

January 22, 2016



Ray Ritcey, Chair
Halifax Water
Halifax, Nova Scotia

The regular meeting of the Halifax Water Board will be held on Thursday, January 28, 2016 at 9:00 a.m. in the Boardroom at 450 Cowie Hill Road, Halifax.

AGENDA

In Camera

- 1C Approval of Minutes of In-Camera Meeting held on Thursday, November 26, 2015
- 2C Business Arising from Minutes
- 3C Governance Matter
- 4C Contractual Matter
- 5C Compensation Matter

Regular Meeting


- 1. a) Ratification of In-Camera Motions
b) Approval of the Order of Business and Approval of Additions and Deletions
- 2. Approval of Minutes of Regular Meeting held on Thursday, November 26, 2015
- 3. Business Arising From Minutes
 - a)
- 4. Operating Results for the Nine Months Ended December 31, 2015

Capital Projects

- 5. Proposed 2016/17 Capital Budget
- 5.1 2016/17 Water, Wastewater and Stormwater Collection and Distribution Main Renewal - Integrated Projects\$6,282,000
- 5.2 Geizer 158 Reservoir Rehabilitation\$2,170,000
- 5.3 Chain Control Transmission Main Realignment\$1,000,000
- 5.4 Wastewater System – Trenchless Rehabilitation Program\$1,800,000
- 5.5 Manhole Lining – Crescent Avenue & Stewart Harris Sewershed.....\$195,000
- 6. 2016/17 Water, Wastewater and Stormwater Operating Budget
- 7. 2016/17 Annual Business Plan
- 8. Pension Plan Amendment #10
- 9. Date of Next Meeting

Information Reports

- 1-I Operations and Financial Monthly Update
- 2-I Capital Budget Approvals to Date - 2015/16 (*Report to follow*)
- 3-I Bank Balance
- 4-I 2014/15 Annual Report
- 5-I 2015 Customer Survey


James G. Spurr
Secretary

**HALIFAX REGIONAL WATER COMMISSION
MINUTES**

November 26, 2015

- PRESENT:** Commissioner Ray Ritcey, Chair
Commissioner Mike Savage
Commissioner Don Mason
Commissioner David Hendsbee
Commissioner Darlene Fenton
Commissioner Barry Dalrymple
- REGRETS:** Commissioner Russell Walker, Vice Chair
Commissioner Richard Butts
- STAFF:** Carl Yates, General Manager, HRWC
Cathie O'Toole, Director, Finance & Customer Service,
HRWC
James Spurr, Legal Counsel, HRWC
Lorna Skinner, Administrative Assistant, HRWC

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CALL TO ORDER

The Chair called the regular meeting to order at 9:03 a.m. in the Board Room of the HRWC, 450 Cowie Hill Road. The Board moved In Camera at 9:03 and the regular meeting reconvened at 10:50 a.m.

1.a) RATIFICATION OF IN CAMERA MOTIONS

MOVED BY Commissioner Hendsbee, seconded by Commissioner Fenton that the Halifax Regional Water Commission Board ratify the following In Camera motions:

MOVED BY Commissioner Fenton, seconded by Commissioner Dalrymple that the Halifax Regional Water Commission Board approve the In Camera minutes of October 29, 2015.

MOVED BY Commissioner Mason, seconded by Commissioner Savage that the Halifax Regional Water Commission Board approve the Goals and Objectives for the General Manager for the 2015/16 fiscal year as attached to this report.

MOVED BY Commissioner Savage, seconded by Commissioner Mason that the Halifax Regional Water Commission Board approved the following recommendations:

1. To proceed in principle with the adoption of an Advanced Metering Infrastructure system subject to successful negotiation with the preferred proponent.
2. That Halifax Water staff be authorized to negotiate a contract with the preferred proponent, Itron, for the implementation of an AMI technology solution and upon completion, return to the Halifax Water Board for approval.
3. To proceed with a procurement process for the purchase of water meters and installation of meter and AMI end point devices in the customer premises.

MOTION PUT AND PASSED.

1.b) APPROVAL OF THE ORDER OF BUSINESS AND APPROVAL OF ADDITIONS AND DELETIONS

The Chair requested that an appointment to the Environment, Safety and Capital Project Planning Committee be added to the agenda.

MOVED BY Commissioner Dalrymple, seconded by Commissioner Mason that the Halifax Regional Water Commission Board approve the order of business and approve additions and deletions with the above noted addition.

MOTION PUT AND PASSED

2. APPROVAL OF MINUTES – October 29, 2015

MOVED BY Commissioner Hendsbee, seconded by Commissioner Mason that the Halifax Regional Water Commission Board approve the minutes of October 29, 2015, with the above noted amendment.

MOTION PUT AND PASSED.**3. BUSINESS ARISING FROM MINUTES****a) Stormwater Rate Design Application**

Cathie O'Toole informed the Board that the Stormwater Rate Design Application has been filed with the Nova Scotia Utility and Review Board. There are currently five Intervenors registered; HRM, Consumer Advocate, Halifax Port Authority, Dartmouth Crossing and Pamela Lovelace.

4. OPERATING RESULTS FOR THE SEVEN MONTHS ENDED OCTOBER 31, 2015

A report dated November 17, 2015, was submitted.

5. CAPITAL PROJECTS**5.1 Halifax Water Corporate Flow Monitoring Program**

A report dated November 19, 2015, was submitted.

MOVED BY Commissioner Mason, seconded by Commissioner Fenton that the Halifax Regional Water Commission Board approve the Corporate Flow Monitoring Program for 2015/16 and 2016/17 at an estimated cost of \$1,370,000.

MOTION PUT AND PASSED.**5.2 West Region Wastewater Infrastructure Plan – Funding Increase**

A report dated November 19, 2015, was submitted.

At this time, the Chair requested that the meeting return to In Camera. The meeting moved out of In Camera at 11:15 a.m.

MOVED BY Commissioner Hendsbee, seconded by Commissioner Mason that the Halifax Regional Water Commission Board approve additional funding in the amount of \$244,000 including net HST for the West Region Wastewater Infrastructure Plan for a revised cost of \$1,418,000, including net HST.

MOTION PUT AND PASSED.**6. APPOINTMENT TO THE ENVIRONMENT, SAFETY AND CAPITAL PROJECT PLANNING COMMITTEE.**

MOVED BY Commissioner Hendsbee, seconded by Commissioner Mason that the Halifax Regional Water Commission Board approve the appointment of Commissioner Darlene Fenton to the Environment, Safety and Capital Project Planning Committee.

MOTION PUT AND PASSED.**7. DATE OF NEXT MEETING**

The next meeting is scheduled for January 28, 2016..

The meeting was adjourned at 11:18 a.m.


James G. Spurr
Secretary

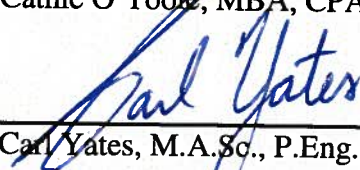
Commissioner Ray Ritcey
Chair

The following Information Items were submitted:

- 1-I Operations and Financial Monthly Update
- 2-I Capital Budget Approvals to Date – 2015/2016
- 3-I Bank Balance
- 4-I Pension Plan Investment Performance 3rd Quarter 2015

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: 
Cathie O'Toole, MBA, CPA, CGA, Director, Corporate Services

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

DATE: January 20, 2016

SUBJECT: Operating Results for the nine months ended December 31, 2015

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 nine (9) months of the 2015/16 fiscal year, period ending December 31, 2015. Operating results for the first eight (8) months of the 2015/16 fiscal year, period ending November 30, 2015, are also attached but not discussed in detail. 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).

Balance Sheet - Page 1

The cash balance of \$59.3 million is up \$6.8 million from the prior year and up \$2.4 million from the previous month. In November, new debt was issued in the amount of \$28.3 million to fund projects in the 2015/16 Capital Budget. The cash balance is expected to decline in the coming months as operating initiatives and capital projects are completed.

The Customers & Contractual Accounts Receivable balance has increased \$3.6 million to \$30.9 million, due to the May 1, 2015 increase in customer rates approved by the Nova Scotia Utility and Review Board (NSUARB). The customer receivables balance also includes the Right of

ITEM # 4
HRWC Board
January 28, 2016

Way charge that HRWC is billing property owners on behalf of Halifax Regional Municipality (HRM). The amounts receivable from HRM of \$3.4 million are up slightly from the prior year. The liquidity on the balance sheet (ratio of current assets divided by current liabilities) is 3.59, up from the ratio of 2.74 at the same time last year.

Plant in Service assets net of Accumulated Depreciation is \$1.0 billion and is \$10.5 million higher than at this time last year. Capital Assets Under Construction is up \$21.6 million to \$77.6 million. Capital projects completed in the current fiscal year and recorded as Plant in Service Assets total \$1.3 million. The total capital additions expected for the fiscal year is approximately \$85 million. The following table highlights the major projects currently underway:

Capital Assets Under Construction	
	Cumulative '000
Lakeside Pumping Station Diversion	\$22,541
Bedford West Collection System CCC	\$14,389
Cow Bay Road Deep Storm Sewer	\$6,002
All other projects	\$34,626
Total	\$77,557

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

Trade liabilities of \$12.7 million have decreased \$4.7 million when compared to the prior year. Liabilities to HRM increased by \$0.3 million to \$7.4 million. The amount owing to HRM includes the accrual for the annual dividend (\$3.4 million accrued towards the \$4.5 million annual payment), the accrued balance of the valve box and manhole adjustment work (\$2.4 million), the Stormwater Right of Way customer billings (\$0.6 million), plus other miscellaneous operating and capital accruals.

Long Term Debt is up \$8.6 million from last year, with new debt of \$28.3 million offset by repayments of \$19.7 million. In addition to the new debt, a refinancing of \$2.5 million was obtained with MFC's fall debenture. The debt service ratio is currently 21.7%, a slight increase from 21.2% last year. This is well below the maximum 35% ratio allowed under the blanket guarantee agreement with HRM.

Total Debt by Service		
	2015/16 '000	2014/15 '000
Water	\$75,420	\$71,925
Wastewater	\$156,124	\$153,749
Stormwater	\$11,699	\$8,923
Combined	\$243,243	\$234,597

Debt Servicing Ratio by Service		
	YTD Debt Servicing Cost Ratio	
	2015/16	2014/15
Water	19.2%	18.9%
Wastewater	24.7%	24.0%
Stormwater	15.2%	12.6%
Combined	21.7%	21.2%

The cumulative Operating Surplus of \$2.9 million at the beginning of the fiscal year has grown to \$9.2 million with the year-to-date profit of \$6.3 million at December 31, 2015.

Consolidated Income Statement - Page 2

Consolidated operating revenue of \$100.0 million is \$2.6 million (2.6%) greater than revenue reported for the same year-to-date period last year. Consolidated operating expenses of \$71.0 million are \$0.8 million (1.1%) higher than the same period last year.

Summarized Consolidated Operating Results				
	Actual YTD 2015/16 '000	Actual YTD 2014/15 '000	\$ Change	% Change
Operating Revenue	\$100,045	\$97,489	\$2,556	2.6%
Operating Expenses	\$70,995	\$70,203	\$792	1.1%
Operating Profit (Loss)	\$29,050	\$27,286	\$1,764	6.5%
Non Operating Revenue	\$2,391	\$2,292	\$99	4.3%
Non Operating Expenditure	\$25,146	\$23,896	\$1,250	5.2%
Net Surplus (Deficit)	\$6,296	\$5,683	\$613	10.8%

The Net Profit for the year is \$6.3 million, an improvement of \$0.6 million from the same time in the prior year. The budget for the year, approved at the July 30, 2015 Board meeting, was for a loss of \$4.4 million. Results for the year to date have been reviewed in conjunction with plans for the remainder of the year. An update to the Forecast reflects the change from the budgeted loss to a profit of \$0.9 million, a total change of \$5.4 million. The following table compares the results with a nine month pro-rated forecast for the year.

Summarized Consolidated Operating Results				
	Actual YTD 2015/16 '000	Nine Month Forecast 2015/16 '000	\$ Variance	% Variance
Operating Revenue	\$100,045	\$98,273	\$1,771	1.8%
Operating Expenses	\$70,995	\$74,474	(\$3,479)	-4.7%
Operating Profit (Loss)	\$29,050	\$23,800	\$5,250	22.1%
Non Operating Revenue	\$2,391	\$2,387	\$5	0.2%
Non Operating Expenditure	\$25,146	\$25,500	(\$354)	-1.4%
Net Surplus (Deficit)	\$6,296	\$686	\$5,609	817.4%

Operating Revenue is \$1.8 million ahead of the pro-rated forecast for the year. This reflects the seasonal pattern of consumption that is typically higher for the summer months. Operating Expenses are \$3.5 million below the pro-rated forecast for the year. This reflects the delayed initiation of activities due to the labour disruption as well as on-going cost containment efforts. Expenses typically increase in the winter months due to weather-related activities. Non Operating Expenditures are \$0.4 million below the pro-rated forecast, but will increase through the remainder of the year due to the issuance of new debt in November 2015. The total variance of the results from the pro-rated forecast is \$5.6 million.

The following table shows operating results for each service.

Year to Date Operating Results by Service		
	2015/16	2014/15
	'000	'000
Water	\$1,415	\$1,278
Wastewater	\$3,294	\$3,321
Stormwater	\$1,586	\$1,085
Net Surplus (Deficit)	\$6,296	\$5,683

Changes to rates approved by the NSUARB took effect May 1, 2015 and have been described in previous reports. The following table summarizes the most significant customer rates.

Summary of Rate Changes				
	Effective May 1/15	Effective April 1/14	\$ Change	% Change
<u>Volumetric Charges (per m3)</u>				
Water	0.845	0.731	0.114	15.6%
Wastewater	1.638	1.658	- 0.020	-1.2%
Combined	2.483	2.389	0.094	3.9%
<u>Base Charges (per year)</u>				
Water	Varies by meter size		Varies	1.0%-8.3%
Wastewater	Varies by meter size		No Change	0.0%
Stormwater - Residential	33.39	33.39	No Change	0.0%
Stormwater - HRM ROW	41.00	39.00	2.00	5.1%

Water Operations - Page 3

Water Operations show a profit of \$1.4 million, compared to a profit of \$1.3 million for the previous year at this time. Metered Sales revenue is up \$2.8 million (9.3%). Year-to-date billed consumption is down 1.8% compared to the prior year. On a 12 month rolling basis, billed consumption is down 2.4%. Factoring in the accrued balance and seasonal variations, consumption is 1.5 % below the expected total for the first nine months of the year.

Metered Sales Revenue consists of consumption and base charge components. Water consumption revenue is up 12.1% over the prior year, which reflects the increase in the water rate and the decline in consumption. Base Charge revenue is up 6.0%, reflecting the rate increase and a small increase in customers.

There is a reduction in Fire Protection revenue as the NSUARB lowered the annual charge that is paid by HRM. Total Water Operating revenue is up \$2.2 million to \$39.8 million.

Operating Expenses have increased by \$1.5 million (5.6%) to \$27.9 million. Water Supply & Treatment, Transmission & Distribution, and Administration & Pension show the greatest increases over the prior year. The increases are largely attributable to reassigned staff and

allocation of costs incurred during the labour disruption. Financial Revenue and Expenses are higher than the previous year, reflecting higher levels of debt and cash balances.

Forecast results for Water Operations show a loss of \$1.7 million, on par with the Budget.

Wastewater Operations - Page 4

Wastewater Operations show a profit of \$3.3 million, on par with the profit for the previous year at this time. Wastewater revenue has decreased \$0.4 million from the prior year, with Metered Sales accounting for the decrease.

Wastewater Metered Sales consists of a volumetric discharge component and a base charge component. For most customers, the discharge component is based on the metered water consumption, and the volumes and revenue reflect the decline in water consumption. The discharge rate in effect is 1.2% lower than the prior year. The billed discharge volume to date has declined 2.0%, and on a rolling 12 month basis, the billed discharge volume has declined by the same 2.0%. Factoring in the accrued balance and seasonal variations, discharge volume is 2.4% below the expected total for the first nine months of the year. Base charge rates have not increased but base charge revenue is ahead of budget. Wastewater Rebates, an offsetting component of Wastewater Metered Sales, is substantially less than budgeted. This reflects a combination of lower water consumption and lower discharge volumes eligible for the Rebate by some large customers. Other revenue categories are showing mixed results with some categories ahead of budget and others behind.

Operating expenses have decreased \$0.6 million (1.6%) as compared to the previous year. Most categories are below the prior year-to-date actuals and current year budget. Wastewater Treatment Plant costs are down \$1.1 million.

Financial Revenue and Expenses are up slightly from the prior year reflecting higher cash balances and interest costs on long term debt.

Updates to the Forecast indicate a significant improvement from a budgeted loss of \$2.9 million to a profit of \$1.3 million. The improvement in the Forecast reflects the lower Wastewater Rebates and the reduced costs in Wastewater Treatment and other areas. Wastewater Treatment has lower costs in Contract Services, primarily through the completion of the Eastern Passage Wastewater Treatment Facility project, as well as in Salaries and Benefits across all facilities.

Stormwater Operations - Page 5

Stormwater Operations show a profit of \$1.6 million, an improvement over the profit of \$1.1 million for the same period last year. Stormwater Revenue is up \$0.7 million from the prior year, however, this is a result of better estimating and reporting on the unbilled revenue that has been accrued. Stormwater Revenue for the year is forecasted to be consistent with the prior year. Operating expenses are down \$0.1 million over the prior year.

Financial Expenses are up \$0.3 million (32.7%) as a result of debt costs associated with Stormwater capital projects being charged directly to the Stormwater Service. Financial Expenses for Stormwater will continue to grow as further infrastructure upgrades are put into service.

The forecasted result for Stormwater is for a profit of \$1.3 million.

Regulated and Unregulated Operations - Page 6

Activities regulated by the NSUARB show a profit of \$5.7 million, ahead of the \$5.2 million profit for the same period last year. The improvement is attributable to increased revenues of \$2.6 million with the rate increase that took effect in May. Operating Expenses have increased by \$0.9 million over the prior year and Financial Expenses increased \$1.2 million.

Unregulated activities show a profit of \$0.6 million, an increase from the profit of \$0.5 million for the prior year. Unregulated revenue is on par with the prior year. Unregulated expenses are lower than the prior year. An improvement in Unregulated Wastewater Treatment expenses is a result of lower costs at the De-watering Facility attributable to Unregulated Activities.

Results by Activity		
	2015/16	2014/15
	'000	'000
Regulated Activities	\$5,703	\$5,211
Unregulated Activities	\$592	\$472
Net Surplus (Deficit)	\$6,296	\$5,683

ATTACHMENT

Unaudited Operating Results for the nine (9) months ended December 31, 2015
 Unaudited Operating Results for the eight (8) months ended November 30, 2015

Report prepared by: Warren Brake
 Warren Brake, Manager, Accounting, B.Comm, CPA, CGA

HALIFAX WATER
UNAUDITED BALANCE SHEET
AS OF DECEMBER 31, 2015

	2015 '000	2014 '000
ASSETS		
Cash	\$59,304	\$52,456
Amounts Receivable		
Customers & Contractual	\$30,875	\$27,276
Halifax Regional Municipality	\$3,395	\$3,226
Materials & Supplies	\$1,236	\$1,255
Prepaid Expenses	\$293	\$238
	<u>\$95,102</u>	<u>\$84,452</u>
Regulatory Asset	\$3,628	\$3,820
Plant in Service - Water	\$567,562	\$547,051
Plant in Service - Wastewater/Stormwater	\$762,960	\$746,618
Less: Accumulated Depreciation - Water	\$158,394	\$149,928
Accumulated Depreciation - Wastewater/Stormwater	\$179,424	\$161,727
	<u>\$996,332</u>	<u>\$985,834</u>
Assets Under Construction	\$77,557	\$55,933
	<u>\$1,073,889</u>	<u>\$1,041,766</u>
Unamortized Debt Discount & Issue Expense	\$1,203	\$1,149
	<u><u>\$1,170,194</u></u>	<u><u>\$1,127,367</u></u>
LIABILITIES & CAPITAL		
Trade	\$12,703	\$17,360
Interest on Long Term Debt	\$2,265	\$2,419
Halifax Regional Municipality	\$7,356	\$7,020
Contractor & Customer Deposits	\$188	\$196
Unearned Revenue	\$3,993	\$3,872
	<u>\$26,504</u>	<u>\$30,867</u>
Accrued Post-Retirement Benefits	\$604	\$617
Accrued Pre-Retirement Benefit	\$3,278	\$3,139
Deferred Pension Liability	\$13,111	\$12,304
Special Purpose Reserves not allocated to projects	\$5,477	\$13,318
Regional Development Charge	\$8,655	\$1,899
Long Term Debt-Water	\$75,420	\$71,925
Long Term Debt-Wastewater/Stormwater	\$167,823	\$162,672
Total Liabilities	<u>\$300,872</u>	<u>\$296,741</u>
Capital Surplus	\$833,764	\$810,158
Committed Reserves	\$13,946	\$6,365
Operating Surplus used to Fund Capital	\$12,380	\$12,380
Operating Surplus	\$2,936	(3,959)
Excess (Deficiency) of Revenue over Expenditure - Consolidated	\$6,296	\$5,683
Total Capital & Surplus	<u>\$869,322</u>	<u>\$830,627</u>
	<u><u>\$1,170,194</u></u>	<u><u>\$1,127,367</u></u>

HALIFAX WATER
UNAUDITED INCOME STATEMENT - CONSOLIDATED
APRIL 1/15 - DECEMBER 31/15 (9 MONTHS)
75.00%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15 MAR 31/16 BUDGET*	APR 1/15 MAR 31/16 FORECAST	% of FORECAST
THIS YEAR '000	LAST YEAR '000		THIS YEAR '000	LAST YEAR '000			
\$11,758	\$10,527	OPERATING REVENUE	\$100,045	\$97,489	\$129,905	\$131,031	76.35%
\$8,838	\$7,413	OPERATING EXPENSES	\$70,995	\$70,203	\$103,614	\$99,298	71.50%
\$2,921	\$3,115	OPERATING PROFIT	\$29,050	\$27,286	\$26,291	\$31,733	91.55%
FINANCIAL REVENUE							
\$147	\$100	INVESTMENT INCOME	\$659	\$583	\$660	\$890	74.02%
\$167	\$167	PNS FUNDING HHSP DEBT	\$1,500	\$1,500	\$2,000	\$2,000	75.00%
\$37	\$22	MISCELLANEOUS	\$232	\$209	\$417	\$292	79.56%
\$351	\$288		\$2,391	\$2,292	\$3,077	\$3,182	75.15%
FINANCIAL EXPENSES							
\$753	\$775	LONG TERM DEBT INTEREST	\$6,569	\$6,725	\$8,440	\$8,830	74.39%
\$1,784	\$1,612	LONG TERM DEBT PRINCIPAL	\$15,044	\$13,797	\$20,626	\$20,454	73.55%
\$17	\$15	AMORTIZATION DEBT DISCOUNT	\$137	\$118	\$172	\$187	73.15%
\$377	\$362	DIVIDEND/GRANT IN LIEU OF TAXES	\$3,396	\$3,255	\$4,579	\$4,528	75.00%
\$2,931	\$2,764		\$25,146	\$23,896	\$33,818	\$34,000	73.96%
\$340	\$639	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$6,296	\$5,683	(\$4,449)	\$915	688.08%

**HALIFAX WATER
UNAUDITED INCOME STATEMENT - WATER OPERATIONS
APRIL 1/15 - DECEMBER 31/15 (9 MONTHS)
75.00%**

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	MAR 31/16	MAR 31/16	
'000	'000		'000	'000	BUDGET*	FORECAST	
REVENUE							
\$3,737	\$3,253	METERED SALES	\$32,777	\$29,992	\$42,743	\$42,743	76.68%
\$669	\$746	FIRE PROTECTION	\$6,024	\$6,715	\$8,032	\$8,032	75.00%
\$62	\$50	PRIVATE FIRE PROTECTION SERVICES	\$503	\$416	\$1,069	\$654	76.83%
\$14	\$12	BULK WATER STATIONS	\$237	\$261	\$309	\$259	91.52%
\$15	\$18	CUSTOMER LATE PAY./COLLECTION FEES	\$145	\$137	\$343	\$190	76.43%
\$71	\$7	MISCELLANEOUS	\$157	\$94	\$150	\$195	80.11%
\$4,568	\$4,087		\$39,842	\$37,615	\$52,646	\$52,073	76.51%
EXPENSES							
\$708	\$534	WATER SUPPLY & TREATMENT	\$5,472	\$5,037	\$8,134	\$8,251	66.31%
\$856	\$421	TRANSMISSION & DISTRIBUTION	\$6,267	\$5,600	\$9,155	\$8,857	70.75%
\$92	\$58	SMALL SYSTEMS (inc. Contract Systems)	\$797	\$697	\$792	\$964	82.69%
\$71	\$62	SCADA, CONTROL & PUMPING	\$505	\$554	\$806	\$789	64.05%
\$245	\$296	ENGINEERING & INFORMATION SERVICES	\$2,447	\$2,495	\$3,809	\$3,437	71.18%
\$42	\$40	ENVIRONMENTAL SERVICES	\$381	\$467	\$628	\$603	63.27%
\$203	\$188	CUSTOMER SERVICE	\$1,669	\$1,507	\$2,227	\$2,225	75.01%
\$571	\$486	ADMINISTRATION & PENSION	\$4,711	\$4,398	\$6,089	\$6,007	78.42%
\$627	\$447	DEPRECIATION	\$5,651	\$5,668	\$8,573	\$8,273	68.31%
\$3,415	\$2,532		\$27,900	\$26,424	\$40,213	\$39,407	70.80%
\$1,153	\$1,555	OPERATING PROFIT	\$11,942	\$11,191	\$12,433	\$12,666	94.29%
FINANCIAL REVENUE							
\$73	\$50	INVESTMENT INCOME	\$332	\$292	\$330	\$445	74.51%
\$33	\$17	MISCELLANEOUS	\$192	\$153	\$344	\$234	82.07%
\$106	\$67		\$524	\$445	\$674	\$679	77.12%
FINANCIAL EXPENSES							
\$228	\$236	LONG TERM DEBT INTEREST	\$1,891	\$1,898	\$2,108	\$2,573	73.51%
\$689	\$631	LONG TERM DEBT PRINCIPAL	\$5,697	\$5,144	\$7,969	\$7,814	72.91%
\$8	\$7	AMORTIZATION DEBT DISCOUNT	\$66	\$61	\$97	\$90	73.66%
\$377	\$362	DIVIDEND/GRANT IN LIEU OF TAXES	\$3,396	\$3,255	\$4,579	\$4,528	75.00%
\$1,302	\$1,236		\$11,051	\$10,358	\$14,753	\$15,005	73.65%
(\$43)	\$386	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$1,415	\$1,278	(\$1,646)	(\$1,660)	185.26%

**HALIFAX WATER
UNAUDITED INCOME STATEMENT - WASTEWATER OPERATIONS
APRIL 1/15 - DECEMBER 31/15 (9 MONTHS)
75.00%**

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	MAR 31/16	MAR 31/16	
'000	'000		'000	'000	BUDGET*	FORECAST	
REVENUE							
\$6,118	\$5,522	METERED SALES	\$50,715	\$51,111	\$65,505	\$66,405	76.37%
\$11	\$11	WASTEWATER OVERSTRENGTH AGREEMENTS	\$106	\$111	\$174	\$144	73.44%
\$42	\$27	LEACHATE	\$226	\$224	\$379	\$329	68.55%
\$7	\$11	CONTRACT REVENUE	\$70	\$65	\$86	\$86	81.70%
\$17	\$17	DEWATERING FACILITY/SLUDGE LAGOON	\$142	\$157	\$210	\$210	67.80%
\$9	\$20	AIRLINE EFFLUENT	\$41	\$60	\$78	\$58	71.10%
\$53	\$37	SEPTAGE TIPPING FEES	\$547	\$545	\$800	\$600	91.10%
\$14	\$22	CUSTOMER LATE PAY./COLLECTION FEES	\$188	\$168	\$210	\$250	75.35%
\$14	\$6	MISCELLANEOUS	\$97	\$89	\$121	\$121	80.50%
\$6,285	\$5,674		\$52,132	\$52,531	\$67,562	\$68,202	76.44%
EXPENSES							
\$979	\$883	WASTEWATER COLLECTION	\$7,071	\$7,094	\$9,717	\$9,240	76.52%
\$1,623	\$1,447	WASTEWATER TREATMENT PLANTS	\$12,669	\$13,722	\$18,640	\$17,136	73.93%
\$93	\$82	SMALL SYSTEMS	\$738	\$689	\$1,136	\$1,101	67.09%
\$45	\$24	DEWATERING FACILITY/ SLUDGE MGMT	\$335	\$385	\$767	\$549	60.90%
\$13	\$0	BIOSOLIDS TREATMENT	\$73	\$36	\$101	\$101	71.91%
\$37	\$27	LEACHATE CONTRACT	\$196	\$201	\$328	\$298	65.87%
\$119	\$85	SCADA, CONTROL & PUMPING	\$746	\$738	\$1,191	\$1,191	62.62%
\$210	\$192	ENGINEERING & INFORMATION SERVICES	\$2,128	\$1,928	\$3,493	\$3,163	67.28%
\$118	\$97	ENVIRONMENTAL SERVICES	\$859	\$967	\$1,343	\$1,315	65.31%
\$168	\$150	CUSTOMER SERVICE	\$1,381	\$1,202	\$1,844	\$1,842	74.95%
\$475	\$389	ADMINISTRATION & PENSION	\$3,910	\$3,501	\$5,042	\$4,974	78.62%
\$853	\$834	DEPRECIATION	\$7,730	\$7,980	\$11,674	\$11,174	69.18%
\$4,731	\$4,211		\$37,836	\$38,443	\$55,277	\$52,085	72.64%
\$1,554	\$1,463	OPERATING PROFIT	\$14,296	\$14,087	\$12,285	\$16,117	88.70%
FINANCIAL REVENUE							
\$73	\$50	INVESTMENT INCOME	\$327	\$292	\$330	\$445	73.54%
\$167	\$167	PNS FUNDING HHSP DEBT	\$1,500	\$1,500	\$2,000	\$2,000	75.00%
\$5	\$5	MISCELLANEOUS	\$40	\$56	\$73	\$58	69.35%
\$245	\$221		\$1,867	\$1,847	\$2,403	\$2,503	74.61%
FINANCIAL EXPENSES							
\$473	\$493	LONG TERM DEBT INTEREST	\$4,259	\$4,492	\$5,798	\$5,683	74.93%
\$993	\$899	LONG TERM DEBT PRINCIPAL	\$8,546	\$8,067	\$11,747	\$11,532	74.10%
\$8	\$7	AMORTIZATION DEBT DISCOUNT	\$65	\$55	\$66	\$88	73.47%
\$1,474	\$1,398		\$12,869	\$12,614	\$17,612	\$17,304	74.37%
\$324	\$286	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$3,294	\$3,321	(\$2,924)	\$1,316	250.37%

HALIFAX WATER
UNAUDITED INCOME STATEMENT - STORMWATER OPERATIONS
APRIL 1/15 - DECEMBER 31/15 (9 MONTHS)
 75.00%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	MAR 31/16 BUDGET*	MAR 31/16 FORECAST	
'000	'000		'000	'000	'000	'000	
REVENUE							
\$568	\$436	STORMWATER SITE GENERATED SERVICE	\$5,045	\$4,351	\$5,715	\$6,715	75.14%
\$323	\$323	STORMWATER RIGHT OF WAY SERVICE	\$2,911	\$2,911	\$3,881	\$3,881	75.00%
\$4	\$1	CUSTOMER LATE PAY./COLLECTION FEES	\$50	\$9	\$10	\$69	72.18%
\$10	\$6	MISCELLANEOUS	\$65	\$73	\$91	\$91	71.75%
\$905	\$766		\$8,071	\$7,343	\$9,697	\$10,756	75.04%
EXPENSES							
\$426	\$435	STORMWATER COLLECTION	\$3,133	\$3,149	\$5,017	\$4,761	65.82%
\$4	\$3	SCADA, CONTROL & PUMPING	\$25	\$26	\$28	\$28	89.50%
\$34	\$39	ENGINEERING & INFORMATION SERVICES	\$346	\$394	\$568	\$515	67.28%
\$81	\$51	ENVIRONMENTAL SERVICES	\$549	\$462	\$825	\$829	66.21%
\$27	\$31	CUSTOMER SERVICE	\$225	\$246	\$300	\$300	74.95%
\$77	\$80	ADMINISTRATION & PENSION	\$636	\$716	\$820	\$809	78.62%
\$42	\$31	DEPRECIATION	\$346	\$342	\$565	\$565	61.14%
\$691	\$669		\$5,259	\$5,335	\$8,123	\$7,806	67.38%
\$213	\$97	OPERATING PROFIT	\$2,812	\$2,008	\$1,573	\$2,950	95.31%
FINANCIAL EXPENSES							
\$52	\$46	LONG TERM DEBT INTEREST	\$419	\$335	\$534	\$574	72.93%
\$102	\$82	LONG TERM DEBT PRINCIPAL	\$801	\$586	\$910	\$1,108	72.30%
\$1	\$1	AMORTIZATION DEBT DISCOUNT	\$5	\$3	\$9	\$9	64.42%
\$155	\$129		\$1,225	\$923	\$1,453	\$1,691	72.47%
\$59	(\$32)	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$1,586	\$1,085	\$120	\$1,259	125.98%

HALIFAX WATER
UNAUDITED INCOME STATEMENT - REGULATED AND UNREGULATED OPERATIONS
APRIL 1/15 - DECEMBER 31/15 (9 MONTHS)
75.00%

DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15 MAR 31/16	APR 1/15 MAR 31/16	% of FORECAST
	THIS YEAR	LAST YEAR	BUDGET*	FORECAST	
REGULATED ACTIVITIES					
REVENUE					
METERED SALES	\$88,537	\$85,454	\$113,963	\$115,863	76.42%
FIRE PROTECTION	\$6,024	\$6,715	\$8,032	\$8,032	75.00%
PRIVATE FIRE PROTECTION	\$503	\$416	\$1,069	\$654	76.83%
STORMWATER SERVICE	\$2,911	\$2,911	\$3,881	\$3,881	75.00%
OTHER OPERATING REVENUE	\$1,028	\$926	\$1,386	\$1,297	79.28%
	\$99,003	\$96,421	\$128,331	\$129,727	76.32%
EXPENSES					
WATER SUPPLY & TREATMENT	\$5,472	\$5,037	\$8,134	\$8,251	66.31%
TRANSMISSION & DISTRIBUTION	\$6,267	\$5,600	\$9,155	\$8,857	70.75%
WASTEWATER & STORMWATER COLLECTION	\$10,202	\$10,223	\$14,734	\$14,001	72.87%
WASTEWATER TREATMENT PLANTS	\$12,669	\$13,722	\$18,640	\$17,136	73.93%
SMALL SYSTEMS	\$1,530	\$1,377	\$1,913	\$2,050	74.65%
SCADA, CONTROL & PUMPING	\$1,276	\$1,317	\$2,025	\$2,008	63.55%
ENGINEERING & INFORMATION SERVICES	\$4,921	\$4,817	\$7,870	\$7,115	69.17%
ENVIRONMENTAL SERVICES	\$1,789	\$1,896	\$2,796	\$2,747	65.13%
CUSTOMER SERVICE	\$3,248	\$2,928	\$4,337	\$4,332	74.98%
ADMINISTRATION & PENSION	\$9,244	\$8,590	\$11,931	\$11,769	78.54%
DEPRECIATION	\$13,722	\$13,915	\$20,811	\$20,011	68.57%
	\$70,340	\$69,423	\$102,345	\$98,277	71.57%
FINANCIAL REVENUE					
INVESTMENT INCOME	\$659	\$583	\$660	\$890	74.02%
MISCELLANEOUS	\$1,528	\$1,525	\$2,082	\$2,042	74.84%
	\$2,187	\$2,108	\$2,742	\$2,932	74.59%
FINANCIAL EXPENSES					
LONG TERM DEBT INTEREST	\$6,569	\$6,725	\$8,440	\$8,830	74.39%
LONG TERM DEBT PRINCIPAL	\$15,044	\$13,797	\$20,626	\$20,454	73.55%
AMORTIZATION DEBT DISCOUNT	\$137	\$118	\$172	\$187	73.15%
DIVIDEND/GRANT IN LIEU OF TAXES	\$3,396	\$3,255	\$4,579	\$4,528	75.00%
	\$25,146	\$23,896	\$33,818	\$34,000	73.96%
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$5,703	\$5,211	(\$5,090)	\$381	1495.99%
UNREGULATED ACTIVITIES					
REVENUE					
SEPTAGE TIPPING FEES	\$547	\$545	\$800	\$600	91.10%
LEACHATE	\$226	\$224	\$379	\$329	68.55%
CONTRACT REVENUE	\$70	\$65	\$86	\$86	81.70%
DEWATERING	\$142	\$157	\$210	\$210	67.80%
AIRLINE EFFLUENT	\$41	\$60	\$78	\$58	71.10%
ENERGY PROJECTS	\$21	\$0	\$115	\$30	68.37%
MISCELLANEOUS	\$16	\$16	\$21	\$21	76.47%
	\$1,063	\$1,067	\$1,689	\$1,334	79.65%
EXPENSES					
WATER SUPPLY & TREATMENT	\$6	\$9	\$15	\$15	37.00%
WASTEWATER TREATMENT	\$606	\$642	\$1,196	\$948	63.85%
ENERGY PROJECTS	\$2	\$3	\$9	\$9	19.66%
SPONSORSHIPS & DONATIONS	\$39	\$54	\$56	\$56	69.83%
DEPRECIATION	\$4	\$74	\$2	\$2	0.00%
	\$656	\$783	\$1,278	\$1,030	63.71%
FINANCIAL REVENUE					
MISCELLANEOUS	\$186	\$187	\$229	\$229	80.92%
	\$186	\$187	\$229	\$229	80.92%
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$592	\$472	\$841	\$534	110.96%
NET PROFIT (LOSS) AVAILABLE FOR TOTAL CAPITAL EXPENDITURES (REG & UNREG)	\$6,296	\$5,683	(\$4,449)	\$915	688.08%

HALIFAX WATER
UNAUDITED BALANCE SHEET
AS OF NOVEMBER 30, 2015

	2015	2014
	'000	'000
ASSETS		
Cash	\$56,855	\$50,085
Amounts Receivable		
Customers & Contractual	\$30,958	\$29,267
Halifax Regional Municipality	\$3,477	\$3,137
Materials & Supplies	\$1,183	\$1,260
Prepaid Expenses	\$68	\$147
	<u>\$92,541</u>	<u>\$83,896</u>
Regulatory Asset	\$3,644	\$3,836
Plant in Service - Water	\$567,439	\$547,051
Plant in Service - Wastewater/Stormwater	\$761,807	\$746,618
Less: Accumulated Depreciation - Water	\$157,589	\$149,358
Accumulated Depreciation - Wastewater/Stormwater	\$177,708	\$160,050
	<u>\$997,594</u>	<u>\$988,098</u>
Assets Under Construction	\$75,701	\$49,876
	<u>\$1,073,295</u>	<u>\$1,037,974</u>
Unamortized Debt Discount & Issue Expense	\$1,219	\$1,164
	<u><u>\$1,167,055</u></u>	<u><u>\$1,123,034</u></u>
LIABILITIES & CAPITAL		
Trade	\$13,549	\$15,740
Interest on Long Term Debt	\$1,706	\$1,917
Halifax Regional Municipality	\$6,724	\$6,423
Contractor & Customer Deposits	\$179	\$189
Unearned Revenue	\$5,164	\$5,134
	<u>\$27,322</u>	<u>\$29,404</u>
Accrued Post-Retirement Benefits	\$604	\$617
Accrued Pre-Retirement Benefit	\$3,276	\$3,104
Deferred Pension Liability	\$12,853	\$12,074
Special Purpose Reserves not allocated to projects	\$5,477	\$13,318
Regional Development Charge	\$8,471	\$750
Long Term Debt-Water	\$75,420	\$71,925
Long Term Debt-Wastewater/Stormwater	\$167,823	\$162,644
Total Liabilities	<u>\$301,247</u>	<u>\$293,835</u>
Capital Surplus	\$830,591	\$809,369
Committed Reserves	\$13,946	\$6,365
Operating Surplus used to Fund Capital	\$12,380	\$12,380
Operating Surplus	\$2,936	(3,959)
Excess (Deficiency) of Revenue over Expenditure - Consolidated	\$5,955	\$5,044
Total Capital & Surplus	<u>\$865,808</u>	<u>\$829,198</u>
	<u><u>\$1,167,055</u></u>	<u><u>\$1,123,034</u></u>

HALIFAX WATER
UNAUDITED INCOME STATEMENT - CONSOLIDATED
APRIL 1/15 - NOVEMBER 30/15 (8 MONTHS)
66.67%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	MAR 31/16	MAR 31/16	
'000	'000		'000	'000	BUDGET*	FORECAST	
\$10,052	\$10,650	OPERATING REVENUE	\$88,286	\$86,961	\$129,905	\$130,196	67.81%
\$7,778	\$7,230	OPERATING EXPENSES	\$62,157	\$62,790	\$103,614	\$100,154	62.06%
\$2,274	\$3,419	OPERATING PROFIT	\$26,129	\$24,172	\$26,291	\$30,042	86.98%
		FINANCIAL REVENUE					
\$32	\$79	INVESTMENT INCOME	\$512	\$484	\$660	\$840	60.95%
\$167	\$167	PNS FUNDING HHSP DEBT	\$1,333	\$1,333	\$2,000	\$2,000	66.67%
\$22	\$25	MISCELLANEOUS	\$195	\$187	\$417	\$292	66.85%
\$221	\$271		\$2,041	\$2,004	\$3,077	\$3,132	65.15%
		FINANCIAL EXPENSES					
\$716	\$686	LONG TERM DEBT INTEREST	\$5,816	\$5,950	\$8,440	\$8,700	66.84%
\$1,868	\$1,433	LONG TERM DEBT PRINCIPAL	\$13,260	\$12,185	\$20,626	\$20,359	65.13%
\$17	\$15	AMORTIZATION DEBT DISCOUNT	\$120	\$103	\$172	\$187	64.26%
\$377	\$362	DIVIDEND/GRANT IN LIEU OF TAXES	\$3,019	\$2,893	\$4,579	\$4,528	66.67%
\$2,978	\$2,496		\$22,215	\$21,132	\$33,818	\$33,775	65.77%
(\$483)	\$1,194	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$5,955	\$5,044	(\$4,449)	(\$601)	1091.36%

HALIFAX WATER
UNAUDITED INCOME STATEMENT - WATER OPERATIONS
APRIL 1/15 - NOVEMBER 30/15 (8 MONTHS)
66.67%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR '000	LAST YEAR '000		THIS YEAR '000	LAST YEAR '000	MAR 31/16 BUDGET*	MAR 31/16 FORECAST	
REVENUE							
\$3,326	\$3,286	METERED SALES	\$29,040	\$26,739	\$42,743	\$42,743	67.94%
\$669	\$746	FIRE PROTECTION	\$5,354	\$5,969	\$8,032	\$8,032	66.67%
\$55	\$43	PRIVATE FIRE PROTECTION SERVICES	\$440	\$366	\$1,069	\$654	67.32%
\$17	\$22	BULK WATER STATIONS	\$223	\$249	\$309	\$259	86.05%
\$19	\$16	CUSTOMER LATE PAY./COLLECTION FEES	\$131	\$119	\$343	\$195	66.96%
\$10	\$7	MISCELLANEOUS	\$85	\$87	\$150	\$150	56.72%
\$4,097	\$4,121		\$35,274	\$33,528	\$52,646	\$52,033	67.79%
EXPENSES							
\$573	\$555	WATER SUPPLY & TREATMENT	\$4,764	\$4,503	\$8,134	\$8,131	58.59%
\$675	\$758	TRANSMISSION & DISTRIBUTION	\$5,411	\$5,179	\$9,155	\$8,645	62.59%
\$107	\$63	SMALL SYSTEMS (inc. Contract Systems)	\$706	\$640	\$792	\$791	89.21%
\$55	\$58	SCADA, CONTROL & PUMPING	\$435	\$492	\$806	\$806	53.94%
\$366	\$244	ENGINEERING & INFORMATION SERVICES	\$2,202	\$2,199	\$3,809	\$3,729	59.04%
\$58	\$41	ENVIRONMENTAL SERVICES	\$339	\$428	\$628	\$635	53.40%
\$171	\$159	CUSTOMER SERVICE	\$1,466	\$1,319	\$2,227	\$2,225	65.87%
\$478	\$437	ADMINISTRATION & PENSION	\$4,140	\$3,912	\$6,089	\$6,071	68.19%
\$622	\$353	DEPRECIATION	\$5,023	\$5,221	\$8,573	\$8,273	60.72%
\$3,104	2,668,503.43		\$24,485	\$23,892	\$40,213	\$39,307	62.29%
\$992	\$1,452	OPERATING PROFIT	\$10,789	\$9,636	\$12,433	\$12,726	84.77%
FINANCIAL REVENUE							
\$17	\$40	INVESTMENT INCOME	\$258	\$242	\$330	\$420	61.46%
\$16	\$20	MISCELLANEOUS	\$160	\$136	\$344	\$234	68.19%
\$33	\$60		\$418	\$378	\$674	\$654	63.87%
FINANCIAL EXPENSES							
\$204	\$211	LONG TERM DEBT INTEREST	\$1,663	\$1,662	\$2,108	\$2,428	68.51%
\$630	\$579	LONG TERM DEBT PRINCIPAL	\$5,009	\$4,513	\$7,969	\$7,729	64.80%
\$8	\$7	AMORTIZATION DEBT DISCOUNT	\$58	\$53	\$97	\$90	64.82%
\$377	\$362	DIVIDEND/GRANT IN LIEU OF TAXES	\$3,019	\$2,893	\$4,579	\$4,528	66.67%
\$1,219	\$1,158		\$9,749	\$9,122	\$14,753	\$14,775	65.98%
(\$194)	\$354	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$1,458	\$892	(\$1,646)	(\$1,394)	204.55%

HALIFAX WATER
UNAUDITED INCOME STATEMENT - WASTEWATER OPERATIONS
APRIL 1/15 - NOVEMBER 30/15 (8 MONTHS)
66.67%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	MAR 31/16 BUDGET*	MAR 31/16 FORECAST	
'000	'000		'000	'000	'000	'000	
REVENUE							
\$4,904	\$5,573	METERED SALES	\$44,597	\$45,589	\$65,505	\$65,505	68.08%
\$14	\$7	WASTEWATER OVERSTRENGTH AGREEMENTS	\$95	\$100	\$174	\$144	65.67%
\$33	\$23	LEACHATE	\$184	\$197	\$379	\$379	48.41%
\$7	\$8	CONTRACT REVENUE	\$63	\$54	\$86	\$86	73.28%
\$17	\$17	DEWATERING FACILITY/SLUDGE LAGOON	\$125	\$140	\$210	\$210	59.46%
\$0	\$0	AIRLINE EFFLUENT	\$32	\$40	\$78	\$78	41.12%
\$62	\$76	SEPTAGE TIPPING FEES	\$493	\$508	\$800	\$600	82.23%
\$19	\$20	CUSTOMER LATE PAY./COLLECTION FEES	\$174	\$147	\$210	\$285	61.30%
\$9	\$7	MISCELLANEOUS	\$83	\$83	\$121	\$121	69.14%
\$5,064	\$5,731		\$45,846	\$46,857	\$67,562	\$67,407	68.01%
EXPENSES							
\$740	\$717	WASTEWATER COLLECTION	\$6,092	\$6,211	\$9,717	\$9,167	66.45%
\$1,162	\$1,774	WASTEWATER TREATMENT PLANTS	\$11,046	\$12,275	\$18,640	\$17,792	62.08%
\$87	\$74	SMALL SYSTEMS	\$645	\$607	\$1,136	\$1,123	57.46%
\$63	\$51	DEWATERING FACILITY/ SLUDGE MGM'T	\$290	\$362	\$767	\$405	71.42%
\$5	\$5	BIOSOLIDS TREATMENT	\$60	\$36	\$101	\$101	59.44%
\$28	\$23	LEACHATE CONTRACT	\$160	\$174	\$328	\$320	49.90%
\$81	\$72	SCADA, CONTROL & PUMPING	\$626	\$652	\$1,191	\$1,191	52.60%
\$342	\$198	ENGINEERING & INFORMATION SERVICES	\$1,918	\$1,736	\$3,493	\$3,427	55.95%
\$114	\$97	ENVIRONMENTAL SERVICES	\$741	\$870	\$1,343	\$1,377	53.84%
\$141	\$127	CUSTOMER SERVICE	\$1,213	\$1,052	\$1,844	\$1,842	65.83%
\$400	\$349	ADMINISTRATION & PENSION	\$3,436	\$3,113	\$5,042	\$5,027	68.34%
\$869	\$526	DEPRECIATION	\$6,878	\$7,145	\$11,674	\$11,174	61.55%
\$4,033	\$4,014		\$33,104	\$34,232	\$55,277	\$52,948	62.52%
\$1,031	\$1,718	OPERATING PROFIT	\$12,742	\$12,624	\$12,285	\$14,459	88.13%
FINANCIAL REVENUE							
\$15	\$40	INVESTMENT INCOME	\$254	\$242	\$330	\$420	60.43%
\$167	\$167	PNS FUNDING HHSP DEBT	\$1,333	\$1,333	\$2,000	\$2,000	66.67%
\$6	\$5	MISCELLANEOUS	\$35	\$51	\$73	\$58	61.39%
\$188	\$211		\$1,623	\$1,626	\$2,403	\$2,478	65.49%
FINANCIAL EXPENSES							
\$466	\$437	LONG TERM DEBT INTEREST	\$3,785	\$4,000	\$5,798	\$5,703	66.37%
\$1,149	\$787	LONG TERM DEBT PRINCIPAL	\$7,553	\$7,168	\$11,747	\$11,532	65.49%
\$8	\$7	AMORTIZATION DEBT DISCOUNT	\$57	\$48	\$66	\$88	64.54%
\$1,623	\$1,232		\$11,395	\$11,216	\$17,612	\$17,324	65.78%
(\$404)	\$697	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$2,970	\$3,035	(\$2,924)	(\$387)	866.89%

HALIFAX WATER
UNAUDITED INCOME STATEMENT - STORMWATER OPERATIONS
APRIL 1/15 - NOVEMBER 30/15 (8 MONTHS)
66.67%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	MAR 31/16 BUDGET*	MAR 31/16 FORECAST	
'000	'000		'000	'000	'000	'000	
REVENUE							
\$555	\$468	STORMWATER SITE GENERATED SERVICE	\$4,478	\$3,915	\$5,715	\$6,715	66.68%
\$323	\$323	STORMWATER RIGHT OF WAY SERVICE	\$2,588	\$2,588	\$3,881	\$3,881	66.67%
\$6	\$1	CUSTOMER LATE PAY./COLLECTION FEES	\$46	\$8	\$10	\$69	66.52%
\$7	\$5	MISCELLANEOUS	\$56	\$67	\$91	\$91	61.22%
\$891	\$798		\$7,166	\$6,577	\$9,697	\$10,756	66.63%
EXPENSES							
\$390	\$328	STORMWATER COLLECTION	\$2,707	\$2,714	\$5,017	\$4,772	56.73%
\$3	\$3	SCADA, CONTROL & PUMPING	\$21	\$23	\$28	\$28	75.60%
\$56	\$41	ENGINEERING & INFORMATION SERVICES	\$312	\$355	\$568	\$558	55.95%
\$66	\$50	ENVIRONMENTAL SERVICES	\$468	\$411	\$825	\$859	54.48%
\$23	\$26	CUSTOMER SERVICE	\$197	\$215	\$300	\$300	65.83%
\$65	\$71	ADMINISTRATION & PENSION	\$559	\$637	\$820	\$818	68.34%
\$38	\$30	DEPRECIATION	\$304	\$311	\$565	\$565	53.73%
\$641	\$548		\$4,568	\$4,666	\$8,123	\$7,899	57.83%
\$250	\$249	OPERATING PROFIT	\$2,599	\$1,911	\$1,573	\$2,857	90.96%
FINANCIAL EXPENSES							
\$46	\$38	LONG TERM DEBT INTEREST	\$367	\$289	\$534	\$569	64.47%
\$90	\$67	LONG TERM DEBT PRINCIPAL	\$699	\$504	\$910	\$1,098	63.67%
\$1	\$1	AMORTIZATION DEBT DISCOUNT	\$5	\$2	\$9	\$9	55.44%
\$136	\$106		\$1,071	\$794	\$1,453	\$1,676	63.90%
\$114	\$144	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$1,528	\$1,117	\$120	\$1,181	129.36%

HALIFAX WATER
UNAUDITED INCOME STATEMENT - REGULATED AND UNREGULATED OPERATIONS
APRIL 1/15 - NOVEMBER 30/15 (8 MONTHS)
66.67%

DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15 MAR 31/16	APR 1/15 MAR 31/16	% of
	THIS YEAR	LAST YEAR	BUDGET*	FORECAST	FORECAST
REGULATED ACTIVITIES					
REVENUE					
METERED SALES	\$78,115	\$76,242	\$113,963	\$114,963	67.95%
FIRE PROTECTION	\$5,354	\$5,969	\$8,032	\$8,032	66.67%
PRIVATE FIRE PROTECTION	\$440	\$366	\$1,069	\$654	67.32%
STORMWATER SERVICE	\$2,588	\$2,588	\$3,881	\$3,881	66.67%
OTHER OPERATING REVENUE	\$878	\$845	\$1,386	\$1,292	67.96%
	\$87,375	\$86,009	\$128,331	\$128,822	67.83%
EXPENSES					
WATER SUPPLY & TREATMENT	\$4,764	\$4,503	\$8,134	\$8,131	58.59%
TRANSMISSION & DISTRIBUTION	\$5,411	\$5,179	\$9,155	\$8,645	62.59%
WASTEWATER & STORMWATER COLLECTION	\$8,798	\$8,908	\$14,734	\$13,939	63.12%
WASTEWATER TREATMENT PLANTS	\$11,046	\$12,275	\$18,640	\$17,792	62.08%
SMALL SYSTEMS	\$1,347	\$1,239	\$1,913	\$1,899	70.93%
SCADA, CONTROL & PUMPING	\$1,082	\$1,167	\$2,025	\$2,025	53.45%
ENGINEERING & INFORMATION SERVICES	\$4,432	\$4,289	\$7,870	\$7,714	57.45%
ENVIRONMENTAL SERVICES	\$1,548	\$1,708	\$2,796	\$2,871	53.93%
CUSTOMER SERVICE	\$2,873	\$2,562	\$4,337	\$4,332	66.31%
ADMINISTRATION & PENSION	\$8,133	\$7,641	\$11,931	\$11,896	68.37%
DEPRECIATION	\$12,201	\$12,603	\$20,811	\$20,011	60.97%
	\$61,634	\$62,075	\$102,345	\$99,255	62.10%
FINANCIAL REVENUE					
INVESTMENT INCOME	\$512	\$484	\$660	\$840	60.95%
MISCELLANEOUS	\$1,351	\$1,354	\$2,082	\$2,042	66.17%
	\$1,863	\$1,838	\$2,742	\$2,882	64.65%
FINANCIAL EXPENSES					
LONG TERM DEBT INTEREST	\$5,816	\$5,950	\$8,440	\$8,700	66.84%
LONG TERM DEBT PRINCIPAL	\$13,260	\$12,185	\$20,626	\$20,359	65.13%
AMORTIZATION DEBT DISCOUNT	\$120	\$103	\$172	\$187	64.26%
DIVIDEND/GRANT IN LIEU OF TAXES	\$3,019	\$2,893	\$4,579	\$4,528	66.67%
	\$22,215	\$21,132	\$33,818	\$33,775	65.77%
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$5,389	\$4,640	(\$5,090)	(\$1,326)	506.32%
UNREGULATED ACTIVITIES					
REVENUE					
SEPTAGE TIPPING FEES	\$493	\$508	\$800	\$600	82.23%
LEACHATE	\$184	\$197	\$379	\$379	48.41%
CONTRACT REVENUE	\$63	\$54	\$86	\$86	73.28%
DEWATERING	\$125	\$140	\$210	\$210	59.46%
AIRLINE EFFLUENT	\$32	\$40	\$78	\$78	41.12%
ENERGY PROJECTS	\$18	\$0	\$115	\$30	59.31%
MISCELLANEOUS	\$14	\$14	\$21	\$21	67.97%
	\$929	\$953	\$1,689	\$1,404	66.15%
EXPENSES					
WATER SUPPLY & TREATMENT	\$4	\$8	\$15	\$15	27.57%
WASTEWATER TREATMENT	\$510	\$588	\$1,196	\$827	61.73%
ENERGY PROJECTS	\$0	\$3	\$9	\$9	0.00%
SPONSORSHIPS & DONATIONS	\$5	\$45	\$56	\$56	8.34%
DEPRECIATION	\$4	\$74	\$2	\$2	0.00%
	\$523	\$718	\$1,278	\$908	57.59%
FINANCIAL REVENUE					
MISCELLANEOUS	\$160	\$169	\$229	\$229	69.63%
	\$160	\$169	\$229	\$229	69.63%
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$566	\$404	\$641	\$726	77.96%
NET PROFIT (LOSS) AVAILABLE FOR TOTAL CAPITAL EXPENDITURES (REG & UNREG)	\$5,955	\$5,044	(\$4,449)	(\$601)	1091.36%



ITEM # 5
HRWC Board
January 28, 2016

Halifax Regional Water Commission

450 Cowie Hill Road, P.O. Box 8388 RPO CSC, Halifax, Nova Scotia B3K 5M1 phone 902 490-4820 fax 902 490-4808

January 19, 2016

Halifax Regional Water Commission
PO Box 8388 RPO CSC
450 Cowie Hill Road
Halifax NS
B3K 5M1

Attention: Mr. Ray Ritcey, Chairman HRWC Board

Dear Mr. Ritcey:

RE: Quarterly Report to HRWC Board

The Environment, Safety and Capital Projects Planning Committee met on three occasions in 2015. The most recent meeting was held on January 19, 2016 to discuss and approve the 2016/17 Capital Budget.

It is recommended by the Members of the Environment, Safety and Capital Projects Planning Committee with the advice and recommendation of the Director of Engineering & IS and the General Manager, that the HRWC Board approve the:

1. Urban Core System 2016/17 Capital Budget in principal at a total value of \$66,777,000 and;
2. List of Routine capital expenditure items required for on-going departmental operations at a total value of \$5,055,000.


Sincerely,

Mr. Don Mason
Chair
Environment, Safety and Capital Projects Planning Committee

Attachments: Committee Report
Schedule 1 – Halifax Water Capital Budget Program 2016/17

TO: Mr. Don Mason, Chair and Members of the Environment, Safety and Capital Projects Planning Committee

SUBMITTED BY:



Jamie Hannam, P.Eng.
Director, Engineering & Information Services



Cathie O'Toole, MBA, CPA, CGA, Director of Corporate Services

APPROVED:



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

DATE: January 18, 2016

SUBJECT: Proposed 2016/17 Capital Budget

ORIGIN

Staff compilation of the annual Capital Budget.

RECOMMENDATION

The Committee with the advice and recommendation of the Director of Engineering & Information Services and the General Manager recommends the HRWC Board approve the:

1. Urban Core System 2016/17 Capital Budget in principal at a total value of \$66,777,000.
2. List of routine capital expenditure items required for on-going departmental operation, at a total value of \$5,055,000.

BACKGROUND

HRWC's 2012 *Integrated Resource Plan* (IRP) identified a 30-year capital investment plan valued at \$2.6 Billion. In relation to the IRP, the capital budget program focuses on providing required infrastructure for asset renewal, regulatory compliance and growth. The capital program helps ensure that we continue to provide services in a cost effective and efficient manner with a focus on long term sustainability.

DISCUSSION

Attached, in Schedule 1, is the proposed Capital Budget for HRWC for the fiscal year April 1, 2016 to March 31, 2017. It is comprised of the Urban Core System Water, Wastewater, and Stormwater budget with a total value of \$66,777,000, and the Unregulated Business Capital Budget with a value of \$825,000. The proposed budget includes a series of routine capital expenditures, not related to major projects that are required for ongoing operations. These items total \$5,005,000.

The Capital Budget document reflects the Integrated Resource Plan (IRP) completed in 2012. This 30 year plan provides a strong vision for the infrastructure requirements needed to ensure the long term integrity of the utility. The 2016/17 Capital Budget includes many early projects from the IRP that will begin to shape the overall direction of the capital plan for years to come.

The Capital Budget funds our traditional capital requirements for utility operation, along with a focus on several key capital initiatives. The following sections provide highlighted details of the Capital Budget by asset category.

Water:

- Macdonald Bridge Transmission Main Replacement: \$3,295,000
- Distribution System Main Renewal Program in conjunction with HRM Streets program: \$4,000,000
- Lake Major Water Supply Plant - New Diesel Generator: \$1,900,000
- Asset Renewal and Process Upgrades – Water Supply Plants: \$2,321,000

Wastewater:

- Collection System Renewal Projects integrated with HRM Streets program: \$1,750,000
- Lateral Replacements: \$2,190,000
- Wastewater System – Trenchless Rehabilitation Program: \$1,500,000
- Belmont WWTF Decommissioning - \$3,000,000
- Aerotech WWTF Upgrade & Expansion - \$13,930,000
- Corporate Flow Monitoring Program: \$660,000
- Balsam Road Pumping Station Elimination: \$770,000
- Bedford Pumping Station Rehabilitation: \$2,850,000

Stormwater:

- Sackville Crossroad Stormwater System Renewal: \$1,200,000
- Stormwater System Renewal Projects Integrated with HRM Streets Program: \$650,000
- Culvert Renewals: \$1,277,000
- Sullivan's Pond Storm Sewer Replacement – Design: \$ 300,000

Corporate Projects:

- GIS Data Program: \$1,000,000
- Computer Network and Hardware Upgrades: \$380,000
- Computerized Maintenance Management System: \$1,500,000
- Corporate Fleet: \$1,655,000
- AMI/AMR Meter System Upgrade: \$3,300,000
- Asset Management Program: \$150,000

Unregulated Business:

HRWC operates and manages a range of activities that fall outside of the core services that are regulated by the NSUARB and funded by approved rates. With the growth of these unregulated activities, HRWC is improving the formalization of the management of these activities. One aspect of this management enhancement is the development of a defined capital plan for unregulated activities. This capital plan includes the identification of specific capital infrastructure and related investments and the associated funding plan. The 1 Year and Capital Plan is detailed within the BUDGET IMPLICATIONS section of this report. The value of the proposed 2016/17 Unregulated Capital Plan is \$825,000.

BUDGET IMPLICATIONS

The funds for the overall Capital Budget will be generated from a combination of sources, as detailed below:

2016/17 Capital Budget Funding Sources

Water:	Depreciation	\$9,631,878
	Debt	11,433,122
	RDC	0
	External Funding Build Canada	59,000
	Capital Cost Contributions	238,000
	Energy Rebates	<u>36,000</u>
	TOTAL	<u>21,398,000</u>
Wastewater:	Depreciation	14,035,907
	Debt	16,798,093
	RDC	300,000
	External Funding Build Canada	9,055,000
	Capital Cost Contributions	0
	Energy Rebates	16,000
	Unregulated Capital Funds	<u>475,000</u>
	TOTAL	<u>40,680,000</u>
Stormwater:	Depreciation	834,000
	Funds available from prior years' capital	150,000
	Debt	<u>3,715,000</u>
	TOTAL	<u>4,699,000</u>
Total Capital Funding:		<u>\$66,777,000</u>

The depreciation amounts shown as a funding source are the depreciation included within revenue requirements upon which the rates are based. Other known sources of funding such as external funding, CCCs, RDCs, or Energy Rebates are reflected, then the new debt requirement is calculated. The new debt projected for 2016/17 is \$1.75 million higher than the initial planned use of debt for 2016/17; however the additional debt servicing can be accommodated within the 2016/17 operating budget; and does not affect Halifax Water's compliance with debt service ratio targets.

Item #1
Environment, Safety and Capital Projects Planning Committee
January 19, 2016

The Stormwater funding reflects \$150,000 available from underspending on the Ellenvale Run project that is currently being closed out. The funding will be carried forward to the 2016/17 stormwater capital budget.

The unregulated capital of \$475,000 shown in Wastewater pertains to the Mill Cove Biogas CHP – Installation & Commissioning. The amount shown here is 50% of the total project cost and it is assumed this project will be allocated 50% to regulated and 50% to unregulated.

The cost of the \$475,000 unregulated portion of this capital project may be debt financed, or alternately may be financed directly through the operating budget using unregulated revenues; and there is potentially an additional \$350,000 in unregulated capital projects in 2016/17, as noted below that may proceed subject to necessary approvals and financing. The total projected unregulated capital budget for 2016/17 is \$825,000.


Five Year Capital Budget - Unregulated Activity		
Project ID	Project Name	All \$ in 000's
		Y1
		2016-2017
	Mill Cove Biogas CHP - Installation & Commissioning	\$475
	In-line Turbine - Location TBD (Y1 - Design, Y2 - Install)	\$50
	Cogswell DES - Conceptual Design + Cost Analysis/Consultation	\$300
TOTALS - Wastewater		\$825

Individual requests for approval of specific capital projects (greater than \$250,000 in value) included within this budget will be brought back to the Board when project details are finalized. However, staff are requesting approval of a series of Capital Budget items deemed necessary for the ongoing operation of various departments. These are identified within the *Summary of Routine Capital Expenditures included within the Capital Budget* section of the budget document and total \$5,055,000.


The Capital Budget presented and the projected funding matches the projected capital expenditure within our current 5 Year Capital Budget.

ATTACHMENTS

Schedule 1 - Halifax Water Capital Budget Program 2016/17

Report Prepared by: 

Jamie Hannam, P. Eng., Director of Engineering & IS Department

Approval: 

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

Financials Reviewed by: 

Cathie O'Toole, MBA, CPA, CGA, Director Corporate Services

Schedule 1



Capital Budget
Program

2016-2017

January - 2016



Halifax Water Capital Budget Program

OVERVIEW

Halifax Water is the water, wastewater and stormwater utility providing services for residents within the Halifax Regional Municipality.

On the water side, Halifax Water is the largest supplier of domestic potable water in Atlantic Canada. We supply over 122,000 cubic metres of water per day from the Pockwock and Lake Major Watersheds to a population of 355,000. Our water system infrastructure is comprised of three (3) large water supply plants – J.D. Kline WSP at Pockwock Lake (227 ML/day design capacity), Lake Major WSP at Lake Major (94 ML/day design capacity), and Bennery Lake WSP (8 ML/day design capacity); 1567 kms of water mains, 18 storage reservoirs, 156 pumping stations and control chambers, 8,199 fire hydrants, 14,773 main valves, 86,514 services and related appurtenances. In addition, we own and operate five small systems in the suburban/rural areas within HRM.

With respect to wastewater and stormwater infrastructure Halifax Water own and operate seven (7) large wastewater treatment facilities, including the three Halifax Harbour Solutions wastewater treatment facilities located at Halifax, Dartmouth, and Herring Cove. The wastewater and stormwater system is comprised of approximately 2,402 kms of sewer mains, 37,869 manholes, 170 wastewater pumping stations, 29,687 catch basins, 79,466 customer services and other related appurtenances. In addition, we own and operate eight (8) small wastewater treatment facilities systems in the suburban/rural areas within HRM.

Halifax Water's mission is "*To provide world class services for our customers and our environment*". Halifax Water's 2012 *Integrated Resource Plan* identified a 30 year capital investment plan valued at \$2.6 Billion. As part of our overall mission, the capital budget program focuses on providing required infrastructure for asset renewal, regulatory compliance and growth, along with capital facilities, systems and equipment. The capital program helps ensure that we continue to provide world class services in a cost effective and efficient manner with a focus on long term integrity.

BUDGET STRUCTURE

The Halifax Water Capital Budget includes an annual *One Year* and *Five Year* capital plan. Capital projects are defined as newly acquired or constructed item with value greater than \$5000 and a life expectancy beyond one year.

The Capital Budget document includes four general asset categories: Water, Wastewater, Stormwater and Corporate Projects.

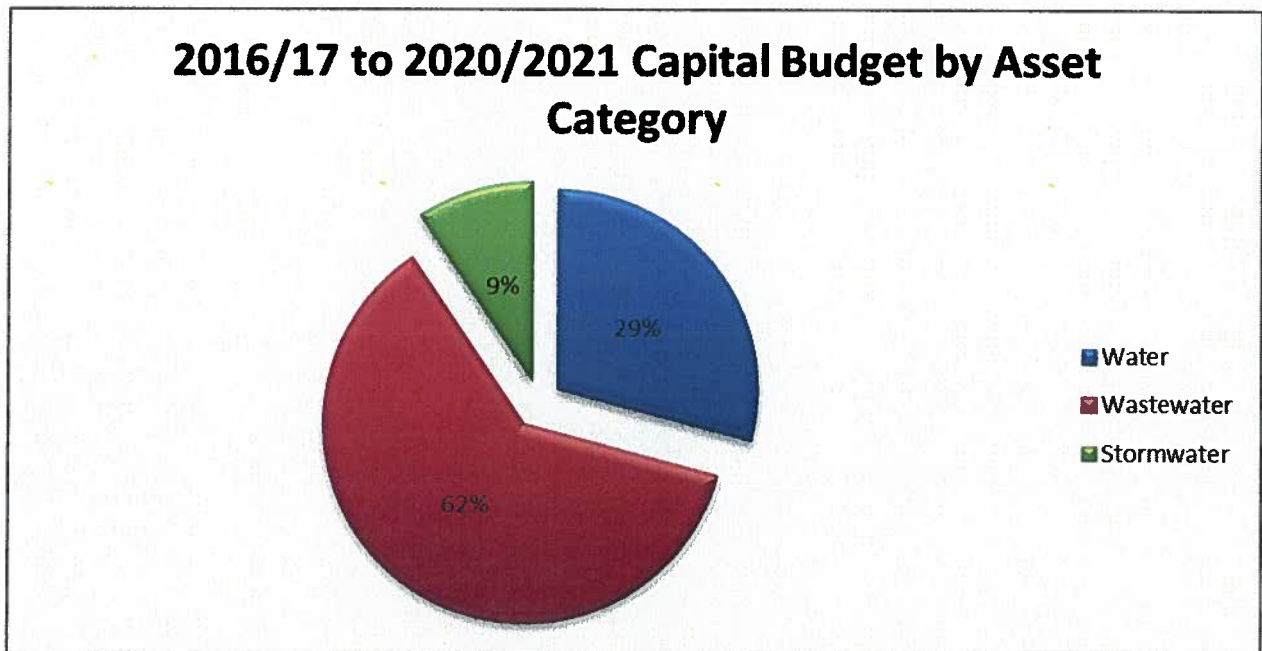
BUDGET HIGHLIGHTS

The detailed 1 Year and 5 year Capital Budget document is attached as Appendix A.

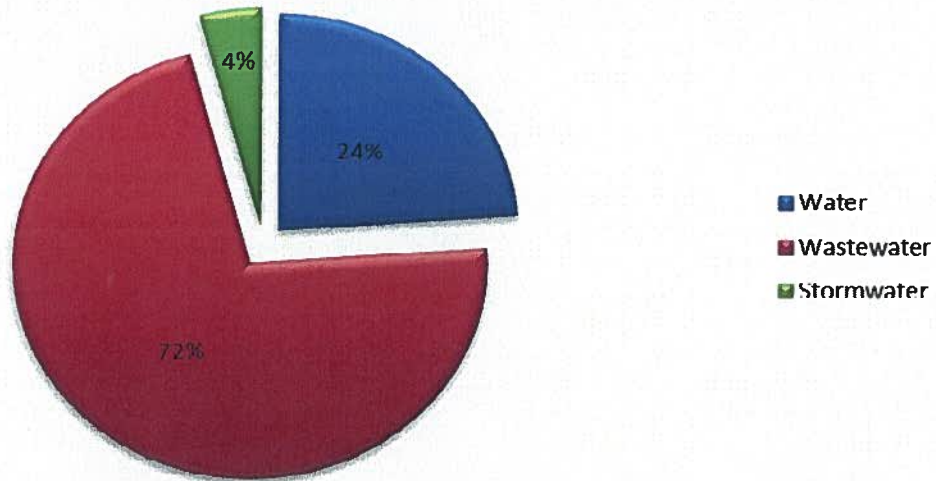
The summary totals for the four asset classes for the 1 Year and 5 Year capital budget are as follows:

Asset Class	Year 1	Years 1 - 5
	2016 / 2017	2016/17 - 2020/21
Water	\$16,453,000	\$101,948,000
Wastewater	\$35,838,000	\$246,164,000
Stormwater	\$3,951,000	\$38,170,000
Corporate Projects	\$10,535,000	\$59,710,000
TOTAL	\$66,777,000	\$445,992,000

The capital program balances near term needs with the need to balance long term investments across all asset classes. For comparative purposes, the proposed 5 Year capital expenditure allocation is compared to the target expenditure allocation identified within the IRP.



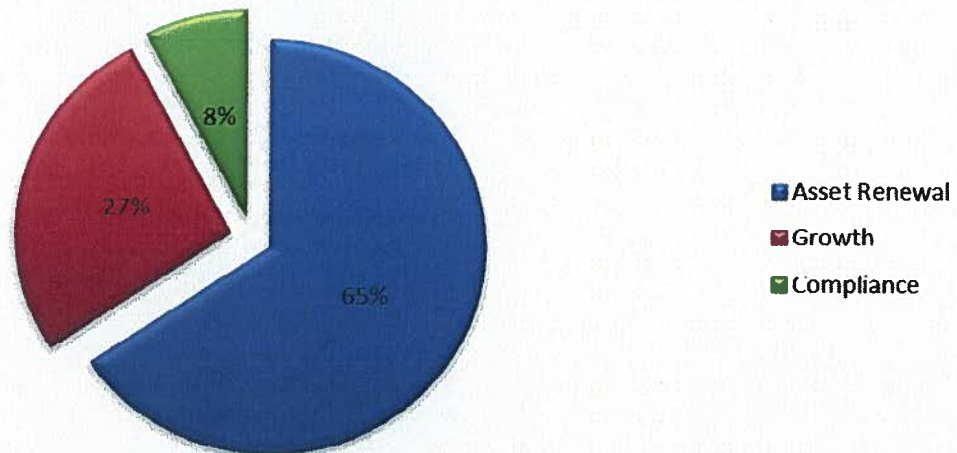
IRP 30 year Asset Category Allocation

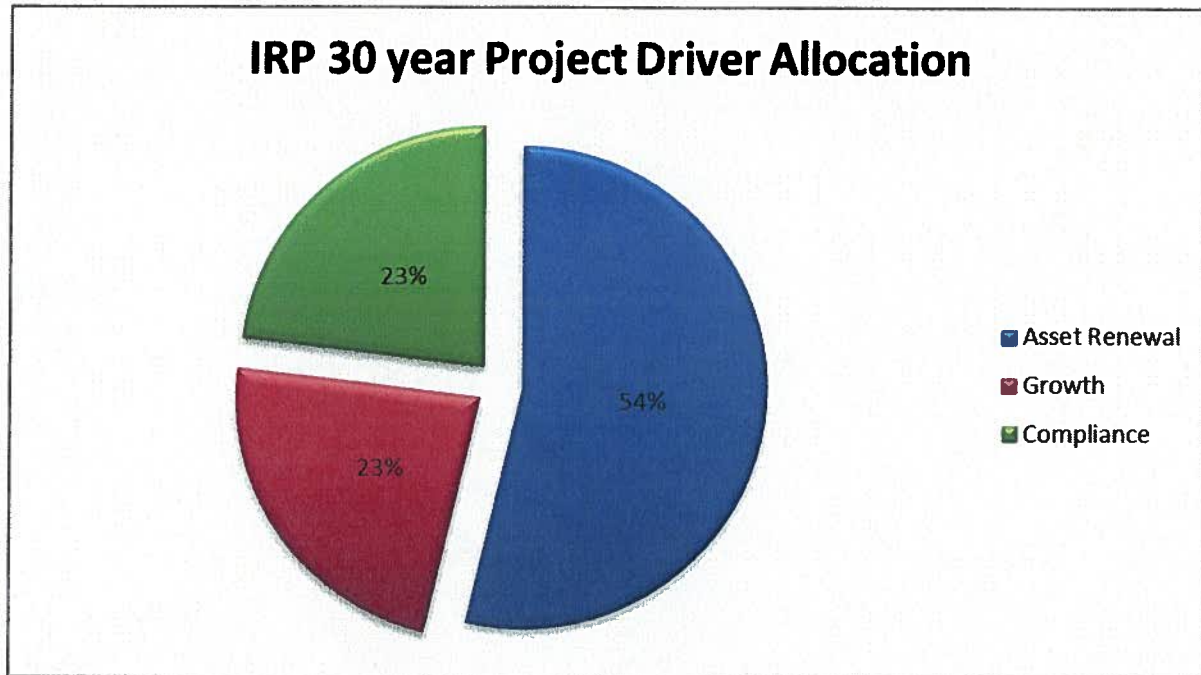


This comparison shows Halifax Water is generally on par with the IRP recommended allocation of funds with a near term expenditure of Sullivan’s Pond Storm Sewer System Replacement project, causing the stormwater expenditure to be temporarily double that of the IRP.

In addition to expenditure allocations across asset classes, the budget provides a balanced program for the various programs drivers of Asset Renewal, Regulatory Compliance and Growth. For comparative purposes, the proposed 5 Year capital allocation to program drivers is compared to the target allocation identified within the IRP.

