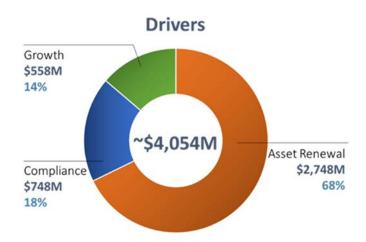


Figure 1 - 2019 IRP Recommended Expenditure by Driver

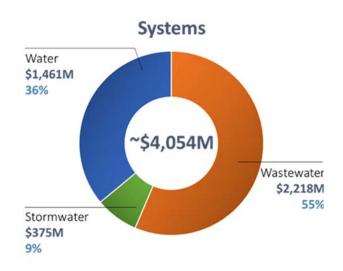


Figure 2 - 2019 Recommended Expenditure by Asset Class

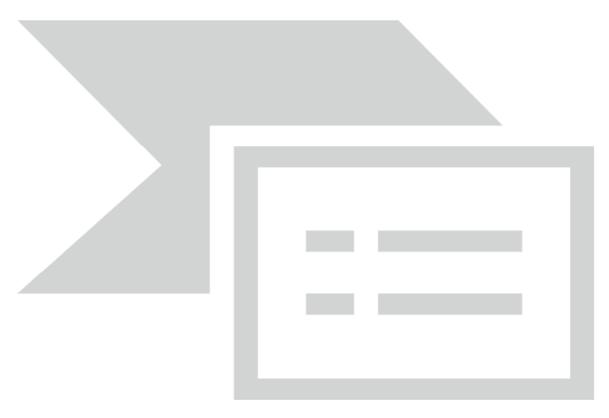


Figure 3 - 2019 IRP Recommended Expenditure by driver (cash flow)

BUDGET IMPLICATIONS

The IRP will guide development of future capital budgets; and will be used to update the utility's long term financial model and capital funding strategies.

ATTACHMENT

Attachment A – Executive Summary – Integrated Resource Plan

Report Prepared By: Original signed by:

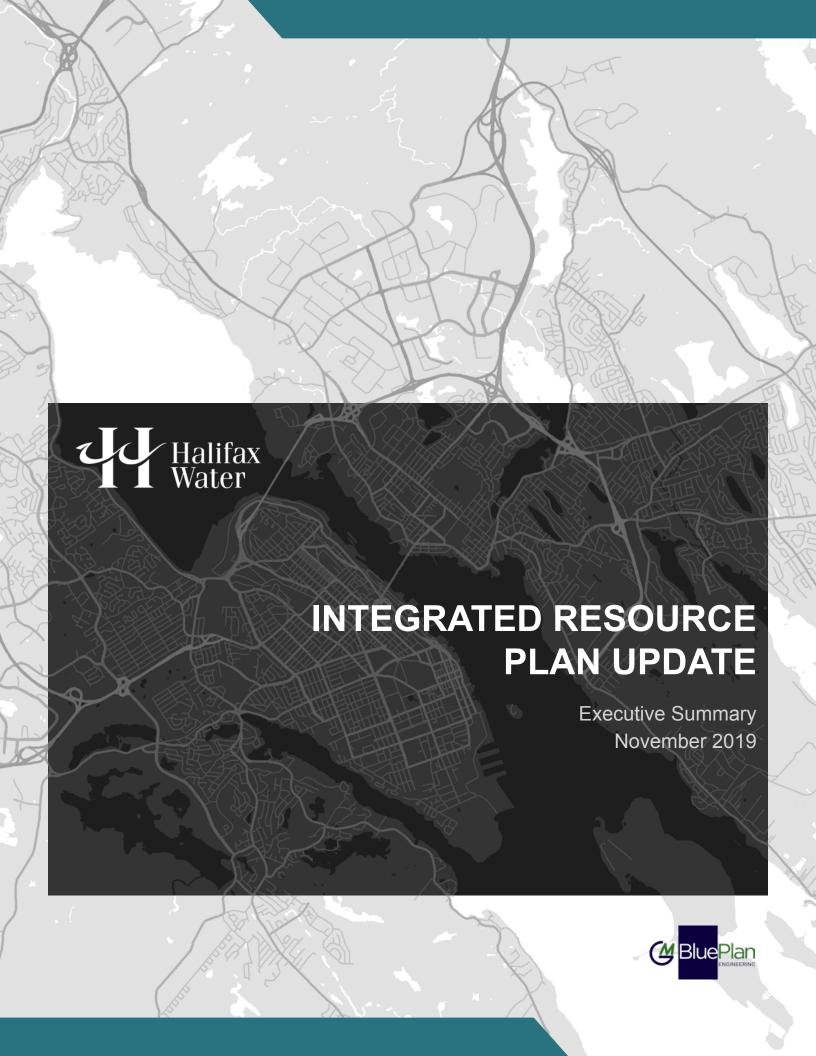
Heather Miller P. Eng., Project Manager, Asset Management

& Planning, 902-292-6469

Financial Reviewed by: *Original signed by:*

Louis de Montbrun, CPA, CA

Director, Corporate Services/CFO, 902-490-3685



EXECUTIVE SUMMARY

1.1 INTRODUCTION

Halifax Water is a publicly owned and regulated water, wastewater and stormwater utility. With a long history dating back to 1945, Halifax Water is the municipal water, wastewater and stormwater utility servicing residents of the Halifax Regional Municipality (HRM).

As part of its mandate and services, Halifax Water continuously undertakes initiatives and programs to maintain, operate and expand its systems while striving to provide world class service to its customers and environment. These initiatives and programs require integration into a single capital program that identifies the long-term resource needs and financial expenditures.

The long-term program is consolidated into a comprehensive document: The Integrated Resource Plan (IRP) for Halifax Water. As part of the IRP approach, it is intended to complete IRP updates at regular intervals to ensure the consolidated long-term program is current. This IRP update is a critical project that brings together projects, initiatives and programs from separate studies, into a singular integrated capital plan. This study applies the considerations of compliance, asset renewal and growth, to ensure the integrated recommendations achieve the desired service delivery goals, as well as identify any additional gaps and programs required in the long-term plan.

The IRP approach is a key component of Halifax Water's iterative planning process. The process was initiated in 2012 with the first IRP and continued with further understanding of the infrastructure systems and development of studies and frameworks, capital delivery and financial planning. The 2019 IRP Update is built on the foundation of the 2012 IRP and provides Halifax Water with the required programs and resources for a 30-year period covering each of the three drivers: Compliance, Asset Renewal and Growth.

The 2019 IRP Update will feed directly into Halifax Water's Business Plans, Capital and Operating Budgets and future rate applications. However, the 2019 IRP Update is it not intended to provide analysis of capital program impacts on the operating budget, debt, depreciation, rates and affordability as part of the development of the long-term capital program and implementation. Figure 1 shows graphically how the various key individual studies and plans feed into the Integrated Resource Plan process and output Halifax Water business planning and Regional Development Charge deliverables.

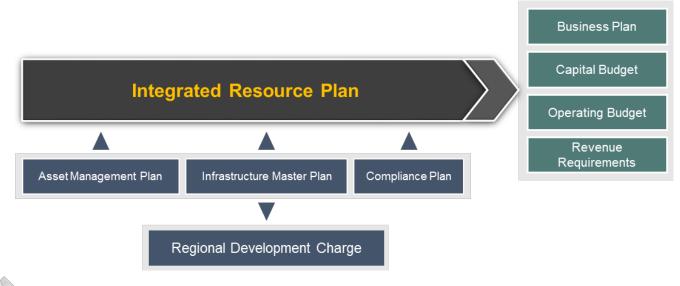


Figure 1 – Relationship of the Integrated Resource Plan to other initiatives

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1.2 GOALS AND OBJECTIVES

The 2019 IRP Update is a critical component of Halifax Water's financial and resource planning. The primary goal of the 2019 IRP Update is to combine the outputs from the foundational studies and programs (Infrastructure Master Plan, Compliance Plan, Asset Management Plan) to create one holistic project and study program that will inform Halifax Water activities for the next 5 years and provide a guide for the next 30 years.

In order to achieve this goal, the following key objectives were completed:

- Complete a baseline understanding from previous studies
- Complete detailed review of Supply Side Management (SSM) and Demand Side Management (DSM) options
- Coordinate and align needs identified in the Infrastructure Master Plan, Compliance Plan and Asset Management Plans
- Identify the projects and splits that meet the three drivers of Compliance, Asset Renewal and Growth.
- Provide the preliminary preferred long-term capital infrastructure program as an input into financial models
- Provide recommendations for future initiatives and improvements
- Create a foundation for ongoing capital budgeting processes

1.3 GOVERNANCE

Halifax Water is an autonomous, self-financed utility owned by HRM. Halifax Water owns, operates and maintains the water and wastewater systems within HRM, as well as the stormwater infrastructure located within the road right-of-way or easements owned by the utility. Halifax Water builds and maintains infrastructure to treat, deliver and move water across the region while servicing over 109,000 customers and employing approximately 500 people.

Two provincial bodies have responsibility for oversight of Halifax Water: Nova Scotia Utility and Review Board (NSUARB) and Nova Scotia Environment (NSE).

The NSUARB is an independent body with both regulatory and adjudicative jurisdiction. The NSUARB provides general supervision over all public water utilities within the Province, including involvement in rate setting, approval of large capital expenditure projects and reviewing complaints. The Board ensures projects meet the requirements of the public utilities act. When approving capital expenditures, the Board assesses, among other things, the need for the proposed project, the reasonableness of the expenditure, and the financial impact on the Utility and its customers.

NSE is the provincial government department that acts as environmental regulator ensuring public health and environmental quality. NSE oversees wastewater and water supply standards, issues approvals and audits compliance with standards. NSE specifically regulates drinking water quality as well as municipal and industrial discharges from wastewater treatment plants and other sources such as overflows.

In addition to the NSUARB and NSE, federal departments including Department of Fisheries and Oceans (DFO), Environment Canada (EC) and Health Canada (HC) may also play an oversight role for specific projects and activities.

1.4 HALIFAX WATER INFRASTRUCTURE

HRM is comprised of 18 community planning areas, spanning 5,500 km², with a total population of 411,014 people (2016 census estimate). The boundary of the 2019 IRP Update includes the existing and planned Central, East and West service areas for water and wastewater in HRM, as well as the stormwater service boundary as shown in Figure 2.

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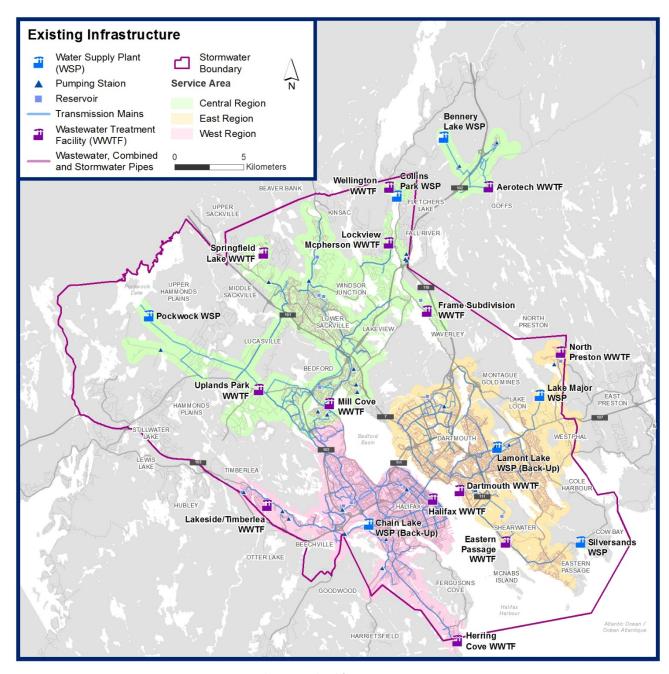


Figure 2 – Study Area and Halifax Water Systems Overview

Water System

Halifax Water provides drinking water and fire protection services to approximately 370,000 people. The water distribution system is made up of 1,558 km of watermains (including transmission and distribution mains), eight water supply plants (WSP), two back-up water supplies, six water supply dams, 21 booster stations and 143 chambers.

Wastewater System

The wastewater collection system is made up of 1,424 km of sewers (including forcemains and gravity sewers), 14 treatment plants, one biosolids processing facility and 166 pumping stations.

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Stormwater System

The stormwater collection system is made up of 878 km of storm sewers, 2,337 cross culverts, approximately 16,000 driveway culverts, and 40 stormwater management structures. The stormwater system is multi-jurisdictional, with the provincial and municipal governments, Halifax Water and private owners having distinct roles and responsibilities within the stormwater cycle. Table 1 presents the inventory of Halifax Water's infrastructure and the associated replacement cost.

Table 1 – Infrastructure Inventory and Replacement Costs

Asset Group	Asset*	Number/Length	Replacement Costs (\$ 2019 Millions)
	Water Distribution Mains	1235 km	\$1,384
	Water Transmission Mains	323 km	\$690
	Water Pumping Stations	21	\$17
Water	Chambers and PRV	143	\$50
Water	Water Reservoirs	16	\$95
	Dams	6	\$44
	Water Supply Plants	10**	\$306
	Water System Sub-Total	\$:	2,586
	Sewers	1296 km	\$1,714
	Forcemains	129 km	\$275
Mostowator	Pumping Stations	166	\$561
Wastewater	Holding Tanks	5	\$12
	Treatment Facilities	14	\$652
	Wastewater System Sub-Total	\$:	3,214
	Pipes	878 km	\$1,369
	Cross Culverts	2,337	\$268
Stormwater	Driveway Culverts	16,000	\$56
	Structures	40***	\$3
	Stormwater System Sub-Total	\$:	1,696
All Systems Total		\$	7,496

^{*} There are other categories of assets funded through the capital program that are not represented in Table 1 (e.g. Information systems and other corporate programs)

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^{**}Includes back up supply plants

^{***}Excludes Sullivans Pond and Ellenvale Run

1.5 2019 IRP DEVELOPMENT

The Integrated Resource Plan was a multi-step and iterative process. The key tasks and activities are represented graphically in Figure 3. The main approach to the development of the plan included the completion of the following tasks:

- Build on the foundation of the 2012 IRP and the projects, studies and work completed through its recommendations.
- Complete a baseline understanding from previous studies
 - o Review opportunities and constraints for the water, wastewater and stormwater systems
 - o Review underlying assumptions related to project triggers and servicing requirements
 - Identify data gaps
 - Consolidate recommendations from previous studies and identify potential conflicts and uncertainties
- Complete detailed review of Supply Side Management (SSM) and Demand Side Management (DSM) options
 - Review completed and ongoing initiatives
 - Review opportunities and constraints related to implementing public and private-side initiatives
 - Develop a range of short and long term potential initiatives
- Coordinate and align needs identified in the Infrastructure Master Plan, Compliance Plan and Asset Management Plans
 - o Consolidate full range of recommendations
 - o Identify opportunities for alignment and integration
 - Identify opportunities for merging projects or programs
- Utilize data and tools to help close gaps through data linkage and apply spatial allocation, prioritization and decision-making tools to review project integration opportunities.
- Identify the projects and splits that meet the three drivers of Compliance, Asset Renewal and Growth
 - Complete a project-by-project analysis of the project triggers and objectives
- Provide the preliminary preferred long-term capital infrastructure program as an input into financial models
 - Work iteratively and collaboratively with Halifax Water team to support the development of a long-term capital infrastructure plan based on the capital investment requirements for the three drivers
- Recommend a forward-looking long-term infrastructure plan that is traceable, defendable and implementable.
- Provide recommendations for future initiatives and improvements
 - Recognizing the process for future updates, identify opportunities for additional work, data and other updates that would benefit and enhance value for the future IRP Update
- Create a foundation for ongoing capital budgeting processes
 - Provide the deliverables in a format to be easily leveraged into Halifax Water processes and other analyses for capital delivery including budgeting
- Prepare a report that documents the development of the IRP Update.

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HALIFAX WATER INTEGRATED RESOURCE PLAN UPDATE PROCESS FLOW DIAGRAM

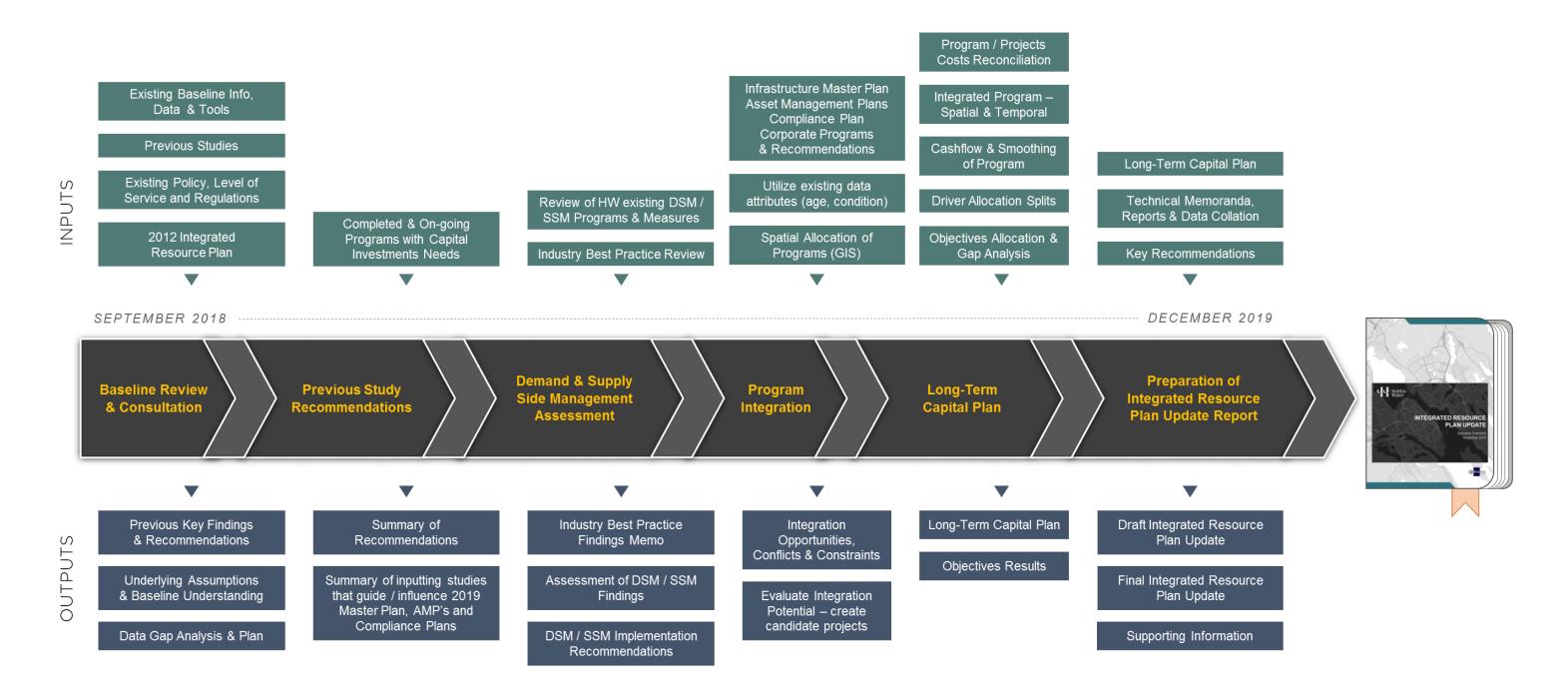


Figure 3 – 2019 Integrated Resource Plan Development – Process Flow Chart

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1.5.1 Drivers and Objectives

The 2019 IRP Update focuses on the three drivers:

Compliance Asset Renewal Growth

In support of the three drivers, fourteen objectives based on Halifax Water's level of service, compliance requirements (existing and future), asset renewal requirements, as well as other important considerations such as adaptation to climate change, system reliability and servicing growth were further identified. The IRP Update does not focus on Enterprise Risk Management (ERM) as a specific objective, however the risk lens is applied through consideration of objectives such as adaptation to climate change and system reliability. The IRP Update commenced prior to Halifax Water implementing formalized ERM. The outcomes of the ERM will be considered for future updates to the IRP and in the implementation of the IRP capital program.

Compliance

For the 2019 IRP Update the compliance driver has been divided into two main categories: Regulatory Compliance and Level of Service Compliance. Regulatory compliance is based on Halifax Water's goal to ensure, through their efforts, that appropriate measures are taken to be in conformity with current policies and regulations. The level of service component of compliance is based on Halifax Water aspiring to provide customers with high quality water, wastewater and stormwater services, in accordance with the Halifax Water vision.

Asset Renewal

Asset renewal encompasses the replacement or rehabilitation of an existing asset with the new asset capable of delivering the same or improved level of service. Asset renewal was the major strategic driver identified in the 2012 IRP and will continue as the main driver for the foreseeable future, all with the intention to elevate the level of service to customers and protect the environment.

Growth

Projected growth within greenfield and intensification areas is a fundamental component for the long-term infrastructure planning of the water, wastewater and stormwater systems. The 2012 IRP utilized high level growth estimates that were generated by HRM in collaboration with Halifax Water during the Regional Wastewater Functional Plan (RWWFP). The planning numbers were a key input into the creation of the infrastructure requirements in the RWWFP, but they were not subject to additional analysis during the development of the 2012 IRP.

Since the 2012 IRP, the Halifax Water project teams including HRM staff collaborated to define the planning projections dataset required to complete the Infrastructure Master Plan. Planning data and growth projections formed the baseline and growth demands on the systems, spanning the period from 2016-2046 (a 30-year planning horizon). Table 2 summarizes the HRM planning estimates as developed in the Infrastructure Master Plan.

Sub-boundary	Employment Growth (2016-2046)	Population Growth (2016-2046)	Total Growth (2016-2046)
Regional Centre	42,123	53,507	95,630
Suburban	36,963	77,706	114,669
Rural	6,877	17,000	23,877
Total	85,963	148,213	234,176
Service Area*	79,086	131,213	210,299

Table 2 – Halifax Regional Municipality Planning Estimates

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^{*}Excludes rural planning projections.

IRP Objectives

The fourteen objectives developed under the 2012 IRP were further reviewed under this update process. The objectives reflect a greater level of granularity and specific criteria related to the current and anticipated compliance requirements for the three infrastructure systems, optimal asset renewal requirements and growth. Through the development of the 2019 IRP Update, the fourteen 2012 IRP objectives were reviewed, refined and updated. Many of the 2012 objectives remain valid and have not changed with others requiring context update or change in main driver to better reflect the current and planned Halifax Water planning and delivery program. The 2019 IRP Update objectives are summarized in Table 3. Changes between the 2012 and 2019 objectives are highlighted in blue.

Table 3 – IRP Drivers and Objectives

Driv	Driver		Objective
		Wastewater	Meet or exceed current Nova Scotia Environment WWTF Permit to Operate Requirements
		Water	2. Meet or exceed current Nova Scotia Environment WSP Permit to Operate
	Regulatory	Wastewater Stormwater	3. Meet Current Overflow Compliance (Monitor and Report)
		Wastewater	4. Meet or exceed Future WWTF Compliance
Compliance		Water	5. Meet or exceed future drinking water compliance
		Wastewater Stormwater	6. Meet future overflow compliance
	Level of Service	Water Wastewater Stormwater	7. Endeavour to provide existing systems that are adequately sized to meet Halifax Water Level of Service
		Stormwater	8. Meet Future Stormwater Quality Compliance
		Water Wastewater Stormwater	9. Ensure planning and sizing of infrastructure considers the impact of climate change
		Water Wastewater Stormwater	10. Implement optimal level of asset re-investment
Asset Ro	Asset Renewal		11. Enhance the reliability, redundancy and security of the water, wastewater and stormwater systems with attention to high risk and critical areas
		Water Wastewater	12. Reduce energy consumption, operating costs and GHG contributions
C	a, th	Water Wastewater Stormwater	13. Provide regional water, wastewater and stormwater infrastructure needed to support planned growth
Gro	wtn	Water Wastewater	14. Manage flow and demand to maximize capacity for growth and minimize the need for new hard infrastructure

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1.5.2 Study Inputs

There are three major plans that served as the main inputs for the 2019 IRP Update: The Infrastructure Master Plan, Compliance Plan (CP) and Asset Management Plans (AMPs).

1.5.2.1 Infrastructure Master Plan

The Infrastructure Master Plan focuses on the servicing strategies and management of infrastructure in the Halifax Region, to produce an optimal servicing strategy for the wastewater collection and water supply networks to meet growth. The Infrastructure Master Plan is built off previous completed studies such as the West Region Wastewater Infrastructure Plan (WRWIP) and Regional Centre Local Wastewater Servicing Capacity Analysis (LoWSCA). The Infrastructure Master Plan incorporates the WRWIP and provides servicing strategies for the rest of the wastewater system servicing the Central and East Regions. The Infrastructure Master Plan then follows a similar approach for the water network, by formalizing the foundational policies of regional infrastructure planning in water infrastructure and forming a servicing strategy that covers the regional water network for Halifax Water.

The Infrastructure Master Plan is a key component of long-term planning, providing project costing and phasing. It included development/update of wastewater and water hydraulic models, conceptual designs for priority projects, and forms a work plan for adapting to climate change.

The Infrastructure Master Plan provided the following key inputs to the 2019 IRP Update:

- Planning projections and growth areas.
- Water and wastewater capital projects to 2046 including timing, cost estimates and spatial allocation.
- Wet Weather Management Study priority areas, best areas with potential for sewer separation, Rainfall derived inflow and infiltration (RDII) reduction, low impact development (LID) and CSO discharge reduction.
- Climate Change Vulnerability Assessment Framework

Major projects from the Infrastructure Master Plan include:

Wastewater

- Mill Cove WWTF Capacity Upgrade
- Dartmouth WWTF Capacity Upgrade and Flow Diversion to Eastern Passage
- Halifax WWTF Capacity Upgrade
- WRWIP: Fairview Cove Tunnel
- WRWIP: BLT Diversion to Halifax Peninsula
- Eastern Passage new Gravity Pressure Sewer upgrade
- Rainfall derived inflow and infiltration (RDII) reduction program across all regions
- Sewer Separation in Halifax and Dartmouth Areas

Water

- Pockwock Transmission Twinning (60in) & (54in)
- Bedford Burnside Lake Major and Pockwock system interconnection
- Water system extension to Bennery Lake
- Robie Transmission Main

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Figure 4 presents the total program and percentage split of water, wastewater and stormwater projects from the Infrastructure Master Plan as an input into the 2019 IRP Update.

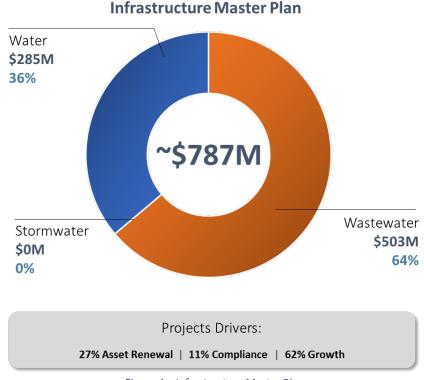


Figure 4 – Infrastructure Master Plan

1.5.2.2 Compliance Plan

The Compliance Plan provides a review of the current state of compliance of Halifax Water's infrastructure with federal, provincial and municipal level compliance requirements. The main goal of the compliance plan is to document the long term (30 years) infrastructure needs related to compliance and to ensure continued compliance requirements are met for wastewater, water and stormwater systems. The plan discusses and examines wastewater treatment facilities, wastewater collection systems, sanitary and combined sewer overflows, water supply plants, and water distribution systems including water storage reservoirs.

The Compliance Plan provides the following key inputs to the 2019 IRP Update:

- Current and future regulatory compliance requirements.
- Detailed treatment compliance assessment for WWTFs and WSPs.
- Capital program including timing, cost estimates and location.

Major projects from the Compliance Plan include:

- Halifax WWTF Upgrade to meet Wastewater Systems Effluent Regulations
- Dartmouth WWTF Upgrade to meet Wastewater Systems Effluent Regulations
- Herring Cove WWTF Upgrade to meet Wastewater Systems Effluent Regulations
- Corporate Flow Monitoring Program and Overflow Monitoring Program
- Wet Weather Management Program
- Lake Major and J.D. Kline WSP upgrades

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Figure 5 presents the total program and percentage split of water, wastewater and stormwater projects from the Compliance Plan as an input into the 2019 IRP Update.

