



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

TO:	Chair and Members General Issues Committee
COMMITTEE DATE:	November 25, 2019
SUBJECT/REPORT NO:	2020 Recommended Water, Wastewater and Stormwater Budget (FCS19070) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	John Savoia (905) 546-2424 Ext. 7298
SUBMITTED BY:	Mike Zegarac General Manager, Finance and Corporate Services Corporate Services Department
SIGNATURE:	

RECOMMENDATION(S)

- (a) That the metered water consumption charges for residential properties in the City of Hamilton be imposed at the following rates, effective January 1, 2020:

Monthly Water Consumption (m3)	Rate (\$/m3)
0 – 10	0.82
10 +	1.63

- (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 \$1.63 per cubic metre, effective January 1, 2020;
- (c) That daily water fixed charges for all properties in the City of Hamilton be imposed at the following rates, effective January 1, 2020:

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Meter Size	Daily Water Rate
15 mm	\$0.37
16 mm	\$0.37
20 mm	\$0.37
21 mm	\$0.37
25 mm	\$0.93
38 mm	\$1.85
50 mm	\$2.96
75 mm	\$5.92
100 mm	\$9.25
150 mm	\$18.50
200 mm	\$29.60
250 mm	\$42.55
300 mm	\$62.90

- (d) That the wastewater / storm treatment charges for residential properties in the City of Hamilton be imposed at the following rates, effective January 1, 2020:

Monthly Water Consumption (m3)	Rate (\$/m3)
0 – 10	0.88
10 +	1.75

- (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 \$1.75 per cubic metre, effective January 1, 2020;
- (f) That daily wastewater /storm fixed charges for all properties in the City of Hamilton be imposed at the following rates, effective January 1, 2020:

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Meter Size	Daily Wastewater / Storm Rate
15 mm	\$0.39
16 mm	\$0.39
20 mm	\$0.39
21 mm	\$0.39
25 mm	\$0.98
38 mm	\$1.95
50 mm	\$3.12
75 mm	\$6.24
100 mm	\$9.75
150 mm	\$19.50
200 mm	\$31.20
250 mm	\$44.85
300 mm	\$66.30

- (g) That the residential non-metered annual water rate be imposed at the flat rate of \$594.95 per annum, effective January 1, 2020;
- (h) That the residential non-metered annual wastewater / storm rate be imposed at the flat rate of \$638.75 per annum, effective January 1, 2020;
- (i) That the residential combined non-metered annual water and wastewater / storm rate be imposed at the flat rate of \$1,233.70 per annum, effective January 1, 2020;
- (j) That the Private Fire Line rates be imposed at the following rates, effective January 1, 2020:

Connection Size		Monthly Rate
mm	inches	
25	1.0	\$3.60
38	1.5	\$8.28
50	2.0	\$14.40
75	3.0	\$32.40
100	4.0	\$57.60
150	6.0	\$129.60
200	8.0	\$230.40
250	10.0	\$230.40
300	12.0	\$230.40

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- (k) That the 2020 Water, Wastewater and Storm Proposed User Fees and Charges be imposed as per Appendix “G” to Report FCS19070, effective January 1, 2020;
- (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, 2020:
 - (i) metered raw water at the rate of \$0.1223 per cubic metre;
 - (ii) daily raw water fixed charges at the following rates:

Meter Size	Daily Rate
200 mm	\$31.20

- (iii) 2020 annual fee of \$18,500 for the purpose of a private raw water pipeline owned by AMLPC to convey raw water supplied by the City to 690 Strathearne Avenue North;
- (m) That the 2020 Water, Wastewater and Stormwater Rate Supported Operating Budget in the amount of \$232,601,659 be approved as per Appendix “A” to Report FCS19070;
- (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 2020-2029 Water, Wastewater and Stormwater Rate Supported Operating Budget forecast (Appendix “A” to Report FCS19070) be approved, in principle;
- (o) That the 2020 Water, Wastewater and Stormwater Rate Supported Capital Budget and Financing Plan in the amount of \$325,981,000 be approved as per Appendices “K”, “N”, “Q” and “S” to Report FCS19070;
- (p) That the 2020-2029 Water, Wastewater and Stormwater Rate Supported Capital Budget forecast and financing plan (Appendix “I” to Report FCS19070) be approved, in principle;
- (q) That the City Solicitor be authorized and directed to prepare, for Council approval, all necessary by-laws respecting the 2020 water and wastewater / storm user fees, charges and rates set out in recommendations (a) through (l) of Report FCS19070;
- (r) That the additional 7.0 Full Time Equivalent Rate Supported Staffing be approved as per Appendix “F” to Report FCS19070;

