



CITY OF HAMILTON
CORPORATE SERVICES DEPARTMENT
Financial Planning, Administration and Policy Division

TO:	Mayor and Members General Issues Committee
COMMITTEE DATE:	December 6, 2018
SUBJECT/REPORT NO:	2019 Recommended Water, Wastewater and Stormwater Budget (FCS18087) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Marcel Cerminara (905) 546-2424 Ext. 4371 John Savoia (905) 546-2424 Ext. 7298
SUBMITTED BY:	Brian McMullen Acting General Manager Finance and Corporate Services
SIGNATURE:	

Discussion of Appendix “T” to Report FCS18087 in Closed Session would be pursuant to Section 8.1, Sub-section (c) of the City's Procedural By-law 18-270, and Section 239(2), Sub-section (c) of the Ontario *Municipal Act, 2001*, as amended, as the subject matter pertains to a proposed or pending acquisition or disposition of land for City purposes.

RECOMMENDATIONS

- (a) That the metered water consumption charges for residential properties in the City of Hamilton be imposed at the following rates, effective January 1, 2019:

Monthly Water Consumption (m3)	Rate (\$/m3)
0 – 10	0.78
10 +	1.55

- (b) That the metered water consumption charge for commercial, industrial, institutional and multi-residential (bulk meter) properties in the City of Hamilton be imposed at the rate of \$1.55 per cubic metre, effective January 1, 2019;

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- (c) That daily water fixed charges for all properties in the City of Hamilton be imposed at the following rates, effective January 1, 2019:

Meter Size	Daily Water Rate
15 mm	\$0.36
16 mm	\$0.36
20 mm	\$0.36
21 mm	\$0.36
25 mm	\$0.90
38 mm	\$1.80
50 mm	\$2.88
75 mm	\$5.76
100 mm	\$9.00
150 mm	\$18.00
200 mm	\$28.80
250 mm	\$41.40
300 mm	\$61.20

- (d) That the wastewater / storm treatment charges for residential properties in the City of Hamilton be imposed at the following rates, effective January 1, 2019:

Monthly Water Consumption (m3)	Rate (\$/m3)
0 – 10	0.84
10 +	1.68

- (e) That the wastewater / storm treatment charge for all commercial, industrial, institutional and multi-residential (bulk meter) properties in the City of Hamilton be imposed at the rate of \$1.68 per cubic metre, effective January 1, 2019;
- (f) That daily wastewater /storm fixed charges for all properties in the City of Hamilton be imposed at the following rates, effective January 1, 2019:

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Meter Size	Daily Wastewater / Storm Rate
15 mm	\$0.38
16 mm	\$0.38
20 mm	\$0.38
21 mm	\$0.38
25 mm	\$0.95
38 mm	\$1.90
50 mm	\$3.04
75 mm	\$6.08
100 mm	\$9.50
150 mm	\$19.00
200 mm	\$30.40
250 mm	\$43.70
300 mm	\$64.60

- (g) That the residential non-metered annual water rate be imposed at the flat rate of \$565.75 per annum, effective January 1, 2019;
- (h) That the residential non-metered annual wastewater / storm rate be imposed at the flat rate of \$613.20 per annum, effective January 1, 2019;
- (i) That the residential combined non-metered annual water and wastewater / storm rate be imposed at the flat rate of \$1,178.95 per annum, effective January 1, 2019;
- (j) That the Private Fire Line rates be imposed at the following rates, effective January 1, 2019:

Connection Size		Monthly Rate
mm	inches	
25	1.0	\$3.42
38	1.5	\$7.87
50	2.0	\$13.68
75	3.0	\$30.78
100	4.0	\$54.72
150	6.0	\$123.12
200	8.0	\$218.88
250	10.0	\$218.88
300	12.0	\$218.88

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- (k) That the 2019 Water, Wastewater and Storm Proposed User Fees and Charges be imposed as per Appendix “G” to Report FCS18087, effective January 1, 2019;
- (l) That charges for raw water supplied to 690 Strathearne Avenue North by the City of Hamilton be imposed at the following rates, effective January 1, 2019:
 - (i) metered raw water at the rate of \$0.1163 per cubic metre;
 - (ii) daily raw water fixed charges at the following rates:

Meter Size	Daily Rate
200 mm	\$30.40

- (m) That the 2019 Water, Wastewater and Stormwater Rate Supported Operating Budget in the amount of \$222,259,479 be approved as per Appendix “A” to Report FCS18087;
- (n) That the long-term financing plan for the Water, Wastewater and Stormwater programs and related rate increases required to meet sustainable financing, as identified in the 2019-2028 Water, Wastewater and Stormwater Rate Supported Operating Budget forecast (Appendix “A” to Report FCS18087) be approved, in principle;
- (o) That the 2019 Water, Wastewater and Stormwater Rate Supported Capital Budget and Financing Plan in the amount of \$273,141,000 be approved as per Appendices “K”, “N”, “Q” and “S” to Report FCS18087;
- (p) That the 2019-2028 Water, Wastewater and Stormwater Rate Supported Capital Budget forecast and financing plan (Appendix “I” to Report FCS18087) be approved, in principle;
- (q) That the City Solicitor be authorized and directed to prepare, for Council approval, all necessary by-laws respecting the 2019 water and wastewater / storm user fees, charges and rates set out in recommendations (a) through (l) of Report FCS18087;
- (r) That the additional 7.0 Full Time Equivalent Rate Supported Staffing be approved as per Appendix “F” to Report FCS18087;
- (s) That the operating impacts referred to the 2019 Rate budget as outlined in Report PW18089 respecting a property acquisition in Stoney Creek and the supporting Capital Financing plan be approved as per Confidential Appendix “T” to Report FCS18087;

- (t) That the Acting General Manager, Finance and Corporate Services, be authorized to negotiate the terms and placement of a debenture issue(s), and / or private placement debenture issue(s), in either a public or private market and / or bank loan agreement and debenture issue(s) and / or variable interest rate bank loan agreement and debenture issue(s), in an amount not to exceed \$94,390,000 Canadian currency, as attached in Appendices “K”, “N” and “Q” to Report FCS18087, which includes \$23,941,000 in Rate Supported municipal debt and \$70,449,000 in Development Charges Rate Supported municipal debt,
- (u) i) That the Acting General Manager, Finance and Corporate Services, be authorized to engage the services of all required professionals to secure the terms and issuance of the debenture issue(s) described in subsection (t) including, but not limited to, external legal counsel, fiscal agents and Infrastructure Ontario’s Loan Program;
- ii) That the Acting General Manager, Finance and Corporate Services, Mayor and City Clerk are each authorized and directed to enter into and / or execute, on behalf of the City of Hamilton, all agreements and necessary ancillary documents requiring their respective signatures, to secure the terms and issuance of the debenture issue(s) described in subsections (t), and (u), in a form satisfactory to the City Solicitor;
- (iii) That the Mayor and City Clerk are authorized and directed to enter into and / or execute, on behalf of the City of Hamilton, all agreements and necessary ancillary documents not requiring any specific signing authority, to secure the terms and issuance of the debenture issue(s) described in subsections (t) and (u), in a form satisfactory to the City Solicitor and with content acceptable to the Acting General Manager, Finance and Corporate Services;
- (v) That all necessary By-Law(s) be passed to authorize the debenture issue(s) negotiated, placed and secured in accordance with subsections (t) and (u).

EXECUTIVE SUMMARY

The 2019 Recommended Rate Budget is submitted for Council’s consideration. The 2019 Rate Budget balances the need to invest in environmental infrastructure upgrades and changing trends in demand for water and growth in users relative to “Places to Grow.” Over the period 2019 to 2028, water, wastewater and stormwater capital investment is forecast at \$2.34 B which represents an increase of \$0.42 B from last year’s 10-year forecast. This budget continues to focus on growing our economy, environmental stewardship, financial sustainability and effective inter-governmental relations.

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The Rate Capital Budget forecasts in Report FCS18087 and its Appendices are based on the best available information from our asset management practices. The municipal asset management framework has been in the development stages for many years. The Ministry of Infrastructure filed Ontario Regulation 588/17 - Asset Management Planning for Municipal Infrastructure under Bill 6, *Infrastructure for Jobs and Prosperity Act* (“Act”) on December 27, 2017. Regulation 588/17 went into force on January 1, 2018 and applies to all infrastructure assets directly owned by a municipality or consolidated on the municipality’s financial statements. City staff will report to Council on the various stages in the implementation of the Regulation over the coming years.

2019 Operating expenditures in the 2019 Requested Budget of \$95.7 M reflect an increase of \$2.4 M or 2.6% over the 2018 budget.

Capital financing costs, including reserve transfers in the 2019 Requested Budget of \$126.6 M, reflect an increase of \$9 M over the 2018 Budget. With non-rate revenues of \$3 M, rate revenues of \$219.2 M are required to meet operating (program and capital) expenditures.

Table 1 summarizes the budget changes for the 2019 Requested Budget:

Table 1

Summary of the 2019 Operating Budget				
(\$ millions)	2018 Restated Budget	2019 Requested Budget	2019 Requested / 2018 Restated Change	
			\$	%
<u>Expenditures</u>				
Program Expenditures	\$ 93.3	\$ 95.7	\$ 2.4	2.6%
Capital/Debt / Reserve Financing	\$ 117.6	\$ 126.6	\$ 9.0	7.6%
Total Expenditures	\$ 210.9	\$ 222.3	\$ 11.4	5.4%
<u>Revenues</u>				
Rate Revenue	\$ 207.8	\$ 219.3	\$ 11.5	5.5%
Non-Rate Revenue	\$ 3.1	\$ 3.0	(\$ 0.1)	(0.3%)
Total Revenue	\$ 210.9	\$ 222.3	\$ 11.4	5.4%
Average Residential Water / Wastewater / Storm Bill	\$ 690.70	\$ 722.90	\$ 32.20	4.66%

Note: Anomalies due to rounding.

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Chart 1 highlights that the proposed combined 4.66% rate increase is driven largely by increased capital and to a lesser extent operating expenditures in 2019.