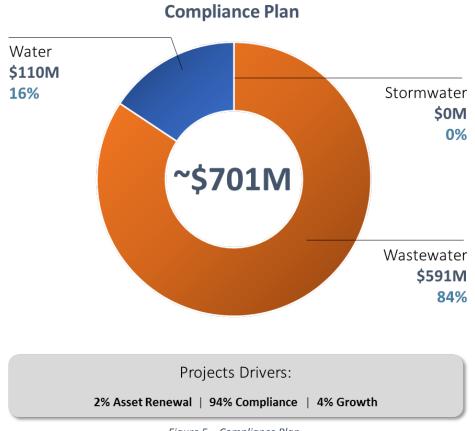


Figure 5 – Compliance Plan

1.5.2.3 Asset Management Plans

The Asset Management Plans (AMPs) provide a summary of asset inventory and state of Halifax Water's infrastructure, level of service the assets provide to the customers, infrastructure replacement and maintenance strategies, and associated costs and expenditures. Halifax Water currently updates the AMPs on an annual basis. The 2019 IRP Update focuses on the 2018/2019 AMPs which are expected to be published in Spring of 2020.

The AMPs main document structure consists of an "Overall Main Sections" component followed by individuals AMPs covering 14 different asset class as follows:

Water

- Supply Plants
- Supply Dams
- Chambers & Booster Stations
- Transmission Mains
- Distribution Mains
- Service Reservoirs

Wastewater

- Treatment Facilities
- Pumping Stations
- Gravity Sewers
- Forcemains

Stormwater

- Management Structures
- Gravity Sewers
- Cross Culverts
- Driveway Culverts and Ditches

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The AMPs provide the following key inputs to the 2019 IRP Update:

- Asset inventory and replacement costs for each asset class.
- Asset condition based on age/estimated service life, conditions assessments, site inspections, staff knowledge and discussions, depending on the available information for each asset class.
- Recommended 5-year detailed capital expenditures and a 30+ year average forecast for most asset classes.

Figure 6 presents the total program and percentage split of water, wastewater and stormwater projects from the Asset Management Plans as an input into the 2019 IRP Update.



Figure 6 – Asset Management Plans

1.6 LONG-TERM CAPITAL PLAN

The Long-Term Capital Plan (LTCP) was developed based on a six-step approach for program integration.

The first step was the development of the *Baseline Program* by compiling all individual projects from the study inputs into one comprehensive table including project specific information such as cost, year, drivers splits, objectives.

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The second step was to *Categorize Infrastructure Master Plan Projects* based on critically and timing to identify which projects could be advanced, delayed or have a fixed timing.

The third step was to identify *Candidates for Integration*. At this stage the objective was to identify projects that were happening at the same time and could be coordinated/bundled together, have critical timing, could align with state of good repair program, and/or require coordination with external influences.

The fourth step was the *Program Integration*. This step involved workshops with Halifax Water project team to review candidate projects for integration, provide an update on the process and confirm the integration program and approach.

The fifth step was the *Smoothing of the Program*. Once the program was reviewed and integration opportunities were confirmed, a smoothing process was completed to bring a realistic aspect to the program for implementation. This process consisted of flattening the cost expenditure peaks in the program by adding projects splits for multiple year expenditures to account for projects phases such as preliminary design, detailed design and construction over two years. This process by applied to projects greater than \$1 million dollars that were not already smoothed or programmed for multiple years.

The last step of the program integration process was the development of the *Final Program* and recommendations. The final program was provided to Halifax Water for inclusion in their financial model for debt, rate structure and affordability analysis.

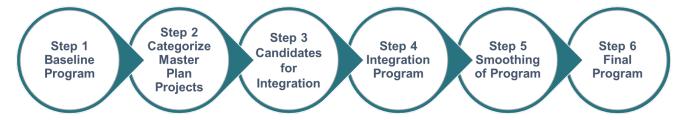


Figure 7 – LTCP - Program Integration Approach

1.6.1 LTCP Expenditure Summary

The total 30-year program recommended in the LTCP inclusive of capital and \$4,054 million. This represents a net present value (NPV) of \$2,691 million and a yearly average of approximately \$135 million for the next 30 years.

The timing of projected expenditures (in \$2019 dollars) is presented in Figure 8 which shows significant expenditures above the yearly average at key points in the next 30 years related to the following projects:

- Mill Cove Wastewater Treatment Plant Capacity Upgrade (2020-2022)
- Lake Major and J.D. Kline WSP upgrades (2020-2030)
- Pockwock Transmission Twinning 60in (2028-2031)
- Future Enhanced Overflow Program (2033-2042)
- Dartmouth WWTF Upgrade to meet Wastewater Systems Effluent Regulations (2035-2038)
- Herring Cove WWTF Upgrade to meet Wastewater Systems Effluent Regulations (2036-2039)
- Halifax WWTF Upgrade to meet Wastewater Systems Effluent Regulations (2037-2040)

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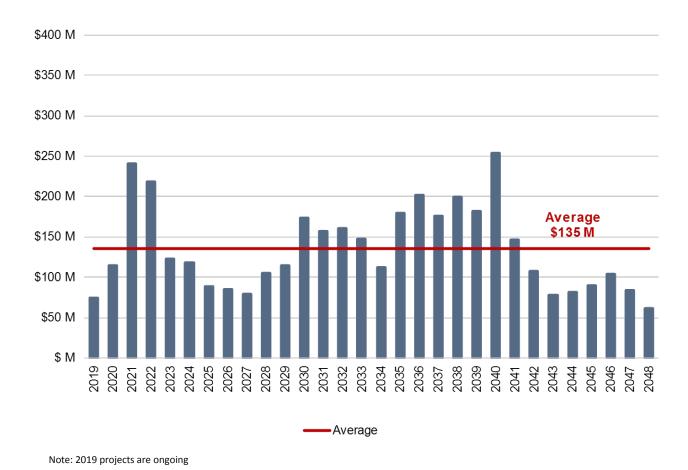


Figure 8 – 2019 IRP Recommended Expenditure by year

The projected expenditures by driver and system are shown in Figure 9 . Approximately 68% of the projected expenditures are associated with asset renewal and the remainder split between 14% for growth and 18% for compliance. 55% of the projected expenditures are associated with the wastewater system, while 36% are associated with the water system and 9% with the stormwater system.

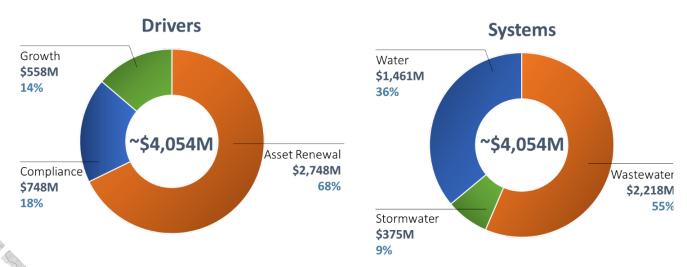


Figure 9 – 2019 IRP Recommended Expenditure by driver

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The timing of projected expenditures by driver (in \$2019 dollars) is presented in Figure 10 which shows the fluctuation of asset renewal requirements across the 30-year period. Growth projects are more concentrated in the first 4 years mainly related to Infrastructure Master Plan projects including the Eastern Passage new gravity pressure sewer, Mill Cove WWTF capacity upgrade and WRWIP projects. Compliance projects are mostly concentrated between 2035 and 2040, mainly related to the WWTF upgrades to meet WSER requirements and the Enhanced Overflow Program.

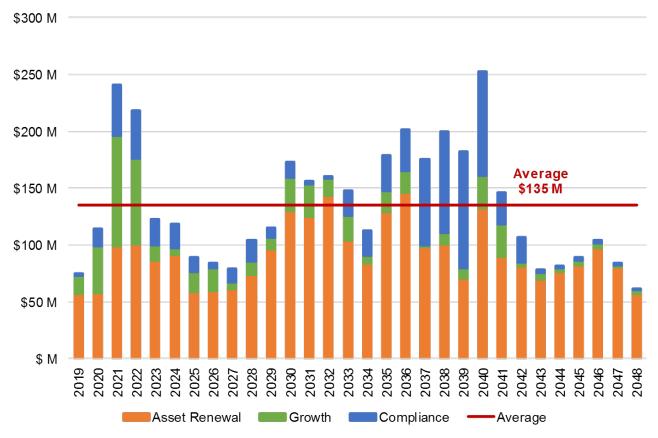


Figure 10 – 2019 IRP Recommended Expenditure by driver (cash flow)

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1.6.2 2019 IRP Comparison with the 2012 IRP

Figure 11 and Figure 12 present a comparison of the 2012 and 2019 Update Integrated Resource Plans.

2012 Integrated Resource Plan

Total Program ~\$3,920M (2012\$)

30-year Net Present Value ~\$2,579M

30-year Average ~\$131M



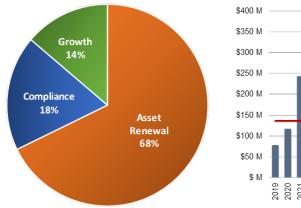
Figure 11 – 2012 Integrated Resource Plan

2019 Integrated Resource Plan

Total Program ~\$4,054M (2019\$)

30-year Net Present Value ~\$2,691M

30-year Average ~\$135M



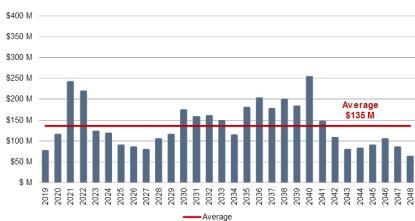


Figure 12 – 2019 Integrated Resource Plan

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The main differentiators between the two programs are:

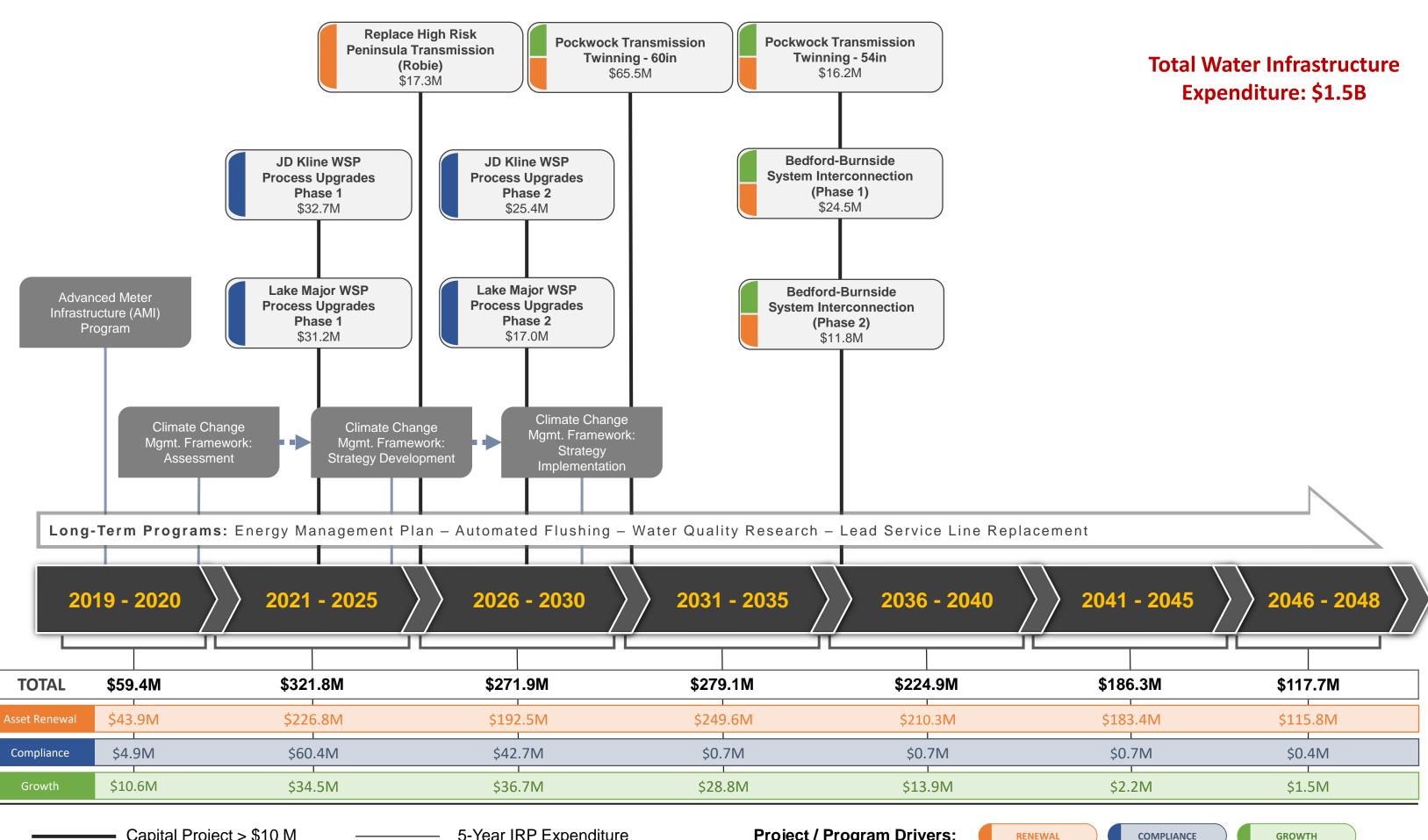
- The 2019 IRP Update program represents an increase of approximately \$220 million, in current year dollars, for the total cost of the program and represents an increase of the 30-year average by approximately \$8 million, in current year dollars.
- The projected asset renewal expenditures increased from 54% of the program in the 2012 IRP to 68% of the 2019 IRP Update program. This can be attributed to the significant effort Halifax Water has allocated to the development of formal asset management plans that are updated annually. This includes complete inventory of all assets, improved attribution of age, material and size, and initiation of condition assessments for some asset classes. In addition, the preparation of the 2019 Infrastructure Master Plan identified increased asset renewal requirements for water infrastructure. This works has enabled an update of the 2019 IRP driver allocation.
- The 2012 IRP program has significant peaks in expenditure related to WWTF upgrades to meet WSER
 and enhanced overflow program, among other projects. While the 2019 IRP Update program contains
 the same projects, the program has been smoothed to provide more realistic timing that accounts for
 project implementation phases such as preliminary design, detailed design and construction.

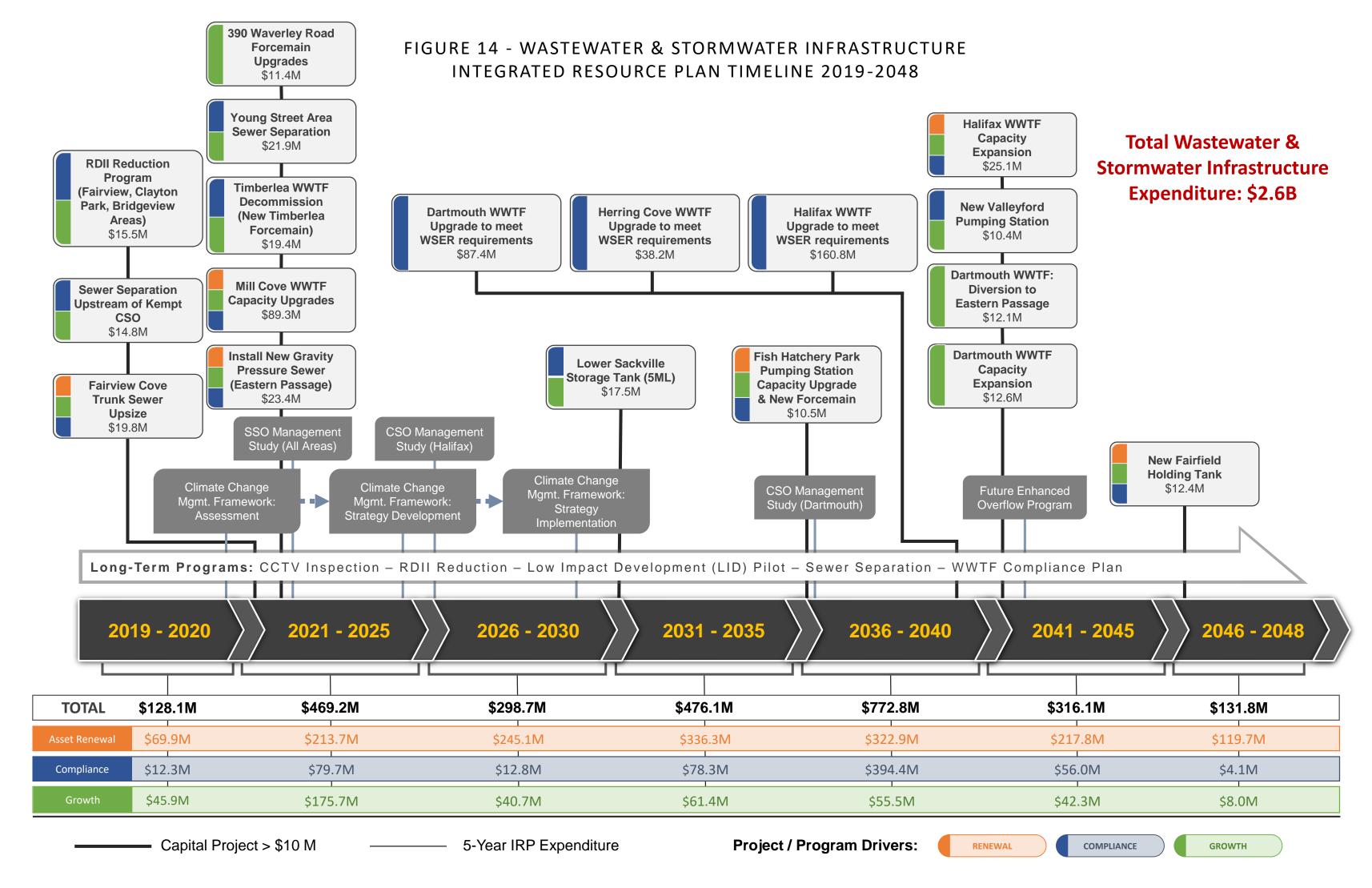
1.6.3 2019 IRP Update Timeline of Key Projects and Programs

Figure 13 and Figure 14 present a timeline to provide an overview of the total IRP program and highlights the key water, wastewater and stormwater infrastructure projects, studies and programs that are recommended for the next 30 years.

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FIGURE 13 - WATER INFRASTRUCTURE INTEGRATED RESOURCE PLAN TIMELINE 2019-2048





1.6.4 2019 IRP Long-Term Capital Plan Tables

The 2019 IRP Long-Term Capital Plan is presented in detail attached to the end of the Executive Summary. The LTCP contains project descriptions, estimated total cost, proposed year in service, source of project/program, drivers, drivers split allocation and objectives.

1.6.5 Integrated Resource Plan Strategy to Achieve Objectives

The projects and studies that form the Integrated Resource Plan program evidence the intent of Halifax Water to achieve each of the 14 Integrated Resource Plan objectives (Section 1.5.1).

Every project and study contained in the Integrated Resource Plan program table has been assessed to identify which Objective(s) the project or study helps to achieve. Where a project addresses multiple objectives, the association was ranked to identify the primary, secondary and tertiary objective to which the project applies.

The analysis was completed to support the identification of strengths and weaknesses in the program, helping to identify additional recommendations to achieve progress towards the objectives. The ring chart below (Figure 15) shows graphically the projects that address each objective. The colours show which objective group (compliance, renewal, growth) the specific objectives belong to.



Figure 15 – Ring Chart showing the relative number of projects and studies that address the Integrated Resource Plan objectives.

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The results of the analysis can be summarized as follows:

- The three drivers of Growth, Renewal and Compliance are all adequately addressed by the Integrated Resource Plan Program.
- Objectives 5, 8, 9 and 12 have minimal projects aimed at addressing them:
 - Objective 5 Meet future drinking water compliance: recommend that scope be included in the next iteration of the Compliance Plan to assess potential future scenarios and level of preparedness.
 - Objective 8 Meet future stormwater quality compliance: a study review is recommended to identify future possible scenarios.
 - Objective 9 Ensure planning and sizing of infrastructure considers the impact of climate change: an implementation plan is recommended (see Section 1.6.5.1) to ensure attainment this objective.
 - Objective 12 Reduce energy consumption, operating costs and GHG contributions: Associated with the Climate Change implementation plan it is recommended that an assessment be completed to assess GHG contributions and potential for reduction. The current Energy Management Strategy is recommended to be updated.

Table 4 outlines the approach to meet each of the 14 objectives, highlighting only the key actions required.

Table 4 – Integrated Resource Plan Key Actions to Achieve Objectives

Objective	Key Integrated Resource Plan Components
Meet or exceed current Nova Scotia Environment WWTF Permit to Operate Requirements	Implement Compliance Plan and Infrastructure Master Plan Project recommendations.
2. Meet or exceed current Nova Scotia Environment WSP Permit to Operate	Fully compliant. Continue review through the Compliance Plan, Water Quality Master Plan and Infrastructure Master Plan updates.
3. Meet Current Overflow Compliance (Monitor and Report)	Fully compliant with current requirements. Maintain up to date hydraulic model with 5 year Infrastructure Master Plan updates. Implement CSO flow monitoring program.
4. Meet or exceed Future WWTF Compliance	Implement Infrastructure Master Plan WWTF expansion projects (Dartmouth, Halifax and Mill Cove). Implement compliance plan projects to ensure compliance with future WSER requirements.
5. Meet or exceed future drinking water compliance	Implement Infrastructure Master Plan and Compliance Plan projects. Complete review of future scenarios.
6. Meet future overflow compliance	Complete Infrastructure Master Plan CSO and SSO Management Plan studies and Identify discharge frequency and volume targets for CSO's. Implement Infrastructure Master Plan I/I reduction projects considering pre and post CSO discharge impact assessment.
7. Endeavour to provide existing systems that are adequately sized to meet Halifax Water Level of Service	Update water hydraulic model in 2020 and update/recalibrate water and wastewater models every 5 years. Complete Stormwater Capacity Evaluation.
8. Meet future stormwater quality compliance	Complete study to review potential future regulatory scenarios.

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Objective	Key Integrated Resource Plan Components
Ensure planning and sizing of infrastructure considers the impact of climate change	Implement Climate Change framework.
10. Implement optimal level of asset re-investment	Complete condition assessment of water mains, sewers, and vertical facilities to enable condition-based renewal planning.
11. Enhance the reliability, redundancy and security of the water, wastewater and stormwater systems with attention to high risk and critical areas	Implement Water Infrastructure Master Plan preferred strategy, specifically transmission twinning, system interconnections, safe yield and back up supply studies.
12. Reduce energy consumption, operating costs and GHG contributions	Update Energy Management Strategy including the assessment of current GHG generation and establish targets for reduction.
13. Provide regional water, wastewater and stormwater infrastructure needed to support planned growth	Implement Infrastructure Master Plan preferred servicing strategy. Ensure 5-year updates to re-align strategy with updated planning and development information.
14. Manage flow and demand to maximize capacity for growth and minimize the need for new hard infrastructure	Implement I/I and Sewer Separation projects from Infrastructure Master Plan preferred servicing strategy Enhance public education campaigns on water usage and savings.

1.6.5.1 Climate Change

Climate change is a prominent consideration for Halifax Water. Through the Infrastructure Master Plan, a Climate Change Assessment Framework was developed to provide a consistent approach of assessing the threats of climate change on water, wastewater and stormwater infrastructure.

The Infrastructure Master Plan considered climate change throughout the development of the projects and studies that form the preferred servicing alternative. Every infrastructure project was assessed using a design rainfall event that makes an allowance for the predicted increased rainfall intensities.

It is important for Halifax Water to build on these initiatives and begin implementing the framework. The following provides an outline of the recommended implementation plan.

- Climate Change Infrastructure Assessments on Asset Groups 2020-2023 (4 years)
 - 1. Water Supply Plants and Dams (AMP A1 and A2)
 - 2. Wastewater Treatment Facilities (AMP B1), Wastewater Pumping Stations (AMP B2) and Water Chambers and Booster Stations (AMP A3).
 - 3. Water Reservoirs (AMP A6) and Stormwater Management Structures (AMP C1)
 - 4. Water Transmission Mains (AMP A4), Distribution Mains (AMP A5), Wastewater Gravity Mains (AMP B3), Wastewater Forcemains (AMP B4), Stormwater Gravity Sewers (AMP C2), Stormwater Cross Culverts (AMP C3)
- Develop Climate Change Action Plans following sequence above 2024-2027 (4 years)
- Implement Action Plan on Priority Basis 2028+

It is important to note that Halifax Water takes climate change into consideration on a project by project basis. For instance, projects submitted for funding consideration under the current Investing in Canada Infrastructure Federal Provincial Program require a formal audited review under the "Climate Lens" for Climate change adaptation and mitigation.

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1.7 IRP IMPLEMENTATION

The 2019 IRP Update has established a 30-year capital program. It has been identified that an average of \$135M per year is required to address all asset renewal, compliance and growth needs.

The capital program requirement not only requires financial capacity but also resource capacity from the Halifax Water staff, consulting engineering firms, and construction firms.

Halifax Water needs to significantly increase project delivery capacity through both staff increases and project delivery method improvements.

Successful implementation of the 2019 IRP Update recommendations will require the following key steps:

- Elevate critical projects to ensure priorities across all 3 drivers are addressed
- Utilize the 2019 IRP Update capital program as the foundation for yearly capital and operating budgets for Halifax Water
- Undertake additional cash flow analysis for projects to ensure costs and effort are apportioned across the appropriate time period
- Continually increase capital project delivery year over year while at the same time continually increase the Halifax Water project team resources including staff and project management/delivery tools
- Engage the consulting and construction industry in order to support the level of construction needed to meet the infrastructure needs
- Review procurement and project delivery models to ensure allocation of resources is not delayed

1.7.1 Long-Term Planning Study Schedule

In order to ensure future updates of the Integrated Resource Plan continue in an efficient manner it is recommended that the various supporting studies be planned and coordinated so that outputs can be integrated together. Figure 16 provides a study schedule that identifies the critical studies and outlines timing of each to ensure continuity, efficient and timely delivery of outputs. Key components that direct the timing of the studies are as follows:

- Halifax Water commitment to update the Regional Development Charge every 5 years if not triggered earlier due to a 15% variance on the program
- Commitment to RDC stakeholders that project need, costing, design criteria impact are periodically reviewed
- Infrastructure Master Plan Update is required to drive the Regional Development Charge update
- Population planning estimates are required to feed into hydraulic models
- Hydraulic models used in Infrastructure Master Plan updates
- Infrastructure Master Plan updates required to capture/recalibrate starting point and projections and review project need, triggers and phasing
- Key supporting studies are needed to inform the core studies
- Infrastructure planning is not static but dynamic with changing variables and requires iterative updates
- Studies provide exceptional value when they are a tool to better inform how, when and where to spend billions of dollars

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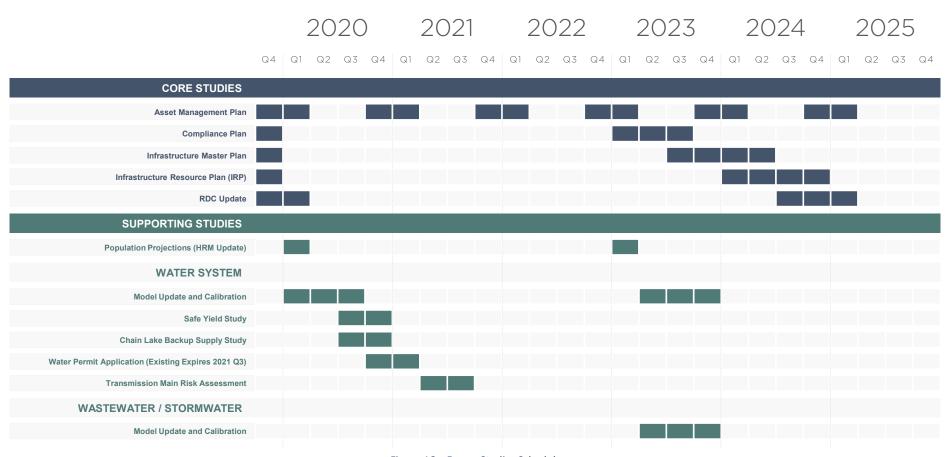


Figure 16 – 5-year Studies Schedule

1.8 IRP RECOMMENDATIONS

20.