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- (s) That the General Manager, Finance and Corporate Services, be authorized to negotiate and confirm the terms and placement of all debenture issue(s), and / or private placement debenture issue(s), in either a public or private market and / or bank loan agreements and debenture issue(s) and / or variable interest rate bank loan agreements and debenture issue(s), in an amount not to exceed \$83,678,000 as attached in Appendices “K”, “N” and “Q” to Report FCS19070, which includes \$16,900,000 in Rate Supported municipal debt and \$66,778,000 in Rate Supported Development Charges municipal debt;
- (t)
 - i) That the 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 (s) including, but not limited to, external legal counsel, fiscal agents and Infrastructure Ontario’s Loan Program;
 - ii) That the 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 (s), and (t), 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 (s) and (t), in a form satisfactory to the City Solicitor and with content acceptable to the General Manager, Finance and Corporate Services;
- (u) That all necessary By-Law(s) be passed to authorize the debenture issue(s) negotiated, placed and secured in accordance with subsections (s) and (t).

EXECUTIVE SUMMARY

The 2020 Recommended Rate Budget is submitted for Council’s consideration. The 2020 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 2020 to 2029, water, wastewater and stormwater capital investment is forecast at \$2.49 B which represents an increase of \$0.15 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 FCS19070 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.

The 2020 Operating expenditures in the 2020 Requested Budget of \$86.2 M reflect a decrease of \$9.5 M or 9.9% less than the 2019 budget.

Capital financing costs, including reserve transfers in the 2020 Requested Budget of \$146.4 M, reflect an increase of \$19.8 M over the 2019 Budget. With non-rate revenues of \$3 M, rate revenues of \$229.6 M are required to meet operating (program and capital financing) expenditures.

Table 1 summarizes the budget changes for the 2020 Requested Budget:

Table 1

Summary of the 2020 Operating Budget				
(\$ millions)	2019 Restated Budget	2020 Requested Budget	2020 Requested / 2019 Restated Change	
			\$	%
Expenditures				
Program Expenditures	\$ 95.7	\$ 86.2	(\$ 9.5)	(9.9%)
Capital/Debt / Reserve Financing	\$ 126.6	\$ 146.4	\$ 19.8	15.6%
Total Expenditures	\$ 222.3	\$ 232.6	\$ 10.3	4.7%
Revenues				
Rate Revenue	\$ 219.3	\$ 229.6	\$ 10.3	4.7%
Non-Rate Revenue	\$ 3.0	\$ 3.0	----	----
Total Revenue	\$ 222.3	\$ 232.6	\$ 10.3	4.7%
Average Residential Water / Wastewater / Storm Bill	\$ 722.90	\$ 751.80	\$ 28.90	4.00%

Note: Anomalies due to rounding.

Chart 1 highlights that the proposed combined 4.00% rate increase is driven entirely by increased capital financing expenditures in 2020.