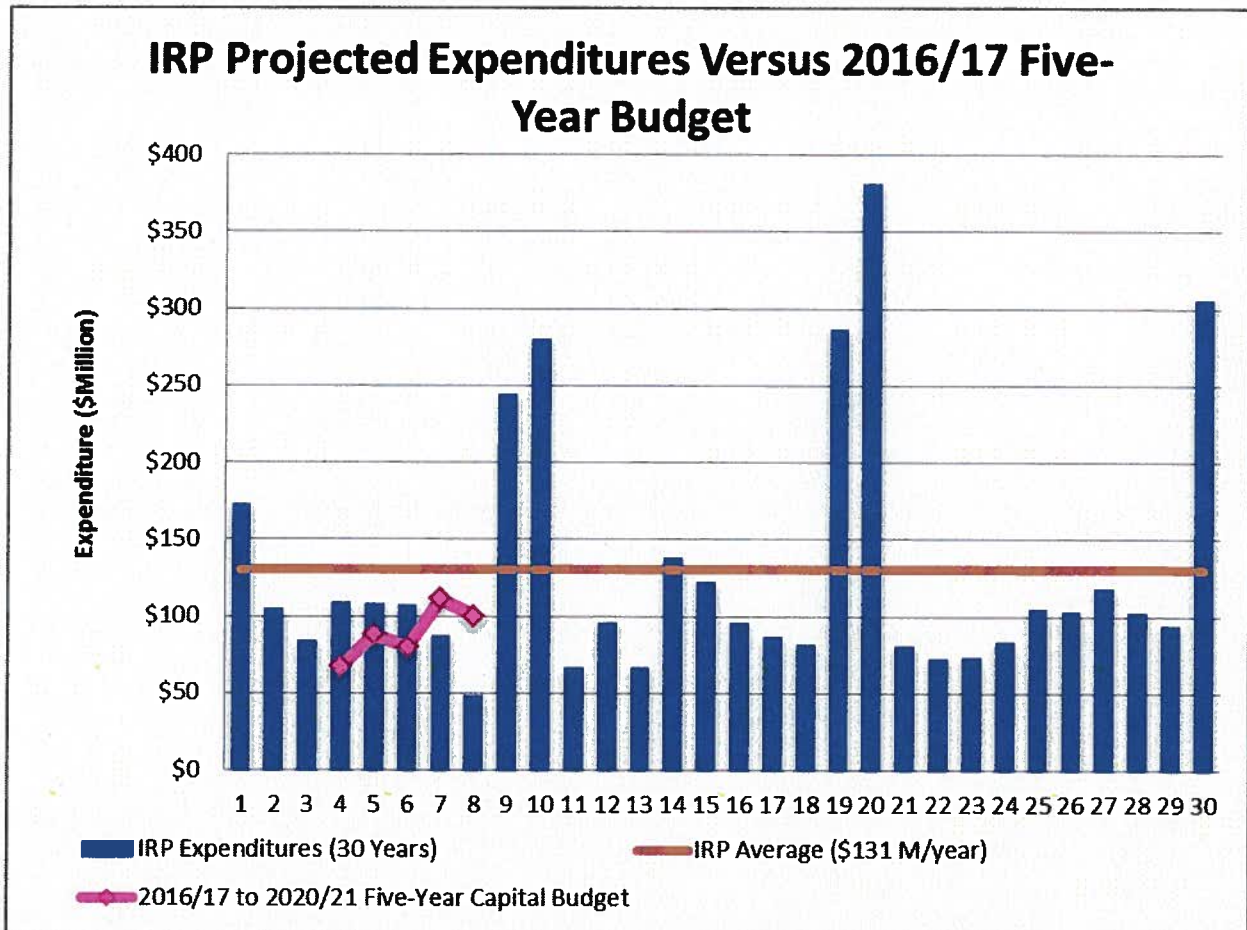
2016/17 to 2020/21 Capital Budget Project Drivers





The IRP compliance allocation is greater than the 5 Year compliance allocation due to large wastewater treatment facility expenditures that exist after the 10 year period.

The following chart shows the current proposed 5 Year capital expenditure plotted against the IRP based long term capital expenditure recommendation. These plots indicate a continued general increase trend in capital expenditures towards the target level.



The following sections provide some highlighted details of the Capital Budget.

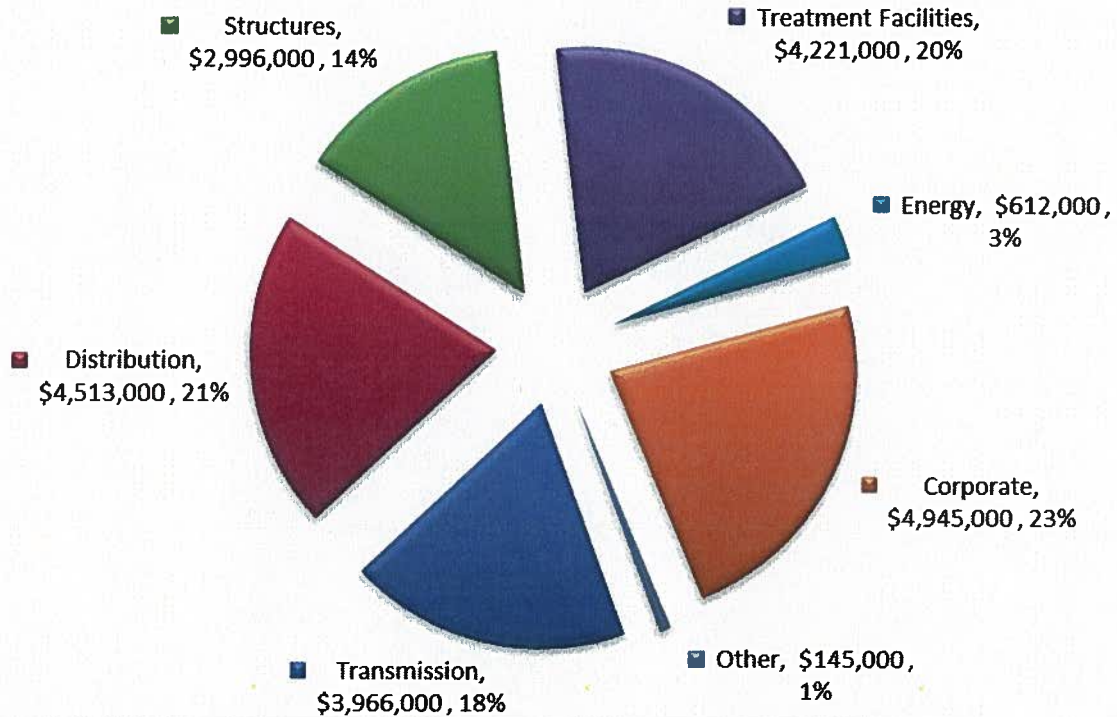
Water Asset Category

The Capital Budget funds the traditional capital requirements for water utility operation, along with a focus on several key capital initiatives. The 2016/17 budget is valued at \$16,453,000.

Major water capital projects include:

- Macdonald Bridge Transmission Main Replacement: \$3,295,000
- Distribution System Main Renewal Program in conjunction with HRM Streets program: \$4,000,000
- Lake Major Water Supply Plant - New Diesel Generator: \$1,900,000
- Asset Renewal and Process Upgrades – Water Supply Plants: \$2,321,000

2016/2017 Capital Budget by Asset Class - Water

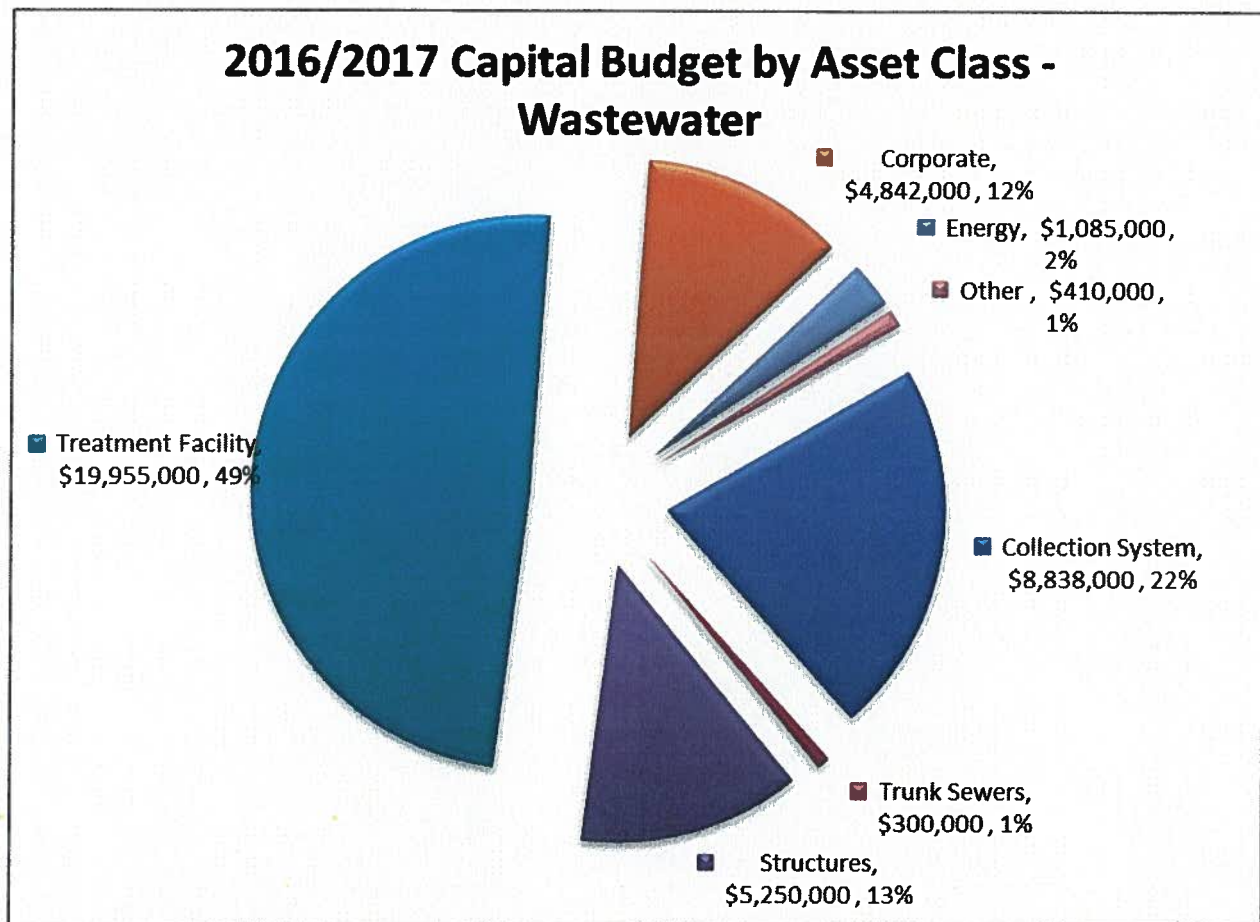


Wastewater Asset Category

This component funds the capital requirements for wastewater utility operation, along with a focus on several key capital initiatives. The 2016/17 budget is valued at \$35,838,000.

Major wastewater capital projects include:

- Collection System Renewal Projects integrated with HRM Streets program: \$1,750,000
- Lateral Replacements: \$2,190,000
- Wastewater System – Trenchless Rehabilitation Program: \$1,500,000
- Belmont WWTF Decommissioning - \$250,000
- Aerotech WWTF Upgrade & Expansion - \$13,930,000
- Corporate Flow Monitoring Program: \$660,000
- Balsam Road Pumping Station Elimination: \$770,000
- Bedford Pumping Station Rehabilitation: \$2,850,000

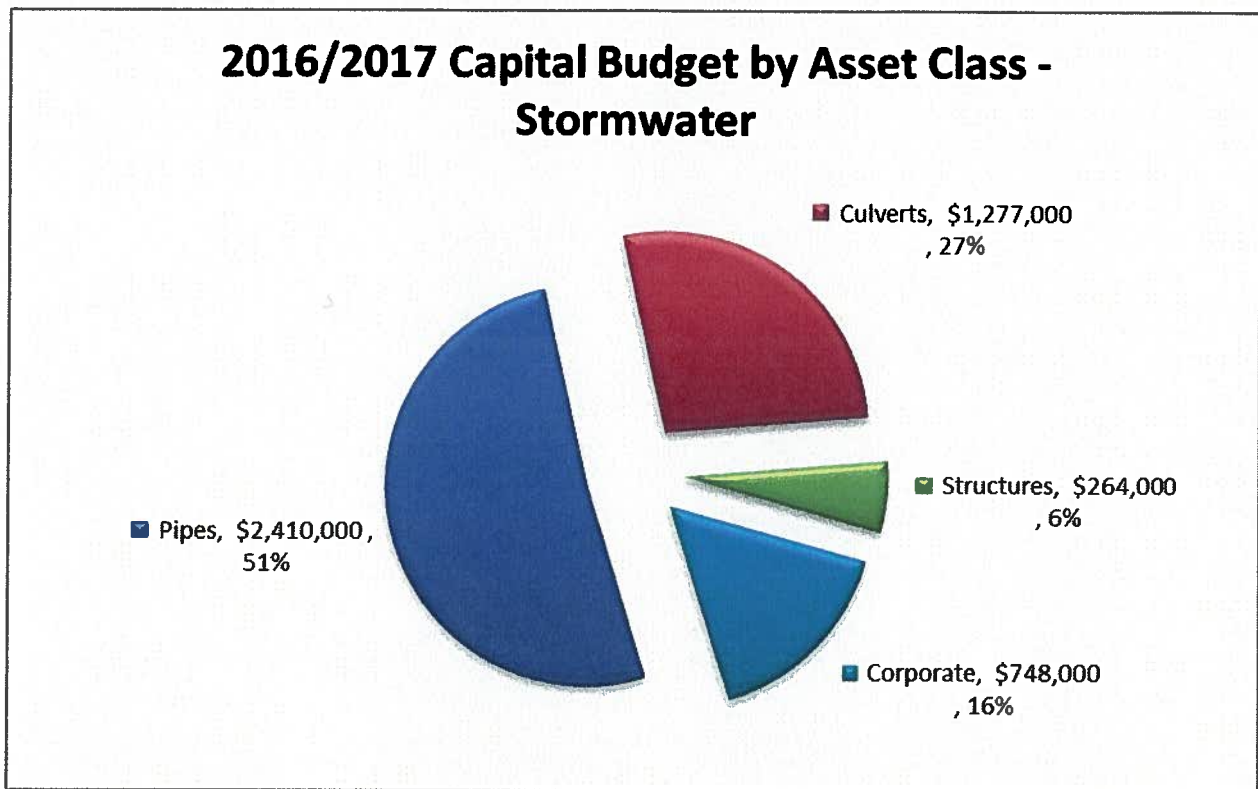


Stormwater Asset Category

This component funds the capital requirements for stormwater utility operation, along with a focus on several key capital initiatives. The 2016/17 budget is valued at \$3,951,000.

Major Stormwater capital projects include:

- Sackville Crossroad Stormwater System Renewal: \$1,200,000
- Stormwater System Renewal Projects Integrated with HRM Streets Program: \$650,000
- Culvert Renewals: \$1,277,000
- Sullivan's Pond Storm Sewer Replacement – Design: \$300,000



Asset Category – Corporate Projects

Many capital initiatives benefit, and are shared financially, across all asset classes due to their broad benefit and application. The 2016/17 budget is valued at \$10,535,000.

Major corporate capital project include:

- GIS Data Program: \$1,000,000
- Computer Network and Hardware Upgrades: \$380,000
- Computerized Maintenance Management System: \$1,500,000
- Corporate Fleet: \$1,655,000
- AMI/AMR Meter System Upgrade: \$3,300,000
- Asset Management Program: \$600,000

The Capital Budget document provides a listing of all Corporate Projects by total project cost and allocation to asset category.

Capital Funding

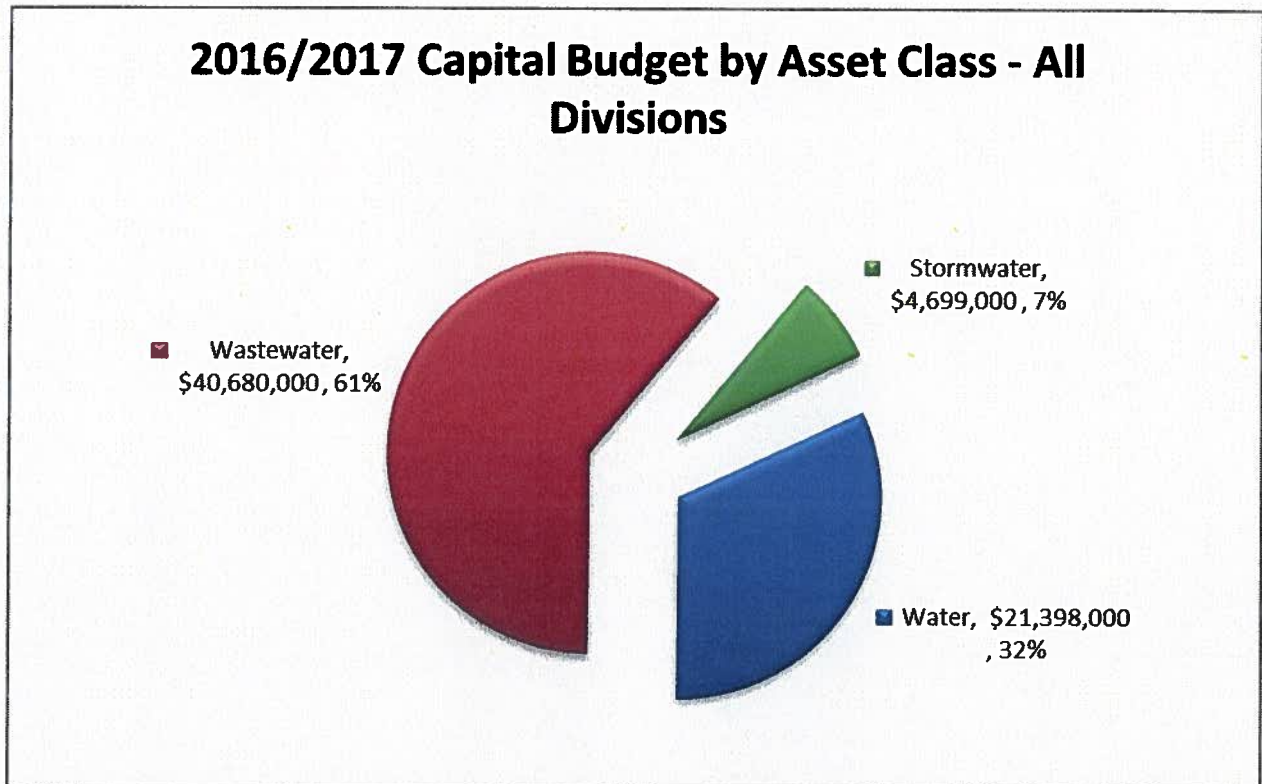
The Capital Budget is funded from a variety of sources including capital asset depreciation accounts, debt, reserves, capital cost contributions and external cost sharing.

Capital funding sources:

- Depreciation (rate based)
- Debt
- Development charge reserves
- External cost sharing

Debt Study as approved by Halifax Water Board, and accepted by the NSUARB, provides a funding strategy that is fair, equitable and cost effective.

Total 2016/17 Capital Budget Value: \$66,777,000.



The funds for the overall Capital Budget will be generated from a combination of sources, as detailed below. The planned utilization of debt is consistent with the Debt Strategy. HRWC will manage risk around projected Regional Development Charges through reprioritization of growth projects or additional utilization of debt if required.



Halifax Water Capital Budget Program

2016/17 Capital Budget Funding Sources

Water:	Depreciation	\$9,631,878
	Debt	11,433,122
	RDC	0
	External Funding Build Canada	59,000
	Capital Cost Contributions	238,000
	Energy Rebates	<u>36,000</u>
	TOTAL	<u>21,398,000</u>
Wastewater:	Depreciation	14,035,907
	Debt	16,798,093
	RDC	300,000
	External Funding Build Canada	9,055,000
	Capital Cost Contributions	0
	Energy Rebates	16,000
	Unregulated Capital Funds	<u>475,000</u>
TOTAL	<u>40,680,000</u>	
Stormwater:	Depreciation	834,000
	Funds available from prior years' capital	150,000
	Debt	<u>3,715,000</u>
	TOTAL	<u>4,699,000</u>
Total Capital Funding:		<u>\$66,777,000</u>

The depreciation amounts shown as a funding source are the depreciation included within revenue requirements upon which the rates are based. Other known sources of funding such as external funding, CCCs, RDCs, or Energy Rebates are reflected, then the new debt requirement is calculated. The new debt projected for 2016/17 is \$1.75 million higher than the initial planned use of debt for 2016/17; however the additional debt servicing can be accommodated within the 2016/17 operating budget; and does not affect Halifax Water's compliance with debt service ratio targets.

The Stormwater funding reflects \$150,000 available from underspending on the Ellenvale Run project that is currently being closed out. The funding will be carried forward to the 2016/17 stormwater capital budget.

The unregulated capital of \$475,000 shown in Wastewater pertains to the Mill Cove Biogas CHP - Installation & Commissioning. The amount shown here is 50% of the total project cost and it is assumed this project will be allocated 50% to regulated and 50% to unregulated.



Halifax Water Capital Budget Program

The cost of the \$475,000 unregulated portion of this capital project may be debt financed, or alternately may be financed directly through the operating budget using unregulated revenues; and there is potentially an additional \$350,000 in unregulated capital projects in 2016/17, as noted below that may proceed subject to necessary approvals and financing. The total projected unregulated capital budget for 2016/17 is \$825,000.

Five Year Capital Budget - Unregulated Activity		
Project ID	Project Name	All \$ in 000's
		Y1
		2016-2017
	Mill Cove Biogas CHP - Installation & Commissioning	\$475
	In-line Turbine - Location TBD (Y1 - Design, Y2 - Install)	\$50
	Cogswell DES - Conceptual Design + Cost Analysis/Consultation	\$300
TOTALS - Wastewater		\$825

HALIFAX WATER
Capital Budget 2016/17
Summary

Asset Category	Project Costs
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Water - Land -- TOTAL	\$0
Water - Transmission -- TOTAL	\$3,966,000
Water - Distribution -- TOTAL	\$4,513,000
Water - Structures -- TOTAL	\$2,996,000
Water - Treatment Facilities -- TOTAL	\$4,221,000
Water - Energy -- TOTAL	\$612,000
Water - Security -- TOTAL	\$50,000
Water - Equipment -- TOTAL	\$95,000
Water - Corporate Projects - TOTAL	\$4,945,000
TOTAL - Water	\$21,398,000

Wastewater - Trunk Sewers -- TOTAL	\$300,000
Wastewater - Collection System -- TOTAL	\$8,838,000
Wastewater - Forcemains -- TOTAL	\$100,000
Wastewater Structures -- TOTAL	\$5,250,000
Wastewater - Treatment Facility -- TOTAL	\$19,955,000
Wastewater - Energy -- TOTAL	\$1,085,000
Wastewater - Security -- TOTAL	\$200,000
Wastewater - Equipment -- TOTAL	\$110,000
Wastewater - Corporate Projects -- TOTAL	\$4,842,000
TOTAL - Wastewater	\$40,680,000

HALIFAX WATER
Capital Budget 2016/17

Summary

Asset Category	Project Costs
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Stormwater - Pipes - TOTAL	\$2,410,000
Stormwater - Culverts - TOTAL	\$1,277,000
Stormwater - Structures - TOTAL	\$264,000
Stormwater - Corporate Projects - TOTAL	\$748,000
TOTAL - Stormwater	\$4,699,000

GRANDTOTAL	\$66,777,000
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HALIFAX WATER

Capital Budget 2016/17

Water

Project Number	Project Name	Project Cost
<u>Water - Transmission</u>		
3.042	Critical Valve Replacement Program	\$300,000
3.175	Macdonald Bridge Transmission Main Replacement	\$3,295,000
3.293	Peninsula Low North Transmission Main Replacement (Windsor to Robie)	\$40,000
3.298	Hammonds Plains Road Transmission Main Extension - Voyageur Way	\$140,000
3.006	Bedford Connector 750mm Replacement - Phase 3	\$90,000
3.246	Water Transmission Main Condition Assessment Program	\$75,000
3.045	Bedford West Capital Cost Contribution - Various Phases	\$14,000
3.113	Northgate Capital Cost Contribution	\$12,000
<i>Water - Transmission – T O T A L</i>		\$3,966,000
<u>Water - Distribution</u>		
3.022	Water Distribution - Main Renewal Program	\$4,000,000
3.067	Valve Renewals	\$125,000
3.068	Hydrant Renewals	\$75,000
3.069	Service Line Renewals	\$190,000
3.285	Versa Valve Removal	\$20,000
3.294	Automated Flushing Program	\$20,000
3.277	Temporary Water Line - Pipe Materials Purchase - East Region	\$18,000
3.299	Water Distribution Pressure Monitoring Equipment	\$10,000
3.296	Water Sampling Station Relocation Program	\$29,000
3.295	Rechlorination Station Upgrades	\$26,000
<i>Water - Distribution – T O T A L</i>		\$4,513,000

HALIFAX WATER

Capital Budget 2016/17

Water

Project Number	Project Name	Project Cost
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Water - Structures

3.247	Water Structures - Condition Assessment Program	\$150,000
3.173	Lake Major Dam Replacement	\$100,000
3.287	Bedford Reservoir Inflow Meter Replacement	\$8,000
3.284	Zinck PRV Flow Meter Replacement	\$8,000
3.282	Belmont PRV Replacement	\$10,000
3.227	Relocate CT Calculation Equipment - Lucasville Meter Chamber	\$31,000
3.116	Bedford South Reservoir Capital Cost Contribution	\$250,000
3.286	Geizer 158 Reservoir Rehabilitation	\$2,170,000
3.290	Lyle Street Control Chamber Access Improvement	\$30,000
3.171	Confined Space Entry Retrofit - Bridgeview PRV Chamber	\$79,000
3.283	Robie 2 Chamber Upgrades	\$160,000

Water - Structures – T O T A L

\$2,996,000

Water - Treatment Facilities

J D Kline Water Supply Plant:

3.319	- Replace the Lime Feed and Delivery System	\$300,000
3.236	- Ampgard III to Vacuum Contactor Conversion	\$40,000
3.281	- Replace Power Pole at Low Lift Station	\$40,000
3.303	- New Laptop system to Backwash Filters	\$12,000
3.322	- Backwash Flow Control Improvements	\$185,000

Lake Major Water Supply Plant:

3.159	- Replace Contactors in the MCC	\$34,000
3.206	- Chemical Feed Pumps	\$85,000
3.237	- Recirculating Pumps for the Heating System	\$9,000
3.144	- New Diesel Generator	\$1,900,000
3.301	- Integrate Chlorine Alarms	\$50,000
3.316	- Purchase Dewatering Equipment Components	\$100,000
3.317	- Waste Residuals Management - Study Component	\$78,000
3.321	- Replace Fluoride System	\$10,000
3.332	- Purchase Fluorescence Meter	\$90,000

HALIFAX WATER

Capital Budget 2016/17

Water

Project Number	Project Name	Project Cost
3.320	- New Raw Water Low Lift Pump	\$50,000
3.207	- Isolating the Treatment Trains	\$68,000
3.300	- Dedicated Service Water Pumping Station	\$60,000
Bennery Lake Water Supply Plant:		
3.272	- New Low Lift VFD Pump Replacement Program	\$110,000
3.274	- Power Monitoring	\$20,000
3.273	- Surge Protection	\$17,000
3.167	- Plate Settlers	\$440,000
3.211	Chlorine Analyzer Replacement Program	\$23,000
3.276	Purchase Inline Zeta Potential Meters for Water Plants	\$100,000
3.324	Water Plants: Purchase Particle Counters	\$235,000
3.336	Geosmin Taxonomy Study	\$165,000
Water - Treatment Facilities -- T O T A L		\$4,221,000
<u>Water - Energy</u>		
3.107	Chamber HVAC Retro-Commissioning Program	\$50,000
3.327	Lake Major WSP - HVAC Study	\$100,000
3.109	JD Kline WSP - Industrial Process Water Pumps Upgrade	\$160,000
3.31	JD Kline WSP - Raw Water Pump Upgrade Study	\$230,000
3.311	JD Kline - Pump Station MCC Ventilation	\$72,000
Water - Energy -- T O T A L		\$612,000
<u>Water - Security</u>		
4.009	Security Upgrade Program	\$50,000
Water - Security -- T O T A L		\$50,000
<u>Water - Equipment</u>		
3.104	Large Tapping Machine c/w electric operator and 4" to 12" cutters	\$34,000
3.271	Small Hydro Vac for valve box maintenance	\$25,000
3.335	Plastic Shell Cutters for Tapping Machine	\$12,000
3.297	Portable Valve Exerciser	\$10,000
	Confined Space Entry System for Bennery Lake Water Supply Plant	\$14,000
Water - Equipment -- T O T A L		\$95,000

HALIFAX WATER

Capital Budget 2016/17

Water

Project Number	Project Name	Project Cost
	Water - Corporate Projects - T O T A L	\$4,945,000
	GRAND TOTAL - WATER	\$21,398,000

HALIFAX WATER

Capital Budget 2016/17

Wastewater

Project Number	Project Name	Project Cost
<u>Wastewater - Trunk Sewers</u>		
2.067	Northwest Arm Sewer Rehabilitation	\$300,000
<i>Wastewater - Trunk Sewers -- TOTAL</i>		\$300,000
<u>Wastewater - Collection System</u>		
2.223	Wet Weather Management Program	\$100,000
	Sewer Condition Assessment	\$250,000
2.357	Manhole Renewals	\$32,000
2.358	Lateral Replacements	\$2,190,000
2.052	Integrated Wastewater Projects - Program	\$1,750,000
2.043	Corporate Flow Monitoring Program	\$660,000
2.168	Wastewater System - Trenchless Rehabilitation Program	\$1,500,000
2.462	Wastewater Conveyance System Upgrade - Dingle PS to Roach's PS via William's Lake PS	\$145,000
2.417	Inglis Street Sewer - Hydraulic Analysis	\$250,000
2.460	Leiblin PS Elimination	\$75,000
2.179	Balsam Road PS Elimination	\$770,000
2.195	Gravity sewer from Little Albro Lake to Jamieson St PS	\$100,000
2.518	Waterfront Drive Wastewater System Replacement	\$500,000
2.074	Bedford West Collection System Capital Cost Contribution	\$66,000
2.36	Central Region Wastewater Infrastructure Plan	\$225,000
	East Region Wastewater Infrastructure Plan	\$225,000
<i>Wastewater - Collection System -- TOTAL</i>		\$8,838,000
<u>Wastewater - Forcemains</u>		
2.394	Wastewater Forcemain - Condition Assessment	\$75,000
2.512	Hines Road Sewer - Odour Issue	\$25,000
<i>Wastewater - Forcemains -- TOTAL</i>		\$100,000

HALIFAX WATER

Capital Budget 2016/17

Wastewater

Project Number	Project Name	Project Cost
<u>Wastewater - Structures</u>		
2.42	Emergency Pumping Station Pump replacements	\$270,000
2.442	Wastewater Pumping Station Component Replacement Program - East Region	\$200,000
2.443	Wastewater Pumping Station Component Replacement Program - West Region	\$225,000
2.444	Wastewater Pumping Station Component Replacement Program - Central Region	\$65,000
2.465	Pumping Station Standard	\$135,000
2.091	Bedford PS Rehabilitation (at Mill Cove WWTF)	\$2,850,000
2.038	Roach's Pond Pumping Station - Trash Rack	\$75,000
2.005	Autoport Pleasant Street PS Replacement	\$200,000
2.361	Eastern Passage Pumping Station - Efficiency/Pump Control	\$650,000
2.039	New PS & FM plus Belmont WWTF decommissioning	\$250,000
2.38	Gantry Road Manhole Rehab	\$30,000
2.447	RWWFP Projects MC2, MC3 - Wastewater Storage	\$300,000
<i>Wastewater Structures – TOTAL</i>		\$5,250,000
<u>Wastewater - Treatment Facility</u>		
2.056	Plant Optimization Audit Program	\$175,000
	Emergency Wastewater Treatment Facility equipment replacements	\$200,000
Halifax Wastewater Treatment Facility:		
2.517	- Installation of TSS Analyzer	\$82,000
2.519	- Pump replacements sludge mixing system	\$140,000
Dartmouth Wastewater Treatment Facility:		
2.500	- Influent Duty Pump Installation	\$160,000
2.343	- Fine Screen Upgrade	\$1,000,000
Mill Cove Wastewater Treatment Facility:		
2.124	- UV Upgrade	\$2,080,000
2.495	- Compressor Replacement	\$20,000
2.496	- Entrance Gate Replacement	\$20,000
2.497	- Wet Scrubber Media Replacement	\$20,000
2.486	- Digester Roof Coating	\$135,000
Eastern Passage Wastewater Treatment Facility:		
2.469	- Storage Shed	\$41,000

HALIFAX WATER

Capital Budget 2016/17

Wastewater

Project Number	Project Name	Project Cost
2.47	- Secondary Launder Covers	\$49,000
2.471	- Automation of RAS Gates	\$97,000
2.472	- Process Optimization	\$39,000
2.498	- Process Water System Filter Upgrade	\$26,000
2.484	- Fall Protection Grates - Sludge Tank and Inlet Chamber	\$6,000
2.024	Aerotech WWTF Upgrade - Design/Construction	\$13,930,000
2.33	Timberlea WWTF - Upgrades (RBC, Flow Equalization, Screen)	\$500,000
	Middle Musquodoboit WWTF Bank Stabilization	\$25,000
	Biosolids Processing Facility:	
2.513	- Silo Painting	\$90,000
2.514	- Front End Loader Replacement	\$370,000
2.520	- Plant Ventilation System Upgrades	\$700,000
	- Biofilter Media Replacement	\$50,000
Wastewater - Treatment Facility – T O T A L		\$19,955,000

HALIFAX WATER

Capital Budget 2016/17

Wastewater

Project Number	Project Name	Project Cost
<u>Wastewater - Energy</u>		
2.485	BLT WWTF - Lighting Upgrade	\$35,000
2.491	Pump Station HVAC Retro-Commissioning Program	\$100,000
2.173	Mill Cove WWTF - Bio-Gas CHP - Installation	\$950,000
<i>Wastewater - Energy – T O T A L</i>		\$1,085,000
<u>Wastewater - Security</u>		
4.008	Security Upgrade Program	\$200,000
<i>Wastewater - Security – T O T A L</i>		\$200,000
<u>Wastewater - Equipment</u>		
2.161	SIR Program Flow Meters and Related Equipment	\$40,000
2.451	Miscellaneous Equipment Replacement	\$70,000
<i>Wastewater - Equipment – T O T A L</i>		\$110,000
<i>Wastewater - Corporate Projects – T O T A L</i>		\$4,842,000
GRAND TOTAL - WASTEWATER		\$40,680,000

HALIFAX WATER

Capital Budget 2016/17

Stormwater

Project Number	Project Name	Project Cost
<u>Stormwater - Pipes</u>		
1.038	Integrated Stormwater Projects - Program	\$650,000
1.102	Manhole Renewals	\$29,000
1.103	Catchbasin Renewals	\$29,000
1.135	Lateral Replacements	\$87,000
1.139	Bank of Montreal Stormwater Lateral - 5151 George Street	\$90,000
1.019	Drainage Remediation Program Surveys/Studies	\$25,000
1.051	Sackville Cross Road Stormwater System Renewal (formerly Seawood Avenue)	\$1,200,000
1.043	Sullivan's Pond Storm Sewer System Replacement - Phase 1	\$300,000
<i>Stormwater - Pipes -- T O T A L</i>		\$2,410,000
<u>Stormwater - Culverts/Ditches</u>		
1.104	Driveway Culvert Replacements	\$450,000
1.127	Wilson Drive & Highway 2 - Culvert Replacement	\$236,000
1.059	Herring Cove Road Culvert Replacement	\$85,000
1.069	Inverness Avenue Culvert Replacement	\$156,000
1.111	Bedford Highway @ Shaunslieve Drive Culvert upgrade	\$250,000
1.126	2016/17 Culvert Program - Design Services	\$100,000
<i>Stormwater - Culverts/Ditches -- T O T A L</i>		\$1,277,000
<u>Stormwater - Structures</u>		
1.06	Clement Street Berm - SW Control Structure	\$264,000
<i>Stormwater - Structures -- T O T A L</i>		\$264,000
<i>Stormwater - Corporate Projects -- T O T A L</i>		\$748,000
<i>GRAND TOTAL - STORMWATER</i>		\$4,699,000

HALIFAX WATER

Capital Budget 2016/17

Corporate Projects

Project Number	Project Name	Project Cost
4.011	Desktop Computer Replacement Program	\$180,000
4.012	Network Infrastructure Upgrades	\$200,000
4.013	Document Management Program	\$200,000
4.070	Computerized Maintenance Management System Phase 2	\$1,500,000
4.024	Sharepoint Implementation	\$200,000
4.043	AMI/AMR Meter System Upgrades (split 50W/50WW)	\$3,300,000
4.014	IT Disaster Recovery Site	\$300,000
4.066	Customer Service Portal	\$220,000
4.067	Website Build	\$200,000
4.063	CRM Interfaces	\$200,000
4.04	GIS Data Program	\$1,000,000
4.038	GIS Hardware/Software Program	\$150,000
4.039	GIS Application Support Program	\$250,000
4.059	Water Database Model	\$100,000
4.068	450 Cowie Hill Road - External Lighting Upgrade	\$50,000
4.02	Asset Management Program Development	\$150,000
4.052	Long Term Planning Coordination Strategy (split 50W/50WW)	\$200,000
4.049	Expand Prioritization Methodology	\$125,000
4.055	Purchase Modelling Software	\$50,000
4.054	Assess AM Software and Tools	\$50,000
	Condition and Performance Assessment Program and Prioritization	\$25,000
4.004	SCADA Control System Enhancements (split 50W/50WW)	\$200,000
3.21	Survey Equipment - GPS Total Station	\$30,000
4.006	Fleet Upgrade Program Stormwater	\$230,000
4.006	Fleet Upgrade Program Wastewater	\$920,000
4.007	Fleet Upgrade Program Water	\$505,000
GRAND TOTAL - Corporate Projects		\$10,535,000

HALIFAX WATER

Capital Budget 2016/17

Corporate Projects

Project Number	Project Name	Project Cost
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ALLOCATION BREAKDOWN:

Water - Corporate Projects - T O T A L	\$4,945,000
Wastewater - Corporate Projects -- T O T A L	\$4,842,000
Stormwater - Corporate Projects -- T O T A L	\$748,000

GRAND TOTAL - Corporate Projects **\$10,535,000**

Note: All corporate projects are allocated as follows:

50% Water

40% Wastewater

10% Stormwater

(unless otherwise noted)


HALIFAX WATER

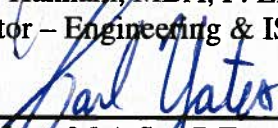
Capital Budget 2016/17

Summary of Routine Capital Expenditures included within Capital Budget

Project Number	Project Name	Project Cost
Water		
3.067	Valve Renewals	\$125,000
3.068	Hydrant Renewals	\$75,000
3.069	Service Line Renewals	\$190,000
3.104	Large Tapping Machine c/w electric operator and 4" to 12" cutters	\$34,000
3.271	Small Hydro Vac for valve box maintenance	\$25,000
3.335	Plastic Shell Cutters for Tapping Machine	\$12,000
3.297	Portable Valve Exerciser	\$10,000
	Confined Space Entry System for Bennery Lake Water Supply Plant	\$14,000
3.277	Temporary Water Line - Pipe materials Purchase - East Region	\$18,000
3.299	Water Distribution Pressure Monitoring Equipment	\$10,000
Wastewater		
2.357	Manhole Renewals	\$32,000
2.358	Lateral Replacements	\$2,190,000
2.161	SIR Program Flow Meters and Related Equipment	\$40,000
2.451	Miscellaneous Equipment Replacement	\$70,000
Stormwater		
1.102	Manhole Renewals	\$29,000
1.103	Catchbasin Renewals	\$29,000
1.135	Lateral Replacements	\$87,000
Corporate		
4.011	Desktop Computer Replacement Program	\$180,000
4.012	Network Infrastructure Upgrades	\$200,000
3.210	Survey Equipment - GPS Total Station	\$30,000
4.007	Fleet Upgrade Program Water	\$505,000
4.006	Fleet Upgrade Program Wastewater	\$920,000
4.006	Fleet Upgrade Program Stormwater	\$230,000
GRAND TOTAL - Routine Capital Projects		\$5,055,000

TO: Mr. Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: 
Jamie Hannam, MBA, P. Eng.
Director – Engineering & IS

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

DATE: January 20, 2016

SUBJECT: **2016/17 Water, Wastewater, and Stormwater Collection and Distribution Main Renewal - Integrated Projects**

ORIGIN

The proposed HRWC 2016/17 Capital Budget.

RECOMMENDATION

The HRWC Board approve funding for the Water, Wastewater, and Stormwater Renewal Integrated Projects, at an estimated cost of \$6,282,000 as detailed within Schedule 1.

BACKGROUND

HRWC's proactive Water, Wastewater, and Stormwater Renewal Program is designed to replace or rehabilitate existing pipes that are in poor structural or hydraulic condition to reduce maintenance costs and improve system reliability.

DISCUSSION

The HRM Capital Budget includes several methods of renewing or replacing the existing street surface as part of the street rehabilitation program. HRWC works closely with HRM staff from Project Planning & Design Services to plan and coordinate projects and look for joint opportunities for construction.

Full street structure replacements and resurfacing projects are probable candidates for the renewal of watermains and wastewater/stormwater collection pipes because of the efficiencies gained by integrated and coordinated construction activities. The water, wastewater, and stormwater infrastructure projects scheduled for the replacement/rehabilitation program for 2016/17 are listed in Schedule 1.

These projects are included within the proposed 2016/17 Capital Budget. This report is brought forward in conjunction with the Capital Budget to help ensure that the projects can be implemented within strict time lines that have been imposed by external factors, including integration with advanced funded, approved HRM Streets Projects.

BUDGET IMPLICATIONS

Funding for the water component of this project, in the amount of \$4,000,000 is available within the 2016/17 Capital Budget under “*Water Distribution – Watermain Renewal Program*” which has a total budget of \$4,000,000.

Funding for the stormwater component of this project in the amount of \$618,000 is available within the 2016/17 Capital Budget under “*Integrated Stormwater Projects – Program*” which has a total budget of \$650,000.

Funding for the wastewater component of this project in the amount of \$1,664,000 is available in the 2016/17 Capital Budget under “*Integrated Wastewater Projects – Program*” which has a total budget of \$1,750,000.

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 “required to ensure infrastructure system integrity and safety”. The project meets the criteria as the work is required in order to maintain an acceptable level of service.


ALTERNATIVES

There are no recommended alternatives.


ATTACHMENT

Schedule 1 – 2016/17 Water, Wastewater, and Stormwater and Integrated Projects


Report Prepared by: _____


Tom Gorman, Manager, Water Infrastructure, Engineering & IS
490-4176

Report Prepared by: _____


David Ellis, Manager, Wastewater and Stormwater Infrastructure,
Engineering & IS 490-6716

Financial Reviewed by: _____


Cathie O'Toole, MBA, CPA, CGA, Director of Corporate Services
490-3685


**Schedule 1
2016/17 Water, Wastewater and Stormwater Integrated Projects**

STREET	LIMITS	WATER			STORMWATER				WASTEWATER				
		MAIN SIZE	RENEWAL LENGTH (m)	WATER MAIN COST ESTIMATE	MAIN SIZE	SEWER MAIN RENEWAL (m), MANHOLE (MH) and CATCHBASIN (CB) REPLACEMENT	NUMBER OF LATERALS TO BE REPLACED	STORMWATER COST ESTIMATE	MAIN SIZE	SEWER MAIN RENEWAL (m), MANHOLE (MH) REPLACEMENT	NUMBER OF LATERALS TO BE REPLACED	WASTEWATER COST ESTIMATE	
East Region													
Murray Hill Drive W/M Renewal*	Wyndholme	Summit Street	200	430	\$455,000	250	replace 15 m, replace 2 CB		\$28,000	250	replace 15m, 2 spot repairs, new MH	1	\$38,000
Farquharson Street Water Main Renewal*	Shawinigan Road	Cul-de-sac	200	550	\$500,000			3	\$19,000	200	2 spot repair	16	\$109,000
Brompton Road *	Elswick St	End	200	211	\$215,000			25	\$151,000			46	\$278,000
Everette Street Water Main Renewal*	High Street	Pleasant St	200	440	\$410,000	300	3 spot repairs, replace 3 CB		\$28,000	200	3 spot repairs	13	\$97,000
Alfred Street*	Courtney Road	Windmill Road				600	1 spot repair		\$11,000	300	replace 110 m, replace 2 MH	8	\$199,000
Beckfoot Drive*	Peddars Way	End				250	1 spot repair		\$9,000	200	1 spot repair		\$9,000
Strath Lane*	Caledonia Road	Helene Avenue				250, 525	replace 62 m, 1 spot repair, replace 1 MH		\$122,000		replace 25 m, 1 spot repair	31	\$226,000
Westwood Drive*	Caledonia Road	End										20	\$121,000
Subtotal East Region					\$1,580,000				\$368,000				\$1,077,000
West Region													
Scarlet Rd*	Gateway	Foxglove	200	388	\$335,000					200	5 spot repairs	29	\$206,000
Foxglove Lane*	Scarlet Rd	End	200	155	\$150,000							2	\$13,000
Parmelle Lane*	Scarlet Rd	Scarlet Rd	200	249	\$250,000					200	3 spot repairs	10	\$79,000
George Dauphinee Drive*	Bayers Road	Ralph Devlin Dr	200	638	\$620,000	300	replace 20 m, replace 2 CB		\$34,000	300, 450	replace 30 m, replace 1 MH	5	\$54,000
Layton Road **	Herring Cove Rd	Penny Lane	200	318	\$325,000					200	1 spot repair	1	\$13,000
Inverness Avenue*	Purcell's Cove Rd	Colindale	200	263	\$260,000					250	replace 12 m, replace 1 MH		\$22,000
Subtotal West Region					\$1,940,000				\$34,000				\$387,000
Central Region													
Tillock Drive*	McDougall	Prince Street	250	324	\$380,000	375, 300	3 spot repairs		\$19,000	200	2 spot repairs		\$13,000
Tillock Court*	Tillock	End	200	96	\$100,000					200	1 spot repair		\$9,000
Doyle Street*	Hammonds Plains Rd	Landsburg Road				300, 450	replace 32 m, 2 spot repairs, replace 2 CB		\$75,000	200	3 spot repairs		\$19,000
McQuarrie Bridge (Fall River)*										200			\$150,000
Lydgate Drive*	Metropolitan Avenue	Lumsden Crescent								200	1 spot repair		\$9,000
Baker Drive*	Jubilee Lane	Civic 23				375	replace 35 m, replace 1 CB		\$52,000				
Second Avenue*	Jubilee Lane	First Street				750	replace 44 m, replace 1 CB		\$70,000				
Subtotal Central Region					\$480,000				\$216,000				\$200,000
Subtotal Water, Stormwater, and Wastewater All Regions					\$4,000,000				\$618,000				\$1,664,000
TOTAL WATER, STORMWATER, AND WASTEWATER									\$6,282,000				

* Integrated Projects with HRM
** Integrated Water - Wastewater Non HRM

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY:



Jamie Hannam, P. Eng.
Director, Engineering & Information Services

APPROVED:



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

DATE: January 20, 2016

SUBJECT: Geizer 158 Reservoir Rehabilitation

ORIGIN

The HWRC 2016/17 Capital Budget.

RECOMMENDATION

The HRWC Board approve the Geizer 158 Reservoir Rehabilitation project at an estimated cost of \$2,170,000.

BACKGROUND

The Geizer 158 steel reservoir was constructed in 1986. Based on a recent Remotely Operated Vehicle (ROV) internal video inspection of the reservoir, HRWC's consultant noted that the tank's internal coating system has reached the end of its useful life. Large sections of paint are missing/peeled off from the interior dome, columns and walls. Some of these areas of exposed steel are above the normal water line in the tank and have no protection from corrosion. The existing impressed current, floating anode system is maintaining corrosion protection but has reached its maximum capacity for areas below the water level in the tank. Recent measurements of the cathodic protection system show that the system is consuming 4300 milliamps, which translates to an area of approximately 1,100m² without a coating. Left unprotected, corrosion of the exposed steel is expected to continue and accelerate.

ITEM #5.2

HRWC Board

January 28, 2016

DISCUSSION

Based on the observed and measured conditions, it is proposed to rehabilitate the Geizer 158 reservoir with the full replacement of the interior coating system. Given the extensive coating loss to the interior of the tank, a new coating system comprised of a base coat (primer) and a top coat, would be applied after the removal of the remaining existing coating.

The exterior of the tank had an initial coating of zinc primer when constructed, which has held up satisfactorily. The exterior tank would receive spot repairs to areas with corrosion. Once this preparation work is completed, the whole exterior of the tank would be sealed with a new top coat.

The Geizer 158 reservoir is a vital component in the water distribution system in the West Region. A temporary pressure reducing valve (PRV) would be installed within the distribution system to ensure customers within the Geizer 158 pressure zone receive consistent water service and fire protection while the reservoir is out of service for rehabilitation.

The estimated cost of the Geizer 158 Reservoir Rehabilitation project is \$2,170,000 including net HST.

BUDGET IMPLICATIONS

Funding in the amount of \$2,170,000 including net HST is available within the 2016/17 Capital Budget under "*Water Structures - Geizer 158 Reservoir Rehabilitation*".

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 "Required to ensure integrity and safety" due to the poor condition of the reservoir coatings.


ALTERNATIVES

There are no recommended alternatives.


ATTACHMENT

A sketch of project location.

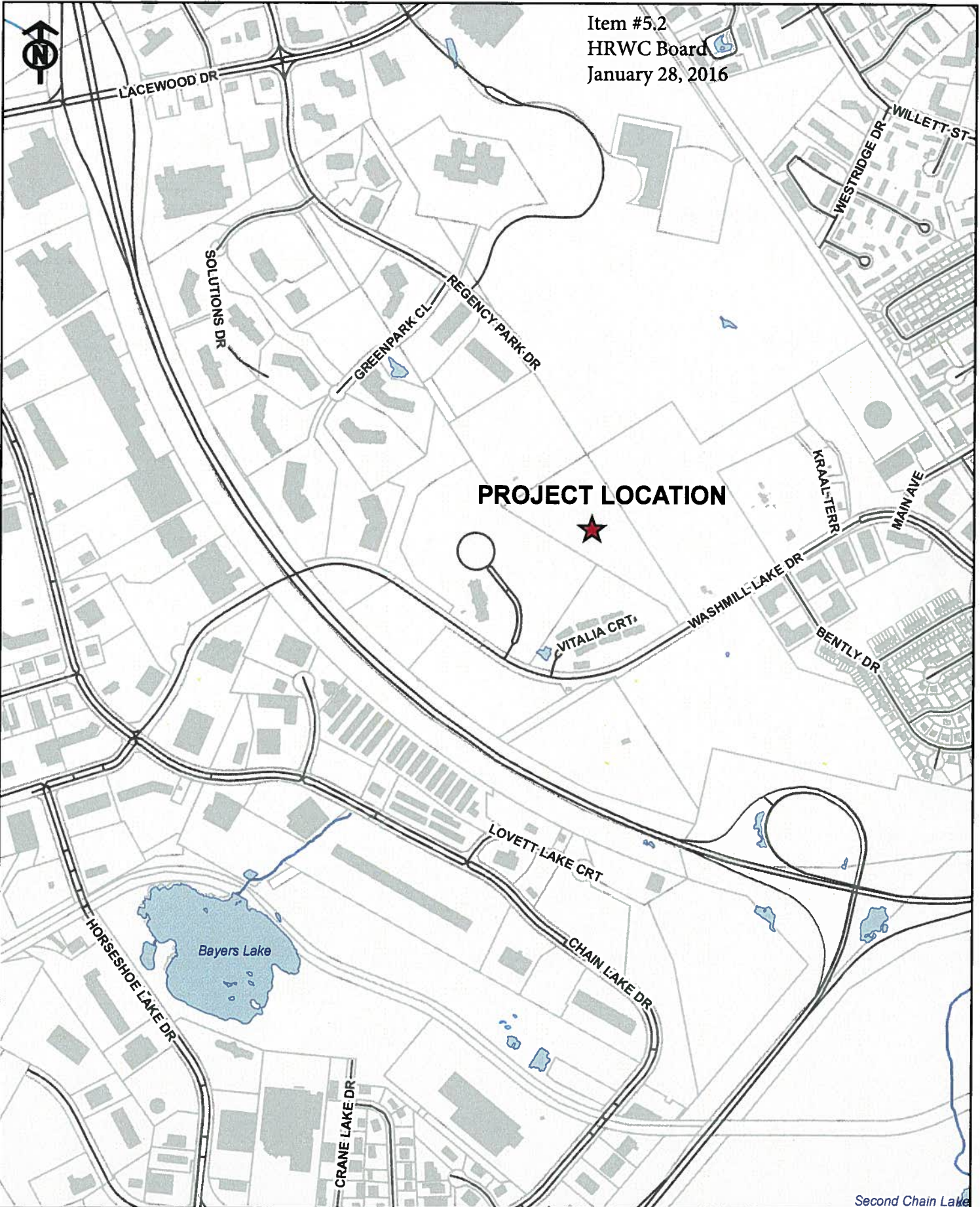
Report Prepared By: _____


Tom Gorman, Manager Water Infrastructure 490-4176

Financial Reviewed By: _____


Cathie O'Toole, CGA, MBA, Director of Corporate
Services 490-3685

Item #5.2
HRWC Board
January 28, 2016



Path: K:\Engineering\Depth\Information\Requests\Internal_request\Tom_G\Board_Report\Figures\January_2016\Geizer_158_Reservoir.mxd

Drawn By: Dawn M. Matheson
Data Source: Halifax Water / HRM
Date: January-15-16

The information contained on this map may not be complete and/or accurate in all areas. Should accurate information or confirmation of completeness be required, please contact the Engineering Department of Halifax Water. Halifax Water will not be held liable for misuse of this information.


WASHMILL ROAD - HALIFAX GEIZER158 RESERVOIR REHABILITATION



"To provide world class services for our customers and our environment"

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY:



Jamie Hannam, P. Eng.
Director, Engineering & Information Services

APPROVED:



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

DATE: January 20, 2016

SUBJECT: **Chain Control Transmission Main Realignment**

ORIGIN

2015/16 Capital Budget

RECOMMENDATION

The HRWC Board approve the Chain Control Transmission Main Realignment project at an estimated cost of \$1,000,000.

BACKGROUND

The Chain Control facility controls the supply of water feeding peninsular Halifax. The site is part of the original water supply system for Halifax dating back to the 1800s. Some of the original piping is in place and still in use. The Chain Control facility feeds three transmission mains: the 375mm dia. Peninsula Intermediate (1856), the 600mm dia. Peninsula Low (1862), and the 675mm dia. Peninsula Low (1892). These pipelines pass through the basement of the former Chain Chlorinator building.

Recent investigations found that the pipework in the basement of the old chlorinator building is leaking and in a deteriorated condition. There are a number of connections and taps on these pipes in the basement that are still under pressure. The existing orifice plate meters are still in place but are no longer used. The existing valves in the basement have not been maintained and replacement parts are not available.

ITEM #5.3

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January 28, 2016

There is no lifting system available in the basement to assist with major repairs or replacements. Recent flow testing on the 600mm dia. transmission main with pressure loggers identified pressure losses downstream of Chain Control. It is possible that the old pipes and valves are contributing to the pressure losses.

DISCUSSION

The 2015/16 Capital budget included \$455,000 for the Chain Control Transmission Main Realignment. In June, 2015, \$45,000 of that amount was approved to initiate the design work for the project. DesignPoint Engineering consultants were retained to carry out the design of the project. That work is now complete.

Halifax Regional Municipality (HRM) owns the Chlorinator building site. HRWC retains an easement over its piping and infrastructure.

Initially, the project contemplated installing new piping to simply bypass the old Chain Chlorinator building. During the course of the design, it became apparent that the building was in a significantly deteriorated condition. In addition, asbestos materials were identified in the old building during a recent hazardous assessment that was carried out as part of the design work. In discussions with HRM, there were no plans for renovating or repurposing the building, therefore, the decision was made to demolish the building.

The project involves demolishing the old Chain Chlorinator building and associated pipework. Three new sections of transmission mains will be installed from the Chain Control Chamber through the former Chain Chlorinator building site and connect into the existing transmission mains downstream on Coronet Avenue. The former building site will be leveled, regraded and used for improved HRM parkland/trail access.

The work will also include the abandonment of the raw water pipe connections at the Chain Lake Back-Up Water Supply Station as well as the demolition of abandoned valve chambers on the site.

Based on the final design the estimated cost of the Chain Control Transmission Main Realignment project is \$1,000,000 including net HST.

ITEM #5.3

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BUDGET IMPLICATIONS

Funding for the project in the amount of \$455,000 is available within the 2015/16 Capital Budget under “*Water Transmission – Chain Control Transmission Main Realignment*”.

Additional funding is available within the 2015/16 Capital Budget as follows:

- \$300,000 including net HST under “*Water Transmission - Cathodic Protection Program*”
- \$250,000 including net HST under “*Water Distribution -Critical Valve Replacement Program*”

Both of these projects did not proceed and the funds are available for re-allocation. Both of these projects will be reprioritized in future capital budgets.

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 “Required to ensure infrastructure system integrity and safety”.

ALTERNATIVES

There are no recommended alternatives.

ATTACHMENT

Sketch of project location.

Report Prepared By: 

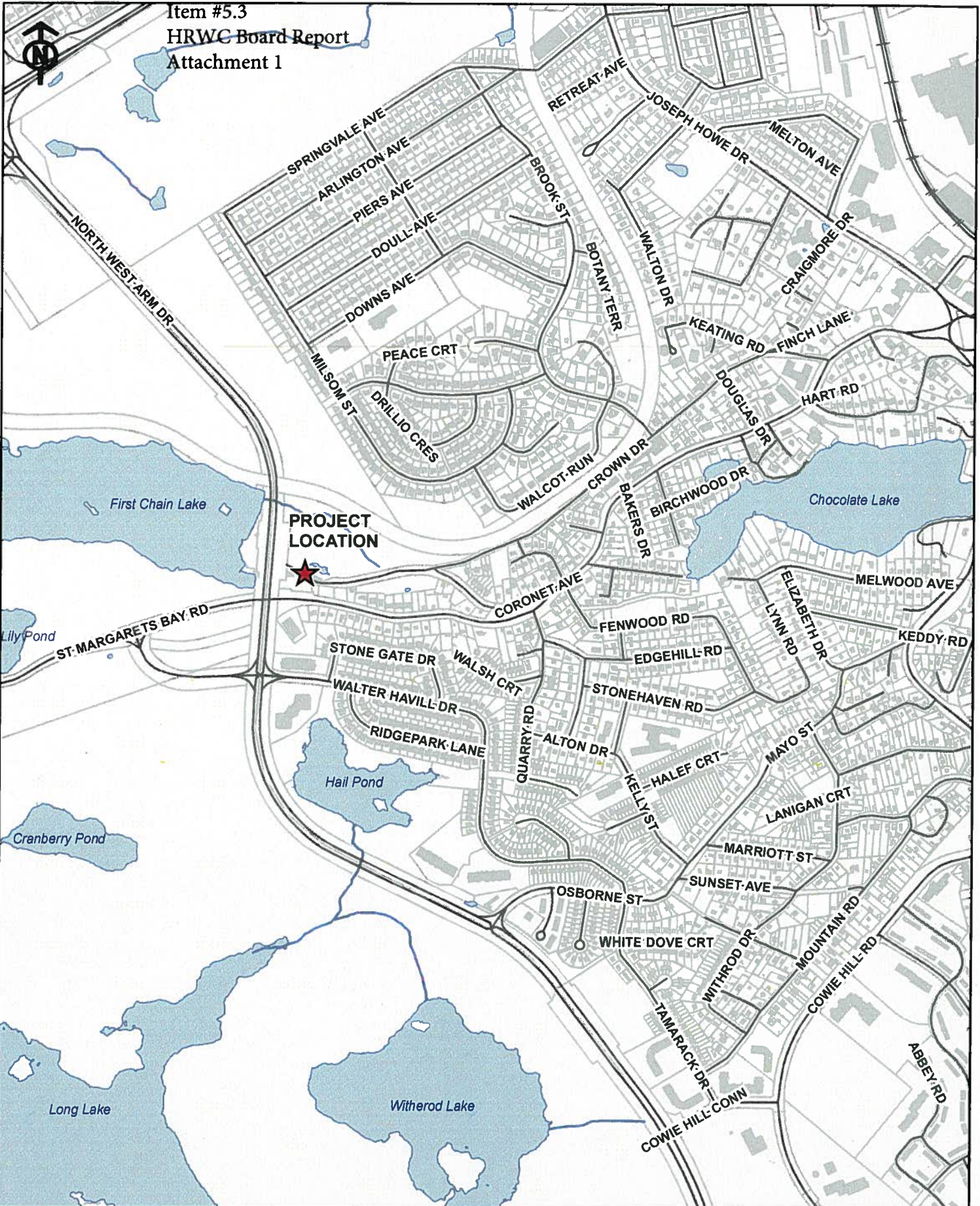
Tom Gorman, Manager Water Infrastructure, 490-4716

Financial Reviewed By: 

Cathie O'Toole, CGA, MBA, Director of Corporate Services, 490-3685

Item #5.3
 HRWC Board Report
 Attachment 1

Path: K:\Engineering\Depth\Information\Requests\Internal_requests\Mark_Feenen\Board_Report_Sketches_for_2015\Chain_Control_-_Halifax_Board_Report.mxd



Drawn By: Dawn M. Matheson
 Data Source: Halifax Water / HRM
 Date: March-11-15

The information contained on this map may not be complete and/or accurate in all areas. Should accurate information or confirmation of completeness be required, please contact the Engineering Department of Halifax Water. Halifax Water will not be held liable for misuse of this information.


**CHAIN CONTROL, HALIFAX
 TRANSMISSION MAIN REALIGNMENT**



"To provide world class services for our customers and our environment"

TO: Mr. Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY:



Jamie Hannam, MBA, P. Eng.
Director – Engineering & IS

APPROVED:



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

DATE: January 20, 2016

SUBJECT: **Wastewater System – Trenchless Rehabilitation Program
(2016)**

ORIGIN

The 2015/16 and 2016/17 Capital Budgets

RECOMMENDATION

The HRWC Board approve the Wastewater System Trenchless Rehabilitation Program (2016) at an estimated cost of \$1,800,000.

BACKGROUND

HRWC maintains a combined length of approximately 1,000 kilometres of gravity wastewater sewer mains. Many are often found in poor structural condition and/or are prone to infiltration and inflow (I/I). I/I diminish the capacities of systems and increase the cost of wastewater treatment.

At present the upgrade of sewer mains is typically achieved by conventional open trench and pipe replacement methods. An alternative construction method to conventional open trench is trenchless rehabilitation.

The trenchless technique restores the structural integrity of the pipe by the insertion of an internal liner utilizing access via the manhole system. This technology is commonly known as cured in place pipe (CIPP) and is a mature industry particularly in regions with substantive populations.

It is noted that trenchless sewer main lining is typically a lower cost solution compared to open trench construction and offers the following additional advantages:

- Less exposed work site will reduce dangers to both workforce and community;
- Minimize chances of disturbances to existing adjacent utilities;
- Less damage to the environment and existing established surface fixtures such as mature trees; and
- Shorter construction period and smaller construction footprint and thus less disruption to the users of the public street.

HRWC has successfully utilized CIPP in the past and most recently in the Sewer Lateral Lining – Trenchless Pilot Project (Crescent Avenue Sewershed) project and the 2015 Sewer Lining Program.

DISCUSSION

It is proposed to line approximately 3.6 kilometres of wastewater sewer main in 2016. The attached table provides a summary of the site locations and the estimated cost.

The total estimated project is \$1,800,000 including net HST.

BUDGET IMPLICATIONS

The budget for the Sewer Lining Program 2015/16 project was approved for a total estimated cost of \$1,000,000 including net HST. Although final costs have not been tabulated the construction has been completed and the final cost is expected to be in the order of \$500,000. Thus it is proposed that \$300,000 of capital funding for the Sewer Lining Program 2015/16 project be re-allocated to the *Wastewater System Trenchless Rehabilitation Program* project. In addition, funding in the amount of \$1,500,000 including net HST is available within the 2016/17 Capital Budget under “*Wastewater – Collection System – Wastewater System Trenchless Rehabilitation Program*”.

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 “Required to ensure infrastructure system integrity and safety”.


ALTERNATIVES

There are no recommended alternatives.

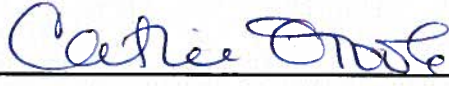
ATTACHMENT

- Table - Breakdown of Cost Estimate
- Two sketches of project locations

Report Prepared by: _____


David Ellis, P. Eng., Manager Wastewater/Stormwater
Infrastructure Engineering, 490-6716

Financial Review by: _____


Cathie O'Toole, MBA, CPA CGA, Director, Corporate
Services, 490-3685

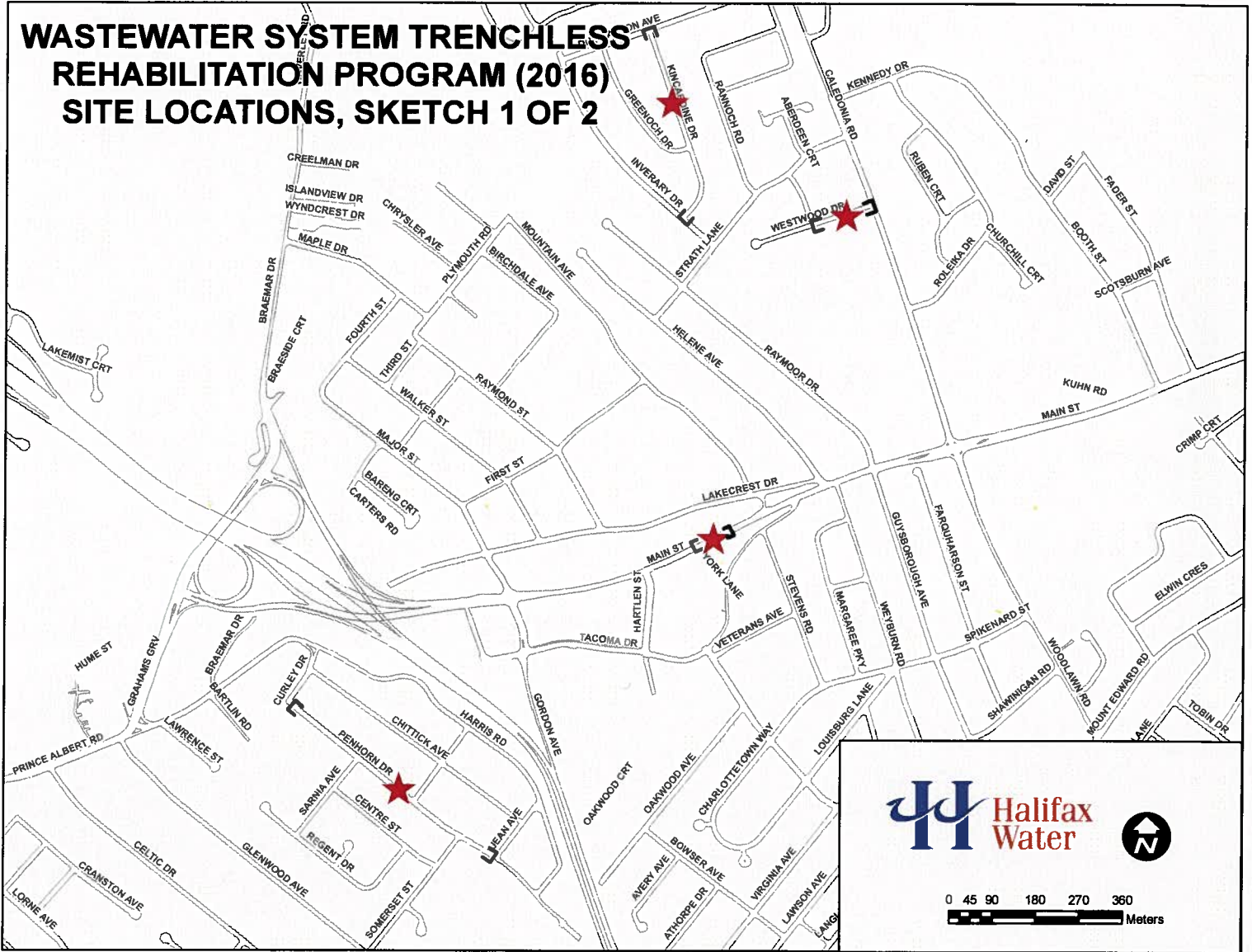
Board #5.4 - Attachment 1

Wastewater System Trenchless Rehabilitation Program (2016)

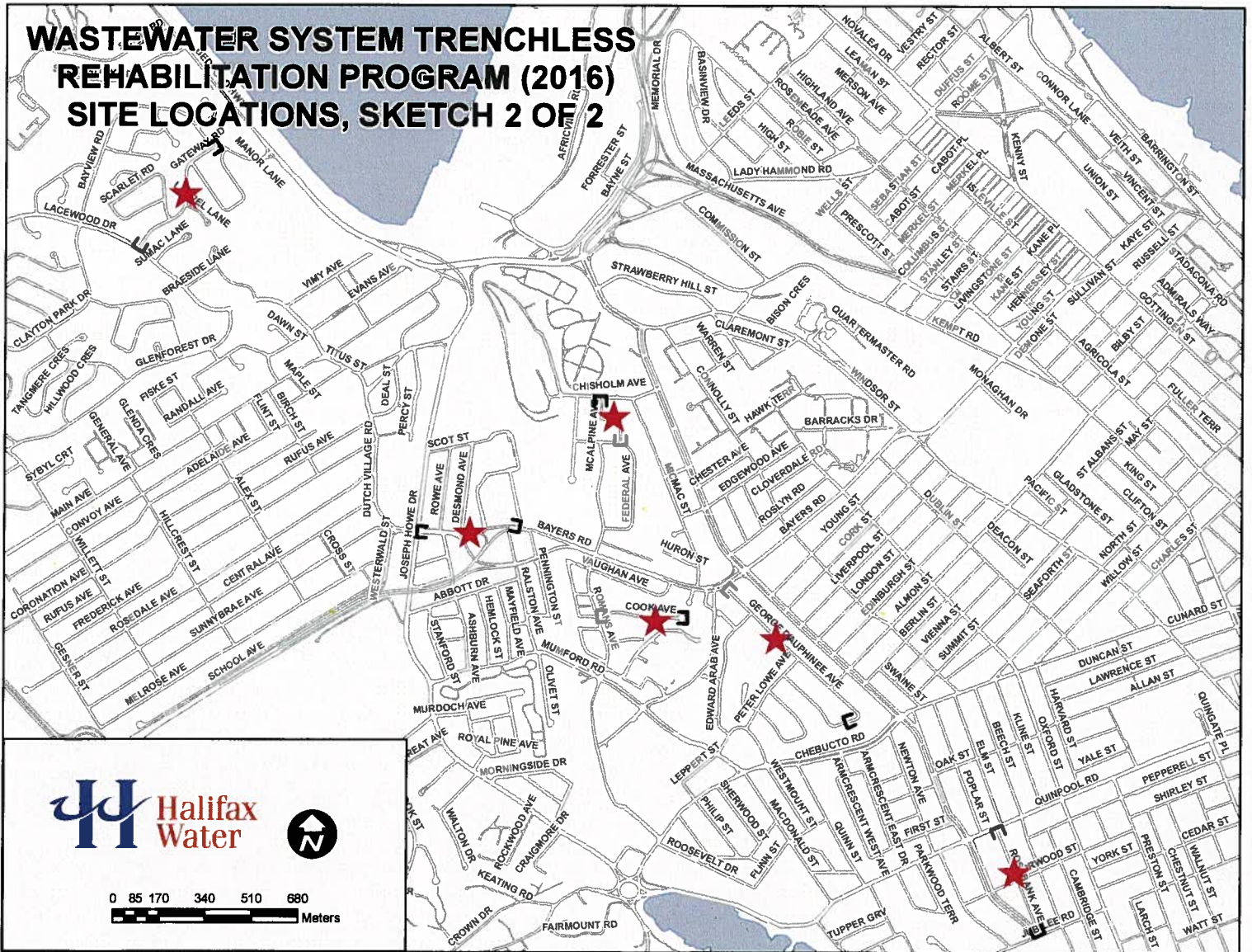
Street Name	Limits		Pipe Material	Pipe Diameter (mm)	Length (m)	Lining Cost per Metre	Lining Cost
	From	To					
Penhorn Drive	Curley Dr.	Jean Ave.	Concrete	200	725	\$275.00	\$199,375
Main Street (Dartmouth)	MH22891	MH22826	Concrete	150	70	\$275.00	\$19,250
Westwood Drive	MH 20525	MH 20527	Concrete	200	125	\$275.00	\$34,375
Cook Avenue	Romans Ave.	End	Clay	375	340	\$450.00	\$153,000
Rosebank Avenue	Quinpool St.	Connaught Ave.	Clay	375	165	\$450.00	\$74,250
	Quinpool St.	Connaught Ave.	Clay	400	160	\$475.00	\$76,000
Kincardine	Dumbarton Ave.	Inverary Dr.	Concrete	200	425	\$275.00	\$116,875
Bayers Road	Joseph Howe Dr.	Civic 7051	Clay	450	340	\$475.00	\$161,500
McAlpine Avenue	Federal Ave.	Chesholm Ave.	Clay	600	150	\$675.00	\$101,250
Gateway Road	Bayview Rd.	Lacewood Ave.	Concrete	200	120	\$275.00	\$33,000
	Bayview Rd.	Lacewood Ave.	Concrete	250	255	\$325.00	\$82,875
	Bayview Rd.	Lacewood Ave.	Concrete	375	115	\$450.00	\$51,750
George Dauphinee Avenue	Bayers Road	Ralph Devlin Dr.	Clay	450	650	\$475.00	\$308,750

Subtotal	\$1,412,250
Consulting Engineer	\$15,000
15% Contingency	\$211,838
Subtotal	\$1,639,088
4.286% HST	\$70,251
Halifax Water Staff Cost	\$20,000
Subtotal	\$1,729,339
4% Int/OH	\$69,174
Grand Total	\$1,798,512

WASTEWATER SYSTEM TRENCHLESS REHABILITATION PROGRAM (2016) SITE LOCATIONS, SKETCH 1 OF 2




WASTEWATER SYSTEM TRENCHLESS REHABILITATION PROGRAM (2016) SITE LOCATIONS, SKETCH 2 OF 2



TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY:



Jamie Hannam, P. Eng.
Director, Engineering & Information Services

APPROVED:



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

DATE: January 20, 2016

SUBJECT: Manhole Lining – Crescent Avenue and Stuart Harris Sewershed

ORIGIN

Staff

RECOMMENDATION

The HRWC Board approve the Manhole Lining – Crescent Avenue and Stuart Harris Sewershed project, at an estimated cost of \$195,000.

BACKGROUND

In 2014, HRWC Board approval was granted for the “Sewer Lateral Lining – Trenchless Pilot Project” within a portion of the Crescent Avenue sewershed. This project included the lining of wastewater mains and laterals. The mains were lined in 2014 and the laterals were lined in 2015. A project objective was to gauge the impact of lining relative to reducing inflow/infiltration (I/I) into the wastewater system. Analysis to date does indicate that the lining has resulted in a reduction of I/I into the wastewater system.

In 2015, HRWC Board approval was granted for the “Sewer Lining Program”. This project was implemented and included the lining of all sewer mains within the Stuart Harris pumping station sewershed. One primary objective of lining these sewer mains is to mitigate against I/I into this system.

DISCUSSION

HRWC is examining various approaches to manage I/I within the wastewater system. One approach is to prevent I/I from entering the cracks and joints within wastewater manholes. It is proposed to seal the interior of 23 manholes; 17 within the Crescent Avenue sewershed and 6 within the Stuart Harris sewershed. The result will be a comprehensive lining (sewer mains, laterals and manholes) within a portion of the Crescent Avenue wastewater collection system and an incremental rehabilitation (sewer mains plus a subset of the manholes) of the Stuart Harris wastewater collection system. This work will provide valuable information to HRWC as the management of I/I into the wastewater collection system becomes more programmed and extensive.

The total estimated cost for this project is \$195,000 including net HST.

BUDGET IMPLICATIONS

The budget for the Sewer Lining Program 2015/16 project was approved for a total estimated cost of \$1,000,000 including net HST. Although final costs have not been tabulated the construction has been completed and the final cost is expected to be in the order of \$500,000. Thus it is proposed that \$195,000 of capital funding for the Sewer Lining Program 2015/16 project be re-allocated to the *Manhole Lining – Crescent Avenue Sewershed project*.

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 Wet Weather Management program” as the project should provide valuable information to Halifax Water with respect to identifying potential solutions to reduce I/I source contributions.

ATTACHMENT

Sketch of project location

Report Prepared by: _____

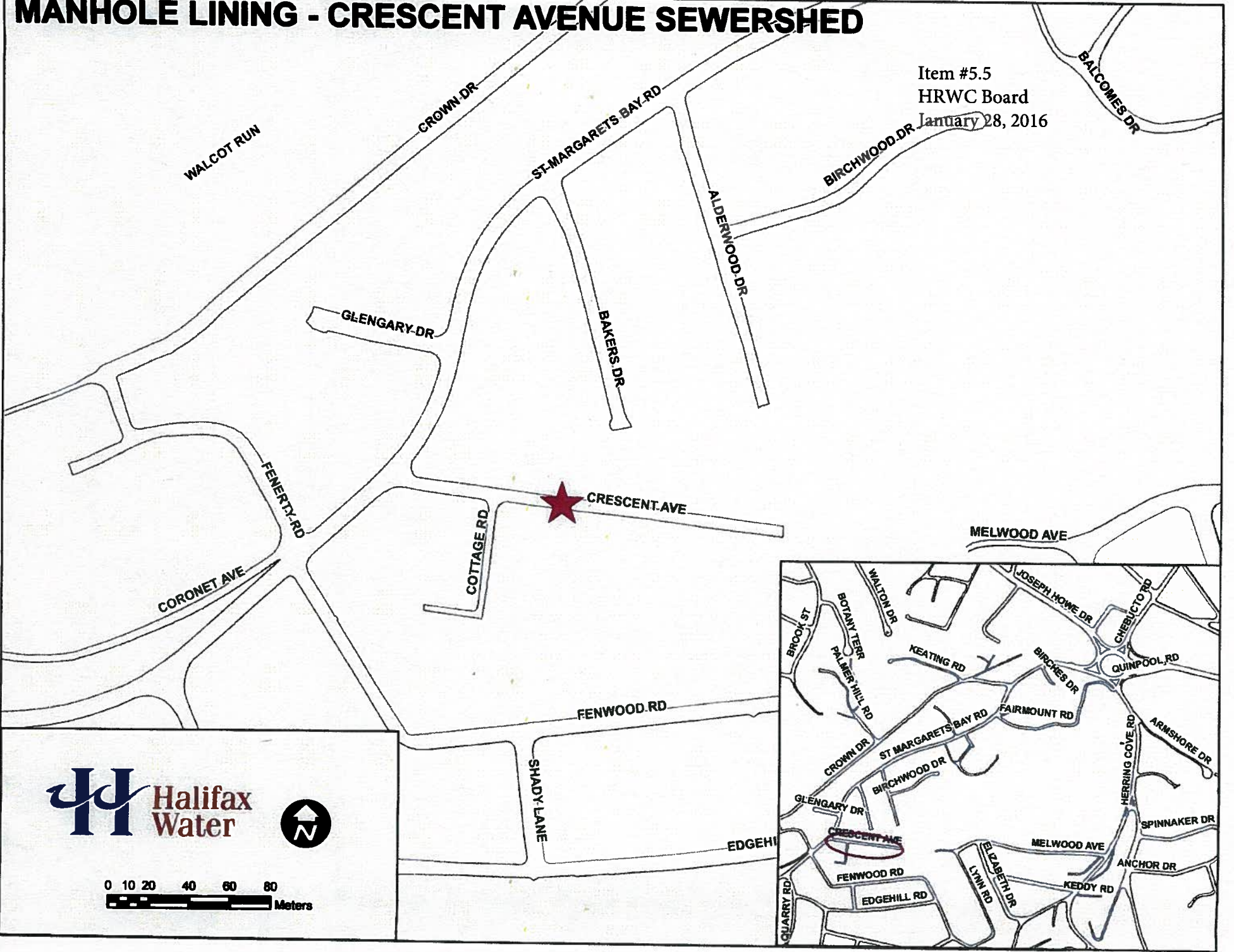
David Ellis, P. Eng. Manager WW/SW Infrastructure

Financials Reviewed by: _____

Cathie O'Toole, MBA, CPA, CGA, Director Corporate Services

MANHOLE LINING - CRESCENT AVENUE SEWERSHED

Item #5.5
HRWC Board
January 28, 2016




 Halifax
Water



0 10 20 40 60 80
Meters

TO: Ray Ritcey, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: 
Cathie O'Toole, MBA, CPA, CGA
Director, Corporate Services

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

DATE: January 18, 2016

SUBJECT: **2016/17 Water, Wastewater and Stormwater Operating Budget**

ORIGIN

The Halifax Regional Water Commission (HRWC) Board approves the Annual Operating Budget

RECOMMENDATION

It is recommended that the HRWC Board:

1. Approve the attached 2016/17 Water, Wastewater and Stormwater Operating Budget covering the period April 1, 2016 to March 31, 2017; including the proposed 2016/17 Budget for un-regulated activities.