Based on the analysis carried out during the development of the 2019 IRP, the following recommendations are presented:

Table 5 – 2019 IRP Recommendations

	Continue and enhance public outreach with stakeholders and public to market Halifax Water's objectives, educate
	customers and target efficiencies related to water, wastewater and stormwater servicing
	Enhanced communication with NSE to ensure current compliance and appropriate future planning of regulatory issues
npl	ement Programs
	Implement IRP Capital Program - (Water and Wastewater Infrastructure Master Plan, Asset Management Plans and Compliance Plan)
ļ.	Utilize IRP program and undertake financial modelling, select preferred program and implement
5.	Implement Wet weather management program
ò.	Integrate private-side I & I with wet weather management program starting 2020
Data	Collection & Tools
7.	Undertake on-going GIS system build out and data management
3.	Improve asset knowledge base and accuracy through asset management condition assessments and performance - Expand pumping station performance assessments for the top 50 largest facilities - Use CCTV information to support the development of a sewer predicted condition model - Use condition and break history to support the development of a watermain predicted condition model
Э.	Maintain and update 2019 IRP integrated GIS program tool
10.	Maintain and update water and wastewater hydraulic model development, calibration and build-out - 2020 - Water model calibration - 2023 – Water and Wastewater model update
11.	Continue flow monitoring program and analysis - 2022 - Implement CSO flow monitoring
L2.	Use established Level of Service and asset performance to prioritize data collection
tud	ies
L3.	Continue wet weather management in coordination with I & I reduction pilots and programs
4.	Complete Water and Wastewater Master Plan Update within 5 years
L5.	Complete Asset Management Plan Updates annually - Establish renewal program based on condition and performance data rather than age - Prepare project specific AMP's for large vertical infrastructure e.g. WWTF's
16.	Complete Compliance Plan Update within 5 years
.7.	Complete study of potential future regulatory scenarios for water, wastewater and stormwater
.8.	Update the Energy Management Strategy including the assessment of current GHG generation and establish targets for reduction
L9.	Update Institutional Capacity Study to align with preferred 2019 IRP program

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Undertake an annual review of all unit rates (linear and vertical)

21.	Enhance cost estimating approach for vertical facilities (e.g. pumping stations, storage facilities, treatment plants)
22.	Develop a more detailed approach for complex facilities that include unit rates for subcomponents
23.	Continue benchmarking construction projects
Enha	nced HW and HRM Coordination
24.	Coordinated periodic planning projection updates to establish "best planning estimates" for use in studies to support timing, phasing and allocation decisions for water, wastewater and stormwater infrastructure
25.	Establish predictable timetable to update projections to enable coordinated timing of studies and tool updates
26.	Enhanced sharing of data and planned project information to enable updating, building and use of the GIS integration tool
27.	Enhanced coordinated capital project planning improve ability to align projects
28.	Joint study to explore required steps, viability and impact of enhanced private side I/I reduction and Low Impact Development (LID)
29.	Enhance joint educational/marketing to target efficiencies related to water, wastewater and stormwater servicing
Sche	duling/Timing
30.	Ensure scheduled alignment of integrated studies to better inform and enable review of integrated planning opportunities (e.g. AMP prepared in advance of Master Plans)
31.	Ensure Population projections, hydraulic models, Infrastructure Master Plan and Compliance are updated by 2025
32.	Ensure AMPs are updated Annually

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LONG-TERM		JPDATE STRUCTU	JRE PLAI	N TABLES

No. Project Name	Region	Asset Group	Total Cost (\$2019)	Year in Service	Source of Program/Project	Driver	Driver Allocation (%)	Objectives
1 Install new twinned gravity pressure sewer (825mm and 450mm)	East	Wastewater - Trunk Sewers	\$23,372,000	2022	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	6,7,9,13,14
2 Connect Beaver Crescent PS and Caldwell PS forcemains to new 450mm gravity pressure sewer	East	Wastewater - Forcemains	\$78,000	2026	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	6,7,9,13,14
3 Install four (4) new pump out stations along gravity pressure sewer	East	Wastewater - Structures	\$1,676,000	2023	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	6,7,9,13,14
4 Install gate valves at surge tank between Bissett Lake Pumping Station and gravity pressure sewer	East	Wastewater - Structures	\$420,000	2026	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	6,7,9,13,14
5 Decommission existing 450mm gravity pressure sewer	East	Wastewater - Trunk Sewers	\$559,000	2043	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	6,7,9,13,14
6 Upgrade Quigley's Corner Pumping Station	East	Wastewater - Structures	\$2,875,000	2022	Master Plan	Asset Renewal - Compliance - Growth	47.5:47.5:5	6,7,9,10,13
7 Optimize operation of Quigley's Corner Pumping Station	East	Wastewater - Structures	\$336,000	2021	Master Plan	Asset Renewal - Compliance - Growth	47.5:47.5:5	7,11,14
8 Upgrade Memorial Drive Pumping Station	East	Wastewater - Structures	\$2,633,000	2031	Master Plan	Asset Renewal - Compliance	50:50	7,9,11
9 Upgrade Beaver Crescent Pumping Station	East	Wastewater - Structures	\$168,000	2036	Master Plan	Asset Renewal - Compliance	50:50	7,9,11
10 Upgrade Bissett Lake Pumping Station	East	Wastewater - Structures	\$2,934,000	2041	Master Plan	Asset Renewal - Compliance - Growth	25:25:50	6,7,9,10,13
11 Upgrade Caldwell Road Pumping Station	East	Wastewater - Structures	\$631,000	2039	Master Plan	Asset Renewal - Growth	25:75	6,7,9,10,13
12 RDII Reduction Program (FMZ23)	East	Wastewater - Collection Sanitary	\$3,204,580	2031	Master Plan	Compliance - Growth	5:95	6,7,9,14
13 RDII Reduction Program (FMZ24)	East	Wastewater - Collection Sanitary	\$1,570,040	2022	Master Plan	Compliance - Growth	5:95	6,7,9,14
14 RDII Reduction Program (FMZ37)	East	Wastewater - Collection Sanitary	\$2,479,704	2022	Master Plan	Compliance - Growth	5:95	6,7,9,14
15 Local network upgrades on Caldwell Road	East	Wastewater - Collection Sanitary	\$607,000	2036	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	7,9,10,13
16 Local network upgrades on Colby Drive	East	Wastewater - Collection Sanitary	\$1,176,000	2031	Master Plan	Asset Renewal - Compliance	50:50	7,9,10
17 Local network upgrades on Forest Hill Parkway	East	Wastewater - Collection Sanitary	\$4,275,000	2041	Master Plan	Compliance	100	7,9,10
18 Eastern Passage SSO Management Study	East	Wastewater - Collection System	\$484,000	2023	Master Plan	Compliance	100	3,6,9
19 LoWSCA: Canal Street Separation	East	Wastewater - Collection System	\$1,842,000	2022	Master Plan	Compliance - Growth	25:75	7,8,9,13
20 LoWSCA: Wyse Road Separation (Phase 1)	East	Wastewater - Collection System	\$3,860,000	2022	Master Plan	Compliance - Growth	25:75	7,8,9,13
21 LoWSCA: Wyse Road Separation (Phase 2)	East	Wastewater - Collection System	\$2,802,000	2022	Master Plan	Compliance - Growth	75:25	7,8,9,13
22 Additional Sewer Separation on Wyse Street	East	Wastewater - Collection System	\$1,912,000	2031	Master Plan	Compliance - Growth	25:75	6,7,8,9,13
23 Albro Lake Watershed Separation	East	Wastewater - Collection System	\$8,111,000	2022	Master Plan	Compliance - Growth	5:95	6,7,8,9,13
24 Maynard Lake and Clement Street Wetland Separation (Phase 1)	East	Wastewater - Collection System	\$642,000	2025	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	6,7,8,9,13
25 Maynard Lake and Clement Street Wetland Separation (Phase 2)	East	Wastewater - Collection System	\$4,540,000	2028	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	6,7,8,9,13
26 Maynard Lake and Clement Street Wetland Separation (Phase 3)	East	Wastewater - Collection System	\$1,155,000	2028	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	6,7,8,9,13
27 Maynard Lake and Clement Street Wetland Separation (Phase 4)	East	Wastewater - Collection System	\$453,000	2028	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	6,7,8,9,13
28 New Valleyford Pumping Station	East	Wastewater - Structures	\$10,446,000	2041	Master Plan	Compliance - Growth	75:25	6,7,9,10,13
29 390 Waverley Road Forcemain Upgrades	East	Wastewater - Collection System	\$11,361,000	2022	Master Plan	Growth	100	6,7,9,13,14
30 Anderson Pumping Station Upgrades	East	Wastewater - Structures	\$340,000	2031	Master Plan	Asset Renewal - Compliance	50:50	6,7,9,10
31 Upgrades to Dartmouth WWTF	East	Wastewater - Treatment Facilities	\$12,572,000	2041	Master Plan	Growth	100	4,7,9,10,13
32 RDII Reduction Program (FMZ27)	East	Wastewater - Collection Sanitary	\$5,941,076	2022	Master Plan	Compliance - Growth	25:75	6,7,9,14

No. Project Name	Region	Asset Group	Total Cost (\$2019)	Year in Service	Source of Program/Project	Driver	Driver Allocation (%)	Objectives
33 RDII Reduction Program (FMZ45)	East	Wastewater - Collection Sanitary	\$1,120,232	2031	Master Plan	Compliance - Growth	5:95	6,7,9,14
34 Additional flow monitoring	East	Wastewater - Collection Sanitary	\$252,000	2021	Master Plan	Compliance - Growth	90:10	3,9
35 Dartmouth CSO Flow Management Plan	East	Wastewater - Collection System	\$675,000	2036	Master Plan	Compliance - Growth	90:10	3,6,9
36 Green St. Sewer Upsize	East	Wastewater - Collection Sanitary	\$513,000	2041	Master Plan	Asset Renewal - Compliance	50:50	7,9,10
37 Pinecrest Dr. Sewer Upgrade	East	Wastewater - Collection Sanitary	\$1,013,000	2034	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	7,9,10,13
38 Peddars Way Sewer Upgrade	East	Wastewater - Collection Sanitary	\$555,000	2031	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	7,9,10,13
39 Atlantic Street SewerUpgrade	East	Wastewater - Collection Sanitary	\$3,831,000	2026	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	7,9,10,13
40 Akerley Blvd and Railway Alignment Sewer Upgrade	East	Wastewater - Collection Sanitary	\$4,814,000	2041	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	7,9,10,13
41 Pleasant Street Sewer Upgrade	East	Wastewater - Collection Sanitary	\$767,000	2021	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	7,9,10,13
42 Princess Margaret Blvd. Sewer Upgrade	East	Wastewater - Collection Sanitary	\$3,106,000	2031	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	7,9,10,13
43 Anderson Lake Development Connection	East	Wastewater - Collection Sanitary	\$7,609,000	2036	Master Plan	Growth	100	9,13
44 Marvin Street Connection to Cuisack CSO	East	Wastewater - Collection Sanitary	\$1,380,000	2026	Master Plan	Compliance - Growth	47.5:47.5:5	6,7,9,14
45 King Street Diversion	East	Wastewater - Collection Sanitary	\$78,000	2026	Master Plan	Compliance - Growth	47.5:47.5:5	6,7,9,14
46 Diversion to Eastern Passage	East	Wastewater - Collection Sanitary	\$12,113,000	2041	Master Plan	Growth	100	6,9,13,14
47 Dartmouth SSO Flow Management Plan	East	Wastewater - Collection Sanitary	\$555,000	2023	Master Plan	Compliance	100	3,6,9
48 Sackville Trunk Sewer Upgrades (1200mm diameter)	Central	Wastewater - Trunk Sewers	\$5,101,000	2041	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	7,9,10,13
49 Sackville Trunk Sewer Upgrades (1050mm diameter)	Central	Wastewater - Trunk Sewers	\$8,246,000	2041	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	7,9,10,13
50 Sackville Trunk Sewer Upgrades (1500mm diameter)	Central	Wastewater - Trunk Sewers	\$144,000	2041	Master Plan	Asset Renewal - Compliance - Growth	25:25:50	7,9,10,13
51 New 5ML storage tank in Lower Sackville (GoodLife Fitness Sackville Downsview Plaza)	Central	Wastewater - Structures	\$17,469,000	2031	Master Plan	Compliance - Growth	5:95	9,10,13,14
52 Fish Hatchery Park Pumping Station Upgrade	Central	Wastewater - Structures	\$10,529,000	2036	Master Plan	Asset Renewal - Compliance - Growth	25:25:50	6,9,10,13
53 Pumping Station (Beaver Bank #3 PS and Majestic Avenue PS)	Central	Wastewater - Structures	\$1,090,000	2036	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	6,9,10,13
54 Mill Cove Wastewater Treatment Plant Capacity Upgrade	Central	Wastewater - Treatment Facilities	\$89,256,000	2022	Master Plan	Asset Renewal - Compliance - Growth	25:25:50	1,4,6,9,10,13
55 RDII Reduction Program (FMZ07, FMZ10, & FMZ40)	Central	Wastewater - Collection Sanitary	\$9,288,248	2022	Master Plan	Compliance - Growth	5:95	6,7,9,14
56 RDII Reduction Program (FMZ02 & FMZ03)	Central	Wastewater - Collection Sanitary	\$8,023,065	2031	Master Plan	Compliance - Growth	5:95	6,7,9,14
57 Local network upgrades on Beaver Bank Rd. North on Glendale Dr.	Central	Wastewater - Collection Sanitary	\$2,086,000	2022	Master Plan	Compliance - Growth	75:25	7,9,10
58 Local network upgrades on Beaver Bank Rd. at Galloway Dr.	Central	Wastewater - Collection Sanitary	\$1,490,000	2022	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	7,9,10,13
59 Local network upgrades on Beaver Bank Rd by Windgate Drive	Central	Wastewater - Collection Sanitary	\$1,667,000	2022	Master Plan	Asset Renewal - Compliance - Growth	37.5:37.5:25	7,9,10
60 Local network upgrades on Old Sackville Road south of Harvest Hwy	Central	Wastewater - Collection Sanitary	\$845,000	2036	Master Plan	Asset Renewal - Compliance	50:50	1,7,9,10
61 Local network upgrades on Hallmark Ave.	Central	Wastewater - Collection Sanitary	\$437,000	2036	Master Plan	Asset Renewal - Compliance	50:50	7,9,10
62 Local sewer upgrades on Waterfront Drive	Central	Wastewater - Collection Sanitary	\$500,000	2036	Master Plan	Asset Renewal - Compliance	50:50	7,9,10
63 Springfield Lake Connection to Sackville	Central	Wastewater - Collection Sanitary	\$6,226,000	2043	Master Plan	Compliance - Growth	50:50	1,7,9,13
64 Central Region SSO Management Study	Central	Wastewater - Collection Sanitary	\$1,086,000	2024	Master Plan	Compliance	100	3,6,9

No. Project Name	Region	Asset Group	Total Cost (\$2019)	Year in Service	Source of Program/Project	Driver	Driver Allocation (%)	Objectives
65 WRWIP: Spring Garden Area Sewer Separation	West	Wastewater - Collection System	\$7,281,000	2021	Master Plan	Compliance - Growth	50:50	7,8,9,13
66 WRWIP: Young Street Area Sewer Separation	West	Wastewater - Collection System	\$21,879,000	2022	Master Plan	Compliance - Growth	25:75	7,8,9,13
67 WRWIP: Sewer Separation Upstream of Kempt CSO	West	Wastewater - Collection System	\$14,752,000	2021	Master Plan	Compliance - Growth	5:95	7,8,9,13
68 WRWIP: Linear Upsize - Gottingen & Cogswell Area	West	Wastewater - Collection System	\$221,000	2019	Master Plan	Compliance - Growth	5:95	7,9,10,13
69 WRWIP: Young Pumping Station Upgrade	West	Wastewater - Structures	\$2,169,000	2027	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	6,7,9,10,13
70 WRWIP: New Fairfield Holding Tank	West	Wastewater - Structures	\$12,403,000	2046	Master Plan	Asset Renewal - Compliance - Growth	25:25:50	6,7,9,13
71 WRWIP: Replace Armdale Pumping Station Forcemains	West	Wastewater - Forcemains	\$3,850,000	2022	Master Plan	Asset Renewal - Growth	50:50	3,7,9,10,13
72 WRWIP: BLT WWTF Decommission - New Timberlea PS	West	Wastewater - Structures	\$5,928,000	2022	Master Plan	Compliance - Growth	5:95	1,9,13
73 WRWIP: BLT WWTF Decommission - New Timberlea Forcemain	West	Wastewater - Forcemains	\$19,436,000	2022	Master Plan	Compliance - Growth	5:95	1,9,13
74 WRWIP: BLT WWTF Decommission	West	Wastewater - Treatment Facilities	\$500,000	2020	Master Plan	Compliance - Growth	5:95	1,9,13
75 WRWIP: RDII Reduction Program in Fairview, Clayton Park, and Bridgeview areas	West	Wastewater - Collection Sanitary	\$15,491,589	2021	Master Plan	Compliance - Growth	5:95	6,7,9,14
76 WRWIP: BLT Flow Diversion to Herring Cove - New Crown Drive Pumping Station	West	Wastewater - Structures	\$8,063,000	2033	Master Plan	Compliance - Growth	5:95	1,11,13
77 WRWIP: BLT Flow Diversion to Herring Cove - New Crown Drive Forcemain	West	Wastewater - Forcemains	\$9,026,000	2033	Master Plan	Compliance - Growth	5:95	1,11,13
78 WRWIP: BLT Flow Diversion to Herring Cove - New Gravity Sewer	West	Wastewater - Collection Sanitary	\$4,319,000	2033	Master Plan	Compliance - Growth	5:95	1,10,13
79 WRWIP: BLT Flow Diversion to Herring Cove - New Gravity Sewer	West	Wastewater - Collection Sanitary	\$3,266,000	2033	Master Plan	Compliance - Growth	5:95	1,10,13
80 WRWIP: Herring Cove Road - Gravity Sewer Upsize	West	Wastewater - Collection Sanitary	\$7,439,000	2033	Master Plan	Compliance - Growth	5:95	1,7,9,10,13
81 WRWIP: Fairview Cove Linear Upsize	West	Wastewater - Collection Sanitary	\$19,781,000	2021	Master Plan	Asset Renewal - Compliance - Growth	12.5:12.5:75	6,7,9,10,13
82 WRWIP: Halifax Treatment Plant Capacity Upgrade	West	Wastewater - Treatment Facilities	\$25,142,000	2041	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	1,10,13
83 WRWIP: Linear Upgrades within the Kearney Lake Road Area	West	Wastewater - Collection Sanitary	\$2,997,000	2033	Master Plan	Asset Renewal - Compliance - Growth	2.5:2.5:95	7,9,10,13
84 Infrastructure Master Plan: West Region CSO Management Study	West	Wastewater - Collection Sanitary	\$965,000	2026	Master Plan	Compliance - Growth	90:10	3,6,9
85 Infrastructure Master Plan: West Region SSO Management Study	West	Wastewater - Collection Sanitary	\$415,000	2023	Master Plan	Compliance	100	3,6,9
86 Chain Control Transmission - Existing Peninsula Low Upsize	West	Water - Transmission	\$3,841,000	2022	Master Plan	Asset Renewal - Growth	25:75	10,13
87 Chain Control Transmission - Existing Peninsula Intermediate Upsize	West	Water - Transmission	\$2,650,000	2022	Master Plan	Asset Renewal - Growth	25:75	1,10,13
88 Pepperell Transmission Upsize	West	Water - Distribution	\$2,702,000	2036	Master Plan	Asset Renewal - Growth	25:75	10,13
89 Chain Control Transmission - Existing Peninsula Low Lining	West	Water - Transmission	\$2,916,000	2036	Master Plan	Asset Renewal - Growth	25:75	10,13
90 Chain Control Transmission - Valve Chambers	West	Water - Structures	\$1,258,000	2036	Master Plan	Asset Renewal - Growth	25:75	10,13
91 Replace High Risk Peninsula Transmission (Robie)	West	Water - Transmission	\$17,312,000	2026	Master Plan	Asset Renewal	100	11
92 Peninsula Intermediate Looping - Quinpool Rd to Young St	West	Water - Distribution	\$4,319,000	2022	Master Plan	Asset Renewal - Growth	25:75	10,13
93 Young St. Watermain Upsize	West	Water - Distribution	\$1,315,000	2026	Master Plan	Asset Renewal - Growth	25:75	10,13
94 Robie St. Watermain Upsize	West	Water - Distribution	\$956,000	2026	Master Plan	Asset Renewal - Growth	25:75	10,13
95 Almon St. Watermain Upsize	West	Water - Distribution	\$1,168,000	2026	Master Plan	Asset Renewal - Growth	25:75	10,13
96 Windsor St. Watermain Upsize	West	Water - Distribution	\$1,004,000	2026	Master Plan	Asset Renewal - Growth	25:75	10,13

No. Project Name	Region	Asset Group	Total Cost (\$2019)	Year in Service	Source of Program/Project	Driver	Driver Allocation (%)	Objectives
97 Geizer 158 to Lakeside High Watermain Looping	West	Water - Distribution	\$2,249,000	2028	Master Plan	Asset Renewal	100	11
98 Gravity Supply to Brunello	West	Water - Distribution	\$2,328,000	2041	Master Plan	Asset Renewal	100	10,12
99 Dominion Cres. Watermain Upsize	West	Water - Distribution	\$447,000	2041	Master Plan	Asset Renewal	100	10
100 Brunello Booster Pump Upgrades	West	Water - Structures	\$236,000	2021	Master Plan	Asset Renewal	100	10
101 Geizer 158 Looping - Lacewood Dr	West	Water - Distribution	\$2,002,000	2041	Master Plan	Asset Renewal	100	10
102 Geizer Hill Booster Pump Upgrades	West	Water - Structures	\$277,000	2021	Master Plan	Asset Renewal	100	10
103 Leiblin Booster Fire Pump	West	Water - Structures	\$395,000	2019	Master Plan	Asset Renewal	100	10
104 Herring Cove Rd. Watermain Twinning	West	Water - Distribution	\$3,585,000	2022	Master Plan	Asset Renewal	100	11
105 St. Michaels Ave. Watermain Upsize	West	Water - Distribution	\$502,000	2041	Master Plan	Asset Renewal	100	11
106 Herring Cove Rd. Watermain Looping - McIntosh St	West	Water - Distribution	\$2,272,000	2022	Master Plan	Asset Renewal	100	11
107 Lucasville Rd. Twinning (Phase 1)	Central	Water - Distribution	\$8,117,000	2019	Master Plan	Growth	100	13
108 Lucasville Rd. Twinning (Phase 2)	Central	Water - Distribution	\$8,956,000	2026	Master Plan	Growth	100	13
109 New Primary Feed to Sackville High	Central	Water - Distribution	\$4,953,000	2026	Master Plan	Growth	100	13
110 New Sackville Beaver Bank Valve Chamber	Central	Water - Structures	\$839,000	2026	Master Plan	Growth	100	13
111 Reconfiguration of Beaver Bank Booster	Central	Water - Structures	\$100,000	2041	Master Plan	Asset Renewal	100	10,12
112 New Sackville High PRV	Central	Water - Structures	\$420,000	2036	Master Plan	Growth	100	13
113 Cobequid High Looping	Central	Water - Distribution	\$2,233,000	2026	Master Plan	Asset Renewal - Growth	25:75	11,13
114 Windgate Dr. Watermain Upsize	Central	Water - Distribution	\$882,000	2026	Master Plan	Asset Renewal - Growth	25:75	11,13
115 Lively Booster Pump Upgrades	Central	Water - Structures	\$38,000	2036	Master Plan	Asset Renewal	100	10
116 New Hemlock Elevated Tank	West	Water - Structures	\$6,209,000	2022	Master Plan	Asset Renewal - Growth	59:41	10,13
117 Pockwock Transmission Loop through Bedford	Central	Water - Distribution	\$5,069,000	2025	Master Plan	Asset Renewal	100	11
118 Second Geizer 158 Feed	West	Water - Distribution	\$9,612,000	2041	Master Plan	Asset Renewal	100	11
119 New Main Street to Caledonia Road Connection	East	Water - Distribution	\$3,072,000	2022	Master Plan	Asset Renewal	100	11
120 Caledonia Rd. Watermain Twinning	East	Water - Distribution	\$3,429,000	2022	Master Plan	Asset Renewal	100	11
121 New Breeze Dr. Watermain	East	Water - Distribution	\$5,801,000	2022	Master Plan	Asset Renewal	100	11
122 Highway 118 Crossing - Shubie Park to Dartmouth Crossing	East	Water - Distribution	\$6,063,000	2025	Master Plan	Asset Renewal	100	11
123 Windmill Rd. Watermain Upsize	East	Water - Distribution	\$6,104,000	2030	Master Plan	Asset Renewal - Growth	25:75	10,13
124 New Woodside Industrial Park Feed	East	Water - Distribution	\$1,649,000	2025	Master Plan	Asset Renewal	100	10
125 Willowdale to Eastern Passage Connection	East	Water - Distribution	\$6,290,000	2036	Master Plan	Asset Renewal	100	11
126 Tacoma PRV Chamber	East	Water - Structures	\$420,000	2020	Master Plan	Asset Renewal	100	10
127 Pockwock Transmission Twinning - 60in	West	Water - Transmission	\$65,516,000	2031	Master Plan	Asset Renewal - Growth	63:37	11
128 Pockwock Transmission Twinning - 54in	West	Water - Transmission	\$16,228,000	2036	Master Plan	Asset Renewal - Growth	63:37	11