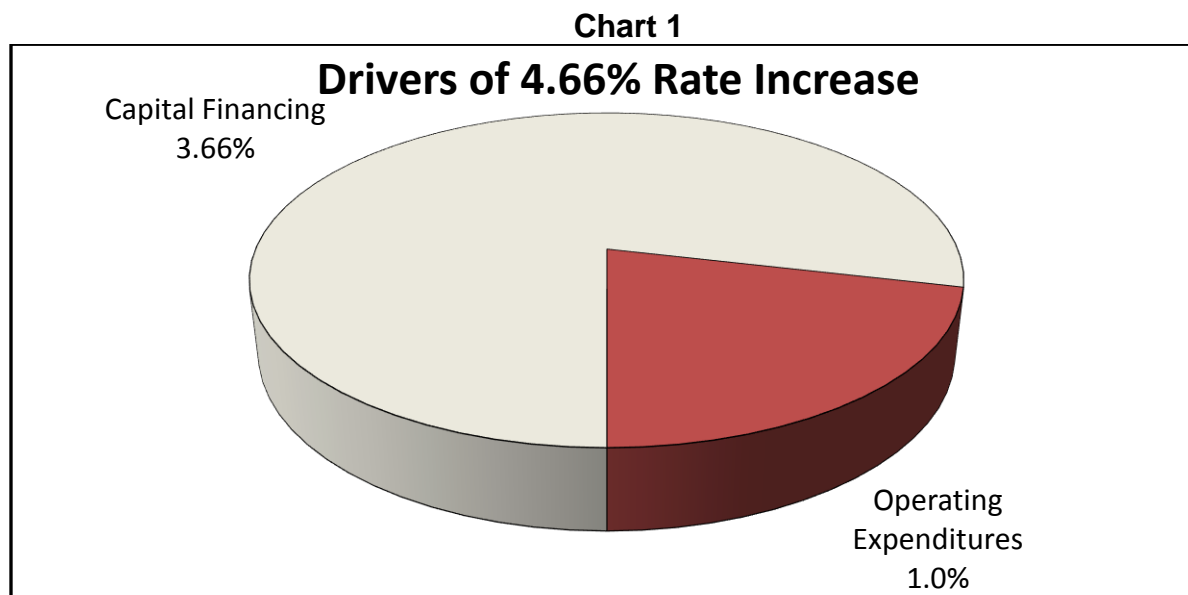


Table 2 identifies the proposed rate increase impact on the average residential customer:

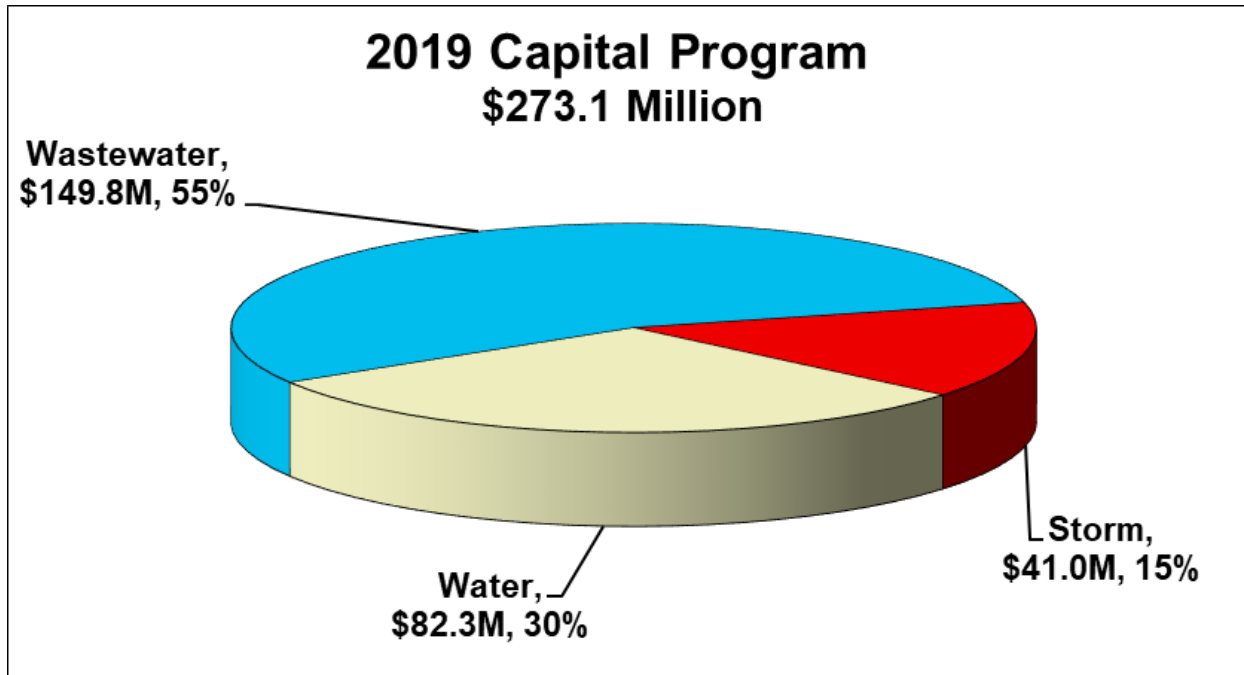
Table 2
Impact of Recommended 2019 Water and Wastewater / Storm Rate Increases on a Typical Residential Bill
 (Based on annual water consumption of 200m³)

2018 Residential Bill	\$690.70
2019 Residential Bill	\$722.90
Recommended Change (\$)	\$32.20
Recommended Change (%)	4.66%

The recommended 2019 Rate Supported Financial Strategy endeavours to achieve a balance between capital investment, rate of growth and rate stability. The 2019 Rate Supported Strategy links the change in demand for water with a staged approach to necessary capital investments at the Woodward Wastewater Treatment Plant (WWTP). The current strategy calls for capital funding in 2019 of approximately \$273.1 M (2018\$) and \$2.34 B (2018\$) for the 2019 – 2028 timeframe. The 2019 Strategy includes financing from the federal and provincial governments with respect to the WWTP rehabilitation and upgrades, specifically in support of the Hamilton Harbour Remedial Action Plan.

Chart 2 provides a breakdown of the 2019 Rate Capital Program totalling \$273.1 M, by the three major program areas: Water, Wastewater and Storm.

Chart 2



Report FCS18087 identifies significant risks related to a variety of conditions which may impact ratepayers and, in combination, may place significant financial pressures on ratepayers. These risk factors detailed in later sections of Report FCS18087 include increased operating and capital investment requirements. Staff pursued a variety of measures in an effort to control the impact of the above risks in order to maintain a safe and reliable service at a reasonable cost.

Alternatives for Consideration – See Page 29

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: As per Recommendation (I) of Report FCS18087, approval of the 2019 Water, Wastewater and Stormwater Supported Operating Budget will support operating and capital financing expenditures of \$222,259,479 for 2019.

Staffing: The 2019 Rate Supported staffing complement reflects a requested increase of 7.0 in total FTE headcount as reflected in Appendix “F” to Report FCS18087.

Legal: Recommendation “Q” of Report FCS18087 relates to By-laws requiring Council approval, respecting the implementation of 2019 water and wastewater user fees and charges set out in the recommendations (a) through (l) of Report FCS18087.

HISTORICAL BACKGROUND

The 2019 Rate Budget continues to support the priority of investing in infrastructure as evidenced by the 2019 to 2028 forecast investment of approximately \$2.34 B in water, wastewater and stormwater capital infrastructure.

Report FCS18087 outlines the various aspects and components that the recommended 2019 Rate Supported strategy incorporates:

- Sustainable Rate Strategy
- Proposed 2019 Water and Wastewater / Storm Rates
- Operating Budget Highlights
- Capital Budget Highlights
- Water Consumption Review and Forecast

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

The recommended options support the principle of a user-pay water and wastewater / storm system. The Rate Reserve Policy has guided staff’s recommended use of rate reserves as a funding source in the 2019 - 2028 financing plan.

RELEVANT CONSULTATION

Public Works – Hamilton Water Division provided operating / capital expenditure and non-rate revenue forecasts as reflected in Report FCS18087.

ANALYSIS AND RATIONALE FOR RECOMMENDATIONS

Appendix “A” to Report FCS18087 summarizes the 2019 operating budget expenditures (program and capital) and revenues of \$222.3 M compared to the 2018 projected actual and 2018 restated budget.

2019 Operating expenditures in the 2019 Requested Budget of \$95.7 M reflect an increase of \$2.4 M or 2.6% over the 2018 budget with the following major cost drivers:

- A review of the methodology for recovery of operating expenditures from capital resulted in an increase of \$2.1 M to the operating budget. This change in methodology results in more dollars being spent on capital.

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- Employee related expenditure increase of \$0.4 M.
- Contractual services net increase of \$0.6 M with the bulk of the increase attributed to the locates contract.
- The Protective Plumbing Program (3P) grants decreased by \$0.75 M to reflect reduced demand.
- Hydro decrease of \$1.1 M.

As outlined in the Executive Summary section of Report FCS18087, the proposed rate impact for the average residential water, wastewater and storm annual bill would be \$32.20 (4.66%).

Water and wastewater service user fees have been reviewed in accordance with the User Service Fee and Charges Policy which requires identification of both the cost of the service and the fees / charges to recover such cost with the intent that full cost recovery is achieved. Many service fees are unchanged with full cost recovery currently being achieved with others undergoing varying fee increases to achieve full cost recovery.

The 2019 recommended water and wastewater / storm rate increases will result in an annual cost impact of approximately \$32 per typical household. The impact of the recommended rate increases on the water and wastewater / storm fixed charges as well as the water consumption and wastewater / storm treatment charges are identified in Table 3.

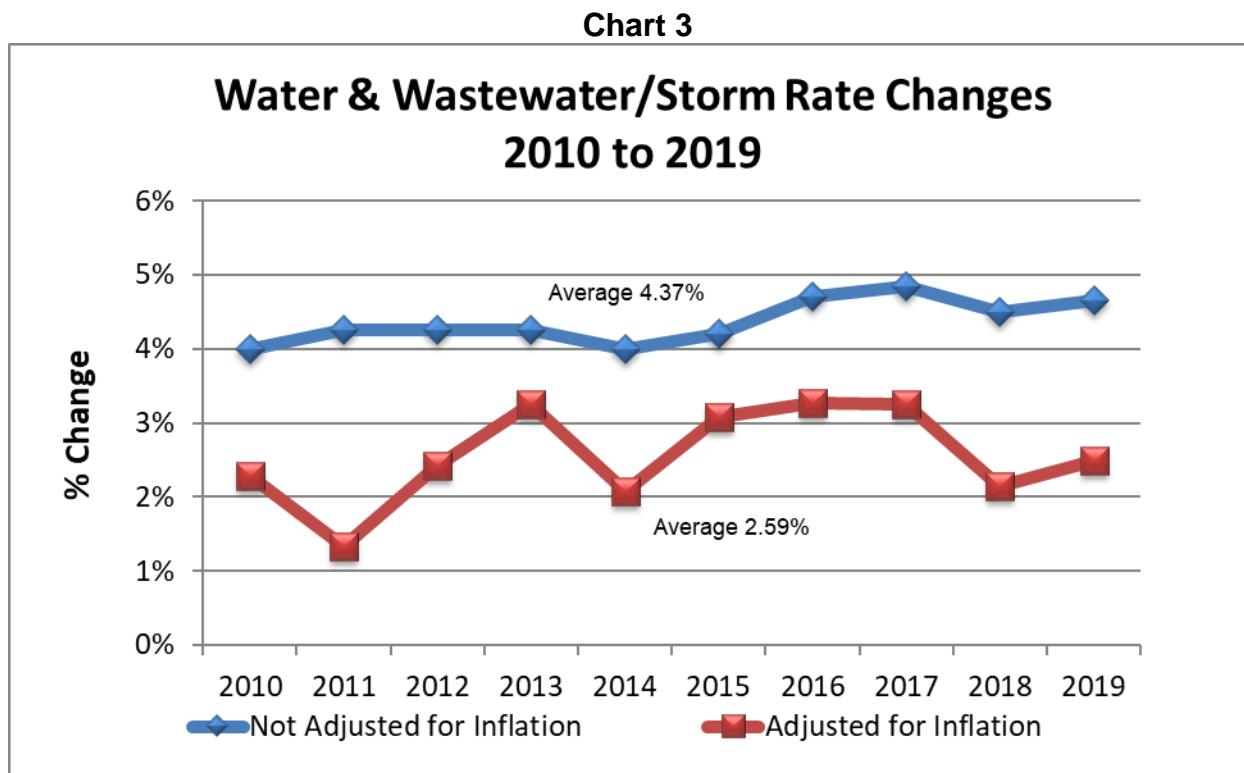
**Table 3
Impact of Recommended Rate Increases on
Water and Wastewater / Storm Rates**