Chart 1

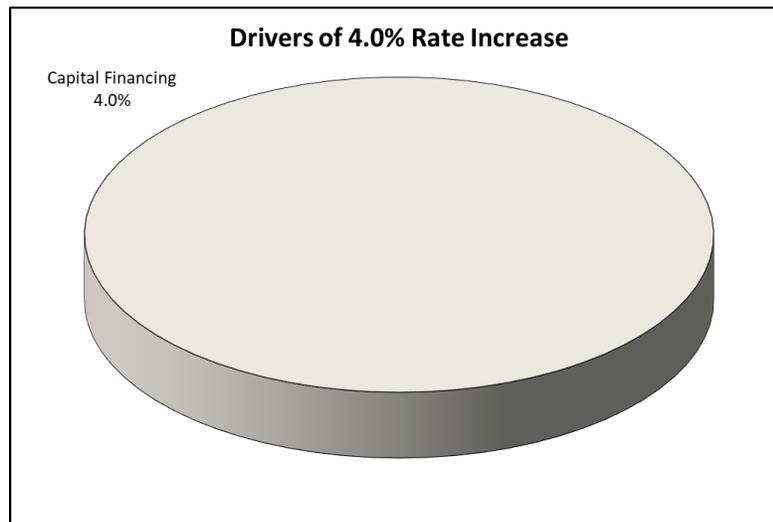


Table 2 identifies the proposed rate increase impact on the average residential customer:

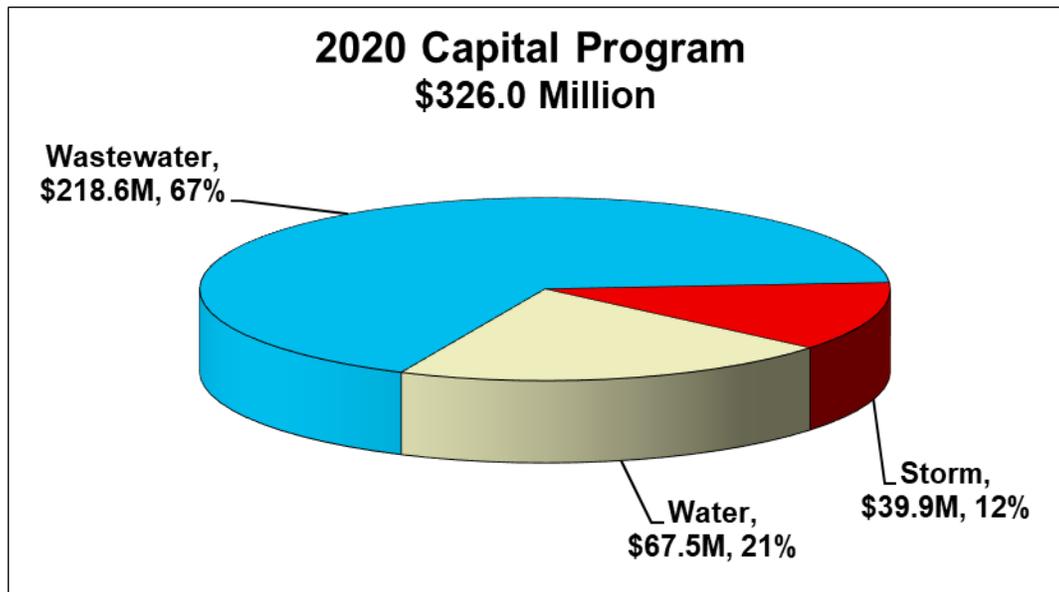
Table 2
Impact of Recommended 2020 Water and Wastewater / Storm Rate Increases on a Typical Residential Bill
(Based on annual water consumption of 200 m³)

2019 Residential Bill	\$722.90
2020 Residential Bill	\$751.80
Recommended Change (\$)	\$28.90
Recommended Change (%)	4.00%

The recommended 2020 Rate Supported Financial Strategy endeavours to achieve a balance between capital investment, rate of growth and rate stability. The 2020 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 \$326.0 M (2019\$) and \$2.49 B (2019\$) for the 2020 – 2029 timeframe. The 2020 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 2020 Rate Capital Program totalling \$326.0 M, by the three major program areas: Water, Wastewater and Storm.

Chart 2



Report FCS19070 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 FCS19070 include increased operating and capital investment requirements. Staff pursued a variety of measures to control the impact of the above risks to maintain a safe and reliable service at a reasonable cost.

Alternatives for Consideration – See page 30.