No. Project Name	Region	Asset Group	Total Cost (\$2019)	Year in Service	Source of Program/Project	Driver	Driver Allocation (%)	Objectives
129 Extension to Springfield Lake	Central	Water - Distribution	\$3,043,000	2043	Master Plan	Asset Renewal	100	7,10,13
130 Bedford-Burnside System Interconnection (Phase 1)	All	Water - Distribution	\$24,499,000	2036	Master Plan	Asset Renewal - Growth	53:47	9,11,13
131 Bedford-Burnside System Interconnection (Phase 2)	All	Water - Distribution	\$11,779,000	2036	Master Plan	Asset Renewal - Growth	53:47	9,11,13
132 Lyle Emergency Booster Upgrade	East	Water - Structures	\$1,045,000	2026	Master Plan	Asset Renewal - Growth	53:47	11
133 Valving for Central Intermediate Boundary Change	East	Water - Structures	\$629,000	2026	Master Plan	Asset Renewal - Growth	53:47	11
134 Extension of Fall River to Bennery Lake (Phase 1)	East	Water - Distribution	\$8,067,000	2026	Master Plan	Asset Renewal - Growth	26:74	9,11,13
135 Extension of Fall River to Bennery Lake (Phase 2)	East	Water - Distribution	\$9,156,000	2026	Master Plan	Asset Renewal - Growth	26:74	9,11,13
136 Extension of Fall River to Bennery Lake (PS)	East	Water - Structures	\$1,310,000	2026	Master Plan	Asset Renewal - Growth	26:74	9,11,13
137 Decommission Miller Lake WTP - Linear	East	Water - Distribution	\$628,000	2019	Master Plan	Asset Renewal	100	10,12
138 Decommission Miller Lake WTP	East	Water - Treatment Facilities	\$61,000	2019	Master Plan	Asset Renewal	100	10,12
139 Decommission Collins Park WTP - Linear	East	Water - Distribution	\$1,086,000	2041	Master Plan	Asset Renewal	100	10,12
140 Decommission Collins Park WTP	East	Water - Treatment Facilities	\$168,000	2041	Master Plan	Asset Renewal	100	10,12
141 Decommission Silversands WTP - Linear	East	Water - Distribution	\$1,931,000	2041	Master Plan	Asset Renewal	100	10,12
142 Decommission Silversands WTP	East	Water - Treatment Facilities	\$168,000	2041	Master Plan	Asset Renewal	100	10,12
143 Chain Lake Backup Supply Study	West	Water - Transmission	\$50,000	2020	Master Plan	Asset Renewal - Growth	50:50	2,5,11,13
144 Mt. Edward Booster Fire Pump Study	East	Water - Structures	\$50,000	2019	Master Plan	Asset Renewal - Growth	50:50	10,13
145 New Orchard Control Chamber Study	West	Water - Structures	\$50,000	2021	Master Plan	Asset Renewal - Growth	50:50	10,13
146 Robie Emergency Booster Study	West	Water - Structures	\$50,000	2041	Master Plan	Asset Renewal - Growth	50:50	10,13
147 Safe Yield Study	All	Water - Treatment Facilities	\$100,000	2020	Master Plan	Compliance - Growth	50:50	2,5,13
148 New Hydraulic Water Model (InfoWater)	All	Water - Corporate Projects	\$200,000	2020	Master Plan	Asset Renewal - Growth	50:50	9,10,12,13
149 Comprehensive PRV Study	All	Water - Structures	\$50,000	2019	Master Plan	Asset Renewal - Growth	50:50	10,12,13
150 Transmission Main Risk Assessment and Prioritization Framework	All	Water - Transmission	\$50,000	2020	Master Plan	Asset Renewal - Growth	50:50	10,13
151 Tomahawk Lake Supply Study	Central	Water - Treatment Facilities	\$50,000	2036	Master Plan	Compliance - Growth	50:50	2,5,7,9,13
152 Aerotech Storage	Central	Water - Structures	\$4,752,000	2022	Master Plan	Asset Renewal - Growth	20:80	2,10,13
153 Water Supply Plants (A1) - Asset Renewal	All	Water - Treatment Facilities	\$230,428,000	2019-2048	AMPs	Asset Renewal	100	2,10
154 Water Supply Dams (A2) - Asset Renewal	All	Water - Structures	\$8,345,000	2019-2048	AMPs	Asset Renewal	100	2,10
155 Water Chambers and Booster Stations (A3) - Asset Renewal	All	Water - Structures	\$25,164,682	2019-2048	AMPs	Asset Renewal	100	10
156 Water Transmission Mains (A4) - Asset Renewal	All	Water - Transmission	\$269,144,527	2019-2048	AMPs	Asset Renewal	100	10
157 Water Distribution Mains (A5) - Asset Renewal	All	Water - Distribution	\$301,734,210	2019-2048	AMPs	Asset Renewal	100	10
158 Water Reservoirs (A6) - Asset Renewal	All	Water - Structures	\$32,249,015	2019-2048	AMPs	Asset Renewal	100	10,11
159 Wastewater Treatment Facilities (B1) - Asset Renewal	All	Wastewater - Treatment Facilities	\$373,129,278	2019-2048	AMPs	Asset Renewal	100	10
160 Wastewater Pumping Stations (B2) - Asset Renewal	All	Wastewater - Structures	\$337,852,112	2019-2048	AMPs	Asset Renewal	100	10

No. Project Name	Region	Asset Group	Total Cost (\$2019)	Year in Service	Source of Program/Project	Driver	Driver Allocation (%)	Objectives
161 Wastewater Gravity Sewers (B3) - Asset Renewal	All	Wastewater - Collection System	\$248,764,304	2019-2048	AMPs	Asset Renewal	100	10
162 Forcemains (B4) - Asset Renewal	All	Wastewater - Forcemains	\$48,139,079	2019-2048	AMPs	Asset Renewal	100	10
163 Stormwater Management Structures (C1) - Asset Renewal	All	Stormwater - Structures	\$10,538,402	2019-2048	AMPs	Asset Renewal	100	10
164 Stormwater Gravity Sewers (C2) - Asset Renewal	All	Stormwater - Pipes	\$162,116,838	2019-2048	AMPs	Asset Renewal	100	7,10
165 Stormwater Cross Culverts (C3) - Asset Renewal	All	Stormwater - Culverts/Ditches	\$65,229,942	2019-2048	AMPs	Asset Renewal	100	7,10
166 Driveway Culvert (C4) - Asset Renewal	All	Stormwater - Culverts/Ditches	\$25,500,000	2019-2048	AMPs	Asset Renewal	100	7,10
167 JD Kline WSP - Process Upgrades - PH 1	West	Water - Treatment Facilities	\$32,660,000	2020-2025	Compliance Plan	Compliance	100	2
168 JD Kline WSP - Process Upgrades - PH 2	West	Water - Treatment Facilities	\$25,440,000	2025-2028	Compliance Plan	Compliance	100	2
169 Lake Major WSP - Process Upgrades - PH 1	East	Water - Treatment Facilities	\$31,163,000	2020-2024	Compliance Plan	Compliance	100	2
170 Lake Major WSP - Process Upgrades - PH 2	East	Water - Treatment Facilities	\$16,960,000	2027-2030	Compliance Plan	Compliance	100	2
171 Halifax WWTF - Preliminary Treatment	West	Wastewater - Treatment Facilities	\$1,950,000	2022	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
172 Halifax WWTF - Coagulant Dosing System	West	Wastewater - Treatment Facilities	\$135,000	2020	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
173 Halifax WWTF - Polymer Dosing System	West	Wastewater - Treatment Facilities	\$39,500	2020	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
174 Halifax WWTF - Hydraulic Balancing Improvements	West	Wastewater - Treatment Facilities	\$395,000	2019	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
175 Halifax WWTF - Disinfection Upgrades	West	Wastewater - Treatment Facilities	\$850,000	2023	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
176 Halifax WWTF - UV System Level Controls	West	Wastewater - Treatment Facilities	\$385,000	2023	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
177 Halifax WWTF - Solids Handling	West	Wastewater - Treatment Facilities	\$935,000	2021	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
178 Halifax WWTF - Odour Control - Activated Carbon Reactors	West	Wastewater - Treatment Facilities	\$275,000	2020	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
179 Halifax WWTF - Ballasted Flocculation Upgrades	West	Wastewater - Treatment Facilities	\$4,070,000	2029	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
180 Halifax WWTF - Upgrade to secondary treatment / optimize advance primary treatment	West	Wastewater - Treatment Facilities	\$160,750,000	2040	Compliance Plan	Compliance	100	1,4
181 Dartmouth WWTF - Preliminary Treatment	East	Wastewater - Treatment Facilities	\$1,785,000	2022	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
182 Dartmouth WWTF - Coagulant Dosing System	East	Wastewater - Treatment Facilities	\$120,000	2020	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
183 Dartmouth WWTF - Polymer Dosing System	East	Wastewater - Treatment Facilities	\$25,000	2020	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
184 Dartmouth WWTF - Hydraulic Balancing Improvements	East	Wastewater - Treatment Facilities	\$335,000	2020	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
185 Dartmouth WWTF - Disinfection Upgrades	East	Wastewater - Treatment Facilities	\$775,000	2021	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
186 Dartmouth WWTF - UV System Level Controls	East	Wastewater - Treatment Facilities	\$325,000	2023	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
187 Dartmouth WWTF - Solids Handling	East	Wastewater - Treatment Facilities	\$735,000	2023	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
188 Dartmouth WWTF - Ballasted Flocculation Upgrades	East	Wastewater - Treatment Facilities	\$3,800,000	2029	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
189 Dartmouth WWTF - Upgrade to secondary treatment / optimize advance primary treatment	East	Wastewater - Treatment Facilities	\$87,400,000	2038	Compliance Plan	Compliance	100	1,4
190 Herring Cove - Preliminary Treatment	West	Wastewater - Treatment Facilities	\$1,020,000	2022	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
191 Herring Cove - UV System Level Controls	West	Wastewater - Treatment Facilities	\$300,000	2023	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
192 Herring Cove - Odour Control - Activated Carbon Reactors	West	Wastewater - Treatment Facilities	\$165,000	2020	Compliance Plan	Asset Renewal - Compliance	50:50	1,10

No. Project Name	Region	Asset Group	Total Cost (\$2019)	Year in Service	Source of Program/Project	Driver	Driver Allocation (%)	Objectives
193 Herring Cove - Ballasted Flocculation Upgrades	West	Wastewater - Treatment Facilities	\$3,265,000	2025	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
194 Herring Cove - Upgrade to secondary treatment / optimize advance primary treatment	West	Wastewater - Treatment Facilities	\$38,200,000	2039	Compliance Plan	Compliance	100	1,4
195 Lakeside-Timberlea WWTF - Improve Plant Hydraulics	West	Wastewater - Treatment Facilities	\$25,000	2020	Compliance Plan	Asset Renewal - Compliance	50:50	1,10
196 Wet Weather Management Program	All	Wastewater - Corporate Projects	\$7,250,000	2020-2048	Compliance Plan	Asset Renewal - Compliance - Growth	33:33:33	3,6,9,10,14
197 Armdale CSO Screening	West	Wastewater - Collection System	\$3,000,000	2025	Compliance Plan	Compliance	100	6,7
198 Quinpool Road CSO Screening	East	Wastewater - Collection System	\$3,000,000	2025	Compliance Plan	Compliance	100	6,7
199 Coburg Road CSO Screening	West	Wastewater - Collection System	\$3,000,000	2025	Compliance Plan	Compliance	100	6,7
200 South Street CSO Screening	West	Wastewater - Collection System	\$3,000,000	2025	Compliance Plan	Compliance	100	6,7
201 Beaufort CSO Screening	West	Wastewater - Collection System	\$3,000,000	2025	Compliance Plan	Compliance	100	6,7
202 Automated Flushing Program	All	Water - Distribution	\$580,000	2020-2048	Compliance Plan	Compliance	100	3
203 Corporate Flow Monitoring Program	All	Wastewater - Corporate Projects	\$51,060,000	2019-2048	Compliance Plan	Compliance - Growth	50:50	3,6,13
204 I&I Reduction (SIR) Program Flow Meters and Related Equipment	All	Wastewater - Equipment	\$750,000	2019-2048	Compliance Plan	Compliance	100	3,6,14
205 Watershed Land Acquisition	All	Water - Land	\$3,000,000	2019-2048	Compliance Plan	Compliance	100	5
Future Overflow Compliance Program (Enhanced Overflow Program - 10 overflows per year at B&C receiving waters)	All	Wastewater - Collection System	\$198,889,474	2042	Compliance Plan	Compliance	100	6,9
207 Bio-Solids Facility Upgrades	All	Wastewater - Treatment Facilities	\$10,000,000	2023	Compliance Plan	Compliance	100	1,4
208 Regional Development Charge Studies W	All	Water - Corporate Projects	\$425,000	2019,+5,2048	Corporate Projects	Growth	100	13,14
209 Regional Development Charge Studies WW	All	Wastewater - Corporate Projects	\$425,000	2019,+5,2048	Corporate Projects	Growth	100	13,14
210 Water System Master Plan Update	All	Water - Corporate Projects	\$4,500,000	2023,+5,2048	Corporate Projects	Growth	100	7,8,10,13,14
211 Wastewater System Master Plan Update	All	Wastewater - Corporate Projects	\$4,500,000	2023,+5,2048	Corporate Projects	Growth	100	7,8,10,13,14
212 IT Projects - Water	All	Water - Corporate Projects	\$102,767,500	2019-2048	Corporate Projects	Asset Renewal	100	10
213 IT Projects - Wastewater	All	Wastewater - Corporate Projects	\$82,214,000	2019-2048	Corporate Projects	Asset Renewal	100	10
214 IT Projects - Stormwater	All	Stormwater - Corporate Projects	\$20,778,500	2019-2048	Corporate Projects	Asset Renewal	100	10
215 GIS Projects - Water	All	Water - Corporate Projects	\$10,050,000	2019-2048	Corporate Projects	Asset Renewal	100	10,11
216 GIS Projects - Wastewater	All	Wastewater - Corporate Projects	\$8,215,000	2019-2048	Corporate Projects	Asset Renewal	100	10,11
217 GIS Projects - Stormwater	All	Stormwater - Corporate Projects	\$2,385,000	2019-2048	Corporate Projects	Asset Renewal	100	10,11
218 Asset Management Projects - Water	All	Water - Corporate Projects	\$3,275,000	2019-2048	Corporate Projects	Asset Renewal	100	10,11
219 Asset Management Projects - Wastewater	All	Wastewater - Corporate Projects	\$9,552,500	2019-2048	Corporate Projects	Asset Renewal	100	10,11
220 Asset Management Projects - Stormwater	All	Stormwater - Corporate Projects	\$5,382,500	2019-2048	Corporate Projects	Asset Renewal	100	10,11
221 Facility Projects - Water	All	Water - Corporate Projects	\$20,750,000	2019-2048	Corporate Projects	Asset Renewal	100	10
222 Facility Projects - Wastewater	All	Wastewater - Corporate Projects	\$16,600,000	2019-2048	Corporate Projects	Asset Renewal	100	10
223 Facility Projects - Stormwater	All	Stormwater - Corporate Projects	\$4,150,000	2019-2048	Corporate Projects	Asset Renewal	100	10
224 SCADA & Other Equipment - Water	All	Water - Corporate Projects	\$10,283,500	2019-2048	Corporate Projects	Asset Renewal	100	10

No.	Project Name	Region	Asset Group	Total Cost (\$2019)	Year in Service	Source of Program/Project	Driver	Driver Allocation (%)	Objectives
225	SCADA & Other Equipment - Wastewater	All	Wastewater - Corporate Projects	\$10,016,800	2019-2048	Corporate Projects	Asset Renewal	100	10
226	SCADA & Other Equipment - Stormwater	All	Stormwater - Corporate Projects	\$79,200	2019-2048	Corporate Projects	Asset Renewal	100	10
227	Fleet Upgrade Program - Water	All	Water - Corporate Projects	\$14,091,000	2019-2048	Corporate Projects	Asset Renewal - Growth	50:50	10
228	Fleet Upgrade Program - Wastewater	All	Wastewater - Corporate Projects	\$30,972,000	2019-2048	Corporate Projects	Asset Renewal - Growth	50:50	10
229	Fleet Upgrade Program - Stormwater	All	Stormwater - Corporate Projects	\$8,993,000	2019-2023	Corporate Projects	Asset Renewal - Growth	50:50	10
230	Integrated Resource Plan W	All	Water - Corporate Projects	\$1,250,000	2024,+5,2048	Corporate Projects	Asset Renewal - Compliance - Growth	33:33:33	2,5,7,9,10,11,12,13,14
231	Integrated Resource Plan WW	All	Wastewater - Corporate Projects	\$1,000,000	2024,+5,2048	Corporate Projects	Asset Renewal - Compliance - Growth	33:33:33	1,3,4,6,7,9,10,11,12,13,14
232	Integrated Resource Plan SW	All	Stormwater - Corporate Projects	\$250,000	2024,+5,2048	Corporate Projects	Asset Renewal - Compliance - Growth	33:33:33	7,8,9,10,11,13,14
233	Climate Change Adaptation - Water	All	Water - Corporate Projects	\$250,000	2020-2026	Corporate Projects	Asset Renewal - Compliance	20:80	9,12
234	Climate Change Adaptation - Wastewater	All	Wastewater - Corporate Projects	\$240,000	2020-2026	Corporate Projects	Asset Renewal - Compliance	20:80	9,12
235	Climate Change Adaptation - Stormwater	All	Stormwater - Corporate Projects	\$210,000	2020-2026	Corporate Projects	Asset Renewal - Compliance	20:80	9,12
236	Energy Management Capital Program (Water)	All	Water - Energy	\$1,200,000	2021-2023	Corporate Projects	Asset Renewal	100	9,12
237	Energy Management Capital Program (Wastewater)	All	Wastewater - Energy	\$14,500,000	2020-2048	Corporate Projects	Asset Renewal	100	9,12
238	Lead Service Line Replacement Program	All	Water - Distribution	\$30,000,000	2019-2048	Corporate Projects	Asset Renewal - Compliance	100	5,10
239	CCC Various - Water	All	Water - Distribution	\$555,000	2019-2023	Corporate Projects	Growth	100	13
240	CCC Various - Wastewater	All	Wastewater - Collection System	\$7,305,000	2019-2020, 2022-2023	Corporate Projects	Growth	100	13
	Total Cost (\$2019) \$4,053,662,397								



ITEM # 7 HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

Reid Campbell, M.Eng., P.Eng., Director, Water Services

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D,

General Manager

DATE: November 15, 2019

SUBJECT: Lead Service Line Replacement Program Enhancements

ORIGIN

Halifax Water's Lead Service Line Replacement Program.

RECOMMENDATION

It is recommended that the Halifax Water Board authorize staff to make an application to the Nova Scotia Utility and Review Board, as part of the next general rate application, to amend the Rules and Regulations to enhance the Lead Service Line Replacement Program. The proposed changes are intended to enable Halifax Water to meet its goals for lead service line replacement by 2050 by integrating with HRM street renewal projects and by replacing the portion of lead service lines on private property at utility expense.

BACKGROUND

In October 2016, the Halifax Water Board approved a business plan for a new approach to lead service line replacement (LSLR), consistent with the National Drinking Water Advisory Council (NDWAC) recommendations to the USEPA. On August 22, 2017, the Nova Scotia Utility and Review Board issued an order granting Halifax Water authority to undertake emergency LSL renewals to the water meter at utility cost and to provide a 25% rebate (up to a maximum of \$2500) to homeowners undertaking an LSL replacement. In February 2018, the NSUARB approved a proposal for development of a loan program for up to \$10,000 for full replacement of private laterals in certain situations, including replacement of lead service lines. The maximum financial assistance to a property owner

undertaking a lead service line replacement is \$10,000 (\$2,500 rebate and \$7,500 loan), as the amount of rebate is deducted from the maximum loan amount.

In 2017/18 and 2018/19 Halifax Water experienced a significant increase in private lead service line renewals (Figure 1, Appendix A) due to several initiatives by Halifax Water, including:

- Delivery of letters to homeowners as lead was identified as service line material in the home during installation of Advanced Meter Infrastructure (AMI)
- 25% rebate program
- Website enhancements and simplification of the process (use of a single contractor for both public and private lead service lines)

In 2019 the number of renewals has decreased. Despite the rebate and simplification of the process, homeowners remain hesitant to renew their LSL. This is believed to be due to:

- i. The cost of replacement;
- ii. Perceived difficulty and/or fear of the renewal process and working with contractors;
- iii. They may not live in the residence (landlords); or
- iv. They are not concerned with the health implications of a lead service line.

Integrating with Halifax Regional Municipality (HRM) paving projects was presented in the initial application to the NSUARB in 2017 for lead program approval as a method to both reduce costs of public replacements (estimated 30-35% savings due to decreased restoration costs) and to increase the adoption rate of LSLR. Halifax Water evaluated the successfulness of this approach based on the first three years of program experience. There are several substantial challenges that are preventing the desired integration of Halifax Water's LSLR program with the HRM street renewal program; and as a result the benefits of higher adoption rate and cost savings are not being fully achieved.

In March of 2019, Health Canada lowered the maximum acceptable level of lead in drinking water from 10 ug/L down to 5 ug/L. The new guideline specifically states that there is no acceptable level of lead and it should be reduced to the lowest extent possible. Customer response to recent media attention to lead in drinking water as a public health issue shows the publics' concern over this issue and the need for utility action to remove barriers to private uptake of LSLR. Within four days of the "Tainted Water" story being published in local and national media in early November, customer requests for information increased from about 2-4 per day to 100 per day, there was a 241% increase (19,660 versus 5,753) in web traffic the week following the media release and the increase was associated with lead web page hits, and there were over 4,390 hits to our lead service area boundary app on November 4th alone (Figure 2, Appendix A).

Halifax Water staff believe that further tools are required to increase private LSLR in order to meet Halifax Water's Board approved goal of removal of all lead service lines, both public and private, by 2050.

DISCUSSION

Based on a review of the programs of approximately 50 other utilities in both Canada and the US, Halifax Water staff have identified the following options for program enhancements:

- Utility funding of private LSLR either system wide or for integration with HRM paving projects. This gives HW control over project timeline and significantly simplifies outreach and the planning and renewal process.
- Making LSL replacement mandatory either system wide or for integration with HRM paving projects. This allows for point of sale and targeted programs and puts HW in control of project timeline.
- Significant customer outreach based on past experience this has not been adequate to achieve uptake and will become increasingly difficult as the number of LSLs decrease because the last people to replace will be the most reluctant.

Simply enhancing the existing rebate and loan programs is an option, however this would not address the challenge of enabling Halifax Water to maximize the benefits of integration with HRM paving projects.

Current Lead Service Line Replacement Program

At the time of the 2017 Application to the NSUARB regarding the LSLR program, the LSL inventory estimate was 2,500 public and > 10,000 private LSLs. This number was based on review of available records and the assumption that most services identified as being of unknown material were lead services, consistent with the NDWAC recommendations. Since that application, HW was been working on improving the completeness and accuracy of the inventory. This has been done through identification of the private side material during meter replacement as part of the AMI Customer Connect project, comparison of all digital and physical records for each civic address (currently in progress) and use of hydro-excavation of the service box to confirm accuracy of the inventory prior to LSLR. (See Figure 3, Appendix A). Based on inventory work over the last three years, we estimate the LSL count to be, as of November 2019: 2,000 public and 3,500 private LSLs.

The Order received from the NSUARB on August 22, 2017, approved a rebate to the customer of 25% of the cost of replacement of a private LSL, up to \$2,500 for the estimated 10,000 private services. At the time, the average private side cost was estimated to be \$5,000. Based on these assumptions, the total program costs to provide 25% rebate for

private LSL replacement was estimated at \$12,500,000. With the reduction of the inventory of private laterals to 3,500, the costs of the current program are significantly reduced. If, as recommended, Halifax Water were to pay for full private side replacement at an average cost of \$4,000 per replacement (based on actual program experience to date), the cost for private LSL replacement would be \$14,000,000, or an increase of \$1.5 million over the projected 30-year life of the program (Table 4, Appendix A).

The average cost of public replacement determined through comparison of 119 invoices from 2018 is estimated to be \$10,000. This cost is based on renewing each service individually. Approximately 30% of the total public LSLR cost is related to reinstatement. Therefore, full integration of LSLR with HRM street recapitalization projects is an important means of reducing the overall cost of the program.

Current Integration Process with HRM

Integrating with HRM on paving projects is an opportunity to significantly increase uptake in LSLR and meet the target of lead service line replacement by 2050 as proposed in the business plan. It also presents a cost savings opportunity for Halifax Water for public side replacement through economy of scale and savings in reinstatement. Based on analysis of the last two years of completed paving projects in the lead boundary area, it is estimated that approximately 100-120 public and 120-150 private LSLs could be replaced each year by integrating with HRM paving projects.

In 2012, Halifax Water ceased the practice of partial LSLR. If the service line is lead on public and private portions, HW will not replace the public portion of an LSL until there is an assurance that the private portion will be replaced. This is meant to avoid the resultant increase in lead levels resulting from partial replacements. This was identified through research conducted in Halifax by Dalhousie University and elsewhere and is consistent with the policy of the American Water Works Association, the USEPA and Health Canada recommendation. While being protective of public health, this policy poses significant challenges for smooth integration with HRM projects. Halifax Water cannot commit to replacement of the public portion unless the customer agrees to replace the private portion HRM and Halifax Water would both prefer to see all public lead services renewed during paving projects and are working cooperatively to achieve this.

Achieving high levels of customer compliance, however, is challenging if the customer is not motivated to renew and there is no mechanism to compel participation in the integrated project. In 2019, Halifax Water was only able to achieve replacement of 4 of a possible 77 LSL's that were part of HRM projects. This presents a significant missed opportunity both from public health and cost perspectives and results in an increased unit cost for Halifax Water compared to the business plan assumptions in 2017.

The following are additional challenges of the existing integration process with HRM:

- i. The homeowner may decide to renew after paving is complete leading to cuts in new pavement.
- ii. Despite the significant outreach attempted to date, customer commitment is low, and the timing of the replacement remains uncertain.
- iii. The nature of the HRM capital program (planning horizon) makes it difficult for Halifax Water to provide a timing commitment to customers, further creating uncertainty around customer commitment.
- iv. Despite best efforts, the notice of the project provided to customers is a barrier to them being able to commit to the integrated project.
- v. The difficulty in achieving sufficient customer commitment to achieve full integration results in both Halifax Water and HRM delaying projects where LSLs are involved.

Program Enhancement Options

In order to achieve integration with HRM, Halifax Water requires either the ability to compel customer participation in an integrated project, or to remove remaining barriers to participation, namely cost and the time commitment to organize work. This leads to two options: the first is to make LSLR mandatory for paving projects, forcing the homeowner to renew and collecting payment after construction is complete, and the second is to pay for private renewals.

Mandatory private LSLR would present some very significant challenges for Halifax Water and HRM, with a significant level of effort required to both develop and execute this type of program. Halifax Water would need to notify homeowners at least 1 year in advance of paving in order to provide them time to act on their own prior to paving or to have HW replace the private portion and collect payment as part of the paving project. The current planning horizon with HRM does not account for this advance warning. If customers renewed ahead of the paving project, HW would need to replace the public portion in conjunction with the private portion to minimize the impact of a partial replacement, which would impact the cost savings and planning of the overall project.

Additional customer outreach would be required and if homeowners choose not to renew or to provide access to Halifax Water, an enforcement mechanism would have to be in place, such as denial of water service or issuance of a summary offense ticket. Payment collection processes and enforcement would need to be implemented and the public perception of forced renewal would not be favourable. This approach could pose significant financial hardships for many homeowners. Furthermore, Halifax Water records are not 100% accurate and this approach could lead to homeowners assuming the responsibility and cost for inaccuracy of Halifax Water records.

Based on a review of 50 utilities across Canada and the US (see summary in Appendix B), the customer cost of replacement is the main barrier to achieving program replacement goals. The most successful programs include utility payment for private LSLR. Initiatives are underway in Indiana, Pennsylvania, Missouri, New Jersey and Michigan to have the state legislatures amend public utility statues to enable expenditure of rate-based funds for private LSL renewal. Lead is a public health risk and the most effective way for a utility to ensure removal of all lead is to take control of the timeline, planning and scope of work. Assuming financial responsibility for the private renewal has been determined by many utilities to be the most sure way to assume the required control of the replacement process. This approach reduces the administrative costs of the program, requires significantly less enforcement, addresses affordability concerns, allows for realization of cost savings from integrating with HRM paving and using economy of scale for achieving cost savings for targeted removal projects such areas with high density LSLs or sensitive populations. Paying for private replacement also places responsibility for records onto Halifax Water rather than the customer.

If Halifax Water were to pay the cost of private LSLR only in integrated paving projects, it is likely that the utility would ultimately end up assuming responsibility for all private LSL's in any event, as many customers would delay renewal until paving on their street is complete so it is paid for at the utility's expense. Delaying renewal in cases where sensitive populations exist in the home may present a public health concern. Halifax Water paying for full LSLR only within integration projects also means that the timeline for removal of all LSLs is dependent on when HRM paves all streets within the lead boundary. For these reasons, the proposed enhancements include paying for all full LSLR both within integrated projects and beyond, to cover the whole system. This allows Halifax Water to target renewals in sensitive populations and LSL dense areas in addition to integrated projects and puts control of the timeline solely on Halifax Water.

Proposed Program Enhancements

Halifax Water has been an industry leader with respect to lead research and LSLR program development. Halifax Water has the largest dataset of lead levels pre and post LSLR in North America and has shared this dataset with the USEPA for their use in establishing science-based revisions to the US Lead and Copper Rule. New and proposed changes to lead guidelines in both Canada and the US show there is no safe level for lead. Recent media attention demonstrates that this is a public health concern for Canadians. Reducing lead exposure requires removal of sources of lead, primarily lead service lines. To remain a leader and take a proactive approach to getting the lead out, to protect public health, and to achieve program goals, Halifax Water needs to enhance the LSLR program.