	2018	2019	Increase
Water Fixed Charge (daily) ¹	\$0.34	\$0.36	\$0.02
Consumption Charge Block 1 (0-10 cubic metres / month)	\$0.75	\$0.78	\$0.03
Consumption Charge Block 2 (>10 cubic metres / month)	\$1.49	\$1.55	\$0.06
Wastewater / Storm Fixed Charge (daily) ¹	\$0.36	\$0.38	\$0.02
Treatment Charge Block 1 (0-10 cubic metres / month)	\$0.81	\$0.84	\$0.03
Treatment Charge Block 2 (>10 cubic metres / month)	\$1.61	\$1.68	\$0.07

¹ Rate is for a 15-21 mm meter which most residential homes have installed.

Trends in Water Rate Charges 2010-2019

Hamilton's overall average annual combined water and wastewater / storm rate increase is 4.37% before adjusting for inflation during the 10-year period from 2010 to 2019. Accounting for inflation results in the overall average, the annual rate increase over the same period would be 2.59%. Chart 3 shows the trend in Hamilton's combined water and wastewater / storm rates for the period 2010 to 2019.



Comparative Rates

In recent years, staff reported that Hamilton's water and wastewater / storm rates have remained competitive, inclusive of the fact that annual rate increases over the past decade have averaged 4.37% before adjusting for inflation.

Over the past decade, Hamilton's ability to maintain competitive water and wastewater / storm rates, given the magnitude of the rate increases approved over this same period, reflects the fact that like Hamilton, other municipalities are addressing many of the same investment requirements as previously identified.

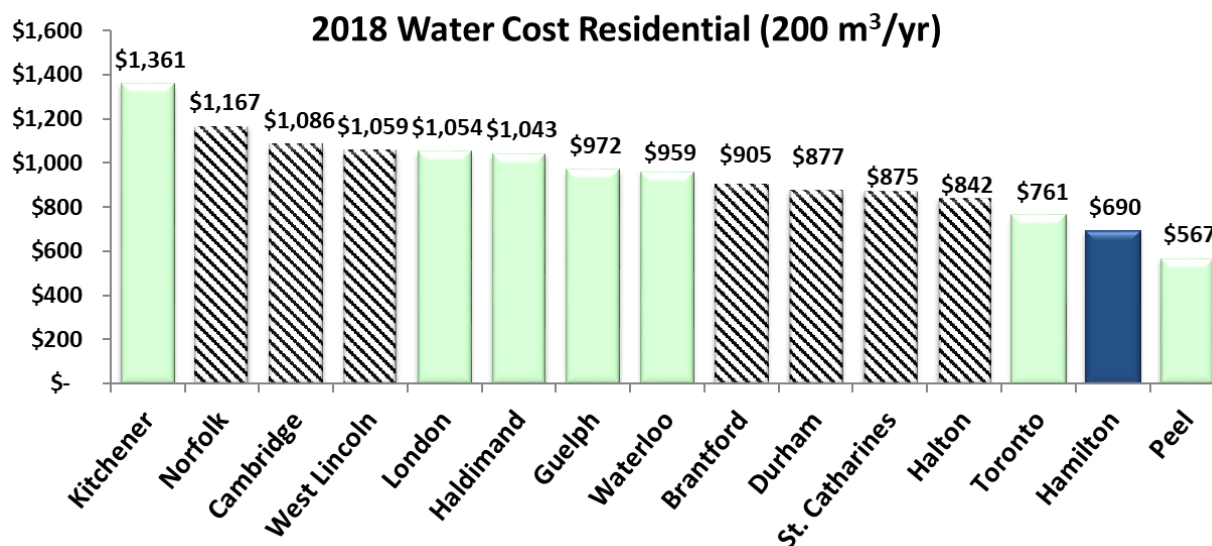
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Hamilton’s residential annual water and wastewater / storm bill continues to be the second lowest within its local municipal comparator group. Though Hamilton largely funds its stormwater management program through its wastewater / storm fee, it still has been able to maintain competitive rates as reflected in Chart 4.

Chart 4



 Stormwater funded by property taxes

CONSUMPTION AND RATE-GENERATED REVENUES

Metered Water Consumption

Currently, the City of Hamilton has nearly 152,000 metered water accounts (see Chart 5). Residential users account for 93% of total metered accounts and approximately 48% of total water consumption. While industrial, commercial, institutional and multi-residential accounts only make up 7% of total metered accounts, Industrial Commercial Institutional (ICI) and multi-residential (multi-res) water consumption accounts for 52% of total consumption.

Revenues associated with consumption represents approximately 94% of the total budgeted Rate revenues of \$222.3 M for 2019 (see Chart 6).

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Chart 5

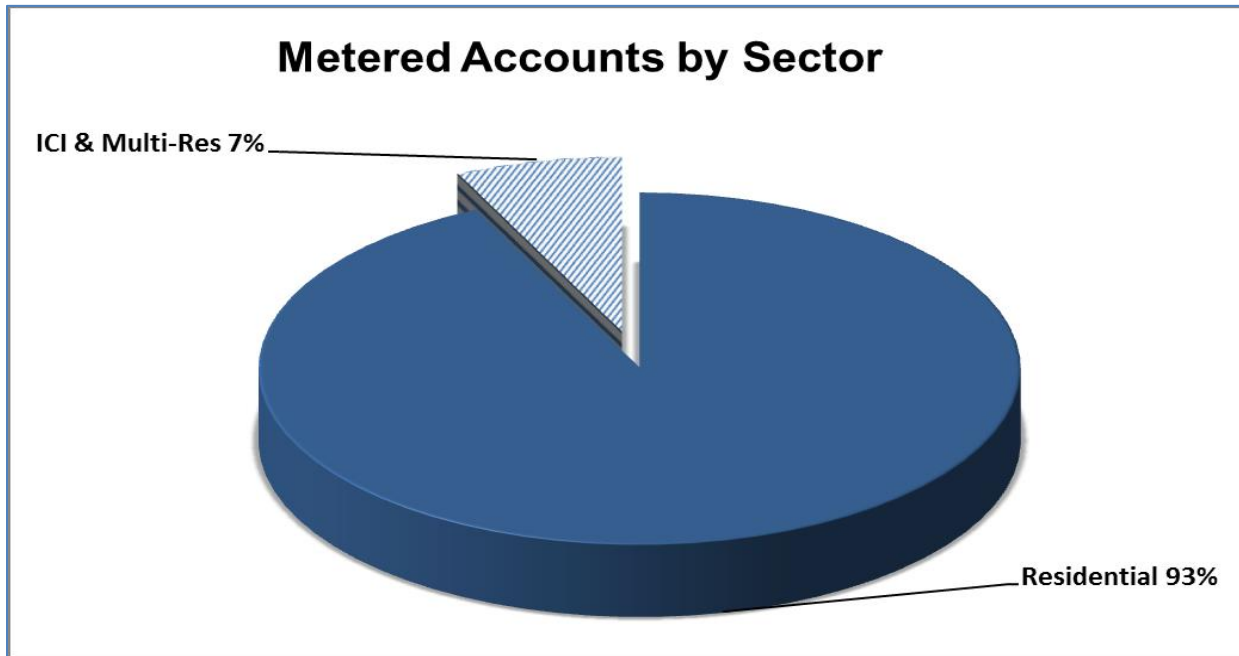
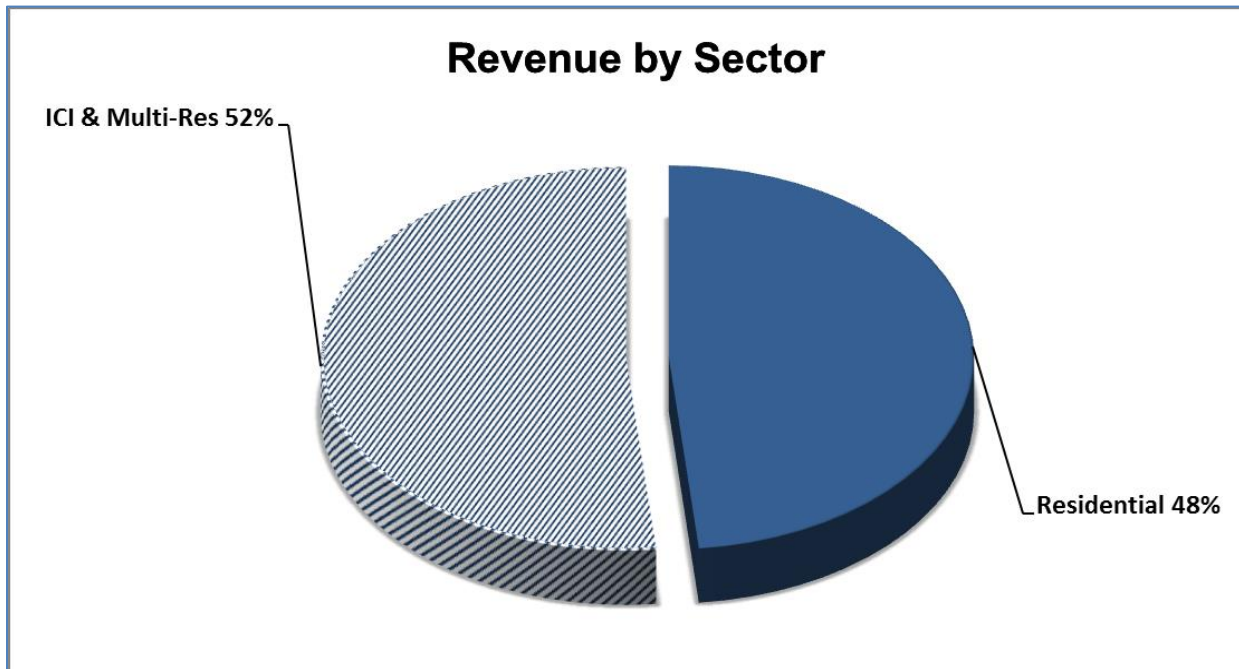