BACKGROUND

The Operating Budget prepared for 2016/17 is based on year two of the Five Year Business Plan approved by the HRWC Board in October 2014, and Test Year Two of the 2014 Rate Application. A rate increase for water and wastewater will take effect April 1, 2016, following a rate increase last year effective May 1, 2015. The purpose of the 2016/17 Operating Budget is to detail the services provided by Halifax Water (HW) and to outline the costs and revenue required to provide these services. Managers will

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January 28, 2016

continue to monitor actual performance relative to the budget and provide periodic updates to the Board.

DISCUSSION

The Operating Budget shows a very small surplus and reflects the increased rates which were required to maintain current levels of service, deliver projects already in progress or approved, address changing environmental requirements, and generate more funding to meet infrastructure investment demands.

Pro Forma Income Summary			
	Actual 2014/15	Approved Budget 2015/16	Proposed Budget 2016/17
Operating Revenues	\$130,320	\$129,905	\$135,675
Operating Expenditures	\$94,381	\$103,614	\$102,425
Operating Profit	\$35,939	\$26,291	\$33,250
Non-Operating Revenue	\$3,055	\$3,077	\$3,291
Non-Operating Expenditures	\$32,099	\$33,818	\$36,386
Net Surplus (Deficit)	\$6,896	(\$4,449)	\$154

Note: Consolidated numbers reported above include regulated and un-regulated activities of the Urban Core, Satellite and the Airport/AeroTech Systems.

The 2016/17 Operating Budget is prepared on an accrual basis (similar to last year) to provide broader information for decision making and be reflective of best practice for budgeting. Accrued amounts include a liability for future employee benefits (pension) as calculated under Canadian Institute of Chartered Accountants (CICA) Handbook Section 3461, which is not currently included in revenue requirements for rate making purposes. If accrued expenses associated with the Section 3461 were omitted, there would be a projected net profit on a cash basis of \$3.3 million.

HRWC will be adopting International Financial Reporting Standards (IFRS) in conjunction with the March 31, 2016, fiscal year end. Once the format for budgets has been adjusted, a restated budget will be provided to the Board for information purposes.

The utility faces pressure associated with asset renewal, growth, and compliance with regulatory requirements, as described in the Integrated Resource Plan. Additions to

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Utility Plant in Service result in increased depreciation, debt servicing, an increased water dividend to Halifax Regional Municipality (HRM), and in some cases increased operating costs. Building capacity to deliver the Integrated Resource Plan is also an infrastructure related budget driver, and requires new employees in some departments.

As outlined in the table below, operating expenses are budgeted to decrease \$1.2 million or 1.1% compared to the 2015/16 Operating Budget. Depreciation expense will increase by \$0.3 million or 1.7%, as will debt servicing by \$2.5 million or 8.5% when compared to the 2015/16 Operating Budget.

	Actual 2014/15	Approved Budget 2015/16	Proposed Budget 2016/17
Operating Expenditures	\$94,381	\$103,614 <i>9.8%</i>	\$102,425 <i>-1.1%</i>
Depreciation	\$18,036	\$20,812 <i>15.4%</i>	\$21,158 <i>1.7%</i>
Debt Servicing	\$27,759	\$29,239 <i>5.3%</i>	\$31,723 <i>8.5%</i>

The 2016/17 Operating Budget, appearing as Attachment One, provides a statement of revenues and expenditures on a consolidated basis, as well as separate statements for the services of Water, Wastewater and Stormwater. A budget for un-regulated activities is also included. All budgets are based on rates as currently approved by the NSUARB, effective April 1, 2016.

Regulated Operating Revenues

Regulated operating revenues are based upon approved rates, with a net projected decline in consumption of 3% for the 2016/17 fiscal year. It is assumed approximately 700 new customer connections, or 0.8% are projected in the budget year, based on the 4 year historic average for the period 2011-2014.

The majority of HRWC's revenues come from rate-regulated activities, with approximately 60% of water and wastewater revenues coming from volumetric rates and 40% from base charges. HRWC does have a small amount of revenue from miscellaneous fees and financial revenue from interest income.

Regulated Operating Expenses

The largest components of Halifax Water's consolidated operating budgets are salaries & benefits, energy, debt servicing, depreciation, and chemical costs. Some of the key assumptions are outlined below:

Salaries and Benefits – The annual increase allowance is 2% with an additional 0.5% to allow for the impact of step increases within salary bands or reclassification of positions; and increases in benefits. Pension expenses are projected to decrease by 17.3% or \$1.7 million in 2016/17 due to the re-design of the HRWC Employees' Pension Plan. The reduction in pension plan expenses will not be known with certainty until the Actuarial Valuation at January 1, 2016 is completed.

Depreciation – As Halifax Water's assets and future capital budgets increase so do depreciation expenses. Depreciation is an integral funding source to support renewal of existing infrastructure as well as new infrastructure and upgrades to meet future servicing demands and changing environmental regulation. Depreciation is projected to increase from \$20.8 million in 2015/16 to \$21.2 million in 2016/17, an increase of 1.7%.

Debt Servicing – New debt payments are budgeted to support the 2016/17 additions to utility plant in service. The amount and timing of the increases will be determined by the date of timing of the completion of projects, and the financing rates and options available. It is estimated total debt servicing will increase to \$31.9 million; an 8.5% increase from 2015/16. Halifax Water's capital financing strategy is designed to maintain a debt service ratio of 35% or less; and to use a mixture of infrastructure funding, development related charges (reserves), depreciation, and debt.

Energy – Budgets were established based on an assumption of electricity, fuel, oil and natural gas rate increases in each specific year. The impact of these increases is expected to be partially offset by the formal Energy Management Program

- Electricity – 7%
- Furnace Oil – 5%
- Natural Gas – 10%.

Chemical costs – Chemicals are tendered annually in January for optimal pricing. Chemical cost increases of 5% are anticipated for next year.

Expenses such as electricity and chemicals, which are subject to greater volatility when considering rates, have been afforded special attention due to the dependence placed on these commodities. In other expense categories that carry high dollar amounts, such as contract services and materials/supplies, where there may be a certain discretionary component, these expenses are contingent upon other factors such as:

- ✓ Service expectations
- ✓ Regulatory requirements and compliance
- ✓ Maintenance and renewal of infrastructure.

This would be relevant across all services; water, wastewater and stormwater.

Consolidated Revenues and Expenditures

The statement of consolidated revenues and expenditures compiled on an accrual basis, as detailed on page 1 of Attachment One, shows a budgeted net profit of \$0.2 million for 2016/17. As of March 31, 2015 Halifax Water had an accumulated operating surplus of \$2.9 million. Halifax Water is targeting maintaining an accumulated operating surplus of 3% of operating expenses to mitigate risk. Accumulated operating surplus can also be used to fund future additions to utility plant in service.

Water Service

Water operations are detailed on page 2 of Attachment One and are projected to have a net profit for 2016/17 of \$1.0 million.

Revenues are projected to be \$2.4 million or 4.6% higher than the 2015/16 budget. This is primarily due to an increase in volumetric rates, effective April 1, 2016, as a result of the NSUARB Decision stemming from the 2014 Rate Application.

Operating expenditures are projected at \$39.0 million, which is an overall reduction from the 2015/16 Operating Budget of \$1.2 million or 3.0%. The largest cost increase reported is under Small Systems category in the amount of \$0.1 million. The largest cost reductions appear in Administration and Pension in the amount of \$0.7 million, and Transmission and Distribution for \$0.4 million.

Non-Operating expenses are projected to increase by \$1.1 million or 7.2%, with the majority a result of an increase in total debt servicing, consisting of interest, principal and discounting. The dividend payable to HRM increased from \$4.6 to \$4.7 million, as a result of the projected rate base increasing in relation to utility plant in service. The dividend is calculated as 1.56% of the water rate base for the previous year.

Wastewater Service

Wastewater operations are detailed on page 3 of Attachment One and are budgeted to have a net loss of \$2.1 million for 2016/17.

Budgeted operating revenues for 2016/17 in the amount of \$69.9 million are \$2.3 million or 3.4% greater than revenues included in the 2015/16 budget. This is consistent with

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new rates coming into effect April 1, 2016, which incorporate increases in the rates for both the base charge and volumetric charge for wastewater service.

Budgeted operating expenditures in 2016/17 have increased by \$274,000 or 0.5% to \$55.6 million compared to the 2015/16 budget of \$55.3 million. The largest cost increases are reported in Wastewater Treatment Plants and Depreciation, in the amount of \$0.8 million and \$0.3 million respectively. These increases are offset however by cost reductions in other categories, most notably Administration and Pension in the amount of \$0.6 million, and Wastewater Collection for \$0.3 million.

Wastewater Non-operating revenues are in line with the previous year, with little change. Wastewater Non-operating expenses have increased by \$1.3 million or 7.2% due to additional debt servicing costs.

Stormwater Service

Stormwater operations are detailed on page 4 of Attachment One and have a budgeted net profit of \$1.3 million for 2016/17.

Budgeted operating revenues for 2016/17 total \$10.8 million, which represents an increase of \$1.1 million or 11.0% compared to the 2015/16 budget. The increase is a result of associated increases regarding customers and billable impervious area over the prior budget year. This is the third budget year incorporating separate stormwater rates, the first being 2013/14. The 2016/17 budget was prepared based on updated customer and impervious area data as at March 31, 2015, less an allowance for additional exemptions as stormwater service reviews continue.

Budgeted operating expenditures in 2016/17 are \$7.9 million, representing a \$263,000 or 3.2% decrease from the 2015/16 budget, with Stormwater Collection costs accounting for the majority of the decrease.

On October 31, 2015 Halifax Water made a submission to the Nova Scotia Utility and Review Board (NSUARB) to amend the Stormwater section of the Cost of Service Manual. The proposed revisions are mainly administrative in nature, designed to improve equity and ease administration. The hearing will be held the week of February 16th, 2016 and a Decision is expected early in the 2016/17 fiscal year. There may be longer term implications to both revenues and expenses from the NSUARB Decision from this hearing that will ultimately be addressed in a future application to adjust rates. The 2016/17 budget is based upon the current stormwater rate structure.

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January 28, 2016

Un-Regulated Activities

Halifax Water is projecting a small net profit of \$660,000 from un-regulated activities in 2016/17.

Revenues from unregulated business activities are increasingly important to mitigate future revenue requirements from rates. Unregulated revenues are used to help pay for some expenses which would otherwise be funded by rate-regulated activities, and are also used to fund unregulated expenses. Some fees for un-regulated activities such as septage tipping, treatment of effluent from airplanes, and leachate are proposed to be adjusted April 1, 2016 to ensure that Halifax Water is fully recovering expenses and generating some profit for the rate base. Revenues from un-regulated activities for 2016/17 are on par with the prior year's operating budget.

Unregulated operating expenses are decreasing by \$195,000 or 14.4% compared to the 2015/16 budget, as a result of a decrease in expenses related to unregulated wastewater treatment.

Sponsorships and donations, and the Help to Others (H2O) Program are treated as an un-regulated expense as a result of the 2012 NSUARB Urban Core Rate Decision. Some enhancements to the H2O program are being made in 2016 with no impact on budget. The maximum amount of assistance within a 24 month period is being increased from \$250 to \$350. Expenses for these programs are budgeted at \$55,600 in 2016/17, which is the same as the amount budgeted in 2015/16. Included in this amount is \$35,000 related to the H2O program, along with the following sponsorships:

Sponsorships			
Other	1	\$6,000.00	\$ 6,000
NSCC Scholarships First Nations	1	\$4,000.00	4,000
NSCC Scholarships RT Peacock	1	\$2,000.00	2,000
NSCC Scholarships HRWC Achievement	1	\$2,000.00	2,000
NSCC Scholarships Arnold Johnston	1	\$3,600.00	3,600
Special Olympics	1	\$1,000.00	1,000
Bluenose Marithon	1	\$2,000.00	2,000
			\$ 20,600

Sponsorships and donations are relatively small value items but the Board is requested to approve the amounts noted above as part of the overall budget.

BUDGET IMPLICATIONS

The combined operations for the 2016/17 budget project a profit of \$154,000.

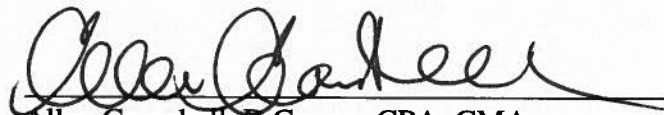
ALTERNATIVES

The HRWC Board could direct staff to revise the proposed 2016/17 Operating Budget.

ATTACHMENT

Attachment One - Proposed 2016/17 Operating Budget

Report Prepared by:



Allan Campbell, B.Comm, CPA, CMA
Supervisor of Budget & Financial Analysis

HALIFAX WATER
CONSOLIDATED SUMMARY OF ESTIMATED REVENUES & EXPENDITURES
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(in thousands)

DESCRIPTION	ACTUAL APR 1/14 MAR 31/15	APPROVED BUDGET * APR 1/15 MAR 31/16	PROPOSED BUDGET APR 1/16 MAR 31/17
OPERATING REVENUES	\$130,320	\$129,905	\$135,675
OPERATING EXPENDITURES	<u>\$94,381</u>	<u>\$103,614</u>	<u>\$102,425</u>
OPERATING PROFIT	<u>\$35,939</u>	<u>\$26,291</u>	<u>\$33,250</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$836	\$660	\$810
PNS FUNDING HHSP DEBT	\$2,000	\$2,000	\$2,000
MISCELLANEOUS	<u>\$219</u>	<u>\$417</u>	<u>\$481</u>
	<u>\$3,055</u>	<u>\$3,077</u>	<u>\$3,291</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$8,958	\$8,440	\$8,872
LONG TERM DEBT PRINCIPAL	\$18,638	\$20,626	\$22,652
AMORTIZATION DEBT DISCOUNT	\$163	\$172	\$199
DIVIDEND/GRANT IN LIEU OF TAXES	<u>\$4,340</u>	<u>\$4,579</u>	<u>\$4,663</u>
	<u>\$32,099</u>	<u>\$33,818</u>	<u>\$36,386</u>
 NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	 <u><u>\$6,896</u></u>	 <u><u>(\$4,449)</u></u>	 <u><u>\$154</u></u>
Adjustments:			
Pension - Section 3461	<u>\$562</u>	<u>\$3,086</u>	<u>\$3,086</u>
Net Profit (Loss) on a Cash Basis	<u><u>\$7,457</u></u>	<u><u>(\$1,363)</u></u>	<u><u>\$3,241</u></u>

* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

HALIFAX WATER
ESTIMATED REVENUES AND EXPENDITURES - WATER OPERATIONS
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(in thousands)

DESCRIPTION	ACTUAL APR 1/14 MAR 31/15	APPROVED BUDGET * APR 1/15 MAR 31/16	PROPOSED BUDGET APR 1/16 MAR 31/17
REVENUES			
METERED SALES	\$39,385	\$42,743	\$46,465
FIRE PROTECTION	\$9,146	\$8,032	\$7,074
PRIVATE FIRE PROTECTION SERVICES	\$558	\$1,069	\$840
BULK WATER STATIONS	\$286	\$309	\$326
CUSTOMER LATE PAY./COLLECTION FEES	\$189	\$343	\$203
MISCELLANEOUS	\$133	\$150	\$153
	<u>\$49,698</u>	<u>\$52,646</u>	<u>\$55,061</u>
EXPENDITURES			
WATER SUPPLY & TREATMENT	\$7,112	\$8,134	\$7,983
TRANSMISSION & DISTRIBUTION	\$8,317	\$9,155	\$8,710
SMALL SYSTEMS (incl. Contract Systems)	\$978	\$792	\$883
TECHNICAL SERVICES (SCADA)	\$821	\$806	\$846
ENGINEERING & INFORMATION SERVICES	\$3,490	\$3,809	\$3,848
ENVIRONMENTAL SERVICES	\$656	\$628	\$515
CUSTOMER SERVICE	\$2,101	\$2,227	\$2,251
ADMINISTRATION & PENSION	\$5,163	\$6,089	\$5,416
DEPRECIATION	\$7,386	\$8,573	\$8,561
	<u>\$36,025</u>	<u>\$40,213</u>	<u>\$39,013</u>
OPERATING PROFIT	<u>\$13,672</u>	<u>\$12,433</u>	<u>\$16,048</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$417	\$330	\$365
MISCELLANEOUS	\$151	\$344	\$408
	<u>\$567</u>	<u>\$674</u>	<u>\$773</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$2,553	\$2,108	\$2,486
LONG TERM DEBT PRINCIPAL	\$7,020	\$7,969	\$8,576
AMORTIZATION DEBT DISCOUNT	\$83	\$97	\$100
DIVIDEND/GRANT IN LIEU OF TAXES	\$4,340	\$4,579	\$4,663
	<u>\$13,996</u>	<u>\$14,753</u>	<u>\$15,825</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	<u>\$244</u>	<u>(\$1,646)</u>	<u>\$996</u>

* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

HALIFAX WATER
ESTIMATED REVENUES AND EXPENDITURES - WASTEWATER OPERATIONS
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(In thousands)

DESCRIPTION	ACTUAL APR 1/14 MAR 31/15	APPROVED BUDGET * APR 1/15 MAR 31/16	PROPOSED BUDGET APR 1/16 MAR 31/17
REVENUES			
METERED SALES	\$67,770	\$65,505	\$68,052
WASTEWATER OVERSTRENGTH AGREEMENTS	\$140	\$174	\$0
LEACHATE	\$345	\$379	\$389
CONTRACT REVENUE	\$86	\$86	\$86
SEPTAGE TIPPING FEES	\$608	\$800	\$650
DEWATERING FACILITY/ SLUDGE LAGOON	\$210	\$210	\$210
AIRLINE EFFLUENT	\$69	\$78	\$86
CUSTOMER LATE PAY./COLLECTION FEES	\$236	\$210	\$257
MISCELLANEOUS	\$105	\$121	\$133
	<u>\$69,568</u>	<u>\$67,562</u>	<u>\$69,862</u>
EXPENDITURES			
WASTEWATER COLLECTION	\$10,175	\$9,717	\$9,446
WASTEWATER TREATMENT PLANTS	\$18,446	\$18,640	\$19,425
SMALL SYSTEMS	\$982	\$1,136	\$1,251
DEWATERING FACILITY/ SLUDGE MGMT	\$491	\$767	\$556
BIOSOLIDS TREATMENT	\$64	\$101	\$101
LEACHATE CONTRACT	\$313	\$328	\$341
TECHNICAL SERVICES (SCADA)	\$1,036	\$1,191	\$1,215
ENGINEERING & INFORMATION SERVICES	\$2,723	\$3,493	\$3,629
ENVIRONMENTAL SERVICES	\$1,353	\$1,343	\$1,254
CUSTOMER SERVICE	\$1,677	\$1,844	\$1,864
ADMINISTRATION & PENSION	\$4,074	\$5,042	\$4,485
DEPRECIATION	\$10,237	\$11,674	\$11,983
	<u>\$51,571</u>	<u>\$55,277</u>	<u>\$55,551</u>
OPERATING PROFIT	<u>\$17,997</u>	<u>\$12,285</u>	<u>\$14,311</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$419	\$330	\$365
PNS FUNDING HHSP DEBT	\$2,000	\$2,000	\$2,000
MISCELLANEOUS	\$69	\$73	\$72
	<u>\$2,488</u>	<u>\$2,403</u>	<u>\$2,437</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$5,930	\$5,798	\$5,817
LONG TERM DEBT PRINCIPAL	\$10,770	\$11,747	\$12,978
AMORTIZATION DEBT DISCOUNT	\$76	\$66	\$89
	<u>\$16,776</u>	<u>\$17,612</u>	<u>\$18,884</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	<u>\$3,709</u>	<u>(\$2,924)</u>	<u>(\$2,136)</u>

* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

HALIFAX WATER
ESTIMATED REVENUES AND EXPENDITURES - STORMWATER OPERATIONS
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(in thousands)

DESCRIPTION	ACTUAL APR 1/14 MAR 31/15	APPROVED BUDGET * APR 1/15 MAR 31/16	PROPOSED BUDGET APR 1/16 MAR 31/17
REVENUES			
STORMWATER SITE GENERATED SERVICE	\$7,070	\$5,669	\$6,708
STORMWATER RIGHT-OF-WAY SERVICE	\$3,881	\$3,927	\$3,881
CUSTOMER LATE PAY./COLLECTION FEES	\$12	\$10	\$70
MISCELLANEOUS	\$91	\$91	\$93
	<u>\$11,055</u>	<u>\$9,697</u>	<u>\$10,753</u>
EXPENDITURES			
STORMWATER COLLECTION	\$3,955	\$5,017	\$4,761
TECHNICAL SERVICES (SCADA)	\$37	\$28	\$28
ENGINEERING & INFORMATION SERVICES	\$557	\$568	\$590
ENVIRONMENTAL SERVICES	\$647	\$825	\$835
CUSTOMER SERVICE	\$343	\$300	\$303
ADMINISTRATION & PENSION	\$834	\$820	\$729
DEPRECIATION	\$412	\$565	\$614
	<u>\$6,785</u>	<u>\$8,123</u>	<u>\$7,862</u>
OPERATING PROFIT	<u>\$4,270</u>	<u>\$1,573</u>	<u>\$2,891</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$0	\$0	\$81
	<u>\$0</u>	<u>\$0</u>	<u>\$81</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$475	\$534	\$569
LONG TERM DEBT PRINCIPAL	\$848	\$910	\$1,098
AMORTIZATION DEBT DISCOUNT	\$4	\$9	\$11
	<u>\$1,327</u>	<u>\$1,453</u>	<u>\$1,678</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	<u>\$2,942</u>	<u>\$120</u>	<u>\$1,294</u>

* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

HALIFAX WATER
ESTIMATED REVENUES & EXPENDITURES, SEGREGATED BY REGULATED AND UNREGULATED ACTIVITIES
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(In thousands)

DESCRIPTION	ACTUAL APR 1/14 MAR 31/15	APPROVED BUDGET * APR 1/15 MAR 31/16	PROPOSED BUDGET APR 1/16 MAR 31/17
REGULATED ACTIVITIES			
REVENUES			
METERED SALES	\$107,155	\$108,248	\$114,516
FIRE PROTECTION	\$9,146	\$8,032	\$7,074
PRIVATE FIRE PROTECTION	\$558	\$1,069	\$840
STORMWATER SITE GENERATED SERVICE	\$7,070	\$5,669	\$6,708
STORMWATER RIGHT-OF-WAY SERVICE	\$3,881	\$3,927	\$3,881
OTHER OPERATING REVENUE	\$1,172	\$1,386	\$1,213
	<u>\$128,982</u>	<u>\$128,331</u>	<u>\$134,234</u>
EXPENDITURES			
WATER SUPPLY & TREATMENT	\$7,112	\$8,128	\$7,976
TRANSMISSION & DISTRIBUTION	\$8,317	\$9,155	\$8,710
WASTEWATER & STORMWATER COLLECTION	\$14,100	\$14,721	\$14,195
WASTEWATER TREATMENT PLANTS	\$18,446	\$18,640	\$19,425
SMALL SYSTEMS	\$1,948	\$1,913	\$2,116
SCADA, CONTROL & PUMPING	\$1,894	\$2,024	\$2,087
ENGINEERING & INFORMATION SERVICES	\$6,770	\$7,661	\$6,056
ENVIRONMENTAL SERVICES	\$2,656	\$2,796	\$2,605
CUSTOMER SERVICE	\$4,093	\$4,337	\$4,382
ADMINISTRATION & PENSION	\$10,042	\$11,870	\$10,549
DEPRECIATION	\$18,030	\$20,812	\$21,158
	<u>\$93,409</u>	<u>\$102,256</u>	<u>\$101,263</u>
OPERATING PROFIT	<u>\$35,573</u>	<u>\$26,075</u>	<u>\$32,971</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$836	\$660	\$810
MISCELLANEOUS	\$2,023	\$2,074	\$2,086
	<u>\$2,859</u>	<u>\$2,734</u>	<u>\$2,876</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$8,958	\$8,440	\$8,858
LONG TERM DEBT PRINCIPAL	\$18,638	\$20,626	\$22,632
AMORTIZATION DEBT DISCOUNT	\$163	\$172	\$199
DIVIDEND/GRANT IN LIEU OF TAXES	\$4,340	\$4,579	\$4,663
	<u>\$32,099</u>	<u>\$33,818</u>	<u>\$36,353</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES - REGULATED ACTIVITIES	<u>\$6,333</u>	<u>(\$5,008)</u>	<u>(\$306)</u>
UNREGULATED ACTIVITIES			
REVENUES			
AEROTECH SEPTAGE TIPPING FEES	\$608	\$800	\$850
LEACHATE	\$345	\$379	\$389
CONTRACT REVENUE	\$86	\$86	\$86
DEWATERING FACILITY/ SLUDGE LAGOON	\$210	\$210	\$210
AIRLINE EFFLUENT	\$69	\$78	\$86
ENERGY PROJECTS	\$9	\$115	\$184
MISCELLANEOUS	\$21	\$21	\$22
	<u>\$1,347</u>	<u>\$1,689</u>	<u>\$1,825</u>
EXPENDITURES			
- DIRECT			
WATER SUPPLY & TREATMENT	\$12	\$15	\$18
WASTEWATER TREATMENT	\$898	\$1,196	\$998
ENERGY PROJECTS	\$63	\$0	\$0
SPONSORSHIPS & DONATIONS	\$57	\$56	\$56
DEPRECIATION	\$6	\$0	\$0
	<u>\$1,036</u>	<u>\$1,267</u>	<u>\$1,072</u>
- INDIRECT (ADMINISTRATION)			
	<u>\$0</u>	<u>\$91</u>	<u>\$91</u>
	<u>\$1,036</u>	<u>\$1,358</u>	<u>\$1,163</u>
OPERATING PROFIT	<u>\$312</u>	<u>\$331</u>	<u>\$463</u>
FINANCIAL REVENUES (NON-OPERATING)			
MISCELLANEOUS	\$252	\$228	\$231
	<u>\$252</u>	<u>\$228</u>	<u>\$231</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$0	\$0	\$14
LONG TERM DEBT PRINCIPAL	\$0	\$0	\$19
AMORTIZATION DEBT DISCOUNT	\$0	\$0	\$0
	<u>\$0</u>	<u>\$0</u>	<u>\$33</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES - UNREGULATED ACTIVITIES	<u>\$563</u>	<u>\$559</u>	<u>\$660</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES - COMBINED ACTIVITIES	<u>\$6,896</u>	<u>(\$4,449)</u>	<u>\$154</u>

* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water
Commission Board

SUBMITTED BY: 
Carl Yates M.A.Sc., P.Eng., General Manager

DATE: January 21, 2016

SUBJECT: **Proposed 2016/17 Business Plan**

ORIGIN

Ongoing operational requirement

RECOMMENDATION

The Board approve the 2016/17 Business Plan in the substantive form attached and direct the General Manager to submit the 2016/17 Business Plan to HALIFAX Municipality for review and approval.

BACKGROUND/DISCUSSION

In accordance with best practice, Halifax Water management develops long-term and short-term business plans for the approval of the Commission Board. The 2016/17 Annual Business Plan reflects the strategic direction envisioned in the 5-Year Business Plan approved by the Board in October, 2014 and is consistent with the Integrated Resource Plan approved by the Board in September, 2012.

The coming year will see a continued focus on sustainable infrastructure, all while maintaining or increasing current levels of service to customers. The 2016/17 fiscal year will provide opportunities for staff to find further synergies with water, wastewater and stormwater delivery and also expand its understanding of the water-energy nexus.

With recent federal announcements pertaining to infrastructure, Halifax Water is also well positioned to align its capital needs with recently announced infrastructure programs. As details come forward from the federal government, staff will update the Board on a periodic basis.

ITEM #7
HRWC Board
January 28, 2016

As can be seen from the attached document, the financial position of the utility is improving such that the rate increase approved by the Nova Scotia Utility and Review Board effective April 1, 2016 provides the opportunity for Halifax Water to budget a small surplus. Accordingly, management are requesting the Board approve the 2016/17 Business Plan in the substantive form attached.

As a result of the recent governance review by HALIFAX Council, it is also recommended that the business plan be forwarded to HALIFAX Council for their review and approval. Although the legislative amendments to the HRWC Act are not in place yet, the recommendation is put forward to foster good will between the two organizations who have a history of partnering together on strategic initiatives.

ALTERNATIVES

None

ATTACHMENT

2016/17 Annual Business Plan (electronic copy only)

**2016/17
Annual Business Plan**



**Presented to the Halifax Water Board
January 28, 2016**

Glossary

AMI	Advanced Meter Infrastructure
AM	Asset Management
AMP	Asset Management Plan
AMR	Automated Meter Reading
BMP	Best Management Practice
CAD	Computer Aided Drafting
CCC	Capital Cost Contribution
CHP	Combined Heat and Power
COMFIT	Community Feed-In Tariff
CRM	Customer Relationship Management
DOE	Department of Energy
E&IS	Engineering & Information Services
EMAP	Energy Management Action Plan
EMS	Environmental Management System
ERU	Equivalent Residential Unit
GIS	Geographic Information System
H2O	Help to Others (Program)
HW	Halifax Water
ICI	Industrial Commercial Institutional
IFRS	International Financial Reporting Standards
IRP	Integrated Resource Plan
NSE	Nova Scotia Environment
NSERC	Natural Sciences and Engineering Research Council
NSPI	Nova Scotia Power Incorporated
NSUARB	Nova Scotia Utility and Review Board
OMM	Operational Maintenance Management
RDC	Regional Development Charge
SCADA	Supervisory Control and Data Acquisition
SOP	Standard Operating Practices/Procedure
UV	Ultraviolet
WCB	Workers Compensation Board
WRWIP	West Region Wastewater Infrastructure Plan
WSER	Wastewater System Effluent Regulations
WWTF	Wastewater Treatment Facility

HALIFAX WATER
2016/17 Annual Business Plan

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HALIFAX WATER
2016/17 Annual Business Plan

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APPENDICES

- A. Mission, Vision & Values
- B. Organizational Structure
- C. 2016/17 Capital Budget
- D. 2016/17 Operations Budget

HALIFAX WATER
2016/17 Annual Business Plan

1. INTRODUCTION

Following the 2007 transfer of wastewater and stormwater assets from HALIFAX Municipality, Halifax Water became the first regulated and integrated water, wastewater and stormwater utility in Canada. With this expanded mandate, the utility took on a new mission to “provide world class services to our customers and our environment” and vision as fully described in Appendix A. Since 2007, Halifax Water has established a framework for sustainable infrastructure with a focus on asset renewal, regulatory compliance and growth. This strategic framework is paramount to attaining a high level of service for over 95,000 customers and remaining committed to environmental stewardship. Halifax Water delivers its three distinct services through five departments; Water Services; Wastewater and Stormwater Services; Corporate Services, Engineering and Information Services; and Regulatory Services as described within this document and illustrated in Appendix B. Staff of Halifax Water recognize the synergies inherent in a combined utility and is becoming increasingly aware of the nexus between water and energy.

The 2016/17 fiscal year reflects the second year of the five year business plan approved by the Halifax Water Board in October, 2014. The five year plan was filed with the Nova Scotia Utility and Review Board (NSUARB) in November, 2014 in conjunction with a general rate application for water and wastewater services. The 2016/17 business plan represents the second year of the two year test period contained in that application.

2. EXECUTIVE SUMMARY

Although the five year business plan is a touchstone for the 2016/17 business plan, it is also influenced by the Integrated Resource Plan (IRP) which is a 30 year framework for the strategic direction of the utility. The IRP projected expenditures of \$2.6 billion (net present value) over a 30 year period commencing in 2013/14 for; asset renewal [\$1,385 million]; regulatory compliance [\$598 million]; and growth [\$595 million]. The 2016/17 fiscal year will see continued investment in these areas all while ensuring a high level of service for the customers of Halifax Water.

The 2016/17 Business Plan provides an overview of the services provided by Halifax Water (HW) and details on the operating and capital budgets to support the delivery of these services. The Business Plan projects a small surplus as indicated in the pro forma income summary below and reflects the rates approved by the NSUARB in their 2015 Decision. The increase in rates were required to maintain or enhance current levels of service, deliver projects already in progress or approved, address new environmental requirements, and generate more funding to meet infrastructure investment demands.

HALIFAX WATER
2016/17 Annual Business Plan

Pro Forma Income Summary

	Actual 2014/15	Approved Budget 2015/16	Proposed Budget 2016/17
Operating Revenues	\$130,320	\$129,905	\$135,675
Operating Expenditures	\$94,381	\$103,614	\$102,425
Operating Profit	\$35,939	\$26,291	\$33,250
Non-Operating Revenue	\$3,055	\$3,077	\$3,291
Non-Operating Expenditures	\$32,099	\$33,818	\$36,386
Net Surplus (Deficit)	\$6,896	(\$4,449)	\$154

Note: Consolidated numbers reported above include regulated and un-regulated activities of the Urban Core, Satellite and the Airport/AeroTech Systems.

**Amounts are stated in \$ Millions*

The 2016/17 Operating Budget is prepared on an accrual basis (similar to last year) to provide broader information for decision making and be reflective of best practice for budgeting. Accrued amounts include a liability for future employee benefits (pension) as calculated under Canadian Institute of Chartered Accountants (CICA) Handbook Section 3461, which is not currently included in revenue requirements for rate making purposes. If accrued expenses associated with the Section 3461 were omitted, there would be a projected net profit on a cash basis of \$3.3 million.

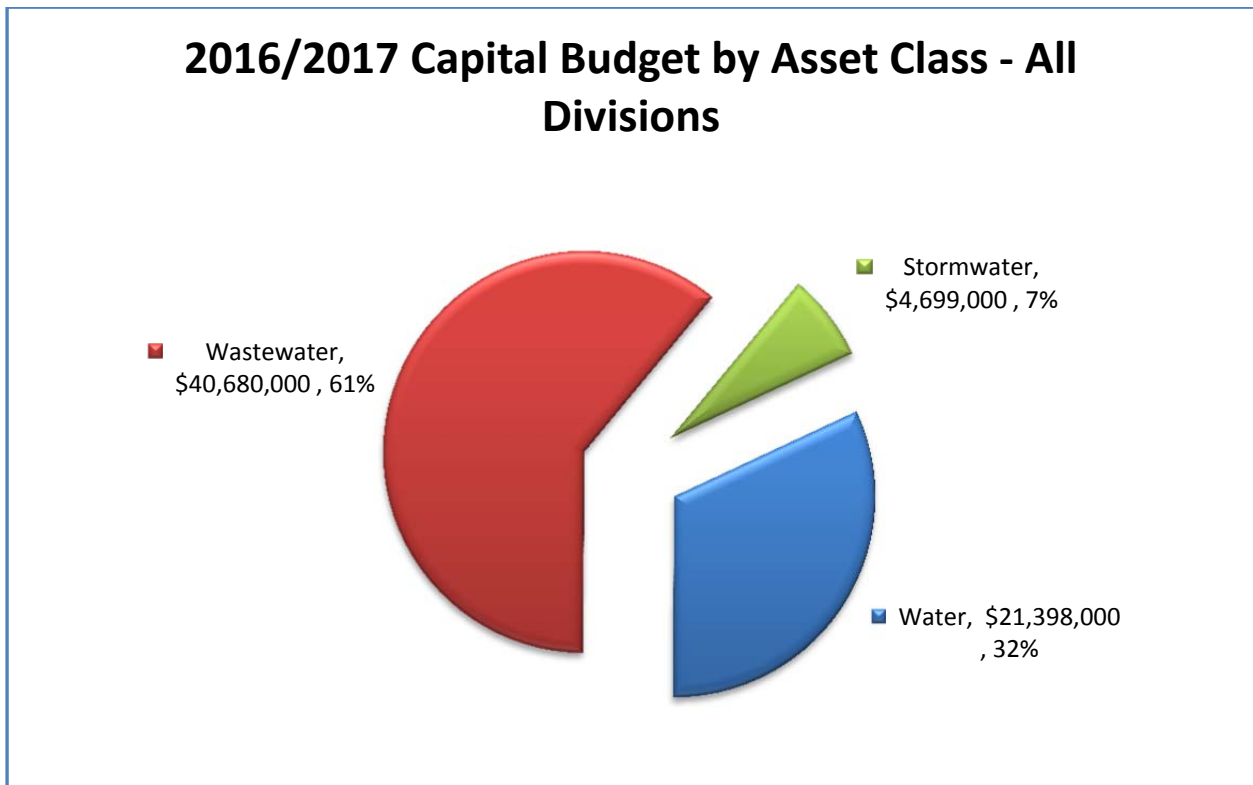
As outlined in the table below, operating expenses are budgeted to decrease \$1.2 million or 1.1% compared to the 2015/16 Operating Budget. Depreciation expense will increase by \$0.3 million or 1.7%, as will debt servicing by \$2.5 million or 8.5% when compared to the 2015/16 Operating Budget.

	Actual 2014/15	Approved Budget 2015/16	Proposed Budget 2016/17
Operating Expenditures	\$94,381	\$103,614 <i>9.8%</i>	\$102,425 <i>-1.1%</i>
Depreciation	\$18,036	\$20,812 <i>15.4%</i>	\$21,158 <i>1.7%</i>
Debt Servicing	\$27,759	\$29,239 <i>5.3%</i>	\$31,723 <i>8.5%</i>

**Amounts are stated in \$ Millions*

HALIFAX WATER
2016/17 Annual Business Plan

The utility faces pressure associated with asset renewal, growth, and compliance with regulatory requirements, as described in the IRP. The utility has been successful in obtaining external funding to address capital needs through the federal Building Canada fund with formal approval received for the upgrade and expansion of the Aerotech Wastewater Treatment Facility and several water transmission main projects. In partnership with the HALIFAX Municipality, efforts will be made to secure additional funding from infrastructure programs recently announced by the federal government. The 2016/17 Capital Budget calls for expenditures just under \$67 million as outlined in the graph below.



Although a general rate application is not envisioned for this fiscal year, it is possible that stormwater rates could be adjusted as a result of revisions to the Cost of Service Manual. An application to revise the Cost of Service Manual was filed in November, 2014 as more fully described in this report.

3. SERVICE OVERVIEW

3.1 Water Services

The Water Services Department is responsible for operating and maintaining the municipal water system “from source to tap”. The Water Services department is also charged with providing SCADA (Supervisory Control and Data Acquisition) and process control services for all of Halifax Water. The department is designed to both maintain and operate the water system as a holistic system, with individual managers who have clear accountability for clearly defined parts of the system. The Water Services Department provides the following services:

- **Source Water Protection:** Managing and protecting watershed land, developing and maintaining source water plans, enforcement of Protected Water Area and other relevant source water regulations, source water community relations including working with and developing watershed advisory boards, real property maintenance of source water lands, and forestry management of watershed lands.
- **Water Quality Management:** Water quality planning, water quality monitoring, treatment process support to treatment plants, customer inquiries and investigations, water quality support to capital projects, policy development, research and management of the Halifax Water – Natural Sciences and Engineering Research Council (NSERC) Industrial research chair at Dalhousie University.
- **Water Supply Plant Operations:** Operation and maintenance of 3 large water supply plants (Pockwock, Lake Major and Bennery Lake), 6 small systems, 6 dams, two emergency water supplies and re-chlorination stations.
- **Distribution System Operations:** Operation and maintenance of the water distribution and transmission systems. The system is managed according to three geographic regions with responsibility for over 1500 km of transmission and distribution mains, 8,200 fire hydrants, 85,000 service connections, 134 pressure control/flow metering facilities, 22 pumping stations, 23,000 valves and 15 water storage facilities.
- **Technical Services:** Operation and maintenance of the SCADA system and the process communications network; implementation of the SCADA Master Plan, process control cyber security, instrumentation maintenance, electrical maintenance, maintenance of water pumping stations, and operation and development of the process data warehouse.

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Further, embedded within the department, Water Services is responsible for the following major programs.

- **Water Loss Control:** Halifax Water was the first utility in North America to adopt the International Water Association (IWA) methodology for managing leakage in the distribution system. Efforts save \$650,000 per year in treatment chemical and electricity costs and have reduced water main breaks by 20%, saving \$500,000 in repair costs annually. The program has won several awards and Halifax Water staff are in demand to share expertise with the industry and other utilities.
- **NSERC-Halifax Water Industrial Research Chair in Water Quality and Treatment:** This program, carried out in partnership with Dalhousie University over the last ten years has realized significant operational savings, improved water quality and influenced Halifax Water policy. The Research Chair has produced 46 peer reviewed research papers in world recognized scientific journals over the last five years and has allowed Halifax Water to become industry recognized leaders in areas such as lead service line replacement and biofilm control in distribution systems. Several Halifax Water employees were trained as students under the Research Chair.
- **ISO 14001 Registered Environmental Management System:** Halifax Water first implemented an ISO 14001 environmental management system (EMS) at the J. Douglas Kline (Pockwock) Water Supply Plant in 2003. In subsequent years, the water supply plants at Lake Major and Bennery Lake have been registered and work is currently underway to register large wastewater plants. Implementation of the EMS has resulted in improved facility management and a rigorous system of checks and balances across the entire plant operation, greatly reducing the risk of environmental incidents and emergencies.
- **Supervisory Control and Data Acquisition [SCADA] Master Plan:** Subsequent to the 2007 merger, Halifax Water found itself with at least 6 legacy SCADA systems from the pre-existing utilities and regions and dozens of versions of control software licenses. The master plan completed in 2011 set a road map to consistent and standardized equipment and platforms for all services over a 5 year period through 6 major and 22 minor projects.

3.2 Wastewater/Stormwater Services

The Wastewater and Stormwater Services Department is responsible for operating and maintaining municipal systems from “drains back to the source again”. In this regard, the Wastewater and Stormwater Services department has a mandate to protect the environment while providing world class collection and treatment services to its customers. The department also provides corporate Fleet and Building Services. These essential services are delivered through 6 line managers who are responsible for both stormwater and wastewater activities in their regions. The supervisors and the field crews

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carry out both wastewater and stormwater related duties. The department is also supported by an Operations Engineer position.

3.2.1 Wastewater Services

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

- **Wastewater Treatment Plant Operations:** Operation and maintenance of 16 wastewater treatment facilities [WWTFs] and associated infrastructure, regulatory reporting, and implementing and coordinating capital upgrades with other HW departments. As per new federal regulations; 2 plants are classified as very large, 3 are large, 2 are medium and 9 are small capacity.
- **Biosolids Processing Facility (BPF):** Liquid transport, dewatering and processing of sludge, operation and maintenance of various dewatering equipment at WWTFs, administering trucking contracts for dewatered biosolids and BPF operations contract, and processing of biosolids from on-site septic systems. This facility, located at the Aerotech Industrial Park, produces a soil amendment for beneficial use in agriculture. The staff from Treatment Plant operations carry out these relevant duties.
- **Collection System Operations:** Operation, repair and maintenance of the wastewater collection and trunk sewer system. The system is managed according to three geographic regions with responsibility for over 1700 km of collection pipes, 172 Pump Stations, 21 Combined Sewer Overflow facilities and 85,000 service connections.
- **Fleet and Building Maintenance Services:** Maintenance and repair of approximately 200 vehicles ranging from smaller utility vehicles to large excavation equipment, replacement of vehicles on a life cycle costing basis, and records management. This section of the department is also responsible for maintenance and physical security of corporate buildings and any other logistical support required for efficient operation of the department.

3.2.2 Stormwater Services

The Stormwater Services is responsible for operation and maintenance of stormwater infrastructure within the public right of way or within easements. This service has undergone significant changes over the past 2 years and continues to progress to achieve a higher level of service.

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- **Collection System Operations:** Operation, repair and maintenance of the stormwater collection and trunk sewer system. The system is managed by shared crews with Wastewater Services within the three geographic regions with responsibility for over 850 km of stormwater collection pipes, 28 stormwater retention facilities and over 600 km of ditches and associated cross culverts and driveway culverts.
- **Stormwater Service Implementation:** Assisting in investigation of utility billing related issues such as determination of service, billing complaints and public outreach to raise awareness of stormwater issues. Establishing responsibility of service with other partners such as HRM and the province. Continuous improvement of the service is envisioned via the development of performance standards. Business processes along with inspection, maintenance and repair schedules are being reviewed to provide an appropriate level of service.

3.3 Engineering and Information Services

The Engineering & Information Services (E&IS) Department is responsible for the provision of engineering and technical services relating to the planning, design, construction, and maintenance of water, wastewater and stormwater infrastructure and related asset information. E&IS also provide and support the hardware, software and related services for the electronic business applications required to support the utility. All E&IS staff work out of 450 Cowie Hill Road.

The E&IS department has four core areas of responsibility and eight specific sections delivering programs.

- ASSET MANAGEMENT
- INFRASTRUCTURE
 - Water
 - Wastewater/Stormwater
 - Wastewater Treatment Facilities
- ENERGY EFFICIENCY
- INFORMATION MANAGEMENT
 - Engineering Information
 - Information Services

The **Asset Management** section focuses on the development of the Asset Management program (including the overall strategy, inventories, condition and performance assessments, and development of AM plans), the modeling programs, long term master planning (including implementation of the Integrated Resource Plan (IRP)), and the development of the 5 Year and 1 Year Capital Budget.

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The **Infrastructure** sections are responsible for the design, construction and project management for water, wastewater and stormwater capital projects. This section also provides support for master planning and asset management relating to the core infrastructure.

The **Energy Efficiency** section is responsible for the provision of engineering services related to energy management and energy efficiency of water, wastewater and stormwater infrastructure.

The **Engineering Information** section is responsible for the corporate Geographic Information System (GIS) including the maintenance and distribution of all record information. The section is also responsible for on-going GIS development including both desktop and mobile GIS applications. This section also supports capital projects and other initiatives through Computer Aided Drafting (CAD) and map production.

The **Information Services** section provides administration of services relating to network resources (storage, servers, printers, etc.), users, access control and network security, server hardware and operating systems. All computer equipment is managed by the IS section. This includes desktops, laptops, monitors, printers and servers. The IS section is the first line of support for all IT related problems or requirements. Corporate desktop software is administered by the IS section. Provides business analysis and project management as required for IT projects.

3.4 Regulatory Services

The Regulatory Services department was recently formed as an amalgamation of the former Environmental Services Department and the Development Approvals division of E & IS. The department delivers programs through four divisions; environmental engineering; development approvals; safety and security; and regulatory compliance.

The **Environmental Engineering Group** has been supporting the Stormwater Billing Exemption process and the future outcome of the rate re-structure, currently being reviewed by the Nova Scotia Utility and Review Board (NSUARB), will provide guidance on the future staff resource requirements. In the interim, with completion of the bulk of stormwater billing reviews, the Environmental Engineering group will focus on finalizing Standard Operating Practices (SOPs) to better define the daily operations and tasks of the Environmental/Pollution Prevention Officers. Focus will be placed on establishing SOPs, cross connection investigations, illegal stormwater connections, and ditch infilling. Environmental Engineering will be evaluating software to assist in tracking investigations and appurtenances (i.e. grease traps) installed in commercial/industrial customers' facilities. The group will continue to provide support to the Wet Weather Management Program, focusing on investigations in Lieblin Park, and customer engagements in Springfield Lake and North Preston.

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The **Development Approvals Group** will continue to manage permit applications for service extensions and connections to HRWC's existing infrastructure, inclusive of the Cross Connection Control Program. The management of existing and new Capital Cost Contribution (CCC) charges for Master Plan communities remains a major component of the division's responsibilities. The Regional Development Charge (RDC) was approved two years ago and Stakeholder consultations will commence this year as part of the five year review. Initial stakeholder consultation will be implemented in conjunction with the West Region Wastewater Infrastructure Plan. The Development Approvals Group is also managing the Local Infrastructure Capacity Study for the Regional Centre on behalf of HALIFAX Municipality.

The Development Approvals Group also incorporates the Land Management program which supports Capital Projects and Operations in securing easements, land purchases for infrastructure and land leases.

The **Safety and Security Group** provides support for the entire organization with respect to the safety training program, including documentation of safety training requirements to ensure employees have the appropriate training to safely conduct their daily activities and manage risk to the utility. The group also reviews contract language within the tendering process, and engages contractors and consultants on safe work practices and expectations.

The Safety and Security division is also responsible for the development and update of the corporate emergency response plan including emergency response training. Halifax Water continues to participate in Public Safety Canada's Regional Resilience Assessment Program for treatment facilities. Facilities are evaluated using the Critical Infrastructure Resilience Tool, identifying areas where security and protection of critical assets can be improved or enhanced. The program further expands on formal risk assessments previously undertaken by Halifax Water.

The **Regulatory Compliance Group** conducts sampling of the water treatment and distribution systems for bacteria and residual chlorine, ensuring compliance with Canadian Drinking Water Guidelines and Operational permits issued by Nova Scotia Environment (NSE). Similarly, sampling is completed for wastewater effluent parameters for compliance with permits issued by NSE, consistent with new federal regulations. The group is also tasked with compiling and submitting reports associated with the sampling results to NSE. Regulatory Compliance also ensures that operating permits are renewed prior to their expiry. The group continues to support E&IS and Wastewater Operations staff on changes to regulatory permits including the Wastewater System Effluent Regulations (WSER) and assists in developing an implementation plan for required upgrades.

3.5 Corporate Services

Corporate Services was recently formed with the consolidation of Human Resources with the Finance and Customer Service Department. The Department consists of 6 divisions,

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with 69 full time employees providing service to internal and external customers. Services provided include Finance, Accounting, Procurement, Human Resources, Customer Service and Metering and Billing.

The **Finance Group** is responsible for development of operating budgets, funding plans for the capital budget, rate applications and financial modeling for business plans. This group assists Engineering in the preparation of capital budgets and confirms availability of funding sources. The group is responsible for forecasting revenues and expenditures, including associated trend analysis, responsible for pension plan administration, internal control testing, and quality assurance activities around financial transactions including payroll.

The **Accounting Group** is responsible for timely and accurate financial reporting, financial accounting, financial statements, revenue and cash flow, development and implementation of accounting procedures and internal controls, fixed asset accounting, financial analyses and annual audit.

Procurement directs the planning and delivery of Procurement services to the organization ensuring compliance with corporate policies and Provincial legislation. This group develops and implements monitoring and reporting of systems, programs, procedures for inventory and procurement to support acquisition of goods and services to enable delivery of the business plan, operating and capital budget objectives.

Human Resources is responsible for the effective delivery of all Human Resource initiatives including; effective workforce planning, organizational change and development, recruitment functions, disability management, health and wellness initiatives, labour/employee relations, compensation and benefit functions, pension administration, and employment equity.

Customer Services is responsible for customer service delivery to external and internal customers through the Customer Care Centre, and manages all customer contacts, establishes corporate customer service standards, goals and objectives, and coordinates business processes in the area of customer service with a focus on service and process improvement.

Metering and Billing is responsible for end to end functions of meter installation, maintenance, reading, sampling, testing, establishment of standards, and billing customers in a timely and accurate manner.

The most significant activities for Corporate Services in the 2016/17 year are:

- Begin the transition to improved meter technology with the Advanced Meter Infrastructure (AMI) project. This item is discussed in greater detail in section 5.2, and next steps include finalizing the business case and securing necessary approvals to proceed.

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- Improving service to customers by optimizing use of the new Customer Relationship Management (CRM) system which goes live February 2015, and centralizing all customer calls related to water, wastewater and stormwater. This item is discussed in greater detail in section 5.1.
- Finalizing the first set of International Financial Accounting and Reporting Standards (IFRS) compliant financial statements for the utility, for the fiscal year ended March 31, 2016.
- Implementing the decision from the February 2015 Stormwater Cost of Service Hearing; and filing an Application to adjust Stormwater Rates in 2016.
- Complete a review of Rate Affordability and the effectiveness of HRWC’s existing low-income assistance initiative, the Help to Others (H2O) Program”.
- Completing the implementation of changes to the HRWC Employees’ Pension Plan, including adjusting contribution rates to reflect the plan re-design and January 1, 2016 Actuarial Valuation and proceeding with further Amendments to the Pension Plan to reflect changes to the NS Pension & Benefit Act which came into effect June 1, 2015.
- Completing a review of the governance, policies, and administrative processes for the HRWC Employees’ Pension Plan with a view to ensuring the governance and administrative policies reflect best practice and current standards.
- Improving communication and information available to employees on Pension and other Benefits through development of a pension plan website, and refreshing the HRWC Intranet site.
- Improving employee morale, labour relations, and promoting a workplace that is respectful and civil for all employees. There are several initiatives planned to support these goals, including additional supervisory training, implementation of a new program to increase respect in the workplace; and moving toward a service delivery model for Human Resources that will focus on strategic issues and support to other Departments, rather than day to day transactional activities.

4. BUDGET SUMMARY

4.1 Capital

Halifax Water’s 2012 IRP identified a 30 year capital investment plan valued at \$2.6 Billion (net present value). As part of the utility’s overall mission, the capital budget program focuses on three main strategic drivers; asset renewal; regulatory compliance; and growth.

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The capital program helps ensure that Halifax Water continues to provide world class services in a cost effective and efficient manner with a focus on long term sustainability.

The Capital Budget includes an annual 1 year and 5 year capital plan. Capital projects are defined as newly acquired or constructed item with a value greater than \$5000 and a life expectancy beyond one year. The Capital Budget document includes four general asset categories: Water, Wastewater, Stormwater and Corporate Projects.

The detailed 1 year and 5 year Capital Budget documents are attached as Appendix C.

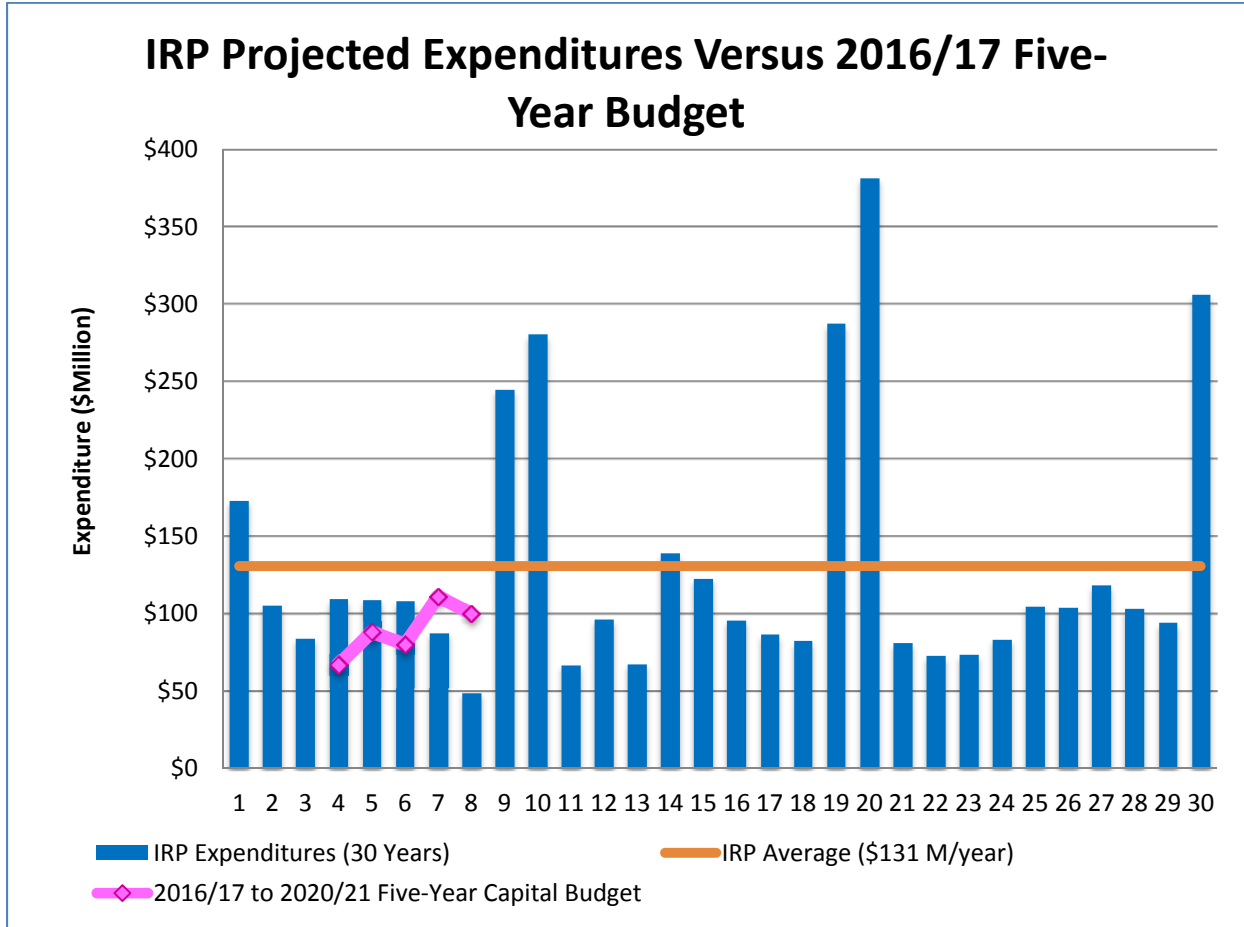
The summary totals for the four asset classes for the 1 Year and 5 Year capital budget are as follows:

Asset Class	Year 1	Years 1 - 5
	2016 / 2017	2016/17 - 2020/21
Water	\$16,453,000	\$101,948,000
Wastewater	\$35,838,000	\$246,164,000
Stormwater	\$3,951,000	\$38,170,000
Corporate Projects	\$10,535,000	\$59,710,000
TOTAL	\$66,777,000	\$445,992,000

The capital program balances near-term needs with long-term investments across all asset classes.

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The following chart shows the current proposed 5 year capital expenditure plotted against the IRP capital expenditure recommendation. The chart indicates a continued general increase in capital expenditures towards the target level.



The following provides highlights of the 2016/17 Capital Budget.

Major water capital projects include:

- Macdonald Bridge Transmission Main Replacement: \$3,295,000
- Distribution System Main Renewal Program in conjunction with HRM Streets program: \$4,000,000
- Lake Major Water Supply Plant - New Diesel Generator: \$1,900,000
- Asset Renewal and Process Upgrades – Water Supply Plants: \$2,385,000

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Major wastewater capital projects include:

- Collection System Renewal Projects integrated with HRM Streets program: \$1,500,000
- Lateral Replacements: \$2,190,000
- Wastewater System – Trenchless Rehabilitation Program: \$1,500,000
- Belmont WWTF Decommissioning - \$250,000
- Aerotech WWTF Upgrade & Expansion - \$13,930,000
- Corporate Flow Monitoring Program: \$660,000
- Balsam Road Pumping Station Elimination: \$770,000
- Bedford Pumping Station Rehabilitation: \$2,850,000

Major Stormwater capital projects include:

- Sackville Crossroad Stormwater System Renewal: \$1,100,000
- Stormwater System Renewal Projects Integrated with HRM Streets Program: \$650,000
- Culvert Renewals: \$1,277,000
- Sullivan’s Pond Storm Sewer Replacement – Design: \$ 250,000

Major corporate capital project include:

- GIS Data Program: \$1,000,000
- Computer Network and Hardware Upgrades: \$380,000
- Computerized Maintenance Management System: \$1,500,000
- Corporate Fleet: \$1,655,000
- AMI/AMR Meter System Upgrade: \$3,300,000
- Asset Management Program: \$600,000

The Capital Budget is funded from a variety of sources including capital asset depreciation accounts, debt, reserves, capital cost contributions and external cost sharing.

Capital funding sources:

- Depreciation (funded within the rates)
- Debt
- Development charge reserves
- External cost sharing

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The Debt Strategy as approved by the Halifax Water Board, and accepted by the NSUARB, provides a funding strategy that is fair, equitable and cost effective. The debt strategy sets limits for the debt service ratio [DSR] at 35% and a target debt to equity ratio of 40%/60%.

The funds for the overall Capital Budget will be generated from a combination of sources, as detailed below. The planned utilization of debt is consistent with the Debt Strategy. HRWC will manage risk around projected Regional Development Charges through reprioritization of growth projects or additional utilization of debt if required.

2016/17 Capital Budget Funding Sources

Water:	Depreciation	9,631,878
	Debt	11,433,122
	RDC	0
	External Funding Build Canada	59,000
	Capital Cost Contributions	238,000
	Energy Rebates	36,000
	TOTAL	21,398,000

Wastewater:	Depreciation	14,035,907
	Debt	16,798,093
	RDC	300,000
	External Funding Build Canada	9,055,000
	Capital Cost Contributions	0
	Energy Rebates	16,000
	Unregulated Capital Funds	475,000
	TOTAL	40,680,000

Stormwater:	Depreciation	834,000
	Funds available from prior years' capital	150,000
	Debt	3,715,000
	TOTAL	4,699,000

Total Capital Funding: **\$66,777,000**

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4.2 Operations

The operating budget prepared for 2016/17 is based on year 2 of the 5 Year Business Plan approved by the HRWC Board in October 2014, and Test Year 2 of the 2014 Rate Application.

A rate increase for water and wastewater will take effect April 1, 2016. The operating budget shows a small surplus and reflects the increased rates which were required to maintain or enhance current levels of service, deliver projects already in progress or approved, address new environmental regulations, and generate more funding to meet infrastructure investment demands.

Some of the primary operating budget drivers and assumptions are:

REVENUES:

- Total revenues are projected to be 4.4% or \$5.7 million greater than last year.
- Consumption will continue to decline related to water and wastewater. Consumption is projected to decrease 3.0% on an annual basis.
- 700 or roughly 0.8% new customer connections are projected over the fiscal year based on the 4 year historic average (2011-2014).
- Revenues from unregulated business activities are increasingly important to mitigate future revenue requirements from rates. Unregulated revenues are used to pay for some expenses which would otherwise be funded by rate-regulated activities, and are also used to fund unregulated expenses.
- Some fees for un-regulated activities such as septage tipping, treatment of effluent from airplanes, will be adjusted April 1, 2016 to ensure that Halifax Water is fully recovering expenses and generating a return on investment for the rate base.
- Rates for water and wastewater service increase April 1, 2016. The average household is projected to see an increase of 7%.

Alternative Revenue - Halifax Water has had success generating alternative revenues aside from user fees on both the regulated and unregulated side of the business. On the regulated side, Halifax Water has entered into agreements for the sale of land deemed to be no longer used or useful for utility purposes. With NSUARB approval, revenue from land sales can be used as a source of funds for capital projects related to the delivery of water services in recognition that the land was originally purchased with water-rate base funds. As much of the surplus land has been sold, this will not be a significant source of funds in the future.

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Notwithstanding limitations for generating revenue from the regulated side of the business, there has, and will continue to be, opportunities from the unregulated side. Currently, Halifax Water generates revenue from third-party contracts for water and wastewater treatment. Halifax Water also generates revenue for the lease of land for telecommunications facilities throughout the municipality in recognition that reservoir sites are located on higher elevations that afford more direct line of site for telemetry. In conjunction with these leases, Halifax Water installs telecommunications equipment on these facilities for its own needs for the ultimate benefit of the water, wastewater, and stormwater rate base. As Halifax Water continues to expand the SCADA system in accordance with its master plan, further opportunities for leases and hosting of Halifax Water equipment will be realized.

In recognition of Halifax Water's expertise in water-loss control, the utility offers a wide range of related services to generate revenue. These range from leak-detection services for Halifax Water customers and other municipalities to consulting services under contract to engineering firms and municipalities. There is great potential to expand these services to generate additional revenue and, at the same time, provide professional development opportunities for staff.

Halifax Water also recognizes that its assets can be leveraged to bring in revenue from energy generation. This includes projects to generate electricity from wind turbines and control chambers where water pressure is reduced. Both of these opportunities have been developed for interface with the Nova Scotia Department of Energy's Community Feed-In Tariff (COMFIT) program, which provides preferential rates to feed electricity into the Nova Scotia Power Incorporated (NSPI) distribution grid. Halifax Water has a lease agreement with Chebucto Wind Field Inc. who holds a COMFIT certificate for a wind farm near Pockwock Lake that is now in commercial operation. Through efforts of Halifax Water staff, a Ministerial Directive was issued through the Department of Energy (DOE) in 2012 to approve the recovery of renewable energy within water distribution systems at "run-of-the-river" rates. To that end, Halifax Water has received two COMFIT certificates for the installation of hydrokinetic turbines in the Orchard and Lucasville control chambers. The Orchard installation went into commercial operation in October, 2014. These projects are structured to ensure they are compliant with the Public Utilities Act with the recognition that regulated activities cannot subsidize the unregulated side of the business.

In partnership with HALIFAX Municipality, Halifax Water has also studied the potential for a green thermal utility whereby energy can be extracted from the heat in sewage and delivered through a local pipe distribution system in the vicinity of treatment facilities. The planned redevelopment of the Cogswell interchange in Halifax will provide an opportunity to advance this concept since the Halifax Wastewater Treatment Facility (WWTF) is adjacent to the Cogswell interchange. A feasibility study is currently underway and the business plan for 2016/17 includes funds for preliminary design.

In an effort to be open and transparent to stakeholders including the NSUARB, Halifax Water discloses revenue and expenses associated with unregulated business separately within the financial statements and budgets. Net gains from these activities ultimately go

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to the benefit of the rate base as they are closed out to accumulated operating surplus/(deficit) each fiscal year.

EXPENSES:

Halifax Water's Operating Budget is shown on an accrual basis for 2015/16 to provide better information for decision making and be reflective of best practice for budgeting. There is an accrued amount regarding the liability for future employee benefits (pension) as calculated under the Chartered Professional Accountants (CPA) Handbook Section 3461 that, for rate making purposes, is not currently included in the revenue requirements.

As noted previously and described in the IRP, the utility faces pressure associated with growth, asset renewal, and compliance with regulatory requirements.

The largest components of Halifax Water's consolidated operating budgets are salaries & benefits, electricity, debt servicing, depreciation, dividend and chemical costs.

Salaries and Benefits – The annual increase allowance is 2% with an additional 0.5% to allow for the impact of step increases within salary bands or reclassification of positions; and increases in benefits. Pension expenses are projected to decrease by 17.3% or \$1.7 million in 2016/17 due to the re-design of the HRWC Employees' Pension Plan. The reduction in pension plan expenses will not be known with certainty until the Actuarial Valuation at January 1, 2016 is completed.

Electricity – Budgets were established based on an assumption of electricity, fuel, oil and natural gas rate increases in each specific year. The impact of these increases is expected to be partially offset by the formal Energy Management Program.

- Electricity – 7%
- Furnace Oil – 5%
- Natural Gas – 10%

Debt Financing – New debt payments are budgeted to support the 2016/17 additions to utility plant in service. The amount and timing of the new debt will be determined by the completion date of the projects and the financing rates and options available. It is estimated total debt servicing will increase to \$31.9 million; an 8.5% increase from 2015/16. Halifax Water's capital financing strategy is designed to maintain a debt service ratio of 35% or less; and to use a mixture of infrastructure funding, development related charges (reserves), depreciation; and debt.

Depreciation - As Halifax Water's assets and future capital budgets increase, so do depreciation expenses. Depreciation is an integral funding source to support rehabilitation of the existing infrastructure, as well as new infrastructure and upgrades to meet future servicing demands and changing environmental regulation. Depreciation is projected to increase from \$20.8 million in 2015/16 to \$21.2 million in 2016/17, an increase of 1.7%.

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Dividend to the HALIFAX Municipality - The water dividend agreement was renewed in September, 2014 for a 5 year term (April 1, 2015 - March, 2020). The dividend is projected to grow from \$4.6 million in 2015/16 to \$4.7 million in 2016/17.

Chemical Costs – Chemicals are tendered annually in January for optimal pricing. Chemical cost increases of 5% are anticipated for next year.

On a consolidated basis, operating expenses are projected to decrease from \$103.6 million in 2015/16 to \$102.4 million in 2016/17 or 1.2%. Operating revenues are projected to increase from \$130.0 million in 2015/16 to \$135.7 million in 2016/17 or 4.4%. Non-operating revenues are projected to increase from \$3.1 million to \$3.3 million, and non-operating expenses will increase by 7.6% or \$2.6 million over 2015/16 due to increased debt-servicing costs.

Pro Forma Income Summary

Pro Forma Income Summary			
	Actual 2014/15	Approved Budget 2015/16	Proposed Budget 2016/17
Operating Revenues	\$130,320	\$129,905	\$135,675
Operating Expenditures	\$94,381	\$103,614	\$102,425
Operating Profit	\$35,939	\$26,291	\$33,250
Non-Operating Revenue	\$3,055	\$3,077	\$3,291
Non-Operating Expenditures	\$32,099	\$33,818	\$36,386
Net Surplus (Deficit)	\$6,896	(\$4,449)	\$154
<p><i>Note: Consolidated numbers reported above include regulated and un-regulated activities of the Urban Core, Satellite and the Airport/AeroTech Systems.</i></p> <p><i>*Amounts are stated in \$ Millions</i></p>			

As of March 31, 2015, Halifax Water had an accumulated operating surplus of \$2.9 million. Halifax Water is targeting an accumulated operating surplus of 3% of annual revenue to mitigate risk. Accumulated operating surplus can also be used to fund future additions to utility plant in service.

Halifax Water has an efficient capital structure which has been reviewed and accepted by the NSUARB and was developed based on the policies of other utilities, its longer-term capital needs, and consideration of fairness to present and future ratepayers. Utilization of

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debt is a key component of the capital structure. Debt impacts the operating budget and, therefore, the future rate requirements in several ways:

1. Increased debt payments need to be accommodated through rates.
2. Increased depreciation as the capital program grows must be accommodated through rates.
3. Operating costs of new capital needs to be accommodated through rates.
4. Capital requirements not funded by debt will increase the requirement of capital from operating funding through rates.

Different financing alternatives are considered, taking into account rate stability and affordability, Halifax Water long term financial sustainability, and intergenerational equity. The debt strategy approved for Halifax Water concludes that some appropriate ratios for Halifax Water to utilize are:

1. Target Debt Service Ratio of 35%
2. Target Debt/Equity Ratio of 40%/60%

In essence, the two targets serve as a framework for Halifax Water's utilization of debt. Long-term debt is projected to increase from \$231.7 million at March 31, 2015, to \$240.4 by March 31, 2016. It is estimated total debt servicing will increase from \$29.2 million in 2015/16 to \$31.9 million by 2016/17, and the debt service ratio will be 23.4%.

Halifax Water has a long term goal to keep rates for combined services below 2% of median household income. The cost of annual combined services for an average household is projected to be approximately 0.94% of median household income in 2016/17.

Halifax Water will be conducting some work on rate affordability and support to low income customers in 2016/17. Although Halifax Water considers rate affordability and has a rate smoothing strategy, some households on low income may still experience affordability issues. In recognition of the financial burden on households with low income, Halifax Water introduced the H2O program on April 1, 2011 to mitigate the impact of rising water bills. The H2O program provides dedicated funding for low income households to offset water bills, administered through the Salvation Army, similar to other heating fuel or electricity bill assistance programs. Funds for the program are derived from unregulated activities of the utility with annual base funding of \$35,000 and additional utility funds to match employee donations.

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4.3 Cost Containment

Halifax Water reports semi-annually to the HRWC Board, and annually to the NSUARB the results of cost containment activities. The next cost containment report will be filed with the NSUARB by June 30, 2016. Halifax Water achieved cost containment savings of 1.7 million in 2014/15 and is projecting \$2.8 million for 2015/16. Some of these are on-going, and some are one time in nature.

5. STRATEGIC INITIATIVES

5.1 Customer Care Centre

The first phase of Customer Service transitioning from a historical billing and account inquiry call centre to a full service Customer Care Centre is the implementation of a customer relations management (CRM) system. Cayenta Utilities has been selected as the CRM system and the go-live implementation date is February 1, 2016.

Cayenta Utilities CRM solution will provide tools to improve customer service. Customer Care will have the ability to record various customer interactions (telephone, email, facsimile), use scripts so that call centre staff can provide consistent information as well as automate workflow processes. Reporting features will provide the ability to track issues and productivity based on information logged within the system.

The second phase will include expanding services to support customer interaction for Wastewater and Stormwater Services. Currently, operational calls are directed to HRM's 311 Call Centre. The target date to transfer call handling responsibly from 311 Call Centre is the end of February 2016.

The third phase will include a redirection of operational water calls from each of the regional depots to Halifax Water's Customer Care Centre. This phase will take place after the implementation of CityWorks, a Computerized Maintenance Management System (CMMS), which will interface with CRM and provide the ability to use an integrated work order process. The target for this phase is June 2016.

When all three phases have been implemented, Halifax Water will be able to provide a central access point to customers for Halifax Water services. The Customer Care Centre telephone number will be updated to 902-H2O-WATR in June/July 2016.

5.2 Advanced Meter Infrastructure

Halifax Water began looking at the feasibility of Advanced Meter Infrastructure (AMI) in 2012. AMI is a system whereby, in lieu of meter readers walking routes, or driving routes to read meters with radio devices, a fixed network of radio devices is established over the service area to read meters on a much more frequent basis (typically hourly). Based on an initial positive business case, Halifax Water went to market in October, 2015 to purchase an AMI technology system. The Halifax Water Board approved adoption of AMI in principle, subject to concluding negotiations with the preferred vendor that results in a positive business case. Based on current schedules, and subject to Regulatory approvals, Halifax Water is proposing to launch a four year AMI project starting in June of 2016.

In addition to streamlining the meter reading process and reducing its cost, AMI promises many features that will improve the level of service Halifax Water can offer its customers. These include:

- The ability to offer monthly billing to residential and small commercial customers thus making it easier for customers to manage cash flow and automated payments. Large institutional, commercial and industrial customers are currently billed on a monthly basis.
- Billing errors will be reduced and estimated meter readings will be eliminated.
- Halifax Water will be able to alert customers to high consumption due to things like plumbing leaks, almost as they happen, reducing billing disputes and high bill amounts.
- Customers will have the ability, through a web portal, to manage their water consumption in real time and see the effect of any conservation measures they take.

AMI will provide much more data about customer consumption and distribution system operations. This will enable earlier identification of distribution system leaks. Overall it will improve the customer focus of the organization by providing the ability to identify and rectify customer issues proactively, rather than after the fact upon the customers' receipt of a high bill. This will result in reduced costs for billing and collection, and reduce the need for the high cost activity of sending technicians to customer homes.

5.3 Operational Maintenance Management

Halifax Water is currently implementing a Computerized Maintenance Management System (CMMS) in conjunction with HRM. The project is a core component of the HRM Enterprise Asset Management (EAM) program and identified as the Operational Maintenance Management (OMM) system.

Presently, the maintenance information recorded is available at a specific operations facility and is primarily available in hard copy. There is limited shared access to work

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related activities. This increases the complexity in delivering sound metrics on Halifax Water maintenance activities. The current methods for maintenance management are often inefficient and labour intensive in the preparation and processing of individual work orders. These current practices can lead to increased reactive versus preventative maintenance and even reduce the amount of maintenance work undertaken.

As most methods are centered on the specific work area, it can be difficult to compile data on common activities across the operational areas. Although information is coded and submitted to the corporate financial system (SAP), extracting information on work activities is limited to infrastructure type (i.e. water system versus wastewater/stormwater systems), geographic region (east, west, central), or by financial codes (general ledger, some by facility). Information is not easily tracked by asset class, task type, equipment, man hours attributed to the asset/facility.

To improve the overall efficiency, effectiveness and consistency in maintenance management and facilitate the integration of these activities with the existing corporate GIS and financial systems, Halifax Water is implementing the OMM project. This is the industry best practice for utilities in the management of vital infrastructure and facilities.

Once implemented, the OMM will enable a shift from a reactive to a proactive and ultimately an optimized work environment. It will automate the logistical functions performed by maintenance staff and management and generally includes the following functionality:

- work order generation, prioritization and tracking by asset class or equipment component
- tracking of scheduled (preventative) and unscheduled (reactive) maintenance activities
- storing of maintenance procedures and technical documentation
- historical tracking of all work orders including material and labour costs
- In addition, the project will provide the benefit of the elimination of paperwork and manual tracking activities, saving time and allowing staff to remain productive and improves decision making with maintenance planning, asset management and inventory control.

5.4 Wet Weather Management

The sources of high wet weather flow in a wastewater system are derived from infiltration and inflow [I&I], which is the entry of stormwater, including groundwater and flow from illegal connections, into the wastewater system. Halifax Water has developed a comprehensive Wet Weather Management Program (WWMP) with a mandate, *“To efficiently manage the volume of wet weather generated flows entering the sanitary wastewater system.”* The Program is the primary responsibility of Wastewater and

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Stormwater Services. Sewershed prioritization has been completed to ensure resources are assigned where they are needed the most. During the past year, three pilot areas in the vicinity of Cow Bay, Stuart Harris Drive and Crescent Avenue were monitored and pipes in two of the pilot areas were rehabilitated using trenchless methods. These pilot areas will be monitored in 2016 -17 and the data will be analyzed to help determine the overall cost benefit of these investments. A number of sites currently are monitored through the WWMP from a Rainfall Derived Inflow and Infiltration (RDII) perspective. Baseline data and detailed RDII information will aid decision making related to growth and compliance in these sewersheds. The following sewersheds are currently in the monitoring program.

- Lakeside-Timberlea WWTF;
- Wellington WWTF;
- Frame WWTF;
- North Preston WWTF;

To aid in the monitoring efforts, Halifax Water is in the process of finalizing service providers for flow monitoring and asset condition data with a focus on data quality. This information will further help in re-prioritizing the sewersheds and measure the results of rehabilitation and intervention efforts into the system. The private property inflow and infiltration contribution is a significant challenge to the WWMP. HW is developing a public outreach plan to raise awareness of the issue.