Halifax Water staff are recommending an application to the NSUARB as part of the next general rate application to enhance the LSLR program to conduct full LSLR at utility expense. This is the consistent with an emerging direction of leading utilities in the US, is the most protective of public health. It would provide Halifax Water complete control over

the timeline of replacement, which becomes increasingly important as the program matures and remaining homeowners are more reluctant to pay for replacement. This option eliminates affordability and absentee landlord concerns, simplifies the administrative process and allows for targeting areas with sensitive populations and high-density LSLs. Reducing the overall program timeline by increasing annual LSLR numbers will allow Halifax Water to direct resources towards future needs, sooner.

Based on an estimate of \$4,000 per private service and actual cost experience, the total cost for full private LSLR is \$14,000,000 over the life of the program. This is \$1.5 million more than the cost, approved by the NSUARB in 2017, to rebate 25% of the cost of renewing 10,000 LSL's.

There are two alternatives also presented below for consideration. Both alternatives would allow the ability to meet program goals but not to the same degree as the recommended option. The alternatives also raise additional questions related to fairness and disadvantaged communities.

Recommended Option: Halifax Water to pay for all private LSLR.

Under this option, Halifax Water would pay for the cost of replacing all LSL's to the water meter in the premise. Halifax Water would integrate with most, if not all, HRM paving projects with LSLs. Halifax Water would also be responsive to individual customers with LSLs and design targeted programs based on sensitive populations or asset management programs.

The benefits of the proposed option include:

- Most protective of public health;
- Allows Halifax Water complete control over the timeline to achieve goal of LSLR by 2050;
- Allows Halifax Water to achieve anticipated cost savings through integration with HRM
- Reduces the administrative cost of integration with HRM paving projects
- Eliminates the affordability issue for homeowners;
- Eliminates the issue with absentee landlords:
- Allows for development of targeted programs for areas with sensitive populations or high density of LSLs that are not on the near-term paving horizon;
- Simplifies a process for targeting point of sale LSLR;
- Reduced program administration costs;
- Minimal enforcement measures required;

- Positive public perception;
- Halifax Water assumes responsibility of records.

Some challenges that are anticipated with the proposed option include:

- Any program changes would occur on a prospective basis from the date the Order from the NSUARB. Customers that renewed prior to that date, either without assistance or under the current program, will perceive the assistance provided under the enhanced program as inequitable.
- The impact on water rates will be slightly higher compared to the impact of the status quo;
- Prioritization sequence and programs will need to be developed as not all LSLR can be completed in year 1.

Alternative Program Enhancement Options

<u>Alternative 1</u>: Halifax Water to pay for private LSLR for Integration projects with HRM and status quo for all other LSLs.

Under this option, Halifax Water would integrate with HRM on most if not all projects with LSL's All remaining private LSLR would remain under the current process, in that the public portion would be renewed after the private portion has been renewed and paid for by the customer. The rebate and loan program would remain in place.

The benefits of this option include:

- Allows for smooth integration with HRM paving projects and increasing annual LSLR numbers as per original NSUARB application;
- Minimal enforcement measures;
- For integration projects only:
 - o Eliminates the affordability issue for homeowners;
 - o Eliminates the issue with absentee landlords;
 - o Halifax Water assumes responsibility of records.

The disadvantages of this option include:

- Less protective of public health as customers may decide to delay renewal to line up with integration projects, potentially putting sensitive populations at risk
- Program timeline is determined by HRM paving schedule;

- Inequities created by mixed model with some customers having private paid for and others not. May create a mixed public perception;
- Option does not allow for a point of sale or targeted program outside of integration as uptake would be dependent on private funded LSLR;
- Will impact rates more than status quo;
- Increased overall program administration costs due to longer timeline and essentially running two separate programs.

Alternative 2: Halifax Water to pay for private LSLR for Integration projects with HRM and Ban LSLs, making LSLR mandatory for remaining services.

Under this option, Halifax Water would integrate with HRM on most, if not all, projects with LSL's. At the same time, Halifax Water would develop programs, targeted on neighborhoods or sensitive populations. For the areas not integrated with HRM paving, customers would be advised that they have a timeline to renew LSL's and required to replace them within a set timeline. This would need to be enforced through a regulatory mechanism such as denial of service.

The benefits of this option include:

- Protective of public health;
- Allows for smooth integration with HRM paving projects;
- This option allows Halifax Water complete control over the timeline to achieve the goal of all LSLR by 2050;
- For integration projects only:
 - o Eliminates the affordability issue for homeowners;
 - o Eliminates the issue with absentee landlords;
 - o Halifax Water assumes responsibility of records.
- Allows for development of targeted programs for areas with sensitive populations or high density of LSLs that are not on the near-term paving horizon;
- Allows a process for targeting point of sale LSLR, but would be challenging to implement as program would need to target sale prior to money exchanging hands so that cost can be factored into sale.

Disadvantages:

- Significant enforcement measure will be required;
- Inequities created by mixed model with some customers having private paid for and others not. will create a mixed public perception;
- Will impact rates more than status quo
- Increased overall program administration costs due to enforcement measures and essentially running two separate programs.

BUDGET IMPLICATIONS

Table 1 and Table 2 provide an analysis of full program cost implications associated with the recommended option and alternatives.

- The recommended option is for Halifax Water to pay for all private LSLR;
- Alternative 1 is for Halifax Water to pay for private LSLR for integration and remain status quo for remainder of private LSLR; and
- Alternative 2 is for Halifax Water to pay for private LSLR for integration with HRM and ban LSLs to allow for development of targeted programs.

The overall escalated cost of the status quo program (Table 2) is significantly higher than the recommended option and both alternatives due to the extended timeline of the program. Status quo also does not enable Halifax Water to meet the proposed program goal of 2050. With the Recommended Option and Alternative 2, Halifax Water has complete control over program timeline and overall program costs can be further reduced through increasing the annual renewal numbers, thus reducing the administrative burden of the program. The overall escalated cost difference between the proposed option and the two alternatives are within \$3M. The net present value shows status quo as the lowest cost but this is again due to the extended timeline and deferred capital spending, which is not the goal of this program. The impact on rates shows the three options as being higher, but this is largely driven by project timelines.

Table 1 - Summary of assumptions used for cost analysis of all options.

	Status Quo	Proposed Option	Alternative Option 1	Alternative Option 2
# of public LSL	1500-2000	1500-2000	1500-2000	1500-2000
# of private LSL	2500-3500	2500-3500	2500-3500	2500-3500
# of public LSLR/yr	60	150	130	150
# of private LSLR/yr	80	170	150	170
Cost of public LSLR	\$10,000	\$10,000	\$10,000	\$10,000
Public cost savings for Integration/targeted	0	30%/10%	30%	30%
Cost of Private (assume 10% cost savings on integration/targeted)	\$4,000	\$4,000	\$4,000	\$4,000
% LSLR distribution Integration/Targeted/One off	0/0/100	60/30/10	75/0/25	60/10/30
Hydro-excavation for all Private LSLR	\$600/LSLR	\$600/LSLR	\$600/LSLR	\$600/LSLR
Customer Request Sampling Cost	100\$/50%	100\$/50%	100\$/50%	100\$/50%
(assume 50% interest)	of one off	of one off	of one off	of one off
Program Administration costs (assumed constant but proposed option would be lowest)	3 FTE	3 FTE	3 FTE	3FTE

Table 2 – Summary of total program costs, both escalated (inflation only) and net present value for all options presented.

	Status Quo	Proposed	Alternative	Alternative	
		Option	Option 1	Option 2	
Total escalated program cost ¹	\$43,560,000	\$38,470,000	\$37,580,000	\$35,300,000	
Net present Value ²	\$24,500,000	\$29,570,00	\$27,820,000	\$27,310,000	
Program End date	2063	2039	2042	2039	

¹ Escalated program cost accounts for inflation only

² Net present value accounts for inflation and discounted by HW's weighted average cost of capital or borrowing rate: 3.36%.

ALTERNATIVES

There are two alternative option presented for consideration. Both alternatives would improve the ability to meet program goal but not to the same degree as the recommended option. The alternatives also raise additional questions related to fairness and disadvantaged communities.

The Board may also consider staying with the status quo. This is not recommended as it would not achieve program goals laid out in the 2016 business plan.

ATTACHMENTS

- 1. Appendix A Lead Service Line Data
- 2. Appendix B Summary of Utility Best Practice

Report Prepared by: *Original signed by:*

Wendy Krkosek, Water Quality Manager, 902-483-4432

Financial Reviewed by: Original signed by:

Louis de Montbrun, CPA, CA

Director, Corporate Services/CFO, 902-490-3572

³ Wastewater rates may also be impacted as the amount of wastewater renewals and videos will increase (front loaded to align timing)

APPENDIX A

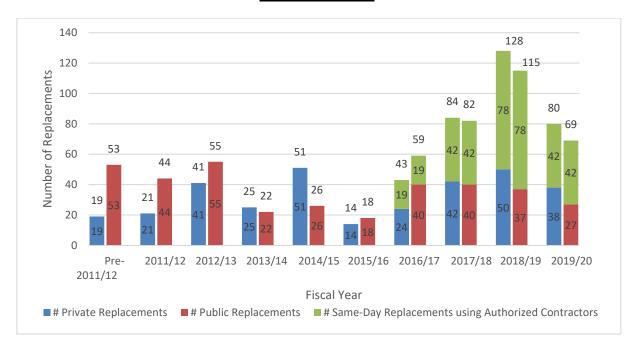


Figure 1 – Number of annual historical public and private lead service line replacements. Greed represents the program implemented to use the same contractor for public and private replacements, minimizing the potential for partial replacements.



Figure 2 – Number of hits to the online Lead Service Line Boundary web app the week prior to and the week of media release. The first article was published on Nov 2 and several more articles were published on Nov 4.

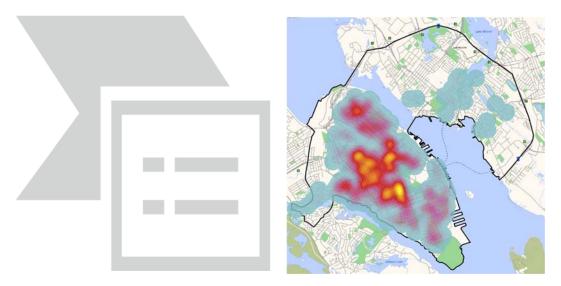


Figure 3 – Left figure is a heat map of identified private lead services based on data collected from the AMI program. The Right figure is a heat map of private lead as pulled from digital records. These two figures show the challenges in inventory accuracy and a program is underway to consolidate all records within the lead boundary.

Table 1 – Comparison of estimated funds associated with both a 25% rebate and full cost replacement of private LSLs based on improvements in inventory

	2017	2019
# of Private LSLs	10,000	3,500
HW cost for 25% rebate	\$12,500,0001	$$3,500,000^2$
HW cost for paying full private LSL	\$50,000,000	\$14,000,000

¹Private: \$5,000 x 25% rebate x 10,000 LSL = \$12,500,000 From UARB application

 2 Private: \$4,000 x 25% rebate x 3500 LSL = \$3,500,000 (private cost reduced to \$4,000 based on invoices to date)

APPENDIX B

Summary of Review of Utility Best Practice

In the United States, the Lead and Copper Rule has, since 1991, required stagnated sampling and corrective actions for exceedance of an action level of 10ug/L while in Canada, Health Canada only required flushed samples. Flushed samples are now acknowledged to not reveal the extent of a customer's exposure to lead in drinking water. In March of 2019, Health Canada released a new Maximum Acceptable Concentration for lead of 5 ug/L, and the requirement that utilities sample in a way that provides some insight as to lead exposure at the tap. Because of this, and the way that drinking water is regulated in Canada (Provincially), many utilities in Canada are only now discovering they may now be exceeding the new health standard. As a result, utilities in the United States are about 10-15 years more mature than most Canadian utilities in their response to LSLR programs. Through involvement with the American Water Works Association as well as research through the NSERC: Halifax Water Industrial Research Chair in Water Quality and Treatment at Dalhousie University, Halifax Water has been at the forefront of Canadian Utilities addressing the situation. The scope of different LSLR programs varies significantly from utility to utility and between Canada and the US, below are some highlights from a review of nearly 50 utilities.

Highlights of LSLR initiatives in other Canadian Utilities:

- Saskatoon has a program in place that does not allow partial LSLR. They target 400 LSLR annually and aim to have the program completed by 2026. The city pays for 60% of the renewal cost and homeowner pays for 40% (reinstatement fees not included)
- Montreal released a new LSLR program in October 2019. They will sample 100,000 homes within 3 years, estimate that they have over 48,000 LSLs and have a goal to replace all public and private lead service lines (and bill the homeowner for the private portion) within 10 years. The new program moves Montreal away from partial replacements, which was their historical practice.
- Ottawa recently enhanced their program and now offers a \$1,000 rebate to customers that have a private only lead service line. They provide pitcher filters to homes with lead services and have a priority replacement program for full lead service lines which includes payment by homeowner for private portion. They have 5 and 10 year financing options.
- Brantford, ON offer a \$1,000 rebate (does not include reinstatement fees). Provides pitcher filter to vulnerable populations with a LSL.

Highlights of LSLR initiatives in the United States:

State-level programs:

- States changing public utilities statures to allow for rate-based funds on private property include Indiana, Pennsylvania, Missouri, New Jersey and Michigan.
- State of Michigan revised lead and copper rule (2018) States that the full lead service line must be replaced at water supply expense, regardless of ownership.

Existing Utility programs:

- American Water Indiana (1.3 million customers) Uses rate-based funds to pay
 for LSLR on private property. Customer pays for any costs above \$7,500 for
 private LSLR. The justification for this direction was cost savings of systematic
 mass work, savings in communication, outreach and possible project delays with
 homeowner coordinating/paying for renewal.
- Denver, Colorado Pays for and replaces full LSLR on planned construction projects. Homeowner pays for private LSLR outside of planned projects.
- Washington, DC (2018) New bill to pay for full LSLR as part of planned construction projects, 50% coverage of private LSLR outside planned projects for low income.
- Discussions with utility personnel highlight that many utilities recognize the need to move towards full LSLR payment in order to accomplish program goals.

Utilities that have removed all lead service lines:

- Lansing, MI removed and paid for all full LSLR. Utility owns the full service to the meter.
- Madison, WI replaced all full LSLs using a city order to replace private portion
 of LSL upon notification by the utility. Timeline for compliance was based on level
 of risk. Rate based funds were not allowed by state to be used for LSLR, so used
 non rate-based revenue to fund 50% of private LSLR.



ITEM # 8 HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D

General Manager

DATE: November 20, 2019

SUBJECT: Enterprise Risk Management (ERM) Policy

ORIGIN

Enterprise Risk Management Framework

RECOMMENDATION

It is recommended the Halifax Water Board approve the attached Enterprise Risk Management Policy.

BACKGROUND

The Halifax Water Board approved a risk framework as outlined in a staff report presented at the in-camera meeting of March 29, 2018. With this direction, staff engaged a consultant to work with an internal project team to develop the ERM system. The first phase of work included development of an ERM system including a risk register to monitor corporate performance.

In order to get a full understanding of risks within the organization, interviews and surveys were conducted with management staff, senior executives and Board representatives. This was followed by a facilitated workshop with staff, senior management and the Board Chair to refine and rank risks across several broad categories. From the workshop, a risk register was developed and further vetted at a facilitated workshop of the Executive Management Team and the Board of Commissioners. A final report was received on April 30, 2019 which captured the state of risk management within the utility, presented a risk register and made recommendations for next steps. The report included a governance structure to organize risk management including regular reporting to the Board who have the ultimate oversight responsibility for risk management.

It was also recommended that Halifax Water develop risk policies, risk tolerance and risk appetite levels for ultimate approval of the Board, and feedback processes that gauge the effectiveness of the ERM program. To that end, a consultant was engaged for a second phase of work to facilitate the development of risk appetite and tolerance levels, provide support for policy development and assist with staff engagement.

A workshop was conducted with the Halifax Water Board and Executive Management Team on August 8, 2019 to seek an input on the utility's risk appetite and tolerance levels. The risk appetite and tolerance levels matrix was approved by the Board at the in-camera meeting on October 31, 2019. This matrix will guide future risk reporting to the Halifax Water Board and also serve as a lens to help the utility decide how to tolerate, treat, transfer or terminate risks facing the organization. The risk matrix will be a living document as Halifax Water will periodically need to re-assess and adjust for changing risks.

Over the long term, ERM can enhance enterprise resilience, and the ability to respond to change that could impact performance and necessitate a shift in strategy. In terms of structure, the current terms of reference for the Board Executive Committee includes responsibility for risk oversight. Notwithstanding, it is recognized that the Board should be fully engaged with enterprise risk management in accordance with governance best practice.

DISCUSSION

The Risk Management Policy is necessary to move forward with cascading risk consideration, identification, mitigation and reporting processes throughout the organization.

There are seven broad risk categories outlined in the policy, which align very closely to the Corporate Balanced Scorecard critical success factors. The risk categories and critical success factors may both change over time. In future, there will be consideration of the alignment. The more closely the risk categories and critical success factors align the less opportunity there will be for confusion or goal misalignment.

Pending approval of the policy, the policy would be rolled out to staff in 2020. It is envisioned risk reporting would commence at the January or March 2020 Board meeting, and that risk would be one of the lenses used to view the 2020/21 Operating and Capital Budgets, and updated Five Year Business Plan.

BUDGET IMPLICATIONS

The development of an enterprise risk management system was accommodated within the 2019/20 Operating Budget. The prioritization of projects within future capital and operating budgets will be influenced by the ERM System to achieve acceptable levels of risk. The Risk Management Policy identifies a Risk Officer. This is a role, but may not be the organizational position title. A resource to support risk management and internal audit functions will be included in the 2020/21 Operating Budget and Business Plan.

ATTACHMENT

Attachment 1 – Proposed Risk Management Policy

Report Prepared by: *Original signed by:*

Cathie O'Toole, MBA, CPA, CGA, ICD.D

General Manager, 902-490-4840

Financial Reviewed by: Original signed by:

Louis de Montbrun, CPA, CA

Director, Corporate Services/CFO, 902-490-3685



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Issue Date: xx/xx/xxxx
Revision #: XX

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Halifax Water

Enterprise Risk Management Policy



To balance risk to the benefit of our customers and the environment.



Policy #XX.X

Issue Ďate: xx/xx/xxxx

Revision #: XX

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Section

- **1.** Introduction
- 2. Policy statement
- **3.** Guiding risk appetite, definitions and principles
- 4. Purpose
- 5. Scope
- **6.** Roles and responsibilities
- **7.** Procedures

Appendix A – ERM Architecture at Halifax Water



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1. Introduction

The Halifax Regional Water Commission (Halifax Water) has adopted Enterprise Risk Management (ERM) as a governance and operational best practice. Risk is a combination of potential threat and opportunity; it is the chance of an event, action, inaction, or incident that could affect Halifax Water's ability to achieve its business and strategic objectives and regulatory obligations.

ERM consists of risk management practices and procedures applied across the organization to identify, measure, assess, respond to, monitor, and report on principal risks that affect the achievement of business objectives. ERM allows Halifax Water to identify, measure, and monitor key risk areas and to report on key risks to the Halifax Water Board of Commissioners (Board).

2. Policy Statement

Halifax Water accepts that risks, and opportunities, are present in all business activities. Consequently, Halifax Water recognizes the need for ERM as a consideration in strategic and operational planning, day-to-day management, and decision-making at all levels in the organization.

This Policy recognizes and encourages the effective management of risk, promotes the attainment of Halifax Water's mission and strategic objectives, and addresses critical risks before they materialize and negatively impact the organization.

3. Guiding risk appetite, definitions and principles

Halifax Water's overall risk appetite statement is:

Halifax Water's risk appetite is derived by its ability to provide world class water, wastewater and stormwater services efficiently, while minimizing impact to the environment.

The following definitions are relevant to ERM at Halifax Water:

<u>Risk</u> is a combination of potential threat and opportunity; it is the chance of an event, action, inaction, or incident that could affect Halifax Water's ability to achieve its business and strategic objectives and regulatory obligations.



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Risk Universe identifies all of the risks identified for Halifax Water; which are sorted into tiers and tracked in risk registers. The risk universe and risk registers are highly sensitive information which must be treated confidentially.

<u>Corporate risk register</u> is the record of the top isks that are reported to the Board on a regular basis, also known as tier one risks. Generally there will be 10- 12 risks treated as tier one.

<u>Directorate risk registers</u> are internal documents to record shared tier one responsibilities, and to record and track tier two and tier three risks. Other departmental strategic and tactical risks are treated as tier three.

The following principles were used to guide Halifax Water in building its ERM process:

- Creating value and transparency
- Driving action and business planning
- Addressing uncertainty
- Tailoring organizational capability to manage risk
- Facilitating evidence-based, balanced and better decision making

4. Purpose

Halifax Water recognizes that risk is present in all business activities and that the effective management of risk is a critical success factor in attaining Halifax Water's mission and strategic objectives. Halifax Water is committed to raising awareness of ERM by:

- establishing a systematic approach to managing and reporting key business risks;
- facilitating a risk-based assessment of both new and existing opportunities; and
- implementing initiatives, activities, and decisions intended to attain the strategic objectives of the organization.

This Policy is intended to define ERM principles and specify expectations associated with Halifax Water's risk management activities and governance.

5. Scope

This Policy applies to all Board commissioners and employees, and outlines ERM related accountabilities and responsibilities.



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6. Roles and Responsibilities

Risk will be managed as part of Halifax Water's corporate governance and management processes. ERM is an integral part of all management and decision-making functions within Halifax Water. Identifying risk and implementing control strategies will be delegated by the Board and management as appropriate.

The risk oversight responsibilities are based on Halifax Water's seven broad risk categories, which align very closely to the Corporate Balance Scorecard key success factors:

- <u>Financial & Asset Management</u>: Halifax Water seeks to minimize financial risks and thus, has **some tolerance** towards any impact that could affect the annual operating surplus or affect the critical assets.
- <u>Service</u>: Halifax Water strives to maintain the highest of professional and ethical service standards. We have a **low tolerance** towards any actions that could adversely impact our reputation and ability to fulfil our service obligations.
- Public Health: Halifax Water has zero tolerance for actions or behaviours that adversely impact its ability to provide safe drinking water to its customers. Halifax Water has a low tolerance for wastewater or stormwater discharges that could adversely impact the health of the public.
- Regulatory Compliance: Halifax Water has a **low tolerance** for actions that attract negative regulatory attention.
- Workplace Safety & Security: Halifax Water has zero tolerance for behaviours or operations that put our employees or members of the public at risk.
- Environment: Halifax Water has low tolerance for any action that could negatively impact the quality and safety of the environment as a result of uncontrolled discharges of drinking water, wastewater, and stormwater or associated delivery/storage of chemical products.
- People: Halifax Water has a low tolerance towards behaviours that would adversely affect its ability to provide a positive, respectful culture of accountability, where employees are engaged and working together to achieve the organization's strategic objectives.



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The <u>Board</u> is responsible for providing oversight and strategic direction on ERM at Halifax Water. The Board may delegate certain responsibilities to Board committees and/or employees as they see fit.

The <u>General Manager</u> is accountable for implementing this Policy and establishing the processes and activities necessary to manage Halifax Water's key risks.

The Halifax Water <u>ERM Steering Committee</u> provides guidance to employees charged with implementing ERM by establishing a corporate ERM program to identify potential events that may affect the business or operations of Halifax Water.

The Halifax Water <u>Executive Management Team</u> is accountable for the management of risk within their directorate risk registers. Providing oversight on the implementation of the ERM process, the Executive Management Team maintains the directorate risk registers, prioritizes risk mitigation, identifies decision parameters, confirms the effective operation of ERM processes and provides timely and accurate updates to the Board when requested, and to employees when required.

The Halifax Water <u>Risk Officer</u> maintains the corporate risk register and coordinates regular reviews and updates to the process. The Risk Officer provides ongoing advice and training related to ERM and this Policy, and acts as a liaison to ERM external stakeholders.

Halifax Water <u>Managers and Supervisors</u> may have specific responsibilities for reporting and managing risks. All levels of management are expected to understand the risks that fall within their areas of responsibility as well as to manage and report on these risks in accordance with this Policy and the various the risk registers. Managers and Supervisors are responsible for ensuring the consistent application of the ERM Policy by their employees, and for confirming all direct reports are aware of their roles and responsibilities under this Policy.

<u>Employees</u> are responsible to understand and accept this Policy, report inefficient, unnecessary or unworkable ERM controls, report risk and loss events to their supervisor, and cooperate with management on incident investigations.

7. Procedures

Updating ERM System Components - Halifax Water commits to staying current with developments, being aware of emerging risks, and keeping pace with a changing environment.



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Training - Halifax Water is committed to providing training and knowledge development in ERM. Halifax Water will ensure that all employees, particularly those with management, advisory, and decision-making responsibilities, obtain a sound understanding of ERM principles, and the requisite skills to implement ERM effectively.

Continual review and improvement - Halifax Water is committed to continuous improvement through monitoring performance and reviewing progress in ERM. Halifax Water will regularly monitor and review the progress being made in developing an appropriate ERM culture as well as the effective implementation of risk management strategies throughout the organization:

- The Board will review this Policy and the corporate risk register every two years at a minimum, and more frequently if and when a significant event occurs;
- In coordination with the Risk Officer, the ERM Steering Committee will review this Policy and the corporate risk register regularly and report to the Board with any recommended changes or amendments;
- The Executive Management Team will review the directorate risk registers regularly, and include this as an agenda item at their regularly scheduled meetings.
- The Risk Officer will monitor the ERM process for any conflicts, issues or discrepancies and report to the ERM Steering Committee accordingly.



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Issue Date: xx/xx/xxxx

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Appendix A - ERM Architecture at Halifax Water

The Board Overall responsibility for risk management Ensure risk management is embedded into all processes and **Executive Committee** activities Receive routine reports from Senior Management Review risk profile Set annual audit program and priorities Monitorprogress Provide risk assurance to the Board Oversee RM structures and processes Senior Management Committee Review and evaluate disclosure controls and procedures Consider materiality of information disclosed to external parties Formulate strategy and policy based on risk appetite, risk attitudes and risk exposures Receive reports from business units, review risk management activities and compile the group risk register Receive reports from departments and make reports and recommendations to the Board Track RM activity in the departments Produce specific policy statements, as necessary Prepare and update the department risk register Set risk priorities for department

Monitor projects and risk improvements Prepare reports for Senior Management



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HRWC Board

November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the Halifax

Regional Water Commission Board

SUBMITTED BY: Original signed by:

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

Original signed by:

Reid Campbell, P.Eng. Director, Water Services

Original signed by:

Susheel Arora, M.A.Sc., P.Eng. Director, Wastewater & Stormwater Services

Original signed by:

Kenda MacKenzie, P.Eng. Director, Regulatory Services

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D, General Manager

SUBJECT: Financial and Operations Information Report

INFORMATION REPORT

ORIGIN:

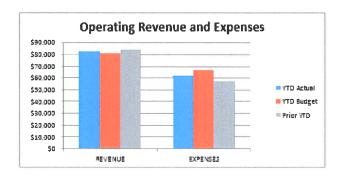
Regular update.

This report provides a high level overview of financial and operational performance for the utility. Financial results are presented first, followed by indicators and statistics for water and wastewater.