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: As per Recommendation (m) of Report FCS19070, approval of the 2020 Water, Wastewater and Stormwater Supported Operating Budget will support operating and capital financing expenditures of \$232,601,659 for 2020.

Staffing: The 2020 Rate Supported staffing complement reflects a requested increase of 7.0 in total FTE headcount as reflected in Appendix “F” to Report FCS19070.

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Legal: Recommendation “Q” of Report FCS19070 relates to By-laws requiring Council approval, respecting the implementation of 2020 water and wastewater user fees and charges set out in the recommendations (a) through (l) of Report FCS19070.

HISTORICAL BACKGROUND

The 2020 Rate Budget continues to support the priority of investing in infrastructure as evidenced by the 2020 to 2029 forecast investment of approximately \$2.49B in water, wastewater and stormwater capital infrastructure.

Report FCS19070 outlines the various aspects and components that the recommended 2020 Rate Supported strategy incorporates:

- Sustainable Rate Strategy
- Proposed 2020 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 2020 - 2029 financing plan.

RELEVANT CONSULTATION

Public Works – Hamilton Water Division provided operating / capital expenditure and non-rate revenue forecasts as reflected in Report FCS19070.

ANALYSIS AND RATIONALE FOR RECOMMENDATIONS

Appendix “A” to Report FCS19070 summarizes the 2020 operating budget expenditures (program and capital financing) and revenues of \$232.6 M compared to the 2019 projected actual and 2019 restated budget.

The 2020 Operating expenditures in the 2020 Requested Budget of \$86.2 M reflect a decrease of \$9.5 M or 9.9% over the 2019 budget. The operating expenditures have been reduced to align with historical actuals which has allowed for a corresponding increase in capital contributions to be spent on improving infrastructure while not increasing reliance on debt.

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The majority of costs are fixed in nature at approximately 90% of total operating costs including employee related costs, property taxes, materials and operating supplies, corporate cost allocations. The remaining costs are variable related to production volumes (heating fuel – natural gas, hydro, fluid and chemicals, biosolids contract).

As outlined in the Executive Summary section of Report FCS19070, the proposed rate impact for the average residential water, wastewater and storm annual bill would be \$28.90 (4.00%).

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 2020 recommended water and wastewater / storm rate increases will result in an annual cost impact of approximately \$29 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**