Chart 6



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Total Consumption – 2019 Budget \$208.3 M

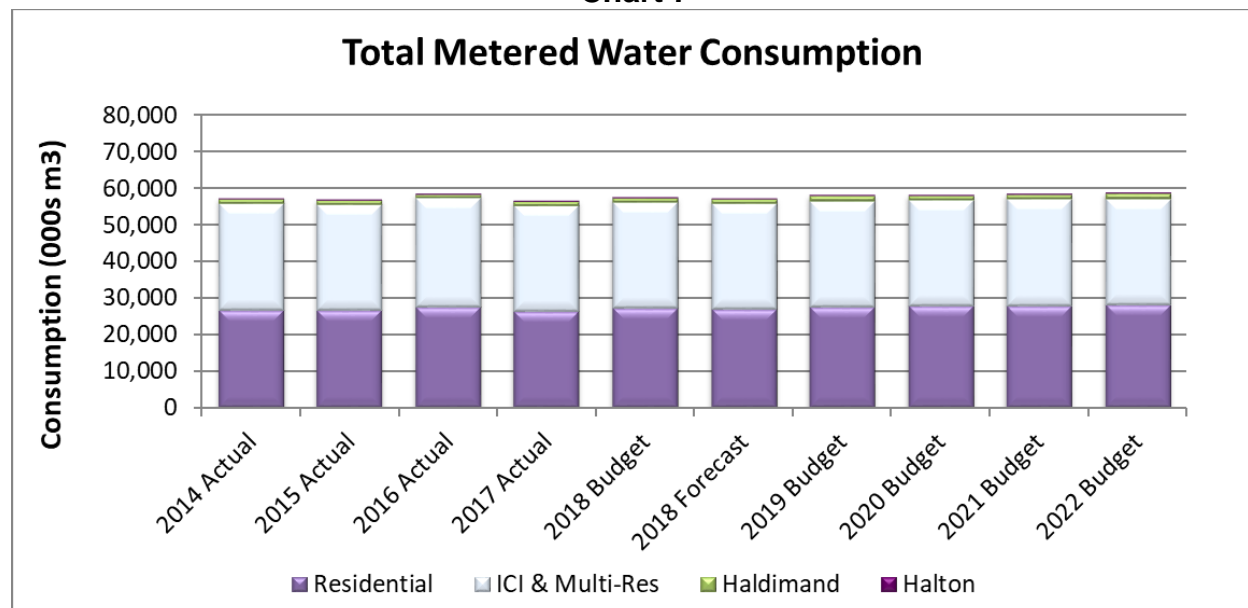
Since 2013, Hamilton’s total metered annual water consumption (see Chart 7) has remained at approximately 55-58 million cubic metres. The 2018 forecast is for total consumption to be just under 57 million cubic metres which would be approximately 1% below the budgeted consumption.

Total water consumption over the 10-year forecast period (2019 to 2028) projects continued flat consumption demand. This relatively conservative forecast reflects the following:

- Sharp decline in consumption from 2009-10 Recession has proven to be structural in nature with no recovery in water demand
- Continued uncertainty surrounding growth / decline of consumption
- Conservation impacts:
 - residential toilet consumption = 30% of indoor consumption
 - newer high-efficiency toilets and washers

Staff will continue to monitor consumption across all sectors and take efforts to ensure that the City is maximizing its full potential with respect to metered water and wastewater / storm revenues. Similarly, staff will be monitoring changes in consumption on an ongoing basis identifying trends and related financial impacts through the Budget Variance Reports provided to Council.

Chart 7



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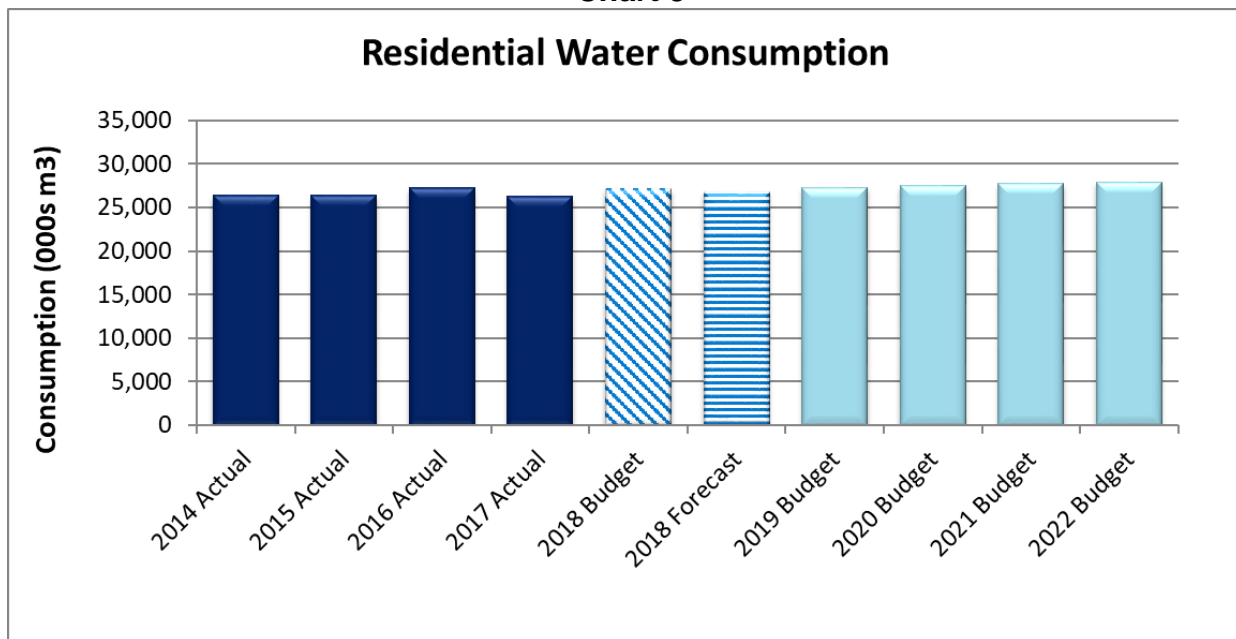
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Residential Consumption - 2019 Budget \$97.9 M

Since 2013, residential consumption (see Chart 8) has remained relatively unchanged reflecting an observation that the growth of new customers' consumption has been more than mitigated by reduced consumption of existing customers' ongoing conservation efforts associated with fixture / appliance obsolescence such as the installation of water efficient toilets and washer machines. For 2019, staff is recommending that the forecast for average residential consumption remain at 200m³ to reflect the past several years of consumption.

It is not clear how much further average residential consumption can decline, but there exists the potential for further declines, principally due to conservation efforts and associated regulations. For example, in 2012, the Ontario Building Code changed requirements related to the installation of high-efficiency toilets (4.8L) and expanding the end uses of rainwater and other non-potable water.

Chart 8



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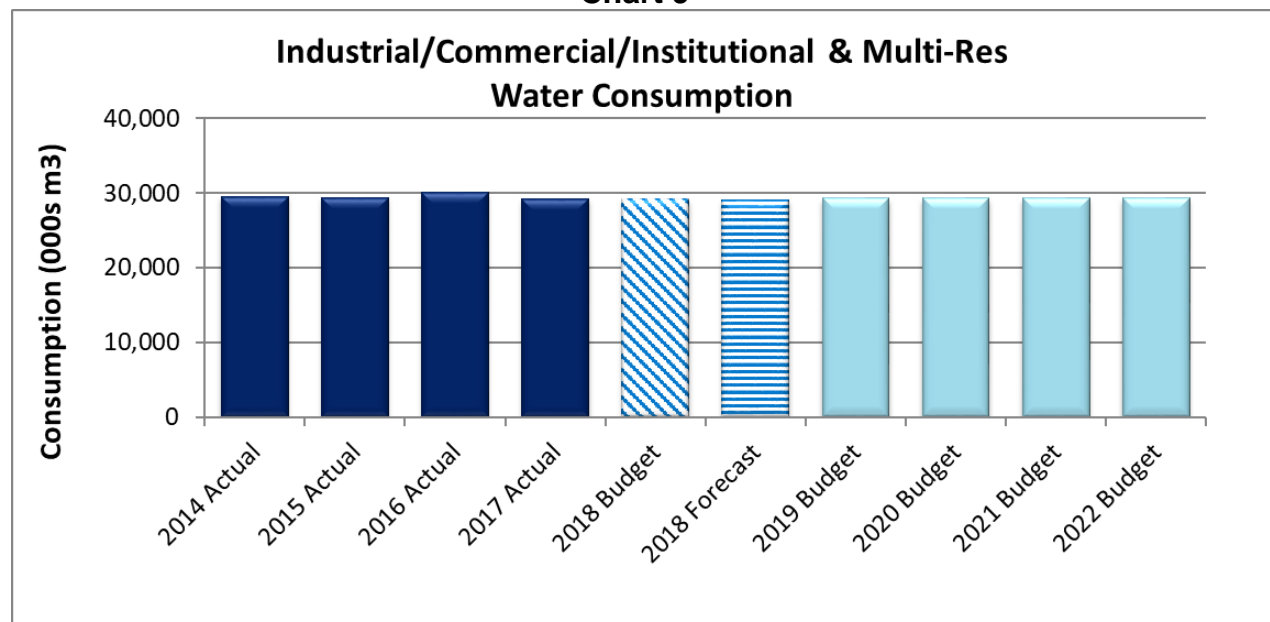
Industrial / Commercial / Institutional and Multi-Res Consumption – 2019 Budget \$107.8 M

The ICI and Multi-Res sector experienced a very significant consumption decline of nearly 10 million cubic metres since the last recession period, however, consumption levels have stabilized since 2013. Despite ongoing growth particularly in the multi-residential sector, there continues to be ongoing conservation efforts that offset any demand growth associated with new customers. Many larger multi-residential customers are implementing water conservation project. For example, CityHousing Hamilton completed, this year, the installation of over 3,000 ultra-high efficiency 3.0L toilets which will yield annual savings of over \$450 K.

In sharp contrast to many neighbouring communities, Hamilton is unique in that significant portion of consumption and, in turn, revenues come from industrial and institutional customers. The top users of the ICI / Multi-res sector representing some 40 customers account for nearly a quarter of total consumption. This reliance on a relatively small number of large water users does pose a risk to revenue stability when these customers undertake water conservation projects or experience business failure. For example, earlier this year, Hamilton Specialty Bar (HSB) ceased operations and its manufacturing site liquidated. As recently as 2016, HSB represented a customer with annual consumption of approximately 300,000 cubic metres and over \$1 M in combined water and wastewater / storm revenues.