5.5 Energy Management

Through its Energy Management Program, Halifax Water is committed to creating and ensuring an ongoing focus on sustainability and energy efficiency throughout all operating areas. This program, through Halifax Water’s Energy Management Policy, the Energy Management Steering Committee, and the annual Energy Management Action Plan (EMAP), defines the goals, objectives, accountabilities, and structure for activities related to energy efficiency, energy recovery, greenhouse gas (GHG) reductions, sustainability and environmentally responsible energy use.

For 2016/17 and beyond, initiatives have been identified in the following areas:

Infrastructure / Operational Improvements

Capital projects that will result in improved energy efficiency, energy recovery, GHG reductions and operational cost savings have been identified throughout Halifax Water’s infrastructure. Projects being implemented or considered include:

<i>Ventilation Air Heat Recovery</i>	<i>UV Disinfection Upgrades</i>
<i>Wastewater Effluent Heat Recovery</i>	<i>Pumping System Upgrades</i>
<i>Variable Frequency Drive Motor Controls</i>	<i>Lighting Upgrades</i>
<i>HVAC & Building Envelope Upgrades</i>	<i>Pump/Meter Chamber Upgrades</i>

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New construction capital projects (e.g. wastewater treatment facilities, pumping stations, etc.) are also reviewed at the conceptual and detailed design stages to ensure best-in-class energy efficiency and the lowest life cycle costs throughout the life of the asset.

Renewable Energy Generation

Renewable energy generation is also a priority, utilizing Halifax Water’s extensive assets to recover thermal or electrical energy, where appropriate. Projects being implemented or considered include:

<i>Mill Cove Biogas CHP System (COMFIT)</i>	<i>Energy Recovery Turbines</i>
<i>Biosolids Energy Recovery</i>	<i>Wind Energy</i>
<i>Cogswell District Energy System (DES)</i>	

To date, two renewable energy projects have been completed: the Pockwock Community Wind Farm, located in Pockwock, NS, and the Orchard In-Line Energy Recovery Turbine, located in Bedford, NS. These projects are operating above expectations, and will continue to generate revenue for the utility for decades to come.

5.6 Stormwater Cost of Service

On October 31, 2015, Halifax Water made a submission to the NSUARB to amend the Stormwater section of the Cost of Service Manual. Although there was no proposed increase in stormwater rates, stormwater issues were added to the “Issues List” during the 2015 rate hearing to increase water and wastewater rates. HRWC eventually secured support from interveners as part of a Settlement Agreement, to address stormwater issues in a separate hearing in the fall of 2015.

HRWC has proposed several adjustments to the Cost of Service Manual designed to increase equity and ease administration.

A summary of the proposed Cost of Service/Rate Design related changes are provided below:

1. Halifax Water proposed to charge customers within the stormwater boundary to better reflect the use and benefit enjoyed by the various properties in the stormwater service area, and in recognition that most of the properties within the Boundary receive one or more of the following services from HRWC:
 - Stormwater from the property enters into HRWC’s stormwater system.
 - Stormwater from upgrade lands is intercepted by and directed around the property by an HRWC stormwater system.

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- The property is accessed directly by a driveway which crosses over an HRWC culvert

This broader approach will enhance equity of the charge, understandability and will provide administrative simplicity. It will also align with best practice. It will reduce the number of detailed investigations of specific drainage patterns associated with individual properties. These investigations have consumed significant resources over the past two years, and will increase the administrative costs of the stormwater service if not contained.

2. HRWC proposed to use the term “Site Related Flow Charge” to refer to the charge for the services and benefits the customer is receiving including any or all of stormwater flows being intercepted or diverted from a property, access to a property over an HRWC owned culvert, and management of stormwater from a property that enters any part of an HRWC stormwater system.
3. HRWC did not propose any changes how the municipality is billed. The municipality would continue to be billed for the impervious area in the street right of way consistent with the current direction from the NSUARB and current Cost of Service approach.
4. HRWC proposed that properties will be exempt from the Stormwater Charge if:
 - The Chargeable Impervious Area on the property is less than 50 square meters.
 - The properties were previously exempted and do not meet the stated stormwater service criteria.
5. In a future hearing to adjust stormwater rates, HRWC proposes to amend the “Adjustment of Bills” section 11 of the HRWC Regulations to permit adjustment of bills if upon review from the Notice of Objection process it is determined the billing determinant of chargeable impervious area is inaccurate or yields an inequitable result. The current “Adjustment of Bills” section of the regulations was written with Water and Wastewater service in mind.
6. HRWC proposed that impervious area associated with specific pits, quarries and refineries which were previously exempted because they had “stormwater management facilities” on the property, would now be included in billable impervious area. These properties will be treated like any other property, meaning that each will be considered to be exempt or not based upon the specific circumstances on or near the property.
7. HRWC proposed that owners of Non-Residential Properties shall pay a Site Related Flow Charge based on a rate per m² of Chargeable Impervious Area on the Property. If a part of a property is located outside HRWC’s Stormwater Service Boundary, that part of the property located outside the Boundary is exempt from the charge. As Non-Residential Customers are billed on the basis of actual impervious area and the properties in question are often large, this mechanism will enhance equity.

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8. HRWC proposed that owners of Residential Properties shall pay a Site Related Flow Charge which shall be based on the average Chargeable Impervious Area for Residential Properties [subject to possible tiering of Residential Properties]. The full charge is required to be paid, even if a part of the property is located outside the Commission's Stormwater Service Boundary. As residential properties are generally smaller, and are not charged on the basis of the actual impervious area, billing on the basis of an average or a tier based upon "Equivalent Residential Units" provides sufficient equity in a cost effective manner.
9. HRWC proposed to bill in increments of 10 m² rather than billing based on 1 m² of impervious area. This aligns with industry best practice, reduces the impact of any small measurement errors, and removes the illusion of precision associated with billing in a 1 m² increment. Impervious area would also be rounded to the nearest 10 m² increment.
10. HRWC proposed to implement a tiered rate structure for the "Site Related Flow Charge" for Residential properties. This would mean both Residential and Non-Residential properties with less impervious area would pay less than properties with more impervious area. The residential average would be eliminated. The tiered rate structure would be based upon an Equivalent Residential Unit, or "ERU". This concept is very similar to how "Equivalent Meters" are used in water and wastewater cost of service.
11. HRWC proposed to implement a credit system for non-residential (Industrial Commercial Institutional (ICI)) properties with stormwater Best Management Practices (BMPs) like retention ponds that help manage peak flows. The impacts of a credit system would be reflected in future operating budgets and revenue requirements. The majority of stormwater utilities have a credit system.
12. HRWC proposed to bill properties within the Stormwater Service Boundary pursuant to item 1), and provide a credit program for "Non-Related Flow" for non-residential customers if the stormwater from the property does not reach an HRWC system, and they are only receiving the benefit of upstream protection (stormwater interception) or a culvert at the end of their driveway.
13. HRWC proposed to amend the (Notice of Objection) process to reflect the revised definition of service criteria. HRWC will be adding a self-assessment tool for customers through the website to enable them to determine if they are receiving service. This may reduce the volume of Notices of Objections as customers would have a better sense of whether there are strong grounds for a Notice of Objection.
14. HRWC proposed to include funds in future operating budgets and revenue requirements to conduct research in partnership with non-profit groups regarding effectiveness of green infrastructure in cold climates as an ancillary tool for the stormwater system in Halifax. Green infrastructure is believed to provide a benefit and perform well in 1 in 5 year rain events.

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The 2016/17 budget is based upon the current stormwater rate structure. There may be longer term implications to both revenues and expenses from the Decision from this hearing that will ultimately be addressed in a future application to adjust rates.

The hearing will be held the week of February 16, 2016 and a Decision is expected early in the 2016/17 fiscal year.

5.7 Environmental Management System Expansion

A steering committee has been established and staff resources (EMS Coordinator and administrative) have been designated to support the implementation and maintenance of the Environmental Management System (EMS) for all Halifax Water treatment facilities. Through 2016/17, the existing records for the water facilities will be updated to reflect changes to the ISO 14001 standards. An audit is planned for the Herring Cove WWTF, the first wastewater facility to be considered for certification.

The steering committee and EMS coordinator will address the outcomes of the audit to ensure a practical process and template for further certifications. In addition, the group will develop a plan for the next five years, prioritizing the WWTFs to complete the required document management and obtain the certifications at the remaining facilities.

This past year it was decided to use SharePoint for the management of the documents and records as opposed to Intellex. The EMS Coordinator will work with the SharePoint team to establish the record management system.

5.8 Asset Management

The Asset Management (AM) Program continues implementation of the Asset Management Roadmap and core asset management projects aimed at improving system information and knowledge. The outputs of these projects will inform and provide input to the proposed Annual Asset Management Plan (AMP). The AMP will lay out the progress status for closing information gaps, identify future asset data needs and methods, and outline recommendations that may drive programs in other departments and business units (e.g. capital program, maintenance activities, engineering information management, wet weather management, financial forecasting).

The West Region Wastewater Infrastructure Plan (WRWIP) is underway and will continue through 2016/17. The project provides the next level of planning detail following the IRP and intends to confirm the service delivery strategy, evaluate alignments and sites for required infrastructure and carry out concept design for specific projects that fall in the first 10 years of the planning horizon. With this project, several foundational documents are being developed including the long term planning framework, the cost estimation

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framework, and the sewer systems evaluation process that will be available for future use in planning decisions and capital work.

The team continues to work on the modelling strategy including assessment of appropriate modelling tools. Prioritized by the needs of the wet weather management program and the WRWIP, staff will carry out a systematic model build out.

Key AM initiatives for 2016/17 include:

- Improve communications and availability of AM information
- Refine the AMPs
- Develop an enhanced prioritization methodology
- Condition assessment methods for pressurized pipes
- Implement corporate flow monitoring program
- Develop scope for Central and East Infrastructure Plans
- Finalize the hydraulic modelling strategy



Appendix A

Mission, Vision & Values





Our Mission:

*“To provide world class services
for our customers and our environment”*

Our Vision:

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

Our Values:

Halifax Water promotes a culture that:

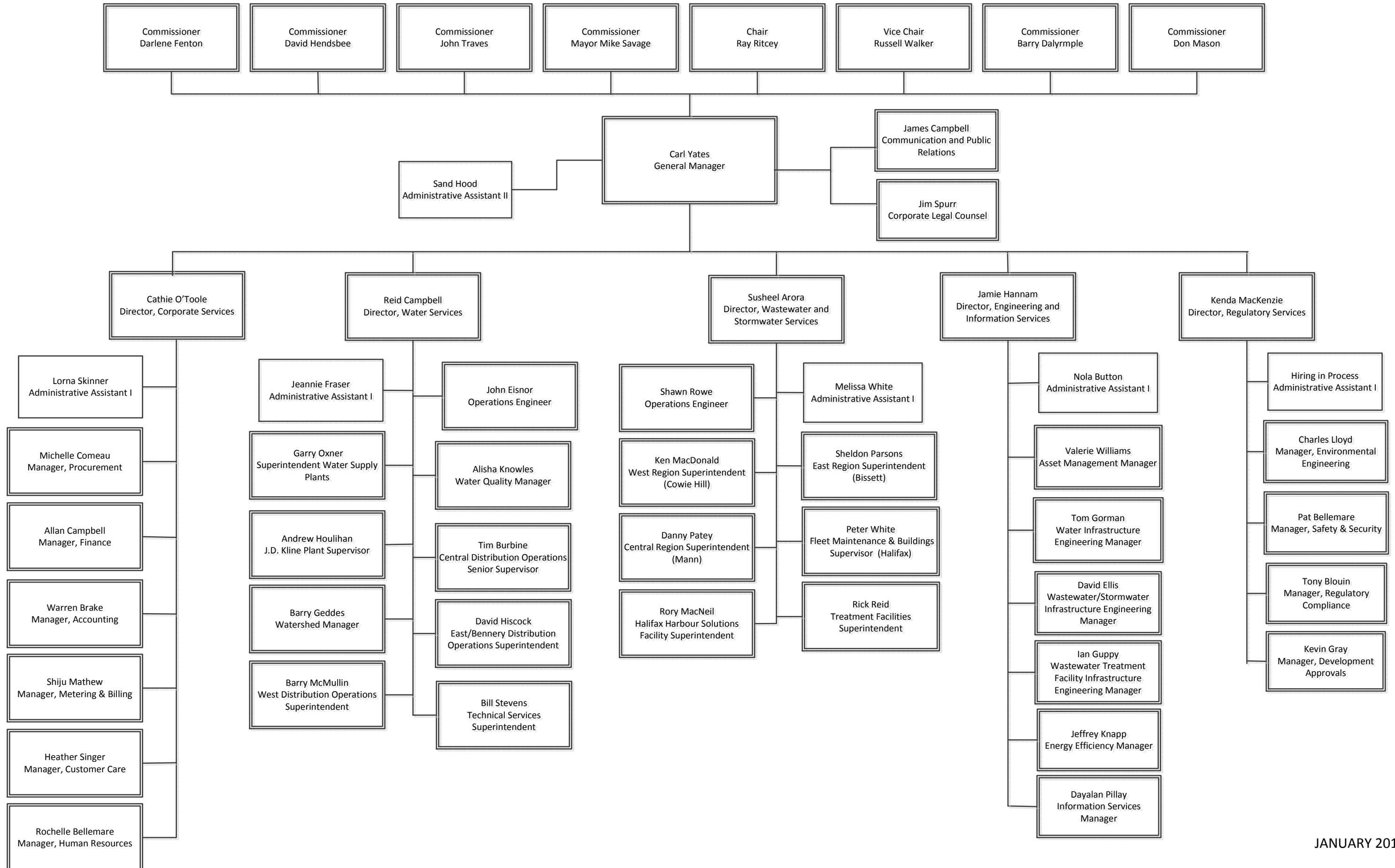
- *Engages employees, partners and stakeholders in achieving success;*
- *Encourages openness and transparency;*
- *Demonstrates individual and corporate accountability for results;*
- *Fosters innovation and progressive thinking;*
- *Respects diverse ideas, opinions and people;*
- *Is committed to service excellence; and*
- *Nurtures leadership at all levels.*



Appendix B

Organizational Structure

HALIFAX WATER ORGANIZATIONAL STRUCTURE





Appendix C

2016/17 Capital Budget

Schedule 1



Capital Budget Program

2016-2017

January - 2016

OVERVIEW

Halifax Water is the water, wastewater and stormwater utility providing services for residents within the Halifax Regional Municipality.

On the water side, Halifax Water is the largest supplier of domestic potable water in Atlantic Canada. We supply over 122,000 cubic metres of water per day from the Pockwock and Lake Major Watersheds to a population of 355,000. Our water system infrastructure is comprised of three (3) large water supply plants – J.D. Kline WSP at Pockwock Lake (227 ML/day design capacity), Lake Major WSP at Lake Major (94 ML/day design capacity), and Bennery Lake WSP (8 ML/day design capacity); 1567 kms of water mains, 18 storage reservoirs, 156 pumping stations and control chambers, 8,199 fire hydrants, 14,773 main valves, 86,514 services and related appurtenances. In addition, we own and operate five small systems in the suburban/rural areas within HRM.

With respect to wastewater and stormwater infrastructure Halifax Water own and operate seven (7) large wastewater treatment facilities, including the three Halifax Harbour Solutions wastewater treatment facilities located at Halifax, Dartmouth, and Herring Cove. The wastewater and stormwater system is comprised of approximately 2,402 kms of sewer mains, 37,869 manholes, 170 wastewater pumping stations, 29,687 catch basins, 79,466 customer services and other related appurtenances. In addition, we own and operate eight (8) small wastewater treatment facilities systems in the suburban/rural areas within HRM.

Halifax Water's mission is "*To provide world class services for our customers and our environment*". Halifax Water's 2012 *Integrated Resource Plan* identified a 30 year capital investment plan valued at \$2.6 Billion. As part of our overall mission, the capital budget program focuses on providing required infrastructure for asset renewal, regulatory compliance and growth, along with capital facilities, systems and equipment. The capital program helps ensure that we continue to provide world class services in a cost effective and efficient manner with a focus on long term integrity.

BUDGET STRUCTURE

The Halifax Water Capital Budget includes an annual *One Year* and *Five Year* capital plan. Capital projects are defined as newly acquired or constructed item with value greater than \$5000 and a life expectancy beyond one year.

The Capital Budget document includes four general asset categories: Water, Wastewater, Stormwater and Corporate Projects.

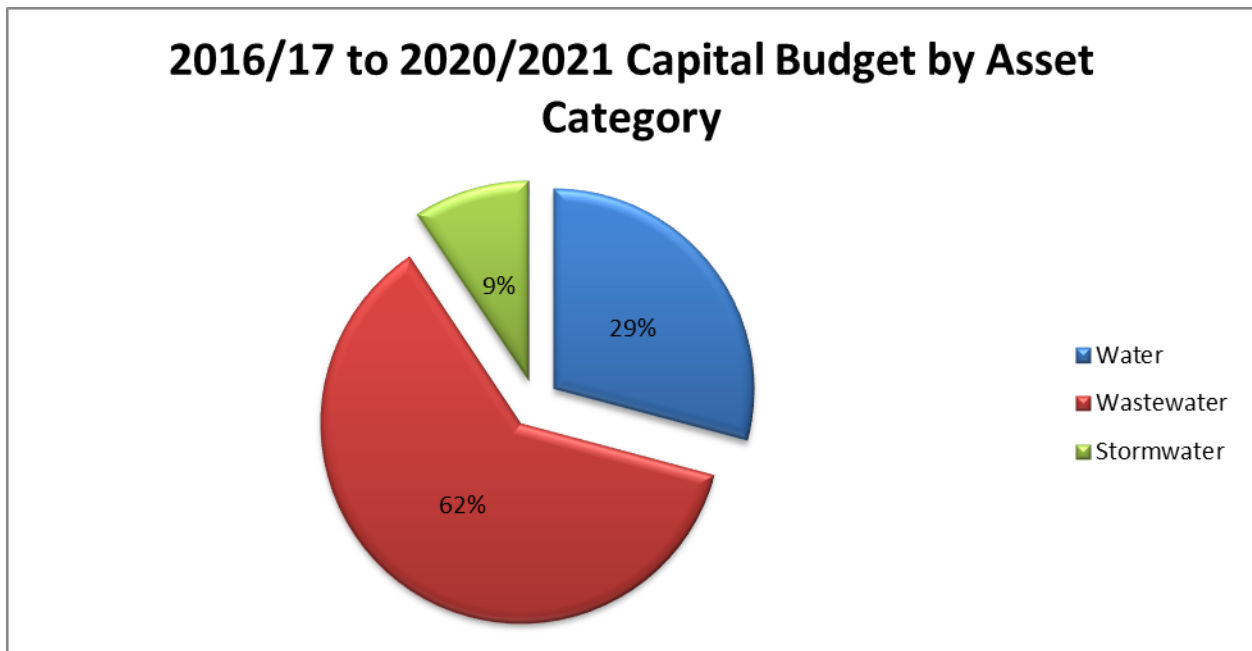
BUDGET HIGHLIGHTS

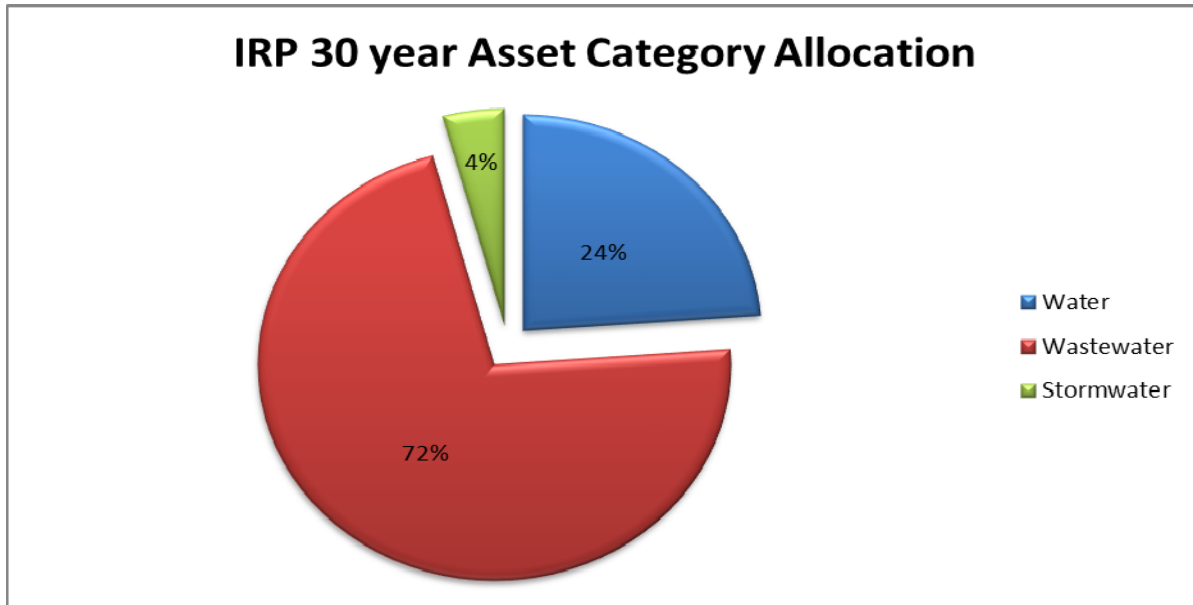
The detailed 1 Year and 5 year Capital Budget document is attached as Appendix A.

The summary totals for the four asset classes for the 1 Year and 5 Year capital budget are as follows:

Asset Class	Year 1	Years 1 - 5
	2016 / 2017	2016/17 - 2020/21
Water	\$16,453,000	\$101,948,000
Wastewater	\$35,838,000	\$246,164,000
Stormwater	\$3,951,000	\$38,170,000
Corporate Projects	\$10,535,000	\$59,710,000
TOTAL	\$66,777,000	\$445,992,000

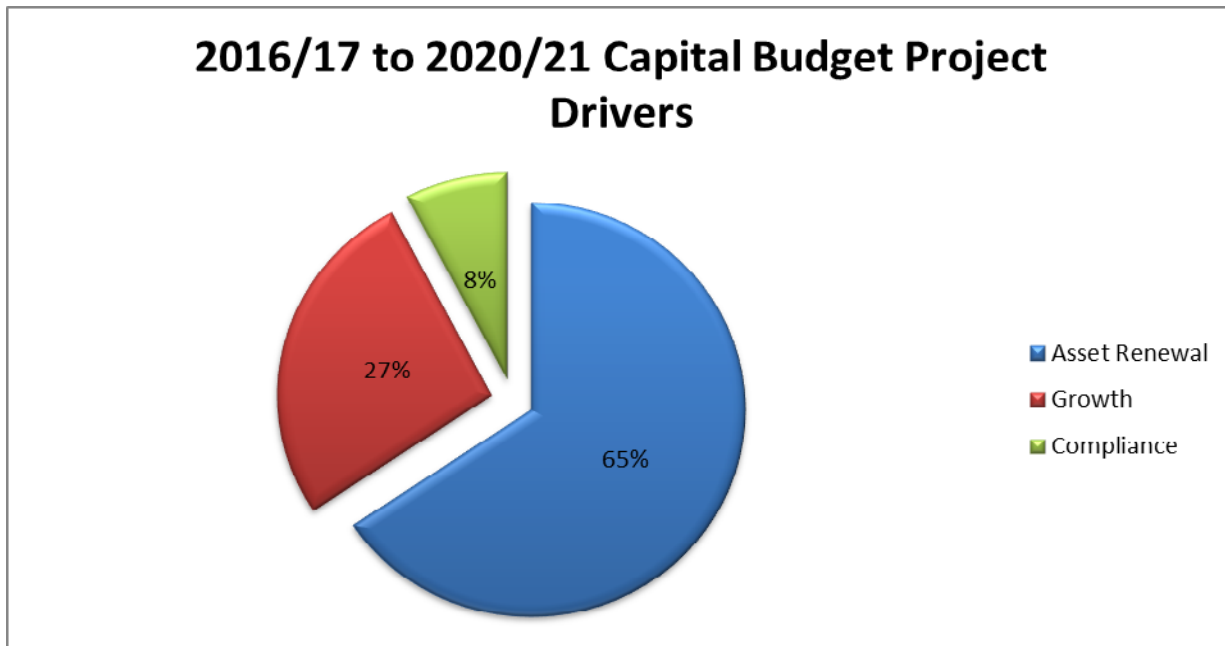
The capital program balances near term needs with the need to balance long term investments across all asset classes. For comparative purposes, the proposed 5 Year capital expenditure allocation is compared to the target expenditure allocation identified within the IRP.

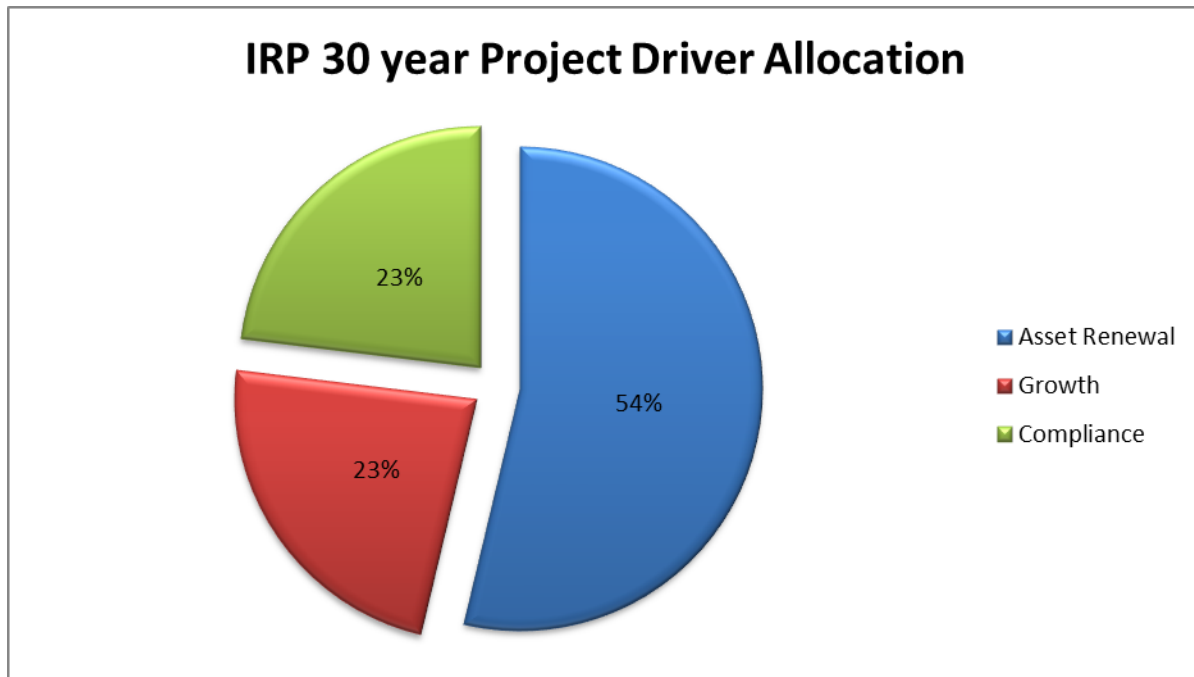




This comparison shows Halifax Water is generally on par with the IRP recommended allocation of funds with a near term expenditure of Sullivan’s Pond Storm Sewer System Replacement project, causing the stormwater expenditure to be temporarily double that of the IRP.

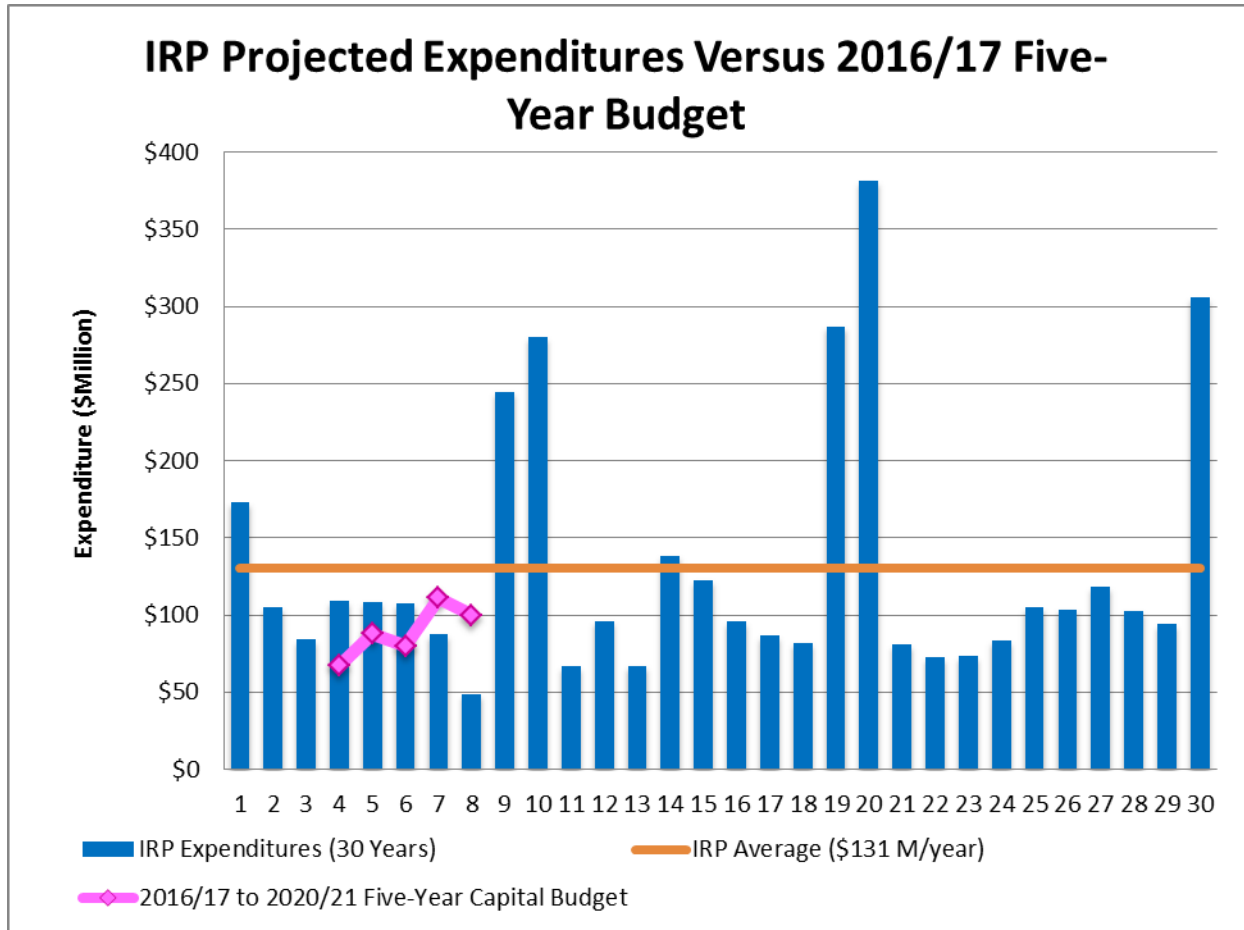
In addition to expenditure allocations across asset classes, the budget provides a balanced program for the various programs drivers of Asset Renewal, Regulatory Compliance and Growth. For comparative purposes, the proposed 5 Year capital allocation to program drivers is compared to the target allocation identified within the IRP.





The IRP compliance allocation is greater than the 5 Year compliance allocation due to large wastewater treatment facility expenditures that exist after the 10 year period.

The following chart shows the current proposed 5 Year capital expenditure plotted against the IRP based long term capital expenditure recommendation. These plots indicate a continued general increase trend in capital expenditures towards the target level.



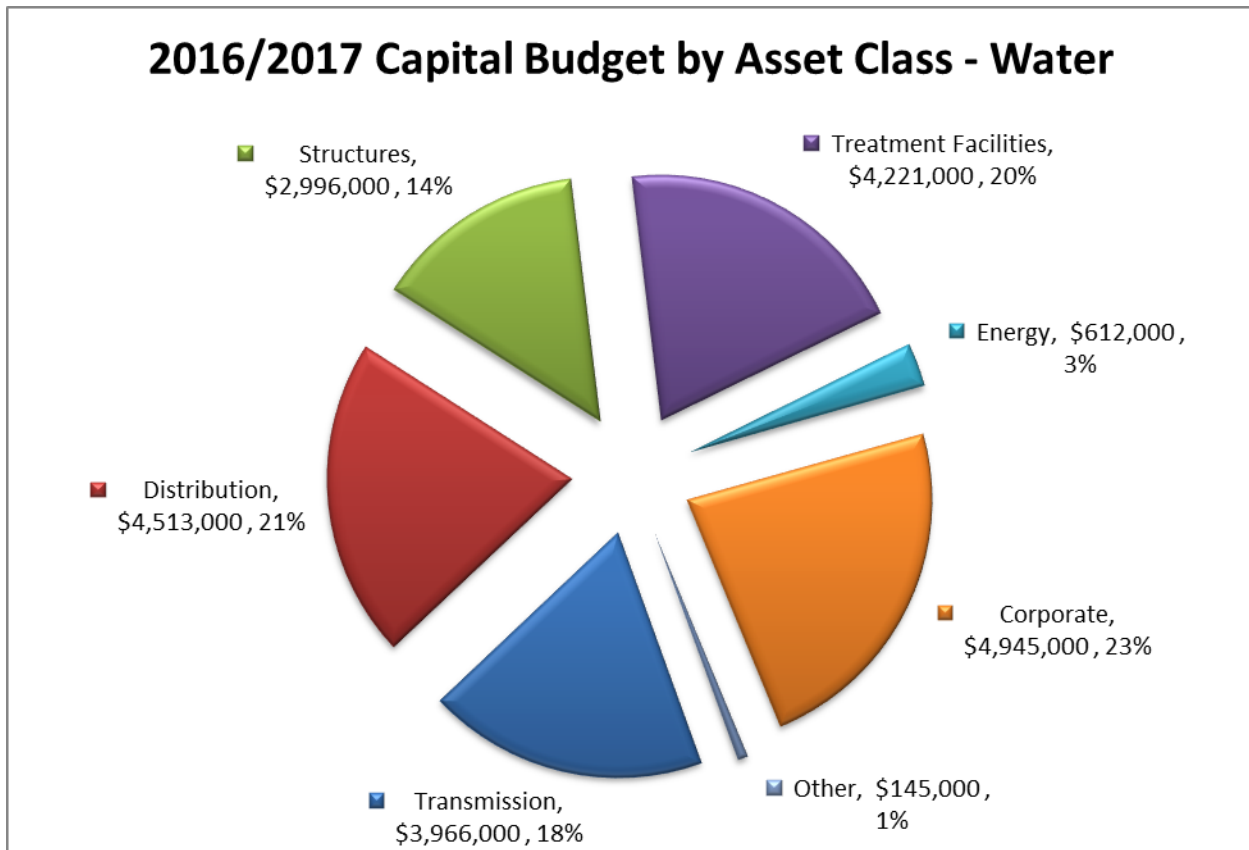
The following sections provide some highlighted details of the Capital Budget.

Water Asset Category

The Capital Budget funds the traditional capital requirements for water utility operation, along with a focus on several key capital initiatives. The 2016/17 budget is valued at \$16,453,000.

Major water capital projects include:

- Macdonald Bridge Transmission Main Replacement: \$3,295,000
- Distribution System Main Renewal Program in conjunction with HRM Streets program: \$4,000,000
- Lake Major Water Supply Plant - New Diesel Generator: \$1,900,000
- Asset Renewal and Process Upgrades – Water Supply Plants: \$2,321,000

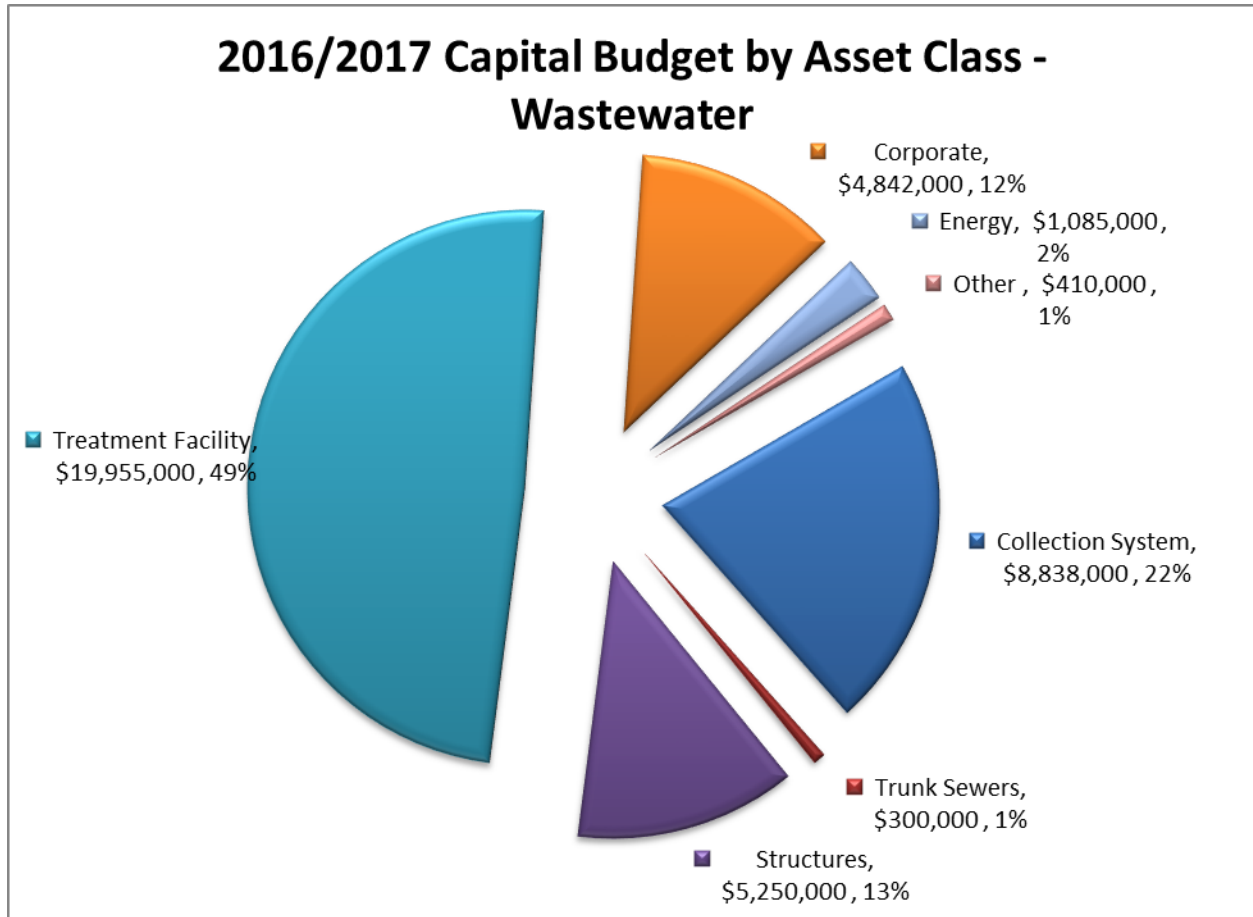


Wastewater Asset Category

This component funds the capital requirements for wastewater utility operation, along with a focus on several key capital initiatives. The 2016/17 budget is valued at \$35,838,000.

Major wastewater capital projects include:

- Collection System Renewal Projects integrated with HRM Streets program: \$1,750,000
- Lateral Replacements: \$2,190,000
- Wastewater System – Trenchless Rehabilitation Program: \$1,500,000
- Belmont WWTF Decommissioning - \$250,000
- Aerotech WWTF Upgrade & Expansion - \$13,930,000
- Corporate Flow Monitoring Program: \$660,000
- Balsam Road Pumping Station Elimination: \$770,000
- Bedford Pumping Station Rehabilitation: \$2,850,000

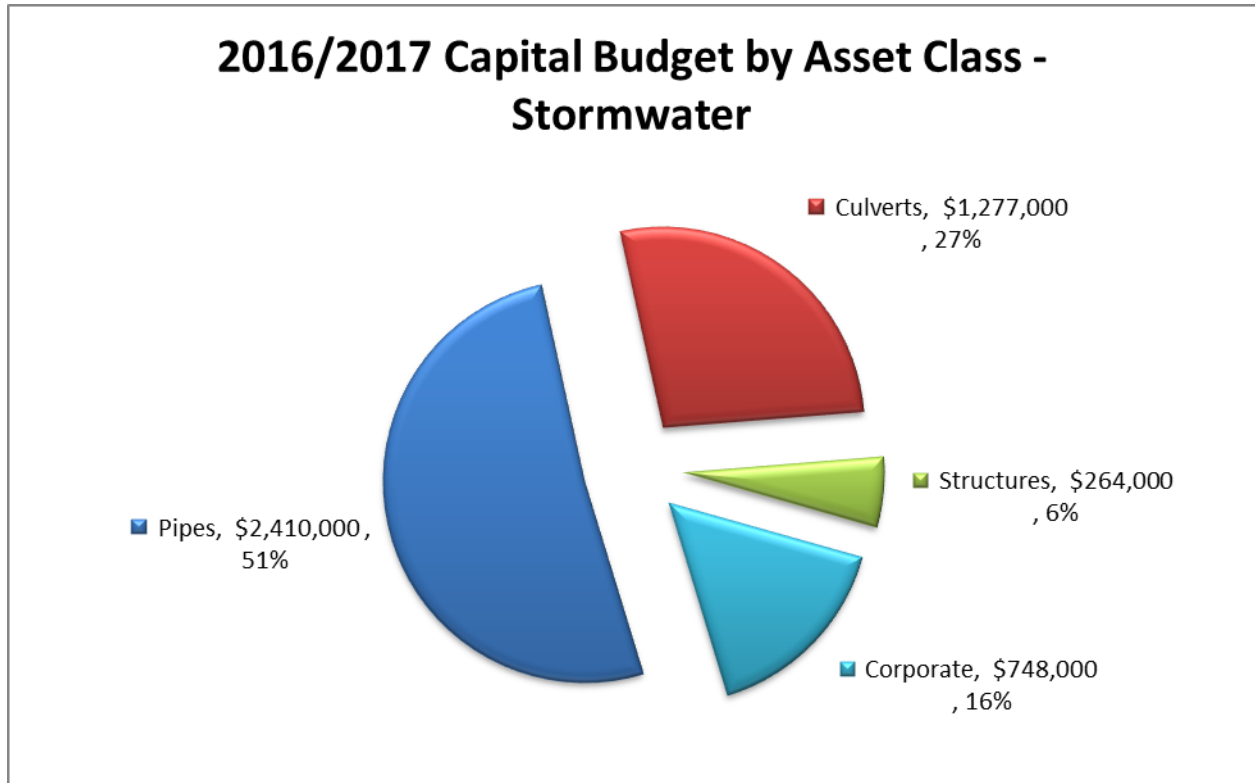


Stormwater Asset Category

This component funds the capital requirements for stormwater utility operation, along with a focus on several key capital initiatives. The 2016/17 budget is valued at \$3,951,000.

Major Stormwater capital projects include:

- Sackville Crossroad Stormwater System Renewal: \$1,200,000
- Stormwater System Renewal Projects Integrated with HRM Streets Program: \$650,000
- Culvert Renewals: \$1,277,000
- Sullivan’s Pond Storm Sewer Replacement – Design: \$300,000



Asset Category – Corporate Projects

Many capital initiatives benefit, and are shared financially, across all asset classes due to their broad benefit and application. The 2016/17 budget is valued at \$10,535,000.

Major corporate capital project include:

- GIS Data Program: \$1,000,000
- Computer Network and Hardware Upgrades: \$380,000
- Computerized Maintenance Management System: \$1,500,000
- Corporate Fleet: \$1,655,000
- AMI/AMR Meter System Upgrade: \$3,300,000
- Asset Management Program: \$600,000

The Capital Budget document provides a listing of all Corporate Projects by total project cost and allocation to asset category.

Capital Funding

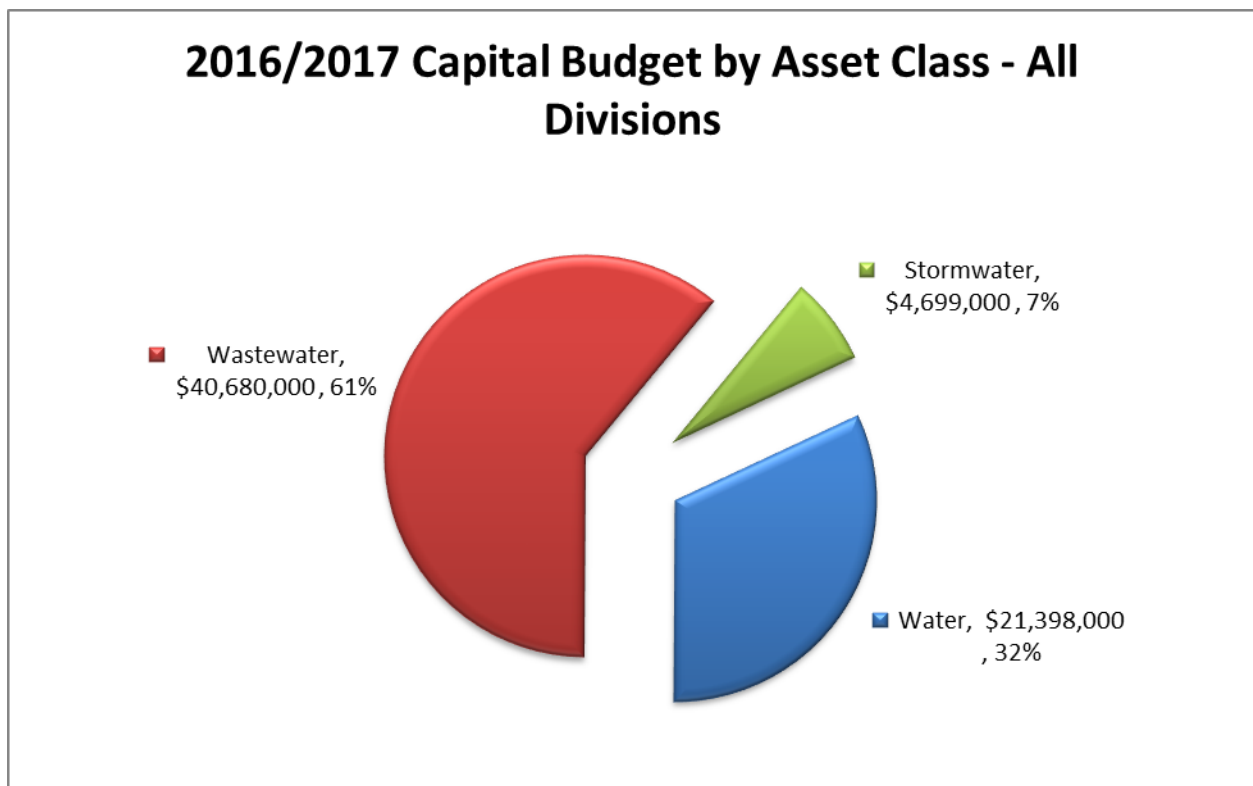
The Capital Budget is funded from a variety of sources including capital asset depreciation accounts, debt, reserves, capital cost contributions and external cost sharing.

Capital funding sources:

- Depreciation (rate based)
- Debt
- Development charge reserves
- External cost sharing

Debt Study as approved by Halifax Water Board, and accepted by the NSUARB, provides a funding strategy that is fair, equitable and cost effective.

Total 2016/17 Capital Budget Value: \$66,777,000.



The funds for the overall Capital Budget will be generated from a combination of sources, as detailed below. The planned utilization of debt is consistent with the Debt Strategy. HRWC will manage risk around projected Regional Development Charges through reprioritization of growth projects or additional utilization of debt if required.

2016/17 Capital Budget Funding Sources

Water:	Depreciation	\$9,631,878
	Debt	11,433,122
	RDC	0
	External Funding Build Canada	59,000
	Capital Cost Contributions	238,000
	Energy Rebates	<u>36,000</u>
	TOTAL	<u>21,398,000</u>
Wastewater:	Depreciation	14,035,907
	Debt	16,798,093
	RDC	300,000
	External Funding Build Canada	9,055,000
	Capital Cost Contributions	0
	Energy Rebates	16,000
	Unregulated Capital Funds	<u>475,000</u>
	TOTAL	<u>40,680,000</u>
Stormwater:	Depreciation	834,000
	Funds available from prior years' capital	150,000
	Debt	<u>3,715,000</u>
	TOTAL	<u>4,699,000</u>
Total Capital Funding:		<u>\$66,777,000</u>

The depreciation amounts shown as a funding source are the depreciation included within revenue requirements upon which the rates are based. Other known sources of funding such as external funding, CCCs, RDCs, or Energy Rebates are reflected, then the new debt requirement is calculated. The new debt projected for 2016/17 is \$1.75 million higher than the initial planned use of debt for 2016/17; however the additional debt servicing can be accommodated within the 2016/17 operating budget; and does not affect Halifax Water's compliance with debt service ratio targets.

The Stormwater funding reflects \$150,000 available from underspending on the Ellenvale Run project that is currently being closed out. The funding will be carried forward to the 2016/17 stormwater capital budget.

The unregulated capital of \$475,000 shown in Wastewater pertains to the Mill Cove Biogas CHP - Installation & Commissioning. The amount shown here is 50% of the total project cost and it is assumed this project will be allocated 50% to regulated and 50% to unregulated.

The cost of the \$475,000 unregulated portion of this capital project may be debt financed, or alternately may be financed directly through the operating budget using unregulated revenues; and there is potentially an additional \$350,000 in unregulated capital projects in 2016/17, as noted below that may proceed subject to necessary approvals and financing. The total projected unregulated capital budget for 2016/17 is \$825,000.

Five Year Capital Budget - Unregulated Activity		
Project ID	Project Name	All \$ in 000's
		Y1
		2016-2017
	Mill Cove Biogas CHP - Installation & Commissioning	\$475
	In-line Turbine - Location TBD (Y1 - Design, Y2 - Install)	\$50
	Cogswell DES - Conceptual Design + Cost Analysis/Consultation	\$300
TOTALS - Wastewater		\$825

HALIFAX WATER

Capital Budget 2016/17

Summary

Asset Category	Project Costs
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<i>Water - Land -- T O T A L</i>	\$0
<i>Water - Transmission -- T O T A L</i>	\$3,966,000
<i>Water - Distribution -- T O T A L</i>	\$4,513,000
<i>Water - Structures -- T O T A L</i>	\$2,996,000
<i>Water - Treatment Facilities -- T O T A L</i>	\$4,221,000
<i>Water - Energy -- T O T A L</i>	\$612,000
<i>Water - Security -- T O T A L</i>	\$50,000
<i>Water - Equipment -- T O T A L</i>	\$95,000
<i>Water - Corporate Projects - T O T A L</i>	\$4,945,000
TOTAL - Water	\$21,398,000

<i>Wastewater - Trunk Sewers -- T O T A L</i>	\$300,000
<i>Wastewater - Collection System -- T O T A L</i>	\$8,838,000
<i>Wastewater - Forcemains -- T O T A L</i>	\$100,000
<i>Wastewater Structures -- T O T A L</i>	\$5,250,000
<i>Wastewater - Treatment Facility -- T O T A L</i>	\$19,955,000
<i>Wastewater - Energy -- T O T A L</i>	\$1,085,000
<i>Wastewater - Security -- T O T A L</i>	\$200,000
<i>Wastewater - Equipment -- T O T A L</i>	\$110,000
<i>Wastewater - Corporate Projects -- T O T A L</i>	\$4,842,000
TOTAL - Wastewater	\$40,680,000

HALIFAX WATER

Capital Budget 2016/17

Summary

Asset Category	Project Costs
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<i>Stormwater - Pipes -- T O T A L</i>	\$2,410,000
<i>Stormwater - Culverts -- T O T A L</i>	\$1,277,000
<i>Stormwater - Structures -- T O T A L</i>	\$264,000
<i>Stormwater - Corporate Projects -- T O T A L</i>	\$748,000
TOTAL - Stormwater	\$4,699,000

GRANDTOTAL	\$66,777,000
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HALIFAX WATER

Capital Budget 2016/17

Water

Project Number	Project Name	Project Cost
<u>Water - Transmission</u>		
3.042	Critical Valve Replacement Program	\$300,000
3.175	Macdonald Bridge Transmission Main Replacement	\$3,295,000
3.293	Peninsula Low North Transmission Main Replacement (Windsor to Robie)	\$40,000
3.298	Hammonds Plains Road Transmission Main Extension - Voyageur Way	\$140,000
3.006	Bedford Connector 750mm Replacement - Phase 3	\$90,000
3.246	Water Transmission Main Condition Assessment Program	\$75,000
3.045	Bedford West Capital Cost Contribution - Various Phases	\$14,000
3.113	Northgate Capital Cost Contribution	\$12,000
<i>Water - Transmission -- T O T A L</i>		\$3,966,000
<u>Water - Distribution</u>		
3.022	Water Distribution - Main Renewal Program	\$4,000,000
3.067	Valve Renewals	\$125,000
3.068	Hydrant Renewals	\$75,000
3.069	Service Line Renewals	\$190,000
3.285	Versa Valve Removal	\$20,000
3.294	Automated Flushing Program	\$20,000
3.277	Temporary Water Line - Pipe Materials Purchase - East Region	\$18,000
3.299	Water Distribution Pressure Monitoring Equipment	\$10,000
3.296	Water Sampling Station Relocation Program	\$29,000
3.295	Rechlorination Station Upgrades	\$26,000
<i>Water - Distribution -- T O T A L</i>		\$4,513,000

HALIFAX WATER

Capital Budget 2016/17

Water

Project Number	Project Name	Project Cost
<u>Water - Structures</u>		
3.247	Water Structures - Condition Assessment Program	\$150,000
3.173	Lake Major Dam Replacement	\$100,000
3.287	Bedford Reservoir Inflow Meter Replacement	\$8,000
3.284	Zinck PRV Flow Meter Replacement	\$8,000
3.282	Belmont PRV Replacement	\$10,000
3.227	Relocate CT Calculation Equipment - Lucasville Meter Chamber	\$31,000
3.116	Bedford South Reservoir Capital Cost Contribution	\$250,000
3.286	Geizer 158 Reservoir Rehabilitation	\$2,170,000
3.290	Lyle Street Control Chamber Access Improvement	\$30,000
3.171	Confined Space Entry Retrofit - Bridgeview PRV Chamber	\$79,000
3.283	Robie 2 Chamber Upgrades	\$160,000
<i>Water - Structures -- T O T A L</i>		\$2,996,000
<u>Water - Treatment Facilities</u>		
J D Kline Water Supply Plant:		
3.319	- Replace the Lime Feed and Delivery System	\$300,000
3.236	- Ampgard III to Vacuum Contactor Conversion	\$40,000
3.281	- Replace Power Pole at Low Lift Station	\$40,000
3.303	- New Laptop system to Backwash Filters	\$12,000
3.322	- Backwash Flow Control Improvements	\$185,000
Lake Major Water Supply Plant:		
3.159	- Replace Contactors in the MCC	\$34,000
3.206	- Chemical Feed Pumps	\$85,000
3.237	- Recirculating Pumps for the Heating System	\$9,000
3.144	- New Diesel Generator	\$1,900,000
3.301	- Integrate Chlorine Alarms	\$50,000
3.316	- Purchase Dewatering Equipment Components	\$100,000

HALIFAX WATER

Capital Budget 2016/17

Water

Project Number	Project Name	Project Cost
3.317	- Waste Residuals Management - Study Component	\$78,000
3.321	- Replace Fluoride System	\$10,000
3.332	- Purchase Fluorescence Meter	\$90,000
3.320	- New Raw Water Low Lift Pump	\$50,000
3.207	- Isolating the Treatment Trains	\$68,000
3.300	- Dedicated Service Water Pumping Station	\$60,000
Bennery Lake Water Supply Plant:		
3.272	- New Low Lift VFD Pump Replacement Program	\$110,000
3.274	- Power Monitoring	\$20,000
3.273	- Surge Protection	\$17,000
3.167	- Plate Settlers	\$440,000
3.211	Chlorine Analyzer Replacement Program	\$23,000
3.276	Purchase Inline Zeta Potential Meters for Water Plants	\$100,000
3.324	Water Plants: Purchase Particle Counters	\$235,000
3.336	Geosmin Taxonomy Study	\$165,000
Water - Treatment Facilities -- T O T A L		\$4,221,000
<u>Water - Energy</u>		
3.107	Chamber HVAC Retro-Commissioning Program	\$50,000
3.327	Lake Major WSP - HVAC Study	\$100,000
3.109	JD Kline WSP - Industrial Process Water Pumps Upgrade	\$160,000
3.31	JD Kline WSP - Raw Water Pump Upgrade Study	\$230,000
3.311	JD Kline - Pump Station MCC Ventilation	\$72,000
Water - Energy -- T O T A L		\$612,000
<u>Water - Security</u>		
4.009	Security Upgrade Program	\$50,000
Water - Security -- T O T A L		\$50,000

HALIFAX WATER

Capital Budget 2016/17

Water

Project Number	Project Name	Project Cost
<u>Water - Equipment</u>		
3.104	Large Tapping Machine c/w electric operator and 4" to 12" cutters	\$34,000
3.271	Small Hydro Vac for valve box maintenance	\$25,000
3.335	Plastic Shell Cutters for Tapping Machine	\$12,000
3.297	Portable Valve Exerciser	\$10,000
	Confined Space Entry System for Bennery Lake Water Supply Plant	\$14,000
<i>Water - Equipment -- T O T A L</i>		\$95,000
<i>Water - Corporate Projects - T O T A L</i>		\$4,945,000
<i>GRAND TOTAL - WATER</i>		\$21,398,000

HALIFAX WATER

Capital Budget 2016/17

Wastewater

Project Number	Project Name	Project Cost
<u>Wastewater - Trunk Sewers</u>		
2.067	Northwest Arm Sewer Rehabilitation	\$300,000
<i>Wastewater - Trunk Sewers -- T O T A L</i>		\$300,000
<u>Wastewater - Collection System</u>		
2.223	Wet Weather Management Program	\$100,000
	Sewer Condition Assessment	\$250,000
2.357	Manhole Renewals	\$32,000
2.358	Lateral Replacements	\$2,190,000
2.052	Integrated Wastewater Projects - Program	\$1,750,000
2.043	Corporate Flow Monitoring Program	\$660,000
2.168	Wastewater System - Trenchless Rehabilitation Program	\$1,500,000
2.462	Wastewater Conveyance System Upgrade - Dingle PS to Roach's PS via William's Lake PS	\$145,000
2.417	Inglis Street Sewer - Hydraulic Analysis	\$250,000
2.460	Leiblin PS Elimination	\$75,000
2.179	Balsam Road PS Elimination	\$770,000
2.195	Gravity sewer from Little Albro Lake to Jamieson St PS	\$100,000
2.518	Waterfront Drive Wastewater System Replacement	\$500,000
2.074	Bedford West Collection System Capital Cost Contribution	\$66,000
2.36	Central Region Wastewater Infrastructure Plan	\$225,000
	East Region Wastewater Infrastructure Plan	\$225,000
<i>Wastewater - Collection System -- T O T A L</i>		\$8,838,000
<u>Wastewater - Forcemains</u>		
2.394	Wastewater Forcemain - Condition Assessment	\$75,000
2.512	Hines Road Sewer - Odour Issue	\$25,000
<i>Wastewater - Forcemains -- T O T A L</i>		\$100,000

HALIFAX WATER

Capital Budget 2016/17

Wastewater

Project Number	Project Name	Project Cost
<u>Wastewater - Structures</u>		
2.42	Emergency Pumping Station Pump replacements	\$270,000
2.442	Wastewater Pumping Station Component Replacement Program - East Region	\$200,000
2.443	Wastewater Pumping Station Component Replacement Program - West Region	\$225,000
2.444	Wastewater Pumping Station Component Replacement Program - Central Region	\$65,000
2.465	Pumping Station Standard	\$135,000
2.091	Bedford PS Rehabilitation (at Mill Cove WWTF)	\$2,850,000
2.038	Roach's Pond Pumping Station - Trash Rack	\$75,000
2.005	Autoport Pleasant Street PS Replacement	\$200,000
2.361	Eastern Passage Pumping Station - Efficiency/Pump Control	\$650,000
2.039	New PS & FM plus Belmont WWTF decommissioning	\$250,000
2.38	Gantry Road Manhole Rehab	\$30,000
2.447	RWWFP Projects MC2, MC3 - Wastewater Storage	\$300,000
<i>Wastewater Structures -- T O T A L</i>		\$5,250,000
<u>Wastewater - Treatment Facility</u>		
2.056	Plant Optimization Audit Program	\$175,000
	Emergency Wastewater Treatment Facility equipment replacements	\$200,000
Halifax Wastewater Treatment Facility:		
2.517	- Installation of TSS Analyzer	\$82,000
2.519	- Pump replacements sludge mixing system	\$140,000
Dartmouth Wastewater Treatment Facility:		
2.500	- Influent Duty Pump Installation	\$160,000
2.343	- Fine Screen Upgrade	\$1,000,000
Mill Cove Wastewater Treatment Facility:		
2.124	- UV Upgrade	\$2,080,000
2.495	- Compressor Replacement	\$20,000
2.496	- Entrance Gate Replacement	\$20,000
2.497	- Wet Scrubber Media Replacement	\$20,000
2.486	- Digester Roof Coating	\$135,000

HALIFAX WATER

Capital Budget 2016/17

Wastewater

Project Number	Project Name	Project Cost
Eastern Passage Wastewater Treatment Facility:		
2.469	- Storage Shed	\$41,000
2.47	- Secondary Launder Covers	\$49,000
2.471	- Automation of RAS Gates	\$97,000
2.472	- Process Optimization	\$39,000
2.498	- Process Water System Filter Upgrade	\$26,000
2.484	- Fall Protection Grates - Sludge Tank and Inlet Chamber	\$6,000
2.024	Aerotech WWTF Upgrade - Design/Construction	\$13,930,000
2.33	Timberlea WWTF - Upgrades (RBC, Flow Equalization, Screen)	\$500,000
	Middle Musquodoboit WWTF Bank Stabilization	\$25,000
Biosolids Processing Facility:		
2.513	- Silo Painting	\$90,000
2.514	- Front End Loader Replacement	\$370,000
2.520	- Plant Ventilation System Upgrades	\$700,000
	- Biofilter Media Replacement	\$50,000
Wastewater - Treatment Facility -- T O T A L		\$19,955,000

HALIFAX WATER

Capital Budget 2016/17

Wastewater

Project Number	Project Name	Project Cost
<u>Wastewater - Energy</u>		
2.485	BLT WWTF - Lighting Upgrade	\$35,000
2.491	Pump Station HVAC Retro-Commissioning Program	\$100,000
2.173	Mill Cove WWTF - Bio-Gas CHP - Installation	\$950,000
<i>Wastewater - Energy -- T O T A L</i>		\$1,085,000
<u>Wastewater - Security</u>		
4.008	Security Upgrade Program	\$200,000
<i>Wastewater - Security -- T O T A L</i>		\$200,000
<u>Wastewater - Equipment</u>		
2.161	SIR Program Flow Meters and Related Equipment	\$40,000
2.451	Miscellaneous Equipment Replacement	\$70,000
<i>Wastewater - Equipment -- T O T A L</i>		\$110,000
<i>Wastewater - Corporate Projects -- T O T A L</i>		\$4,842,000
<i>GRAND TOTAL - WASTEWATER</i>		\$40,680,000

HALIFAX WATER

Capital Budget 2016/17

Stormwater

Project Number	Project Name	Project Cost
<u>Stormwater - Pipes</u>		
1.038	Integrated Stormwater Projects - Program	\$650,000
1.102	Manhole Renewals	\$29,000
1.103	Catchbasin Renewals	\$29,000
1.135	Lateral Replacements	\$87,000
1.139	Bank of Montreal Stormwater Lateral - 5151 George Street	\$90,000
1.019	Drainage Remediation Program Surveys/Studies	\$25,000
1.051	Sackville Cross Road Stormwater System Renewal (formerly Seawood Avenue)	\$1,200,000
1.043	Sullivan's Pond Storm Sewer System Replacement - Phase 1	\$300,000
<i>Stormwater - Pipes -- T O T A L</i>		\$2,410,000
<u>Stormwater - Culverts/Ditches</u>		
1.104	Driveway Culvert Replacements	\$450,000
1.127	Wilson Drive & Highway 2 - Culvert Replacement	\$236,000
1.059	Herring Cove Road Culvert Replacement	\$85,000
1.069	Inverness Avenue Culvert Replacement	\$156,000
1.111	Bedford Highway @ Shaunsieve Drive Culvert upgrade	\$250,000
1.126	2016/17 Culvert Program - Design Services	\$100,000
<i>Stormwater - Culverts/Ditches -- T O T A L</i>		\$1,277,000
<u>Stormwater - Structures</u>		
1.06	Clement Street Berm - SW Control Structure	\$264,000
<i>Stormwater - Structures -- T O T A L</i>		\$264,000
<i>Stormwater - Corporate Projects -- T O T A L</i>		\$748,000
<i>GRAND TOTAL - STORMWATER</i>		\$4,699,000

HALIFAX WATER

Capital Budget 2016/17

Corporate Projects

Project Number	Project Name	Project Cost
4.011	Desktop Computer Replacement Program	\$180,000
4.012	Network Infrastructure Upgrades	\$200,000
4.013	Document Management Program	\$200,000
4.070	Computerized Maintenance Management System Phase 2	\$1,500,000
4.024	Sharepoint Implementation	\$200,000
4.043	AMI/AMR Meter System Upgrades (split 50W/50WW)	\$3,300,000
4.014	IT Disaster Recovery Site	\$300,000
4.066	Customer Service Portal	\$220,000
4.067	Website Build	\$200,000
4.063	CRM Interfaces	\$200,000
4.04	GIS Data Program	\$1,000,000
4.038	GIS Hardware/Software Program	\$150,000
4.039	GIS Application Support Program	\$250,000
4.059	Water Database Model	\$100,000
4.068	450 Cowie Hill Road - External Lighting Upgrade	\$50,000
4.02	Asset Management Program Development	\$150,000
4.052	Long Term Planning Coordination Strategy (split 50W/50WW)	\$200,000
4.049	Expand Prioritization Methodology	\$125,000
4.055	Purchase Modelling Software	\$50,000
4.054	Assess AM Software and Tools	\$50,000
	Condition and Performance Assessment Program and Prioritization	\$25,000
4.004	SCADA Control System Enhancements (split 50W/50WW)	\$200,000
3.21	Survey Equipment - GPS Total Station	\$30,000
4.006	Fleet Upgrade Program Stormwater	\$230,000
4.006	Fleet Upgrade Program Wastewater	\$920,000
4.007	Fleet Upgrade Program Water	\$505,000
GRAND TOTAL - Corporate Projects		\$10,535,000

HALIFAX WATER

Capital Budget 2016/17

Corporate Projects

Project Number	Project Name	Project Cost
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ALLOCATION BREAKDOWN:

Water - Corporate Projects - T O T A L	\$4,945,000
Wastewater - Corporate Projects -- T O T A L	\$4,842,000
Stormwater - Corporate Projects -- T O T A L	\$748,000

GRAND TOTAL - Corporate Projects ***\$10,535,000***

Note: All corporate projects are allocated as follows:

50% Water

40% Wastewater

10% Stormwater

(unless otherwise noted)

HALIFAX WATER

Capital Budget 2016/17

Summary of Routine Capital Expenditures included within Capital Budget

Project Number	Project Name	Project Cost
Water		
3.067	Valve Renewals	\$125,000
3.068	Hydrant Renewals	\$75,000
3.069	Service Line Renewals	\$190,000
3.104	Large Tapping Machine c/w electric operator and 4" to 12" cutters	\$34,000
3.271	Small Hydro Vac for valve box maintenance	\$25,000
3.335	Plastic Shell Cutters for Tapping Machine	\$12,000
3.297	Portable Valve Exerciser	\$10,000
	Confined Space Entry System for Bennery Lake Water Supply Plant	\$14,000
3.277	Temporary Water Line - Pipe materials Purchase - East Region	\$18,000
3.299	Water Distribution Pressure Monitoring Equipment	\$10,000
Wastewater		
2.357	Manhole Renewals	\$32,000
2.358	Lateral Replacements	\$2,190,000
2.161	SIR Program Flow Meters and Related Equipment	\$40,000
2.451	Miscellaneous Equipment Replacement	\$70,000
Stormwater		
1.102	Manhole Renewals	\$29,000
1.103	Catchbasin Renewals	\$29,000
1.135	Lateral Replacements	\$87,000
Corporate		
4.011	Desktop Computer Replacement Program	\$180,000
4.012	Network Infrastructure Upgrades	\$200,000
3.210	Survey Equipment - GPS Total Station	\$30,000
4.007	Fleet Upgrade Program Water	\$505,000
4.006	Fleet Upgrade Program Wastewater	\$920,000
4.006	Fleet Upgrade Program Stormwater	\$230,000

GRAND TOTAL - Routine Capital Projects
APPENDIX C

\$5,055,000



Appendix D

2016/17 Operations Budget



HALIFAX WATER
CONSOLIDATED SUMMARY OF ESTIMATED REVENUES & EXPENDITURES
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(in thousands)

DESCRIPTION	ACTUAL APR 1/14 MAR 31/15	APPROVED BUDGET * APR 1/15 MAR 31/16	PROPOSED BUDGET APR 1/16 MAR 31/17
OPERATING REVENUES	\$130,320	\$129,905	\$135,675
OPERATING EXPENDITURES	<u>\$94,381</u>	<u>\$103,614</u>	<u>\$102,425</u>
OPERATING PROFIT	<u>\$35,939</u>	<u>\$26,291</u>	<u>\$33,250</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$836	\$660	\$810
PNS FUNDING HHSP DEBT	\$2,000	\$2,000	\$2,000
MISCELLANEOUS	<u>\$219</u>	<u>\$417</u>	<u>\$481</u>
	<u>\$3,055</u>	<u>\$3,077</u>	<u>\$3,291</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$8,958	\$8,440	\$8,872
LONG TERM DEBT PRINCIPAL	\$18,638	\$20,626	\$22,652
AMORTIZATION DEBT DISCOUNT	\$163	\$172	\$199
DIVIDEND/GRANT IN LIEU OF TAXES	<u>\$4,340</u>	<u>\$4,579</u>	<u>\$4,663</u>
	<u>\$32,099</u>	<u>\$33,818</u>	<u>\$36,386</u>
 NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	 <u>\$6,896</u>	 <u>(\$4,449)</u>	 <u>\$154</u>

<i>Adjustments:</i>			
Pension - Section 3461	<u>\$562</u>	<u>\$3,086</u>	<u>\$3,086</u>
Net Profit (Loss) on a Cash Basis	<u>\$7,457</u>	<u>(\$1,363)</u>	<u>\$3,241</u>

* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

HALIFAX WATER
ESTIMATED REVENUES AND EXPENDITURES - WATER OPERATIONS
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(in thousands)

DESCRIPTION	ACTUAL APR 1/14 MAR 31/15	APPROVED BUDGET * APR 1/15 MAR 31/16	PROPOSED BUDGET APR 1/16 MAR 31/17
REVENUES			
METERED SALES	\$39,385	\$42,743	\$46,465
FIRE PROTECTION	\$9,146	\$8,032	\$7,074
PRIVATE FIRE PROTECTION SERVICES	\$558	\$1,069	\$840
BULK WATER STATIONS	\$286	\$309	\$326
CUSTOMER LATE PAY./COLLECTION FEES	\$189	\$343	\$203
MISCELLANEOUS	\$133	\$150	\$153
	<u>\$49,698</u>	<u>\$52,646</u>	<u>\$55,061</u>
EXPENDITURES			
WATER SUPPLY & TREATMENT	\$7,112	\$8,134	\$7,983
TRANSMISSION & DISTRIBUTION	\$8,317	\$9,155	\$8,710
SMALL SYSTEMS (incl. Contract Systems)	\$978	\$792	\$883
TECHNICAL SERVICES (SCADA)	\$821	\$806	\$846
ENGINEERING & INFORMATION SERVICES	\$3,490	\$3,809	\$3,848
ENVIRONMENTAL SERVICES	\$656	\$628	\$515
CUSTOMER SERVICE	\$2,101	\$2,227	\$2,251
ADMINISTRATION & PENSION	\$5,163	\$6,089	\$5,416
DEPRECIATION	\$7,386	\$8,573	\$8,561
	<u>\$36,025</u>	<u>\$40,213</u>	<u>\$39,013</u>
OPERATING PROFIT	<u>\$13,672</u>	<u>\$12,433</u>	<u>\$16,048</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$417	\$330	\$365
MISCELLANEOUS	\$151	\$344	\$408
	<u>\$567</u>	<u>\$674</u>	<u>\$773</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$2,553	\$2,108	\$2,486
LONG TERM DEBT PRINCIPAL	\$7,020	\$7,969	\$8,576
AMORTIZATION DEBT DISCOUNT	\$83	\$97	\$100
DIVIDEND/GRANT IN LIEU OF TAXES	\$4,340	\$4,579	\$4,663
	<u>\$13,996</u>	<u>\$14,753</u>	<u>\$15,825</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	<u>\$244</u>	<u>(\$1,646)</u>	<u>\$996</u>

* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

HALIFAX WATER
ESTIMATED REVENUES AND EXPENDITURES - WASTEWATER OPERATIONS
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(in thousands)

DESCRIPTION	ACTUAL APR 1/14 MAR 31/15	APPROVED BUDGET * APR 1/15 MAR 31/16	PROPOSED BUDGET APR 1/16 MAR 31/17
REVENUES			
METERED SALES	\$67,770	\$65,505	\$68,052
WASTEWATER OVERSTRENGTH AGREEMENTS	\$140	\$174	\$0
LEACHATE	\$345	\$379	\$389
CONTRACT REVENUE	\$86	\$86	\$86
SEPTAGE TIPPING FEES	\$608	\$800	\$650
DEWATERING FACILITY/ SLUDGE LAGOON	\$210	\$210	\$210
AIRLINE EFFLUENT	\$69	\$78	\$86
CUSTOMER LATE PAY./COLLECTION FEES	\$236	\$210	\$257
MISCELLANEOUS	\$105	\$121	\$133
	<u>\$69,568</u>	<u>\$67,562</u>	<u>\$69,862</u>
EXPENDITURES			
WASTEWATER COLLECTION	\$10,175	\$9,717	\$9,446
WASTEWATER TREATMENT PLANTS	\$18,446	\$18,640	\$19,425
SMALL SYSTEMS	\$982	\$1,136	\$1,251
DEWATERING FACILITY/ SLUDGE MGMT	\$491	\$767	\$556
BIOSOLIDS TREATMENT	\$64	\$101	\$101
LEACHATE CONTRACT	\$313	\$328	\$341
TECHNICAL SERVICES (SCADA)	\$1,036	\$1,191	\$1,215
ENGINEERING & INFORMATION SERVICES	\$2,723	\$3,493	\$3,629
ENVIRONMENTAL SERVICES	\$1,353	\$1,343	\$1,254
CUSTOMER SERVICE	\$1,677	\$1,844	\$1,864
ADMINISTRATION & PENSION	\$4,074	\$5,042	\$4,485
DEPRECIATION	\$10,237	\$11,674	\$11,983
	<u>\$51,571</u>	<u>\$55,277</u>	<u>\$55,551</u>
OPERATING PROFIT	<u>\$17,997</u>	<u>\$12,285</u>	<u>\$14,311</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$419	\$330	\$365
PNS FUNDING HHSP DEBT	\$2,000	\$2,000	\$2,000
MISCELLANEOUS	\$69	\$73	\$72
	<u>\$2,488</u>	<u>\$2,403</u>	<u>\$2,437</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$5,930	\$5,798	\$5,817
LONG TERM DEBT PRINCIPAL	\$10,770	\$11,747	\$12,978
AMORTIZATION DEBT DISCOUNT	\$76	\$66	\$89
	<u>\$16,776</u>	<u>\$17,612</u>	<u>\$18,884</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	<u>\$3,709</u>	<u>(\$2,924)</u>	<u>(\$2,136)</u>

* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

HALIFAX WATER
ESTIMATED REVENUES AND EXPENDITURES - STORMWATER OPERATIONS
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(in thousands)

DESCRIPTION	ACTUAL APR 1/14 MAR 31/15	APPROVED BUDGET * APR 1/15 MAR 31/16	PROPOSED BUDGET APR 1/16 MAR 31/17
REVENUES			
STORMWATER SITE GENERATED SERVICE	\$7,070	\$5,669	\$6,708
STORMWATER RIGHT-OF-WAY SERVICE	\$3,881	\$3,927	\$3,881
CUSTOMER LATE PAY./COLLECTION FEES	\$12	\$10	\$70
MISCELLANEOUS	\$91	\$91	\$93
	<u>\$11,055</u>	<u>\$9,697</u>	<u>\$10,753</u>
EXPENDITURES			
STORMWATER COLLECTION	\$3,955	\$5,017	\$4,761
TECHNICAL SERVICES (SCADA)	\$37	\$28	\$28
ENGINEERING & INFORMATION SERVICES	\$557	\$568	\$590
ENVIRONMENTAL SERVICES	\$647	\$825	\$835
CUSTOMER SERVICE	\$343	\$300	\$303
ADMINISTRATION & PENSION	\$834	\$820	\$729
DEPRECIATION	\$412	\$565	\$614
	<u>\$6,785</u>	<u>\$8,123</u>	<u>\$7,862</u>
OPERATING PROFIT	<u>\$4,270</u>	<u>\$1,573</u>	<u>\$2,891</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$0	\$0	\$81
	<u>\$0</u>	<u>\$0</u>	<u>\$81</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$475	\$534	\$569
LONG TERM DEBT PRINCIPAL	\$848	\$910	\$1,098
AMORTIZATION DEBT DISCOUNT	\$4	\$9	\$11
	<u>\$1,327</u>	<u>\$1,453</u>	<u>\$1,678</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	<u>\$2,942</u>	<u>\$120</u>	<u>\$1,294</u>


* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

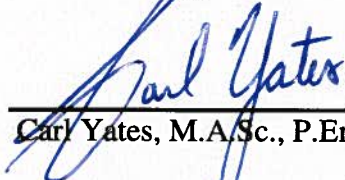
HALIFAX WATER
ESTIMATED REVENUES & EXPENDITURES, SEGREGATED BY REGULATED AND UNREGULATED ACTIVITIES
PROPOSED OPERATING BUDGET
APRIL 1, 2016 to MARCH 31, 2017
(in thousands)

DESCRIPTION	ACTUAL	APPROVED	PROPOSED
	APR 1/14 MAR 31/15	BUDGET * APR 1/15 MAR 31/16	BUDGET APR 1/16 MAR 31/17
REGULATED ACTIVITIES			
REVENUES			
METERED SALES	\$107,155	\$108,248	\$114,516
FIRE PROTECTION	\$9,146	\$8,032	\$7,074
PRIVATE FIRE PROTECTION	\$558	\$1,069	\$840
STORMWATER SITE GENERATED SERVICE	\$7,070	\$5,669	\$6,708
STORMWATER RIGHT-OF-WAY SERVICE	\$3,881	\$3,927	\$3,881
OTHER OPERATING REVENUE	\$1,172	\$1,386	\$1,213
	<u>\$128,982</u>	<u>\$128,331</u>	<u>\$134,234</u>
EXPENDITURES			
WATER SUPPLY & TREATMENT	\$7,112	\$8,128	\$7,976
TRANSMISSION & DISTRIBUTION	\$8,317	\$9,155	\$8,710
WASTEWATER & STORMWATER COLLECTION	\$14,100	\$14,721	\$14,195
WASTEWATER TREATMENT PLANTS	\$18,446	\$18,640	\$19,425
SMALL SYSTEMS	\$1,948	\$1,913	\$2,116
SCADA, CONTROL & PUMPING	\$1,894	\$2,024	\$2,087
ENGINEERING & INFORMATION SERVICES	\$6,770	\$7,861	\$8,058
ENVIRONMENTAL SERVICES	\$2,656	\$2,796	\$2,605
CUSTOMER SERVICE	\$4,093	\$4,337	\$4,382
ADMINISTRATION & PENSION	\$10,042	\$11,870	\$10,549
DEPRECIATION	\$18,030	\$20,812	\$21,158
	<u>\$93,409</u>	<u>\$102,256</u>	<u>\$101,263</u>
OPERATING PROFIT	<u>\$35,573</u>	<u>\$26,075</u>	<u>\$32,971</u>
FINANCIAL REVENUES (NON-OPERATING)			
INVESTMENT INCOME	\$836	\$660	\$810
MISCELLANEOUS	\$2,023	\$2,074	\$2,066
	<u>\$2,859</u>	<u>\$2,734</u>	<u>\$2,876</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$8,958	\$8,440	\$8,858
LONG TERM DEBT PRINCIPAL	\$18,638	\$20,626	\$22,632
AMORTIZATION DEBT DISCOUNT	\$163	\$172	\$199
DIVIDEND/GRANT IN LIEU OF TAXES	\$4,340	\$4,579	\$4,663
	<u>\$32,099</u>	<u>\$33,818</u>	<u>\$36,353</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES - REGULATED ACTIVITIES	<u>\$6,333</u>	<u>(\$5,008)</u>	<u>(\$506)</u>
UNREGULATED ACTIVITIES			
REVENUES			
AEROTECH SEPTAGE TIPPING FEES	\$608	\$800	\$650
LEACHATE	\$345	\$379	\$389
CONTRACT REVENUE	\$86	\$86	\$86
DEWATERING FACILITY/ SLUDGE LAGOON	\$210	\$210	\$210
AIRLINE EFFLUENT	\$69	\$78	\$86
ENERGY PROJECTS	\$9	\$115	\$184
MISCELLANEOUS	\$21	\$21	\$22
	<u>\$1,347</u>	<u>\$1,689</u>	<u>\$1,625</u>
EXPENDITURES			
- DIRECT			
WATER SUPPLY & TREATMENT	\$12	\$15	\$18
WASTEWATER TREATMENT	\$898	\$1,196	\$998
ENERGY PROJECTS	\$63	\$0	\$0
SPONSORSHIPS & DONATIONS	\$57	\$56	\$56
DEPRECIATION	\$6	\$0	\$0
	<u>\$1,036</u>	<u>\$1,267</u>	<u>\$1,072</u>
- INDIRECT (ADMINISTRATION)			
	\$0	\$91	\$91
	<u>\$1,036</u>	<u>\$1,358</u>	<u>\$1,163</u>
OPERATING PROFIT	<u>\$312</u>	<u>\$331</u>	<u>\$463</u>
FINANCIAL REVENUES (NON-OPERATING)			
MISCELLANEOUS	\$252	\$228	\$231
	<u>\$252</u>	<u>\$228</u>	<u>\$231</u>
FINANCIAL EXPENDITURES (NON-OPERATING)			
LONG TERM DEBT INTEREST	\$0	\$0	\$14
LONG TERM DEBT PRINCIPAL	\$0	\$0	\$19
AMORTIZATION DEBT DISCOUNT	\$0	\$0	\$0
	<u>\$0</u>	<u>\$0</u>	<u>\$33</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES - UNREGULATED ACTIVITIES	<u>\$563</u>	<u>\$559</u>	<u>\$660</u>
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES - COMBINED ACTIVITIES	<u>\$6,896</u>	<u>(\$4,449)</u>	<u>\$154</u>

* Revised 2015/16 Operating Budget as approved by the Board of Directors, July 30, 2015.