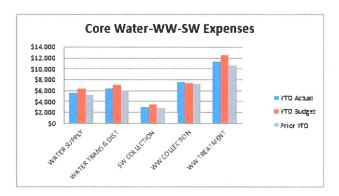
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FINANCIAL

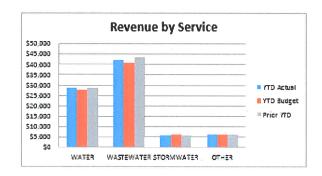
HALIFAX WATER UNAUDITED FINANCIAL INFORMATION APRIL 1/19 - OCTOBER 31/19 (7 MONTHS) '000



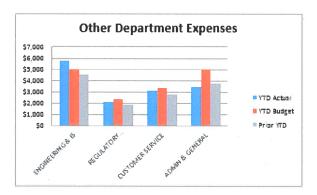




CORE WATER-WW-SW E	XPENSES			
	YTD Actual	YTD Budget	Prior YTD	% of Budget
WATER SUPPLY	\$5,435	\$6,319	\$5,238	50.17%
WATER TRANS & DIST	\$6,349	\$7,096	\$6,032	52.19%
SW COLLECTION	\$2,938	\$3,377	\$2,847	50.75%
WW COLLECTION	\$7,579	\$7,441	\$7,151	59.41%
WW TREATMENT	\$11,344	\$12,556	\$10,614	52.70%
	\$33,645	\$36,790	\$31,882	53.35%



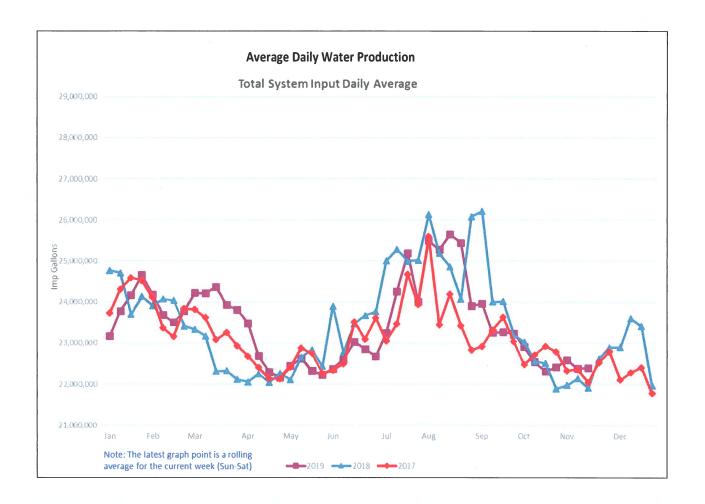
REVENUE BY SERVICE	(METERED SAL	ES AND SITE G	ENERATED FEE)
	YTD Actual	YTD Budget	Prior YTD
WATER	\$28,730	\$27,859	\$28,642
WASTEWATER	\$42,111	\$40,851	\$43,531
STORMWATER	\$5,822	\$5,942	\$5,879
OTHER	\$6,085	\$6,273	\$6,288
	\$82,748	\$80,924	\$84,340



OTHER DEPARTMENT EX	PENSES		
	YTD Actual	YTD Budget	Prior YTD
ENGINEERING & IS	\$5,791	\$5,004	\$4,555
REGULATORY SERVICE	\$2,166	\$2,381	\$1,861
CUSTOMER SERVICE	\$3,086	\$3,340	\$2,787
ADMIN & GENERAL	\$3,471	\$4,986	\$3,810
_	\$14,514	\$15,711	\$13,014

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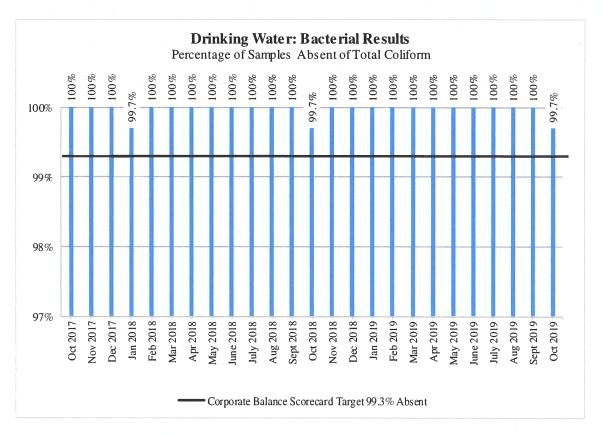


Regional Water Main Break/Leak Data							
Year	Total Breaks/Leaks	Current 12 Month Rolling Total (up to October 2019)					
2017/18	206						
2016/17	216	ë					
2015/16	226	191					
2014/15	210						
2013/14	213						
Total	1071						
Yr. Avg.	214.2						

Water Accountability	
Losses per Service Connection/Day (International Water Association Standa	rd)
Period Ending June, 2019	
Real Losses: 161 litres	
CBS Target: 160	

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Water Quality Master Plan Objectives 2019-2020 Q2								
Objective	Total Sites	% Sites Achieving Target	All Sites: 90th Percentile < 15 µg/L	CBSC Awarded Points				
Disinfection	65	97%		17				
Total Trihalomethanes	25	84%		7				
Haloacetic Acids	21	95%		16				
Particle Removal	5	100%		20				
Corrosion Control	69		4.08	20				
Summary Total				80				

Score: 80/100

In this report each facility is assessed using monthly or quarterly averages, depending on the averaging period specified in its Approval to Operate.

	Wastewater Treatment Facility Compliance Summary Rolling Averages - August, September and October 2019															
Wastewater Treatment	CB((mg	SS g/L)	(cou 100	coli ints/ mL)	р		Amm (mg	onia	Phosp (mg		TRC (mg/L)	Dissolved Oxygen (mg/L)	Toxicity	Trend
Facility	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Av	g. NSE Avg.		
Halifax	50	54	40	20	5000	6,343	6-9	6.7	-			-	-	-	Not acutely lethat	Continued
Dartmouth	50	75	40	44	5000	10,815	6-9	6.8				-	-	-	Lethal	Continued
Herring Cove	50	33	40	15	5000	69	6-9	6.9	-			-	-		Not acutely leghal	Continued
Eastern Passage	25	8	25	9	200	21	6-9	6.9				-	-	-	Not acutely lethal	Continued
Mill Cove	25	26	25	26	200	18	6-9	6.4	-			-	-	-	Not acutely lethal	Declined
Springfield	20	6	20	5	200	16	6-9	7.2	-			-	-	-	-	Continued
Frame	20	4	20	1	200	10	6-9	6.6	-			-	-	-	-	Continued
Middle Musq.	20	6	20	9	200	10	6-9	7.4				-	-		-	Continued
Uplands	20	5	20	10	200	17	6-9	6.5	-			-	-	-	-	Continued
Aerotech	5	3	5	- 1	200	10	6-9	7.4	5.7 W 1.2 S	5.7	0.13	0.11	-	6.5 7.4	Not acutely lethal	Declined
North Preston	10	7	10	3	200	10	6-9	6.8	3	0.1	1.5	0.2	-	-	-	Continued
Lockview	20	6	20	9	200	17	6.5-9	7.2	8.0 S	3.7	1.2 S	0.7	-	-	-	Continued
Steeves (Wellington)	20	- 4	20	and a	200	10	6.5-9	7.6	14.4 S	0.1	1.0 S	0.1	-	-	-	Continued
BLT	15	6	20	18	200	13	6-9	7.1	5 W 3 S	5	3 W 1 S	1	0.02 * 0.1	- 0	Not acutely lethal	Continued
Avg. of all Facilities	1	7	1	2	12	41	7.	.0	2.	8	0	.4	0.18	7.4		

NOTES & ACRONYMS:

CBODs - Carbonaceous 5-Day Biochemical Oxygen Demand

TSS - Total Suspended Solids

LEGEND

NSE Compliant

NSE Non-Compliant

 $*\ TRC-Total\ Residual\ Chlorine-Maxxam\ can\ only\ measure\ 0.10\ mg/L\ residual;\ res\overline{ults\ of\ 0.1\ mg/L}\ are\ compliant$

BDL - Below Detection Limit

W / S - Winter / Summer compliance limits

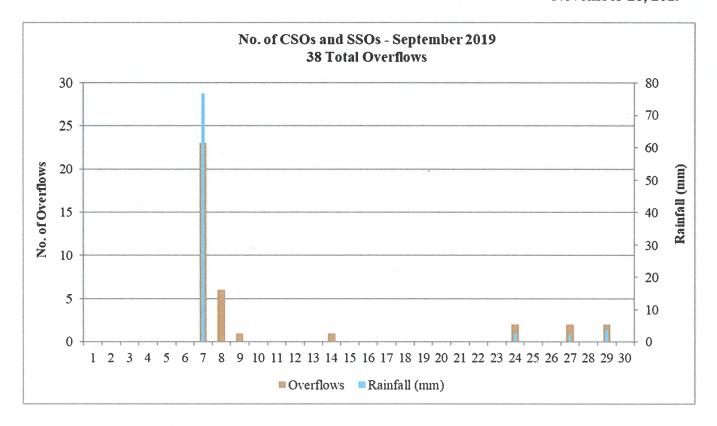
NSE requires monthly averages be less than the NSE Compliance Limit for each parameter (Dartmouth, Eastern Passage, Halifax, Herring Cove, Mill Cove) NSE requires quarterly averages be less than the NSE Compliance Limit for each parameter (Aerotech, Lockview, Mid. Musq., Frame, BLT, Uplands, North Preston, Steeves, Springfield)

Continued - All parameters remain essentially unchanged since the last report

Improved - One or more parameter(s) became compliant since the last report

Declined - One or more parameters(s) became non-compliant since the last report

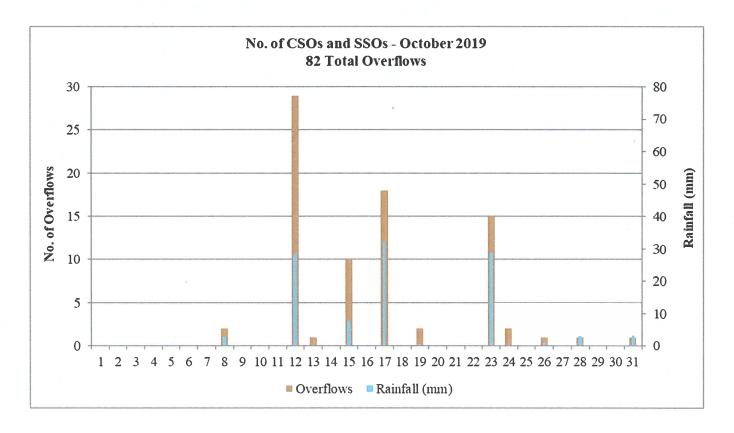
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NOTES & ACRONYMS: CSO - Combined Sewer Overflow SSO - Sanitary Sewer Overflow

- Rainfall data is from Halifax Water's rain gauge at the Halifax WWTF.
- There were 8 overflows on days when there was no recorded rainfall, as follows:
 - 1. September 8: The CSO at Sackville Street CSO and the SSOs at the Mill Cove Surge Tank, North Preston Road PS, Amos Walter Drive PS, Chain Lake PS and Silver Maple PS were due to rain on the previous day from Hurricane Dorian.
 - 2. September 9: The SSO at the Herring Cove PS was due to mechanical failure and power outages associated with Hurricane Dorian.
 - 3. September 14: The CSO at the Duffus Street PS was due to a mechanical failure of the pumping station.

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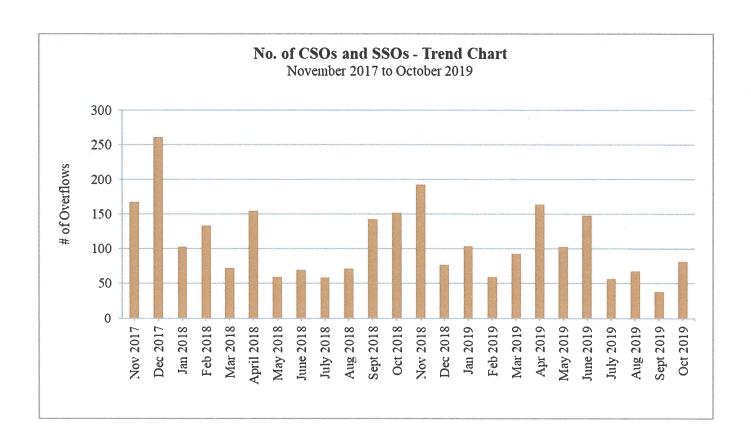


NOTES & ACRONYMS: CSO - Combined Sewer Overflow SSO - Sanitary Sewer Overflow

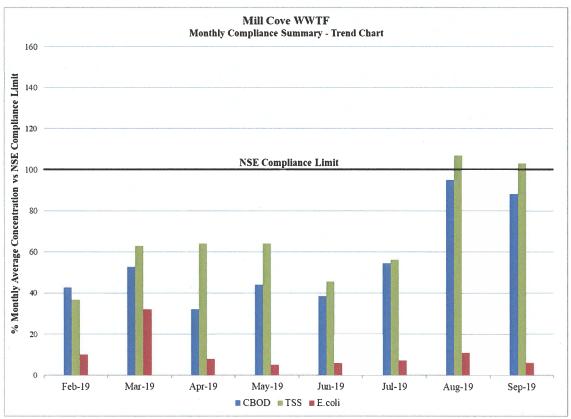
- Rainfall data is from Halifax Water's rain gauge at the Halifax WWTF.
- There were three overflows on days when there was no recorded rainfall, as follows:
 - 1. October 13: The CSO at the Maitland St PS & CSO was due to emergency maintenance at the Dartmouth WWTF that required the closure of the inlet gate. NSE was notified of the issues with the gate and associated bypass at the facility and CSOs.
 - 2. October 24: The CSO at the Maitland St PS & CSO was due to rain on the previous day. The SSO at the Herring Cove PS was due to a pump lockout initiated by the HCWWTF.

ITEM# 1-I

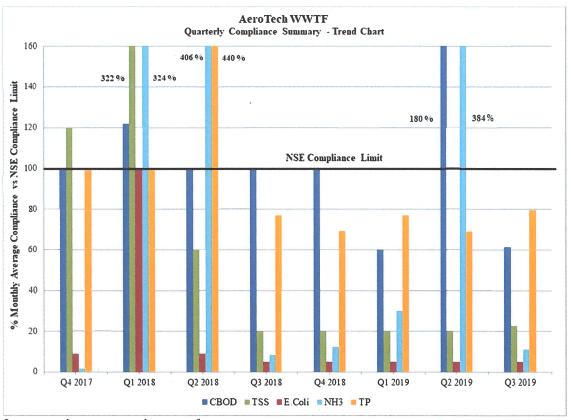
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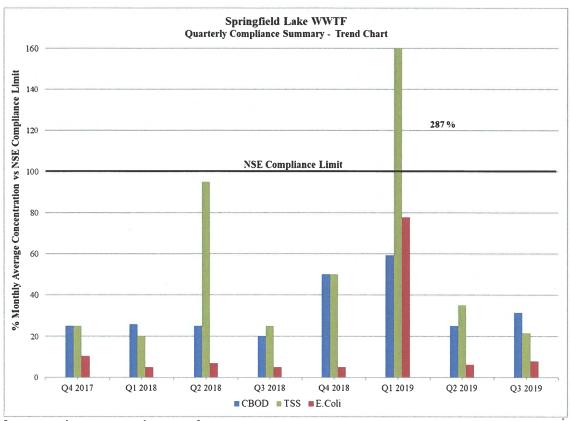
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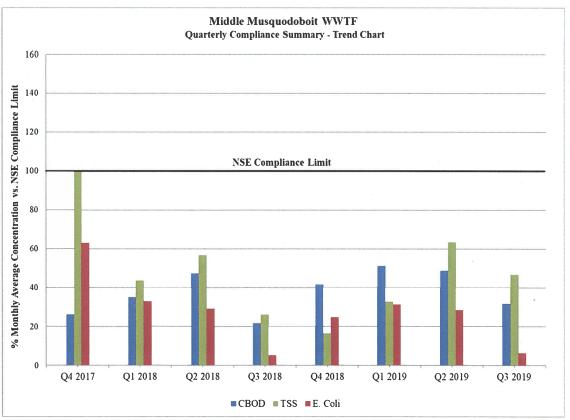
Lower numbers represent better performance.



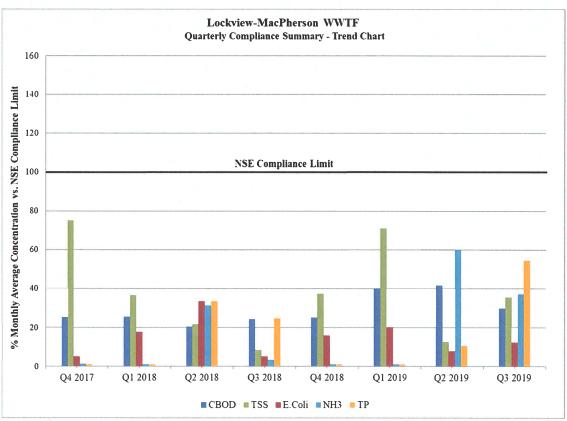
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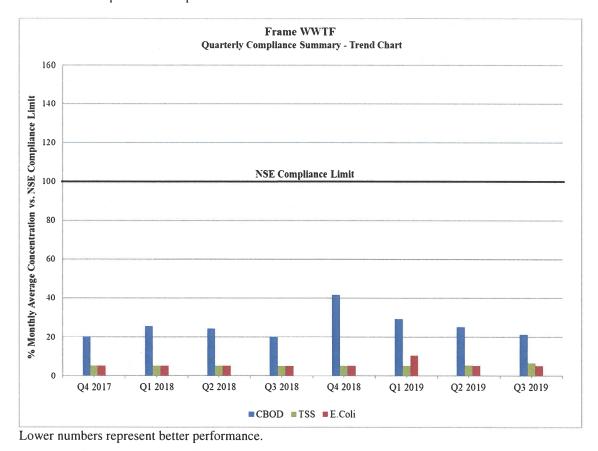


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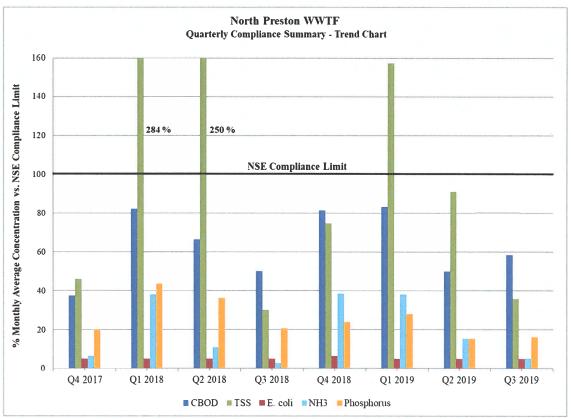


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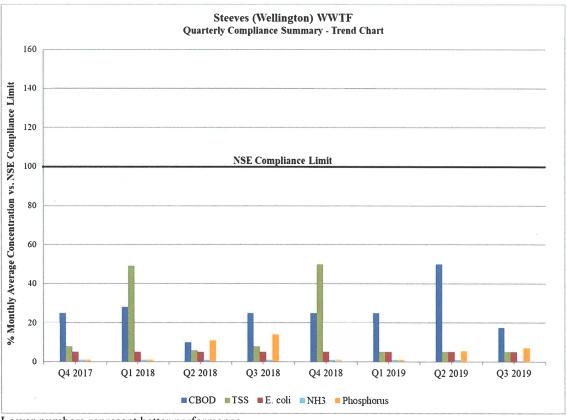




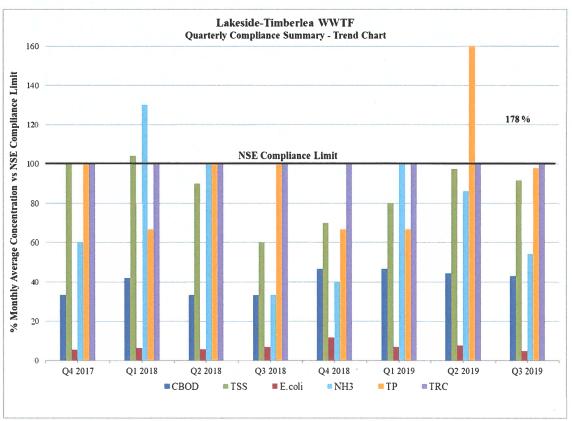
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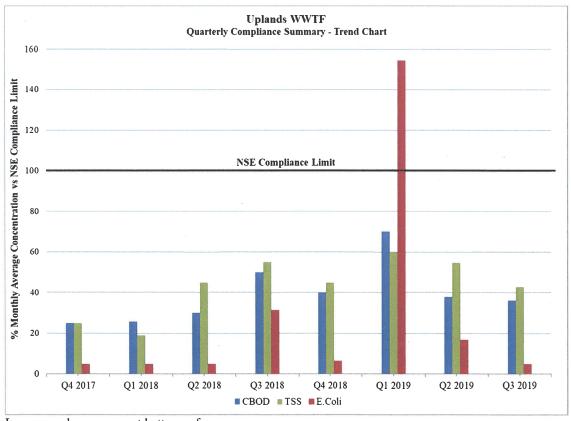
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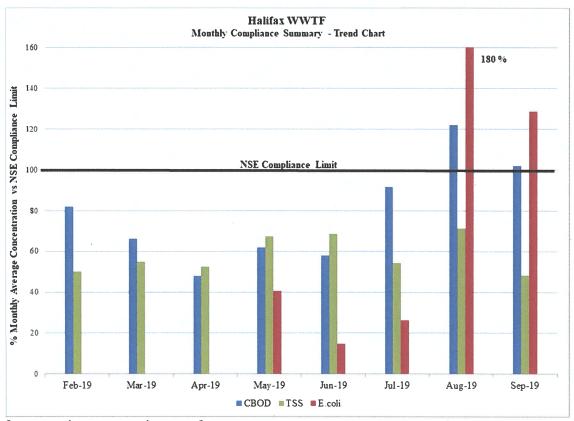
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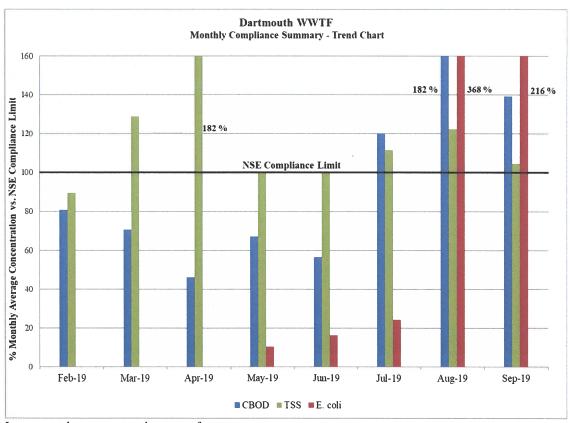
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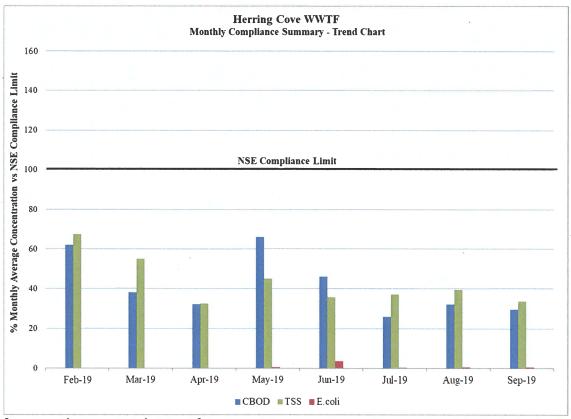
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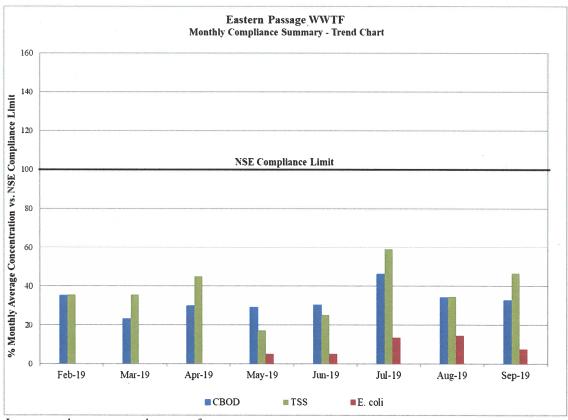
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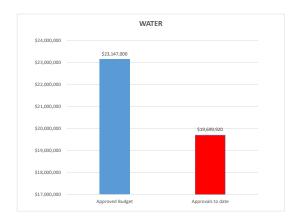


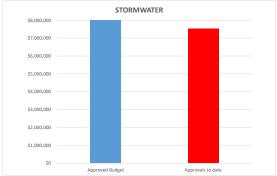
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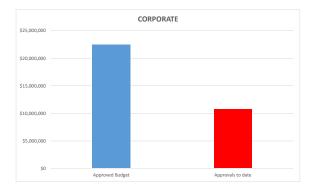
CAPITAL BUDGET APPROVALS TO DATE - 2019 -2020





Арр	oveu buuget	Approvais to date	
	WAT	ΓER	
Approved Budget			\$23,147,000
Approvals to date			\$19,699,920
	WASTEV	WATER	
Approved Budget			\$23,336,000
Approvals to date			\$17,639,026
	STORM	WATER	

Approved Budget	\$8,438,000
Approvals to date	\$7,524,000



CORPORATE PROJECTS

Approved Budget \$22,427,000 Approvals to date \$10,736,078

Total Budget: \$77,348,000 **Total To Date:** \$55,599,024

Total % 72%

Original signed by:

Report Approved: Date Jamie Hannam

HRWC Board Report #2-1 Capital Projects Funding Approvals 2019-2020

Category	Total Approved	Net Impact on Budget	Approval Date
Water			
Collection System	22.000		10.15
Scotia Drive Duffus Drive Watermain Interconnection	\$26,000	\$0	18-May-19
Culverts/Ditches	\$193,000	\$0	2 C 10
Quarry Road Integrated Project - Additional Funding Component Water Distribution	\$193,000	\$0	3-Sep-19
Automated Flushing Program	\$20,000	\$20,000	18-Mar-19
Coburg Road Bridge Watermain Replacement	\$40.000	\$40,000	3-Sep-19
Hydrants	\$75,000	\$75,000	3-May-19
Lead Service Line Replacement Program	\$1,000,000	\$1,000,000	3-May-19
Service Lines Renewals	\$100,000	\$100,000	3-May-19
Valve Renewal	\$125,000	\$125,000	3-May-19
Water Distribution - Main Renewal Program	\$1,839,000	\$1,839,000	28-Feb-19
Sewer Separation Program Construction of Romans Federal Avenues	\$1,459,000	\$1,459,000	
Watermain Renewal Program	\$2,435,920	\$2,435,920	5-Jun-19
Energy			
Bennery Lake WSP - Tank Insulation Repairs			
Bennery Lake WSP MCC Replacement	\$150,000	\$150,000	3-Sep-19
Lake Major WSP Process Area HVAC Upgrades			
Equipment			
Miscellaneous Equipment Replacement	\$50,000	\$50,000	3-May-19
Lake Major WSP - Purchase New Microscope	\$20,000	\$20,000	6-Nov-19
Facility			
Lake Major Dry Polymer Feed System	\$120,000	\$0	1-Aug-19
Lake Major WSP Butterfly Valve Replacement Program	\$120,000	\$0	26-Aug-19
JD Kline WSP Raw Water Pump Station HVAC Controls	\$75,000	\$0	
Land			
Bennery Lake Watershed Land			
Lake Major Watershed - Glasgow Lands			
Watershed Land Acquisition			
Security			
Security Upgrade Program	\$50,000	\$50,000	6-Aug-19
Structures	#210.000	#210 000	7.N. 10
Dam Safety Review	\$210,000	\$210,000	7-Nov-19
Lake Major Dam Monitoring Program Robie 2 Emergency Pump Meter Installation	\$40,000	\$40,000	11-Sep-19
Transmission	\$21,000	\$21,000	1-Apr-19
Bedford West CCC - Various Phases			
Cogswell Interchange Water Transmission Main Realignments	\$150,000	\$150,000	9-Jul-19
Critical Valve Replacements 2019	\$225,000	\$225,000	18-Mar-19
Halifax Peninsula Transmission Main Project	\$60,000	\$60,000	27-Sep-19
Lakeside Timberlea CCC	\$00,000	\$00,000	27-5 c p-17
Lucasville Road Transmission Main - Phase 1	\$6,799,000	\$6,799,000	15-Apr-19
MacIntosh Estates Phase 1 Oversizing	\$100,000	\$100,000	
Port Wallace Transmission Main - Caledonia Section	\$120,000	\$120,000	
Treatment Facilities	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	4 1,711	
Aerotech Booster Station Capital Upgrades			
Bennery Lake Access Road Upgrade	\$100,000	\$100,000	17-Apr-19
Bennery Lake Filter Influent Valves	\$64,000	\$64,000	18-Mar-19
Bennery Lake Sludge Valve Replacement Program	\$7,000	\$7,000	18-Mar-19
Bennery Lake Surge Anticipator Valve Replacement	\$20,000	\$20,000	18-Mar-19
Chlorine Analyzer Replacement Program	\$16,000	\$16,000	18-Mar-19
JD Kline Back Up Power Supply Study	\$25,000	\$25,000	23-Oct-19
JD Kline Building Envelope Upgrades	\$100,000	\$100,000	17-Sep-19
JD Kline Caustic Tank Liner Replacements	\$16,000	\$16,000	20-Mar-19
JD Kline Effluent Valve Actuator Replacement Program	\$200,000	\$200,000	20-Mar-1
JD Kline Low Lift Pump #3			
JD Kline Low Lift Station Crane Renewal	\$75,000	\$75,000	20-Mar-19
JD Kline Low Lift Station Roof Fan Shroud Replacement	\$21,000	\$21,000	20-Mar-1
JD Kline New Alum Chemical Supply	\$15,000	\$15,000	20-Mar-1
JD Kline New Lime Blower System	\$35,000	\$35,000	27-Mar-19
JD Kline Pilot Plant Upgrades	\$200,000	\$200,000	26-Mar-1
JD Kline Pre-Mix Area Mixers Upgrade	\$90,000	\$90,000	8-Apr-1
JD Kline Process Upgrades			
JD Kline Purchase New Microscope	\$17,000	\$17,000	20-Mar-19