As reflected in Chart 9, water consumption demand is forecast to remain relatively flat for the ICI / Multi-res sector:

Chart 9



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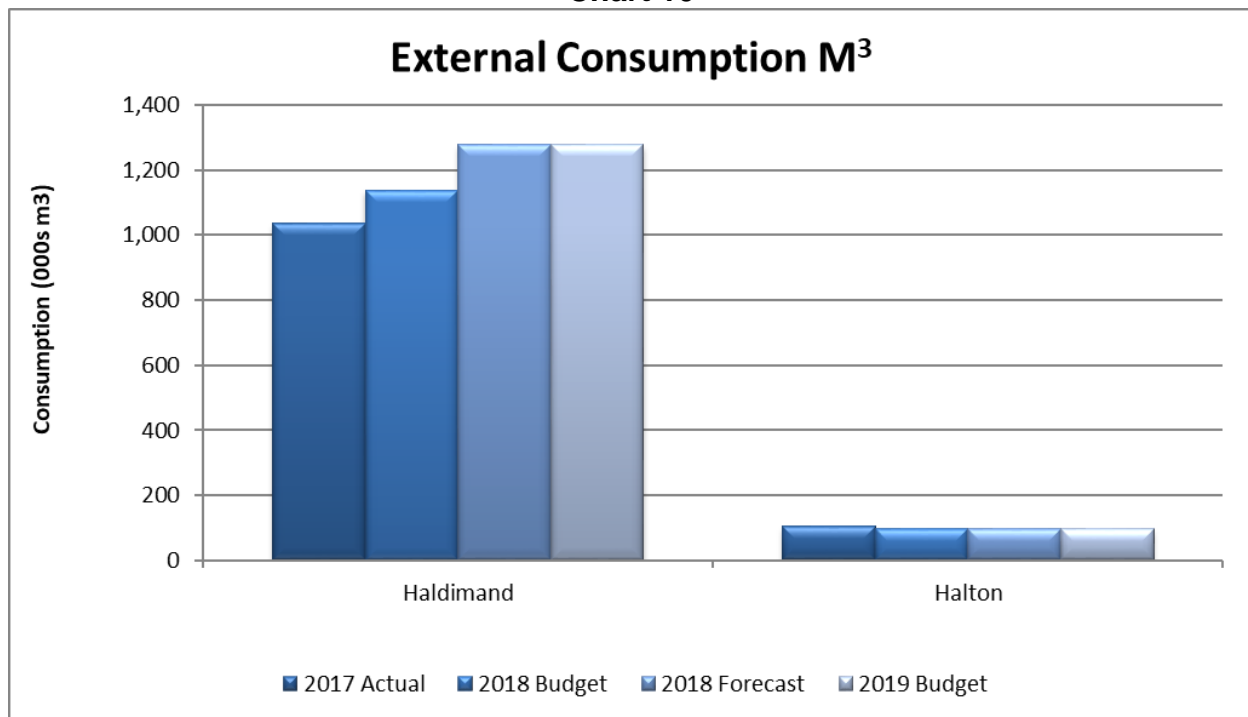
External Consumption – 2019 Budget \$2.6 M

Under long-term arrangements, Hamilton supplies Haldimand County and Halton Region potable water (see Chart 10) but does not provide wastewater / storm services to either community.

A renewed water supply agreement with Haldimand was executed in 2014 for an initial 20-year period with Hamilton supplying water to the communities of Caledonia and Cayuga. There has been some growth over the past two years with new housing developments in Caledonia.

The current water supply agreement for Halton was executed in 2011 for an initial ten-year period with Hamilton supplying water to the Aldershot and Snake Road communities. Staff will be pursuing by November 2019, the renewal term of ten years as contemplated under the existing agreement.

Chart 10



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OTHER REVENUE HIGHLIGHTS

Sewer Discharge Permits – 2019 Budget \$7.4 M

Surcharge Discharge Permits allow the City of Hamilton a mechanism to recover costs associated with:

- the costs of conveyance, treatment, and monitoring of sewage that exceeds By-law limits for treatable parameters (Overstrength Discharge)
- the costs of conveyance, treatment, and monitoring of sewage that was not originally purchased by the customer from the City's potable water supply (Sewer Surcharge)

Permits, General Fees and other Recoveries – 2019 Budget \$2.6 M

Service fees that may be charged with the issuance of a permit or alternatively charged on the customer's water bill. Appendix "G" to Report FCS18087 provides details of the user fees charges that are applicable for various water / wastewater related services provided on an individual basis to customers such as new meter installations, water service turn on or off, laboratory services, etc.

Private Fire Lines – 2019 Budget \$1.5 M

The Private Fire Protection Charge applies to customers that have private fire protection systems which rely upon the public water system for their water supply via an unmetered fire water service line.

2019-2028 Rate Capital Budget

Table 4 summarizes the \$2.34 B capital program and the financing requirements for the 2019 – 2028 water, wastewater and storm capital budget. Of this amount, \$1,255 M or 53% is for wastewater, \$906 M or 39% is for water and \$182 M or 8% is for the storm program. A total of \$846 M or 36% of the 10-year capital program is required in the first three years (2019 – 2021). This is predominantly due to the Woodward Wastewater Treatment Plant (WWTP) Upgrade and Biosolids Plant construction.

The capital program also includes \$713 M for growth infrastructure related to Growth Related Integrated Development Strategy (GRIDS) which will be funded from Development Charges, except for \$81 M in Development Charge exemptions which the City is legislatively required to fund from rate revenues if Council chooses to discount its DC's or recover less than 100% of growth-related capital costs. Finance staff have recommended to increase DC exemptions from \$71 M to \$81 M to fully fund exemptions provided by Council, to ensure the City remains in compliance with legislation. Funding of DC exemptions reduces the amount of dollar for dollar funding the City can invest in infrastructure.

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Table 4

SOURCE OF CAPITAL FINANCING 2019 to 2028 RATE PROGRAM CAPITAL BUDGET \$(000'S)					
	2019	2020	2021	2023 to 2028	2019 to 2028
WATER					
Capital Program	82,280	99,010	80,543	571,649	905,627
<u>Source of Funding</u>					
Subsidy/Other Revenue	610	6,553	1,481	30	8,674
Development Charges	5,657	38,751	20,065	107,592	176,569
Reserves & Other Internal Sources	9,910	640	640	3,200	15,030
Contribution from Operating	51,762	30,761	42,634	437,327	606,485
External Debt	14,341	22,305	15,723	23,500	98,869
Total	82,280	99,010	80,543	571,649	905,627
WASTEWATER					
Capital Program	149,831	185,344	160,420	673,279	1,255,312
<u>Source of Funding</u>					
Subsidy/Other Revenue	42,908	69,604	32,524	-	145,036
Development Charges	33,752	32,351	33,228	325,054	448,562
Reserves & Other Internal Sources	30,334	22,340	12,342	-	65,016
Contribution from Operating	42,837	61,049	54,776	348,225	564,148
External Debt	-	-	27,550	-	32,550
Total	149,831	185,344	160,420	673,279	1,255,312
STORM SEWERS					
Capital Program	41,030	35,900	11,600	82,480	182,440
<u>Source of Funding</u>					
Subsidy/Other Revenue	75	75	75	450	750
Development Charges	31,040	24,960	4,000	24,060	88,060
Reserves & Other Internal Sources	6,710	-	-	-	6,710
Contribution from Operating	3,205	10,865	7,525	57,970	86,920
External Debt	-	-	-	-	-
Total	41,030	35,900	11,600	82,480	182,440
TOTAL RATE PROGRAM					
Capital Program	273,141	320,254	252,563	1,327,408	2,343,379
<u>Source of Funding</u>					
Subsidy/Other Revenue	43,593	76,232	34,080	480	154,460
Development Charges	70,449	96,062	57,293	456,706	713,191
Reserves & Other Internal Sources	46,954	22,980	12,982	3,200	86,756
Contribution from Operating	97,804	102,675	104,935	843,522	1,257,553
External Debt	14,341	22,305	43,273	23,500	131,419
Total	273,141	320,254	252,563	1,327,408	2,343,379

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Chart 11 illustrates the \$2.34 B capital program for the 2019 – 2028 water, wastewater and storm capital budget.

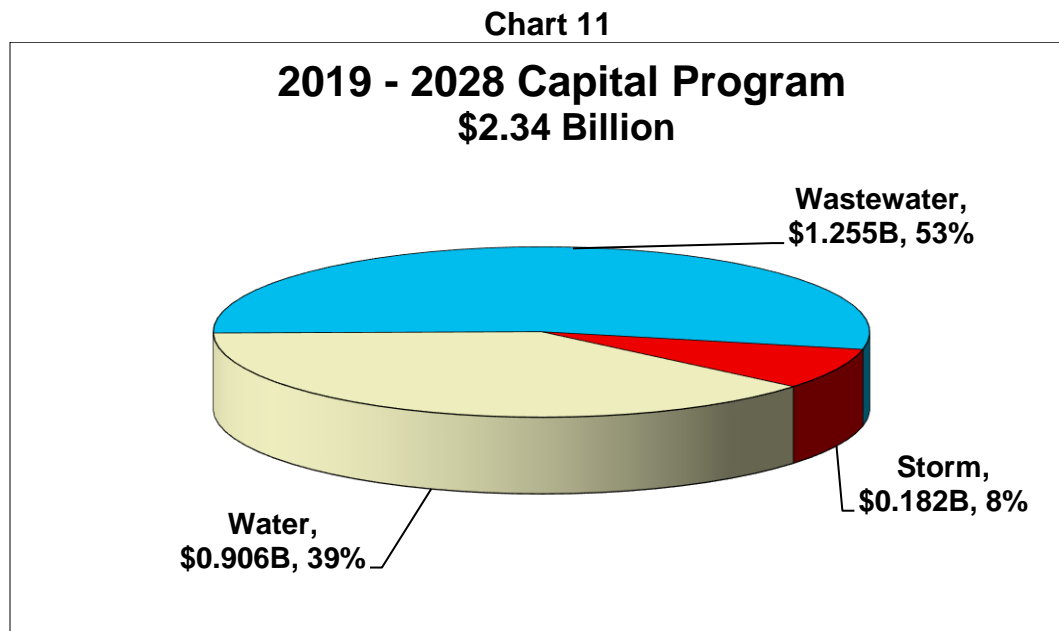
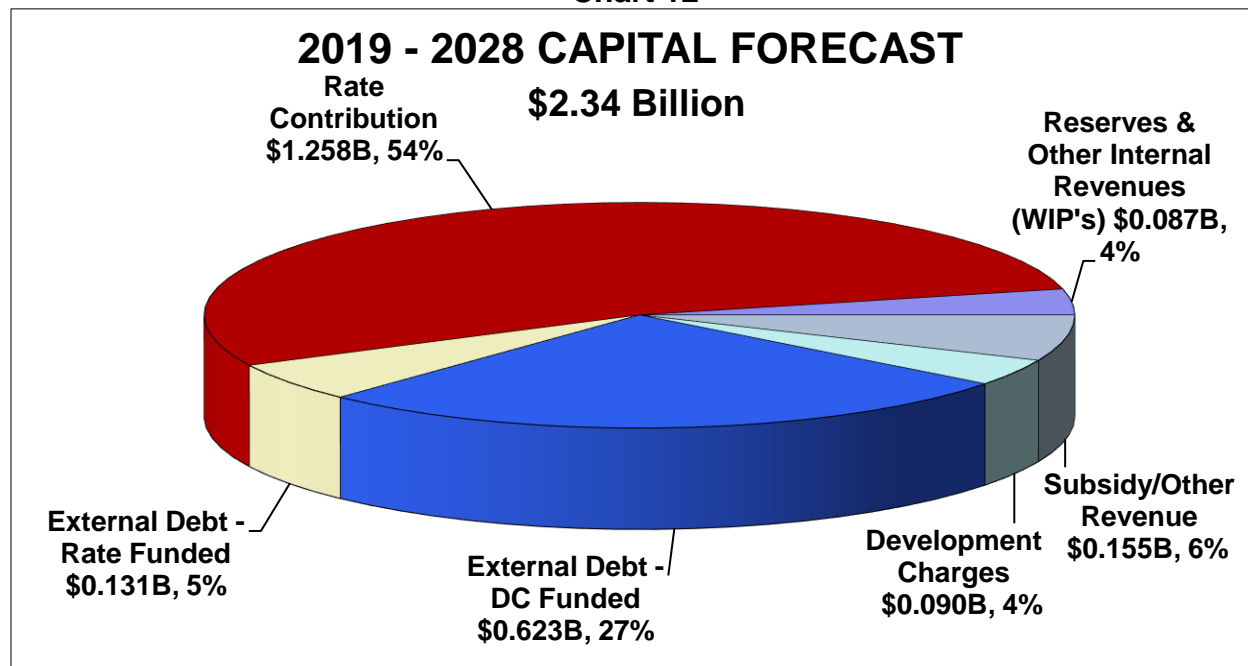