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: 
Cathie O'Toole, MBA, CPA, CGA, Director, Corporate Services/CFO

APPROVED: 
Carl Yates, M.A./Sc., P.Eng., General Manager

DATE: January 21, 2016

SUBJECT: Pension Plan Amendment #10

ORIGIN

Pension Plan Amendment approved by the HRWC Board as part of Collective Bargaining; and collective agreements with CUPE Locals 1431 and 227 signed August 17, 2015.

RECOMMENDATION

It is recommended that the HRWC Board:

1. Approve revised Pension Plan Amendment #10, as attached, and the submission of a certified copy of the Amendment to the Superintendent of Pensions.

BACKGROUND

Pension Plan Amendment 10 to implement plan design changes agreed to as part of collective bargaining was filed with the Superintendent of Pensions on November 23, 2015.

DISCUSSION

The Halifax Regional Water Commission Employees' Pension Plan is the first defined benefit pension plan in Nova Scotia going through substantial amendment under the new Pension Benefits Act and Regulations which came into effect June 1, 2015. As a result, there was some ambiguity around how to interpret the new regulations.

On December 9, 2015, a response from the Superintendent of Pensions was received, which posed some questions for clarification and rejected some of the proposed language in the Amendment. There is a difference in the interpretation of how the Act and Regulations apply, which has resulted in some changes in the proposed wording of the Amendment.

ITEM # 8
HRWC Board
January 28, 2018

A revised Amendment 10 was submitted to the Superintendent on January 2, 2016 along with a letter from the plan actuary Eckler Ltd., providing additional clarification. That letter, revised Amendment 10, and the response from the Superintendent are attached.

As a reminder, there are some agreements between the Employer and Locals 227 and 1431 reflected in the MOU Pensions that are not reflected in the Plan text, but the MOU on Pensions should be regarded as a companion document to the Pension Plan text as well as the Collective Agreements.

Contribution rates for the Employer and Employees will be adjusted in April or May, depending upon timing of the receipt of the Actuarial Valuation at January 1, 2016. The extra 0.4% contribution from employees will commence when the rates are adjusted, and will continue until such time as going concern unfunded liability special payments established on or before January 1, 2016 (as measured by the January 2016 Actuarial Valuation) are eliminated.

BUDGET IMPLICATIONS

Pension expenses are projected to decrease by 17.3% or \$1.7 million in 2016/17 due to the re-design of the HRWC Employees' Pension Plan. The reduction in pension plan expenses will not be known with certainty until the Actuarial Valuation at January 1, 2016 is completed.

ATTACHMENT

December 22, 2015, Letter to Superintendent of Pensions from the plan actuary Eckler Ltd.
January 19, 2016, Response from the Superintendent of Pensions
Revised Pension Plan Amendment 10

Report Prepared by:



Cathie O'Toole, MBA, CPA, CGA Director, Corporate Services/CFO

December 22, 2015

Ms. Nancy MacNeill Smith
Superintendent of Pension
Pension Regulation Division
NOVA SCOTIA FINANCE & TREASURY BOARD
1723 Hollis St, 4th Floor
HALIFAX NS B3J 1V9

Dear Nancy:

Re: Halifax Regional Water Commission Employees' Pension Plan (Registration Number 0344614)

Thank you for your letter of December 9th, addressed to Jim Spurr, regarding concerns with Amendment 10 to the above-noted plan. Thank you, as well, for the time you took discussing them with me last week. I have been asked to provide you with a follow-up response.

Your letter identified two sources of concern (although I believe only the second one made the amendment unacceptable as submitted); the following is a specific response to each.

The first paragraph of Section 4.1

By way of background, Section 4.1 of the HRWC plan rules was comprised of two paragraphs immediately prior to the amendment. The first of these read as follows (prior to the amendment):

A Member's "Required Contributions" shall be such percentage of the Member's Earnings as is required to pay the cost of providing benefits as determined from time to time by the Actuary, on an equally shared basis with the Commission.

Amendment 10 proposed to replace this paragraph with two paragraphs, the first of which reads as follows:

A Member's "Required Contributions" prior to January 1, 2016 shall be such percentage of the Member's Earnings as is required to pay the cost of providing benefits as determined from time to time by the Actuary, on an equally shared basis with the Commission.

The first concern expressed in your letter, wherein you suggest that "the first paragraph of Section 4.1 ... has been amended to state that employee contributions are the cost of providing benefits as determined from time to time by the actuary, on an equally shared basis with the Commission", is, with respect, based on an inaccurate premise. It has *not* been amended to "state that employee contributions are the cost of providing benefits as determined from time to time by the actuary, on an equally shared basis with the Commission" – this wording has, in fact, ***been preserved and is unchanged***. Rather, the first paragraph has been amended only to add a time reference, that being that this part of the "Required Contributions" definition is applicable prior to January 1, 2016.

The (new) second paragraph of Section 4.1, as added by Amendment 10

Your letter indicated that the (new) second paragraph of amended Section 4.1 was unacceptable. The paragraph reads as follows:

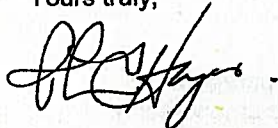
Commencing January 1, 2016, A Member's "Required Contributions" shall be such percentage of the Member's Earnings as is required to pay one half the current service cost as determined from time to time by the Actuary, plus an additional 0.4% of Earnings until such time as going concern unfunded liability special payments established on or before January 1, 2016 (as measured by the January 2016 Actuarial Valuation) are eliminated.

In our telephone discussion, you indicated that the egregious wording was to be found in the phrase "*until such time as going concern unfunded liability special payments established on or before January 1, 2016 (as measured by the January 2016 Actuarial Valuation) are eliminated*", because it suggested that part of the employee contribution formula was contingent on the existence of an unfunded liability. We have enclosed a revised version of Amendment 10 wherein this language has been eliminated, and the Member's "Required Contributions", commencing January 1, 2016, are determined simply as "*such percentage of the Member's Earnings as is required to pay one half the current service cost as determined from time to time by the Actuary, plus an additional 0.4% of Earnings*".

Please note that the administrative implementation of any contribution adjustments will, as has been the case in the past, comply with the Regulations under the PBA.

I trust the concerns expressed in your letter to Mr. Spurr have been adequately addressed through our discussion, this correspondence, and the revised amendment. Should you have questions, or ongoing concerns, however, I would be happy to get together at your convenience, either in person or via the phone – please don't hesitate!

Yours truly,



Peter C. Hayes, FCIA, FSA

cc: Cathie O'Toole, Halifax Regional Water Commission

HALIFAX REGIONAL WATER COMMISSION
EMPLOYEES' PENSION PLAN
(As Amended and Restated Effective June, 1998)

AMENDMENT NO. 10

WHEREAS the Halifax Water Commission established the original Employees' Pension Plan for its employees with effect from January, 1972 and, as the Halifax Regional Water Commission, consolidated and restated the Pension Plan effective January 1, 2011 to reflect the Plan text effective June, 1998 together with the 8 amendments that were made subsequent to that date;

AND WHEREAS an additional amendment was made August 2015;

AND WHEREAS Section 14.1 of the Pension Plan provides for its amendment from time to time;

AND WHEREAS the Halifax Regional Water Commission wishes to amend the Pension Plan for the purpose of providing for the changes to the pension plan as agreed to with CUPE Locals 227 and 1431 as part of collective bargaining (as referenced in the Memorandum of Understanding on Pension), and approved by the HRWC Board on July 13, 2015;

NOW THEREFORE the Halifax Regional Water Commission Employees' Pension Plan is hereby further amended as follows:

1. Section 1.5 "Best Average Earnings" is amended as follows:

"Best Average Earnings" means the average of the best seven consecutive years of Earnings paid to the Employee by the Commission.

Notwithstanding the above, for purposes of determining the pension in section 5.3(1), in respect of Credited Service prior to January 1, 2016, the Best Average Earnings should not be less than the average of the best five consecutive years of Earnings paid to the Employee by the Commission in years prior to 2016.

2. Section 1.15 (1) is deleted and replaced with the following:

- (1) in respect of the annualized amount of lifetime retirement benefits payable to the Member for the calendar year in which the lifetime retirement benefits commence to be paid, an amount equal to the sum of A plus B, where

A is the product of

- (a) The number of years of Pensionable Service of the Member prior to January 1, 2016, and

- (b) the lesser of
 - (i) \$1,722 or any higher amount per the defined benefit limit as prescribed by the Income Tax Act, and
 - (ii) 2% of the average best three consecutive years of Compensation paid to the Employee

and

B is the product of

- (c) The number of years of Pensionable Service of the Member after December 31, 2015, and
- (d) the lesser of
 - (i) the defined benefit limit as prescribed by the Income Tax Act, subject to a maximum of \$2,818.89 in years 2016 through 2023, increasing by 1% per annum in years thereafter, and
 - (ii) 2% of the average best three consecutive years of Compensation paid to the Employee

3. Section 4.1 is amended by deleting the first paragraph and replacing it with the following:

A Member's "Required Contributions" prior to January 1, 2016 shall be such percentage of the Member's Earnings as is required to pay the cost of providing benefits as determined from time to time by the Actuary, on an equally shared basis with the Commission.

Commencing January 1, 2016, A Member's "Required Contributions" shall be such percentage of the Member's Earnings as is required to pay one half the current service cost as determined from time to time by the Actuary, plus an additional 0.4% of Earnings.

4. Section 5.10 is amended as follows:

The wording "the lesser of 2% or the increase in the Consumer Price Index over the previous calendar year" is deleted, and replaced with "i) the lesser of 2% or the increase in the Consumer Price Index over the previous calendar year, in respect of the portion of the pension associated with Credited Service prior to January 1, 2016, and ii) the lesser of 1% or the increase in the Consumer Price Index over the previous calendar year, in respect of the portion of the pension associated with Credited Service after December 31, 2015."

January 19, 2016

Registration No: C344614

Mr. Peter Hayes, FCIA, FSA
Eckler Ltd.
1969 Upper Water Street, Suite 503
Halifax, NS B3J 3R7

Dear Peter:

Re: Halifax Regional Water Commission Employees' Pension Plan

Further to your letter of December 22, 2015, written in respect of Amendment No. 10 submitted by Jim Spurr on November 23, 2015, I accept that the first paragraph of Section 4.1 as revised by the Amendment does not need to be revised to meet the requirements of the *Pension Benefits Act*. I questioned the wording as questions arise when such wording is used as to the effective date of increased contributions for members and how retroactive contributions are made. I thought it would be an appropriate time to make clarifications on that wording.

The revisions to the second paragraph of Section 4.1 as revised by the Amendment, that revised paragraph would be acceptable.

Please submit a certified copy of the revised amendment for my consideration.

Sincerely,


Nancy MacNeill Smith
Superintendent of Pensions

c: Jim Spurr
Cathie O'Toole

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Cathie O'Toole
Cathie O'Toole, MBA, CPA, CGA, Director of Corporate Services

for Paul Yates
Reid Campbell, P.Eng., Director of Water Services

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

Kenda MacKenzie
Kenda MacKenzie, P.Eng., Director of Regulatory Services

APPROVED: Paul Yates
Carl D. Yates, M.A.Sc., P.Eng., General Manager

SUBJECT: Financial and Operations Monthly Information Report

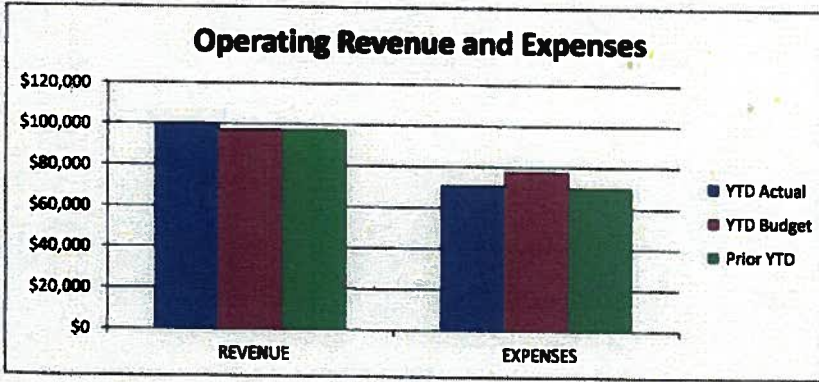
INFORMATION REPORT

ORIGIN:

Regular monthly update.

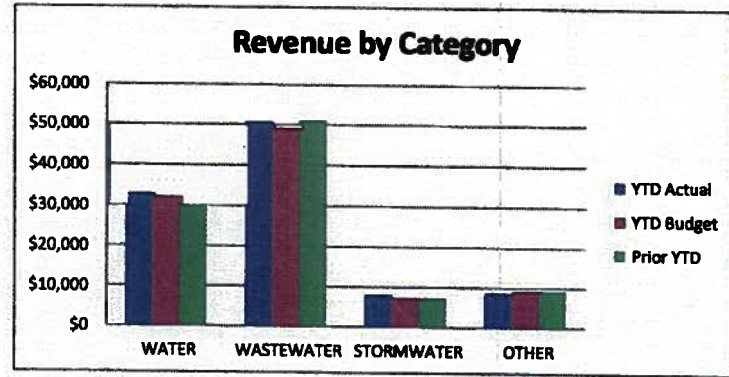
This report provides a high level overview of financial and operational performance for the utility. Financial results are presented first, followed by indicators and statistics for water and wastewater.

HALIFAX WATER
UNAUDITED FINANCIAL INFORMATION
APRIL 1/15 - DECEMBER 31/15 (9 MONTHS)
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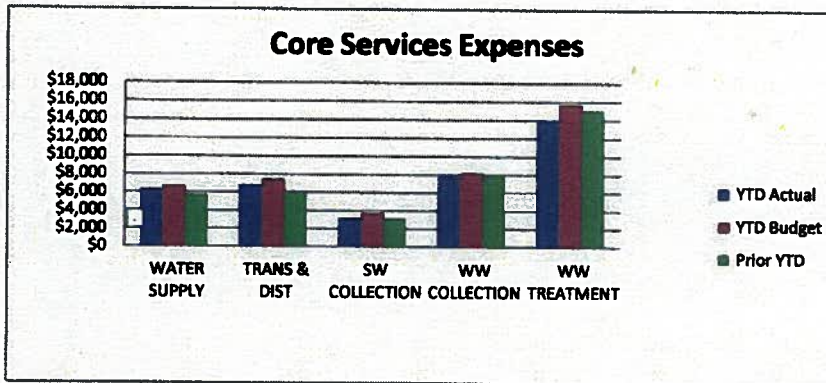
OPERATING REVENUE AND EXPENSES

	YTD Actual	YTD Budget	Prior YTD	% of Budget
REVENUE	\$100,045	\$97,429	\$97,489	77.01%
EXPENSES	\$70,995	\$77,710	\$70,203	68.52%
	\$29,050	\$19,710	\$27,286	110.49%



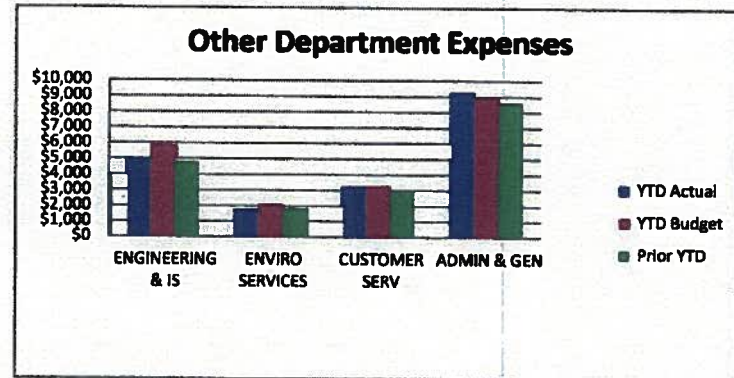
REVENUE BY CATEGORY

	YTD Actual	YTD Budget	Prior YTD
WATER	\$32,777	\$32,058	\$29,992
WASTEWATER	\$50,715	\$49,129	\$51,111
STORMWATER	\$7,956	\$7,187	\$7,262
OTHER	\$8,597	\$9,046	\$9,124
	\$100,045	\$97,429	\$97,489



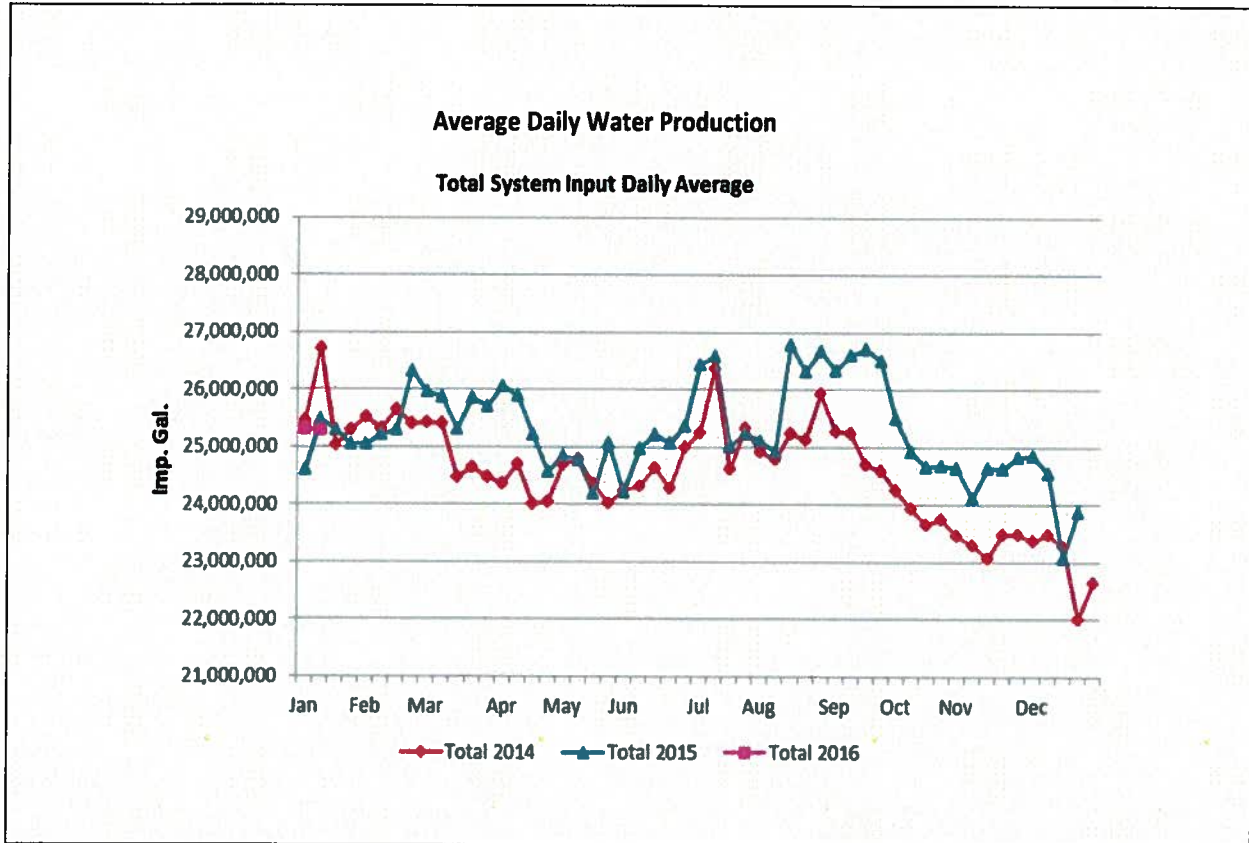
CORE SERVICES EXPENSES

	YTD Actual	YTD Budget	Prior YTD	% of Budget
WATER SUPPLY	\$6,269	\$6,695	\$5,735	70.23%
TRANS & DIST	\$8,772	\$7,471	\$6,154	67.99%
SW COLLECTION	\$3,158	\$3,784	\$3,175	62.80%
WW COLLECTION	\$7,816	\$8,181	\$7,832	71.66%
WW TREATMENT	\$14,011	\$15,729	\$15,034	66.81%
	\$38,026	\$41,869	\$37,929	68.13%



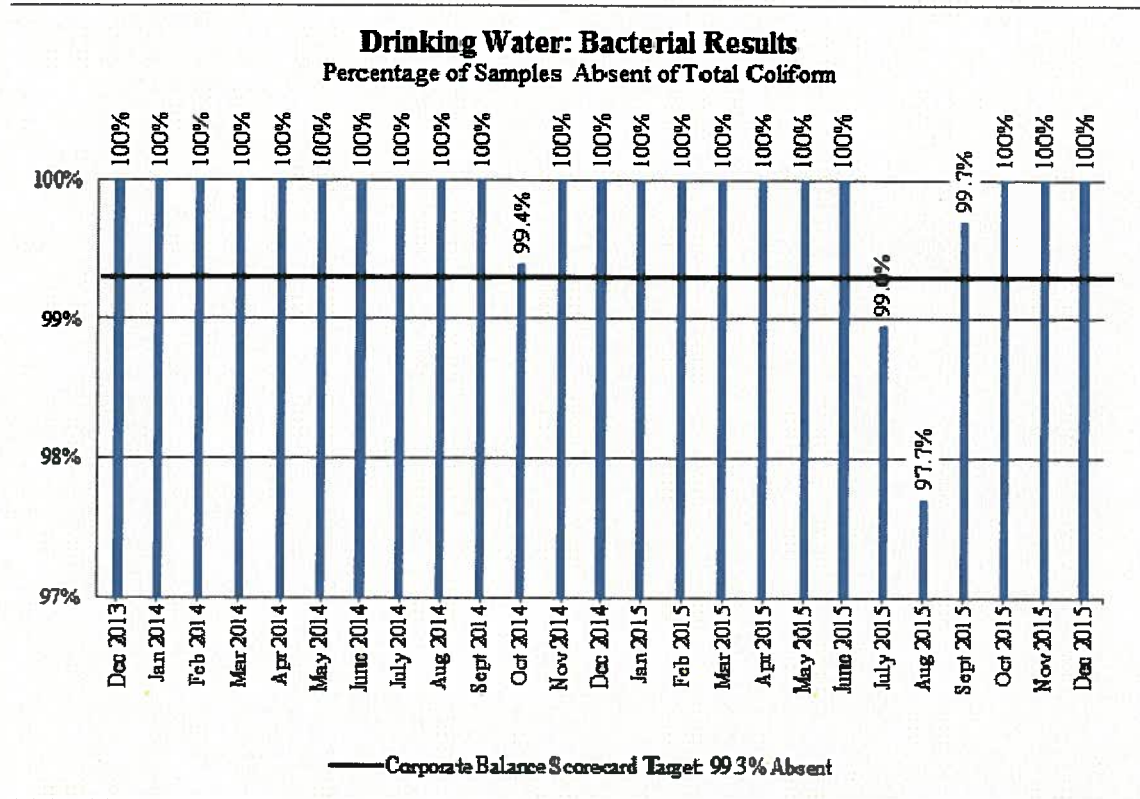
OTHER DEPARTMENT EXPENSES

	YTD Actual	YTD Budget	Prior YTD
ENGINEERING & IS	\$4,921	\$5,903	\$4,817
ENVIRO SERVICES	\$1,789	\$2,097	\$1,896
CUSTOMER SERV	\$3,274	\$3,279	\$2,956
ADMIN & GEN	\$9,257	\$8,963	\$8,616
	\$19,242	\$20,242	\$18,284



Regional Water Main Break/Leak Data		
Year	Total Breaks/Leaks	Current 12 Month Rolling Total (up to January 17/16)
2014/15	210	217
2013/14	213	
2012/13	262	
2011/12	205	
2010/11	198	
Total	1088	
Yr. Avg.	217.6	

Water Accountability
Losses per Service Connection/Day (International Water Association Standard)
<i>Period Ending September 30, 2015</i>
Real Losses: 256 litres
CBS Target: 180



Water Quality Master Plan Objectives				
2015-2016 Q3				
Objective	Total Sites	% of Sites Achieving Target	All Sites: 90th Percentile < 15 µg/L	CBSC Awarded Points
Disinfection	64	95%	---	15
Total Trihalomethanes	24	92%	---	13
Halacetic Acids	21	100%	---	20
Particle Removal	5	98%	---	18
Corrosion Control*	69	---	8.88	20
TOTAL				86

Score: 86/100

ITEM# 1-I

Page 5 of 17
 HRWC Board
 January 28, 2016

All waste water treatment facilities have had their compliance criteria changed by NSE. Each facility in this report is assessed based on monthly or quarterly averages, depending on the averaging period specified in its Approval.

The following wastewater facilities had new NSE Approvals issued in 2015 with new requirements, as noted:

New parameters added – Lakeside (BLT), Mill Cove, Springfield, Uplands, Aerotech, Belmont, Frame, Lockview, Middle Musquodoboit.

Lower limits (some parameters) – Mill Cove, Aerotech, Belmont, Frame, Lockview, Middle Musquodoboit.

These changes have tended to reduce the apparent performance of these facilities. Operations staff are working to achieve full compliance with any new Approval requirements.

Wastewater Treatment Facility	Wastewater Treatment Facility Compliance Summary																		Q4 Toxicity	Trend			
	Rolling Averages - October, November, December 2015																						
	CBOD ₅ (mg/L)		TSS (mg/L)		F. coliform (CFU/100mL)		E. coli (counts/100mL)		pH		Ammonia (mg/L)		O-Phosphate (mg/L)		Phosphorous (mg/L)		TRC (mg/L)				Dissolved Oxygen (mg/L)		
NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.				
Halifax	50	33	40	20	5000	6450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Continued
Dartmouth	50	23	40	24	5000	4022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Improved
Herring Cove	50	14	40	10	5000	234	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Continued
Eastern Passage	50	8	40	7	5000	45	-	-	6.5-9	7.1	-	-	-	-	-	-	-	-	-	-	-	-	Continued
Mill Cove	25	14	25	21	-	-	200	1280	6.5-9	6.8	-	-	-	-	-	-	-	-	-	-	-	Not acutely lethal	Continued
Springfield	20	5	20	2	-	-	200	2296	6-9	8.6	-	-	-	-	-	0.02	0.24	-	-	-	-	Not acutely lethal	Continued
Belmont	25	30	25	59	-	-	200	1842	6-9	7.1	-	-	-	-	-	0.02	0.17	-	-	-	-	-	Declined
Frame	20	16	20	64	-	-	200	6900	6.5-9	6.6	-	-	-	-	-	0.02	0.11	-	-	-	-	-	Continued
Middle Musq.	20	5	20	18	-	-	200	381	6-9	7.4	-	-	-	-	-	-	-	-	-	-	-	-	Declined
Uplands	20	9	20	6	-	-	200	17	6-9	7.0	-	-	-	-	-	-	-	-	-	-	-	-	Continued
Aerotech	5	4	5	7	-	-	200	10	6-9	7.3	5.7W 1.2S	0.3	-	0.5	0.2	-	-	-	-	-	-	Not acutely lethal	Continued
North Preston	10	5	10	2	200	10	-	-	6.5-9	7.3	3	0.3	1.5	0.1	-	-	-	-	-	-	-	-	Continued
Lockview	20	7	20	16	-	-	200	16	6.5-9	7.6	8S	3.2	-	1.2S	0.8	-	-	-	-	-	-	-	Continued
Steeves (Wellington)	15	5	15	2	200	10	-	-	6.5-9	7.7	3	8.1	1	0.1	-	-	-	-	-	-	-	-	Declined
BLT	15	9	20	17	-	-	200	14	6.5-9	7.3	5W 3S	12.4	-	3W 1S	1.2	0.02	0.15	5	8.8	-	-	Not acutely lethal	Continued
Average of all Facilities	12	18	1795	1417.2	7.3	4.8	0.1	0.7	0.2	8.8													

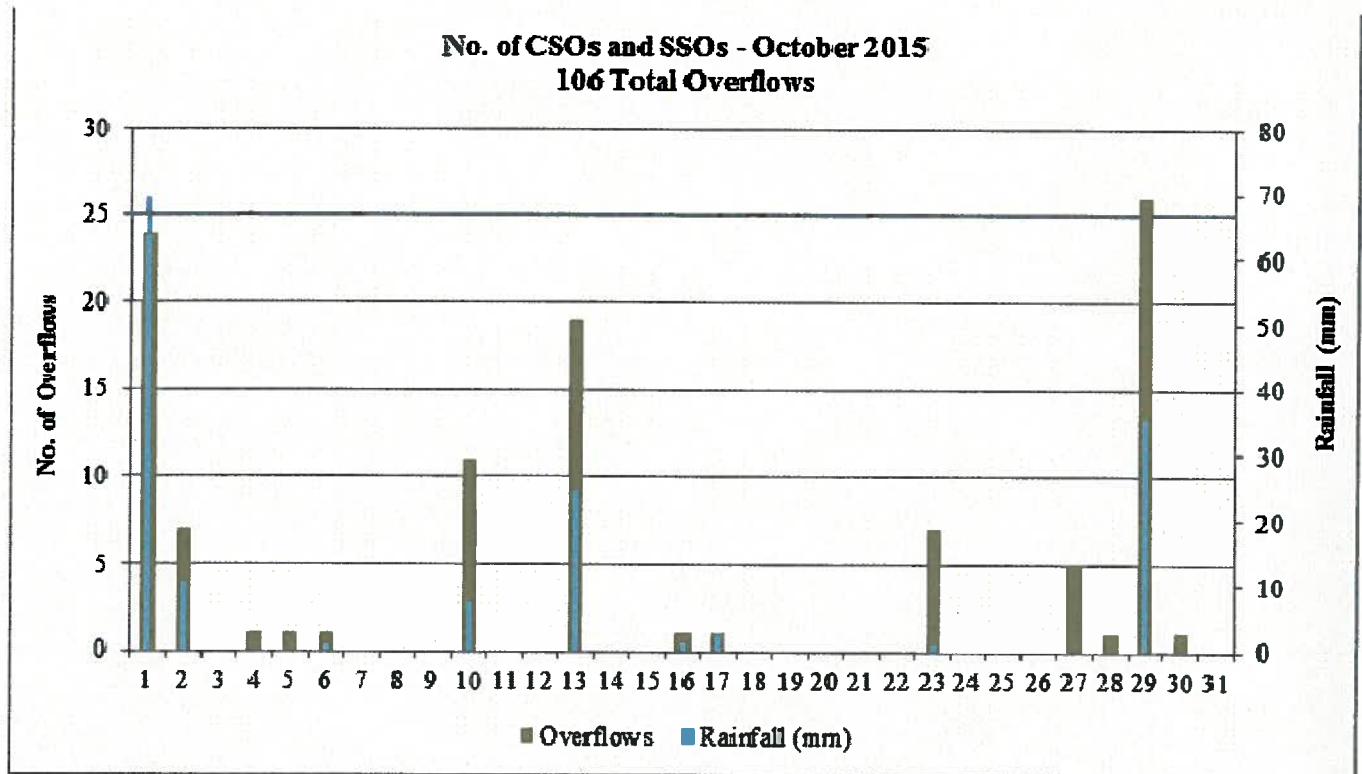
NOTES & ACRONYMS:

CBOD₅ - Carbonaceous 5-Day Biochemical Oxygen Demand
 TSS - Total Suspended Solids
 TRC - Total Residual Chlorine
 W / S - Winter / Summer compliance limits

LEGEND

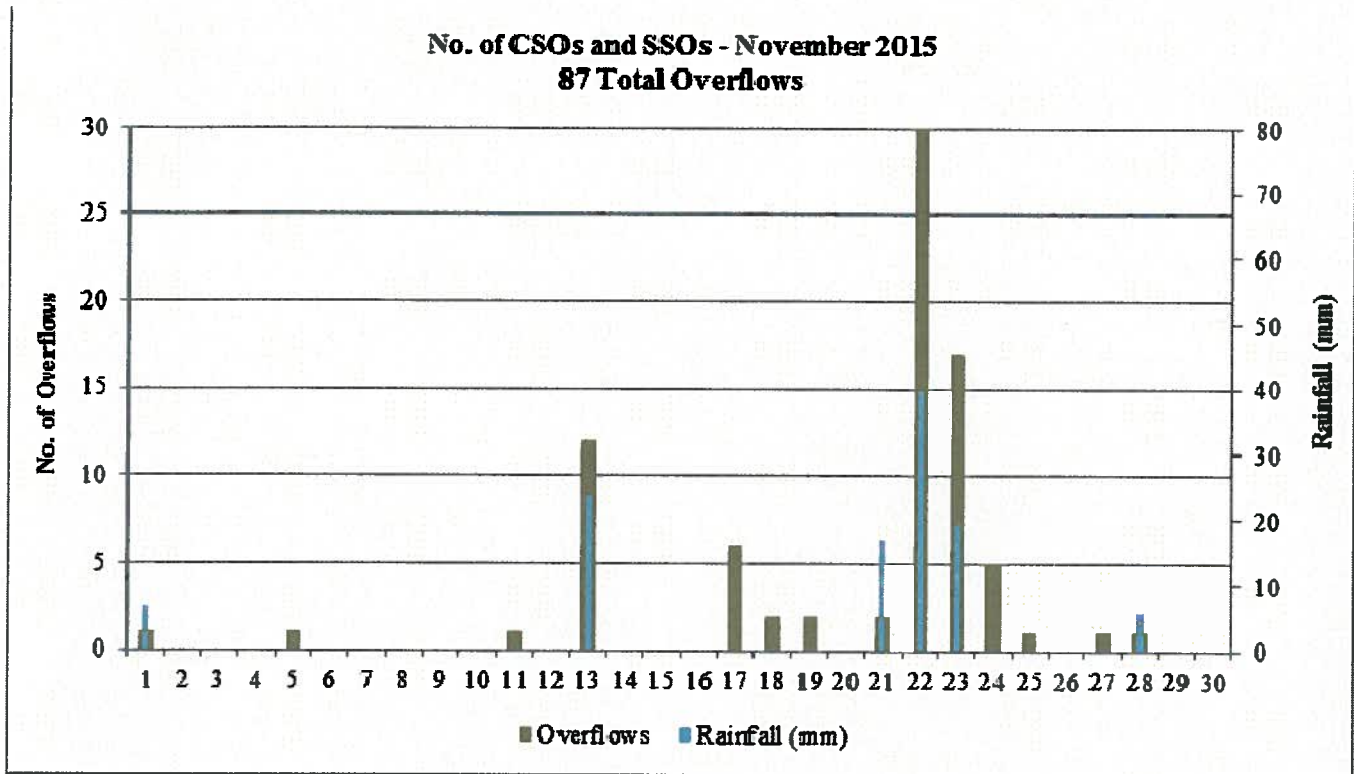
NSE Compliant
 NSE Non-Compliant

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., Belmont, 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



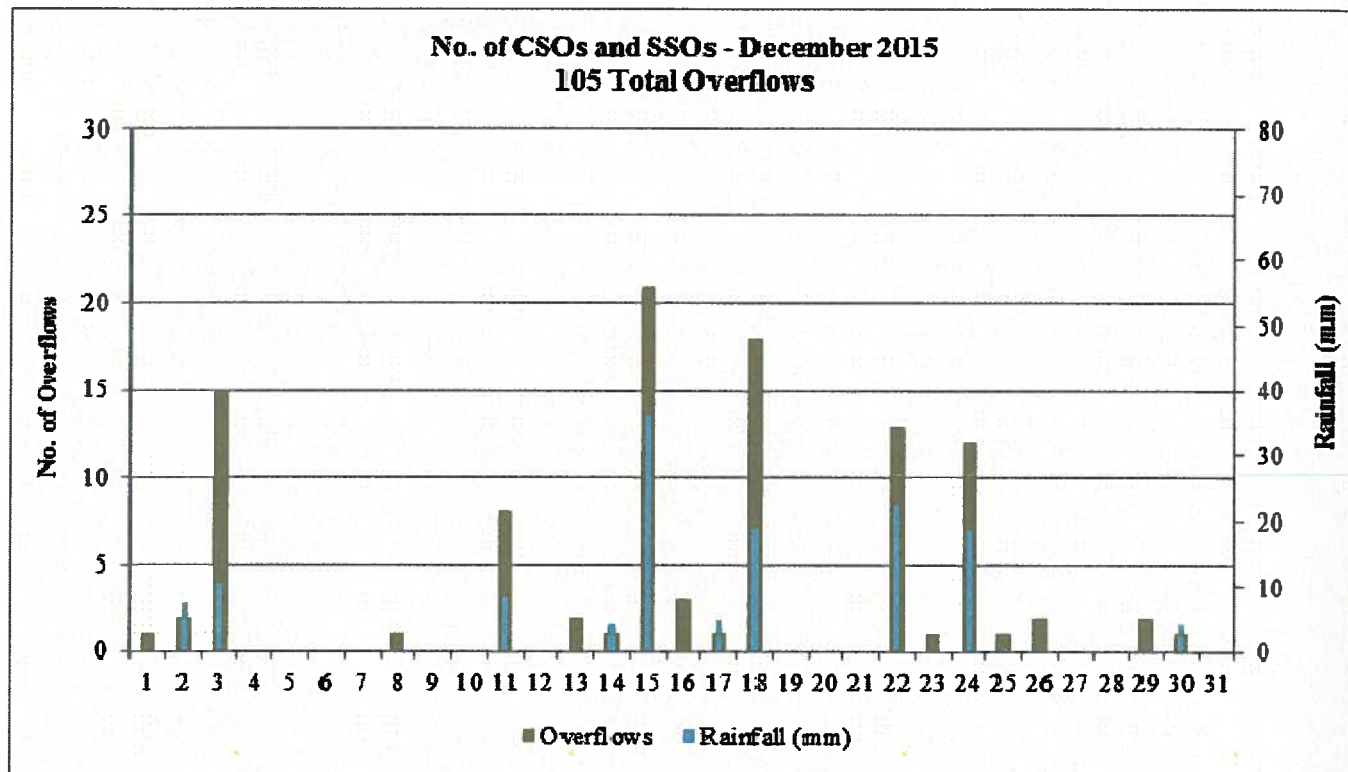
NOTES & ACRONYMS: CSO - Combined Sewer Overflow SSO - Sanitary Sewer Overflow

- Rainfall data is from Halifax Water's rain gauge at the Halifax WWTF.
- There were nine overflows on days when there was no recorded rainfall, as follows:
 1. October 4: The CSO at the Ferguson Road CSO was due to a mechanical failure caused by debris in the valve chamber.
 2. October 5: The CSO at the Ferguson Road CSO was due to a mechanical failure caused by debris in the valve chamber. The chamber was cleaned on October 5th.
 3. October 27: The CSOs at the Old Ferry Road PS & CSO, Jamieson Street PS & CSO, Maitland Street PS & CSO, Ferguson Road CSO and Lyle Street CSO were due to planned maintenance at the Dartmouth WWTF.
 4. October 28: The SSO at the Herring Cove PS was due to a scheduled shutdown to allow for planned maintenance at the WWTF.
 5. October 30: The SSO at the Leiblin Drive PS was completely diverted by a jet truck.



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 eighteen overflows on days when there was no recorded rainfall, as follows:
 1. November 5: The SSO at the Yacht Club PS was due to planned maintenance at the PS.
 2. November 11: The CSO at the Upper Water Street CSO was due to a valve blockage caused by debris.
 3. November 17: The CSOs at the Ferguson Road CSO, Jamieson Street PS & CSO, Maitland Street PS & CSO, Old Ferry Road PS & CSO and Lyle Street CSO were due to planned maintenance at the Dartmouth WWTF. The SSO at the Shore Drive PS was due to overflow resulting from a forcemain break.
 4. November 18: The CSOs at the Lyle Street CSO and Jamieson Street PS & CSO were due to planned maintenance at the Dartmouth WWTF.
 5. November 19: The CSOs at the Lyle Street CSO and Jamieson Street PS & CSO were due to planned maintenance at the Dartmouth WWTF.
 6. November 24: The CSOs at the Ferguson Road CSO, Lyle Street CSO and Maitland Street PS & CSO were due to rainfall on the previous day. The SSO at Fish Hatchery Park PS occurred for the same reason.
 7. November 25: The SSO at Fish Hatchery Park PS was due to rainfall on November 23.
 8. November 27: The CSO at the Ferguson Road CSO was due to a mechanical failure caused by debris.



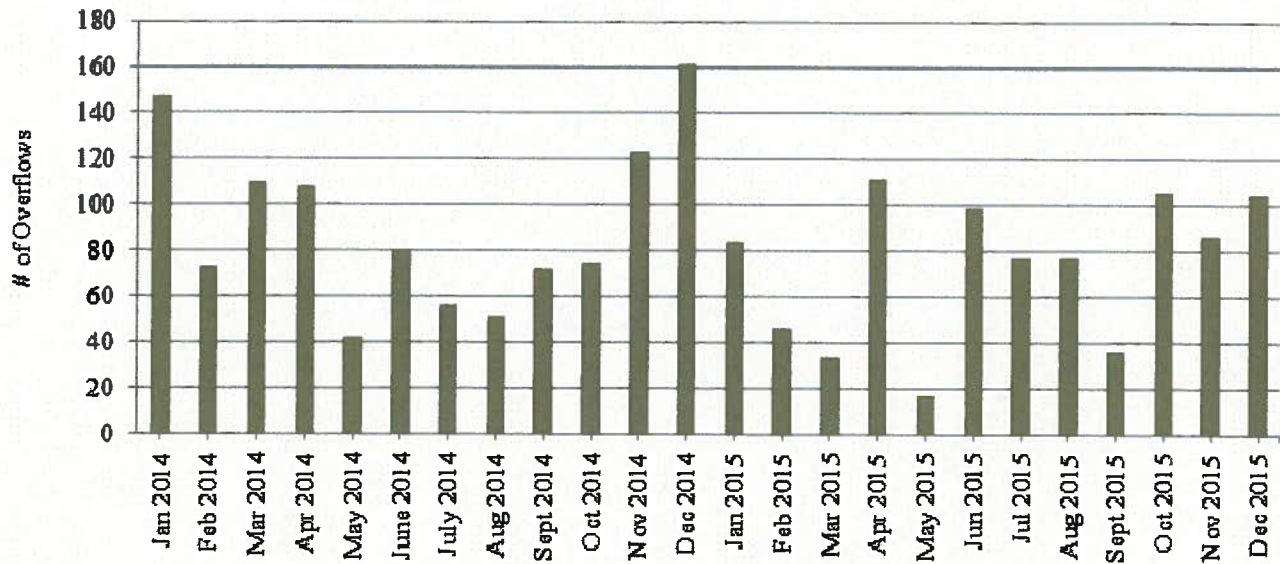
NOTES & ACRONYMS: CSO - Combined Sewer Overflow SSO - Sanitary Sewer Overflow

- Rainfall data is from Halifax Water's rain gauge at the Halifax WWTF.
- There were thirteen overflows on days when there was no recorded rainfall, as follows:
 1. December 1: The CSO at the Maitland Street PS & CSO was due to a blockage caused by debris.
 2. December 8: The cause of the CSO at the Lyle Street CSO is unknown.
 3. December 13: The CSO at the Duffus Street PS was due to mechanical failure caused by a power outage. The SSO at the Herring Cove PS was due to mechanical failure caused by a power outage at the Herring Cove WWTF. Backup power and communications both failed.
 4. December 16: The cause of the CSO at the Lyle Street CSO is unknown. The CSO at the Maitland Street PS & CSO and SSO at the Beaver Crescent PS were due to rainfall on the previous day.
 5. December 23: The SSO at the Beaver Crescent PS was due to rainfall on the previous day.
 6. December 25: The CSO at the Lyle Street CSO was due to mechanical failure.
 7. December 26: The CSOs at the Ferguson Road CSO and the Lyle Street CSO were due to mechanical failures.
 8. December 29: The CSOs at the Ferguson Road CSO and the Lyle Street CSO were due to mechanical failures.

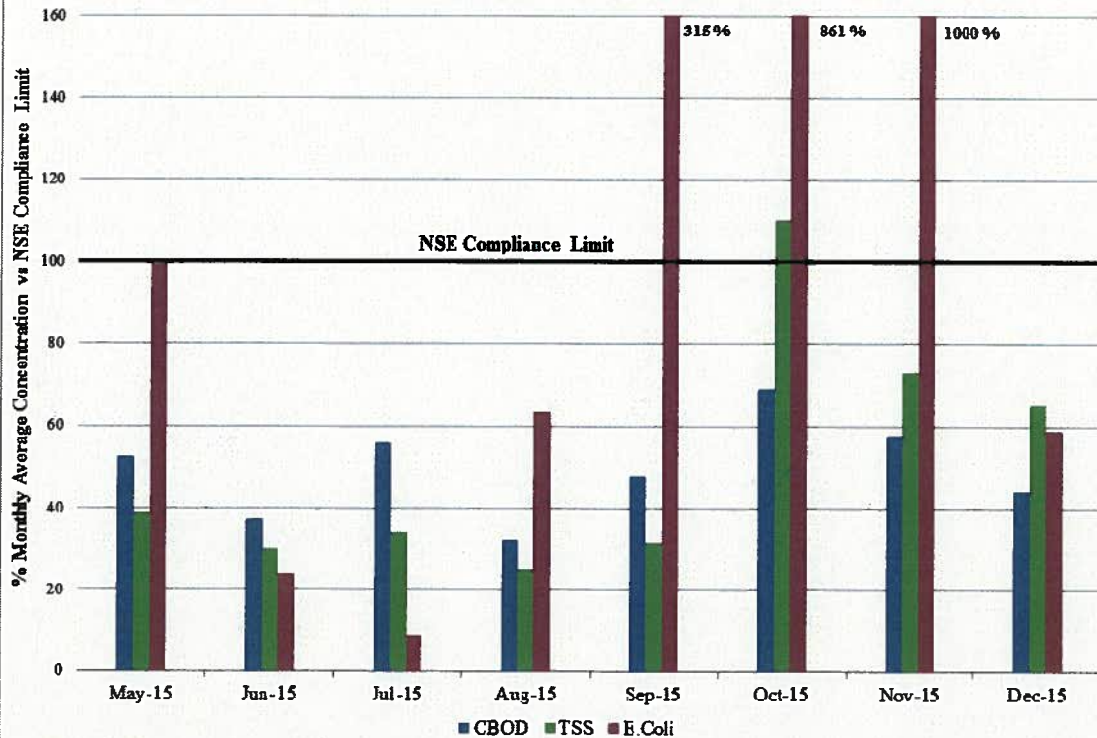
ITEM# 1-I

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 HRWC Board
 January 28, 2016

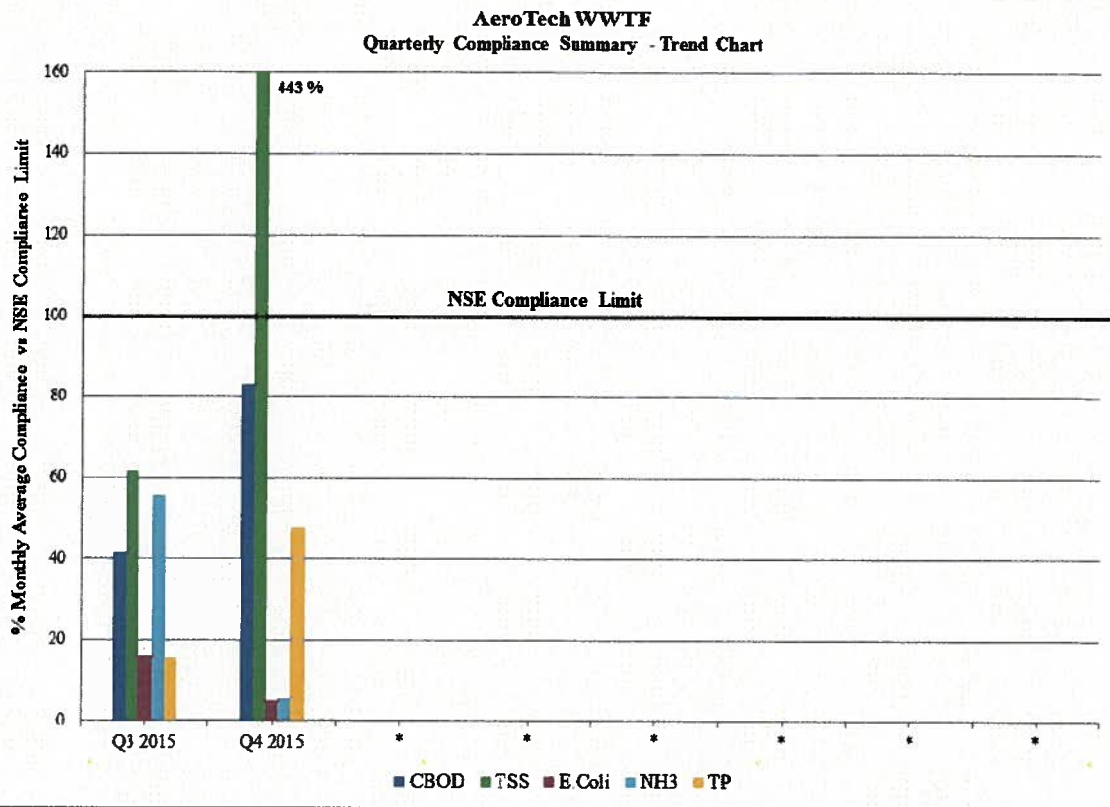
No. of CSOs and SSOs - Trend Chart
 January 2014 to December 2015



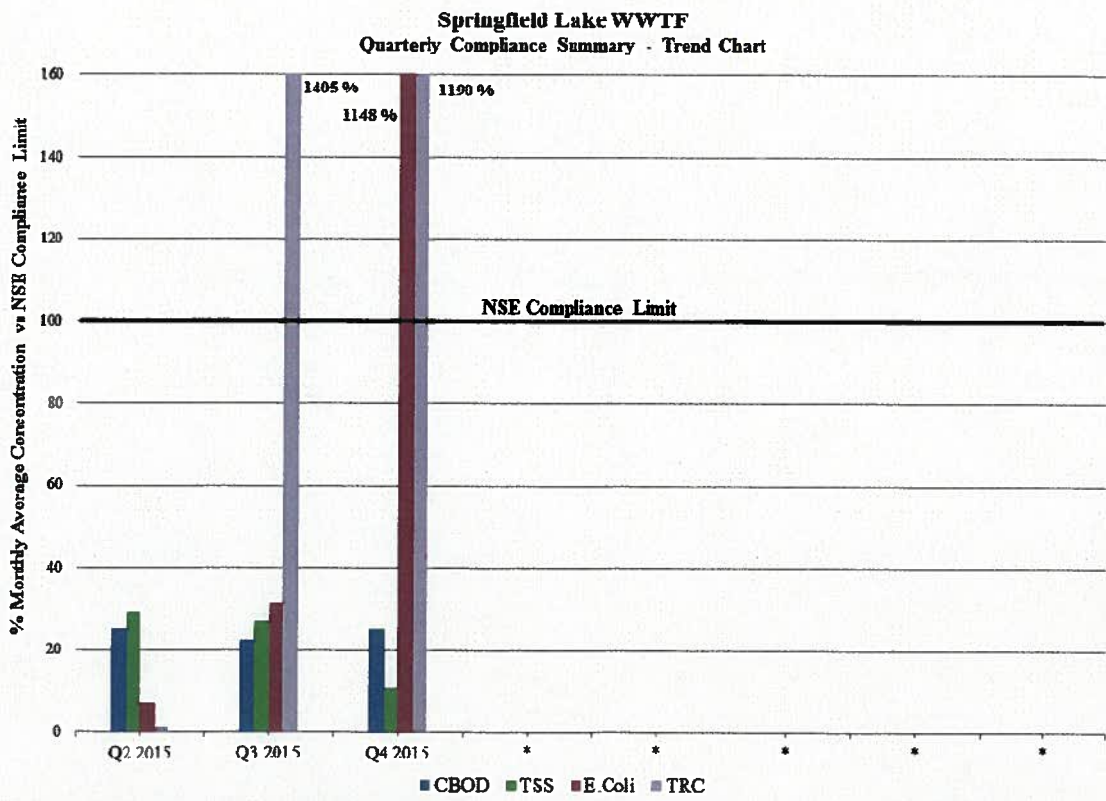
Mill Cove WWTF
 Monthly Compliance Summary - Trend Chart

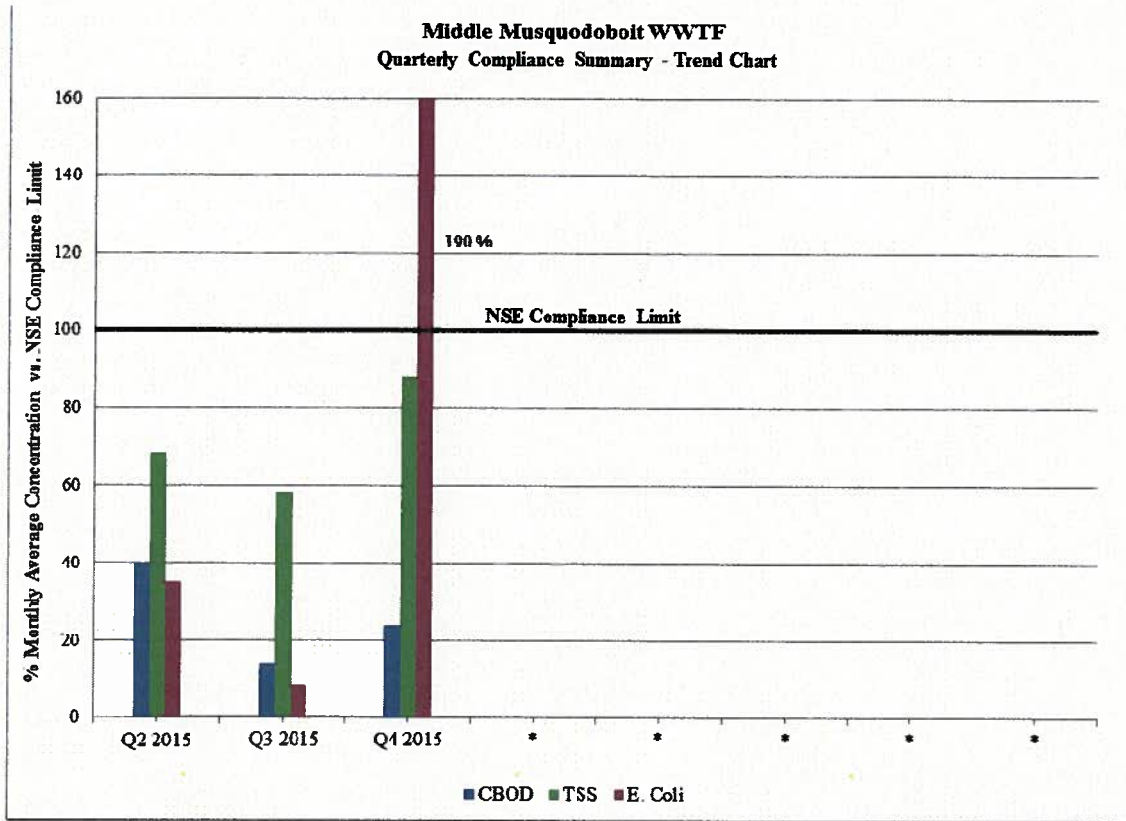


Lower numbers represent better performance

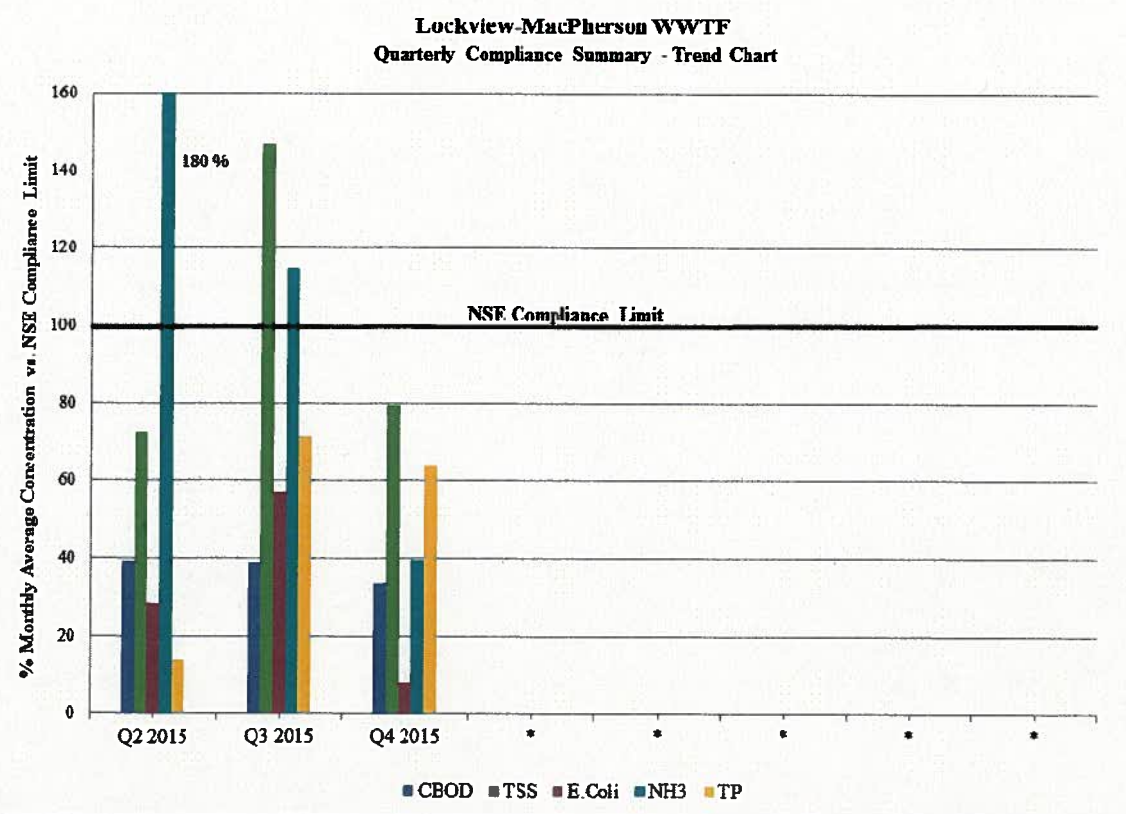


Lower numbers represent better performance

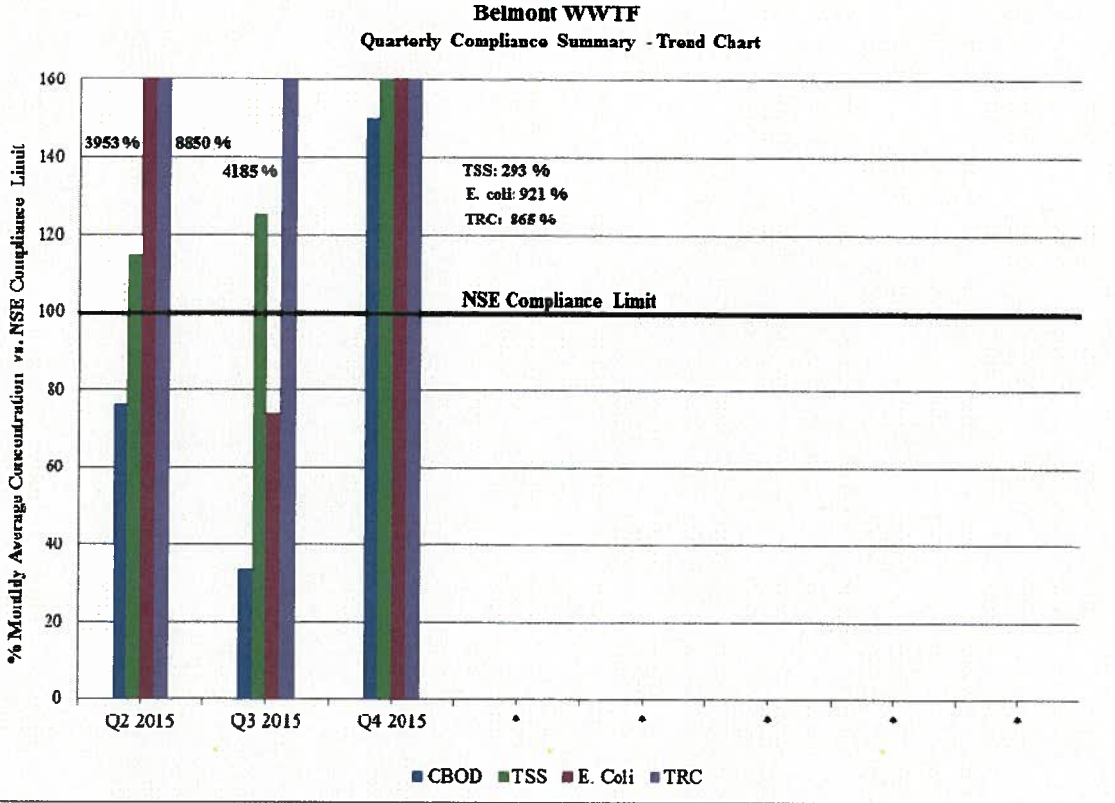




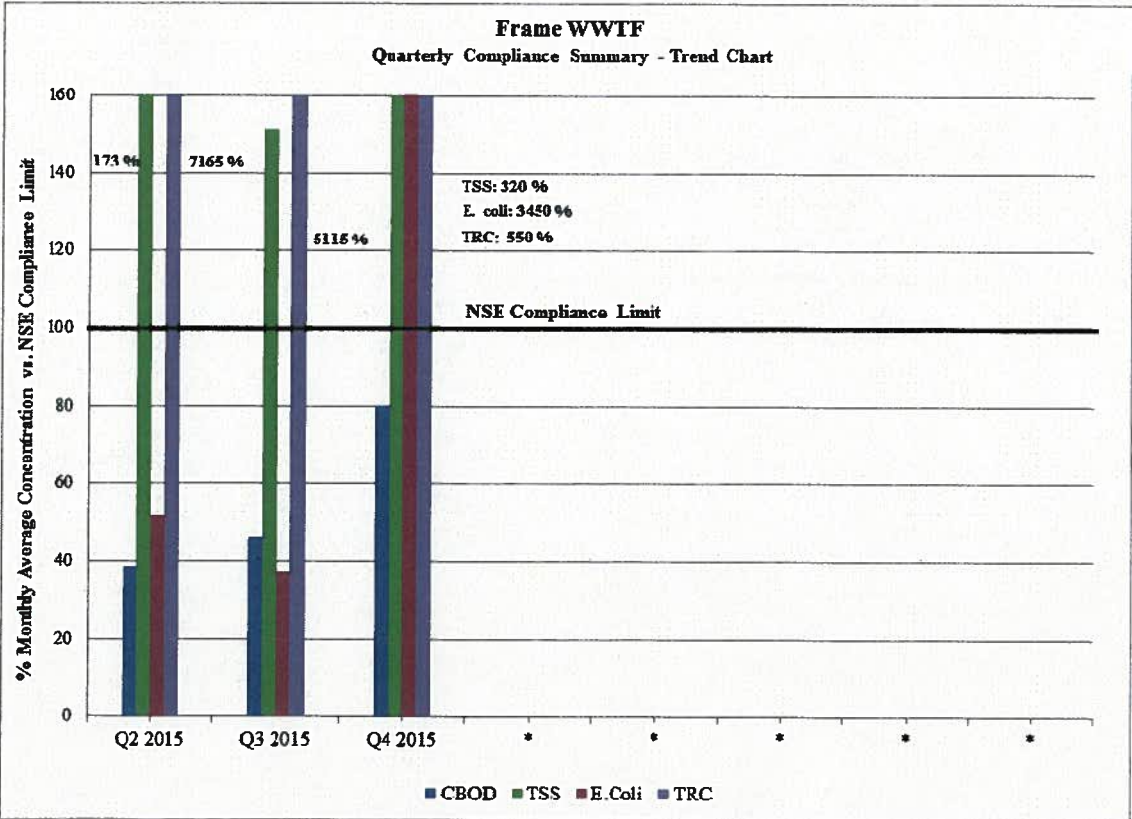
Lower numbers represent better performance



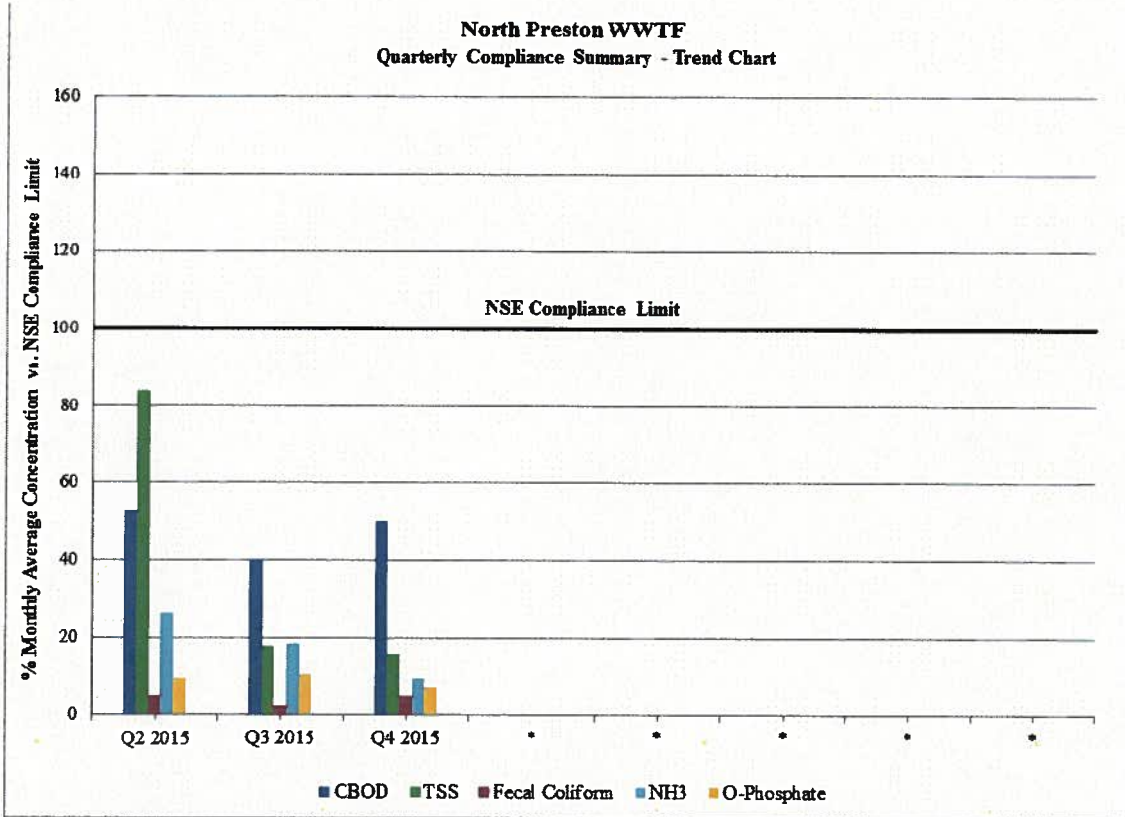
Lower numbers represent better performance



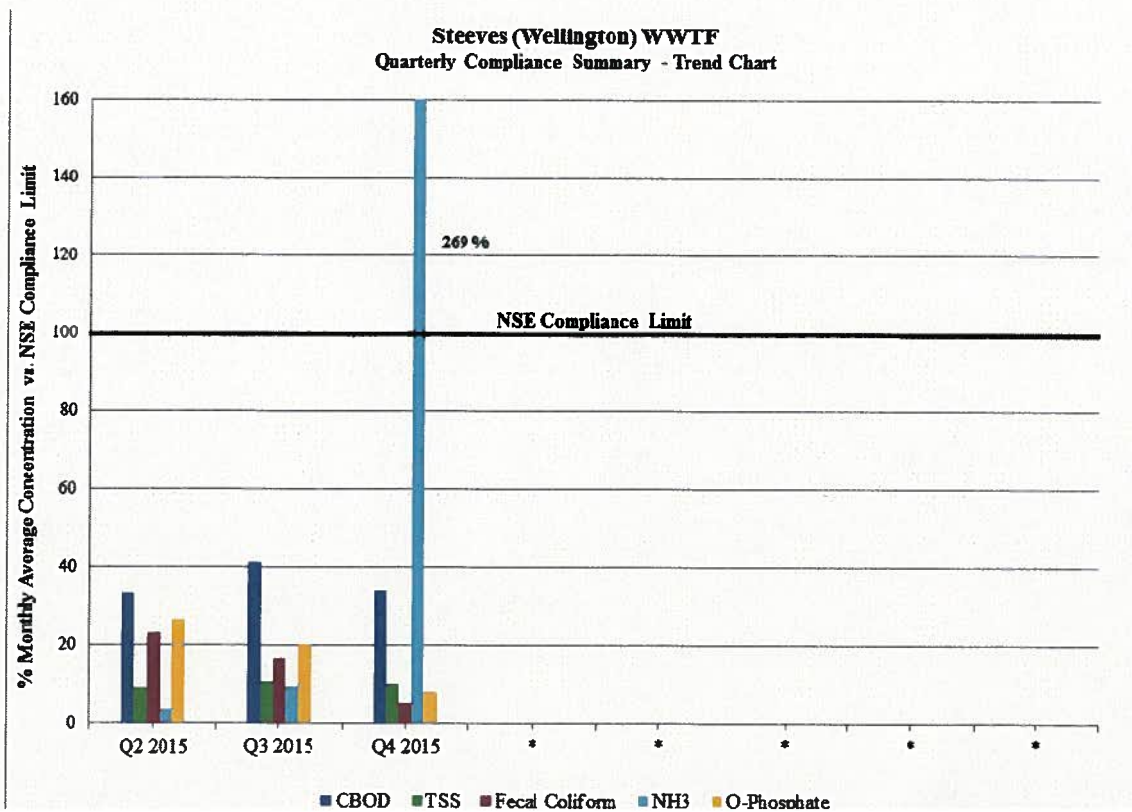
Lower numbers represent better performance



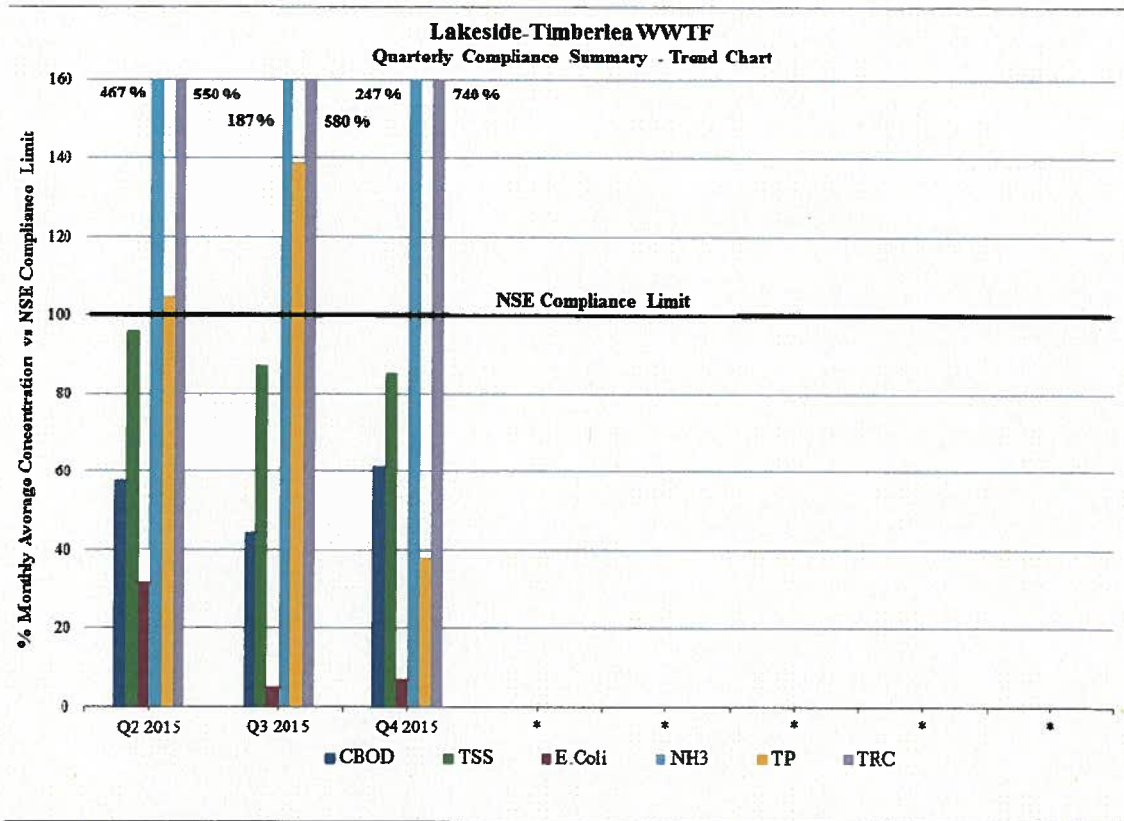
Lower numbers represent better performance



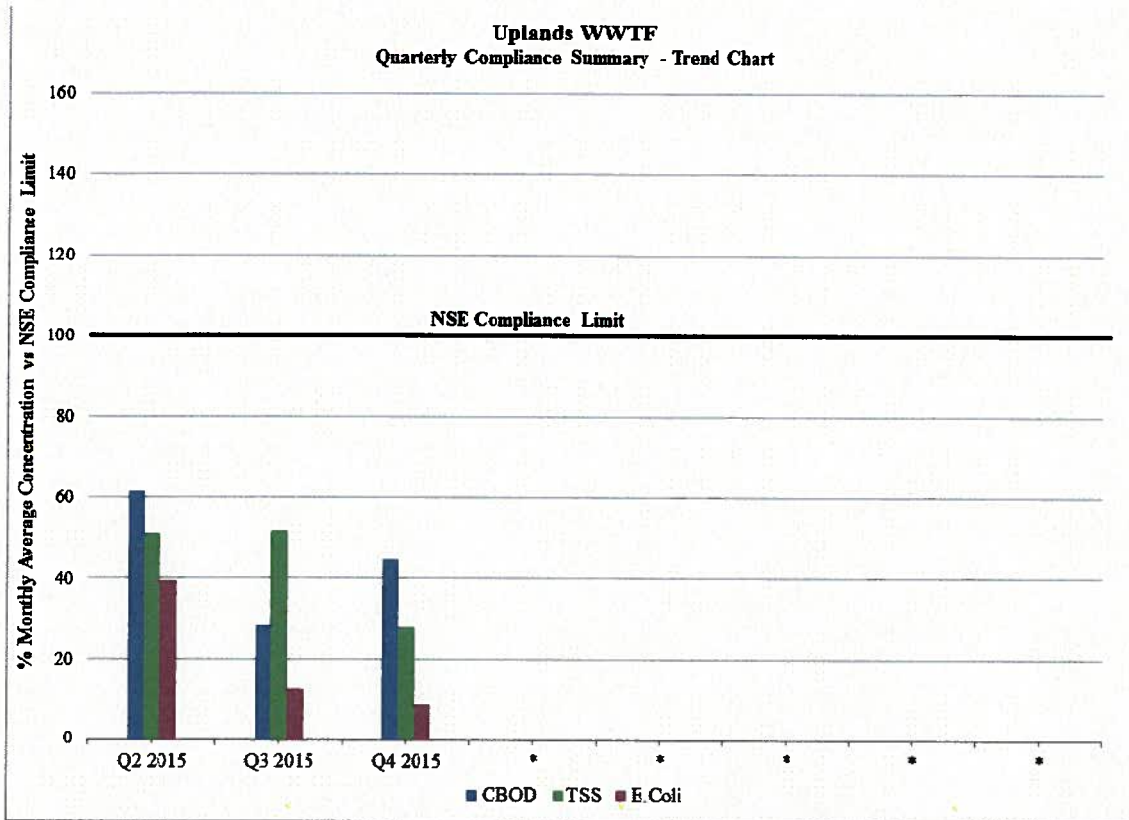
Lower numbers represent better performance