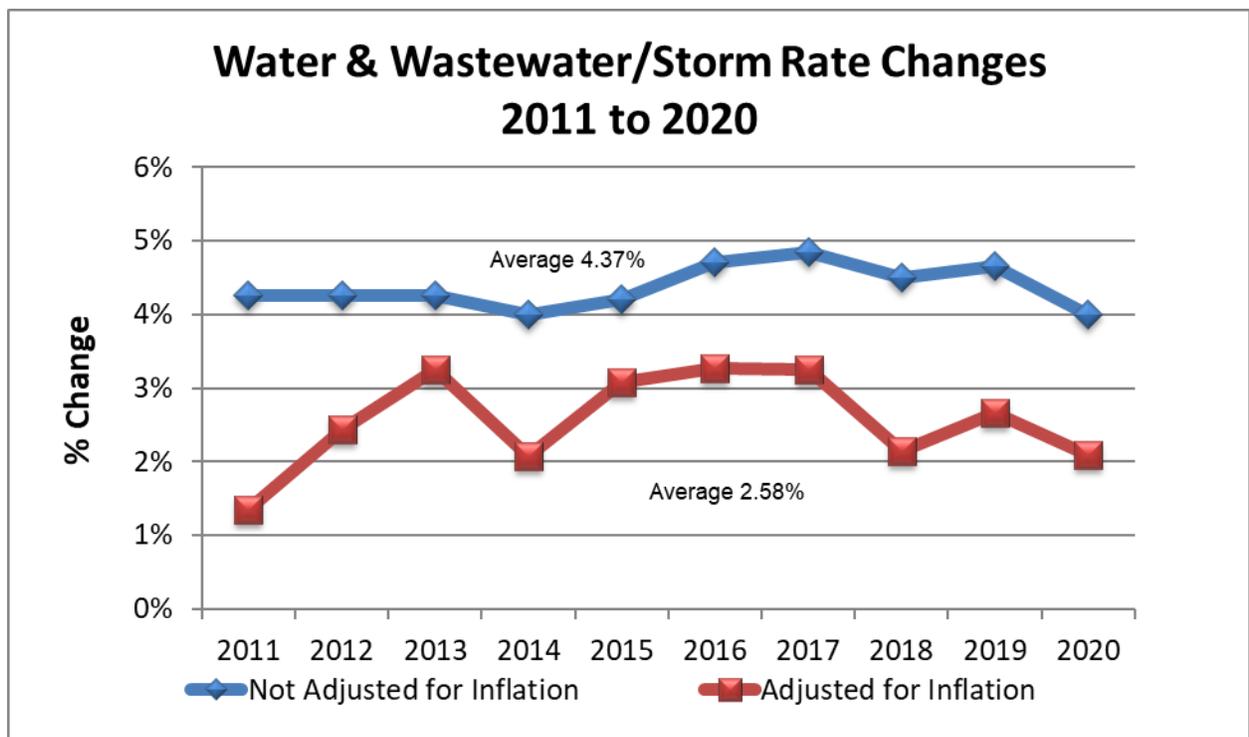
	2019	2020	Increase
Water Fixed Charge (daily) ¹	\$0.36	\$0.37	\$0.01
Consumption Charge Block 1 (0-10 cubic metres / month)	\$0.78	\$0.82	\$0.04
Consumption Charge Block 2 (>10 cubic metres / month)	\$1.55	\$1.63	\$0.08
Wastewater / Storm Fixed Charge (daily) ¹	\$0.38	\$0.39	\$0.01
Treatment Charge Block 1 (0-10 cubic metres / month)	\$0.84	\$0.88	\$0.04
Treatment Charge Block 2 (>10 cubic metres / month)	\$1.68	\$1.75	\$0.07

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

Trends in Water Rate Charges 2011-2020

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 2011 to 2020. Accounting for inflation results in the overall average, the annual rate increase over the same period would be 2.58%. Chart 3 shows the trend in Hamilton's combined water and wastewater / storm rates for the period 2011 to 2020.

Chart 3



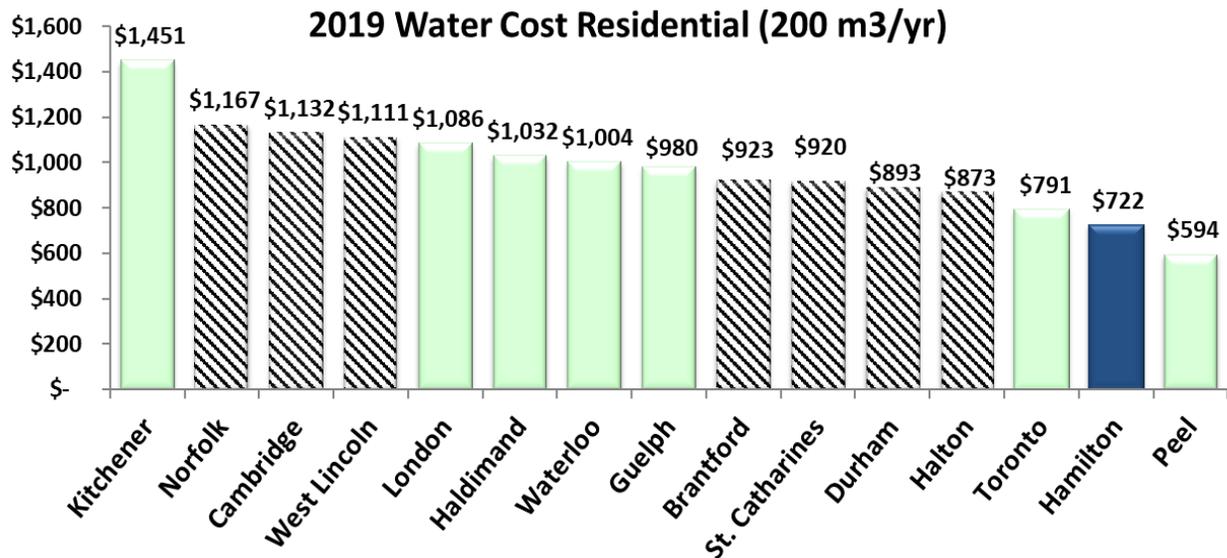
Comparative Rates

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.