Chart 12 provides the sources of capital financing for the 2019 – 2028 forecast period. The growth-related infrastructure investment included in the 2019 – 2028 forecast to accommodate for growth is \$713 M, of which all but \$90 M will be funded from debt with the associated debt charges recovered from development charges over the next 20 years. It is assumed that DC collections of \$30 M each year in 2019, 2020 and 2021 will be utilized to fund growth capital in those years, reducing the amount of debt required to fund growth capital.

The 2019–2028 Capital Forecast includes \$21.0 M in funding from capital work-in-progress (WIP's). Capital funding from reserves in years 2019 through 2028 totals \$65.8 M, which helps to mitigate debt financing.

Chart 12



Rate Reserves

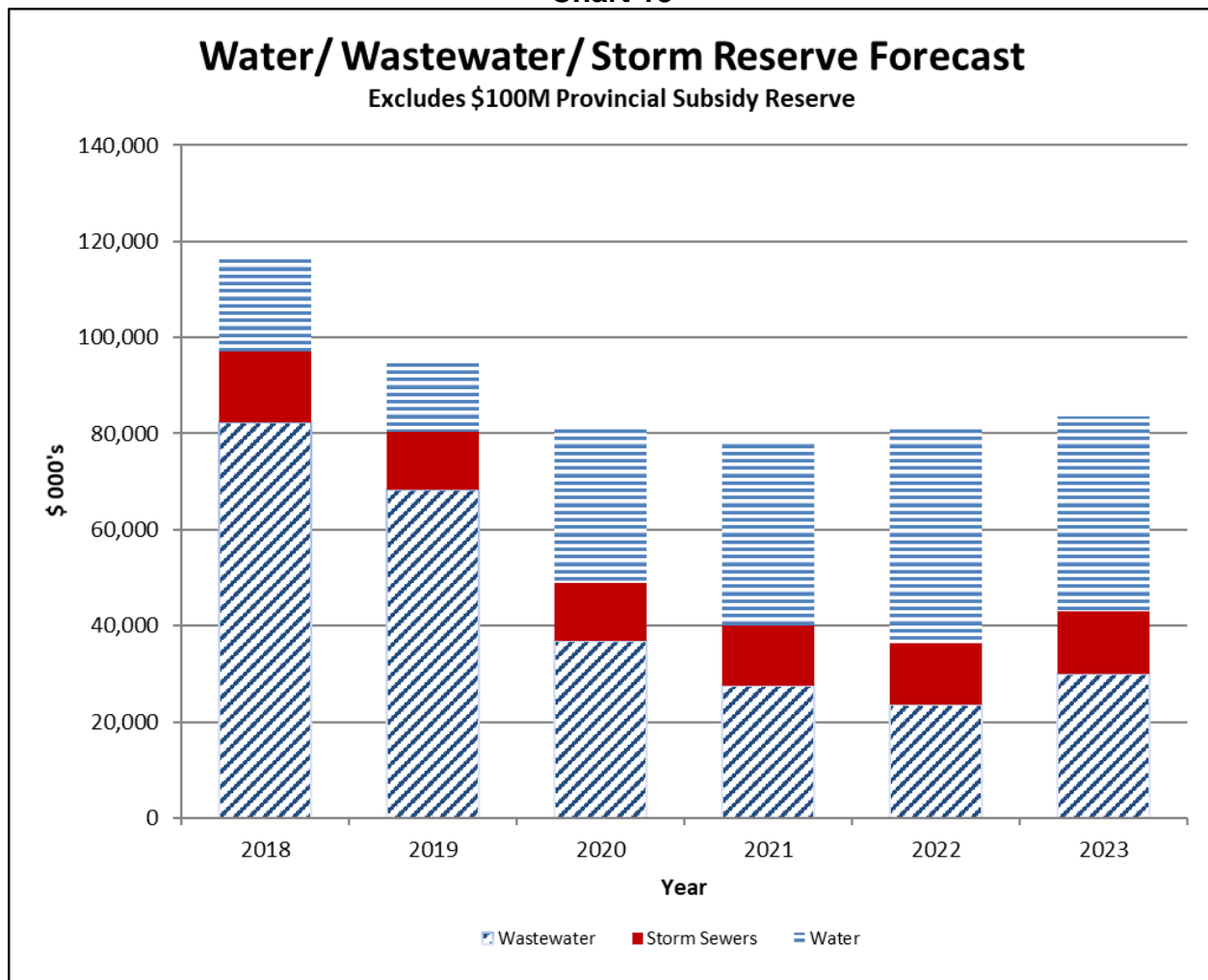
Chart 13 provides the projected reserve balances for the Water, Wastewater and Storm programs. The 2019 Budget Forecast reflects utilizing \$22.32 M in reserve funds to fund the WWTP project, \$0.64 M for the Water Program and \$3 M for the Storm Program. It should be noted, the reserve forecast below does not include the Provincial Wastewater Improvement Subsidy reserve (\$100 M Provincial subsidy which is dedicated funding for the WWTP Clean Harbour project) or the Meter Replacement Reserve.

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Chart 13



Reserves are essential to assist the City in mitigating unanticipated events such as consumption fluctuations, unforeseen increase in capital costs and potentially to provide rate stability or to decrease future debt needs. The current reserve forecast indicates the combined reserve balance will decrease from \$116 M at the end of 2018, to \$78 M in 2021 and then increase over the years to \$98 M in 2028. The decrease in reserves coincides with construction of the Clean Harbour Project at the WWTP plant, of which the City is funding over \$45 M from the Wastewater Reserve. The Wastewater and Storm Reserves are within the target balances relative to the Rate Reserve Policy approved by Council in June 2016. A strategy has been identified to replenish the Water Reserve as this reserve is currently below the defined lower reserve target balance. This is largely due to the reliance on this reserve to fund Water program related net capital expenditures.

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Wastewater Treatment Upgrade and Expansion Project

The implementation plan for the Upgrade and Expansion of the WWTP is consistent with the 2018 Rate Budget, in that the plant improvements are forecast using a phased approach. Phase One is for effluent quality improvements and Phase Two is for expansion of the treatment plant to accommodate growth. The full \$296 M of the total growth component related to Phase Two is in the 2019-2028 Financing Plan. Construction for Phase Two related to expansion is proposed to start in 2026 and complete in 2028.

The total budget for the Wastewater Treatment Plant upgrade and expansion has increased by \$56.7 M in the 2019 budget forecast compared to the 2018 budget forecast, as reflected in Table 5. The total project budget increase was made up by a \$2.2 M reduction in the cost of the clean Harbour Project and a \$58.9 M increase in the cost of the expansion project. The budget increase is attributable to revised cost estimates for the plant expansion as part of the 2019 DC Background study. The previous cost estimate included in the 2018 budget was based on cost forecasts done in 2012. The new forecast has been adjusted for inflation. Table 5 provides a comparison of the budgeted costs in the 2018 and 2019 Rate Budgets for the Wastewater Treatment Plant upgrade and expansion.

The WWTP expansion project has been accelerated by a year when compared to the 2018 forecast. It is now scheduled to begin construction in 2026, with 100% of the cost funded by development charge debt. As previously mentioned, the levels of debt supported by development charges represent a significant risk if future growth does not materialize as planned. Staff will continue to monitor growth forecasts and DC Revenues over the next four years (2019 – 2022) and adjust the plant expansion project and associated financing plan to align with growth requirements. Staff in both Finance and Public Works will closely monitor the need for plant expansion, as well as the forecasted DC Revenue streams needed to pay for such an expansion, to mitigate the risk to the rate payer.

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**SUBJECT: 2019 Recommended Water, Wastewater and Stormwater Budget
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Table 5

Woodward Wastewater Treatment Plant Project - Gross Capital Forecasts													
(\$ Millions)													
	Total	pre											post
		2019	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2028
2019 Budget													
Phase 1 - Clean Harbour	406.5	152.3	64.5	89.2	97.1	3.4	-	-	-	-	-	-	-
Phase 2 - Expansion	296.4	-	1.5	1.8	1.8	2.5	2.5	3.1	3.1	94.3	92.9	92.9	-
Total WWTP	702.9	152.3	66.0	91.0	98.9	5.9	2.5	3.1	3.1	94.3	92.9	92.9	-
2018 Budget													
Phase 1 - Clean Harbour	408.7	152.3	112.1	116.4	27.9	-	-	-	-	-	-	-	-
Phase 2 - Expansion	237.5	-	-	-	-	-	-	5.0	5.0	5.0	77.5	72.5	72.5
Total WWTP	646.2	152.3	112.1	116.4	27.9	-	-	5.0	5.0	5.0	77.5	72.5	72.5
Increase (Decrease)													
Phase 1 - Clean Harbour	(2.2)	-	(47.6)	(27.2)	69.2	3.4	-	-	-	-	-	-	-
Phase 2 - Expansion	58.9	-	1.5	1.8	1.8	2.5	2.5	(1.9)	(1.9)	89.3	15.4	20.4	(72.5)
Total WWTP	56.7	-	(46.1)	(25.4)	71.0	5.9	2.5	(1.9)	(1.9)	89.3	15.4	20.4	(72.5)

Provincial / Federal Subsidy Programs

In 2010, the City received \$100 M of Provincial infrastructure funding related to the Wastewater Treatment Plant (WWTP) water quality improvement project and in 2013 a \$100 M commitment for Federal funding for the WWTP project from the Green Infrastructure Fund (GIF) on a claim reimbursement basis.