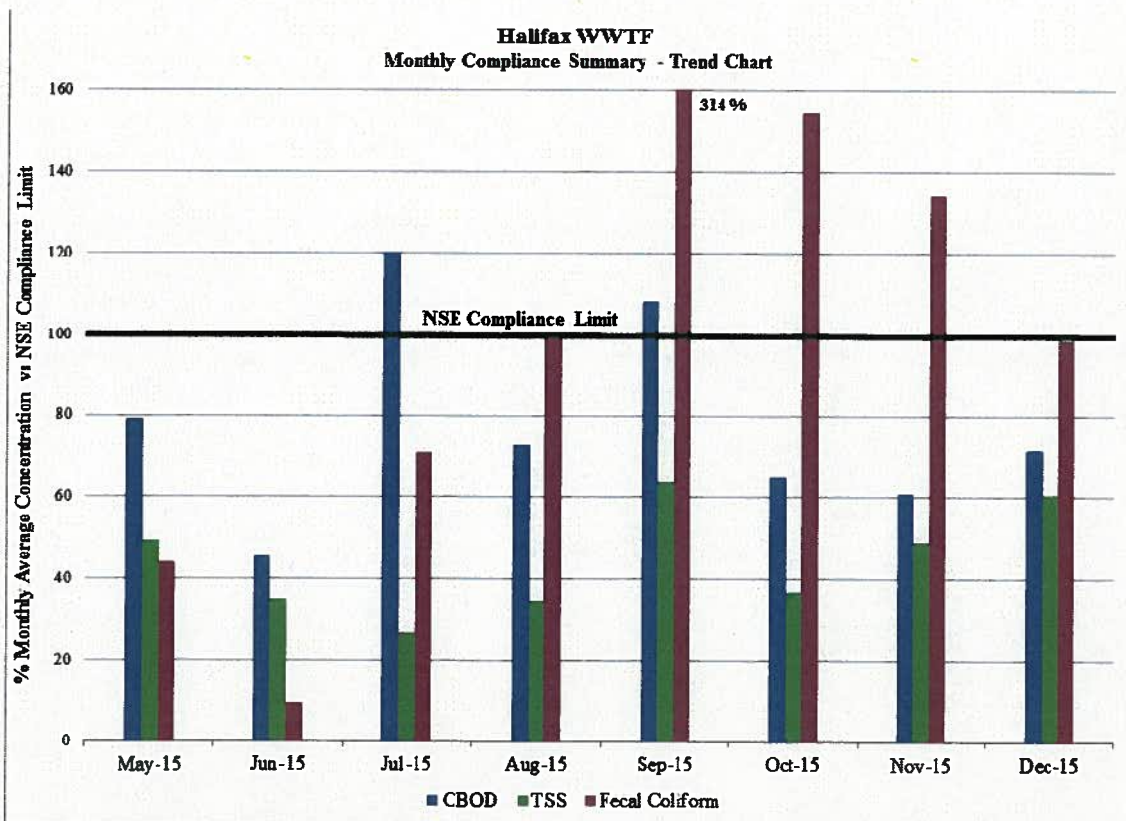
Lower numbers represent better performance



Lower numbers represent better performance

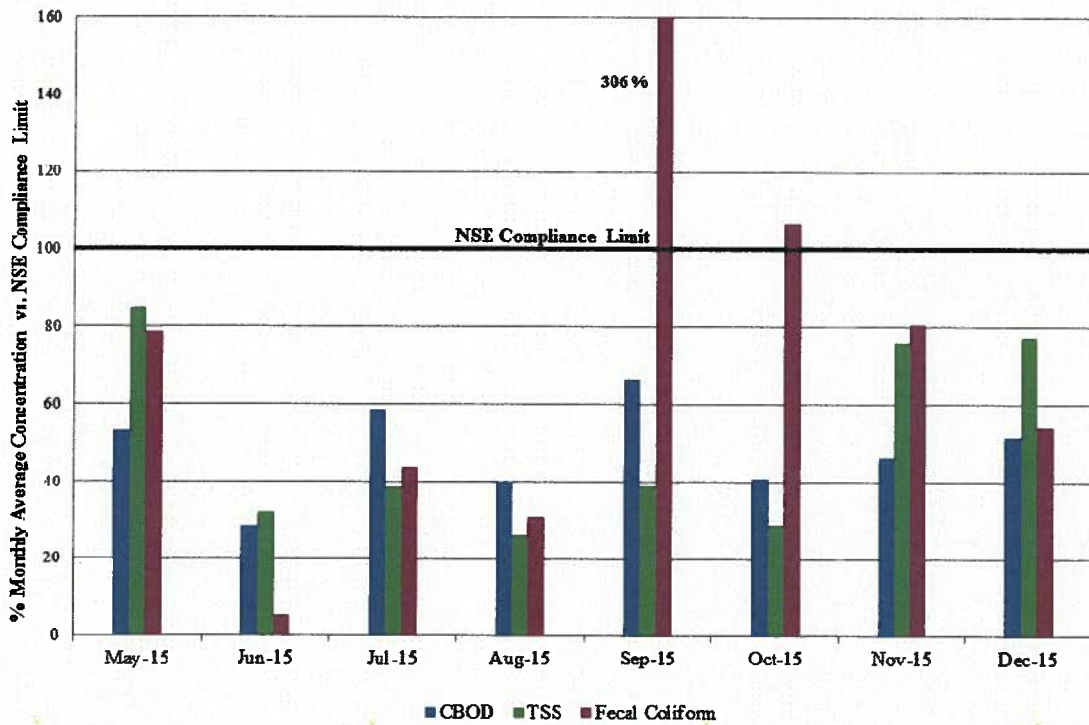


Lower numbers represent better performance



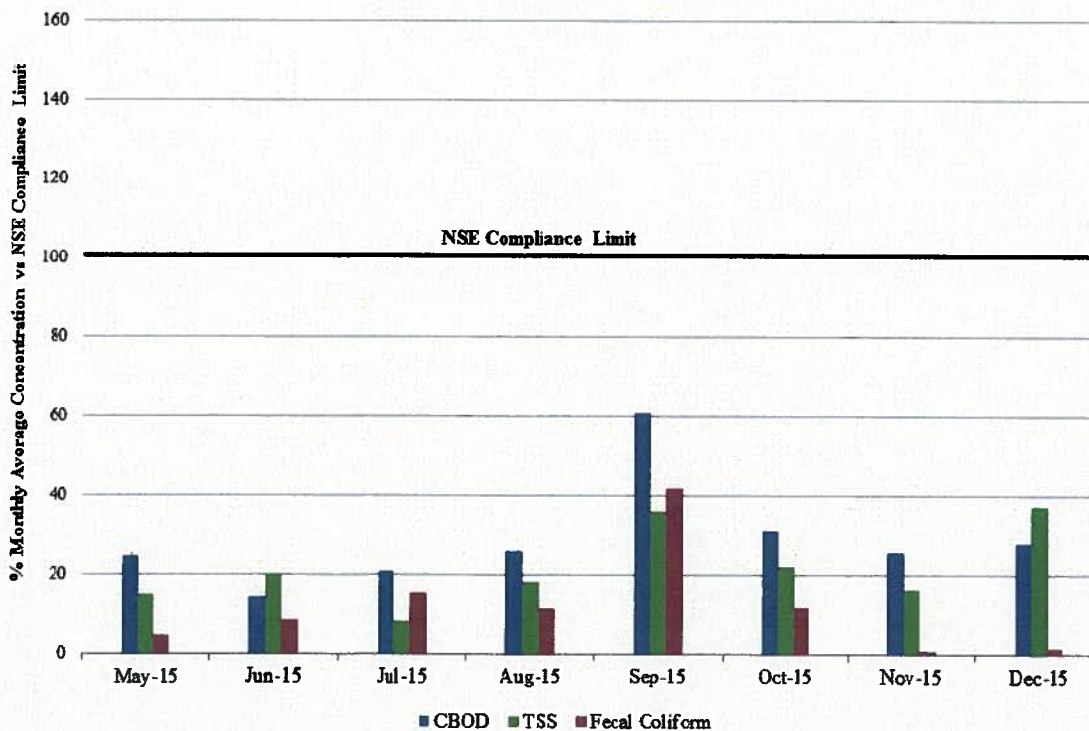
Lower numbers represent better performance

Dartmouth WWTF
 Monthly Compliance Summary - Trend Chart

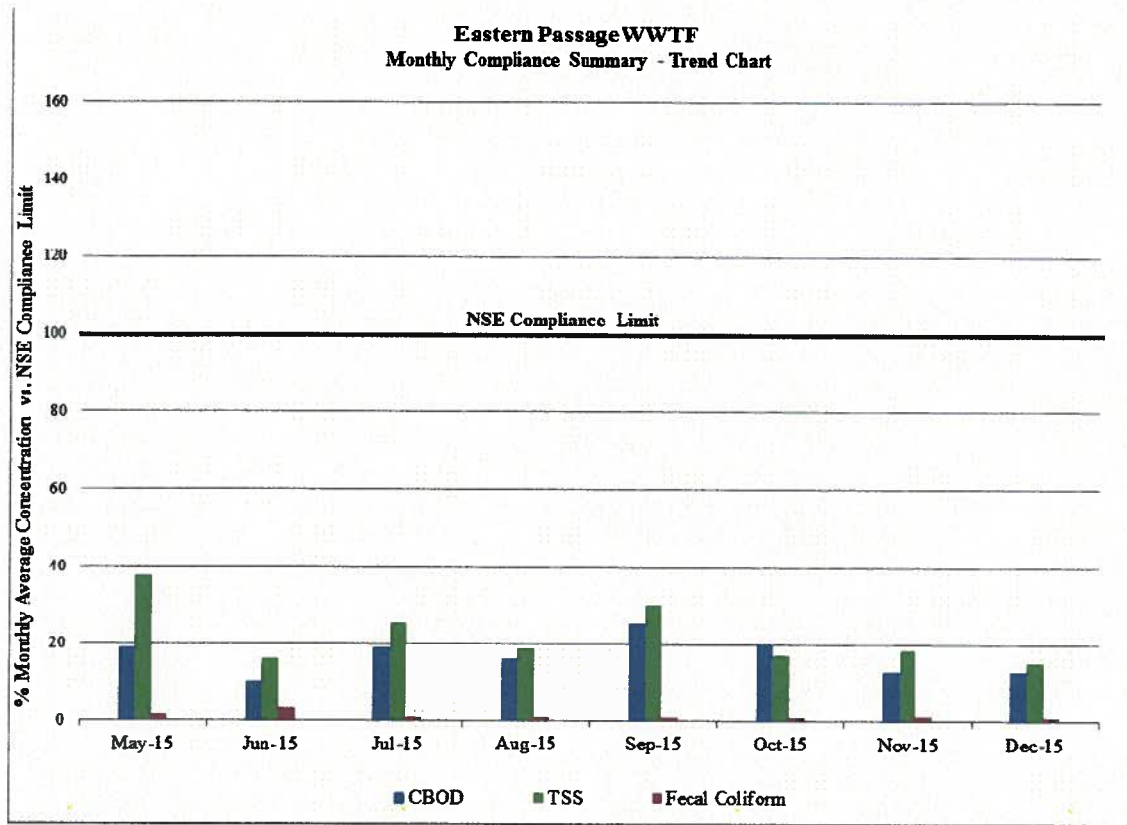


Lower numbers represent better performance

Herring Cove WWTF
 Monthly Compliance Summary - Trend Chart



Lower numbers represent better performance



Lower numbers represent better performance

Item 3-I

22-Jan-16

FINANCIAL REPORT

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

22-Jan-16

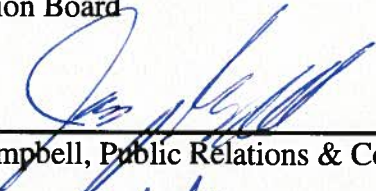
\$57,711,369

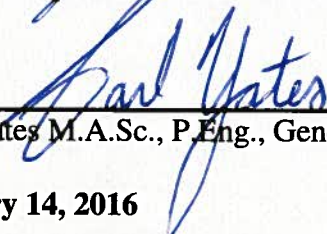
Rate of interest on the above balance -
Investment Rate of Return

0.072%

\$57,711,368.90

TO: Ray Ritcey, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: 
James Campbell, Public Relations & Communications Coordinator

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

DATE: January 14, 2016

SUBJECT: 2014/2015 Annual Report

INFORMATION REPORT

ORIGIN

Ongoing operational requirement.

BACKGROUND

Staff are pleased to present the Annual Report for the 2014/2015 fiscal year. The theme of the 2014/2015 Annual Report is “Nexus” recognizing the relationship between water, wastewater and stormwater services, and the connection with energy from the source to the tap and back to the source again.

This full cycle approach to sustainable infrastructure and environmental stewardship can be seen in projects such as the wind farm near Pockwock Lake and the sale of electricity with the installation of an in-line turbine at a control chamber in Bedford. The utility also holds a Community Feed-In Tariff (COMFIT) certificate for a combined heat and power project at the Mill Cove wastewater treatment facility (WWTF). The intention is to harness methane from the digester and convert it to electricity and supplementary heat for the treatment facility.

The 2014/15 fiscal year saw a continuation of several large capital projects directly linked to the Integrated Resource Plan (IRP). These projects included the renewal of the Pockwock transmission main along Kearney Lake Road from Bluewater Road to Hammonds Plains Road and the installation of a new trunk sewer to transfer sewage from the Beechville, Lakeside,

Timberlea area to the Halifax WWTF sewershed. Both projects were completed on schedule and under budget.

A number of high priority projects got underway during the 2014/15 fiscal year. Halifax Water was successful with its application to the federal and provincial governments to cost share the upgrade and expansion of the Aerotech WWTF. Engineering staff also awarded a contract for the design work to replace the dam at Lake Major which supplies water to the greater Dartmouth area.

To help maintain and stabilize rates, cost containment remains an on-going focus for the utility. For the 2014/15 fiscal year, cost containment initiatives culminated in a reduction of \$1.7 million in expenditures. Many of these initiatives centred on the reduction of energy and chemicals utilized in the treatment processes.

The realization of the nexus between water and energy helps foster greater cross-departmental cooperation, and therefore efficiency and value for the customers we serve and the environment we protect.

Copies of the Nineteenth Annual Report will be distributed to Regional Council members as an information report in the near future.

BUDGET IMPLICATIONS

Annual Report costs are included in the 2015/2016 operations budget.

ATTACHMENT

2014/2015 Annual Report

44 Halifax Water

Nineteenth
Annual Report
March 31, 2015

NEXUS



Cover image: Last blade erected at Pockwock wind turbine farm



Our Mission

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

Our Vision

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



Letter from the Chair



November 16, 2015
Mayor Mike Savage and Members of Council

Re: 2014/15 Annual Report

On behalf of the Halifax Water Board, we are pleased to submit the utility's annual report for the year ending March 31, 2015. The 2014/15 fiscal year saw a continuation of several large capital projects directly linked to the Integrated Resource Plan (IRP) to position the utility for service and growth. Key projects included the renewal of the Pockwock transmission main along Kearney Lake Road from Bluewater Road to Hammonds Plains Road and the installation of a new trunk sewer to transfer sewage from the Beechville Lakeside Timberlea area to the Halifax sewershed for ultimate treatment at the Halifax plant downtown. The latter project was a clear example of using regional assets to solve regional problems, all at the best life cycle cost. Both projects were completed on schedule and under budget.

Following the utility's application last fall, the Nova Scotia Utility and Review Board (NSUARB) rendered a decision in April this year approving rate increases for water and wastewater service on May 1, 2015, with another increase on April 1, 2016. Halifax Water did not apply for an increase in stormwater rates as revenues were a close match with expenditures. After a review of the first two years of administering stormwater rates and the current approach to cost of service, Halifax Water filed an application with the NSUARB on October 31, 2015 to look at refinements to the cost of service methodology to ensure fair and equitable treatment of customers. Consistent with industry best practice, Halifax Water is also proposing to introduce a credit system for stormwater service to incent customers to manage stormwater on their property to lessen the impact of peak flows on Halifax Water infrastructure.

The biggest drivers for the water and wastewater rate increases were debt servicing, depreciation expense, and increasing pension costs. Although the IRP completed in October, 2012 called for higher levels of capital expenditures to address the infrastructure deficit, Halifax Water introduced the concept of gradualism during the last rate application. This was done with the recognition that affordability is an issue for many customers and some will need time to adjust to future rate increases. To help maintain and stabilize rates, cost containment remains an on-going focus for the utility. For the 2014/15 fiscal year, cost containment initiatives culminated in a reduction of \$1.7 million in expenditures. Many of these initiatives centred on the reduction of energy and chemicals utilized in the treatment processes. Halifax Water also leveraged its resources to bring in additional revenue for the utility with the lease of land for a wind farm near Pockwock Lake and the sale of electricity with the installation of an in-line turbine at a control chamber in Bedford. The in-line turbine project was carried out under the provincial COMFIT program with support funding from the Water Research Foundation and Nova Scotia Environment. The utility also holds a COMFIT certificate for a combined heat and power project at the Mill Cove wastewater treatment facility with the intention to harness methane from the digester and convert it to electricity and supplementary heat for the treatment facility.

Efforts also continued last year to secure funding from other levels of government to mitigate impacts to ratepayers. To that end, Halifax Water was successful with its application to the federal and provincial governments to cost share the upgrade and expansion of the Aerotech Wastewater Treatment Facility which is the utility's highest priority capital project. This project will facilitate growth at the Halifax Stanfield International Airport and Aerotech Business Park and bring the treatment plant into compliance with the new federal wastewater system effluent regulations.

Although funding of the wastewater infrastructure deficit continues to be the main focus of Halifax Water, last year saw considerable investment in water infrastructure. In addition to the completion of the Pockwock transmission main project on Kearney Lake Road, engineering staff awarded a contract for the design work to replace the dam at Lake Major which supplies water to the greater Dartmouth area. The need for the dam replacement became more evident after a rainstorm in December 2014 necessitated emergency repairs to the fish ladder in January 2015. The emergency response was well co-ordinated and well supported by several Halifax departments, RCMP and the Halifax Regional Ground Search and Rescue.

The utility finished the year with a financial outcome better than budget with retained earnings of \$6.9 million compared to a loss of \$4.9 million in 2013/14 for an accumulated operating surplus of \$2.9 million as of March 31, 2015. Long term debt increased by \$15.6 million with total outstanding debt at \$208.2 million culminating in a debt service ratio of 21.3%, a drop from 22.9% in 2013/14 and well below the maximum target threshold of 35%. In recognition of ongoing financial pressures on the Halifax Water pension plan, this became the focal point of recent collective bargaining which resulted in a labour disruption during the summer of 2015. We are pleased to report that an agreement was reached to achieve sustainability of the pension plan.

The focus for the current year will be the design for the upgrade and expansion of the Aerotech wastewater treatment facility, decommissioning of the Belmont treatment facility in Dartmouth and advances in wet weather management, consistent with the IRP. Staff will also be pursuing enhancements to the customer care centre at Cowie Hill taking on an expanded mandate to receive all water, wastewater and stormwater calls to improve the customer service experience.

As I take on the role of Chair of the Board, I want to thank my fellow Commissioners for the opportunity to serve for the betterment of our customers and the environment we protect. We also recognize the ongoing support of Council who have entrusted Halifax Water with the stewardship responsibility for assets and resources that are critical to the sustainability and economic growth of our communities.

Respectfully Submitted,



Ray Ritcey,
Chair of the Board

NEXUS



Halifax Water has long recognized the synergy in delivering water, wastewater and stormwater services for the sustainability of the communities we serve. It is also becoming clear that there is a nexus with energy associated with these services which include stewardship responsibility from the source to the tap and back to the source again. Along this path there are many opportunities to harness or reduce energy. These include advanced methods to control leakage in water distribution systems or reduce inflow and infiltration in wastewater collection systems. The resources at hand can also host wind farms, produce energy from gravity flow within the distribution system or capture methane gas from the wastewater treatment process to produce heat and power. Halifax Water staff continue to be at the forefront of adopting new and innovative technology to fully realize the water/energy nexus in a social, financial and environmentally responsible manner. The future looks bright.

A handwritten signature in black ink that reads "Carl Yates". The signature is fluid and cursive, with a long, sweeping underline that extends under the word "Yates".

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

Board of Commissioners

March 31, 2015



Ken Meech, MPA
Chair



**Councillor
Russell Walker**
Vice Chair



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



**Cathie O'Toole, BA, MBA,
CPA/CGA**
Director, Finance and Customer Service



**Councillor
David Hendsbee**
Commissioner



**Councillor
Barry Dalrymple**
Commissioner



Jamie Hannam, MBA, P.Eng.
Director, Engineering and
Information Services



Kenda MacKenzie, P.Eng.
Director, Environmental
Services



Mayor Mike Savage
Commissioner



Richard Butts
Commissioner



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



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



**Ray Ritcey, BComm, MBA,
CPA/CGA**
Commissioner



Don Mason, P.Eng., MCIP
Commissioner



Eric Rowley, B.Comm.
Director, Human Resources

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How to reach us:

For more information about Halifax Water and its services, visit our website at www.halifaxwater.ca, contact Customer Service at (902) 490-4820, e-mail us at Cust_Inq@halifaxwater.ca, fax us at (902) 490-4749, or write us at P.O. Box 8388 RPO CSC, Halifax, N.S., B3K 5M1. You can also reach us via Twitter at @HalifaxWater.

General Information of Utility

Year Ended March 31, 2015

WATER

Precipitation

Measured at Pockwock	
Rainfall	1 476.8 mm
Snowfall	467.7 cm
Measured at Lake Major	
Rainfall	1 535.4 mm
Snowfall	351.2 cm

Sources of Supply and Watershed Areas

Pockwock Lake	5 661 ha
Safe Yield	145 500 m ³ /day
Chain Lake	206 ha
Safe Yield	4 500 m ³ /day
Lake Major	6 944 ha
Safe Yield	65 900 m ³ /day
Lake Lemont/Topsail	346 ha
Safe Yield	4 500 m ³ /day
Bennery Lake	644 ha
Safe Yield	2 300 m ³ /day

Water Supply Production (Cubic Metres)

Pockwock Lake	29 960 347
Lake Major	13 298 770
Bennery Lake	303 692
Small Systems	55 048
Total	43 617 857

Storage Reservoirs (Elevation Above Sea Level)

Lake Major	(60 m)	9 092 m ³
Pockwock	(170 m)	13 600 m ³
Geizer 158	(158 m)	36 400 m ³
Geizer 123	(123 m)	31 800 m ³
Cowie	(113 m)	11 400 m ³
Robie	(82 m)	15 900 m ³
Lakeside		
/Timberlea	(119 m)	5 455 m ³
Mount Edward 1	(119 m)	22 728 m ³
Mount Edward 2	(119 m)	22 728 m ³
Akerley Blvd.	(119 m)	37 727 m ³
North Preston	(125 m)	1 659 m ³
Meadowbrook	(95 m)	9 091 m ³
Sampson	(123 m)	12 273 m ³
Stokil	(123 m)	23 636 m ³
Waverley	(86 m)	1 364 m ³
Middle		
Musquodoboit	(81m)	275 m ³
Aerotech	(174 m)	4 085 m ³
Beaver Bank	(156 m)	6 937 m ³

Total Storage Capacity 259 213 m³

Transmission and Distribution System

Size of mains	19 mm - 1 500 mm
Total water mains	1 567 km
Main valves	14 773
Fire hydrants	8 199
Distribution Pumping Stations	22
Pressure Control/Flow	
Meter Chambers	134

Services and Meters

Water	
Sprinkler services	
(25 mm - 300 mm)	2 132
Supply services	
(10 mm - 400 mm)	86 514
Meters	
(15 mm - 250 mm)	82 658
Wastewater services	79 466

Treatment Processes

J. Douglas Kline Water Supply Plant

Source	- Pockwock Lake
Process	- Dual media direct filtration
	- Iron and manganese removal
8 filters	143 m ² /each
Max. flow rate	0.137 m ³ /m ² /min
Design capacity	227 000 m ³ /day
Average production	82 083 m ³ /day

Lake Major Water Supply Plant

Source	- Lake Major
Process	- Upflow clarification and trimedia filtration
	- Iron and manganese removal
4 filters	85 m ² /each
Max. flow rate	0.192 m ³ /m ² /min
Design capacity	94 000 m ³ /day
Average production	36 435 m ³ /day

Bennery Lake

Source	- Bennery Lake
Process	- Manganese removal, sedimentation, dual media filtration
2 filters	26.65 m ² /each
Max. flow capacity	0.10/m ³ /m ² /min
Design capacity	7 950 m ³ /day
Average production	832 m ³ /day

Bomont

Source - Shubenacadie River
 Process - Nano Filtration / Ionic Exchange Resin
 Average production - bulk water supply

Collins Park

Source - Lake Fletcher
 Process - Ultra Filtration / Nano Filtration
 Average production 38 m³/day

Middle Musquodoboit

Source- Musquodoboit River
 Process- Raw water infiltration gallery
 - Ultra Filtration / Nano Filtration
 Average production 52 m³/day

Five Island Lake

Source - 1 well
 Process - Ultraviolet disinfection
 Average production 8 m³/day

Silver Sands

Source - 2 wells
 Process - Green sand pressure filters
 -Iron and manganese removal
 Average production 28 m³/day

Miller Lake

Source - 3 wells
 Process - Arsenic removal with G2 Media
 No Production - bulk water supply

Population Served

Halifax Municipality
 Estimated population served 355 000
 Consumption per capita (all customers) 285 litres/day

Glossary of Terms

ha - hectare
 m - metre
 m² - square metre
 m³ - cubic metre
 mm - millimetre
 km - kilometre
 cm - centimetre

General Information of Utility

Year Ended March 31, 2015

WASTEWATER/STORMWATER

Treatment Processes

Halifax

Process - Enhanced Primary - UV
Average production - 139 900 m³/day
Area served - Halifax
Receiving water - Halifax Harbour

Dartmouth

Process - Enhanced Primary - UV
Average production - 83 800 m³/day
Area served - Dartmouth
Receiving water - Halifax Harbour

Herring Cove

Process - Enhanced Primary - UV
Average production - 28 500 m³/day
Area served - Halifax-Herring Cove
Receiving water - Halifax Harbour (Outer)

Mill Cove

Process - Secondary - UV / Pure oxygen
Activated sludge
Average production - 28 400 m³/day
Area served - Bedford-Sackville
Receiving water - Bedford Basin

Eastern Passage

Process - Secondary - UV / Pure oxygen
Activated sludge
Average production - 25 000 m³/day
Area served - Cole Harbour-Eastern Passage
Receiving water - Halifax Harbour

Timberlea

Process - Secondary - Sodium
Hypochlorite / RBC
Average production - 4 540 m³/day
Area served - Beechville-Lakeside
-Timberlea
Receiving water - Nine Mile River

Aerotech

Process - Tertiary - UV /SBR
Average production - 1 360 m³/day
Area served - Aerotech Park-Airport
Receiving water - Johnson River

Springfield Lake

Process - Secondary - Sodium
Hypochlorite/Activated sludge
Average production - 543 m³/day
Area served - Springfield Lake
Receiving water - Lisle Lake

Fall River

Process - Tertiary - UV / Activated sludge
and post filtration
Average production - 454.5 m³/day
Area served - Lockview-McPherson Road
Receiving water - Lake Fletcher

North Preston

Process - Tertiary - UV / SBR and
engineered wetland
Average production - 345 m³/day
Area served - North Preston
Receiving water - Winder Lake

Middle Musquodoboit

Process - Secondary - UV / RBC
Average production - 114 m³/day
Area served - Middle Musquodoboit
Receiving water - Musquodoboit River

Uplands Park

Process - Tertiary - UV / Trickling filter
and wetland
Average production - 91 m³/day
Area served - Uplands Park
Receiving water - Sandy Lake

Wellington

Process - Tertiary - UV / Activated sludge
/reed bed
Average production - 68 m³/day
Area served - Wellington
Receiving water - Grand Lake

Frame

Process - Secondary - Sodium
Hypochlorite / Extended Aeration
Average production - 80 m³/day
Area served - Frame Sub-Division
Receiving water - Lake William

Belmont

Process - Secondary - Sodium Hypochlorate
Extended Aeration
Average production - 114 m³/day
Area served - Belmont Sub-Division
Receiving water - Halifax Harbour

RBC = Rotating Biological Contactor;
SBR = Sequencing Batch reactor;
UV = Ultra Violet

Wastewater & Stormwater Collection System

Size of pipes	200 mm - 3 400 mm
Total sewer length	2 402 km
Total manholes	37 869
Total Pumping Stations	170
Total ditch length	496 km
Culverts	2 170
Holding Tanks and Retention Ponds	54 (12-244 000 m ³)

FINANCIAL OVERVIEW

Abbreviated Financial Information

March 31, 2015

(in thousands)

ASSETS

Fixed

Utility Plant in Service at Cost	\$	1,328,988
Accumulated Depreciation	\$	(315,223)

Net Book Value

\$ 1,013,765

Capital Work in Progress

\$ 41,423

Regulatory Asset

\$ 3,772

Current

\$ 75,117

TOTAL ASSETS

\$ 1,134,077

LIABILITIES

Long Term Debt \$ 208,231

Other Than Long Term Debt \$ 61,663

TOTAL LIABILITIES

\$ 269,894

EQUITY

Special Purpose Reserves \$ 24,875

Contributed Capital Surplus \$ 823,992

Operating Surplus used to Fund Capital, Cumulative \$ 12,380

\$ 861,247

Operating Surplus (Deficit) April 1, 2014

\$ (3,960)

2014/15 OPERATIONS

Operating Revenue \$ 130,320

Financial Revenue \$ 3,061

Revenue From all Sources \$ 133,381

Expenditures

Operating Expenses \$ 76,433

Depreciation \$ 17,954

Grant in lieu of taxes HRM \$ 4,340

Financial Expenses \$ 27,758 \$ 126,485

Excess of Revenue over Expenditures \$ 6,896

Operating Surplus used to Fund Capital, Current Year \$ (0)

Stewardship Contributions \$ (0)

Accumulated Operating Surplus March 31, 2015 \$ 2,936

TOTAL EQUITY

\$ 864,183

TOTAL LIABILITIES & EQUITY

\$ 1,134,077

High Quality Water

Keep The Lead Out

Minimizing lead corrosion in the water distribution system is an important focus at Halifax Water.

Recently, Halifax Water turned its attention to evaluating corrosion inhibitors used to minimize lead release in the distribution system. Based on a review of Halifax Water's corrosion control strategy and recommendations from industry experts, Halifax Water decided to change corrosion inhibitors. It is not anticipated that the switch in corrosion control inhibitors will impact water quality (color, turbidity, iron precipitation) during product changeover based on pilot scale work completed by our research partner, Dalhousie University.

As a next step, Halifax Water plans to optimize the dosage of this new product to minimize lead release in the water distribution system.

In February 2015, research completed by Dr. Alisha Knowles (Halifax Water's

- Water Quality Manager) at the JD Kline (Pockwock) Water Supply Plant, in collaboration with Dr. Graham Gagnon (Dalhousie University) and Dr. Marc Edwards (Virginia Tech) on the secondary impacts on corrosion in distribution systems was published in the Journal of Environmental Health and Science. The research results help identify the best combinations of water treatment and corrosion control to minimize lead release in the water distribution system. Taking part in research helps keep Halifax Water on the leading edge of water science and drives treatment improvement opportunities to ensure the highest quality water.

Geosmin

Geosmin occurrence was more short-lived than previous years, with detection limited to the months of August and October, 2014. Since the first indication of geosmin in the Pockwock water supply in fall 2012, Halifax Water has taken a number of steps to better understand geosmin. These steps include: continuous testing of geosmin levels at



Continuous research at the Pockwock Pilot plant

various strategic locations throughout the Pockwock watershed; on-going research at the Pockwock Pilot Plant (a research facility located at the Pockwock water supply plant) in conjunction with Dalhousie University to evaluate treatment strategies to reduce geosmin and other taste and odour compounds in drinking water; and an environmental consulting firm completing a study to better understand the occurrence and cause of geosmin in the Pockwock watershed.

In early 2015, an engineering consulting firm completed a study of geosmin treatment options and associated costs. Three viable treatment alternatives were identified by the consulting firm. Each treatment option requires a significant capital investment and substantial increases in annual operating costs. Pilot testing the various treatment technologies for a minimum of one year is required to improve design criteria and refine capital and operational cost estimates. Pilot testing will also evaluate any potential impacts on the current treatment process. A pilot

A lead service line being replaced with copper





J.D. Kline (Pockwock) Water Treatment Facility

testing research plan is currently being developed in conjunction with the engineering consultant and research partners at Dalhousie University.

Water Treatment Plant Optimization

Each of Halifax Water's large water treatment plants has recently completed, or is currently completing, process optimization studies. The focus of these extensive studies is to address concerns around aging infrastructure, sustainable operation of the water plants and ensure future water quality goals are met.

The Bennery Lake Water Supply Plant, which serves Stanfield Airport and Aerotech Park, is in the process of putting study recommendations into action.

In addition to the studies and research described above, in March 2015, a filtration study was completed for the JD Kline(Pockwock) Water Supply plant. This study focused on filter upgrades to meet future needs and ensure high quality, reliable water service well into the future.

In fall 2014, Halifax Water undertook an optimization study at the Lake Major Water Supply Plant. This study will provide a strategy and recommendations to improve the operation of the facility with a focus on improvements to water quality, operating efficiency, reliability and capacity.

Fluoride for Public Health

Drinking water fluoridation is safe, cost

effective, and endorsed as a universally accepted practice by all major health authorities in North America. To that end, Halifax Water continues to support the fluoridation of drinking water as a safe public health practice for decreasing dental cavities and protecting oral health. In April 2014, the Halifax Water Board formally endorsed the continuation of fluoridation at the optimal levels recommended by Health Canada.

Bomont Water Supply Plant

In May 2015, Halifax Water received the Approval to Operate a new water treatment facility supplying 16 homes in Bomont subdivision. Source water for the Bomont Water Supply Plant is the Shubenacadie River where raw water quality is inherently variable. The technologies employed by the new treatment system (Ultra Filtration/Ionic Exchange Resin) were designed to handle these fluctuating conditions. The main objectives of treatment at this facility are the removal of pathogens, organic matter and turbidity, with secondary objectives being metals and nutrients.

SCADA Master Plan

Halifax Water continued to implement its SCADA (Supervisory Control and Data Acquisition) Master Plan. Two, 50 metre SCADA antenna towers were constructed at the Pockwock (J.D. Kline) and Lake Major Water Treatment facilities. These towers will enable Halifax Water to continue upgrading Remote Terminal Units (RTU's) to a more secure and reliable communications network.

Excellence in Innovation (Civil Engineering Award)

In May 2014, Halifax Water was awarded the "CSCE-CANAM Excellence in Innovation in Civil Engineering Award" at the Annual General Meeting and Conference of the Canadian Society of Civil Engineering (CSCE). The winning innovation was "Advanced Pressure Management Utilizing Automated Pressure Reducing Valve Control in a Dual Supply District Metered Area." The award recognizes Halifax Water's position as a world leader in water loss control. Since the implementation of an international best practice in 1999, Halifax Water has reduced leakage in the water distribution system by 40 million litres per day, which represents \$600,000 in annual savings. Recognizing the importance of pressure management to control leakage, Halifax Water has conducted research and refined its approach to make further inroads in leakage reduction. The latest technological breakthrough at Halifax Water is a testament to the dedication of staff and their stewardship of water resources.

Leak detection: an important component of the Water Loss Control Program





Halifax Water General Manager Carl Yates (second from right) with CSCE-CANAM Excellence in Innovation in Civil Engineering award. From left: CSCE representatives Bob Millburn, Dr. George Akhras and Tony Bégin

Watershed Management

In 2014, a 3-year research project between Halifax Water and Dalhousie University concluded. The project was funded through a National Science and Engineering Research Council (NSERC) Strategic Grant: “Source Water Protection in Surface Waters: Evaluating Novel Monitoring Strategies for the Prioritization of Threats and Prevention of Disease Outbreaks”. The research project was undertaken to better understand the potential risks identified in two of Halifax Water’s Source Water Areas, Collins Park and Middle Musquodoboit. The study supports Halifax Water’s Source Water Quality Monitoring Program and Halifax Water’s decision to build robust water treatment plants at both locations.

Late in 2011, higher than normal nitrate levels (still well below acceptable limits) were detected during routine source water quality monitoring near the Middle Musquodoboit water treatment plant intake. The cause was suspected to be a combination of incompatible agricultural practices and lack of treatment capabilities. As a result, in 2012, Halifax Water and the landowner entered into a partnership agreement where Halifax Water leased a portion of the land based on agricultural best practices around municipal water

supplies. By 2014 nitrate levels returned to normal background conditions with minimal impact to the landowner and Halifax Water. This partnership has saved Halifax Water an estimated \$150,000 which would have been necessary to upgrade the water treatment plant to reduce the nitrate levels.

Adopting Industry Best Practices

In 2013, Halifax Water joined the Partnership for Safe Water. This program, operated by the American Water Works Association has been available in the United States since 1995. In 2012, it became available across Canada. The program sets a formal process

whereby utilities evaluate their water treatment plants and distribution systems against industry developed best practices. Industry peer-experts then review the evaluation and help plant and distribution system staff develop programs to become a fully optimized plant or water distribution system. Halifax Water will be embarking on the program for each of its large water treatment plants and distribution systems, starting with the East Region distribution system and the Lake Major Water Supply Plant. Staff at the Lake Major Water Supply Plant also began a filter surveillance program. This program requires plant staff to conduct scheduled investigations of how each filter in the plant is operating. The information gained yields important insights into what is going on in a filter “below the surface” and helps plant staff make improvements in filter operation.

Collins Park Water Treatment Facility



Responsible Financial Management

Halifax Water received a clean audit for the fiscal year ended March 31, 2015. The financial statements are presented in accordance with the Accounting and Reporting Handbook (Handbook) for Water Utilities as issued by the Nova Scotia Utility and Review Board (NSUARB). A unique aspect of the Handbook is that debt servicing is treated as an expense.

Halifax Water's cash balances and liquidity have increased since 2014. There is a significant amount of capital work underway and a number of large projects that span multiple fiscal years. The most notable is the Beechville/Lakeside/Timberlea wastewater diversion project, which accounts for \$17.4 million of the \$41.4 million value in Capital Work In Progress. The following tables highlight the major projects undertaken during the fiscal year:

Capital Work in Progress	
	Cumulative '000
Lakeside Pumping Station Diversion	\$17,428
Bedford West Collection System CCC	\$5,430
Cow Bay Road Deep Storm Sewer	\$2,777
All other projects	\$15,788
Total	\$41,423

Capital Plant Additions	
	Cumulative '000
Kearney Lake Road Transmission Main	\$7,816
Burnside Park Phase 12-4	\$2,370
Larry Uteck Phase 1-B	\$2,279
All other projects	\$27,340
Total	\$39,804

Plant in Service assets net of Accumulated Depreciation is \$1.0 billion, which is \$8.4 million higher than last

year. A total of 233 Capital Work Orders were closed during the year, representing \$39.8 million in Plant In Service Additions.

Debt is a key component of financing the capital program. Long Term Debt is up \$15.6 million from last year, with new debt of \$33.7 million offset by repayments of \$18.1 million. The debt service ratio is currently 21.3%, an improvement from 22.9% last year as a result of higher revenues offsetting higher levels of debt. This is well below the maximum 35% ratio allowed under the blanket guarantee agreement with Halifax municipality.

This is the first year collecting the new Regional Development Charge (RDC), with \$5.5 million collected since July 2014. As at March 31, 2015 there was \$0.4 million in deferred RDC revenue, which appears as Unearned Revenue.

Consolidated operating revenue of

\$130.3 million is \$18.8 million (16.9% greater than revenue reported for the same year-to-date period last year). Consolidated operating expenses of \$94.4 million are \$4.6 million (5.2% higher than the same period last year).

	Summarized Consolidated Operating Results			
	Actual YTD 2014/15 '000	Actual YTD 2013/14 '000	\$Change	%Change
Operating Revenue	\$130,321	\$111,502	\$18,819	16.9%
Operating Expenses	\$94,381	\$89,737	\$4,645	5.2%
Operating Profit (Loss)	\$35,939	\$21,765	\$14,174	65.1%
Non Operating Revenue	\$3,055	\$3,009	\$47	1.6%
Non Operating Expenses	\$32,099	\$29,736	\$2,362	7.9%
Net Surplus (Deficit)	\$6,896	(\$4,936)	\$11,858	-238.9%

The Net Profit for the year is \$6.9 million, a significant improvement from the prior year loss of just under \$5.0 million.

Water revenues were up \$3.8 million over last year, reflecting an increase in rates partially offset by declining consumption. The water consumption rate increased 23.9% as of April 2014. Base Charge



Installation of Sanitary Sewer along the Chain of Lakes Trail



Aeration tanks at the expanded and upgraded Eastern Passage WWTF

rates have not increased, however base charge revenue is up 1.4% as a result of customer growth of 0.4% and the change in the accrued base charge revenue. Wastewater revenue has increased \$12.4 million over the prior year, with Metered Sales accounting for the increase. Stormwater Revenue is up \$2.5 million from the prior year. The change is due to Stormwater charges being in place for the full fiscal year, following increases that took effect April 1, 2014. Stormwater Service Revenue is significantly higher than originally budgeted. At the time the budget was prepared, the billable impervious area was still being finalized for “Stormwater only” customers, and the budget was reduced to allow for anticipated reviews and exemptions. Appeals have been less than what was allowed for compared to the budget reduction.

To help maintain and stabilize rates, Cost Containment remains an on-going focus for the Utility. For 2014/15, cost containment initiatives totaled \$1.7 million, with the most significant impacts in the areas of Facilities/Process (\$1.0 million), General Budget (\$0.7 million) and Human Resource Strategies (\$0.4 million). Facilities/ Process Strategies consist of new initiatives for 2014/15 in the amount of \$0.7 million, with the remaining \$0.3 million representing on-going initiatives carried forward from the prior fiscal year. The new initiatives generated are predominantly through Engineering and Information Services, specifically the Energy Management program. This program implemented cost saving initiatives at various facilities including upgrades to the lighting, heating, ventilation, and air-conditioning (HVAC) and aeration systems. Cost

containment related to lagoon dredging at Aerotech in the amount of \$0.6 million was the most significant savings under General Budget Strategies, and deferrals relating to the hiring of new full time equivalents (FTEs) contributed to savings in Human Resources Strategies.

Pension Plan Sustainability

An actuarial valuation was conducted at January 1, 2014. Although there has been improved performance in investments since the last valuation, the Going Concern deficit increased from (\$14,387,000) to (\$27,110,200) and the plan was only 73% funded from a Going Concern perspective. Two key changes in assumptions have resulted in increased cost and funding requirements for the plan – a declining discount rate and adoption of new mortality tables.



Cow Bay Road deep storm sewer project

The discount rate decreased from 6.00% to 5.50% to reflect lower expectations for investment returns in the future. There has been a trend amongst public pension plans in recent years to ensure discount rates are conservative and reflective of projected future conditions. This is being driven by Actuarial guidelines.

New mortality tables were published in early 2014 in recognition that Canadians are living longer. The new mortality tables were expected to increase liabilities between 5 – 8% for most defined benefit pension plans.

In response to the 2014 Actuarial Valuation, the Employer and Employee Pension Contributions were increased in the 2014/15 fiscal year, from 10.47% to 12.95%, and additional going concern special payments were made. As a result, pension sustainability was the main focus during collective bargaining with the Canadian Union of Public Employees (CUPE) Locals 227 and 1431.

International Financial Reporting Standards

There continues to be uncertainty around future financial reporting requirements for the Utility. Halifax Water is a fully regulated government business enterprise, falling under the jurisdiction of the NSUARB. The NSUARB requires that Halifax Water file Financial Statements and rate applications based on the Handbook for Accounting and Reporting for Water Utilities, “The Handbook”. Although the Handbook generally follows Canadian Generally Accepted Accounting Principles (GAAP), there are a couple of significant differences centered around the recording of principal debt payments and the treatment of the disposal of fixed assets that result in reporting differences between the Handbook and GAAP. Canadian GAAP for Government Business Enterprises is now International Financial Reporting Standards, or IFRS.

Halifax Water qualifies for a deferral to become compliant with IFRS on the basis that it: A) has activities subject to

rate regulation as defined in Generally Accepted Accounting Principles, Section 1100 in Part V of the Handbook; and, B) in accordance with Accounting Guideline AcG-19, Disclosures by Entities Subject to Rate Regulation, also in Part V of the Handbook, discloses that it has accounted for a transaction or event differently than it would have in the absence of rate regulation (i.e., has recognized regulatory assets and regulatory liabilities).

Notwithstanding the temporary deferral, Halifax Water must be compliant for fiscal years beginning on or after January 1, 2014. The first fiscal year statements that will be produced in IFRS will be the 15/16 fiscal year, however the 14/15 fiscal year will have to be re-stated for comparative purposes.

It is Halifax Water’s intention to become compliant with IFRS within the prescribed period.

Regulatory Activity

On November 24, 2014 Halifax Water submitted a two year rate application to increase rates for Water, and Wastewater

Fire hydrant, a critical component of fire protection at the ready



effective May 1, 2015, and April 1, 2016. This was the first Rate Application reflecting consolidation of the Aerotech/Airport System; and the combined Regional Development Charge for the Urban Core and Aerotech/Airport System. Halifax Water also proposed an approach to rate smoothing and some rate design changes to enhance revenue stability which were approved by the NSUARB. Some of the changes in the rate structure include:

- Water base charges increasing 1% in 2015/16
- Wastewater base charges increasing 1% in 2016/17
- Public Fire Protection will be reduced to the Cost of Service based level by 2016/17, meaning the municipality will see the benefit of lower charges in 2015/16 and 2016/17. Public Fire Protection decreases from \$8,952,880 in 2014/15 to \$8,031,718 in 2015/16 and \$7,947,976 in 2016/17.
- Private Fire Protection charges will increase to the Cost of Service based level by 2016/17.

From a competitiveness perspective, Halifax Water's rates continue to be among the lowest in Canada.

A Settlement Agreement was reached with Intervenor during the hearing process, which Halifax Water views as a positive outcome. Some highlights from the Board findings include:

- Approval of the Settlement Agreement, including changes proposed by Halifax Water to the Cost of Service Design Manual and the Rate Design; maintain the existing wastewater base charge for 2015/16, as proposed by the Board's consultant and accepted by the Consumer Advocate; various adjustments that saw revenue requirements lowered by \$2.9 million in 2015/16 and \$4.9 million

in 2016/17; revisions to the Rules and Regulations based on recommendations from the Board's consultant; and a revised Wastewater Rebate eligibility threshold for customers who utilize more than 1,000 cubic metres of water annually.

- The Board accepted Halifax Water's capital plan, including the proposed gradualism/rate smoothing strategy for the test period.
- The Board accepted that the pension revenue requirement will be based on the cash basis for the test years and that it will be revisited in Halifax Water's next General Rate Application (GRA).
- The Board directed Halifax Water to fully explore the cost allocation to unregulated activities in the preparation of its next GRA.
- In its next GRA, the Board directed Halifax Water to provide complete details including all expenses and recoveries, allocation of operating costs to capital, and net costs allocated to revenue requirements.
- The Board accepted the water consumption levels proposed for the test years in the Application, which recognizes a 3% decline each year.
- The Board directed Halifax Water to file annual reports of its efforts to contain operating costs of the utility. This report is to be filed annually, no later than June 20th of each year. Within the Decision, it is noted that the Board appreciated receiving Halifax Water's first cost containment report, and Halifax Water's initiatives to contain its operating costs. Halifax Water filed a report with the Board in September 2014 identifying about \$2.8 million of savings in 2013/14.

SERVICE EXCELLENCE

Halifax Water ended the year with 82,977 water customer connections, 79,466 wastewater customer connections, and 96,929 stormwater customers.

These customer numbers for water and wastewater include both the urban core, satellite and Airport/Aerotech systems. There are no stormwater customers in the Airport/Aerotech system, as the Utility does not own the infrastructure or provide stormwater service in that area.

Call volumes have increased by 15% since 2010 but have recently levelled off. Call Centre staff answered 72,601 calls in 2014/15, a decrease of 1.5% compared to 2013/14 (73,214 calls). Call volumes in 2013/14 were unusually high due to the first time implementation of separate rates for stormwater service. The average call wait time to answer was 83 seconds, short of the corporate target of 70 seconds. The average daily call volume was 294 with an abandon rate of 7%. Over the past three years a generic email for Customer Service and on-line service requests for some services has contributed to an increased workload. Administering service requests has contributed to an increased workload. Halifax Water is looking at implementing new technology and new customer service channels to improve overall service.

In 2013/14, an Advance Metering Infrastructure (AMI) Technology Assessment & Feasibility Study was completed. In 2014/15 Halifax Water completed additional work to evaluate the potential conversion to monthly or bi-monthly versus quarterly billing; and develop a plan to implement new metering technology over a three to four year period.

By its nature, AMI creates opportunities to provide a greatly enhanced level of



Safety first on the Cow Bay Road deep storm sewer project

customer service and make fundamental changes to business processes. AMI technology opens up the possibility for two way communication with the customer. This is contrasted with Automated Meter Reading (AMR) whereby data collection devices only receive information from one way. AMR can reduce the cost of meter reading and improve its accuracy but does not fundamentally change the customer relationship. Halifax Water's current practice is to use a hybrid of AMR and traditionally walked meter routes. In future, Halifax Water will be transitioning to either full AMR, full AMI or a hybrid AMR/AMI system with walked meter routes eliminated.

During 2013/14 the Halifax Water

Board approved participation in an e-delivery project with the Property Valuation Services Corporation, the Halifax Municipality, and Cape Breton Regional Municipality. In September 2014 e-delivery of bills through Canada Post's epost system became available to Halifax Water customers. This is a service enhancement that many customers have been requesting, which will also result in financial savings for the utility associated with manually printing and mailing bills.

Typical 5/8 inch (15 mm) residential water meter





Investing in culvert and ditch infrastructure to improve stormwater service on Pockwock Road

Effective Asset Management

Capital Infrastructure Program

The construction of the Lakeside Pumping Station Diversion project was completed in 2014/15. The immediate result of this project is that one third

of the flow to the Beechville/Lakeside/Timberlea wastewater treatment facility (BLT WWTF) is now redirected to the Halifax WWTF. This enables continued development within the BLT sewershed without the need for a capacity upgrade

Kearney Lake Road connection to Pockwock watermain



Fish Hatchery Park Pumping Station maintenance

to the BLT WWTF. In addition, the trunk gravity sewer is oversized to become a component of a future regional wastewater collection system. The total project cost was approximately \$24.2M and included two pumping stations, 3.3 km of dual 350/400 mm dia. forcemains, and 5.7 km of 900/1050 mm dia. gravity trunk sewer. The project also leaves a legacy of paved recreation trails with benches, a look off and upgraded landscaping.

The Bedford West Regional Wastewater System was another important capital project undertaken in 2014/15. This work enables development to proceed in the area of Kearney Lake to Highway 102 to Hammonds Plains Road with capacity for future growth beyond these limits. This is a Capital Cost Contribution project with the majority of the funding coming from the developers of the benefitting land. The total project cost was approximately \$24.5M and included two pumping stations, 3.6 km of dual 600 mm dia.

forcemains, 0.8 km of dual 400 mm dia. forcemains and 2 km of 375 mm dia. wastewater sewer.

In 2014 a condition assessment was undertaken of the Fish Hatchery wastewater forcemains. The Fish Hatchery Park Pumping Station provides service to all of Sackville and part of Bedford. The station was constructed in 1969 and on an average day conveys 63 million litres of wastewater to the Mill Cove Wastewater Treatment Facility (WWTF) via two forcemains. The forcemains are 450 mm and 600 mm in diameter and 1.8 km in length. They are constructed of ductile iron pipe, asbestos cement pipe and pre-stressed concrete cylinder pipe. The inspection was undertaken using free swimming tools which is a cost effective means of inspection and also enables the system to remain in operation. The assessment confirmed the forcemain system is in good structural condition.

The second phase of the Kearney Lake Transmission main project was successfully completed in 2014. The project involved the replacement of the 1200 mm diameter transmission main



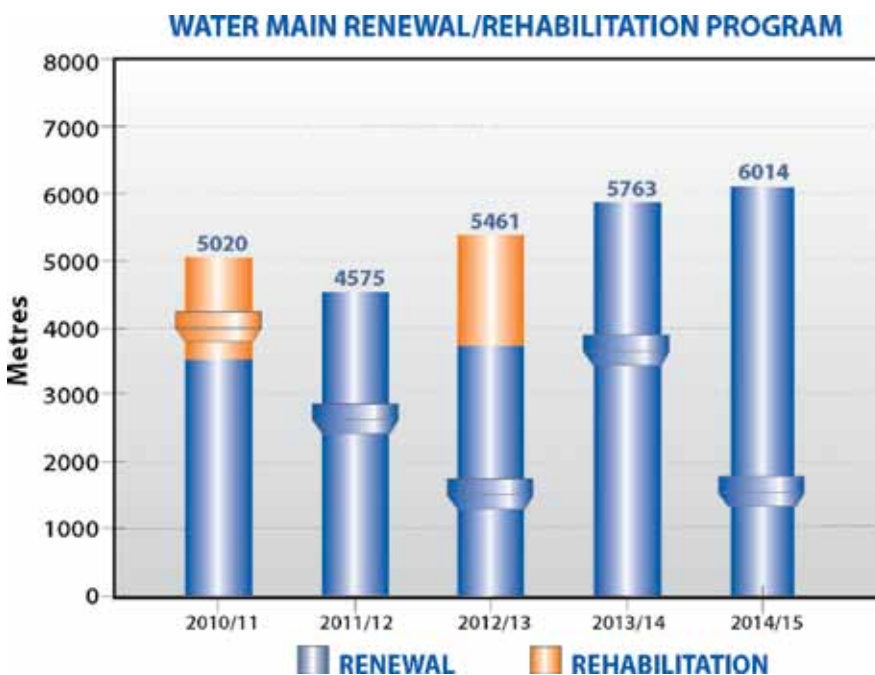
Critical “Hot Tap” of the Pockwock watermain for service to Bedford

along Kearney Lake Road (renamed Larry Uteck Boulevard) from Bluewater Road to the Hammonds Plains Road. Phase 2 of the project reused the temporary 750mm pipe that was used for Phase 1 in 2013. This temporary pipe has again been

retrieved and stored for reuse on future transmission main projects. One of the key components of this project in 2014 was the Larry Uteck “hot-tap”. The hot-tap involved the installation of a new large diameter connection to the Pockwock Transmission Main in order to support the ongoing growth and development in the Bedford area.

Halifax Water successfully carried out a significant volume of watermain renewal projects in conjunction with Halifax’s Street Renewal program. In the 2014/15 season, 6014 metres of water main were renewed.

Providing our customers with effective, reliable wastewater treatment requires investment in infrastructure that reflects the triple bottom line. The Aerotech Wastewater Treatment Facility (AWWTF) Expansion and Upgrade Project is an excellent example of such investment where long term thinking and a





One of five 636 HP pumps at the Halifax Wastewater Treatment Facility

commitment to balance financial, social and environmental concerns are integral to our service delivery.

The key drivers of the AWWTF Project are regulatory compliance and growth. At a

total project cost of \$23 million dollars, it is one of the biggest capital projects that Halifax Water is currently implementing and involves a very large, broad and diverse team in order to complete the complex and multidisciplinary work.

The Environmental Risk Assessment and Preliminary Engineering Design have been completed for the project. Currently effort is under way to complete the Detail Design Engineering by early spring of 2016. It is anticipated construction will start in late spring of 2016 and be complete a year later in the summer of 2017.

Energy Efficiency Program

Energy use in municipal water and wastewater/stormwater treatment facilities and their respective distribution and collection systems remains among the highest in North America, typically consuming over 30% of Municipal energy usage and over 4% of the total

National energy usage. With this in mind, Halifax Water has continued its efforts to improve its energy foot print with the following key initiatives.

- The Energy Management Plan was updated to identify specific annual energy reduction targets and activities to be completed in 2014/15.
- Various equipment and infrastructure upgrades were completed in 2014/15, resulting in over 850,000 kWh (kilowatt hour equivalent) in annual energy savings. These projects include lighting upgrades in a number of Halifax Harbour Solution Project (HHSP) facilities and HVAC re-commissioning of a major wastewater pump station.
- Development of six renewable energy generation projects continued through the Community Feed In Tariff (COMFIT) program. Approvals were received from the Nova Scotia Department of Energy for all of the projects, including one wind

Turbine in water control chamber generating electricity





Pockwock Windfarm project

energy development at the J.D. Kline Water supply Plant, two wind energy projects for the Lake Major watershed area, two In-Line Hydrokinetic Turbine projects to be installed within the water distribution system (one of which has been partially funded by both the Water Research Foundation and the Nova Scotia Environment, and one Biogas Combined Heat and Power (CHP) system at the Mill Cove WWTF. In terms of progress on these projects, construction of the Pockwock Wind Farm was completed in November 2014. The Orchard Control Chamber Energy Recovery System (in-line turbine) was completed in October 2014. For the period of October 2014 to March 2015, energy production was 103,825 kWh, and energy revenues were \$8,635. Annual production is expected to be 225,000 kWh with annual revenues of \$30,000. A feasibility study and preliminary design for the Mill Cove CHP system are expected to be completed by December 2015. Construction is being planned for the 2016/17 fiscal year.

- A continued focus on early stage

involvement in various infrastructure projects has also brought a focus on energy efficiency and sustainability at the design stage. Current projects include the Lakeside/Bayers Lake Pumping Station Upgrade Project, and the Aerotech WWTF Upgrade Project.

- When appropriate, Halifax Water has also taken advantage of Provincial energy efficiency rebate programs being offered by Efficiency Nova Scotia, which help to reduce capital costs and improve project payback.

Annual energy usage for Halifax Water was reduced by approximately 1.8% in 2014/15 versus 2013/14. A focus on further energy efficiency and operational improvements to existing infrastructure, and on completing energy audits in the rest of our facilities in the coming years, will allow Halifax Water to continue to build on these results.

In recognition of Halifax Water's focus on energy, Efficiency Nova Scotia awarded Halifax Water the 2014 Engagement Award.

Asset Management Program

The Asset Management (AM) Team is responsible for four main programs: master planning, system modeling, asset management program development and support, and capital budget development.

Under master planning and system modelling, the AM Team commenced work on the West Region Wastewater Infrastructure Plan (WRWIP) continuing on from the work previously completed under the Regional Wastewater Functional Plan (RWWFP), the Integrated Resource Plan (IRP) and the Regional Development Charge (RDC) policy. The WRWIP will review background documents, confirm assumptions, legislation, constraints, update growth projections through Halifax municipality, conduct flow monitoring, update the hydraulic model, develop and evaluate a range of scenarios aimed at various levels of inflow and infiltration reduction, conduct capacity and compliance analysis, and verify the preferred servicing strategy.

Regarding the AM program development, the team has progressed the condition assessment projects for Wastewater Treatment Facilities (WWTFs), Wastewater Pumping Stations (WWPSs), and Stormwater Culverts. In addition to the data collection and assessment tasks, these projects also involve developing longer term reinvestment levels and an emphasis on the near term expenditures.

Regulatory Compliance

Drinking Water Quality

Halifax Water’s comprehensive water testing program ensures customers are receiving safe, reliable, high quality water. Bacteriological testing is done twice per week at 48 locations within the urban core, and weekly at each of the small water systems owned by Halifax Water. Approximately 3,600 tests for total coliform bacteria are conducted each year. Results indicate that 99.9% of samples are free of coliform bacteria.

Drinking Water Compliance Summary		
Total Coliform Sample Results		
	April 2014 to March 2015	
Systems	% Absent	# of Samples
HFX/Pockwock	100.0%	1039
HFX/Pockwock Central	100.0%	624
Lake Major	100.0%	1199
Bennery	100.0%	159
Five Islands	100.0%	103
Silver Sands	100.0%	101
Middle Musquodoboit	98.1%	106
Collins Park	100.0%	104
Miller Lake	100.0%	122
Bomont*	100.0%	26
Totals		3583
Absent (A)		3581
Present (P)		2
All Sites - % Absent		99.94%

*from January 1st onwards

Additional testing of drinking water includes:

- Chlorine residual, pH, and turbidity of treated water leaving each water treatment plant, as well as at multiple locations within the plant, in order to optimize the treatment process.
- Quarterly sampling of treated water at two or three locations within the distribution system for approximately 40 chemical parameters.
- Quarterly sampling of raw lake water



Pockwock water treatment facility, filter gallery

and water from contributing streams for approximately 40 chemical parameters.

- Bi-annual sampling of Lake Major and Pockwock Lake raw and treated water for all parameters in the Guidelines for Canadian Drinking Water Quality.
- Bi-annual testing and sampling for giardia and cryptosporidium of treated and raw water for all surface water systems.

Water test results are reported to Nova Scotia Environment and the Nova Scotia Medical Officer of Health on a regular basis. Protocols have been established between Halifax Water and the provincial departments to clearly delineate roles and responsibilities in the unlikely event of a disruption in water quality.

Lake Major, water supply for Dartmouth



Federal Wastewater System Effluent Regulations

The Canadian Council of Ministers of the Environment developed and signed the Canada-wide Strategy for the Management of Municipal Wastewater Effluent (the Strategy) in early 2009. The Strategy sets national standards for wastewater treatment, equivalent to secondary treatment. Facilities are provided timeframes in which to become compliant with this standard ranging from 10 to 30 years, depending on the degree of environmental risk posed by the effluent, and the nature of the receiving waters. The Strategy also places restrictions on overflows from both sanitary sewer and combined sewer systems (in which sanitary sewage is combined with stormwater in the same pipe). Combined sewer overflows are to be reduced and sanitary sewer overflows are to be eliminated over time. Both combined sewer overflows and sanitary sewer overflows should not increase as a result of development without having an approved management plan in place. The older parts of Halifax and Dartmouth contain combined sewer systems with combined sewer overflows, and some areas outside the downtown core have sanitary sewer overflows. With the incorporation of these requirements, Halifax Water completed the Regional Wastewater Functional Plan (RRWFP) in



The Herring Cove Wastewater Treatment Facility

2012 to provide a preliminary servicing overview of infrastructure needs to support growth to 2041. Management plans are to be developed and approved by local provincial jurisdictions. The federal government has developed the Wastewater System Effluent Regulations (July 2012) as a result of the Strategy, which implemented new national standards for carbonaceous biochemical oxygen demand, total suspended solids, chlorine, and ammonia (un-ionized form). All wastewater treatment facilities are required to meet the national standards within specified time frames. This will require upgrading

the Halifax and Dartmouth Harbour Solutions facilities from advanced-primary to the equivalent of secondary level treatment. The Herring Cove facility currently meets the new requirements. All treated wastewater effluent must not be acutely toxic to trout, beginning in January 2015. This sampling requirement has been added to Halifax Water's sampling program.

Halifax Water is currently putting measures in place to facilitate detection, measurement and reporting of sewer system overflows, in conformance with the new federal regulations. Combined sewer overflow reduction will be required under Management Plans to be developed with the province. Transitional Authorizations under the federal regulations will allow certain periods of time for facilities to become compliant, inclusive of combined sewer overflow reduction. Based on the level of risk as defined under the federal regulations, the Halifax and Dartmouth facilities will have 30 years (until 2041) under Transitional Authorizations issued by Environment Canada.

Residents enjoy Dingle Beach on the Northwest Arm





Eastern Passage WWTF overlooking the Autoport

The federal government has committed to further consultation with stakeholders on receiving water monitoring before including this in a future revision of the federal regulations.

Upgrading wastewater treatment plants and reducing overflows will require significant expenditures over time to meet the new national standards. With costs estimated at \$600 million to implement these regulations, it is hoped a funding program will be put in place by both the federal and provincial governments to help ease the financial burden to ratepayers.

Wastewater Treatment Facility (WWTF) Compliance

Wastewater treatment facilities in Nova Scotia are regulated by Nova Scotia Environment (NSE). NSE sets effluent discharge limits for all wastewater facilities. The limits define maximum concentrations of parameters such as carbonaceous biochemical oxygen demand (a measure of the amount of material in water which will consume oxygen as it decomposes), total suspended solids (a measure of the amount of particulate matter in the

water), and fecal coliform (bacteria associated with wastewater). For some facilities, nutrient removal (nitrogen and phosphorus which cause excess growth of algae and plants) and pH (a measure of acidity) are also regulated.

Some older wastewater facilities – 12 in total – were in need of upgrading and/or were over-stressed by the volume of wastewater, and were therefore often non-compliant with Nova Scotia Environment effluent limits. In an effort to address these issues, Halifax Water has completely reconstructed the Wellington Wastewater Treatment Facility, and has completed a \$61 million expansion

and upgrade to the Eastern Passage Facility. The wastewater collection systems for two treatment facilities – Wellington and Frame – were both completely replaced, resulting in major improvements to the performance of both treatment facilities. The treatment processes at several other facilities have been significantly improved through optimization efforts by Halifax Water staff. Also, a substantial diversion of sewage from the Beechville-Lakeside-Timberlea sewershed to the Halifax sewershed is now underway. This will reduce the loading on the existing Lakeside-Timberlea treatment facility and improve its performance and compliance status.

Nova Scotia Environment is in the process of changing compliance measurement standards from the former system, under which 80% of samples collected must meet the effluent limits, to conform to the newer federal system, under which average values must meet the effluent limits for each facility. Under these criteria and as demonstrated by the following tables, ten of fifteen facilities were fully compliant for 2014/15.

Capital and operational improvements undertaken by Halifax Water have resulted in performance improvements for several of our wastewater treatment facilities, which are reflected in the 2014-15 results and will continue in the

Upgraded Process Control area at the Wellington WWTF



Systems under old NSE Approvals during FY 2014-15, assessed using the 80% test:

Wastewater Treatment Facility Compliance Summary

Cumulative Performance - April 2014 to March 2015

Wastewater Treatment Facility	% of Samples Compliant with Nova Scotia Environment Discharge Requirements									NSE Discharge Limits Achieved
	CBOD5	TSS	Fecal Coliform	Phosphorus	O-Phosphate	Ammonia	pH	Dissolved Oxygen	Aluminum	
AeroTech	99	54	97	100	N/A	72	100	N/A	N/A	No
Belmont	80	65	70	N/A	N/A	N/A	N/A	N/A	N/A	No
Frame	95	35	95	N/A	N/A	N/A	N/A	N/A	N/A	No
Lakeside-Timberlea	88	20	92	N/A	100	24	N/A	97	N/A	No
Lockview-MacPherson	54	36	80	N/A	100	N/A	N/A	N/A	N/A	No
Middle Musquodoboit	100	83	96	N/A	N/A	N/A	N/A	N/A	N/A	Yes
Mill Cove	99	95	91	N/A	N/A	N/A	N/A	N/A	N/A	Yes
North Preston	91	81	95	N/A	98	86	95	N/A	N/A	Yes
Springfield	92	82	95	N/A	N/A	N/A	N/A	N/A	N/A	Yes
Steeves (Wellington)	100	100	98	N/A	100	86	100	N/A	100	Yes
Uplands Park	80	85	80	N/A	N/A	N/A	N/A	N/A	N/A	Yes
Weighted Average	90	67	92	100	100	59	99	97	100	

LEGEND:

	NSE Achieved (>= 80%)
	NSE not Achieved (<80%)

N/A – Not Applicable

Definitions:

- CBOD5 – Carbonaceous Biochemical Oxygen Demand – a measure of the amount of organic material
- Total Suspended Solids – a measure of the amount of particles in the wastewater
- Fecal Coliform – bacteria which are present in the treated sewage
- Phosphorus – a plant nutrient which can impact water bodies
- Ammonia – a chemical compound containing nitrogen, another plant nutrient
- pH – a measure of the acidity of water
- Dissolved Oxygen – the amount of oxygen in the water, essential for fish and other aquatic organisms

Systems under new NSE Approvals during FY 2014-15, assessed using average values:

Wastewater Treatment Facility Compliance Summary

Cumulative Performance - April 2014 to March 2015

	CBOD5	TSS	Fecal Coliform	Phosphorus	O-Phosphate	Ammonia	pH	Dissolved Oxygen	Aluminum	NSE Discharge Limits Achieved
Halifax	34	21	2641	N/A	N/A	N/A	N/A	N/A	N/A	Yes
Herring Cove	14	11	117	N/A	N/A	N/A	N/A	N/A	N/A	Yes
Dartmouth	23	24	2771	N/A	N/A	N/A	N/A	N/A	N/A	Yes
Eastern Passage	9	11	280	N/A	N/A	N/A	N/A	N/A	N/A	Yes
Weighted Average	20	17	1452	N/A	N/A	N/A	N/A	N/A	N/A	

LEGEND:

	Specific parameter limit achieved
	Specific parameter limit not achieved

N/A – Not Applicable

future. However, as the compliance results demonstrate, some treatment facilities still require capital and operational improvements. Halifax Water has developed Compliance Plans to upgrade and/or expand these facilities to improve their performance and become fully compliant. A major upgrade to the Aerotech wastewater treatment facility is in the design stages. The Belmont WWTF is scheduled to be decommissioned with work getting underway in 2015/16. Wastewater will be transferred to the recently expanded and upgraded Eastern Passage facility.

Regulatory Enforcement

Halifax Water regulates discharges into its wastewater and stormwater systems to ensure compliance with Halifax Water's Regulations as approved by the Nova Scotia Utility and Review Board. Materials such as hazardous chemicals, solvents, fuels, heavy metals and eroded soil, if discharged into our systems, may disrupt wastewater treatment processes; cause damage to the collection system or treatment facilities; create hazardous conditions for both the public and staff; and result in pollution of our rivers, lakes and the harbour.

Some discharges are immediate in nature such as an accident, failure of a fuel storage tank, or an illegal dump of a noxious substance into a storm or wastewater system. Others are more prolonged in nature such as an ongoing non-compliant discharge from an industrial or institutional facility, or a cross connection of a wastewater lateral into a storm sewer (which then discharges into a fresh water or marine water body), or the discharge of stormwater into the wastewater system, which causes operational and compliance problems within the wastewater system and can lead to flooding.

Halifax Water uses a variety of tools to address issues of non-compliant discharge, including education, system monitoring, investigations, system improvements and the development of improved construction practices.

Enforcement and other regulatory responses are also provided for in our regulations.

Halifax Water continues to find cross connections in which wastewater laterals from homes and other buildings are incorrectly connected to the stormwater system. In 2014/15, five new cross connections were identified. Three of these were corrected in 2014/15 along with two cross connections from previous years. The discharge of wastewater into a stormwater system poses a direct risk to public health and the environment, and is therefore addressed on a priority basis.

The Inflow and Infiltration (I & I) Reduction Program is intended to address the most serious operational issue facing Halifax Water's wastewater system – the increase in wastewater flow during wet weather. This increase in flow can cause overflows into the environment and can disrupt treatment processes, thereby posing a risk to public health and potentially putting Halifax Water out of compliance with federal and provincial regulations. The I & I Program focuses primarily on customer connections that allow stormwater to enter the wastewater system. In 2014/15 the I & I Program investigated over 40 commercial sites, 18 streets or neighbourhoods and over 130 residential



Pollution Prevention staff sample an urban watercourse for a possible cross-connection.

properties searching for sources of stormwater entering the wastewater system or in support of the Wet Weather Flow Management Program.



Environmental Engineering staff install a flow meter to monitor stormwater discharge to the wastewater system.

Private Outfall Elimination

The Private Outfall Elimination Program began in parallel with the Halifax Harbour Solutions Project in 2004. The objective of this program is to identify and eliminate privately owned wastewater pipes that are discharging directly into Halifax Harbour. The owner of each such pipe was required to construct a proper connection to the wastewater system to direct flows to one of Halifax Water's wastewater treatment facilities. In 2014/15 no outfalls were repaired and two (known) private outfalls were

remaining to be repaired, with tenders approved to undertake the work. Since the Private Outfall Elimination Program began, an estimated 64 outfall pipes discharging approximately 3000 cubic metres of wastewater per day have been eliminated, which is equivalent to the volume of wastewater from about 9000 people.

Stormwater Billing

Effective July 1, 2013, Halifax Water began billing all properties that receive stormwater service. Previously only customers receiving wastewater service (piped connection) paid a stormwater charge based on water consumption. The fees collected were used to maintain stormwater systems across the entire stormwater service area. This situation resulted in some customers receiving stormwater service without paying for it. This is contrary to the Public Utilities Act which mandates that charges be based on cost causation (user pay) principles and customers receive fair and equitable treatment.

Halifax Water has 97,849 customers receiving water, wastewater and stormwater service, or a combination of the three services. A number of customers requested an exemption from paying the stormwater charge, as per approved regulations. During 2014/15 over 2200 requests for exemption were received, approximately 1900 requests were responded to and 260 requests submitted for a second review. Approximately 740 properties were found to be exempt from paying the stormwater charge. Halifax Water continues to respond to Stormwater Billing Exemption requests and will be submitting an Application to the NSUARB in 2015/16 to consider changes to the stormwater cost of service methodology.

Environmental Management Systems

The International Standards Organization (ISO) sets standards for a variety of different processes and products. One of these is the ISO 14001 Standard, which sets the basic requirements for Environmental Management Systems. Under this standard, an organization or facility must define environmental goals, identify environmental impacts from its operations, document processes and procedures to reduce or control these impacts, and put in place procedures to audit performance. Audits are conducted by certified external auditors. There must also be a process to ensure continuous improvement, based on the findings of each audit.

Halifax Water currently has three facilities registered under ISO 14001 for drinking water supply and treatment – Pockwock, Lake Major and Bennery Lake. In 2013/14, Halifax Water began expansion of the ISO 14001 program to include wastewater treatment facilities. The Herring Cove Wastewater Treatment Facility was selected as the initial wastewater facility for ISO 14001 registration. During 2014/15, an analysis was done of the environmental impacts of this facility's operations, standard operating procedures were documented to reduce or prevent these impacts, and staff training was provided on Environmental Management Systems and incident response.

In 2015/16, Halifax Water intends to conduct an audit of the Herring Cove Wastewater Treatment Facility in order to have it registered under ISO 14001. The ISO program will then be extended to additional wastewater treatment facilities. The benefit of ISO registration is that it ensures good environmental stewardship and facility management for the public, regulatory agencies, and Halifax Water.

Stewardship of the Environment

Wet Weather Management Program

Halifax Water’s Wet Weather Management Program (WWMP) continues to refine the approach to managing the flows placed on Halifax Water sewer systems due to inflow and infiltration (I/I). The WWMP made a number of advancements through the fiscal year.

In order to prioritize individual sanitary systems within the service boundary, flow monitoring data is essential. Since the required historical flow monitoring data is not available, Halifax Water adopted a unique approach to compare the relative magnitude of wet weather impacts within the service boundary.

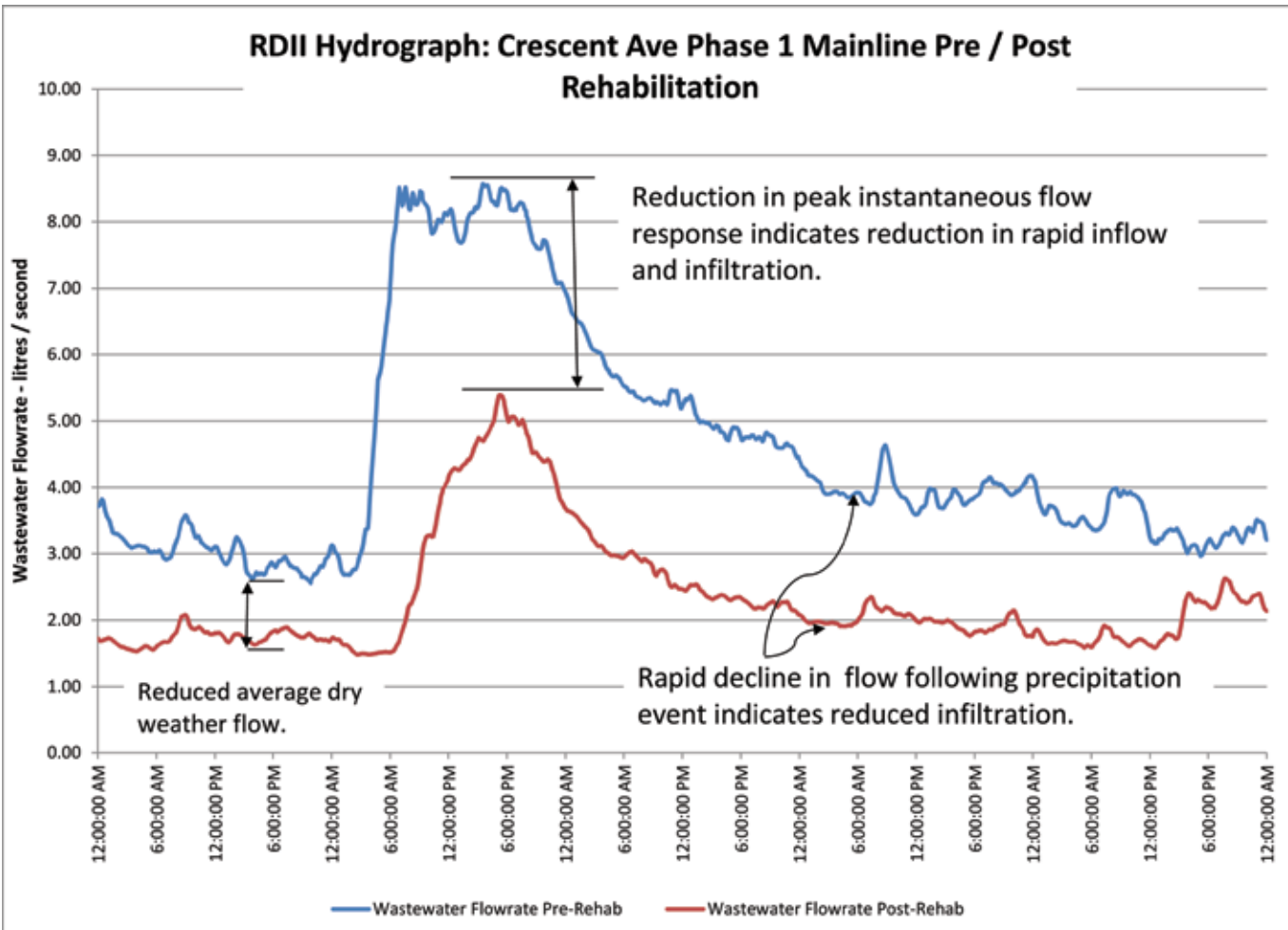
Sanitary sewer pumping stations are programmed to operate automatically. The operating times of the pumps are recorded at a central location. These operating times were used as a substitute for flow measurement to compare the peak flows of the entire service boundary and provide the WWMP with a prioritized list of sewersheds that have significant I/I impacts. This information is being used to make decisions on where to prioritize efforts to manage the wet weather flows within Halifax Water’s wastewater system.