Category	Total Approved	Net Impact on Budget	Approval Date
JD Kline Raw Water Intake Traveling Screen Replacement Program	\$245,000	\$245,000	8-Apr-19
JD Kline Raw Water Pump Station Electrical Room Ventilation	\$50,000	\$50,000	16-Sep-19
JD Kline Raw Water Pump Station Window/Wall/Building Envelope	\$50,000	\$50,000	23-Oct-19
JD Kline Replace C02 Feeders	\$475,000	\$475,000	15-Aug-19
JD Kline Replace Floc Tank Valve	\$35,000	\$35,000	20-Mar-19
JD Kline Replace Westinghouse Electrical Panels JD Kline Roof Replacement	\$8,000 \$270,000	\$8,000 \$270,000	20-Mar-19 1-May-19
JD Kline Upgrade the PCL	\$270,000	\$270,000	1-May-19
JD Kline Upgrades to the Process Wastewater Lagoons	\$150,000	\$150,000	20-Mar-19
Lake Major Butterfly Valve Replacement Program	\$200,000	\$200,000	20-Mar-19
Lake Major C02 System Replacement Construction	\$215,000	\$215,000	23-May-19
Lake Major Clarifier Repair			
Lake Major Filtration System Replacement			
Lake Major Lab Relocation	\$235,000	\$235,000	20-Mar-19
Lake Major Overall Process and Design Study	\$230,000	\$230,000	18-Jun-19
Lake Major Purchase Spectrophotometers Lake Major Replace Contactors in the MCC	\$15,000 \$34,000	\$15,000 \$34,000	20-Mar-19 20-Mar-19
Lake Major Replace the Lime Feed and Delivery System	\$120,000	\$120,000	20-Mar-19 27-Mar-19
Miller Lake Small System Public Main Extension Miller Lake Road	\$495,000	\$495,000	12-Apr-19
Purchase and Install TOC Analyzers WSP Facilities	\$90,000	\$90,000	18-Mar-19
Purchase and Install Water Quality Sonde Equipment	\$70,000	\$70,000	20-Mar-19
Reservoir Mixing and Residual Management Upgrade Program	\$150,000	\$150,000	10-Apr-19
Silversands WSP - Electrical/Architectural Upgrades	\$150,000	\$150,000	3-Sep-19
Lake Major Purchase Turbidimeter	\$18,000	\$18,000	20-Mar-19
Lake Major Dry Polymer Feed System Replacement	\$305,000	\$305,000	14-Aug-19
Water Total	\$20,233,920	\$19,699,920	
Wastewater			
Collection System Bayers Rd Phase 2 - Sewer Separation			
Bedford West Collection System CCC	\$20,000	\$20,000	30-May-19
Cogswell Redevelopment Sewer Relocation	\$170,000	\$170,000	30-1v1ay-19
Fairview, Clayton Park Bridgeview I/I Reduction	\$2,500,000	\$2,500,000	
Integrated Wastewater Projects Program	\$1,315,000	\$1,315,000	28-Feb-19
Lateral Replacements WW (non-tree roots)	\$1,685,000	\$1,685,000	3-May-19
Lateral Replacements WW (tree roots)	\$526,000	\$526,000	3-May-19
Main Street Sewer Main Replacement	\$100,000	\$100,000	19-Feb-19
Manhole Renewals WW	\$20,000	\$20,000	3-May-19
Romans - Federal Avenues Sewer Separation	\$2,456,000	\$2,456,000	16-Oct-19
Sewer Relocation at South Street CN Bridge Wanda Lane Sanitary Sewer Replacement	\$25,000 \$1,050,000	\$25,000 \$1,050,000	15-Apr-19 5-Jun-19
, ,	\$1,992,026	\$1,992,026	11-Jul-19
Wastewater System Trenchless Rehabilitation Program	Ψ1,772,020		
Wastewater System Trenchless Rehabilitation Program Wet Weather Management Program	\$250,000	\$250,000	29-May-19
	\$250,000	\$250,000	29-May-19
Wet Weather Management Program	\$250,000	\$250,000	29-May-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation	\$250,000 \$50,000	\$250,000 \$50,000	•
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations		-	•
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program	\$50,000 \$25,000	\$50,000 \$25,000	1-May-19 15-Apr-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing	\$50,000 \$25,000 \$249,000	\$50,000 \$25,000 \$249,000	1-May-19 15-Apr-19 27-Sep-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services	\$50,000 \$25,000 \$249,000 \$150,000	\$50,000 \$25,000 \$249,000 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis	\$50,000 \$25,000 \$25,000 \$249,000 \$150,000 \$35,000	\$50,000 \$25,000 \$249,000 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps	\$50,000 \$25,000 \$249,000 \$150,000	\$50,000 \$25,000 \$249,000 \$0	27-Sep-19 3-Sep-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment	\$50,000 \$25,000 \$25,000 \$150,000 \$35,000 \$225,000	\$50,000 \$25,000 \$249,000 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps	\$50,000 \$25,000 \$25,000 \$249,000 \$150,000 \$35,000	\$50,000 \$25,000 \$249,000 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment	\$50,000 \$25,000 \$25,000 \$150,000 \$35,000 \$225,000	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$25,000	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 3-May-19
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Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment Miscellaneous Equipment Replacement Mill Cove WWTF New Yard Tractor Wastewater CCTV Equipment Replacement Facility	\$50,000 \$25,000 \$150,000 \$35,000 \$225,000 \$225,000 \$120,000 \$10,000 \$183,000	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$120,000 \$125,000	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 27-Sep-19 6-Nov-19
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Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment Miscellaneous Equipment Replacement Mill Cove WWTF New Yard Tractor Wastewater CCTV Equipment Replacement Facility Community Wastewater Treatment Facilities: Personal Monitoring Devices DWWTF New Air Compressors Halifax WWTF South Access Gate Rehabilitation	\$50,000 \$25,000 \$150,000 \$35,000 \$225,000 \$225,000 \$120,000 \$183,000 \$15,000 \$15,000 \$15,000 \$16,000	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$120,000 \$125,000 \$125,000 \$0 \$0 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 27-Sep-19 6-Nov-19 20-Jun-19 25-Jun-19 30-Jul-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment Miscellaneous Equipment Replacement Mill Cove WWTF New Yard Tractor Wastewater CCTV Equipment Replacement Facility Community Wastewater Treatment Facilities: Personal Monitoring Devices DWWTF New Air Compressors Halifax WWTF South Access Gate Rehabilitation Eastern Passage WWTF Plant Optimization Funding Increase	\$50,000 \$25,000 \$150,000 \$35,000 \$225,000 \$120,000 \$10,000 \$183,000 \$15,000 \$16,000 \$16,000 \$18,000	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$120,000 \$125,000 \$125,000 \$0 \$0 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 27-Sep-19 6-Nov-19 20-Jun-19 25-Jun-19 30-Jul-19
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Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment Miscellaneous Equipment Replacement Mill Cove WWTF New Yard Tractor Wastewater CCTV Equipment Replacement Facility Community Wastewater Treatment Facilities: Personal Monitoring Devices DWWTF New Air Compressors Halifax WWTF South Access Gate Rehabilitation Eastern Passage WWTF Plant Optimization Funding Increase DWWTF Old Raw Water Pump Rebuild & Storage Container	\$50,000 \$25,000 \$150,000 \$35,000 \$225,000 \$120,000 \$120,000 \$183,000 \$15,000 \$15,000 \$15,000 \$16,000 \$18,000	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$125,000 \$120,000 \$125,000 \$0 \$0 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 27-Sep-19 6-Nov-19 20-Jun-19 25-Jun-19 30-Jul-19 17-Oct-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment Miscellaneous Equipment Replacement Mill Cove WWTF New Yard Tractor Wastewater CCTV Equipment Replacement Facility Community Wastewater Treatment Facilities: Personal Monitoring Devices DWWTF New Air Compressors Halifax WWTF South Access Gate Rehabilitation Eastern Passage WWTF Plant Optimization Funding Increase DWWTF Old Raw Water Pump Rebuild & Storage Container Forcemains Beaver Crescent PS - FM Replacement	\$50,000 \$25,000 \$25,000 \$150,000 \$35,000 \$225,000 \$120,000 \$10,000 \$183,000 \$15,000 \$15,000 \$16,000 \$18,000 \$0	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$120,000 \$125,000 \$125,000 \$0 \$0 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 27-Sep-19 6-Nov-19 20-Jun-19 25-Jun-19 30-Jul-19 23-Oct-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment Miscellaneous Equipment Replacement Mill Cove WWTF New Yard Tractor Wastewater CCTV Equipment Replacement Facility Community Wastewater Treatment Facilities: Personal Monitoring Devices DWWTF New Air Compressors Halifax WWTF South Access Gate Rehabilitation Eastern Passage WWTF Plant Optimization Funding Increase DWWTF Old Raw Water Pump Rebuild & Storage Container	\$50,000 \$25,000 \$150,000 \$35,000 \$225,000 \$120,000 \$120,000 \$183,000 \$15,000 \$15,000 \$15,000 \$16,000 \$18,000	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$120,000 \$120,000 \$125,000 \$0 \$0 \$0 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 27-Sep-19 6-Nov-19 20-Jun-19 25-Jun-19 30-Jul-19 17-Oct-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment Miscellaneous Equipment Replacement Mill Cove WWTF New Yard Tractor Wastewater CCTV Equipment Replacement Facility Community Wastewater Treatment Facilities: Personal Monitoring Devices DWWTF New Air Compressors Halifax WWTF South Access Gate Rehabilitation Eastern Passage WWTF Plant Optimization Funding Increase DWWTF Old Raw Water Pump Rebuild & Storage Container Forcemains Beaver Crescent PS - FM Replacement Caldwell Road ARV/MH Replacement	\$50,000 \$25,000 \$25,000 \$150,000 \$35,000 \$225,000 \$120,000 \$10,000 \$183,000 \$15,000 \$15,000 \$16,000 \$18,000 \$0	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$120,000 \$120,000 \$125,000 \$0 \$0 \$0 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 27-Sep-19 6-Nov-19 20-Jun-19 25-Jun-19 30-Jul-19 23-Oct-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment Miscellaneous Equipment Replacement Mill Cove WWTF New Yard Tractor Wastewater CCTV Equipment Replacement Facility Community Wastewater Treatment Facilities: Personal Monitoring Devices DWWTF New Air Compressors Halifax WWTF South Access Gate Rehabilitation Eastern Passage WWTF Plant Optimization Funding Increase DWWTF Old Raw Water Pump Rebuild & Storage Container Forcemains Beaver Crescent PS - FM Replacement Caldwell Road ARV/MH Replacement Security	\$50,000 \$25,000 \$150,000 \$150,000 \$35,000 \$225,000 \$120,000 \$10,000 \$183,000 \$15,000 \$15,000 \$16,000 \$18,000 \$175,000	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$120,000 \$125,000 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 27-Sep-19 6-Nov-19 20-Jun-19 30-Jul-19 17-Oct-19 23-Oct-19 23-May-19
Wet Weather Management Program WRWIP Project Bayers Rd Phase 1 - Sewer Separation Energy HHSP - BAS+ HVAC Recommissioning NSPI Meter Relocations Pump Station HVAC Retro-Commissioning Program Wastewater Pumping Station Performance Testing Cogswell District Energy System - Engineering Consulting Services Halifax WWTF Flow Splitting Computational Fluid Dynamics (CFD) Analysis Dartmouth WWTF - New CSA Approved Raw Water Pumps Equipment I&I Reduction (SIR) Program Flow Meters and Related Equipment Miscellaneous Equipment Replacement Mill Cove WWTF New Yard Tractor Wastewater CCTV Equipment Replacement Facility Community Wastewater Treatment Facilities: Personal Monitoring Devices DWWTF New Air Compressors Halifax WWTF South Access Gate Rehabilitation Eastern Passage WWTF Plant Optimization Funding Increase DWWTF Old Raw Water Pump Rebuild & Storage Container Forcemains Beaver Crescent PS - FM Replacement Caldwell Road ARV/MH Replacement Security Security Upgrade Program	\$50,000 \$25,000 \$150,000 \$150,000 \$35,000 \$225,000 \$120,000 \$10,000 \$183,000 \$15,000 \$15,000 \$16,000 \$18,000 \$175,000	\$50,000 \$25,000 \$249,000 \$0 \$0 \$0 \$120,000 \$125,000 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	1-May-19 15-Apr-19 27-Sep-19 3-Sep-19 11-Sep-19 11-Sep-19 3-May-19 27-Sep-19 6-Nov-19 20-Jun-19 30-Jul-19 17-Oct-19 23-Oct-19 23-May-19

Category	Total Approved	Net Impact on Budget	Approval Date
Duffus PS CSO - Modification	\$50,000	\$50,000	18-Jun-19
Emergency Pumping Station Pump Replacements	\$250,000	\$250,000	31-May-19
Fairfield Holding Tank Rehabilitation	\$25,000	\$25,000	26-Mar-19
Fish Hatchery FM - ARV Chamber Water Proofing	\$25,000	\$25,000	28-Feb-19
Pump Station Elimination - Concept Design Russell Lake PS Upgrade	\$25,000	\$25,000	12-Mar-19
Upper Water Street PS CSO Replacement			
Wastewater Pumping Station Component Replacement Program - Central	\$250,000	\$250,000	1-May-19
Wastewater Pumping Station Component Replacement Program - East	\$46,000	\$46,000	24-Jul-19
Wastewater Pumping Station Component Replacement Program - West	\$200,000	\$200,000	24-Jul-19
Windmill Road PS Replacement			
Treatment Facilities	* * 0 0 0 0		
A protect WWTF Asset Renewal Program	\$50,000	\$50,000	5-Jun-19
Aerotech WWTF Upgrade and Expansion Project Extra Cost Building Cleaning and Corrosion Protection	\$500,000	\$500,000	15-Apr-19
Carbon Media Replacement			
Dartmouth WW Treatment Facility Coagulant Dosing Pump Replacements	\$40,000	\$40,000	17-Oct-19
Dartmouth WW Treatment Facility Densadeg Flow Meters	\$35,000	\$35,000	7-Nov-19
Dartmouth WW Treatment Facility Duct Work Replacement	\$25,000	\$25,000	8-Apr-19
Easement for Sewer and Access			
Eastern Passage WWTF Atlas Copco Blowers Spare VFD	\$20,000	\$20,000	8-Apr-19
Eastern Passage WWTF Drum Thickener Overhaul Spare Parts	\$15,000	\$15,000	8-Apr-19
Eastern Passage WWTF Outfall Inspection and Warning Signage	\$15,000	\$15,000	26-Apr-19
Eastern Passage WWTF Primary Sludge Pumps Spare Parts Eastern Passage WWTF Process Upgrade Program	\$15,000 \$50,000	\$15,000 \$50,000	8-Apr-19 17-Oct-19
Eastern Passage WWTF RAS Pumps Spare Parts	\$40,000	\$40,000	8-Apr-19
Eastern Passage WWTF Yard Lighting	\$35,000	\$35,000	8-Apr-19
Emergency Wastewater Treatment Facility equipment replacements	\$295,000	\$295,000	16-Sep-19
Grit Pump Replacement	\$75,000	\$75,000	15-Apr-19
Halifax WWTF AHU Coil Replacement	\$45,000	\$45,000	18-Jun-19
Halifax WWTF Duct work Replacement	\$50,000	\$50,000	8-Apr-19
Halifax WWTF New Raw Water Pumps	\$50,000	\$275,000	10-Jun-19
Herring Cove Wastewater Treatment Facility Duct Work Replacement Program	\$25,000	\$25,000	8-Apr-19
HHSP - OCS Wet Scrubber Chlorine Analyzers HSPs - Outfall Inspection Program	\$125,000 \$20,000	\$125,000 \$20,000	29-May-19 26-Apr-19
Management Plan	\$60,000	\$60,000	17-Oct-19
Mill Cove WW Treatment Facility Digester Mixers Failure Analysis	\$20,000	\$20,000	21-May-19
Mill Cove WW Treatment Facility Lining of Supernatant Pump Croc	\$50,000	\$50,000	21-May-19
Mill Cove WW Treatment Facility New Lab Cabinets and Countertops	\$69,500	\$60,000	18-Apr-19
Mill Cove WW Treatment Facility Process Upgrades - Preliminary & Detailed Design	\$150,000	\$150,000	17-Oct-19
Mill Cove WW Treatment Facility Replace Oxygen Analyzer	\$75,000	\$75,000	21-May-19
Mill Cove WW Treatment Facility South Secondary Clarifier Recoat/Replace Mechanisms	\$100,000	\$100,000	
Mill Cove WW Treatment Facility South Secondary Splitter Box Rehabilitation Plant Optimization Audit Program	\$30,000 \$125,000	\$30,000 \$125,000	21-May-19 23-May-19
	\$125,000	\$123,000	
Springfield Lake and North Preston - Driveway Replacement Timberlea WWTF Asset Renewal Program	\$50,000	\$50,000	17-Oct-19
Eastern Passage WWTF Rebuild Centrifuge 801	\$50,000	\$50,000	8-Apr-19
Dartmouth WWTF Grit Pump replacement	\$37,500	\$0	18-Jun-19
Aerotech BFP LBB Refurbishment	\$130,000	\$0	8-Jul-19
Trunk Sewers			
Fairview Cove Trunk Sewer	\$600,000	\$600,000	11-Apr-19
Sackville Trunk Sewer - Condition Assessment	\$155,000	\$155,000	2-Jul-19
Wastewater Total Stormwater	\$18,173,026	\$17,639,026	
Collection System			
Joe Street Additional Integrated Project	\$62,000	\$0	18-May-19
Pernix Crt Additional Integrated Project	\$17,000		18-May-19
Athorpe Street Additional Integrated Project	\$10,000	\$0	18-May-19
Forestglen Drive Additional Integrated Project	\$44,000	\$0	18-May-19
Lakeview Drive Additional Integrated Project	\$31,000		18-May-19
Gottingen Street Additional Integrated Project	\$43,000		18-May-19
Eastview Drive Additional Integrated Project	\$15,000	\$0	,
Quaker Cres Additional Integrated Project Culverts/Ditches	\$23,000	\$0	18-May-19
Bundy Lane near civic 79			
Coronet Avenue driveway culvert replacement project	\$100,000	\$100,000	30-Jul-19
Driveway Culvert Replacements	\$812,000	\$812,000	8-May-19
Frederick Drive at Dyke Road			
Highway 2, near civic 1380	\$200,000	\$170,000	25-Jun-19
Lucasville Road Sta 0+910 near civic 1155			

Category	Total Approved	Net Impact on Budget	Approval Date
Lucasville Road Sta 1+595 at Third Street			
Lucasville Road Sta 2+695 near civic 758			
Lucasville Road Sta 2+850 near civic 749 and 743 Millers Road near civic 1			
Murray Road at Caldwell Road			
Parkway Drive and Atholea Drive			
Stormwater Survey and Studies Program			
Kipawa Crescent - Culvert Replacement Design Phase	\$31,000	\$0	1-Apr-19
Yankeetown Road near civic 16 (project is deferred to next budget year)	\$88,000	\$88,000	
Kingswood Drive near civic 10	\$34,000	\$0	30-Jul-19
Kingswood Drive near civic 60 Sewer Separation Program - Bayers Road Phase II Project - Detailed Engineering Design	\$34,000 \$75,000	\$0 \$0	30-Jul-19
Sewer Separation Program - Bayers Road Phase II Project - Detailed Engineering Design Seth Aaron Drive near civic 40	\$37,000	\$0 \$0	30-Jul-19
Dartmoor Crescent Integrated Project Culvert Replacements	\$134,000	\$0	3-Oct-19
Sunrise Hill SW IP 19/20	\$82,000	\$0	1-Oct-1
Pipes	, , , , , , ,	, .	
Catchbasin Renewals SW	\$60,000	\$60,000	3-May-1
Celtic Drive Storm Sewer Renewal	\$120,000	\$120,000	22-Feb-1
Cogswell Redevelopment SW Sewer Relocation	\$300,000	\$300,000	12-Jul-1
Drainage Remediation Program Surveys/Studies			
Everette Street at Bonnie Brae Drive Drainage Upgrade	#1. 2 00.000	#1. 2 00.000	20 F.1.1
Integrated Stormwater Projects	\$1,200,000	\$1,200,000	28-Feb-1
Lakecrest Drive CMP Replacement Lateral Replacements SW	\$12,000	\$12,000	2 May 1
Manhole Renewals SW	\$12,000	\$15,000	3-May-1 3-May-1
National Disaster Mitigation Program	\$15,000	\$15,000	J-Way-1
Stormwater Pipe Condition Inspections (CSP)	\$100,000	\$100,000	15-Apr-1
Wanda Lane Deep Storm Sewer	\$205,000	\$205,000	5-Jun-1
Wanda Lane Storm System Upgrade	\$210,000	\$210,000	5-Jun-1
Structures			
Clement St. Berm	\$82,000	\$82,000	1-Oct-19
Ellenvale Run Retaining Wall System Phase 2	\$2,220,000	\$2,220,000	15-Apr-1
Ellenvale Run Retaining Wall System Phase 3 (Wanda Lane)	\$1,830,000	\$1,830,000	5-Jun-19
tormwater Total Corporate	\$8,226,000	\$7,524,000	
Facility			
Building Capital Improvements	\$98,500	\$98,500	19-Sep-19
East/Central Regional Operational Facility	\$70,200	\$70,200	1, 5 0 p 1.
Fleet			
Fleet - Stormwater	\$295,000	\$295,000	3-May-1
Fleet - Stormwater Fleet - Wastewater	\$1,180,000	\$1,180,000	3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water			3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS	\$1,180,000	\$1,180,000	3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database	\$1,180,000 \$385,000	\$1,180,000 \$385,000	3-May-1 3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program	\$1,180,000	\$1,180,000	3-May-1 3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build	\$1,180,000 \$385,000	\$1,180,000 \$385,000	3-May-1 3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project	\$1,180,000 \$385,000	\$1,180,000 \$385,000	3-May-1 3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program	\$1,180,000 \$385,000	\$1,180,000 \$385,000	3-May-1 3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project	\$1,180,000 \$385,000	\$1,180,000 \$385,000	3-May-1 3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry	\$1,180,000 \$385,000	\$1,180,000 \$385,000	3-May-1 3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model	\$1,180,000 \$385,000	\$1,180,000 \$385,000	3-May-1 3-May-1 23-Oct-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework	\$1,180,000 \$385,000 \$50,000 \$112,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000	\$1,180,000 \$385,000 \$50,000 \$112,000 \$1,000,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal	\$1,180,000 \$385,000 \$50,000 \$112,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site	\$1,180,000 \$385,000 \$50,000 \$112,000 \$1,000,000 \$220,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1 19-Sep-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance	\$1,180,000 \$385,000 \$50,000 \$50,000 \$112,000 \$1,000,000 \$220,000 \$150,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$1,000,000 \$220,000 \$150,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1 19-Sep-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program	\$1,180,000 \$385,000 \$50,000 \$112,000 \$1,000,000 \$220,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1 19-Sep-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program Document/Content Management	\$1,180,000 \$385,000 \$50,000 \$50,000 \$112,000 \$1,000,000 \$220,000 \$150,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$1,000,000 \$220,000 \$150,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1 19-Sep-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program Document/Content Management IT Foundations	\$1,180,000 \$385,000 \$50,000 \$50,000 \$112,000 \$1,000,000 \$220,000 \$150,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$1,000,000 \$220,000 \$150,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1 19-Sep-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program Document/Content Management IT Foundations IT Server Hosting	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000	23-Sep-1 6-May-1 24-Jun-1 19-Sep-1 29-May-1 3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program Document/Content Management IT Foundations	\$1,180,000 \$385,000 \$50,000 \$50,000 \$112,000 \$1,000,000 \$220,000 \$150,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$1,000,000 \$220,000 \$150,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1 19-Sep-1 29-May-1 3-May-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program Document/Content Management IT Foundations IT Server Hosting Migrate to Office 365 Mobile Devices and Applications New payroll System	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000 \$50,000 \$40,000 \$600,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$150,000 \$290,000 \$40,000 \$600,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1 19-Sep-1 29-May-1 3-May-1 31-Jul-1 7-Nov-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program Document/Content Management IT Foundations IT Server Hosting Migrate to Office 365 Mobile Devices and Applications New payroll System Permit Approvals	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000 \$50,000 \$40,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000 \$50,000 \$40,000	3-May-1 3-May-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1 19-Sep-1 29-May-1 3-May-1 31-Jul-1 7-Nov-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program Document/Content Management IT Foundations IT Server Hosting Migrate to Office 365 Mobile Devices and Applications New payroll System Permit Approvals Regulatory Reporting	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000 \$50,000 \$40,000 \$600,000 \$33,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000 \$40,000 \$40,000 \$260,000 \$33,000	23-Sep-1 23-Oct-1 23-Oct-1 23-Oct-1 23-Sep-1 6-May-1 24-Jun-1 19-Sep-1 29-May-1 3-May-1 31-Jul-1 7-Nov-1 30-Jul-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program Document/Content Management IT Foundations IT Server Hosting Migrate to Office 365 Mobile Devices and Applications New payroll System Permit Approvals Regulatory Reporting SAP S4 Hana Upgrade	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000 \$50,000 \$40,000 \$600,000 \$260,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000 \$50,000 \$40,000 \$600,000 \$260,000	23-Sep-1 6-May-1 24-Jun-1 19-Sep-1 3-May-1 31-Jul-1 7-Nov-1 30-Jul-1
Fleet - Stormwater Fleet - Wastewater Fleet - Water GIS Engineering Drawing Database GIS Application Support Program GIS Data Build GIS Data Project GIS Hardware/Software Program Sewer Service Entry Water Data Base Model Information Technology Analytics Decision Support System Approval Forms Framework Computer Maintenance Management System (CMMS) Enhancements Customer Portal Customer Transactional Site Data Governance Desktop Computer Replacement Program Document/Content Management IT Foundations IT Server Hosting Migrate to Office 365 Mobile Devices and Applications New payroll System Permit Approvals Regulatory Reporting	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000 \$50,000 \$40,000 \$600,000 \$33,000	\$1,180,000 \$385,000 \$50,000 \$108,000 \$112,000 \$1,000,000 \$220,000 \$290,000 \$40,000 \$40,000 \$260,000 \$33,000	23-Nay-1: 23-Oct-1! 23-Oct-1! 23-Oct-1! 23-Sep-1: 6-May-1: 24-Jun-1: 19-Sep-1: 3-May-1: 31-Jul-1: 7-Nov-1: 30-Apr-1: 15-May-1:

	Total	Net Impact	Approval
Category	Approved	on Budget	Date
Asset Registry			
ERP Solution Project Request for proposal Phase	\$248,000	\$0	24-Jul-19
Regulatory Reporting - Phase 1 Executing	\$189,578	\$189,578	3-Sep-19
SCADA & Other			
GPS Units - Replacement	\$67,000	\$67,000	22-Feb-19
Large and New Customer Meters	\$460,000	\$460,000	3-May-19
Meter Deployment	\$2,600,000	\$2,600,000	3-May-19
SCADA Control System Enhancements	\$100,000	\$100,000	21-May-19
Central SCADA System Redesign/Relocation	\$90,000	\$0	18-Mar-19
Asset Management			
Corporate Flow Monitoring Program	\$1,760,000	\$1,760,000	20-Jun-19
Storm Sewer Condition Assessment	\$60,000	\$60,000	22-May-19
Vulnerability to Climate Change Risk Assessment - Asset Call Pilot	\$100,000	\$100,000	8-Jul-19
Wastewater Sewer Condition Assessment	\$90,000	\$90,000	22-May-19

Item 3-I

FINANCIAL REPORT

Consolidated balance of the four operating accounts maintained by the Commission as of:

Rate of interest on the above balance
Investment Rate of Return

\$54,741,578.85

ITEM 4-I HRWC Board November 28, 2019

Halifax Water Compliance Statement Quarterly Certification

For the period of July 1, 2019 to September 30, 2019

We hereby certify that the Halifax Regional Water Commission is current in making all statutory remittances for payroll taxes, Harmonized Sales Tax and other remittances as required under the laws of the Government of Canada and its Provinces (the significant remittances are noted in the appendix) and that all legal claims have been disclosed.