The 2019–2028 Rate Capital Financing Plan incorporates both the Federal and Provincial Subsidies to fund the Clean Harbour project. Of the \$200 M of the Provincial and Federal funding, \$69.664 M has been committed as a funding source in previous years' budgets, leaving \$130.336 M in funding for the Clean Harbour project to be applied in years 2019- 2021.

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Projected Water / Wastewater / Storm Debt

The 2019 Water, Wastewater and Storm Budget incorporates a significant reliance on both rate supported debt and growth-related debt supported from development charges over the 10-year forecast period. The forecasted rate supported debt financing for the 10-year period 2019–2028 has increased by \$17.2 M from the 2018 Rate Budget. The increase in debt is because of a conscious effort to maintain Council approved minimum reserve balances, while staying within Council approved debt levels. The forecasted DC supported debt financing has increased by approximately \$72.8 M over the same period, resulting in an overall net increase in forecasted debt financing of \$109.4 M from the forecast in the 2018 Rate Budget. The increased reliance on DC supported debt is attributable to an increase in the Growth Capital forecast in the 2019 Rate Budget compared to the 2018 Rate Budget, specifically the inclusion of the WWTP expansion Project. The Growth Capital is partially offset with a \$30 M contribution from DC reserves in 2019 in the 2018 Rate Budget.

The 10-year capital program relies on a significant amount of debt financing, with the associated debt charges funded from both rates and development charges. The rate supported debt is projected to peak at \$307 M in 2022, compared with the 2018 budget forecasted debt peak of \$303 M in 2021. The debt funded from DC's is projected to peak at \$708 M in 2028, whereas the 2018 forecast was \$451 M in 2027. The increase in DC supported debt is due to the accelerated construction timeline of the WWTP expansion project, which for the first time has its entire construction cost in the 10-year forecast. The WWTP is planned to be 100% DC funded.

Table 6 provides the ten-year debt forecast compared to the 2018 Budget forecast.

Table 6

Projected Rate & DC Supported Outstanding Debt											
(\$ Millions)											
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2018 Rate Budget											
Funded from Rates	178	236	302	303	286	262	236	219	200	173	147
Funded from DC's	69	151	286	312	325	333	344	364	370	451	430
Total	247	387	589	615	611	595	581	583	570	624	578
2019 Rate Budget											
Funded from Rates	160	187	222	274	307	284	267	254	226	198	173
Funded from DC's	5	102	221	298	377	391	400	416	511	612	708
Total	165	289	443	572	684	675	667	669	737	810	880
Increase (Decrease)	(82)	(97)	(146)	(44)	73	81	87	86	167	186	303

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Consistent with the 2018 Rate Budget and to more accurately forecast debt levels and the associated debt charges, the major multi-year Wastewater Treatment Plant projects are budgeted based on the projected cash flow of expenditures for the 2019 Rate Capital Budget, versus full commitment based budgeting.

Chart 14 compares the total outstanding debt (Rate and DC Funded) from the 2018 Budget forecast to the 2019 Budget forecast. The graph illustrates the lower debt requirements in 2019–2021 and higher debt levels in 2022–2028 from the 2018 forecast for the 10-year period 2019–2028. The higher debt levels in the later years can be attributed to the accelerated timeline of the WWTP expansion Project which is to be 100% DC debt funded.

Chart 14

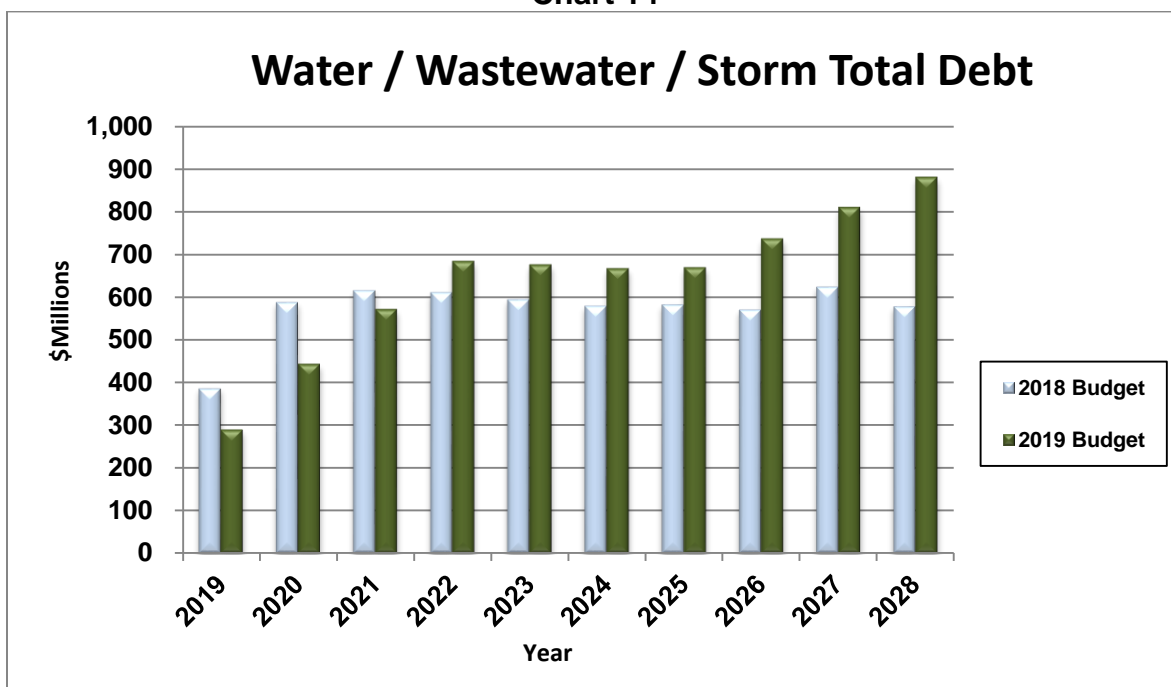


Chart 15 illustrates the projected outstanding debt for the 10-year period (2019–2028) and the funding source of the associated debt charges.

Chart 15

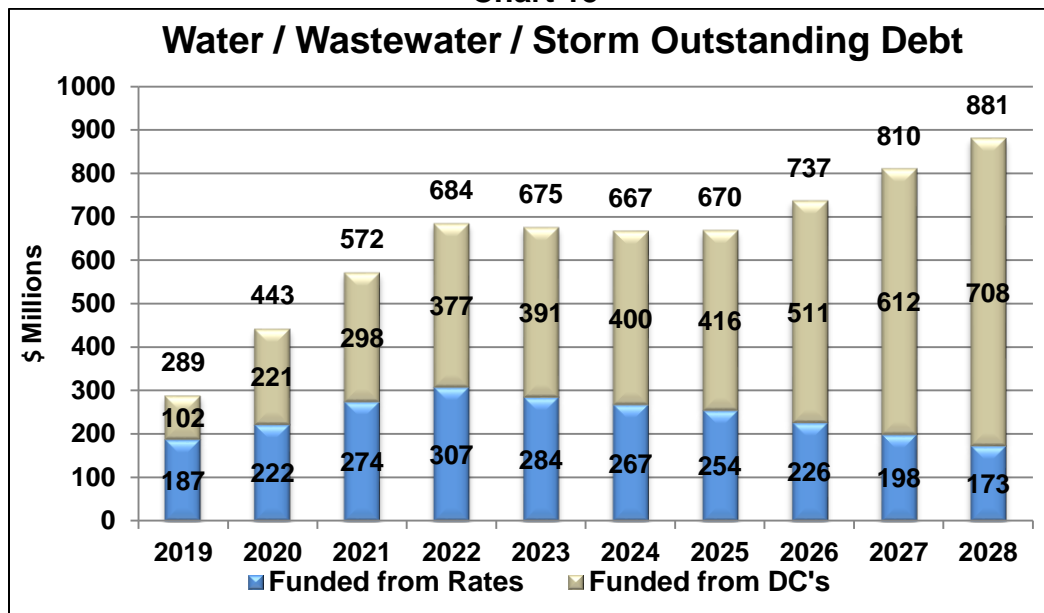
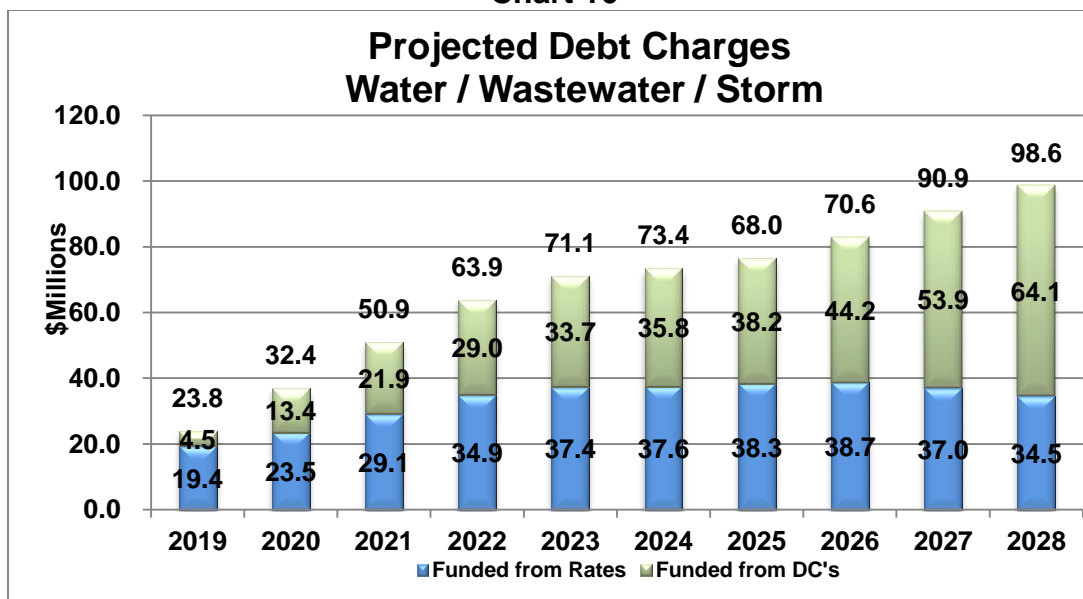


Chart 16 shows the forecasted debt charges funded by water / sewer rates and by Development Charges. In the upcoming years, Finance staff in conjunction with Public Works Staff will monitor the forecasted DC Debt charges in comparison to DC Revenue, to mitigate potential risks to the rate payer. The majority of this risk lies with the implementation plan of the WWTP expansion project, currently forecasted for construction in years 2026-2028.