The WWMP advanced three pilot projects this year. Notably the Crescent Avenue sewer mains were rehabilitated utilizing trenchless technology. Trenchless



Rehabilitating the Crescent Avenue sewer using innovative trenchless technology

technology eliminates the need to dig up streets and is significantly quicker and cheaper than traditional excavation construction methods. The method employed at Crescent Avenue was Cured In Place Pipe (CIPP). In phase I (2014) mainlines were successfully relined with limited disturbance to the residents.



Phase II (2015) will see lateral relining/rehabilitation take place, with phase III (manhole rehabilitation) planned for 2016. Preliminary results indicate a dramatic reduction in I/I following the phase I mainlining.

Installation of a deep storm sewer in the Cow Bay Road area of Eastern Passage got underway in summer 2014. This major project, which was funded 2/3 by Halifax municipality and 1/3 by Halifax Water, is one that many area residents have been looking forward to. The new storm sewer will reduce current I/I into the sanitary sewer, and provide a receiving pipe for discharges from private residents. In advance of the Cow Bay Road project, baseline flow data was captured so post-project results can be compared to pre-project flows. This will allow Halifax Water staff to measure project benefits through the reduction/elimination of flows in area sewer systems during rain events. This project also provides the opportunity to quantify the volume of flow that can be removed from the sanitary sewer system through the installation of a new deep storm sewer.

Pipe installation at Cow Bay using traditional open trench technique



The Stuart Harris Sanitary Sewershed Evaluation Study (SSES) has been completed and many sources of private and public I/I were identified. Sanitary sewer mainline rehabilitation is scheduled for fall 2015. Baseline flow data was compiled during 2014/15 so that I/I removal rates can be determined post rehabilitation.

Building on the success of the preliminary results attained at Crescent Ave., three additional sewersheds will be added to the comprehensive rehabilitation program for calendar 2015. It is critical to evaluate the value of rehabilitating sanitary sewers. A comprehensive cost/benefit analysis is required to determine the success of this approach. There is limited research available to quantify the cost of flow reduction. Halifax Water intends to run this analysis as results become available in each of the pilot areas.

There are two main technical activities that are critical to the Wet Weather Management Program (WWMP); CCTV pipe inspections and Sanitary Sewer Flow Monitoring.

These services provide the SSES team with two crucial pieces of information; the condition of the sewer pipe and how much flow is generated during precipitation events and during periods of dry weather. This information is then analyzed to identify the extent of the problem and what can be done to manage the wet weather flows. Using a prioritization matrix as a guiding document, Halifax Water will utilize the valuable information gained to support the data needs of the WWMP and Asset Management programs.



CCTV camera ready to inspect sewer main

Membrane Technology for Treatment of Secondary Effluent a Great Success

Municipalities and industries that discharge treated wastewater to the environment are facing more stringent restrictions related to effluent discharge requirements. To align with our corporate mission statement, "to provide world class services for our customers and our environment", Halifax Water initiated a pilot project to investigate the use of membrane technology to provide enhanced effluent treatment at select wastewater treatment facilities (WWTFs). The membrane pilot project began with the purchase and installation of a flat sheet low pressure membrane filtration module at the Aerotech WWTF.

With help from Halifax Water staff at the AeroTech WWTF, Technical Services and Central Region Collection System Operators, the system was installed and commissioned in the summer of 2014. The pilot was operated and evaluated for several months producing superior effluent quality with non-detectable total suspended solids and zero fecal coliform/100 mL counts in the treated effluent.

With the success of the Aerotech WWTF installation, staff looked for other viable applications of this technology. The Frame WWTF in Waverley was constructed in the late 60's and has



Frame WWTF producing high quality effluent

continuously struggled to meet effluent permit requirements throughout the years. With the AeroTech WWTF pilot a proven success, and the Frame WWTF facing short term facility upgrade costs (\$0.5 million dollars and potential replacement costs exceeding \$1.5 million), an internal value engineering exercise was conducted. The analysis determined that by implementing membrane technology, the Frame WWTF could meet current effluent guidelines at a fraction of the capital costs of the original preliminary design estimates.

With support from Halifax Water Central/ East Region Collection System Operators, Technical Services and local contractors, the membrane tertiary filtration process equipment was successfully installed and commissioned in August 2015.

The Frame WWTF is now producing effluent that exceeds the effluent permit requirements. The system is being evaluated and studied further with support from Dalhousie University.

Stormwater Infrastructure Maintenance and Upgrades

A well maintained wastewater and stormwater system is essential to ensure environmental protection, regulatory compliance, and protect private and public property. Halifax Water's operations staff conduct routine inspections, repair, and cleaning of stormwater infrastructure. The stormwater infrastructure maintenance included inspection and cleaning of approximately 1,600 catchbasins; cleaning of over 20 kilometers of storm pipe; repairing 122 stormwater manholes and over 200 catch basins; performing maintenance on 26 km of ditches; and replacing 181 culverts. This work is in addition to other capital work undertaken on the stormwater system.

Wastewater collection system maintenance includes the operation and maintenance of Halifax Water's 170 pumping stations. These stations are visited at least once a week and

proactively maintained to keep them in good working condition. Other components of wastewater infrastructure maintenance include 90 kms of mainline sewer cleaning; inspection of 500 manholes; 280 lateral replacements; and repairs to 300 manholes. Where possible, Halifax Water also employs trenchless pipe rehabilitation technology to restore deteriorated pipe. Twenty five pipeline repairs and 15 sewer lateral renewals were performed using this innovative approach.

Halifax Water uses GPS to Streamline Sludge Disposal for Septic Contractors.

Halifax Water has leveraged its fleet Global Positioning System (GPS) technology to make improvements to its sludge receiving and treatment processes. After completing a successful trial project, Halifax Water equipped 13 trucks from 10 private Septic Contractors with GPS devices to improve its septage receiving and treatment processes.

Ongoing investments in stormwater infrastructure





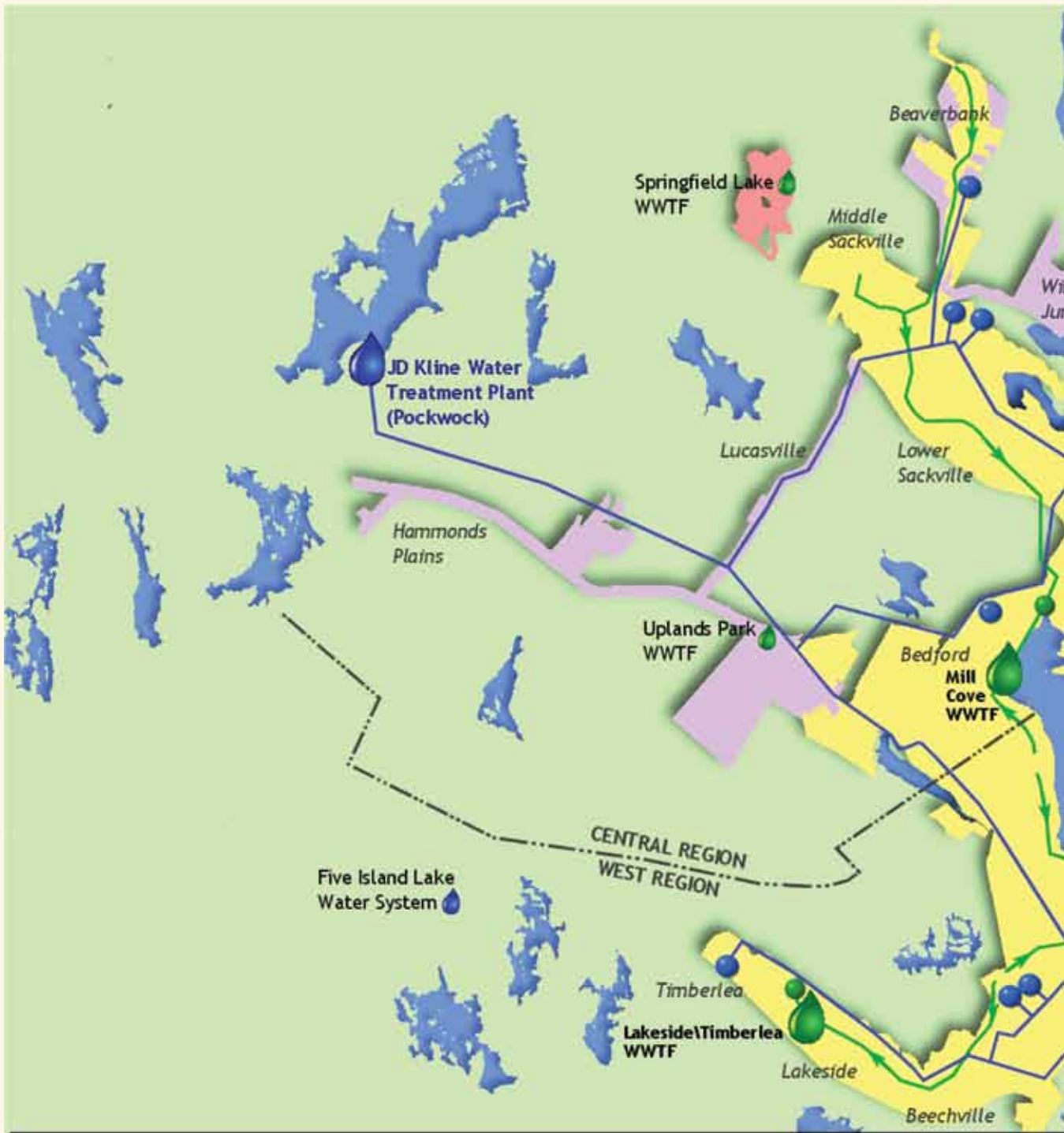
Crew works to optimize wastewater flows at the Balmoral pumping station

The GPS devices track the contractor's truck position and automatically reports each contractor's sludge disposal at a designated offloading location.

This technology based solution is a win/win for both Halifax Water and its participating septage contractors. Contractors now have more disposal sites available to them for longer business hours which offer them greater flexibility. The contractors can also utilize the GPS data to improve their own equipment management and route planning.

In addition to automating a previously manual information collection and

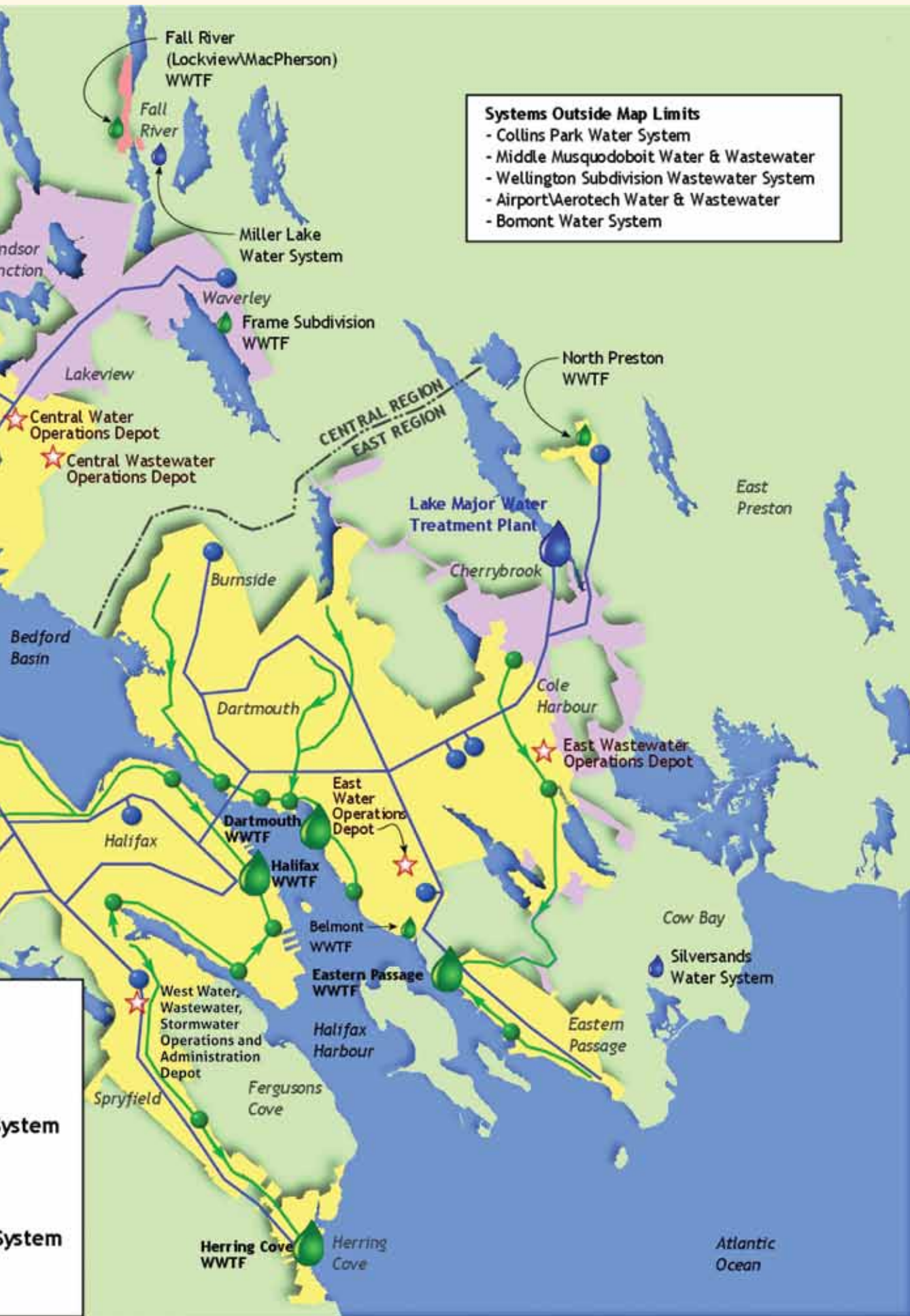
tracking process, the technology allows Halifax Water to receive contractor septage at optimum locations within its wastewater collection system which improves overall treatment efficiencies.



Water & Wastewater Service Districts and Supporting Infrastructure



- | | | |
|------------------------------------|---|--|
| Water Service District |  |  Wastewater Trunk S |
| Wastewater Service District |  |  Water Treatment |
| Common District |  |  Water Reservoir |
| Wastewater Treatment |  |  Water Distribution S |
| Primary Wastewater Pumping Station |  |  Operations Depot |



Safety and Security

Halifax Water and its employees are committed to providing a healthy and safe work environment to prevent occupational illness and injury. Health and safety is a core business function and treated as a priority in daily work. Halifax Water's seven Joint Occupational Health and Safety Committees continue to provide an effective forum where employees and management representatives meet every month to address health and safety issues that arise in the workplace. These committees actively facilitate inspections, review monthly safety statistics, conduct workplace accident investigations and review safe work practices and procedures to ensure the safety of all employees at Halifax Water.

This year Halifax Water actively increased safety awareness for contractors working on behalf of Halifax Water. Contractors working at our facilities completed

daily orientation sessions. Contractors working on large capital projects undertook Contractor Pre-construction Safety Reviews prior to startup of the project. Our inspectors are also closely monitoring these projects and reporting and correcting all incidents of non-compliance in regards to safety.

Halifax Water is responsible to provide vehicles that are suitable for the tasks being undertaken. This includes appropriate licensing, inspection, maintenance and equipment for managers, supervisors and employees when conducting work on behalf of Halifax Water. This year renewed efforts were made to ensure our fleet met the Commercial Vehicle Safety and Compliance rules and regulation. All employees have received updated training on the Commercial Vehicle Trip Inspection and Records Regulation and the Commercial Vehicle Driver's Hours



Using a trench box to ensure safe working conditions

of Service Regulation. Hands-on load securing training was also provided as part of this initiative.

Recognizing that water, wastewater and stormwater services are vital to the sustainability of communities in Halifax municipality, Halifax Water maintains an active Emergency Response Program and

Halifax Water crew safely repairs a watermain on Green Acres Road



a corporate Security Program. Employees continue to utilize the Incident Command System (ICS) when responding to such incidents as watermain breaks, wastewater releases, and environmental emergencies. The ICS is also used for planned work and was utilized for the shutdown on the Kearney Lake Road transmission main in the summer.

Halifax Water participates on a regular basis in multi-agency exercises with Halifax Fire, Halifax Police, Halifax Transportation and Public Works, Metro Transit, Emergency Health Services, and the RCMP. These exercises enable us to be prepared when responding to water, wastewater and stormwater incidents. It also allows employees to develop working relationships with other participating agencies, which is critical to success in multi-agency responses to emergencies. These relationships proved themselves as Halifax Water made repairs to the Lake Major Dam on January 17, 2015 with active support from Halifax Municipality, RCMP and Halifax Regional Ground Search and Rescue.

Crew works to repair the fish ladder at the Lake Major dam



Ensuring the fleet is well maintained to respond to a variety of situations

The federal government recognizes water as one of the ten critical infrastructure sectors that are essential to the health, safety, security and economic well-being of Canadians. Public Safety Canada works with critical infrastructure partners to manage risks, reduce vulnerabilities and strengthen the resilience of critical infrastructure. This year Public Safety

Canada completed four assessments at our wastewater and water treatment facilities as part of their Regional Resilience Assessment Program.

In 2015/16, Halifax Water will be working with Workers Compensation Board (WCB) to assist in enhancing the safety culture and program within our organization.

As well the utility will be rolling out a new excavation training program with improvements based on feedback from employees.

Motivated And Satisfied Employees

Strategic Workforce Planning

Halifax Water is committed to offering a challenging and rewarding career to all employees while providing world class services to our customers and our environment.

Over the last two years, Halifax Water has been working to develop its future leaders and recruiting for new talent as part of its Strategic Workforce Plan. Succession planning is well underway for key roles and positions requiring a unique or competitive skillset. A large component of developing future internal leaders is completed through Halifax Water's customized supervisory competency training program "Performance Matters". To date, 37 employees have successfully completed the customized training program and a new class of 17 employees is underway.

Halifax Water strives to recruit the

right candidate that is both a fit for the position and the organization. Multiple strategic recruitment and assessment tools have been incorporated into the recruitment plan to assist in attracting and retaining the right candidates for Halifax Water.

In addition to a collegial work environment that promotes a work-life balance, Halifax Water offers its employees a challenging and rewarding career with a competitive compensation and benefits package, opportunities for professional development, and incentive programs. All members of the Halifax Water team contribute to the success of the utility while delivering water, wastewater and stormwater services in an integrated, cost effective and environmentally sound manner with a commitment to long term sustainability.

2014 Service Awards

At the Service Awards banquet in 2014 awards were presented to the following staff:

35 Year Awards

Finance & Customer Service

Cheryl Little

Wastewater/Stormwater Services

Anthony Makin

30 Year Awards

Wastewater/Stormwater Services

William MacDonald

Water Services

Timothy Stanislav

25 Year Awards

Wastewater/Stormwater Services

Randy Shrum

William Sanderson

Leon Oulton

Gerald Patterson

Andrew Smith

Water Services

Raymond Young

William Robar

Terrance Nelson

Anthony Tooke

Alan Ossinger

Marty Dykeman

20 Year Awards

Engineering & Information Services

Jamie Hannam

Wastewater/Stormwater Services

James Mason

Water Services

John Gaudet

Kevin Kelloway

10 year Awards

Finance & Customer Service

Jody Charron

Ann Marie Grace

Amanda Seguin

Recruiting the best and brightest at a Halifax Job Fair





The Halifax Water team . . . in their element

Cheryl MacEachern
 Environmental Services
 Kimberley Fawcett
 Michelle MacDonald
 Wastewater/Stormwater Services
 Belinda Dickson
 Richard Lowe
 Water Services
 Trish Simms
 William Stevens
 Darcy Josey
 Kenneth Eisnor

Halifax Water Supporting Your Community

Halifax Water continues with fundraising initiatives to support Community groups like the United Way. For the 2014 Campaign Halifax Water staff raised a total of \$5,418.25 for the United Way Halifax campaign.

Halifax Water Staff raised \$2,056.00 for the H2O (Help to Others), Water Assistance Program to help those in-need with their water bills. This is on top of the \$18,927 Halifax Water provided in financial assistance through unregulated revenue.

Staff donated a total of \$8014.00 to the

AWWA "Water for People" program. This program sponsors water supply projects in Third World Countries.

The Christmas Families Fundraising initiative purchased gifts for 39 children as part of Carolyn's Angel Tree Program, provided funds to Hope Cottage and Feed Nova Scotia, and bought towels and face cloths for Bryony House.

Halifax Water staff also donated their time, energy and resources to the 2014 Bluenose Marathon. This year Halifax Water staff volunteered at one of the busiest water stations on the marathon course

and raised funds in support of Special Olympics Nova Scotia.

The Halifax Water Rush team raised funds and took part in the Manulife Dragon Boat Festival.

Every year Halifax Water supports community events through the provision of water stations. These water stations showed up at over thirty community events ranging from the Bluenose Marathon, to the Multicultural Festival and annual Halifax Harbour Swim. These water stations are more in demand at community events every year.

Water station at a community event on the Halifax waterfront



TYPICAL ANALYSIS OF POCKWOCK/LAKE MAJOR WATER 2014 - 2015

(in milligrams per litre unless shown otherwise)

Note: All Regulatory Compliance Analysis are Processed by Third Party Laboratories

PARAMETERS	(Halifax) POCKWOCK		(Dartmouth) LAKE MAJOR		GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	
	Raw Water	Treated Water	Raw Water	Treated Water	Maximum Acceptable Concentration	Objective Concentration
Alkalinity (as CaCO ₃)	<1.0	22.5	<1.0	18.5	-	-
Aluminum	0.120	0.131	0.195	0.030	-	*0.20 / 0.10
Ammonia (N)	<0.050	<0.050	<0.050	<0.050	-	-
Arsenic	<0.001	<0.001	<0.001	<0.001	0.010	-
Calcium	0.97	3.9	0.88	9.9	-	-
Chloride	7.1	8.8	6.4	8.3	-	≤250
Chlorate	<0.1	<0.1	<0.1	<0.1	1.0	-
Chlorite	<0.1	<0.1	<0.1	<0.1	1.0	-
Colour (True Colour Units)	16.0	<3.0	38.1	3.0	-	≤15.0
Conductivity (µmho/cm)	34.0	87.0	33.0	110.0	-	-
Copper (Total)	0.014	<0.004	0.113	<0.003	-	≤1.0
Fluoride	<0.10	0.72	<0.10	0.60	1.5	0.7
Hardness (as CaCO ₃)	4.0	11.2	3.7	26.0	-	-
Hardness (as CaCO ₃) (Grains)	0.28	0.78	0.27	1.83	-	-
HAA5 (avg.)	-	0.051	-	0.055	0.080	-
Iron (Total)	0.060	<0.050	0.100	<0.050	-	<0.3
Langelier Index @ 4°C	-4.6	-2.2	-5.4	-2.1	-	-
Langelier Index @ 20°C	-4.2	-2.0	-4.4	-1.9	-	-
Lead (Total) (µg/l)	0.60	<0.50	<0.50	<0.50	10.0	-
Magnesium	0.41	0.42	0.36	0.43	-	-
Manganese (Total)	0.034	0.008	0.054	0.007	-	≤0.05
Mercury (µg/l)	<0.013	<0.013	<0.013	<0.013	1.0	-
Nitrate and Nitrite (as N)	0.057	0.054	0.054	0.065	10.0	-
pH (pH Units)	5.8	7.3	5.5	7.2	-	6.5 - 8.5
Potassium	0.31	.35	0.31	0.32	-	-
Sodium	4.4	16.0	3.9	10.8	-	≤200
Solids (Total Dissolved)	19.5	50.5	29.0	73.0	-	≤500
Sulfate	3.0	7.7	2.4	24.0	--	≤500
Turbidity (NTU)	0.30	<0.09	0.32	<0.04	**0.2 / 1.0	≤5
Total Organic Carbon (TOC)	2.6	1.5	4.4	1.5	-	-
THM's (avg.)	-	0.058	-	0.064	0.100	-
Uranium (µg/l)	<0.10	<0.10	<0.10	<0.10	20.0	-
Zinc (Total)	0.007	0.074	0.007	0.096	-	≤5.0
PCB (µg/l)	<0.05	<0.05	<0.05	<0.05	-	-
Gross Alpha / Gross Beta (Bq/L)	<0.10/<0.10	<0.10/<0.10	<0.10/<0.10	<0.10/<0.10	0.5/1.0	-

* Aluminum objective is related to type of plant filtration; the aluminum objective for direct filtration (i.e. Pockwock) is <0.20 mg/l and conventional filtration (i.e. Lake Major) is <0.10 mg/l. **0.2/1.0 means the plant must produce water with turbidity of <0.2 NTU 95% of the time and <1.0 NTU 100% of the time, as required by Provincial Permit.

TYPICAL ANALYSIS - SMALL SYSTEMS 2014 - 2015

(in milligrams per litre unless shown otherwise)

Note: All Regulatory Compliance Analysis are Processed by Third Party Laboratories

PARAMETERS	BENNERY LAKE		FIVE ISLAND LAKE		GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	
	Raw Water	Treated Water	Raw Water	Treated Water	Maximum Acceptable Concentration	Objective Concentration
Alkalinity (as CaCO ₃)	<5.2	33.5	31.0	34.0	-	-
Aluminum	0.120	0.015	0.007	0.006	-	0.2
Ammonia (N)	<0.050	<0.050	<0.050	<0.050	-	-
Arsenic	<0.001	<0.001	0.004	0.0054	0.010	-
Calcium	2.25	22.0	8.9	8.5	-	-
Chloride	6.1	9.2	4.3	5.2	-	≤250
Chlorate	<0.1	0.5	<0.1	<0.1	1.0	-
Chlorite	<0.1	<0.1	<0.1	<0.1	1.0	-
Colour (True Colour Units)	31.3	<3.0	<5.0	<3.0	-	≤15.0
Conductivity (µmho/cm)	33.0	140.0	73.0	81.0	-	-
Copper (Total)	0.385	0.043	<0.003	0.015	-	≤1.0
Fluoride	<0.10	<0.10	0.41	0.40	1.5	-
Hardness (as CaCO ₃)	7.7	58.0	26.0	26.0	-	-
Hardness (as CaCO ₃) (Grains)	0.55	4.1	1.8	1.8	-	-
HAA5 (avg.)	-	0.048	-	<0.005	0.080	-
Iron (Total)	0.490	<0.050	<0.050	<0.050	-	≤0.3
Langelier Index @ 4°C	-2.7	-1.6	-2.2	-1.5	-	-
Langelier Index @ 20°C	-2.3	-1.5	-1.9	-1.3	-	-
Lead (Total) (µg/l)	0.70	<0.50	<0.50	<0.50	10.0	-
Magnesium	0.47	0.57	1.0	1.0	-	-
Manganese (Total)	0.290	0.29	<0.002	<0.002	-	≤0.05
Mercury (µg/l)	<0.013	<0.013	<0.013	<0.013	1.0	-
Nitrate and Nitrite (as N)	<0.06	<0.06	0.055	<0.050	10.0	-
pH (pH Units)	6.39	7.4	7.2	7.6	-	6.5 - 8.5
Potassium	0.23	0.25	0.46	0.46	-	-
Sodium	3.5	14.3	5.5	6.7	-	≤200
Solids (Total Dissolved)	18.0	92.0	57.0	62.0	-	≤500
Sulfate	2.9	28.2	2.5	2.6	-	≤500
Turbidity (NTU)	1.36	<0.04	<0.10	<0.12	*0.2 / 1.0 **1.0	≤5
Total Organic Carbon (TOC)	4.0	2.9	<0.50	<0.50	-	-
THM's (avg.)	-	0.065	-	<0.001	0.100	-
Uranium (µg/l)	<0.10	<0.10	10.0	10.0	20.0	-
Zinc (Total)	0.011	0.085	<0.005	<0.006	-	≤5.0
PCB (µg/l)	<0.05	<0.05	<0.050	<0.050	-	-
Gross Alpha / Gross Beta (Bq/L)	<0.10 / <0.10	<0.10 / <0.10	0.31 / 0.23	0.31 / 0.16	0.5 / 1.0	-
Lead-210 (Bq/L)	-	-	-	<0.1	0.2	-

*The Bennery Lake plant must produce water with turbidity of <0.2 NTU 95% of the time and <1.0 NTU 100% of the time. **The Five Island Lake plant must produce water with turbidity of <1.0 NTU 95% of the time, as required by Provincial Permit.

TYPICAL ANALYSIS - SMALL SYSTEMS 2014 - 2015

(in milligrams per litre unless shown otherwise)

Note: All Regulatory Compliance Analysis are Processed by Third Party Laboratories

PARAMETERS	MIDDLE MUSQUODOBOIT		COLLINS PARK		GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	
	Raw Water	Treated Water	Raw Water	Treated Water	Maximum Acceptable Concentration	Objective Concentration
Alkalinity (as CaCO ₃)	55.0	78.0	10.0	5.2	-	-
Aluminum	0.006	0.006	0.060	0.007	-	0.2
Ammonia (N)	<0.050	<0.050	<0.050	<0.050	-	-
Arsenic	<0.001	<0.001	0.003	<0.001	0.010	-
Calcium	18.0	3.1	6.1	0.22	-	-
Chloride	11.5	6.9	38.0	7.5	-	≤250
Chlorate	<0.1	0.1	<0.1	0.2	1.0	-
Chlorite	<0.1	<0.1	<0.1	<0.1	1.0	-
Colour (True Colour Units)	<5.0	<5.0	19.0	<5.0	-	≤15.0
Conductivity (µmho/cm)	170.0	150.0	150.0	22.0	-	-
Copper (Total)	0.006	0.007	<0.002	0.002	-	≤1.0
Fluoride	<0.10	<0.10	<0.10	<0.10	1.5	-
Hardness (as CaCO ₃)	73.0	12.0	19.0	<1.0	-	-
Hardness (as CaCO ₃) (Grains)	5.1	0.8	1.3	0.1	-	-
HAA5 (avg.)	-	<0.005	-	<0.008	0.080	-
Iron (Total)	<0.050	<0.050	0.150	<0.050	-	≤0.3
Langelier Index @ 4°C	-1.8	-2.1	-2.9	-5.1	-	-
Langelier Index @ 20°C	-1.6	-1.8	-2.6	-4.9	-	-
Lead (Total) (µg/l)	<0.50	<0.50	<0.50	<0.50	10.0	-
Magnesium	6.7	0.95	0.85	<0.10	-	-
Manganese (Total)	<0.002	<0.002	0.119	<0.002	-	≤0.05
Mercury (µg/l)	<0.013	<0.013	<0.013	<0.013	1.0	-
Nitrate and Nitrite (as N)	0.80	0.58	0.12	0.053	10.0	-
pH (pH Units)	6.6	7.2	7.0	6.6	-	6.5 - 8.5
Potassium	0.84	0.46	0.88	0.11	-	-
Sodium	5.9	32.7	21.5	5.4	-	≤200
Solids (Total Dissolved)	107.5	70.0	98.0	16.5	-	≤500
Sulfate	30.0	<2.0	7.1	<2.0	-	≤500
Turbidity (NTU)	<0.13	<0.03	1.94	<0.03	*0.1 / 0.3	≤5
Total Organic Carbon (TOC)	0.52	<0.50	3.2	<0.50	-	-
THM's (avg.)	-	<0.001	<1.0	<0.004	0.100	-
Uranium (µg/l)	<0.10	<0.10	<0.10	<0.10	20.0	-
Zinc (Total)	0.017	0.150	0.005	0.097	-	≤5.0
PCB (µg/l)	<0.05	<0.05	<0.05	<0.05	-	-
Gross Alpha / Gross Beta (Bq/L)	<0.010/<0.10	<0.010/<0.10	<0.010/<0.10	<0.010/<0.10	0.5/1.0	-

*Ultra-filtration membrane plants must produce water with turbidity of <0.1 NTU 99% of the time and <0.3 NTU 100% of the time, as required by Provincial Permit.

TYPICAL ANALYSIS - SMALL SYSTEMS 2014 - 2015

(in milligrams per litre unless shown otherwise)

Note: All Regulatory Compliance Analysis are Processed by Third Party Laboratories

PARAMETERS	SILVER SANDS		MILLER LAKE		GUIDELINES FOR CANADIAN DRINKING WATER QUALITY	
	Raw Water	Treated Water	*Raw Water	Treated Water	Maximum Acceptable Concentration	Objective Concentration
Alkalinity (as CaCO ₃)	76.0	73.0	-	2.0	-	-
Aluminum	0.007	0.006	-	0.080	-	0.2
Ammonia (N)	0.052	<0.050	-	<0.050	-	-
Arsenic	<0.002	<0.001	-	<0.001	0.010	-
Calcium	38.0	38.0	-	7.8	-	-
Chloride	65.5	65.5	-	9.2	-	≤250
Chlorate	<0.1	0.3	-	<0.1	1.0	-
Chlorite	<0.1	<0.1	-	<0.1	1.0	-
Colour (True Colour Units)	<5.3	<5.0	-	<5.0	-	≤15.0
Conductivity (µmho/cm)	390.0	380.0	-	110.0	-	-
Copper (Total)	<0.002	<0.002	-	<0.002	-	≤1.0
Fluoride	0.19	0.22	-	0.71	1.5	-
Hardness (as CaCO ₃)	120.0	120.0	-	21.0	-	-
Hardness (as CaCO ₃) (Grains)	8.5	8.5	-	1.5	-	-
HAA5 (avg.)	-	<0.006	-	0.063	0.080	-
Iron (Total)	0.678	<0.050	-	<0.050	-	≤0.3
Langelier Index @ 4°C	-0.43	-0.72	-	-2.05	-	-
Langelier Index @ 20°C	-0.18	-0.47	-	-1.80	-	-
Lead (Total) (µg/l)	<0.50	<0.50	-	<0.50	10.0	-
Magnesium	5.0	5.1	-	0.42	-	-
Manganese (Total)	0.770	0.012	-	0.004	-	≤0.05
Mercury (µg/l)	<0.013	<0.013	-	<0.013	1.0	-
Nitrate and Nitrite (as N)	<0.050	<0.050	-	<0.50	10.0	-
pH (pH Units)	7.6	7.5	-	7.4	-	6.5 - 8.5
Potassium	0.86	0.93	-	0.34	-	-
Sodium	25.0	26.0	-	13.5	-	≤200
Solids (Total Dissolved)	215.0	200.0	-	75.0	-	≤500
Sulfate	22.0	21.0	-	8.0	-	≤500
Turbidity (NTU)	5.7	<0.20	-	<0.19	**1.0 ***0.2 / 1.0	≤5
Total Organic Carbon (TOC)	<0.50	<0.50	-	1.6	-	-
THM's (avg.)	-	<0.004	-	0.074	0.100	-
Uranium (µg/l)	<0.10	<0.10	-	<0.10	20.0	-
Zinc (Total)	<0.005	0.023	-	0.069	-	≤5.0
PCB (µg/l)	<0.05	<0.05	-	<0.05	-	-
Gross Alpha / Gross Beta (Bq/L)	0.19/0.13	<0.10/<0.10	-	<0.10/<0.10	0.5/1.0	-

*Raw water samples were not collected from the Miller Lake wells this past year, since the wells were not in operation. Treated water was supplied from either the Lake Major or Pockwock water systems as facility upgrades are being implemented at the Miller Lake Water Supply System, including the connection of new wells. **The Silver Sands plant must produce water with turbidity of <1.0 NTU 95% of the time. ***The Miller Lake plant must produce water with turbidity of <0.2 NTU 95% of the time and <0.1 NTU 100% of the time, as required by Provincial Permit.

TYPICAL ANALYSIS - SMALL SYSTEMS 2014 - 2015

(in milligrams per litre unless shown otherwise)

Note: All Regulatory Compliance Analysis are Processed by Third Party Laboratories

PARAMETERS	BOMONT		GUIDELINES FOR CANADIAN DRINKING WATER QUALITY			
	Raw Water	Treated Water			Maximum Acceptable Concentration	Objective Concentration
Alkalinity (as CaCO ₃)	13.5	27.0			-	-
Aluminum	0.535	0.060			-	0.2
Ammonia (N)	0.10	0.13			-	-
Arsenic	0.008	<0.001			0.010	-
Calcium	9.2	7.4			-	-
Chloride	20.0	31.9			-	≤250
Chlorate	<0.1	0.3			1.0	-
Chlorite	<0.1	<0.11			1.0	-
Colour (True Colour Units)	36.0	<5.0			-	≤15.0
Conductivity (µmho/cm)	122.5	109.5			-	-
Copper (Total)	<0.003	0.008			-	≤1.0
Fluoride	<0.10	<0.09			1.5	-
Hardness (as CaCO ₃)	27.0	21.0			-	-
Hardness (as CaCO ₃) (Grains)	1.92	1.5			-	-
HAA5 (avg.)	-	0.040			0.080	-
Iron (Total)	0.535	<0.050			-	≤0.3
Langelier Index @ 4°C	-2.50	-2.23			-	-
Langelier Index @ 20°C	-2.27	-1.50			-	-
Lead (Total) (µg/l)	<0.72	<0.50			10.0	-
Magnesium	1.09	0.58			-	-
Manganese (Total)	0.041	0.006			-	≤0.05
Mercury (µg/l)	<0.013	<0.013			1.0	-
Nitrate and Nitrite (as N)	0.17	0.060			10.0	-
pH (pH Units)	7.0	7.1			-	6.5 - 8.5
Potassium	1.1	0.54			-	-
Sodium	12.0	16.3			-	≤200
Solids (Total Dissolved)	70.0	82.0			-	≤500
Sulfate	15.5	<4.7			-	≤500
Turbidity (NTU)	6.6	<0.11			*1.0/0.3	≤5
Total Organic Carbon (TOC)	4.95	1.15			-	-
THM's (avg.)	-	0.050			0.100	-
Uranium (µg/l)	<0.10	<0.10			20.0	-
Zinc (Total)	<0.005	0.028			-	≤5.0
PCB (µg/l)	<0.05	<0.05			-	-
Gross Alpha / Gross Beta (Bq/L)	<0.10/<0.10	<0.10/<0.10			0.5/1.0	-

Ultra-filtration membrane plants must produce water with turbidity of <1.0 NTU 99% of the time and <0.3 NTU 100% of the time, as required by Provincial Permit.

Financial Statements

(NSUARB Accounting and Reporting Handbook)

Halifax Regional Water Commission

March 31, 2015

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Independent auditor's report

To the Members of the Board of the
Halifax Regional Water Commission

We have audited the accompanying financial statements of Halifax Regional Water Commission, which comprise the balance sheet as at March 31, 2015, and the statements of operations, contributed capital surplus, operating surplus, operating surplus used to fund capital and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information. The financial statements have been prepared by management based on the financial reporting provisions of the Accounting and Reporting Handbook for Water Utilities ("the Water Utility Handbook") issued by the Nova Scotia Utility and Review Board.

Management's responsibility for the financial statements

Management is responsible for the preparation of these financial statements in accordance with the financial reporting provisions of the Water Utility Handbook, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements of Halifax Regional Water Commission for the year ended March 31, 2015 are prepared, in all material respects, in accordance with the financial reporting provisions of the Water Utility Handbook.

Basis of Accounting

Without modifying our opinion, we draw attention to note 2(a) to the financial statements, which describes the basis of accounting. The financial statements are prepared to assist the Halifax Regional Water Commission to comply with the financial reporting provisions of the Water Utility Handbook referred to above. As a result, the financial statements may not be suitable for another purpose.

Other matters

Our audit was conducted for the purpose of forming an opinion on the financial statements taken as a whole. The supplementary information included on pages 56 to 62 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such supplementary information has been subjected to the auditing procedures, only to the extent necessary to express an opinion, on the financial statements taken as a whole.

Halifax, Canada
June 18, 2015

Grant Thornton LLP
Chartered Accountants

Halifax Regional Water Commission

Statement of operations

Year ended March 31, 2015
(in thousands)

	2015		2014
	Budget (Unaudited)	Actual	Actual
Operating revenues			
Water service	\$ 39,434	\$ 38,727	\$ 34,341
Wastewater service	66,654	67,131	54,698
Stormwater service	9,647	10,951	8,446
Fire protection	8,953	8,953	9,575
Private fire protection services	562	558	429
Airport Aerotech system	1,724	1,775	1,717
Other operating revenue	2,878	2,225	2,295
	129,852	130,320	111,501
Operating expenditures			
Water supply and treatment	7,535	7,531	7,284
Water transmission and distribution	9,313	9,026	8,495
Wastewater collection	10,482	11,175	10,671
Stormwater collection	5,316	3,992	4,055
Wastewater treatment	20,405	19,540	18,079
Engineering and information services	7,333	6,766	6,774
Environmental services	2,602	2,654	2,559
Customer service	4,089	4,117	3,930
Administration and pension	12,070	10,062	10,388
Airport Aerotech system	1,725	1,570	1,702
Depreciation	18,581	17,954	15,798
	99,451	94,387	89,735
Operating profit	30,401	35,933	21,766
Financial and other revenues			
Interest	660	836	689
Other	2,419	2,225	2,318
	3,079	3,061	3,007
Financial and other expenditures			
Interest on long term debt	9,188	8,957	8,161
Repayment of long term debt	18,888	18,638	17,256
Amortization of debt discount	144	163	132
Grant in lieu of taxes	4,340	4,340	4,187
	32,560	32,098	29,736
Excess of revenues over expenditures (expenditures over revenues)	\$ 920	\$ 6,896	\$ (4,963)

See accompanying notes to the financial statements.

Halifax Regional Water Commission

Balance sheet

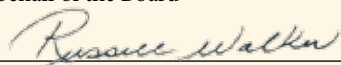
March 31, 2015
(in thousands)

	2015	2014
Assets		
Current		
Cash and cash equivalents	\$ 39,271	\$ 38,290
Receivables		
Customer charges and contractual	29,660	23,437
Halifax Regional Municipality	3,743	818
Materials and supplies	1,528	1,445
Prepays	915	694
	75,117	64,684
Regulatory asset (note 5)	3,772	3,964
Capital work in progress	41,423	10,676
Utility plant in service (schedule A)	1,013,765	1,005,207
	\$ 1,134,077	\$ 1,084,531
Liabilities		
Current		
Payables and accruals		
Trade	\$ 14,645	\$ 20,202
Interest on long term debt	2,137	2,026
Halifax Regional Municipality	6,973	3,796
Contractor and customer deposits	198	190
Current portion of long term debt (schedule B)	22,374	28,139
Unearned revenue	511	118
	46,838	54,471
Long term debt (schedule B)	208,231	186,964
Accrued pension liability (note 4)	10,796	10,234
Accrued post-retirement benefits (note 4)	604	617
Accrued pre-retirement benefit (note 4)	3,425	3,159
	269,894	255,445
Equity		
Special purpose reserves (note 7)	24,875	18,030
Contributed capital surplus (page 49)	823,992	802,636
Operating surplus (deficit) (page 49)	2,936	(3,960)
Operating surplus used to fund capital (page 49)	12,380	12,380
	864,183	829,086
	\$ 1,134,077	\$ 1,084,531

Contingent liabilities (note 3)

Commitments (note 8)

On behalf of the Board



Commissioner

Commissioner

See accompanying notes to the financial statements.

Halifax Regional Water Commission

Statement of cash flows

Year ended March 31, 2015

(in thousands)

	2015	2014
Increase (decrease) in cash and cash equivalents		
Operating		
Excess of revenues over expenditures (expenditures over revenues)	\$ 6,896	\$ (4,963)
Depreciation and amortization	19,124	17,090
Accrued pension liability	562	3,127
Decrease in accrued post-retirement benefits	(13)	(60)
Repayment of long term debt	18,638	17,256
Increase in accrued pre-retirement benefit	266	230
	45,473	32,680
Change in non-cash operating working capital items (note 9)	(11,320)	6,508
	34,153	39,188
Financing		
Proceeds from issuance of long term debt	43,730	48,457
Contributions to reserves	7,095	2,283
Debt issue costs	(89)	(231)
Principal repayment on Harbour Solutions long term debt	(16,500)	(6,500)
Principal repayments of long term debt	(11,639)	(9,053)
	22,597	34,956
Investing		
Capital cost contributions	3,187	324
Proceeds from sale of plant in service	482	278
Purchase of capital work in progress	(33,331)	(6,089)
Purchase of utility plant in service	(26,107)	(52,720)
	(55,769)	(58,207)
Increase in cash and cash equivalents	981	15,937
Cash and cash equivalents, beginning of year	38,290	22,353
Cash and cash equivalents, end of year	\$ 39,271	\$ 38,290

See accompanying notes to the financial statements.

Halifax Regional Water Commission Statement of contributed capital surplus

Year ended March 31, 2015
(in thousands)

	2015	2014
Contributed capital surplus, beginning of year	\$ 802,636	\$ 786,170
Contributions to plant in service	14,628	4,259
Transfer from special purpose reserve (note 7)	250	6,923
Debt repayment	18,638	17,256
Loss on disposal of assets	(445)	(2,252)
Gain on sale of land	-	152
Capital surplus transferred with HHSP (note 3)	(327)	-
	835,380	812,508
Less: amortization (note 2(b))	11,388	9,872
Contributed capital surplus, end of year	\$ 823,992	\$ 802,636

Halifax Regional Water Commission Statement of operating deficit

Year ended March 31, 2015
(in thousands)

	2015	2014
Operating (deficit) surplus, beginning of year	\$ (3,960)	\$ 1,003
Operating surplus used to fund capital	-	-
Excess of revenues over expenditures (expenditures over revenues)	6,896	(4,963)
Stewardship contributions charged to current surplus	-	-
Operating surplus (deficit), end of year	\$ 2,936	\$ (3,960)

Halifax Regional Water Commission Statement of operating surplus used to fund capital

Year ended March 31, 2015
(in thousands)

	2015	2014
Operating surplus used to fund capital, beginning of year	\$ 12,380	\$ 12,380
Additions to utility plant in service funded by operating surplus	-	-
Operating surplus used to fund capital, end of year	\$ 12,380	\$ 12,380

See accompanying notes to the financial statements.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2015

(in thousands)

1. Nature of operations

The Commission is a public utility owned by the Halifax Regional Municipality (HRM). The Commission is responsible for the supply of municipal water, wastewater and stormwater services to the residents of the HRM.

2. Summary of significant accounting policies

(a) Regulation

In matters of administrative policy relating to rates, capital expenditures, depreciation rates and accounting matters, the Commission is subject to the jurisdiction of the Nova Scotia Utility and Review Board (NSUARB). Rates charged to and collected from customers are designed to recover costs of providing the regulated services. These statements have been prepared in accordance with the Accounting and Reporting Handbook for Water Utilities (Handbook) issued by the NSUARB. There are differences in the accounting treatment of certain transactions from Canadian generally accepted accounting principles including the accounting of principal debt payments and gains and losses on the disposal of fixed assets.

Regulatory assets represent costs incurred that have been deferred as approved by the NSUARB and will be recovered through future rates collected from customers.

(b) Utility plant

Utility plant in service (Schedule A) is recorded at cost, including interest capitalized on the financing of projects during construction. Contributions for capital expenditures are credited to contributed capital surplus. Structures and land taken out of service are removed from utility plant in service and placed in plant not in service at cost less accumulated depreciation. Losses or gains related to assets retired, demolished or sold are charged or credited to contributed capital surplus for the period.

The Handbook permits the recording of contributed assets. The estimated value of contributed assets is credited to contributed capital surplus. Commencing in fiscal 2005, contributed assets are depreciated over their estimated remaining useful lives. The related contributed capital surplus is being amortized on the same basis as the contributed assets to which it relates.

The Commission has implemented a policy to account for infrastructure extensions into its water, wastewater and stormwater service districts, which for the most part will be recovered by capital contributions from developers in current and future periods. The objective is for these extensions to be cost neutral to the Commission with regard to current customers, unless there is a benefit to them. The related infrastructure extensions may include costs incurred by the Commission to provide additional capacity, not required at the present time, but undertaken to allow for future expansion. The estimated portion of these costs that do not benefit existing customers are recorded as contributed assets. The capital cost contribution is credited to contributed capital surplus when receivable and estimates adjusted, if required, when the development into the service area is complete. The capital cost contributions are subject to approval by the NSUARB. Growth related costs associated with regional water and wastewater infrastructure are also funded through a regional development charge (RDC) approved by the NSUARB.

(c) Cash and cash equivalents

Cash and cash equivalents consist of cash on hand and balances with banks, net of bank indebtedness.

(d) Depreciation

Depreciation is provided using the straight-line method over the estimated useful lives of the assets.

The estimated useful lives for the major classifications of utility plant in service are as follows:

Structures and improvements	50 to 100 years
Pumping equipment	5 to 30 years

Purification and treatment equipment	20 to 50 years
SCADA equipment	5 to 25 years
Water, wastewater and stormwater mains	60 to 100 years
Services and laterals	50 to 60 years
Meters	20 to 25 years
Hydrants	50 to 80 years
Tools and work equipment	5 to 30 years
Office equipment and furniture and transportation equipment	3 to 10 years

In the year of acquisition, depreciation is calculated at 50% of the above rates unless a project is significant, in which case depreciation is prorated for the number of months the asset was in use.

(e) Depreciation fund

The Commission does not maintain a depreciation fund. The Commission has received NSUARB approval for exemption from setting up a depreciation fund as long as net depreciable additions to plant exceed the depreciation charged.

(f) Materials and supplies

Materials and supplies inventories are carried at the lower of cost and net realizable value with cost being determined on a moving average basis.

(g) Revenues and expenditures

All revenues and expenditures are recorded on an accrual basis. Receivables include outstanding revenue billed by the Commission and estimated revenue not yet billed.

(h) Long term debt

Repayment of long term debt is recorded on an accrual basis as an expense on the statement of operations. Interest on long term debt is recorded on an accrual basis. Debt issue costs are deferred and amortized over the term of the debt to which it relates.

(i) Reserves

Certain funds within the reserves can be used for capital expenditures only with the approval of the NSUARB. All reserve withdrawals in excess of \$250 require approval from the NSUARB. System connection charges approved by the NSUARB are added to these reserves as collected. The reserves are to be used for capital expenditures on the water, wastewater and stormwater systems (note 7).

(j) Measurement uncertainty

In preparing the Commission's financial statements, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenue and expenditures during the period. Significant estimates and assumptions are not limited to but include the following:

- At year end, revenue from water and wastewater services has been earned but not yet billed due to the timing of the billing cycles. Management estimates the unbilled revenue accrual based on historic billing trends.
- Allowance for doubtful accounts includes a provision for successful stormwater exemption appeals.
- Management assumptions are used in the actuarial determination of the accrued pension liability, accrued post-retirement benefits, and accrued pre-retirement benefit. These assumptions are outlined in note 4. Actual results could differ from these estimates.

(k) Financial instruments

The Commission initially recognizes and measures its financial assets and liabilities at fair value. Loans and receivables, held to maturity financial assets and other financial liabilities are subsequently measured at cost or amortized cost.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2015
(in thousands)

The Commission classifies financial assets and liabilities according to their characteristics and management's choices and intentions related thereto for the purposes of ongoing measurements. Classification choices for financial assets include: a) held for trading - measured at fair value with changes in fair value recorded in net earnings; b) held to maturity - recorded at amortized cost with gains and losses recognized in net earnings in the period that the asset is derecognized or impaired; and c) loans and receivables - recorded at amortized cost with gains and losses recognized in net earnings in the period that the asset is no longer recognized or impaired.

Classification choices for financial liabilities include: a) held for trading - measured at fair value with changes in fair value recorded in net earnings and b) other - measured at amortized cost with gains and losses recognized in net earnings in the period that the liability is no longer recognized. Any financial asset or liability can be classified as held for trading as long as its fair value is reliably determinable.

The Commission's financial assets and liabilities are classified and measured as follows:

Asset/Liability	Classification	Measurement
Cash	Held for trading	Fair value
Cash equivalents	Held for trading	Fair value
Receivables	Loans and receivables	Amortized cost
Receivable from HRM	Loans and receivables	Amortized cost
Payables and accruals	Other liabilities	Amortized cost
Long term debt	Other liabilities	Amortized cost
Deposits	Other liabilities	Amortized cost

Unless otherwise noted, it is management's opinion that the Commission is not exposed to significant interest, currency or credit risks arising from financial instruments. The fair value of the Commission's financial instruments approximates their carrying values.

3. Contingent liabilities

As a condition of the sale of a property in prior year, the Commission indemnified the purchaser from claims or actions resulting from migration of halocarbons. The environmental risk is assessed to be low and the likelihood of any related liability is not determinable.

The Commission has been named along with the contractor for a flooding incident that occurred as a result of an overflow of wastewater at a pumping station associated with the Halifax Harbour Solutions Project (HHSP). The claim is being defended by the Commission's insurer and management believes exposure in this regard is minimal.

There are active claims against the Commission; however, the likelihood of actual liability is not determinable at this time. If the Commission's defense of active claims is unsuccessful, the potential exposure would be \$2,000 - \$2,500.

The Commission has certain outstanding grievances for alleged violations of the collective agreements with its unions. The financial risk of these grievances is not considered material.

The Canada Revenue Agency (CRA) has proposed an adjustment to the goods and services tax/harmonized sales tax (GST/HST) return for the month of April 2011 in the amount of \$680. The Commission has accrued a liability of \$327 and reduced the capital surplus transferred with the HHSP. The remaining balance of the proposed adjustment is being contested.

4. Pension plan, post-retirement benefits and pre-retirement benefit

The Commission is responsible for funding the employer share of the contributions to the HRM pension plan for certain employees that transferred from HRM as of August 1, 2007. HRM administers this defined benefit pension plan and the Commission reimburses HRM for the pension costs related to the Commission's proportionate share of the employees covered under the plan. Due to the nature of the plan, the Commission does not have sufficient information to account for the plan as a defined benefit; therefore, the multiemployer defined benefit plan is accounted for in the same manner as a defined contribution plan. An expense is recorded in the period when

the Commission is obligated to make contributions for services rendered by the employee. During the year, the Commission funded \$692 (2014 - \$643) in contributions to the plan.

For all other employees, the Commission maintains a defined benefit pension plan and offers post-retirement health and insurance benefits to all of its employees. The pension plan provides pensions based upon length of service and best five years' earnings. This defined benefit pension plan is funded by employer and employee contributions, each contributing 12.95% effective January 1, 2014 (previously 10.47%) of regular employee earnings. The Commission follows the recommendations of Section 3461 "Employee Future Benefits" of the CICA Handbook, Part V (Pre-changeover accounting standards).

Employees who retired prior to July 1, 1998 have extended health benefits coverage for life and drug coverage until age 65. Employees who retired after July 1, 1998 and before December 31, 2008 have coverage for drug, extended health, dental and life insurance until age 65 on a 50/50 cost shared basis (100% basis for employees who retired after December 31, 2008). Extended health coverage for these retirees and their spouses after the age of 65 is available on an optional basis at 100% retiree cost and drug coverage is available through the provincially managed drug program.

The Commission also has a non-funded pre-retirement benefit that is accrued annually, but is payable on retirement, termination or death if the employee has at least 10 years of continuous service. The benefit is equal to three days' pay for each completed year of service, up to a maximum of six months' salary and can be taken as a lump sum payment at the date of retirement in lieu of pre-retirement leave.

Information about the Commission's plans, based on an actuarial extrapolation as at March 31, 2015, is as follows:

	2015	2014	2015	2014	2015	2014
	Pension	Pension	Retirement	Post-	Retirement	Pre-
	Plan	Plan	Benefits	Post-	Retirement	Retirement
				Retirement	Benefit	Benefit
Accrued benefit obligation						
Balance, beginning of year	\$ 125,427	\$ 112,291	\$ 868	\$ 736	\$ 3,174	\$ 3,005
Current service cost	7,181	6,823	-	-	253	253
Interest cost	5,721	4,905	30	23	146	131
Actuarial loss (gain)	22,712	4,687	(374)	192	14	(60)
Benefit payments	(3,774)	(3,300)	(66)	(83)	(133)	(155)
Transfers in	29	21	-	-	-	-
Balance, end of year	157,296	125,427	458	868	3,454	3,174
Fair value of plan assets						
Balance, beginning of year	77,478	67,189	-	-	-	-
Actual return on plan assets	9,364	7,758	-	-	-	-
Transfers in	29	21	-	-	-	-
Benefit payments	(3,774)	(3,300)	(66)	(83)	(133)	(155)
Contributions: Employee	2,864	2,112	-	-	-	-
Employer	6,330	3,698	66	83	133	155
Balance, end of year	92,291	77,478	-	-	-	-
Plan deficit	65,005	47,949	458	868	3,454	3,174
Unamortized transitional asset	393	590	-	-	-	-
Unamortized experience (loss) gain	(54,157)	(37,763)	146	(251)	(29)	(15)
Unamortized plan amendments	(445)	(542)	-	-	-	-
Accrued benefit liability	\$ 10,796	\$ 10,234	\$ 604	\$ 617	\$ 3,425	\$ 3,159
Accrued benefit liability, beginning of year	\$ 10,234	\$ 7,107	\$ 617	\$ 677	\$ 3,159	\$ 2,929
Expense	6,892	6,825	53	23	399	385
Employer contributions	(6,330)	(3,698)	(66)	(83)	(133)	(155)
Accrued benefit liability recognized	\$ 10,796	\$ 10,234	\$ 604	\$ 617	\$ 3,425	\$ 3,159

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2015
(in thousands)

Administration and pension expense includes pension expense of \$6,892 (2014 - \$6,825). This amount includes the amortization of experience gains and losses and plan improvements. Amortization is calculated on a straight-line basis over the estimated average remaining service life of the employee group, currently estimated at 19 years.

Included in receivables is \$250 related to the 2014 retroactive pension contributions funded by the employer on behalf of the employees. The contribution rate changed from 10.47% to 12.95% effective January 1, 2014, but was implemented July 1, 2014 in the payroll system. The employee portion of retroactive pension contributions was funded by a reallocation of the employee pre-retirement benefit based on an agreement with the various employee groups. The employee receivable becomes payable at retirement, termination or death, at which time it will be offset by reducing the pre-retirement benefit payment. If an employee has less than 10 years of continuous service, the amount will be deducted from the employee's final pay. Employees are assessed a taxable benefit for T4 purposes, based on the CRA deemed interest rate applied to the outstanding loan.

The following assumptions have been used in the actuarial extrapolations of the accrued benefit liability at March 31, 2015:

	2015	2014	2015	2014	2015	2014
	Pension Plan	Pension Plan	Post-Retirement Benefit	Post-Retirement Benefits	Pre-Retirement Benefit	Pre-Retirement Benefit
Discount rate	3.70%	4.50%	2.60%	3.70%	3.70%	4.50%
Expected return on plan assets	5.50%	5.50%	N/A	N/A	N/A	N/A
Rate of compensation increase	3.75%	3.75%	N/A	N/A	3.75%	3.75%
Expenses for life benefits as a % of claims	N/A	N/A	10%	10%	N/A	N/A
Health benefit inflation per year	N/A	N/A	4.50-7.70%	4.50-7.97%	N/A	N/A
Dental benefit inflation per year	N/A	N/A	4.50%	4.50%	N/A	N/A

Funding for the pension plan is based on regular actuarial reviews. The last valuation was completed January 1, 2014, and the next review is scheduled for January 1, 2017.

5. Regulatory asset

In June 2011, the NSUARB granted the Commission approval to defer depreciation charges on certain assets transferred in 2010 from HRM relating to the HHSP. Depreciation of \$2,078 was deferred in each of fiscal 2010/11 and 2011/12. As a result, the Commission recognized a \$4,156 regulatory asset. In absence of rate regulation, this regulatory asset would have been expensed as depreciation in fiscal 2010/11 and 2011/12. In May 2012, the NSUARB granted approval of the amortization of this asset over the remaining useful lives of the underlying assets, beginning in 2013/14. The expense recognized in 2014/15 is \$192 (2014 - \$192).

6. Return on rate base

	2015	2014
Rate of return on rate base for water service	3.17%	2.32%
Rate of return on rate base for wastewater service	11.29%	5.47%
Rate of return on rate base for stormwater service	21.26%	10.02%
Rate of return on rate base for Airport Aerotech water service	19.35%	(2.41)%
Rate of return on rate base for Airport Aerotech wastewater service	32.93%	10.76%

7. Special purpose reserves

	Wastewater & Stormwater Reserves	RDC Water Reserve	RDC Wastewater Reserve	Other Capital Reserves	2015 Total	2014 Total
Reserve, beginning of year	\$ 17,818	\$ -	\$ -	\$ 212	\$ 18,030	\$ 22,670
Contributions and interest	1,643	136	5,316	-	7,095	2,283
Expenditures	(250)	-	-	-	(250)	(6,923)
Reserve, end of year	\$ 19,211	\$ 136	\$ 5,316	\$ 212	\$ 24,875	\$ 18,030

8. Commitments

An agreement with HRM for renewal of the dividend/grant in lieu of taxes for fiscal years 2011 to 2015 for water services was approved by the NSUARB as part of the January 1, 2011 rate decision. There was no dividend/grant in lieu of taxes approved for wastewater/stormwater. The Commission is committed to a payment of \$4,528 for the 2016 fiscal year.

At March 31, 2015, the Commission had \$47,617 in expenditures from current and past approved capital budgets not yet expended.

9. Supplemental cash flow information

	2015	2014
Changes in non-cash operating working capital items		
Receivables, customer charges and contractual	\$ (6,223)	\$ 424
Payable to/receivable from HRM, net	252	2,812
Materials and supplies	(83)	(151)
Prepays	(221)	54
Payables and accruals, trade	(5,557)	2,999
Accrued interest on long term debt	111	373
Contractor and consumer deposits	8	(4)
Unearned revenue	393	1
	\$ (11,320)	\$ 6,508

Interest paid during the year was \$8,957 (2014 - \$8,161).

10. Capital management

The Commission's objective when managing capital is to ensure sufficient liquidity to support its financial obligations and execute its operating and capital plans. The Commission monitors and makes adjustments to its capital structure through additional borrowings of long term debt which are used to finance capital projects.

The Commission considers its total capitalization to include all long term debt and total equity. The calculation is set out as follows:

	2015	2014
Long term debt (current portion)	\$ 22,374	\$ 28,139
Long term debt	208,231	186,964
Funded debt	230,605	215,103
Equity	864,183	829,086
Capital under management	\$ 1,094,788	\$ 1,044,189

The Commission is a regulated utility and is subject to the regulations of the NSUARB. As part of this regulation, the Commission must obtain approval by the NSUARB for all borrowings. The Commission has obtained regulatory approval for all borrowings during the fiscal year. The Commission is not subject to financial borrowing covenants.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2015
(in thousands)

11. Financial risk management

Credit risk

Credit risk arises from the possibility that the Commission's customers may experience financial difficulty and be unable to fulfill their obligations. The Commission's maximum exposure to credit risk corresponds to the customer charges and contractual accounts receivable. However, the Commission's customers are numerous and diverse, which reduces the concentration of credit risk. The Commission considers the credit quality of its accounts receivables that are neither past due nor impaired to be collectible.

Interest risk

Interest risk arises from the possibility that change in interest rate will cause the Commission a potential loss. All of the Commission's long term debt is at varying fixed rates and has staggered maturity dates. The Commission, therefore, considers its exposure to interest rate fluctuations to be minimal.

Market risk

Market risk arises from the possibility that the value of an investment will fluctuate as a result of changes in market prices. These changes could affect the market value of the investments in the Commission's employees' pension plan and consequently the plan's deficit. The risk is mitigated by the pension plan diversifying the types of investments in its portfolio.

Liquidity risk

Liquidity risk arises from the possibility of the Commission not being able to meet its cash requirements in a timely and cost effective manner. The Commission manages this risk by closely monitoring the cash on hand in comparison to upcoming cash commitments.

12. Related party transactions

Transactions with HRM are recorded at carrying value in accordance with Section 3840 "Related Party Transactions" of the CICA Handbook, Part V (Pre-changeover accounting standards).

The Commission is obligated to make payments on debt, held in the name of HRM, associated with wastewater and stormwater assets which were transferred to the Commission in 2007 and subsequent years.

Amounts receivable from and payable to HRM have normal credit terms.

During the year, the Commission had the following related party transactions with HRM:

- The Commission recorded revenue for provision of water, wastewater and stormwater services to HRM in the amount of \$4,726 (2014 - \$3,304).
- The Commission recorded fire protection revenue from HRM of \$9,146 (2014 - \$9,758).
- The Commission paid a grant in lieu of tax of \$4,340 (2014 - \$4,187).
- The HRM refinanced \$10,000 in Harbour Solutions project debt through the Municipal Finance Corporation that was formerly with the Federation of Canadian Municipalities.
- HRM approved a blanket guarantee of Commission debt subject to the Commission maintaining a debt service ratio of less than 35%.

13. Consolidation of Airport Aerotech system

On October 31, 2014, the Nova Scotia Utility and Review Board approved consolidation of the Airport Aerotech system into the urban core rate structure, effective April 1, 2015. Consolidation will result in a reduction in rates for customers in the Airport Aerotech system to align with the same rate structure applicable to customers in the urban core.

14. Comparative figures

Certain of the comparative figures for 2014 have been reclassified to conform with the financial statement presentation adopted for 2015.

Halifax Regional Water Commission

Schedule of utility plant in service

Schedule A

Year ended March 31, 2015

(in thousands)

			2015	2014
	Cost	Accumulated Depreciation	Net Book Value	Net Book Value
Water				
Intangible plant	\$ 1,662	\$ 576	\$ 1,086	\$ 1,243
Land and land rights	15,731	-	15,731	15,875
Structures and improvements	86,197	24,291	61,906	60,188
Pumping equipment	9,711	6,528	3,183	4,134
Purification equipment	22,347	13,604	8,743	7,913
SCADA equipment	4,623	3,431	1,192	812
Transmission and distribution mains	333,592	71,852	261,740	249,654
Services	33,001	5,243	27,758	27,133
Meters	14,322	5,220	9,102	10,270
Hydrants	18,300	3,317	14,983	14,776
Tools and work equipment	2,685	2,501	184	771
Transportation equipment	5,001	4,140	861	1,544
Office equipment and furniture	10,868	8,479	2,389	2,875
Small systems	8,363	1,638	6,725	6,958
Airport Aerotech system	1,036	290	746	590
	567,439	151,110	416,329	404,736
Wastewater				
Intangible plant	5,968	2,715	3,253	3,903
Land and land rights	9,585	-	9,585	9,585
Structures and improvements	166,242	42,633	123,609	126,427
Pumping equipment	10,299	5,527	4,772	2,989
Treatment equipment	159,122	31,373	127,749	138,382
SCADA equipment	7,337	507	6,830	6,677
Collection system	250,067	49,840	200,227	200,030
Laterals	13,669	851	12,818	10,438
Tools and work equipment	926	769	157	242
Transportation equipment	5,327	3,476	1,851	1,676
Office equipment and furniture	3,146	1,458	1,688	1,855
Small systems	8,567	1,575	6,992	6,890
Airport Aerotech system	3,229	664	2,565	2,691
	643,484	141,388	502,096	511,785
Stormwater				
Structures and improvements	9,534	1,053	8,481	8,248
Collection system	104,566	21,271	83,295	77,350
Laterals	2,562	151	2,411	2,166
Tools and work equipment	32	12	20	28
Transportation equipment	424	81	343	172
Office equipment and furniture	947	157	790	722
	118,065	22,725	95,340	88,686
Total	\$ 1,328,988	\$ 315,223	\$ 1,013,765	\$ 1,005,207

During the year, \$373 of interest was capitalized to Utility Plant in Service (2014 - \$1,023).

Schedule B

Halifax Regional Water Commission Schedule of long term debt

Year ended March 31, 2015

(in thousands)

	Interest rate	Final Maturity	Balance Remaining	
			2015	2014
Payable to Municipal Finance Corporation				
Water				
Debenture 23 A 1	4.250% to 6.125%	2018	\$ 900	\$ 1,000
Debenture 25 A 1	2.970% to 4.560%	2015	2,750	3,000
Debenture 96 A 1	5.500% to 8.000%	2016	160	240
Debenture 26 A 1	4.350% to 4.880%	2016	2,400	2,600
Debenture 27 A 1	4.650% to 5.010%	2017	3,175	4,139
Debenture 28 A 1	3.750% to 5.088%	2018	1,400	1,500
Debenture 98 A 1	5.625% to 6.125%	2019	13,448	16,334
Debenture 99 A 1	6.500% to 6.750%	2019	1,125	1,350
Debenture 30 B 1	1.550% to 3.870%	2020	1,050	1,225
Debenture 31 A 1	1.630% to 4.221%	2021	1,050	1,200
Debenture 32 A 1	1.636% to 3.480%	2022	1,600	1,800
Debenture 32 C 1	1.510% to 3.160%	2022	9,661	10,197
Debenture 33 A 1	1.330% to 3.489%	2023	9,607	10,112
Debenture 33 B 1	1.285% to 4.114%	2023	7,041	7,412
Debenture 34 B 1	1.200% to 3.190%	2024	13,672	-
Halifax Harbour Solutions				
Debenture 29 A 1	0.900% to 4.329%	2019	9,750	10,400
Wastewater/stormwater				
Debenture 30 A 1	1.510% to 4.500%	2020	2,720	2,890
Debenture 32 A 1	1.636% to 3.480%	2022	2,157	2,277
Debenture 32 B 1	1.380% to 3.156%	2022	28,800	30,400
Debenture 32 C 1	1.510% to 3.160%	2022	4,136	4,365
Debenture 33 A 1	1.330% to 3.489%	2023	16,017	16,860
Debenture 33 B 1	1.285% to 4.114%	2023	10,348	10,893
Debenture 34 A 1	1.245% to 3.347%	2024	5,569	-
Debenture 34 B 1	1.200% to 3.190%	2024	8,586	-
Stormwater				
Debenture 33 A 1	1.330% to 3.489%	2023	513	540
Debenture 33 B 1	1.285% to 4.114%	2023	2,507	2,639
Debenture 34 B 1	1.200% to 3.190%	2024	5,903	-
			166,045	143,373
Payable to Halifax Regional Municipality				
Municipal Finance Corporation – Wastewater/stormwater				
Debenture 24 A 1	2.550% to 5.450%	2014	-	83
Debenture 24 B 1	2.840% to 5.940%	2024	55,000	60,534
Debenture 24 C 1	7.000% to 7.000%	2015	-	59
Debenture 25 A 1	2.970% to 4.560%	2015	174	348
Debenture 25 B 1	3.630% to 4.830%	2020	34	68
Debenture 26 A 1	4.350% to 4.880%	2016	251	376
Debenture 26 B 1	4.265% to 4.410%	2016	10	15
Debenture 27 A 1	4.650% to 5.010%	2017	197	263
Debenture 34 B 1	1.200% to 3.190%	2024	10,000	-
Federation of Canadian Municipalities – Wastewater/stormwater				
Debenture GMIF 1599	1.330% to 3.127%	2014	-	11,000
			65,666	72,746
			231,711	216,119
Less: debt issue costs			1,106	1,016
			230,605	215,103
Less: amount payable within one year			22,374	28,139
			\$ 208,231	\$ 186,964

The debentures are repayable in fixed annual or semi-annual principal instalments plus interest payable semi-annually. Principal instalments for the next five years are as follows:

2016	\$ 22,374
2017	\$ 21,654
2018	\$ 19,496
2019	\$ 20,037
2020	\$ 14,666

Halifax Regional Water Commission

Schedule of operations for water service

Schedule C

Year ended March 31, 2015
(in thousands)

	2015		2014
	Budget (Unaudited)	Actual	Actual
Operating revenues			
Water service	\$ 39,434	\$ 38,727	\$ 34,341
Fire protection	8,953	8,953	9,575
Private fire protection services	562	558	429
Other operating revenue			
Bulk water stations	258	286	241
Customer late payment fees	453	189	256
Miscellaneous	157	128	140
	49,817	48,841	44,982
Operating expenditures			
Water supply and treatment	7,535	7,531	7,284
Water transmission and distribution	9,313	9,026	8,495
Engineering and information services	3,560	3,488	3,416
Environmental services	659	656	693
Customer service	2,083	2,099	2,006
Administration and pension	6,149	5,158	5,305
Depreciation	7,707	7,346	7,118
	37,006	35,304	34,317
Operating profit	12,811	13,537	10,665
Financial and other revenues			
Interest	330	417	344
Other	346	151	235
	676	568	579
Financial and other expenditures			
Interest on long term debt	2,378	2,524	2,487
Repayment of long term debt	6,953	6,974	6,295
Amortization of debt discount	83	83	70
Grant in lieu of taxes	4,340	4,340	4,187
	13,754	13,921	13,039
Excess of revenues over expenditures (expenditures over revenues)	\$ (267)	\$ 184	(1,795)

Schedule D

Halifax Regional Water Commission Schedule of operations for wastewater service

Year ended March 31, 2015
(in thousands)

	2015		2014
	Budget (Unaudited)	Actual	Actual
Operating revenues			
Wastewater service	\$ 66,654	\$ 67,131	\$ 54,698
Other operating revenue			
Leachate and other contract revenue	452	431	412
Septage tipping fees	800	608	633
Overstrength surcharge	300	140	226
Customer late payment fees	218	235	192
Miscellaneous	134	105	101
	68,558	68,650	56,262
Operating expenditures			
Wastewater collection	10,482	11,175	10,671
Wastewater treatment	20,405	19,540	18,079
Engineering and information services	3,132	2,721	2,787
Environmental services	1,323	1,351	1,282
Customer service	1,665	1,675	1,597
Administration and pension	4,914	4,070	4,219
Depreciation	10,471	10,196	8,370
	52,392	50,728	47,005
Operating profit	16,166	17,922	9,257
Financial and other revenues			
Interest	330	419	345
Other	2,073	2,074	2,083
	2,403	2,493	2,428
Financial and other expenditures			
Interest on long term debt	6,257	5,907	5,223
Repayment of long term debt	10,994	10,729	10,225
Amortization of debt discount	59	76	61
	17,310	16,712	15,509
Excess of revenues over expenditures (expenditures over revenues)	\$ 1,259	\$ 3,703	\$ (3,824)

Halifax Regional Water Commission

Schedule of operations for stormwater service

Schedule E

Year ended March 31, 2015

(in thousands)

	2015		2014
	Budget (Unaudited)	Actual	Actual
Operating revenues			
Stormwater site generated service	\$ 5,766	\$ 7,070	\$ 5,775
Stormwater right-of-way service	3,881	3,881	2,671
Other operating revenue			
Customer late payment fees	11	12	19
Miscellaneous	95	91	75
	9,753	11,054	8,540
Operating expenditures			
Stormwater collection	5,316	3,992	4,055
Engineering and information services	641	557	571
Environmental services	620	647	584
Customer service	341	343	327
Administration and pension	1,007	834	864
Depreciation	403	412	310
	8,328	6,785	6,711
Operating profit	1,425	4,269	1,829
Financial and other expenditures			
Interest on long term debt	507	475	394
Repayment of long term debt	843	848	652
Amortization of debt discount	2	4	1
	1,352	1,327	1,047
Excess of revenues over expenditures	\$ 73	\$ 2,942	\$ 782

Schedule F

Halifax Regional Water Commission Airport Aerotech system Schedule of operations for water service

Year ended March 31, 2015
(in thousands)

	2015		2014
	Budget (Unaudited)	Actual	Actual
Operating revenues			
Water service	\$ 620	\$ 658	\$ 620
Fire protection	193	193	183
Customer late payment charges	1	1	1
Miscellaneous	6	5	5
	820	857	809
Operating expenditures			
Plant operations	655	569	652
Pumping stations	30	24	24
Water transmission and distribution	106	89	109
Depreciation	43	40	37
	834	722	822
Operating profit (loss)	(14)	135	(13)
Financial and other expenditures			
Interest on long term debt	28	28	30
Repayment of long term debt	54	47	46
	82	75	76
Excess of revenues over expenditures (expenditures over revenues)	\$ (96)	\$ 60	\$ (89)

Halifax Regional Water Commission

Airport Aerotech system

Schedule of operations for wastewater service

Schedule F

Year ended March 31, 2015

(in thousands)

		2015	2014
	Budget (Unaudited)	Actual	Actual
Operating revenues			
Wastewater service	\$ 613	\$ 638	\$ 622
Dewatering	210	210	210
Airplane effluent	80	69	75
Customer late payment charges	1	1	1
	904	918	908
Operating expenditures			
Wastewater treatment	754	756	806
Wastewater/stormwater collection	90	45	37
Depreciation	47	47	37
	891	848	880
Operating profit	13	70	28
Financial and other expenditures			
Interest on long term debt	18	23	27
Repayment of long term debt	44	40	38
	62	63	65
Excess of revenues over expenditures (expenditures over revenues)	\$ (49)	\$ 7	\$ (37)
Excess of revenues over expenditures (expenditures over revenues) for water and wastewater combined	\$ (145)	\$ 67	\$ (126)

The Commission no longer provides stormwater services for the Airport Aerotech system effective November 18, 2011.

Schedule G

Halifax Regional Water Commission Schedule of regulated activities

Year ended March 31, 2015
(in thousands)

	2015		2014
	Budget (Unaudited)	Actual	Actual
Operating revenues			
Water service	\$ 39,434	\$ 38,727	\$ 34,341
Wastewater service	66,654	67,131	54,698
Stormwater service	9,647	10,951	8,446
Public fire protection	8,953	8,953	9,575
Private fire protection services	562	558	429
Airport Aerotech system	1,434	1,496	1,432
Other operating revenue	1,605	1,165	1,229
	128,289	128,981	110,150
Operating expenditures			
Water supply and treatment	7,521	7,519	7,274
Water transmission and distribution	9,313	9,026	8,495
Wastewater collection	10,482	11,175	10,671
Stormwater collection	5,316	3,992	4,055
Wastewater treatment	19,294	18,642	17,012
Engineering and information services	7,333	6,766	6,774
Environmental services	2,602	2,654	2,559
Customer service	4,054	4,089	3,904
Administration and pension	12,051	10,034	10,369
Airport Aerotech system	1,725	1,570	1,702
Depreciation	18,581	17,948	15,792
	98,272	93,415	88,607
Operating profit	30,017	35,566	21,543
Financial and other revenues			
Interest	660	836	689
Other	2,074	2,026	2,069
	2,734	2,862	2,758
Financial and other expenditures			
Interest on long term debt	9,188	8,957	8,161
Repayment of long term debt	18,888	18,638	17,256
Amortization of debt discount	144	163	132
Grant in lieu of taxes	4,340	4,340	4,187
	32,560	32,098	29,736
Excess of revenues over expenditures (expenditures over revenues)	\$ 191	\$ 6,330	\$ (5,435)

Halifax Regional Water Commission

Schedule of unregulated activities

Schedule G


Year ended March 31, 2015

(in thousands)

	2015		2014
	Budget (Unaudited)	Actual	Actual
Operating revenues			
Dewatering	\$ 210	\$ 210	\$ 210
Septage tipping fees	800	608	633
Leachate treatment and contract revenue	452	431	412
Airplane effluent	80	69	75
Other operating revenue	21	21	21
	1,563	1,339	1,351
Operating expenditures			
Water supply and treatment	14	12	10
Wastewater treatment	1,111	898	1,067
Other	54	56	45
Depreciation	-	6	6
	1,179	972	1,128
Operating profit	384	367	223
Financial and other revenues			
Other	345	199	249
Excess of revenues over expenditures	\$ 729	\$ 566	\$ 472



TO: Ray Ritcey, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: 
James Campbell, Communications & P.R. Coordinator

APPROVED: 
Carl D. Yates M.A.Sc., P.Eng., General Manager

DATE: January 15, 2016

SUBJECT: 2015 Annual Customer Survey

INFORMATION REPORT

ORIGIN

Operational Requirement, Corporate Balanced Scorecard (CBS) Performance Measurement

BACKGROUND/DISCUSSION

Since 2000, Halifax Water has been engaging Corporate Research Associates (CRA), a highly respected local research firm, to compile information on a number of topics critical to the operation of the utility as it relates to public confidence and perception. The questions generally focus on customer satisfaction with services and products provided for water and wastewater/stormwater services.