Original Signed By:	Original Signed By:
Cathie O'Toole	Louis de Montbrun
General Manager	Director of Corporate Services/CFO
_	-
Dated:	
November 22, 2019	

Halifax Water Compliance Statement Quarterly Certification Appendix

Significant statutory remittances for payroll taxes, Harmonized Sales Tax and other remittances as required under the laws of the Government of Canada and its Provinces for the HRWC

Statutory Payroll Remittances

- **Canada Revenue Agency (CRA) -** Statutory employee payroll deductions and employer related contributions for:
 - o Income Tax
 - o Canada Pension Plan (CPP)
 - o Employment Insurance (EI)
- ➤ Workers' Compensation Board of Nova Scotia (WCB) Employer remittance based on employee payroll

Other Payroll Remittances

- Northern Trust Employee payroll deductions and employer contributions to Halifax Water and HRM defined benefit pension plans
- ➤ Industrial Alliance employer and employee contributions to defined contribution pension plan
- Medavie Blue Cross & SSQ employee payroll deductions and employer related contributions for Health & dental, LTD, and Life benefit coverage, and payroll deductions for AD&D
- **Canadian Union of Public Employees** Employee payroll deductions of union dues
 - o CUPE Local 227
 - o CUPE Local 1431

HST and Other Remittances

- Canada Revenue Agency (CRA) Harmonized Sales Tax (HST) is filed online and a refund issued as HST paid is greater than HST collected
- **Workers' Compensation Board of Nova Scotia (WCB)** Remittance for sub-contractors



ITEM # 5-I HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

Reid Campbell, M.Eng., P.Eng., Director, Water Services

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D, General Manager

DATE: November 15, 2019

SUBJECT: Disclosure of Lead Service Line and Testing Information

INFORMATION REPORT

ORIGIN

As a result of the publication by the Toronto Star, on November 4, 2019 on lead in drinking water across Canada, Halifax Water experienced an immediate 25-fold increase in daily requests for lead service line (LSL) information and test kits for lead in drinking water. Approximately half of the 300 requests received in the November 4-6 period were from tenants in rental properties. This necessitates the need for Halifax Water to determine a means of being transparent about the quality of drinking water for all consumers that also respects the rights of the property owner.

DISCUSSION

There are several areas of Halifax Water's interaction with customers and non-customer consumers that involve the nature of the private portion of a water or wastewater lateral. These include:

- Inquiries about lead service lines.
- Lateral material and condition disclosure are part of property transactions.
- Cross connection investigations.

Halifax Water has historically taken the position that the material and condition of a water or wastewater lateral, on private property, is private information of the property owner and that Halifax Water should not disclose it to third parties without the consent of the property owner.

When inquiries from third parties have arisen, Halifax Water has referred them back to the property owner, and any disclosure by Halifax Water has been typically back to the property owner. Halifax Water will disclose the information directly to third parties only with the written permission of the property owner. For LSL inquiries specifically, it has been Halifax Water's practice to only disclose service line material, or provide lead testing kits to the property owner.

Since the inception of the current lead service line replacement program in 2016, Halifax Water has received on average 2-4 inquires per day relating to lead service lines, or lead in drinking water. Inquiries from tenants have been very infrequent and Halifax Water has been able to successfully address the third-party inquiries by referral to the property owner.

On November 4, 2019, a consortium of journalists, led by the Toronto Star published an investigative report that implied that municipal water customers across Canada were at risk of exposure to high levels of lead in their drinking water. While the investigation recognized the positive work done by Halifax Water, the report, nonetheless, resulted in a significant increase in inquires to Halifax Water about service line material and for lead testing kits. In the period of November 4-6, inquiries increased from 2-4 per day to 100 per day. There were approximately 4000 visits to Halifax Water's web site for lead information in the first 24 hours following the publishing of the report. Approximately half of the inquires have been from tenants.

When customers become engaged in the lead issue, they frequently exhibit a high level of concern due to the fact that it is a public health issue and the most sensitive populations are young children and pregnant women. As a result, it requires significant effort from staff to address concerns in a respectful and compassionate manner. It has also been our experience that that some property owners can be slow to respond in these instances for a variety of reasons.

This recent high level of inquiry from tenants on the lead issue has demonstrated that Halifax Water must determine a means of dealing with tenants directly on the lead issue while still respecting relevant privacy regulations and engaging property owners in a transparent manner. This is necessary for the following reasons:

- Consumers of water provided by Halifax Water who are not customers of record, should know the quality of water they are consuming.
- When customers become engaged in the lead issue, it is important that their issue be dealt with quickly.
- In Halifax Water's experience, there are a subset of property owners who either show a disregard for the issue or are unable to act with the required urgency.
- Where issues of public health protection may conflict with privacy or disclosure concerns, the utility should be as transparent as legislation permits with respect to public health.

There are clear health and safety concerns that reach beyond the typical information Halifax Water has exchanged with its customers. The health and safety concerns of consumers of water provided by Halifax Water are valid. The fact that these consumers are not the customer of record should not impact their ability to access information allowing them to make informed decisions. It can be argued that simply testing water and providing water quality information is not personal or private information. In the case of lead, however, the concentration of lead in drinking water is usually a function of the service line or plumbing material. In many cases, our records regarding the private service indicate unknown material or are inaccurate. High levels of lead in drinking water may reveal the presence of a lead service or lead containing plumbing fixtures which may require action by the property owner.

In formulating a process to respond to the variety of inquiries being received, Halifax Water staff reviewed relevant legislation and regulations, consulted with the Medical Officer of Health and with the Office of the Information and Privacy Commissioner for Nova Scotia. A procedure has been developed that is consistent with relevant legislation and is described in more detail in Appendix A. Specifically, sections 480 and 486 of the Municipal Government Act (MGA) address when information can be disclosed for health, safety and/or public interest reasons. Based on our review and discussions with the MOH and OIPC, staff believe the proposed procedure is compliant with relevant legislation.

The essential elements are as follows:

- Halifax Water will disclose service line material to tenants, provide testing kits to tenants and report test results to tenants.
- At all steps of the process, communication will go to the tenant, immediately after advising the property owner of the tenant's request.
- In the event information provided causes the tenant to believe the landlord should take action, Halifax Water will not mediate the matter. At this point the issue is between private citizens.
- In the event of property transactions where the purchaser requests information about a possible lead service line, our existing practice of referring the purchaser to the vendor will be followed. This practice may change in future, if Halifax Water determines it appropriate to make lead service line information broadly available.

ATTACHMENT

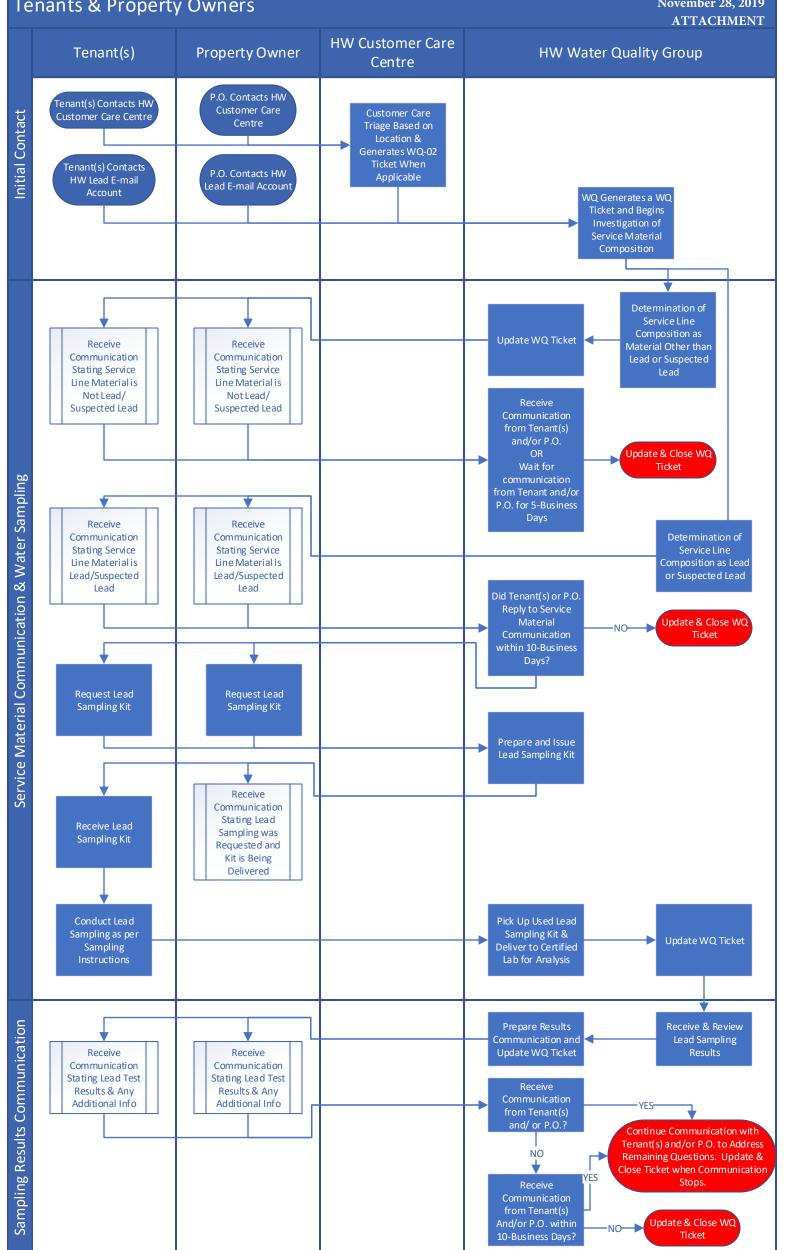
Lead Program Communication Workflow

Report Prepared by: Original signed by:

Reid Campbell, M.Eng., P.Eng., Director, Water Services

Page 3 of 3

ITEM # 5-I HRWC Board November 28, 2019





ITEM # 6-I HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

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

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D

General Manager

DATE: November 18, 2019

SUBJECT: Halifax Regional Water Commission Employees' Pension Plan

Financial Report - Third Quarter, 2019

INFORMATION REPORT

ORIGIN

Financial reporting for the Halifax Regional Water Commission Employees' Pension Plan (hereinafter called the "Plan").

BACKGROUND

The Board is required to review the periodic (quarterly) financial results of the Plan throughout the year.

DISCUSSION

The attached statement of changes in net assets available for benefits (Appendix A) outlines the annual budget for the Plan and actual financial performance for the Third Quarter (January 1 to September 30, 2019). Favourable or unfavourable variances reported compare actual results to prorated budget amounts (75% = 9 months/12 months), for the nine (9) month period in 2019. Yearend audited results for 2017 and 2018 are shown for comparative purposes.

As shown on the statement of changes in net assets available for benefits, net assets available for benefits have increased by \$8.6 million for the nine (9) month period ending September 30, 2019. The annual budget for 2019 forecasted an increase in net assets available of \$6.1 million. Actual results for the period of \$8.6 million compared to the prorated budget of \$4.6 million results in a favourable variance in the amount of \$4.0 million.

The annual budget forecasted revenue of \$4.4 million. Revenue for the period totaled \$8.3 million, which when compared to the prorated budget of \$3.3 million results in a favourable variance of \$5.0 million. Revenue is affected largely by the performance of the HRM Master Trust, and change tends to be more volatile compared to contributions and expenses of the Plan. This variance is attributed directly to the fact the actual increase in the fair value of the investment assets was higher than expected. The increase for the period totaled \$6.1 million compared to the prorated budget of \$1.5 million, a difference of \$4.6 million or 309%. Investment income for the period performed above expectations, showing a favorable variance of \$0.4 million or 20%.

Contributions of \$4.4 million are tracking lower than expected, down \$0.6 million compared to the prorated budget. This is attributed to the elimination of Plan Sponsor contributions associated with the unfunded liability, as described below. An Actuarial Valuation was performed on the Plan as at January 1, 2019, which reported changes with respect to the funding policy for the Plan, effective January 1, 2019 as follows:

- The proposed combined current service rates will increase slightly to 20.68% from 20.50%. Participants' contributions in 2019 are proposed at 10.34% of pensionable earnings, which will be matched by the Plan Sponsor. Prior to January 1, 2019 participants' contributions were 10.65%, with the Plan sponsor matching up to 9.85%.
- Required unfunded liability special payment of \$0.8 million annually by the Plan Sponsor, identified in the January 1, 2016 Actuarial Valuation, will no longer be required as a result of the Plan reporting an actuarial surplus on a going concern basis.

Expenses of \$4.1 million for the period are higher than the prorated budget of \$3.6 million resulting in an unfavourable variance of \$0.4 million or 12%. The main contributor to this unfavourable variance is termination benefit payments of \$0.9 million for the year to date, which came in considerably higher than the prorated budget of \$0.5 million. The remainder of the variance is due to the timing of administrative expenses.

SERVICE STANDARDS

Tracking of Regulatory Filing Requirements, Administrative Reporting Requirements and Service Standards for actuarial calculation requests is ongoing. The reports for Regulatory

Filing Requirements and Administrative Reporting Requirements are attached as Appendix B and Appendix C respectively, and document administrative compliance within the various levels of reporting for the period.

Service Standard results for the Third Quarter (July 1 to September 30th, 2019) have been attached as Appendix D. The intent of the service standards report is to set a standard number of days for which calculations can be provided to members when actuarial calculations are requested. The service standard includes both estimated number of days required by the current actuarial service provider, Eckler Partners Ltd., and estimated Halifax Water staff time.

The overall results outlined for the Third Quarter as reported in Appendix D show, out of 4 requests, none were delivered within the standard days proposed under the threshold limits. Response time of the actuary improved compared to prior reports showing only 1 of the 4 requests came in past the service standard. For the actuary, average service days for Retirement Estimates and Termination Estimates (standard) were 6 days and 10 days respectively. For the administrative staff, response time ranged from 23 - 33 days compared to the service standard of 7 days for the categories reported, with an average response time of 23 days for Retirement Estimates, and 18 days for Termination Estimates (standard). It is important to note that the urgency of requests is considered by administrative staff and thus requests may be set aside while other tasks take priority.

Results will continue to be monitored and evaluated over the coming months to obtain a larger data sample with standards being adjusted if necessary, to reflect the realities and special circumstances factoring into processing member requests. Staff are working with the actuaries to ensure timely responses to calculation requests, and adherence to established service standards.

ATTACHMENTS

APPENDIX A – Financial Report:

Statement of changes in net assets available for benefits, for the nine (9) month period ended September 30, 2019.

APPENDIX B – Regulatory Filing Requirements – 2019

APPENDIX C – Administrative Reporting Requirements – 2019

APPENDIX D – Service Standards Report - 2019

Report Prepared by: Original signed by:

Michelle Bennett, B.Comm, Accountant 902-490-5242

Heather Britten, B.Comm, Quality Assurance Officer 902-490-1895

Halifax Regional Water Commission Employees' Pension Plan Statement of changes in net assets available for benefits For the nine (9) month period ended

Prorated Budget 75%

September 30, 2019 Variance Prorated Actual versus Prorated Budget 2019 Budget Actual Favourable (Unfavourable) Actual **Budget** Actual 75% 2018 2017 Revenue Net investment income: Total investment income \$2,530,000 \$2,276,461 \$1,897,500 \$378,961 20% \$2,939,026 \$2,622,024 Investment manager fees (\$160,000) (\$148,631) (\$120,000) (\$28,631)(24%)(\$165,670)(\$146,420) Increase (decrease) in the fair value of investment assets \$2,000,000 \$6,141,785 \$1,500,000 \$4,641,785 309% \$1,763,098 \$8,712,459 \$4,370,000 \$8,269,614 \$4,536,454 \$3,277,500 \$4,992,114 152% \$11,188,063 Contributions Participants: Current service (including Additional Voluntary Contributions) \$3.028.000 \$2,205,224 \$2,271,000 (\$65,776)(3%)\$2.845.791 \$2,665,078 Sponsors: Current service \$2,745,000 \$2,152,027 \$2,058,750 \$93,277 5% \$2,578,842 \$2,422,527 Unfunded liability \$825,000 \$618.750 (\$618.750) (100%) \$825,200 \$825,200 \$0 \$6,598,000 \$4,357,252 \$4,948,500 (\$591,248) (12%)\$6,249,833 \$5,912,805 Expenses¹ Benefit payments: Benefit payments \$3,959,000 \$3,132,167 \$2,969,250 (\$162,917)(5%)\$3,848,218 \$3,738,659 Termination payments \$700,000 \$854,090 \$525,000 (\$329,090) (63%)\$79,849 \$314,591 Death benefit payments \$0 \$0 \$0 \$242,767 \$0 n/a \$0 Administrative: \$97,500 \$83,178 85% \$50,409 \$130,000 \$14,322 \$67,394 Actuarial & consulting fees Audit & accounting fees \$9.000 \$3,450 \$6.750 \$3,300 49% \$8.441 \$9.283 Bank custodian fees \$25,000 \$20,749 \$18,750 (\$1,999)(11%)\$32,303 \$20,132 \$6,750 \$8,347 \$8,347 \$9,000 \$8,347 (\$1,597)(24%)Insurance Miscellaneous \$15,000 \$17.081 \$11,250 (\$5,831)(52%)\$16.195 \$18.965 Professional fees \$14,000 \$18,651 \$10,500 (78%)\$13,440 \$14,623 (\$8,151)\$3,000 \$0 \$2,250 \$2,250 100% \$2,337 \$2,221 Registration fees Training (Trustees/ Administration/ Pension Committee) \$1.000 \$0 \$750 \$750 100% \$0 \$0 \$4,865,000 \$4,068,856 \$3,648,750 (\$420,106)(12%)\$4,059,539 \$4,436,982 Increase (decrease) in net assets available for benefits \$6,103,000 \$8,558,010 \$4,577,250 \$3,980,760 87% \$6,726,748 \$12,663,886 Net assets available for benefits, beginning of period \$122,964,705 \$126,458,630 \$119,731,882 \$107,067,996 Increase (decrease) in net assets available for benefits \$6,103,000 \$8,558,010 \$6,726,748 \$12,663,886 Net assets available for benefits, end of period \$129,067,705 \$135,016,639 \$126,458,630 \$119,731,882

¹ For the purposes of this statement, expenses are reported on a cash basis. Comparative years are reported on an accrual basis as that is how they are reported on the financial statements.

Halifax Regional Water Commission Employees' Pension Plan Regulatory Filing Requirements - 2019 as at September 30, 2019

Report	Regulatory Body	Filing Deadline	Date last filed		Comments			
1 Annual Form 3 - Summary of Contributions	Superintendent of Pensions	60 days after the beginning of each fiscal year	September 5, 2019	DB Plan	Filed directly with the Trustee, Northern Trust, for the DB Plan. A revised Form 3 was filed with the trustee to reflect union contract settlement and actuarial valuation results affecting special payments.			
			February 11, 2019	DC Plan	Filed directly with the Trustee, Industrial Alliance, for the DC Plan.			
2 Pension Plan Income Tax Return (T3)	Canada Revenue Agency	March 31st	February 26, 2019	DB Plan	CRA requires Northern Trust as the custodian to prepare and file T3 Income Tax Returns each year. Information obtained from HRM Pension Plan quarterly report.			
3 Pension Plan Audited Financial Statements	Superintendent of Pensions	6 months after the Plan's fiscal year end	June 25, 2019	DB Plan	Audited financial statements were completed and approved by the HW Board on June 20, 2019.			
			June 12, 2019	DC Plan	Audited financial statements are not prepared for this pension plan. However, Industrial Alliance provieds a Financial Report detailing all pertinant details of the plan. This report is submitted to the regulatory body prior to June 30th each year.			
4 Annual Information Returns (AIR)	Superintendent of Pensions	June 30th	June 12, 2019	DB Plan				
			June 12, 2019	DC Plan				
5 Actuarial Valuation*	Superintendent of Pensions Canada Revenue Agency	September 30th	September 27, 2019 September 27, 2019		Actuarial Valutaion was conducted as of January 1, 2019. Official results will be filed with the Superintendant of Pensions and CRA once official report is received and approved by the Halifax Water Board.			
6 Plan Amendments	Superintendent of Pensions	60 days after the amendment approved by the Board	September 27, 2019	DB Plan	Amendment #12 approved by the Board June 20, 2019; Submitted to the Superintendent September 27, 2019. The amendment was persuant to the contribution rate change as			
	Canada Revenue Agency		September 27, 2019		dictated by the Actuarial Valuation of January 1, 2019.			
	Superintendent of Pensions Canada Revenue Agency	60 days after the amendment approved by the Board	n/a	DC Plan	All documents relating to the registration of the DC Plan were received by the Superintendent October 6, 2017.			

^{*} Actuarial Valuations are required at a minimum every three (3) years.

^{**} Notional Agreements were implemented during 2017 with an effective date for January 1, 2017. Notional Agreements are not registered therefore not subject to reporting requirements to a regulatory body.

Halifax Regional Water Commission Employees' Pension Plan Administrative Reporting Requirements - 2019 as at September 30, 2019

Report	Filing Deadline/ Recurrance	Date last filed/ Performed		Comments				
1 Pensioners' Payroll	Monthly	November 1, 2019		Pensioners are paid the 1st of each month; no exceptions to report for the Third Quarter 2019.				
2 Contributions to the Trustee	Monthly	October 16, 2019 DB Plan		Remittances due to Northern Trust within 30 days of monthend; no exceptions to report for Third Quarter 2019.				
		November 6, 2019	DC Plan	Remittances due to Industrial Alliance within 30 days of monthend; no exceptions to report for Third Quarter 2019.				
		n/a	Notional Agreement*					
3 Pension Plan Financial Statements	Quarterly	November 18, 2019	DB Plan	Third Quarter (July - September 2019)				
		n/a	DC Plan	Quarterly statements are not prepared for the DC Plan. A financial report is prepared by Industrial Alliance and that report is filed with the AIR to the regulator.				
		n/a	Notional Agreement*	Financial statements not required.				
4 Investment Performance Review & Compliance with SIP&P	Quarterly	September 26, 2019	DB Plan	2nd Quarter (April - June 2019)				
Compliance with Sir Ar				Report prepared quarterly by administration staff for the HW Board of Directors, in conjunction with the quarterly HRM Pension Plan Committee meeting documentation.				
5 Annual Pension Statements to Members	June 30th	June 18, 2019	DB Plan					
		June 18, 2019	DC Plan	Statements issued annually in conjuction with the DB Plan statements, commencing in 2018. Members also have access to online, real-time reporting.				
		June 18, 2019	Notional Agreement*	Statements issued annually in conjuction with the DB Plan statements, commencing in 2018.				
6 Fiduciary Liability Insurance	Annually	November 13, 2019	DB Plan	Reviewed and renewed annually by administration staff. The policy period expires November 30 each year.				

^{*} Notional Agreements were implemented during 2017 with an effective date for January 1, 2017. Notional Agreements are not registered therefore not subject to reporting requirements to a regulatory body.

Halifax Regional Water Commission Employees' Pension Plan Service Standards Report - 2019

Third Quarter (as at November 14, 2019)			Eckler			HW Staff					
Transaction	Stand	ard	Total # Completed	# Past Standard	% with Standard	Average Service Days	Total # Completed	# Past Standard	% with Standard	Average Service Days	Total Average Service Days
Retirement Estimates	18	Business Days	1	0	100%	6.0	1	1	0%	23.0	29.0
Marriage Breakdown Calculations	28	Business Days	0	0			0	0			0.0
Post-Retirement Death Letter	10	Business Days	0	0			0	0			0.0
Pre-Retirement Death Benefit	28	Business Days	0	0			0	0			0.0
Termination Estimates/ Calculations - Standard	18	Business Days	3	1	67%	10.0	3	3	0%	17.7	27.7
- Non Standard (incl RTAs)	28	Business Days	0	0			0	0			0.0
Volume-Weighted Average			4	1	75%	8.0	4	4	0%	20.3	

	Total # Completed	# Past Standard	% within Standard
Combined Volume-Weighted Average	4	4	0.0%



ITEM # 7-I HRWC Board November 28, 2019

TO: Craig MacMullin, MBA, CPA, CGA, Chair, and Members of the

Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by:

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

APPROVED: Original signed by:

Cathie O'Toole, MBA, CPA, CGA, ICD.D

General Manager

DATE: October 9, 2019

SUBJECT: Amendment #12 - Halifax Regional Water Commission

Employees' Pension Plan (hereinafter called the "Plan")

INFORMATION REPORT

ORIGIN

Actuarial Valuation (hereinafter called the "Valuation") as at January 1, 2019, approved by the Board June 20, 2019 (Item #4.3).

BACKGROUND

Amendment #12 (attached) to the Plan is necessary to implement changes with respect to Members' required current service contributions resulting from the Valuation as at January 1, 2019.

DISCUSSION

On June 20, 2019 the Board approved the recommendations contained in the Valuation as at January 1, 2019, which included the approval to change the "employer and employees' rate of pension current service contributions effective immediately upon updating the payroll software to accommodate, and retroactive to January 1, 2019".

Commencing January 1, 2019, Members' required contributions are calculated as 50% of the current service cost as determined by the actuary at the time of an actuarial valuation. Previously, for the period January 1, 2016 to December 31, 2018, Members' required contributions were 50% of the current service cost, plus an additional 0.4% of earnings.

Amendment #12 was prepared by the Plan actuary, Eckler Ltd., subsequent to the Board meeting June 20, 2019. As a result, a formal motion to approve Amendment #12 was not submitted to the Board, because it was understood upon approval of the Valuation an amendment would be filed with the Provincial Regulator at a later date to enact the changes.

The purpose of this report is to inform the Board that Amendment #12 along with the Valuation was submitted to the Provincial Regulator September 27, 2019.

Report Prepared by: Original signed by:

Allan Campbell, B.Comm, CPA, CMA Manager, Finance (902 490-4288)