Chart 16



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Impact of Capital Budget on Operating Budget

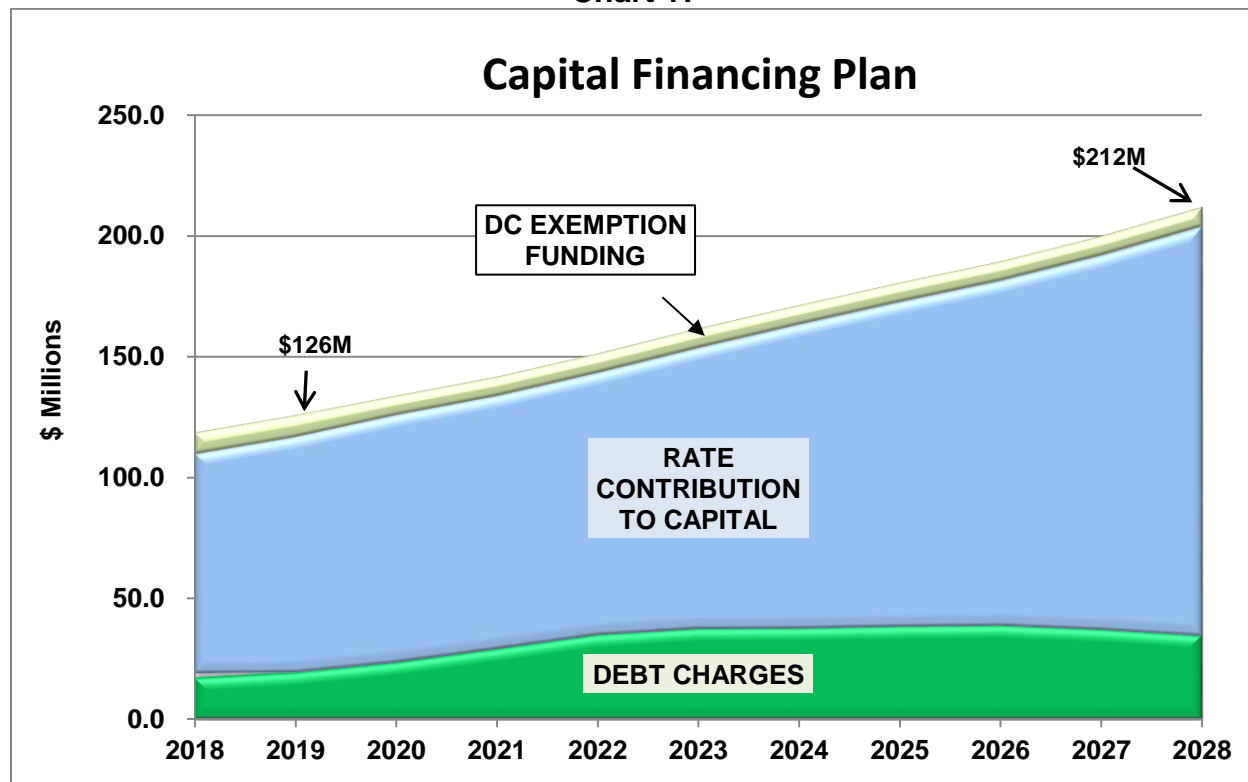
As summarized in Table 7, the 2019 Rate Budget incorporates \$126.2 M capital financing costs which is an increase of \$9.1 M from the 2018 Rate budget. The 2019 budgeted debt charges increase by \$2.3 M, while contribution to capital increased by \$6.8 M when compared to the 2018 budget. DC exemption funding remains unchanged at \$9.0 M.

Table 7

WATER, WASTEWATER & STORM IMPACT OF CAPITAL ON OPERATING BUDGET					
(000's)					
	2018	2019	CHANGE		2019 - 2028
	APPROVED	PROPOSED	\$	%	FORECAST
Debt to be Issued	16,615	14,341	(2,274)	-13.7%	130,834
Debt Charges (Net of DCs)	17,108	19,366	2,258	13.2%	330,325
Contribution to Capital	90,972	97,804	6,832	7.5%	1,257,553
DC Exemption Funding	9,000	9,000	0	0.0%	81,000
Impact on Operating Budget	117,080	126,170	9,090	7.8%	1,668,878

Chart 17 highlights the annual debt servicing requirement for the Rate Supported Capital program. Financing costs are projected to increase from \$126 M in 2019 to \$212 M in 2028. Rate supported debt charges are expected to increase from 8.7% of total revenues in 2019 to 13.9% in 2023, and then decline to 10.2% in 2028.

Chart 17



Debt Management

Council approved a Debt Management Policy and Lease Financing Policy (Report FCS13074) in October 2013, which contains the City-internal goals on debt levels, statutory limits on debt and financial ratios related to debt. These ratios are provided in Appendix “U” to Report FCS18087. Staff will ensure these ratios will remain well within the affordability range and acceptable levels of prudent financial management.

The debt related financial indicators include the following items:

- I. City-internal Goals on Debt Levels:
 - 1. Total tax and rate-supported debt as a percentage of City Own-Source revenues, not to exceed 60%, unless approved by Council.

The City’s debt ratios for 23.2% in 2017, forecasted 29% in 2018 and forecasted 24.1% for 2019 are well within the limit, of 60%.

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2. Total Development Charge (DC) supported debt as a percentage of the total DC Eligible Costs for the forecast period of the latest DC Background Study, not to exceed 25%, unless approved by Council.

The City considers the limit of 25% to be an appropriate balance between two competing uses of revenues generated by development charges: i) to sustain and ensure adequate infrastructure (capital), services and resources to support the City's growth plans and (ii) to repay the debt issued for development.

The City's debt ratios of 2.0% in 2017 and forecasted 1.4% in 2018 and forecasted 2.0% for 2019 are well within the limit, of 25%.

II. Statutory Limits:

1. The annual debt and financial obligation limit for the City is calculated in accordance with Section 3 of Ontario Regulation 403/02 as amended.

The City's debt service charges as a percentage of City Own Source Revenue of 5.1% in 2017 and forecasted 4.7% in 2018 and forecasted 5.5% for 2019 are well within the limit, of 25%.

2. Outstanding variable interest rate bank loan agreements and variable interest rate debentures, in total, cannot exceed 15% of the total outstanding debt of the City as set out in Ont. Reg. 276/02 s(2). The City's debt ratios are below the limit at 6.1% for 2017 and forecasted 4.8% for 2018 are well within the limit, of 15%.

III. Financial ratios

The debt related financial ratios will remain well within the affordability range and acceptable levels of prudent financial management. Appendix "U" to Report FCS18087 provides the results of the following ratios:

- Debt and debt service charges per capita;
- Debt service charges as a percentage of City Own Source Revenue;
- Debt service charges as a percentage of the municipal levy;
- Debt to operating revenues;
- Debt to reserves and reserve funds; and,
- Cash and liquid assets to debt service; cash and liquid assets minus debt.

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According to Ontario Regulation 403/02, Council shall, before giving authorization for capital work that would require a long-term debt or financial obligation, have the City Treasurer calculate an updated Annual Repayment Limit (ARL) using the most recent Annual Repayment Limit determined by the Ministry. The most recent ARL, determined and sent in writing by the Ministry to the City Treasurer, is the 2018 ARL in the amount of \$267,321,748 and is based on 2016 Financial Information Returns.

Using this 2018 ARL, the City Treasurer has calculated an updated ARL of \$204,747,217, shown on page two of Appendix “U” to Report FCS18087. The 2018 ARL was adjusted for possible debt service charges of \$50,965,070 corresponding to approximately \$529 M of debt which has been approved by Council in 2018 and prior years but not yet issued. The 2018 ARL was then further adjusted for debt service charges assumed or discharged on debt since December 31, 2016 to the end of this fiscal year 2018. According to this calculation, the updated ARL of \$204,747,217 represents a maximum amount which the City has available to commit to payments related to debt and financial obligations before the statutory limit is breached and corresponds to approximately \$2.1 B of additional borrowing which the City could undertake (assuming a 15-year term and 5% interest rate).

The related tax and rate impacts would be considered before approving debt within these limits.

ALTERNATIVES FOR CONSIDERATION

Beyond the recommended rate increase, staff can direct changes to this budget submission albeit any changes, in all likelihood, would require a review of the 2019 Capital Budget submissions.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Community Engagement and Participation

Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.

Economic Prosperity and Growth

Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

Healthy and Safe Communities

Hamilton is a safe and supportive city where people are active, healthy, and have a high quality of life.

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Clean and Green

Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

Built Environment and Infrastructure

Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

Our People and Performance

Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” – 2019 Hamilton Water Operating Budget – Combined Water, Wastewater and Storm

Appendix “B” – 2019 Hamilton Water Operating Budget – Water

Appendix “C” – 2019 Hamilton Water Operating Budget – Combined Wastewater and Storm

Appendix “D” – 2019 Hamilton Water Operating Budget – Wastewater

Appendix “E” – 2019 Hamilton Water Operating Budget – Storm

Appendix “F” – 2019 Rate Supported Staffing Summary and 2019 Rate Budget – Business Case Summary

Appendix “G” – 2019 Water and Wastewater / Storm Fees and Charges Effective January 1, 2019 – 2019 Private Fire Line Rates – 2019 Proposed User Fees and Charges)

Appendix “H” – Source of Capital Financing – 2019 to 2028 Rate Program Capital Budget

Appendix “I” – 2019 – 2028 Water / Wastewater / Storm Capital Financing Plan (2019 – 2028 Capital Financing Charges – Rate Programs)

Appendix “J” – Source of Capital Financing – 2019 to 2028 Rate Program Capital Budget

Appendix “K” – Water System – 2019 Capital Budget Project List

Appendix “L” – Water System – 2019 – 2028 Capital Budget List

**SUBJECT: 2019 Recommended Water, Wastewater and Stormwater Budget
(FCS18087) (City Wide) - Page 33 of 33**

Appendix “M” – Source of Capital Financing – 2019 to 2028 Rate Program Capital Budget

Appendix “N” – Wastewater System – 2019 Capital Budget Project List

Appendix “O” – Wastewater System – 2019 – 2028 Capital Budget List

Appendix “P” – Source of Capital Financing – 2019 to 2028 Rate Program Capital Budget

Appendix “Q” – Storm Water Management – 2019 Capital Budget Project List

Appendix “R” – Storm Water Management – 2019 – 2028 Capital Budget List

Appendix “S” – 2019 Rate Program Capital Budget Summary

Confidential Appendix “T” – Financing Details – Land Acquisition

Appendix “U” – City of Hamilton Debt Policy – Ratios and Treasurer’s Updated 2018 Annual Repayment Limit

MC/JS/dt