For 2015 Halifax Water commissioned questions in the Fourth Quarter 2015 Halifax Urban Report and the Fourth Quarter 2015 CRA Atlantic Quarterly. Information from the Halifax Urban Report is based on telephone interviews conducted from October 22 to November 8, 2015. Information from the CRA Atlantic Quarterly is based on telephone interviews conducted from November 10 to December 1, 2015.

The overall results are based on 746 interviews with individuals from the Halifax Municipality population. A sample of 746 respondents would be expected to provide results accurate to within plus or minus 3.6 percentage points in 95 out of 100 samples.

Additional questions were added to the 2015 survey related to electronic billing through ePost. The questions focused on awareness of ePost, interest in receiving bills through ePost, and if they have signed up for the service.

The results this year across survey categories continue to be stable and positive particularly in light of the labour disruption, a water and wastewater rate increase on May 1, 2015 and on-going, though reduced, customer concerns surrounding the issue of geosmin in the Pockwock water supply.

Two of our Critical Success Factors as outlined in the Corporate Balanced Scorecard are: **High Quality Drinking Water** and **Service Excellence**. In these 2 categories the target for organizational indicators is set high. Our target is 85% of customers rating drinking water as either good or excellent, and 90% of customers satisfied or very satisfied with overall service from Halifax Water.

This year's results indicate 89% of customers perceive water quality as good or excellent, a significant increase from 82% in 2014. A sub-category surveyed under drinking water quality was Water Safety. In this category Halifax Water came in at a very high 95% of customers rating our water as safe or very safe, consistent with the 2014 rating of 94%. These numbers continue to reflect very favourably and speak to the overall quality, safety, and value customers place on our water, especially when geosmin is again taken into account.

For Service Excellence, 2 categories address this broader topic, Satisfaction with Halifax Water's Products & Services, and Satisfaction with Halifax Water's Overall Service Delivery. In these categories the results were 89% and 93% respectively. These figures represent a 2% decrease in both Satisfaction with Halifax Water's Products & Services and Halifax Water's Overall Service Delivery from the 2014 results. These results, while down slightly, are encouraging when taken in the context of a 9 week labour disruption and a May 2015 rate increase.

We continue to monitor how well our public messaging related to the Pollution Prevention (P2) "Don't Dump This" program is recognized, and if the message is getting through.

The P2 campaign has been underway for a number of years. The targeted radio ad campaign continued last year, though the size of the campaign was again reduced from the previous year with respect to the number of ads purchased and budget allocated. The focus continued on the issue of floatables/flushables and the proper disposal of a variety of products as they relate mainly to Halifax harbour, though other receiving waters are part of the messaging.

The numbers for campaign recognition were down from those in 2014. The results for intent of message, "Don't Dump Certain Products" decreased from 79% in 2014 to 73%. Public recognition and message awareness related to the phrase, "Only Rain in the Storm Drain" decreased from 76% in 2014 to 68%. These numbers represent a steady decline in campaign message awareness in conjunction with reduced investments in Radio and TV advertising.

Respondents also recognized related secondary campaign messaging in the categories of Pollution Prevention, Help Protect Halifax Harbour, Saving the Environment, and Increase Awareness/Educate People. These results, while also showing a decline from 2014, still reflect significant primary and secondary message recognition and public awareness of harbour water quality related issues, flushables and proper disposal practices.

There continues to be consistent customer support for Halifax Water's management of the wastewater and stormwater assets. The 2014 figure stood at 76% completely or mostly supporting. For 2015 the figure remains at 76%. Halifax Water's overall public reputation as

stewards of the water, wastewater & stormwater system continues to be strong. This support is again particularly gratifying in light of the May 2015 rate increase, the labour disruption, messaging around future infrastructure investments and continued, though reduced, presence of geosmin during this survey period.

Regarding the new ePost electronic billing questions, 48% of survey respondents were aware of the service, 30% of those opted to use the service. Of the 30% using the service 96% completely or mostly agree that the service is convenient and easy to use. These numbers provide baseline figures for future surveys and indicate there is room to further promote and expand uptake of the ePost electronic billing service.

With the significant challenges posed by the labour disruption and a rate increase during this survey period, continued customer support reflects well as we continue to roll out long term programs such the Integrated Resource Plan, Regional Development Charge, and proposed changes to stormwater billing. Continued targeted public messaging around the infrastructure deficit, regulatory compliance, asset renewal, system growth, and protection of the environment will help our customers see the value in the water, wastewater and stormwater services we provide.

For the benefit of all staff, the survey has been placed on the Halifax Water Intranet, and hard copies distributed to all work locations.

Staff will be encouraged to take the time to read the survey results and provide any comments or suggestions they might have.

ATTACHMENT

Copy of 2015 Annual Customer Survey Report

theurbanreport

Corporate Research Associates Inc. Fourth Quarter 2015

Final Results

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Halifax Water

Prepared for:

Halifax Water

Fourth Quarter 2015



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Introduction

Corporate Research Associates, Inc. (CRA) is pleased to present Halifax Water with the results of the **2015 Quality of Service Study**. Halifax Water commissioned questions on the Fourth Quarter 2015 *Halifax Urban Report* and the Fourth Quarter 2015 *CRA Atlantic Quarterly*[®]. These syndicated products provide information on consumer trends and public opinion on pivotal economic, political, social, and other issues across the region on a quarterly basis.

Information included this quarter from the *Halifax Urban Report* is based on telephone interviews with a sample of 403 adult residents of the Halifax, conducted from October 22 to November 8, 2015. A sample of 403 residents drawn randomly from the adult population of Halifax can be expected to yield an overall margin of sampling error of ± 4.9 percentage points in 95 out of 100 samples.

Halifax Water questions, in particular those where a larger sample size was required, were also included on the *CRA Atlantic Quarterly*[®] survey. Information included this quarter from the *CRA Atlantic Quarterly*[®] is based on telephone interviews with 343 residents of Halifax conducted from November 10 to December 1, 2015. A sample of 343 residents drawn randomly from the adult population of Halifax can be expected to yield an overall margin of sampling error of ± 5.3 percentage points in 95 out of 100 samples.

Accordingly, the total sample size for questions asked on both the *Halifax Urban Report* and the *Atlantic Quarterly*[®] is 746. A sample of 746 residents can be expected to yield an overall margin of sampling error of ± 3.6 percentage points in 95 out of 100 samples. Of these 746 residents, 546 receive their household water from Halifax Water. A sample of 546 Halifax Water customers can be expected to yield an overall margin of sampling error of ± 4.2 percentage points in 95 out of 100 samples.

A copy of the questionnaire is appended (Appendix A), as well as comprehensive banner tables (Appendix B) that present the results for each question by key demographic subgroups. The tables are noted by number throughout the report for easy reference. Unless otherwise stated, all results in this report are expressed as a percentage.



Executive Summary

Overall, results for the **2015 Quality of Service Study** indicate that Halifax Water is performing well, with a high proportion of the public offering positive ratings of the service provided. Most Halifax Water customers believe their water is safe, and offer positive ratings of the quality of water they are provided.

In terms of specific aspects of the service Halifax Water provides, ratings for *overall delivery of service* are consistent compared with last year, as are ratings for most key service indicators. Specifically, ratings for *staff promptness*, *ability to answer questions*, and *politeness* are similar to one year ago, while ratings for *staff accessibility* have declined marginally. It is important to note that this change is not a result of an increase in those dissatisfied, but rather an increase in the proportion of residents not offering a response.

In addition, perceptions catalogued via Halifax Water's Customer Satisfaction Index, which provides an overall assessment of service performance among Halifax Water customers and is calculated based on customers' ratings on six service-focused questions, remain high (although slightly lower this year compared with 2014).

There continues to be a lack of confidence among a significant majority of the population in terms of the safety of water in the Halifax Harbour. Four in ten are confident that the water quality in the Halifax harbor is safe for recreational use. In addition, a strong majority of Halifax residents support Halifax Water managing the wastewater and stormwater systems.

Once again, Halifax Water customers were asked their opinion on a potential increase in water rates to treat odour and taste issues that are not a health concern, and results indicate that one-third of customers support this measure and on average, are willing to spend approximately \$48 extra every year for this service. The level of support for a rate increase to treat odour or taste issues is relatively unchanged from one year ago however, customers are willing to pay less for this service, compared with last year.

New this year, customers were asked about ePost, Halifax Water's electronic billing service, and results reveal that an opportunity exists to increase awareness of this service. One-half are aware of ePost, while a minority currently use it to receive their bills electronically. Of note, those who use ePost find it convenient and easy to use. Appeal of ePost is higher among younger residents, yet interestingly, awareness of this service is lower among those aged 18 to 34 years. Halifax Water may wish to target messaging to this age cohort, if the Company wishes to increase usage of electronic billing.

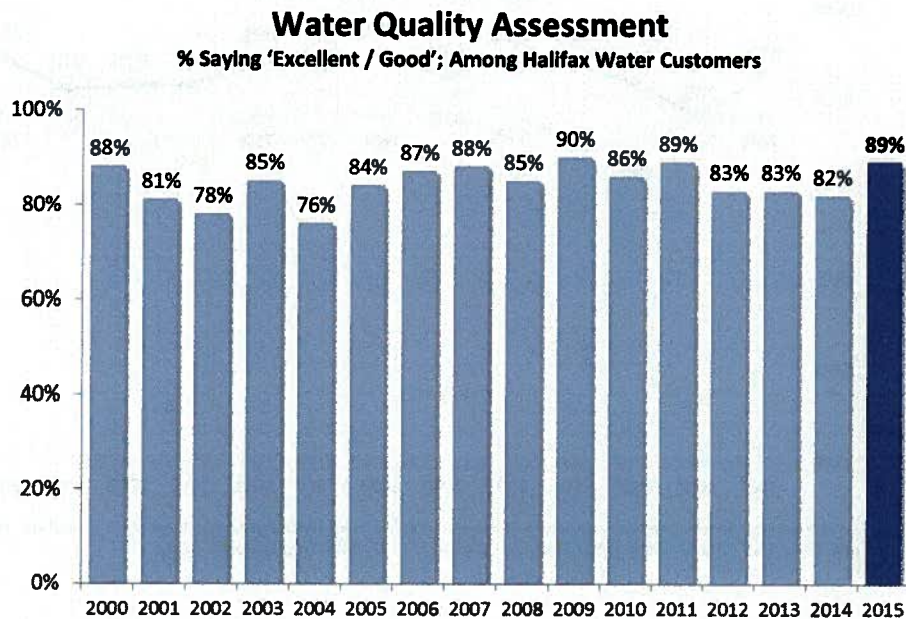
Overall, awareness level of the 'Don't Dump This' information campaign has declined from one year ago and is now at its lowest level since tracking began. Meanwhile, recall of the phrase 'Only Rain in the Storm Drain' is stable this year although a declining trend in recall is apparent from 2011 when recall levels were at their highest for this campaign. The Internet continues to be the preferred method to access information related to Halifax Water's pollution prevention and water, wastewater, stormwater programs.



Detailed Analysis

Water Issues

The number of Halifax Water customers who rate their water quality as *excellent* or *good* has increased this year compared with 2014 findings. Specifically, nine in ten (89%, up from 82%) offer a favourable assessment of their water quality. (Table W1)

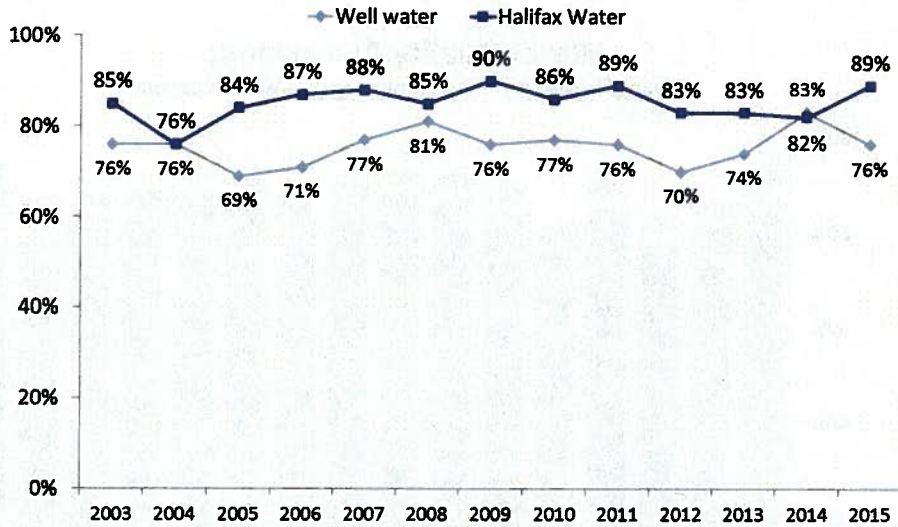


Q.W1: Overall, how would you rate the quality of water you receive in your household? Would you say it is excellent, good, only fair, or poor? (n=546)



Across the region, residents in Halifax County are more likely than those in Dartmouth and Halifax to have a favourable rating of their household water. In addition, the likelihood of assigning favourable rating increases with household income and education, and Halifax Water customers are more likely than those with a well to rate the quality of their water as *excellent* or *good*.

Water Safety Assessment Excellent/Good

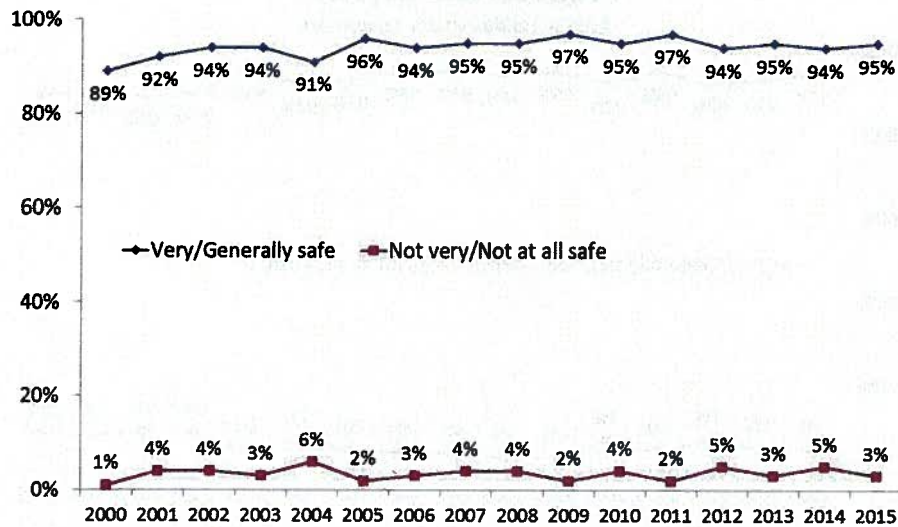


Q.W1: Overall, how would you rate the quality of water you receive in your household? Would you say it is excellent, good, only fair, or poor? (Halifax Water n=546, Well n=183) *Note: In 2008, HRWC became Halifax Water.*



The vast majority of Halifax Water customers perceive their water as *very* or *generally safe*, while very few rate their water as unsafe, similar to previous years. Regionally there is little difference in opinion however across the population, those with higher levels of education are more likely to perceive their water as safe compared with others. In addition, Halifax Water customers are more likely to believe their water is safe compared with well owners (95%, compared with 90% respectively). (Table W2)

Water Safety Assessment Among Halifax Water Customers



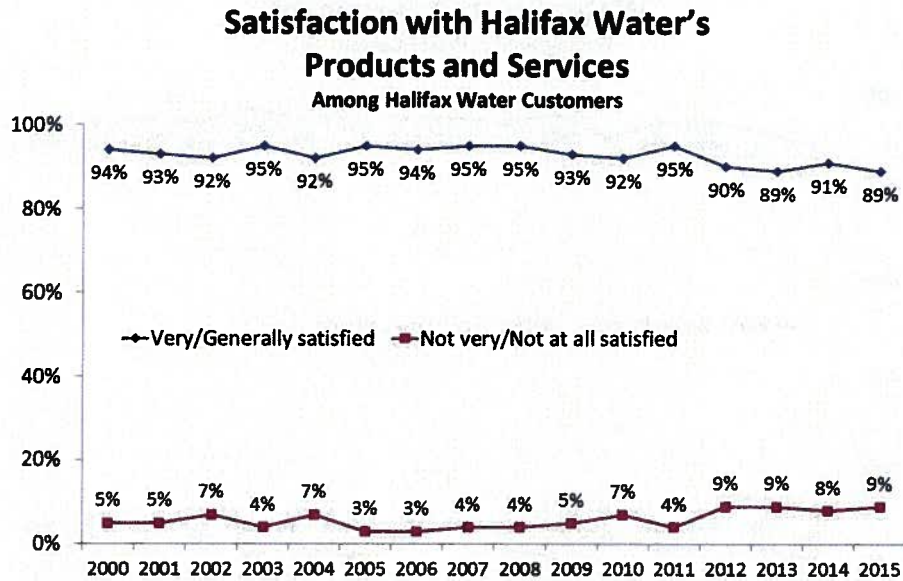
Q.W2: Overall, how safe would you say your water is? Would you say it is very safe, generally safe, not very safe, or not at all safe? (n=546)

Among the small number of residents who believe their water is unsafe (n=27), concern with **chemicals, impurities, and discolouration** are top mentions.



Customer Satisfaction

The vast majority of customers are *very or generally satisfied* with the products and services they receive from Halifax Water, similar to previous findings. Findings are consistent across the region and across demographic subgroups. (Table W5)

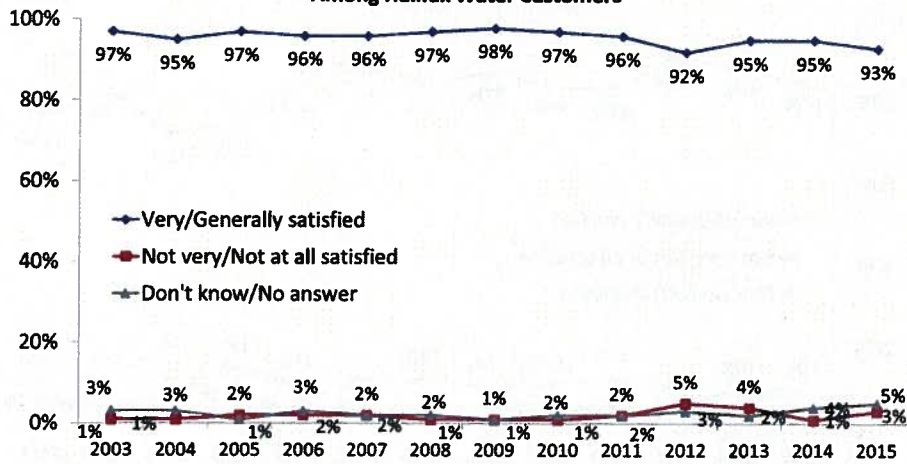


Q.W5: [ASK ONLY IF 'YES, RECEIVE WATER FROM HALIFAX WATER' IN Q.W4] All things considered, would you say you are very satisfied, generally satisfied, not very satisfied, or not at all satisfied with the products and services you receive from Halifax Water? (n=546)



The number of customers satisfied with Halifax Water’s overall delivery of service is stable compared with previous findings. Specifically, 93 percent of residents offer a rating of *very* or *generally satisfied*. Across the region, residents in Halifax County are somewhat less likely than others to be *very satisfied* with the overall delivery of service from Halifax Water. Across the population, satisfaction in this regard improves as level of education increases. (Table W6a)

Satisfaction with Halifax Water’s Overall Service Delivery Among Halifax Water Customers



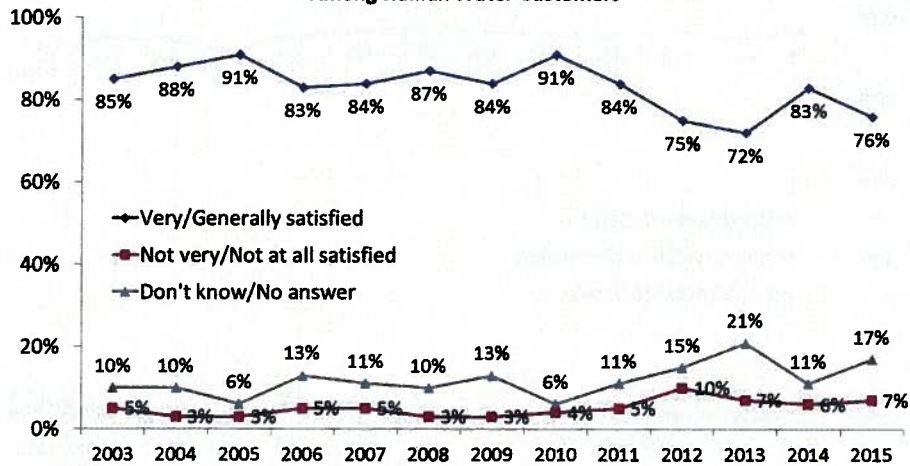
Q.W6a: [ASK ONLY IF 'YES, RECEIVE WATER FROM HALIFAX WATER' IN Q.W4] For each of the following, please tell me whether you are very satisfied, generally satisfied, not very satisfied, or not at all satisfied with the service you have received from Halifax Water: Overall service delivery – How well Halifax Water delivers its services to you? (n=530)
Note: Responses for Have not used this Halifax Water service have been removed from this table.



The vast majority of customers are satisfied with Halifax Water’s staff accessibility, however a decrease is noted from last year. This change is not a result of an increase in those dissatisfied, but rather an increase in the proportion of residents not offering a response (17%, up from 11%). There is little difference in opinion across the region, however across the population, younger residents, and those with higher levels of education, are more satisfied with staff accessibility. (Table W6b)

Satisfaction with Halifax Water’s Staff Accessibility

Among Halifax Water Customers

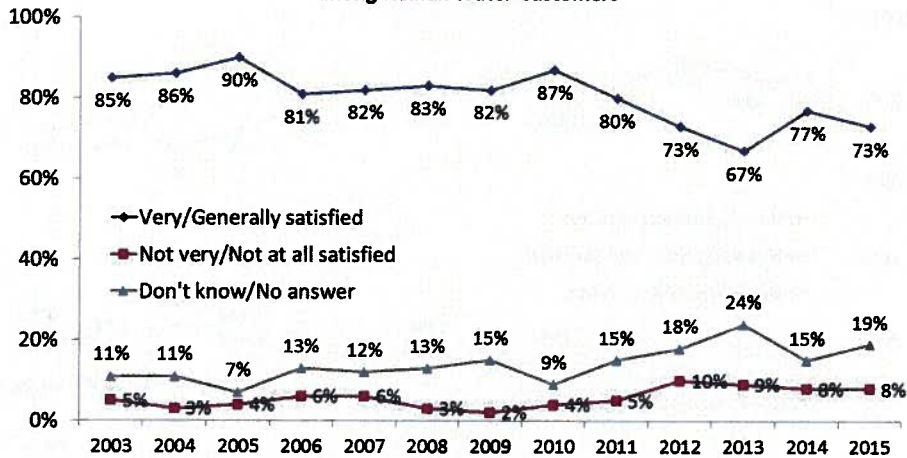


Q.W6b: [ASK ONLY IF 'YES, RECEIVE WATER FROM HALIFAX WATER' IN Q.W4] For each of the following, please tell me whether you are very satisfied, generally satisfied, not very satisfied, or not at all satisfied with the service you have received from Halifax Water: Accessibility – How easy it was to reach Halifax Water staff when you needed to? (n=371)
 Note: Responses for Have not used this Halifax Water service have been removed from this table.



A majority of customers remain satisfied with the **promptness** of Halifax Water staff (i.e., how quickly staff were able to respond to questions), similar to 2014. Ratings in this regard are similar across the region, while residents with higher levels of education are more likely than others to be satisfied with the promptness of Halifax Water staff. (Table W6c)

Satisfaction with Halifax Water's Staff Promptness Among Halifax Water Customers

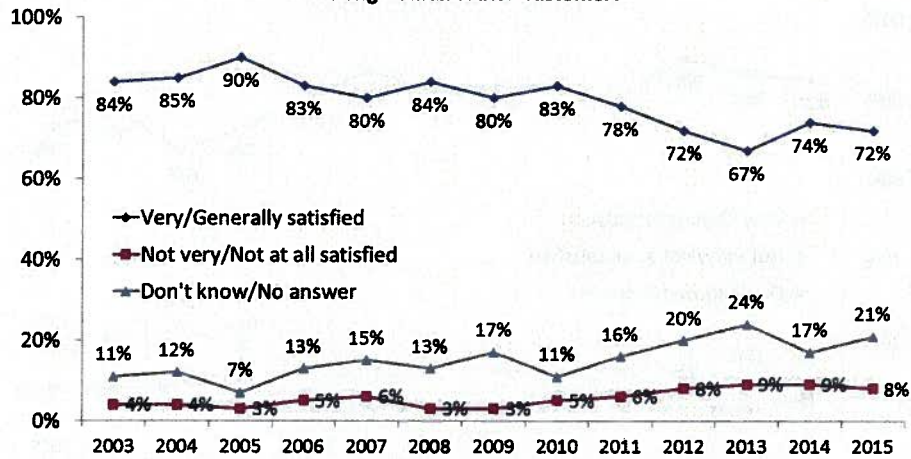


Q.W6c: [ASK ONLY IF 'YES, RECEIVE WATER FROM HALIFAX WATER' IN Q.W4] For each of the following, please tell me whether you are very satisfied, generally satisfied, not very satisfied, or not at all satisfied with the service you have received from Halifax Water: Promptness – How quickly Halifax Water staff were able to respond to your questions? (n=369)
Note: Responses for Have not used this Halifax Water service have been removed from this table.



A majority of customers are satisfied with Halifax Water’s ability to answer questions, similar to 2014. Specifically, seven in ten customers offer a rating of *very* or *generally satisfied* in this regard. Ratings are similar across the region, while across the population, residents with higher levels of education are more likely than others to be satisfied with Halifax Water staff’s ability to answer questions. (Table W6d)

Satisfaction with Halifax Water’s Ability to Answer Questions Among Halifax Water Customers

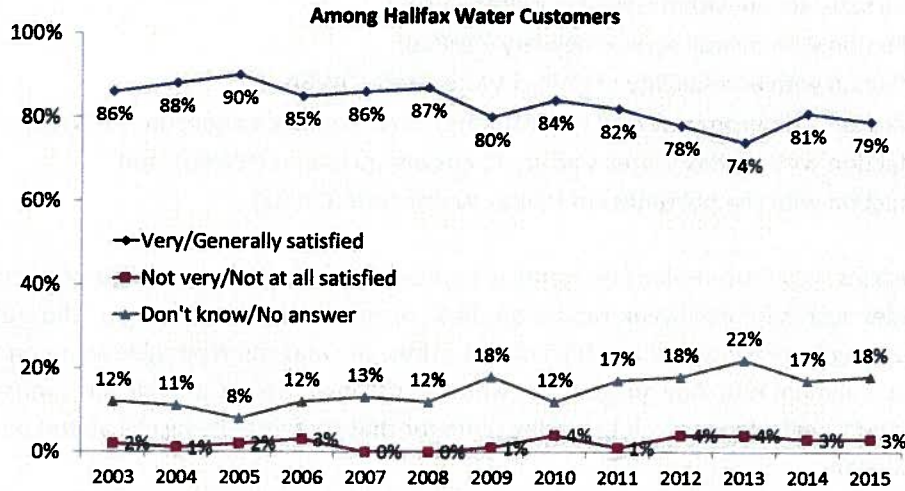


Q.W6d: [ASK ONLY IF 'YES, RECEIVE WATER FROM HALIFAX WATER' IN Q.W4] For each of the following, please tell me whether you are very satisfied, generally satisfied, not very satisfied, or not at all satisfied with the service you have received from Halifax Water: Ability to answer questions – How well Halifax Water answers your questions? (n=367)
Note: Responses for Have not used this Halifax Water service have been removed from this table.



A majority of Halifax Water customers are satisfied with the politeness of Halifax Water staff, with eight in ten offering a rating of *very* or *generally satisfied*. Satisfaction with politeness of staff is lower among those in the city of Halifax, as well as among residents aged 55 years or older. (Table W6e)

Satisfaction with Halifax Water's Politeness



Q.W6e: [ASK ONLY IF 'YES, RECEIVE WATER FROM HALIFAX WATER' IN Q.W4] For each of the following, please tell me whether you are very satisfied, generally satisfied, not very satisfied, or not at all satisfied with the service you have received from Halifax Water: Politeness – The politeness of Halifax Water staff? (n=374)

Note: Responses for Have not used this Halifax Water service have been removed from this table.



Customer Service Index

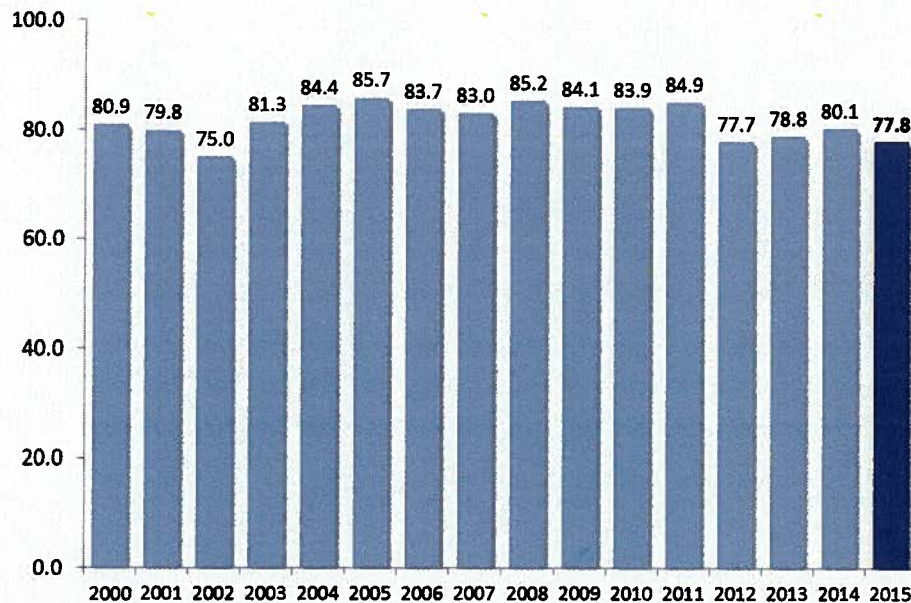
Once again, CRA is pleased to present the Halifax Water Customer Service Index (CSI). To provide an overall assessment of service performance, the CSI was calculated based on customers' ratings on six service-focused questions, namely:

- Overall satisfaction with the Halifax Water (QW5);
- Satisfaction with overall service delivery (QW6a);
- Satisfaction with accessibility of Halifax Water staff (QW6b);
- Satisfaction with promptness of Halifax Water in responding to questions (QW6c);
- Satisfaction with Halifax Water's ability to answer questions (QW6d); and
- Satisfaction with the politeness of Halifax Water staff (QW6e).

The Index contains only those Halifax residents who receive Halifax Water products and services. In calculating Index scores for each year, ratings on these six questions were averaged and transformed into a scale ranging from a low of 0 to a high of 100. Thus, the maximum possible score on the CSI is 100, while the minimum is 0. Any question for which a customer did not provide a response was eliminated from the calculation, with the Index score for that customer being calculated on the remaining questions.

The Customer Service Index is 77.8 this year, a small decline from one year ago. City of Halifax customers have a slightly higher index score compared with others, as do those with higher levels of education.

Customer Service Index

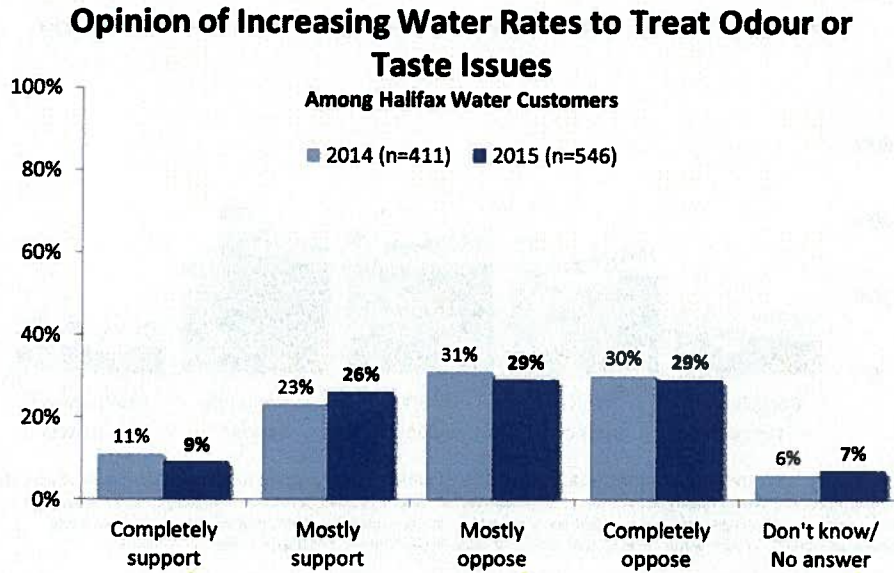


*Please note: Results prior to 2011 only include residents who own their home.
In 2011, the index calculation includes all Halifax Water residents.*



Odour and Taste Concerns

Once again this year, Halifax Water customers were asked whether they would support or oppose an increase in water rates to treat odour or taste issues that are not a health concern. Results indicate a majority continue to oppose the idea of increasing water rates for this purpose, with six in ten opposing the rate increase, and one-third in support. (Table W29)



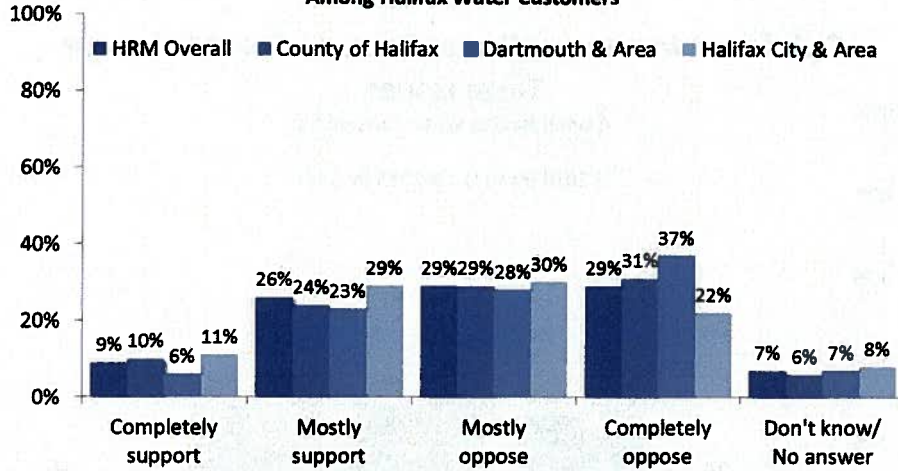
Q.W29: [IF 'YES, RECEIVE WATER FROM HALIFAX WATER' IN Q.W4] The water supplied by Halifax Water meets or exceeds Canadian Drinking Water Quality Guidelines. A small number of customers have noted odour or taste issues that are not health concerns. All things considered, would you completely support, mostly support, mostly oppose, or completely oppose an increase in your water rates to treat odour or taste issues that are not health concerns?



Regionally, residents in the city of Halifax are more likely to support this increase in water rates while across the population, opposition is higher among older residents and higher household income earners. (Table W29)

Opinion of Increasing Water Rates to Treat Odour or Taste Issues

Among Halifax Water Customers



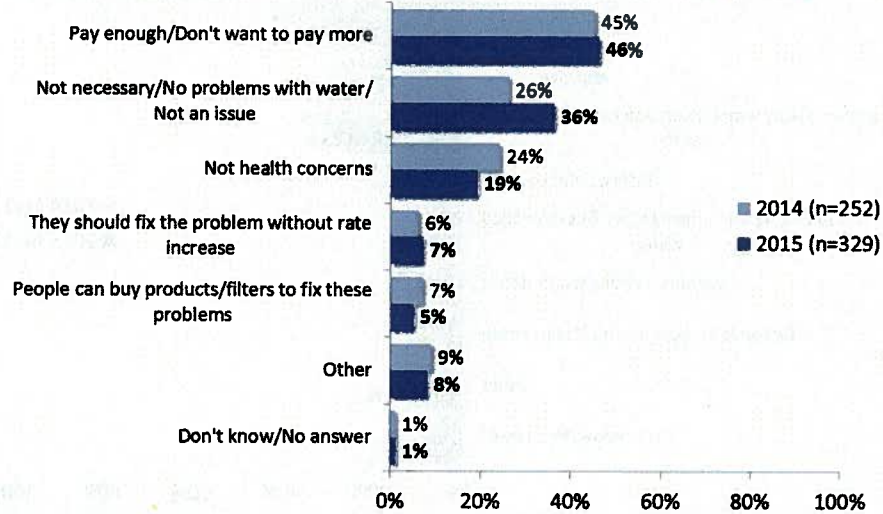
Q.W29: [IF 'YES, RECEIVE WATER FROM HALIFAX WATER' IN Q.W4] The water supplied by Halifax Water meets or exceeds Canadian Drinking Water Quality Guidelines. A small number of customers have noted odour or taste issues that are not health concerns. All things considered, would you completely support, mostly support, mostly oppose, or completely oppose an increase in your water rates to treat odour or taste issues that are not health concerns? (n=546)



Oppose: Of those who oppose an increase in water rates to treat odour or taste issues, nearly one-half mention they **do not want to pay more** as a reason to oppose a rate increase such as this, whereas over one-third believe it is **not necessary**. Meanwhile, two in ten oppose because it is **not a health concern**, while fewer mention **Halifax Water should fix the problem without a rate increase** or that **people can buy filters to fix this problem**. (Table W30b)

Oppose an Increase in Water Rates to Treat Odour or Taste Issues

Total Unaided Mentions, Among Halifax Water Customers Who Oppose an Increase



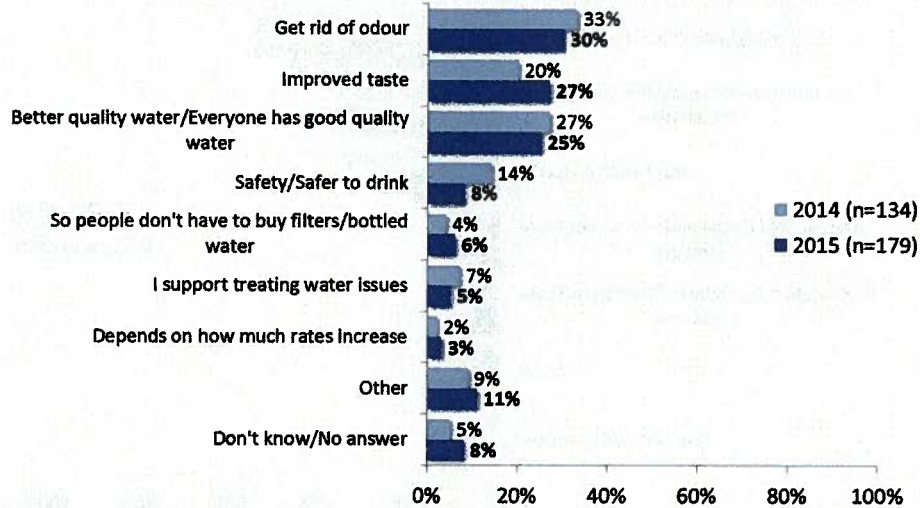
Q.W30b: [IF 'OPPOSE' IN Q.W29] Why do you [mostly oppose or completely oppose] an increase in your water rates to treat odour or taste issues that are not health concerns? PROBE: Any other reasons?



Support: Customers offer a variety of reasons why they support an increase in their water rates to treat odour or taste issues that are not a health concern. Three in ten mention getting rid of the **odour**, while one-quarter indicate **improved taste** or **better quality water**. Other mentions by fewer customers include, **safety**, **reduction of filters or bottled water**, **general support of water treatment issues**, and it **depends on rate increase**. (Table W30a)

Support an Increase in Water Rates to Treat Odour or Taste Issues

Total Unaided Mentions, Among Halifax Water Customers Who Support an Increase



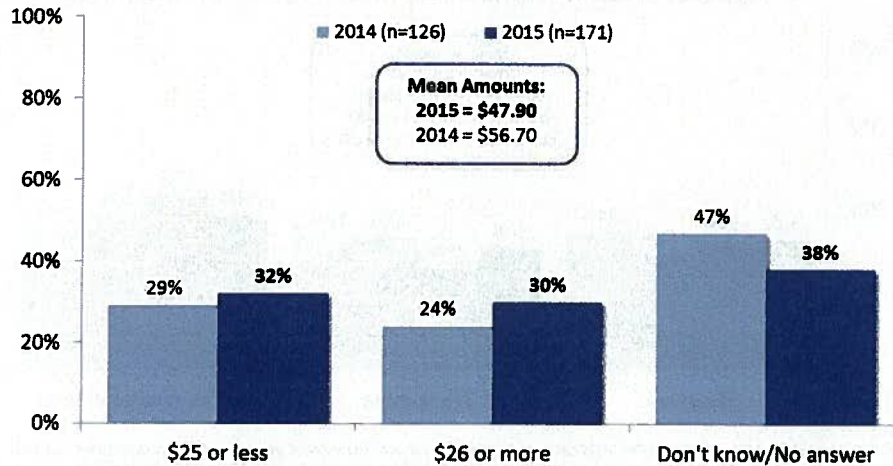
Q.W30a: [IF 'SUPPORT' IN Q.W29] Why do you [completely support or mostly support] an increase in your water rates to treat odour or taste issues that are not health concerns? PROBE: Any other reasons?



Of those who support an increase in rates to improve water odour and taste, the amount they are willing to pay has decreased somewhat this year. On average, customers are willing to spend \$47.90 (down from \$56.70) extra every year for this service, and three in ten would pay \$25 or less annually, while a similar number would pay more. Meanwhile, four in ten are not sure how much they would be willing to pay. (Table W31)

Amount Willing to Pay Annually to Improve the Odour and Taste of Your Water

Among Halifax Water Customers Who Support an Increase in Water Rates



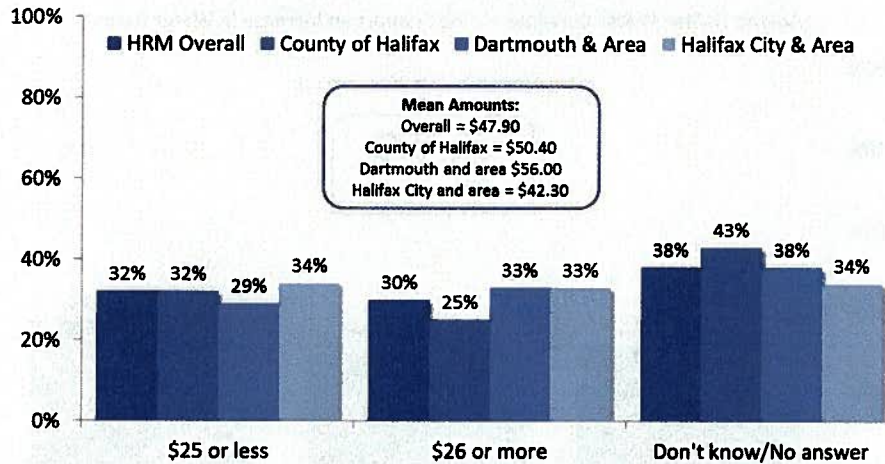
Q.W31: [ASK IF 'COMPLETELY/MOSTLY SUPPORT' IN Q.W29] How much extra would you be willing to pay annually on your bill to improve the odour and taste of your water? Please be as specific as possible and answer to the nearest dollar amount. *Note: Responses of 'Don't know/No answer' are excluded from calculation of the mean.*



Regionally, residents living in Dartmouth are willing to pay more for this service (mean amount of \$56), a trend that was evident last year, while city of Halifax residents are willing to pay the least (\$42.30). Meanwhile, across the population, women, residents aged 18 to 34 years, and lower household income earners are willing to pay more. (Table W31)

Amount Willing to Pay Annually to Improve the Odour and Taste of Your Water

Among Halifax Water Customers Who Support an Increase in Water Rates



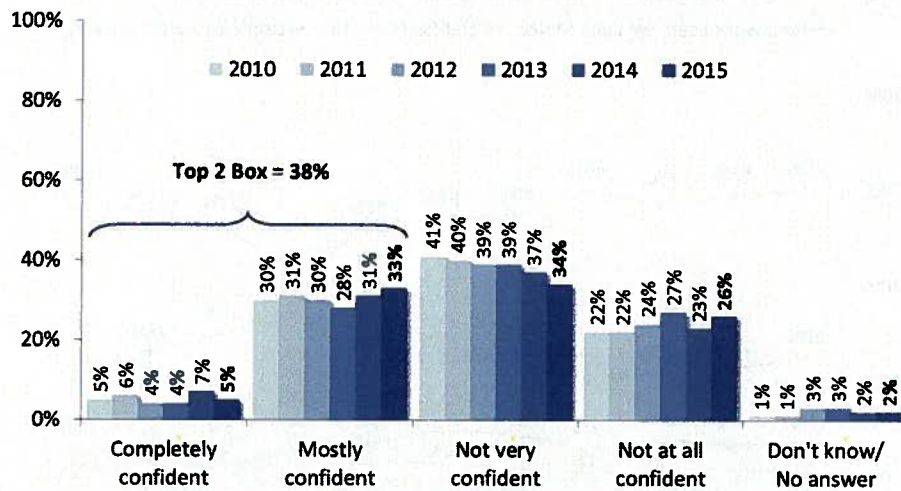
Q.W31: [ASK IF 'COMPLETELY/MOSTLY SUPPORT' IN Q.W29] How much extra would you be willing to pay annually on your bill to improve the odour and taste of your water? Please be as specific as possible and answer to the nearest dollar amount. (n=171) *Note: Responses of 'Don't know/No answer' are excluded from calculation of the mean.*



Safety of Halifax Harbour for Recreation

There continues to be a lack of confidence among a sizable majority of the population in terms of the safety of water in Halifax Harbour. Specifically, four in ten residents are completely or mostly confident in the safety of water in the harbour for recreational activities, while six in ten have concerns and indicate they are not very or not at all confident. Opinions of the safety of water in Halifax Harbour are similar across the region, however, across the population, men have more confidence in this regard compared with women. (Table W28)

Confidence that Water Quality of Halifax Harbour is Safe for Recreational Use



Q.W28: Harbour water samples indicate that the water is safe for recreational activities such as swimming and boating. How confident are you that the water quality of Halifax Harbour is safe for recreational activities? Are you completely confident, mostly confident, not very confident, or not at all confident? (n=746)
Note: Question wording differs slightly year-over-year.

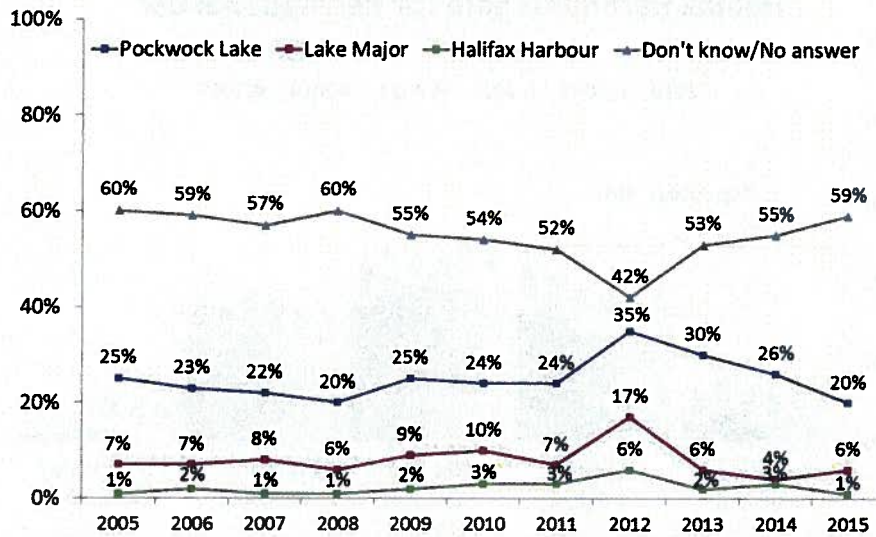


Water Source

There continues to be uncertainty with regards to Halifax residents' source of tap water. Specifically, six in ten Halifax Water customers cannot name the source of their tap water, a number that has risen over the last three years, after an all-time low in 2012. Two in ten customers identify Pockwock Lake as the primary source, while a small number mention other sources. Women, and younger residents are more likely than others to be unsure of the source of their tap water. (Table W9)

Primary Source of Municipal Tap Water

Total Top Mentions, Among Halifax Water Customers

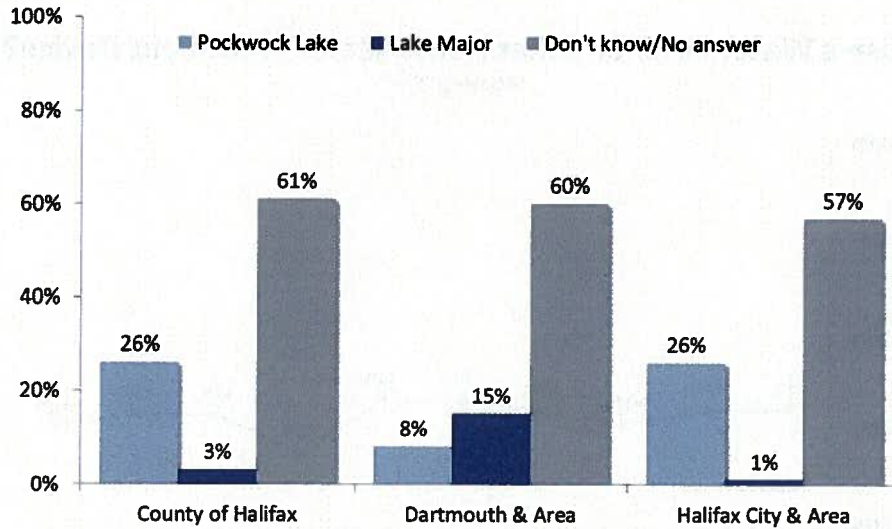


Q.W9: To the best of your knowledge, which body of water is the primary source of your tap water supplied by Halifax Water? PROBE ONCE: Any other sources? (n=546)



Regionally, residents outside of Dartmouth are more likely to mention Pockwock Lake as their primary source of tap water, while those in Dartmouth are more likely than others in the region to name Lake Major as the primary source of their tap water. (Table W9)

Primary Source of Municipal Tap Water
Key Mentions by Area, Among Halifax Water Customers



Q.W9: To the best of your knowledge, which body of water is the primary source of your tap water supplied by Halifax Water? PROBE ONCE: Any other sources? (n=546)

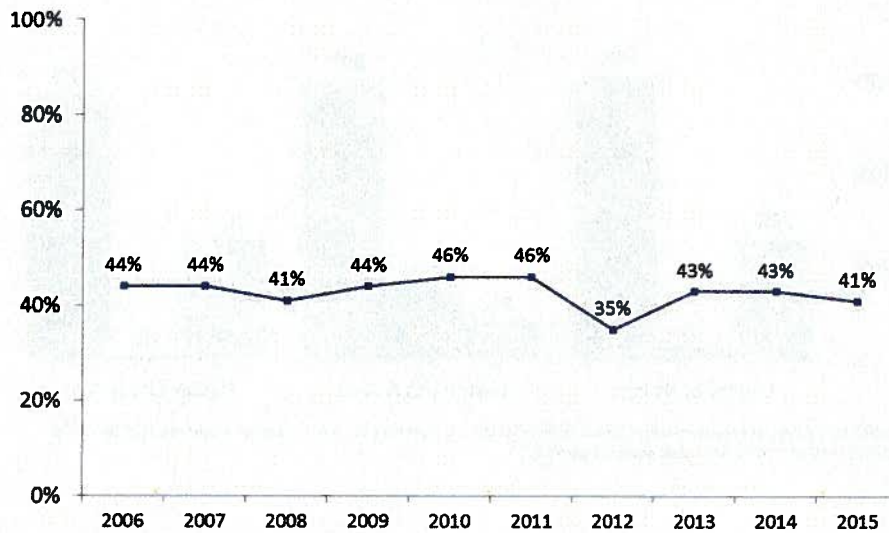
Area	Pockwock Lake	Lake Major	Don't know/No answer
County of Halifax	26%	3%	61%
Dartmouth & Area	8%	15%	60%
Halifax City & Area	26%	1%	57%



Water Filter Use

Similar with last year, four in ten Halifax residents use a water filter or home water treatment device. Across the population, women and those with higher levels of education are more likely to use a water filter. Finally, residents on a well (59%) are much more likely than Halifax Water customers (37%), to use a water filtration device. (Table W17a)

Use a Water Filter or Other Home Water Treatment Device?
% Saying "Yes"



Q.W17a: Do you use a water filter or other home water treatment device? (n=403)

In terms of the type of water filter or home treatment device, over four in ten Halifax residents who use a water filter report using a **pitcher with a water filter**, while one in seven use a **fridge filter or water softener system**, and slightly fewer use a **water filter on their tap, osmosis, or an ultra-violet purification system**. Other mentions are noted by less than one in twenty Halifax residents. Results are similar to previous findings with the exception of mentions of a pitcher with water filter which increased this year. (Table W17b)

Type of Water Filter or Other Home Treatment Device Used										
Key Mentions; n=168										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Pitcher with water filter	54%	42%	43%	33%	33%	37%	21%	44%	31%	44%
Fridge filter/ Part of refrigerator	--	2%	3%	6%	10%	10%	15%	10%	14%	13%
Water softener system	5%	1%	7%	12%	11%	9%	9%	10%	18%	12%
Water filter on tap	21%	19%	19%	18%	16%	10%	33%	14%	16%	9%
Ultra-violet purification system	3%	2%	4%	0%	3%	5%	2%	4%	9%	8%
Osmosis	--	--	2%	5%	5%	2%	4%	2%	7%	8%

W17b: Total Mentions



Halifax residents offer a number of reasons why they use a water filter or home treatment device. One-quarter each do so because they either have concerns about water quality, to remove chemicals, or to improve taste. All other reasons are mentioned by one in ten or fewer. (Table W17c)

Why Use a Water Filter or Other Home Treatment Device								
Key Mentions; n=161								
	2008	2009	2010	2011	2012	2013	2014	2015
To remove chemicals	23%	24%	32%	21%	27%	27%	33%	26%
Concerns about water quality	18%	29%	20%	25%	23%	19%	20%	26%
Improved taste	33%	32%	33%	31%	36%	36%	25%	24%
Was given to me/Received as a gift/ Came with the fridge/house	4%	4%	9%	6%	3%	4%	6%	10%
To soften the water	3%	--	3%	5%	2%	6%	4%	7%
To remove bacteria	8%	7%	8%	8%	23%	9%	8%	6%

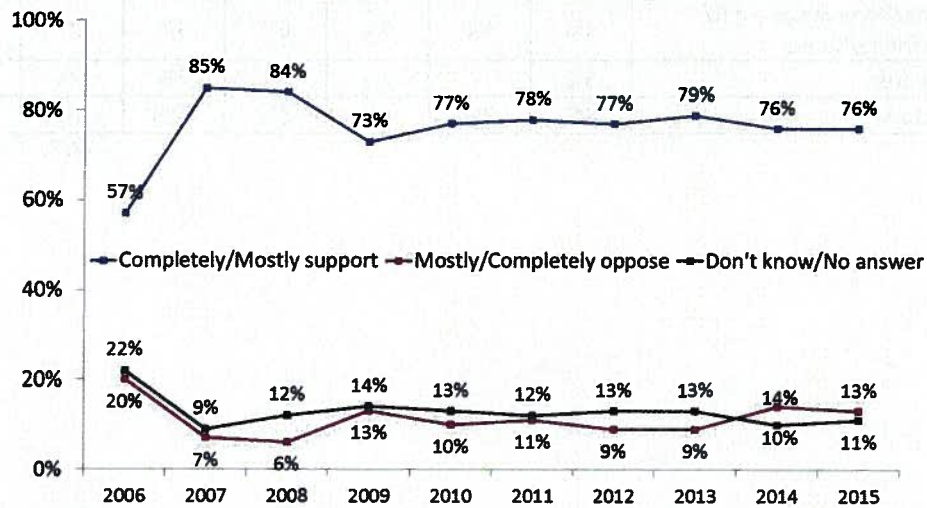
W17c: Total Mentions



Stormwater and Wastewater Systems

There continues to be support for Halifax Water managing the wastewater and stormwater systems, with three-quarters of Halifax residents in support of Halifax Water keeping these responsibilities. Regionally, residents in Halifax County are less supportive of this measure. Meanwhile, younger residents and those with higher levels of education are more likely in support. In addition, Halifax Water customers are much more likely than those on a well to support this measure. (Table W19)

Support for Halifax Water Management of Wastewater and Stormwater Systems

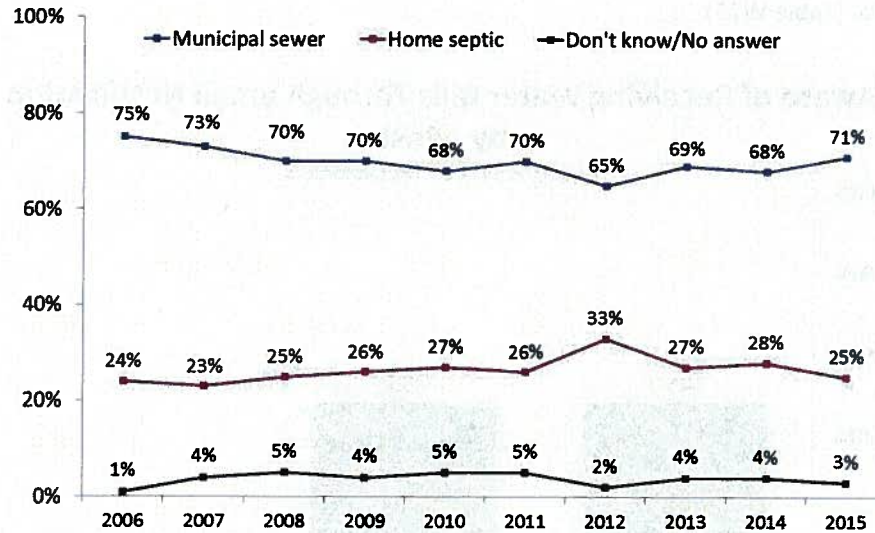


Q.W19: As previously mentioned, Halifax Water is responsible for the operation of municipal wastewater and stormwater systems, in addition to management of water. Do you completely support, mostly support, mostly oppose, or completely oppose Halifax Water managing the wastewater and stormwater systems? (n=403)



Seven in ten Halifax residents are on municipal sewer, while one-quarter are on a home septic system. Results are consistent with previous findings. (Table 20)

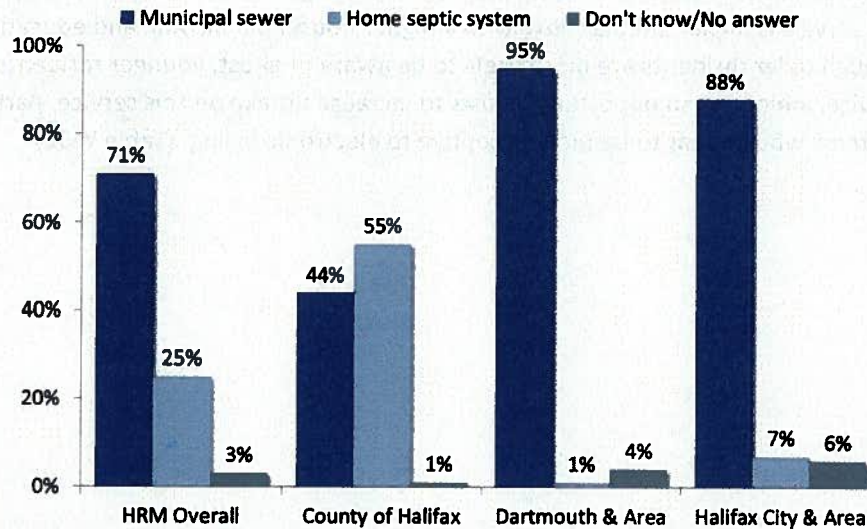
Home Septic or Municipal Sewer



Q.W20: Do you have a home septic system or are you on municipal sewer? (n=403)

Across the region, residents of Halifax County (outside of Halifax and Dartmouth) are much more likely to be on a home septic system, while those in Halifax and Dartmouth are more likely to be on municipal sewer. Results are consistent with previous findings.

Home Septic or Municipal Sewer



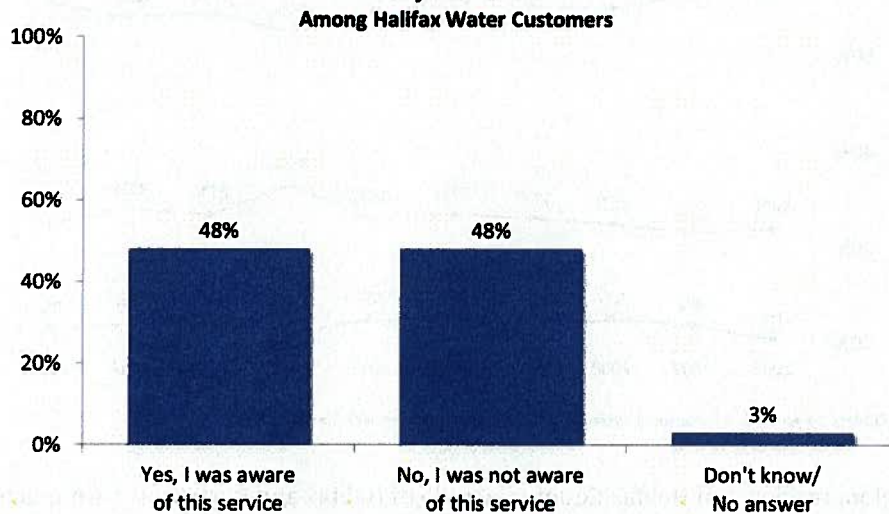
Q.W20: [HALIFAX URBAN ONLY] Do you have a home septic system or are you on municipal sewer? (n=403)



Electronic Billing

One-half of Halifax Water customers are aware that the Company has been providing customers with the option of receiving their bills electronically through an email notification by ePost. Awareness of this service is higher among older residents, those with a higher household income, and residents with higher education levels. (Table W25)

Aware of Receiving Water Bills Through email Notification by ePost

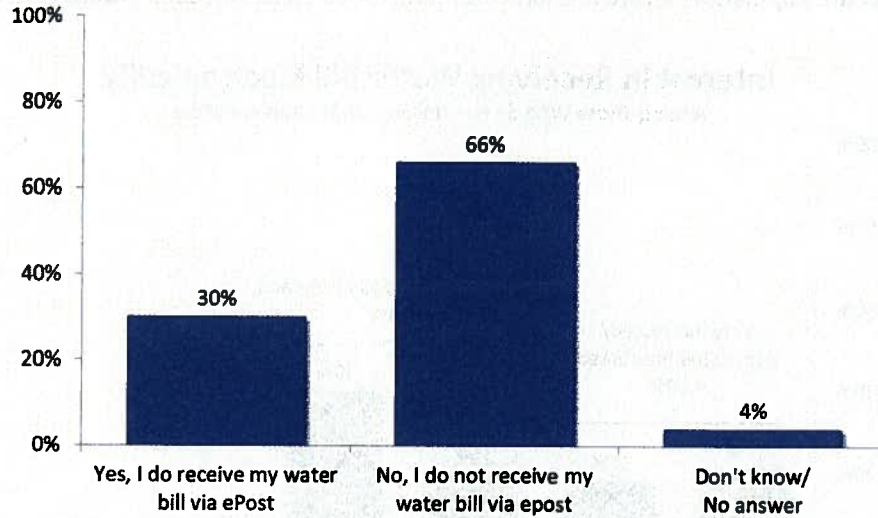


Q.W25: [ASK IF CODE 1 IN Q.W4] Since September 2014, Halifax Water has been providing customers with the option of receiving their bills electronically through email notification by ePost. Prior to today were you aware of this service? (n=546)

Three in ten Halifax Water customers aware of the service receive their water bills electronically via ePost. Residents across the Halifax are equally likely to be using ePost, while across the population, uptake on this service is higher among those with a higher household income and education level. In addition, although older residents are more likely to be aware of ePost, younger residents are more likely to use this service, indicating an opportunity exists to increase uptake on this service, particularly among younger customers who appear to be more receptive to electronic billing. (Table W32)



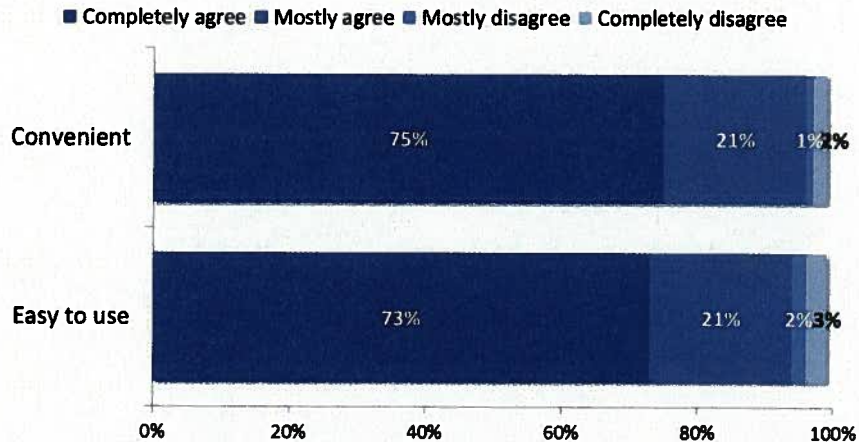
Household Receives Water Bills Electronically via ePost Among Halifax Water Customers Who Are Aware of Water Bills Sent by ePost Service



Q.W32: [ASK IF CODE 1 IN Q.W4 AND THOSE WHO SAID YES, AWARE OF SERVICE IN Q.W25] And does your household receive its water bills electronically via ePost? (n=277)

Those who use e-Post offer favourable ratings of the service. A strong majority agree that the service is convenient or easy to use. (Tables W27a-b)

Opinion of Attributes About Receiving and Managing Water Bill Electronically Through ePost Among Halifax Water Customers Who Receive Their Water Bill via ePost



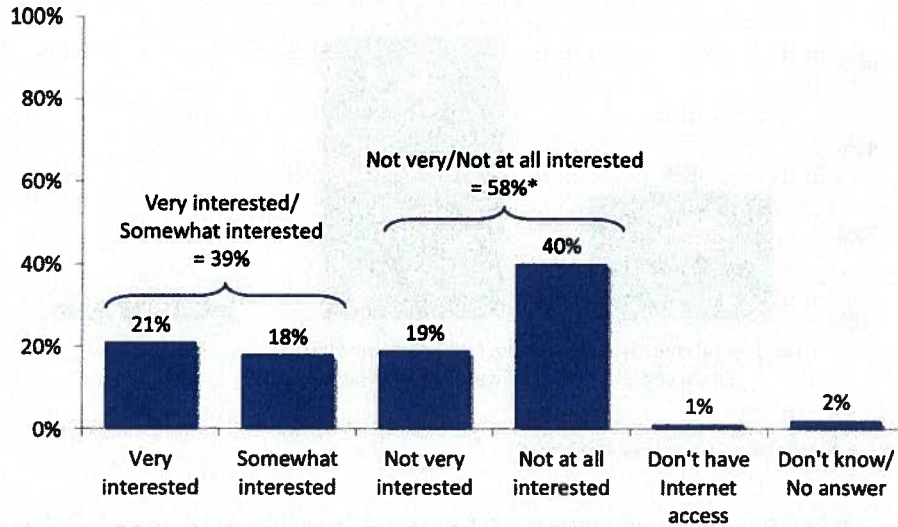
Q.W27a-b: [ASK IF CODE 1 IN Q.W4 AND THOSE WHO SAID YES IN Q.W32] And in your opinion, would you completely agree, mostly agree, mostly disagree, or completely disagree that receiving and managing your water bill electronically through ePost is: (n=74)



An opportunity exists to expand the current electronic billing services. Among the Halifax Water customers aware of email billing notification but not currently using it, four in ten express some level of interest. Across the population, interest is higher among those 18 to 34 years. (Table W18)

Interest in Receiving Water Bill Electronically

Among Those Who do Not Receive Water Bills via ePost



Q.W18: [IF NO IN Q.W32] How interested would you be in receiving your water, wastewater, and stormwater bill electronically through an email notification? Would you be very interested, somewhat interested, not very interested, or not at all interested? (n=195) *Due to rounding.

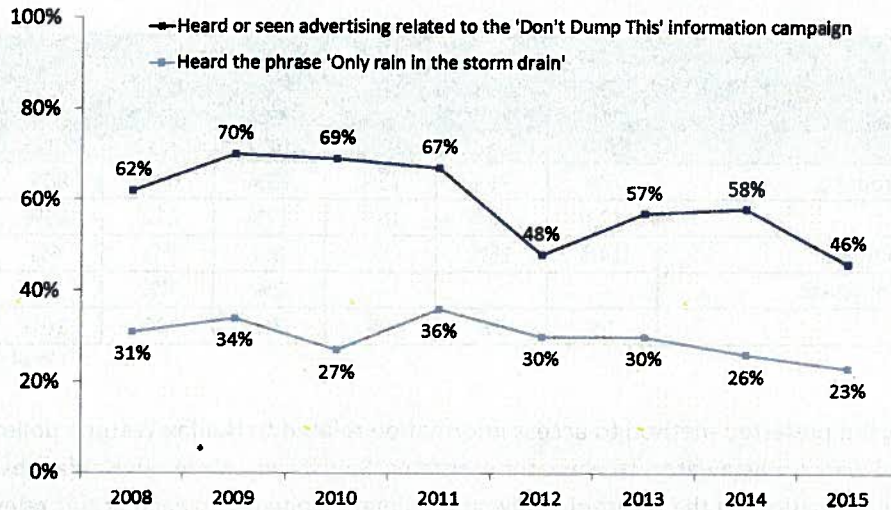


Information Campaigns

Awareness level of the 'Don't Dump This' information campaign has declined from one year ago and is now at its lowest level since tracking began. Meanwhile, awareness of the 'Only Rain in the Storm Drain' campaign is stable this year although a declining trend in recall is apparent from 2011 when recall levels were at their highest for this campaign.

Those most likely to be aware of the 'Don't Dump This' campaign include residents in Dartmouth, younger residents, those who have a post-secondary education, and those with a household income of \$75K or more, while residents in the city of Halifax are more likely to recall the phrase 'Only Rain in the Storm Drain'. (Tables W21 and W23)

Awareness of Information Campaigns
% Saying "Yes"



Q.W21: Prior to today, have you heard or seen any advertising related to the 'Don't Dump This' information campaign? (n=403)

Q.W23: Prior to today, have you heard the phrase 'Only rain in the storm drain'? (n=403)

Recall of the main message of the 'Don't Dump This' campaign is relatively consistent from one year ago. Three-quarters of residents who recall the campaign mention that the main message of the campaign is to **not dump certain products**, while approximately one in seven state the main message is **pollution prevention**. Meanwhile, one in ten mention the **environment** or that it **helps protect the Halifax Harbour**. (Table W22)



Main Message of the 'Don't Dump This' Information Campaign

Among those who recall advertising – Key Mentions; n=186

	2008	2009	2010	2011	2012	2013	2014	2015
Don't dump certain products	79%	73%	81%	76%	67%	78%	79%	73%
Pollution prevention	13%	16%	15%	16%	30%	19%	15%	13%
The environment	7%	8%	5%	5%	17%	12%	11%	9%
Help protect Halifax Harbour	--	25%	17%	11%	12%	14%	9%	6%
Help keep the water clean	--	1%	3%	3%	1%	1%	1%	6%

W22: Total Mentions

Among those who are aware of the 'Only Rain in the Storm Drain' campaign, seven in ten believe the main message is to **not dump certain products**. One in six indicate **pollution prevention**, while one in ten report that **only rain should go in the storm drain**. A small number also mention **keeps storm drains clean or the environment**. (Table W24)

Main Message of the Phrase 'Only Rain in the Storm Drain'

Among those who have heard the phrase – Key Mentions; n=96

	2008	2009	2010	2011	2012	2013	2014	2015
Don't dump certain products	77%	71%	72%	73%	64%	80%	76%	68%
Pollution prevention	12%	12%	15%	17%	21%	19%	17%	13%
Only rain should go in there	14%	15%	7%	8%	5%	6%	11%	9%
Keep storm drains clean/clear	--	--	--	2%	2%	5%	--	5%
The environment	1%	5%	4%	3%	11%	10%	6%	3%

W24: Total Mentions

The Internet is the preferred method to access information related to Halifax Water's pollution prevention and water, wastewater, stormwater programs. Specifically, six in ten Halifax residents prefer to access this information via the **Internet**, while approximately one in ten each prefer **television**, **newspaper**, or **radio**. Other mentions by fewer residents include **brochures**, or the **Halifax Water website**, among others. Findings are similar to one year ago. (Table W26)

Most Preferred Method for Accessing Pollution and Water Programs Information in Halifax

Key Mentions; n=403

	2008	2009	2010	2011	2012	2013	2014	2015
Internet (general)	48%	53%	52%	51%	50%	54%	63%	58%
Newspaper	20%	23%	20%	15%	21%	15%	11%	13%
TV	15%	23%	19%	14%	23%	12%	11%	11%
Radio	6%	10%	7%	7%	12%	9%	5%	8%
Brochures	10%	6%	4%	7%	3%	8%	6%	6%
Halifax Water website	1%	1%	4%	3%	3%	3%	3%	6%

W26: Total Mentions



Study Methodology

Questionnaire Design

The questions commissioned by Halifax Water and used in this study were designed by Corporate Research Associates Inc., in consultation with Halifax Water staff.

Sample Design and Selection

Halifax Water questions were fielded on CRA's *Halifax Urban Report* survey, in addition to some questions being fielded on the Halifax portion of CRA's *Atlantic Quarterly*[®] survey.

Urban Report

The sample for this study was drawn using systematic sampling procedures from a list of randomly-selected households compiled from listed telephone numbers in Halifax, drawn from a database that is updated quarterly. The sample was selected to match the geographical distribution of the population within the region and was designed to complete interviews with a representative sample of 400 adult residents (with 403 actually being completed this quarter), 18 years of age and older, of Halifax.

Atlantic Quarterly[®]

The sample for this study was drawn using systematic sampling procedures from a list of randomly-selected households compiled from listed telephone numbers in Nova Scotia, drawn from a database that is updated quarterly. The sample was selected to match the geographical distribution of the population within the province and was designed to complete interviews with a representative sample of 800 adult residents, 18 years of age and older of Nova Scotia. Of these, 343 were conducted with residents of Halifax.

Survey Administration

Urban Report

The survey was conducted by telephone from October 22 to November 8, 2015. All interviewing was conducted by fully-trained and supervised interviewers and a minimum of 10 percent of all completed interviews were monitored or subsequently verified.

Atlantic Quarterly[®]

The survey was conducted by telephone from November 10 to December 1, 2015. All interviewing was conducted by fully-trained and supervised interviewers and a minimum of 10 percent of all completed interviews were monitored or subsequently verified.



Completion Results

Urban Report

Among all eligible respondents contacted, the rate of interview completion was 16 percent. Completion rate is calculated as the number of cooperative contacts (1,279) divided by the total of eligible numbers attempted (7,926).

The final disposition of all telephone numbers called is shown below in the *Marketing Research and Intelligence Association's (MRIA) Standard Record of Contact Format*.

COMPLETION RESULTS	
A. Total Numbers Attempted	10,006
Disconnect / Not in service/Blocked	1,909
Fax / Modem	73
Cell Phone / Pager	1
Non Residential Number / Incorrect Number	97
Duplicate	0
B. Eligible Numbers	7,926
Busy	40
Answering Machine	311
No Answer	3,800
Scheduled Call Back / Mid Call Back / Qualified Not Available	55
Illness / Incapable	5
Language Problem	34
C. Total Asked	3,681
Respondent / Gatekeeper Refusal	1,464
Mid Terminate / Hang up	908
Never Call List	30
D. Co-operative Contacts	1,279
Did Not Qualify / Quota Full	876
Complete	403



Atlantic Quarterly*

Among all eligible Nova Scotia residents contacted, the response rate was 16 percent. Response rate is calculated as the number of cooperative contacts (2,271) divided by the total number of eligible telephone numbers called (13,970).

The final disposition of all telephone numbers called is shown below in the *Marketing Research and Intelligence Association's (MRIA) Standard Record of Contact Format*.

COMPLETION RESULTS	
A. Total Numbers Attempted	20,315
Disconnect / Not in service/Blocked Number	6,055
Fax / Modem	129
Cell Phone / Pager	5
Non Residential Number / Incorrect Number	155
Duplicate	1
B. Eligible Numbers	13,970
Busy	68
Answering Machine	740
No Answer	6,103
Scheduled Call Back / Mid Call Back / Qualified Not Available	93
Illness / Incapable	26
Language Problem	40
C. Total Asked	6,900
Respondent / Gatekeeper Refusal	2,473
Mid Terminate / Hang up	2,078
Never Call List	78
D. Co-operative Contacts	2,271
Did Not Qualify / Quota Full	1,467
Complete	804



Sample Distribution

The overall results are based on 746 interviews with individuals from the Halifax population. A sample of 746 respondents would be expected to provide overall results accurate to within plus or minus 3.6 percentage points in 95 out of 100 samples.

Region	Sample Distribution	
	Sample	Margin of Error
County of Halifax	323	± 5.4%
Dartmouth and Area	191	± 7.1%
Halifax City and Area	224	± 6.5%
Halifax Water Customers		
Halifax Water Customers	546	± 4.2%
Halifax	746	± 3.6%

¹95% confidence interval