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 over 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 93% of the total budgeted Rate revenues of \$229.6 M for 2020 (see Chart 6).

Chart 5

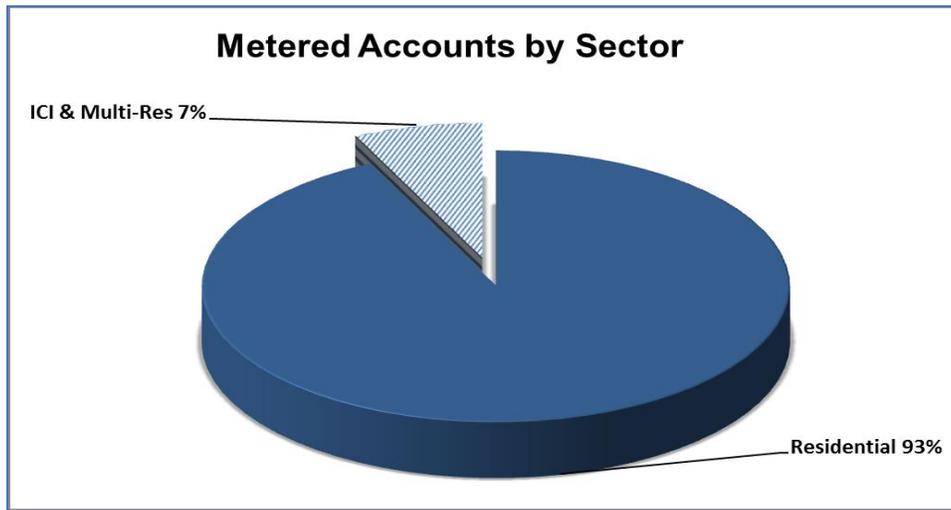
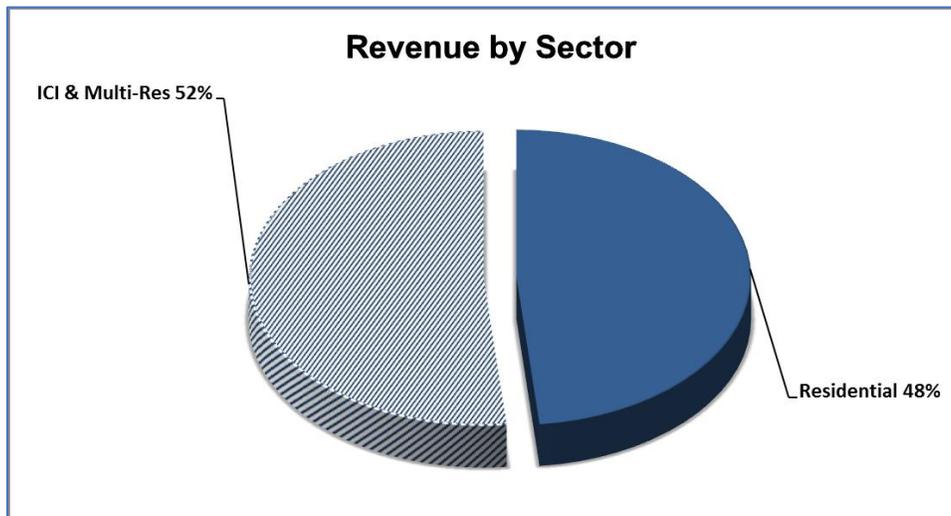


Chart 6



Total Consumption – 2020 Budget \$214.4 M

Since 2015, Hamilton’s total metered annual water consumption (see Chart 7) has remained at approximately 56-59 million cubic metres. The 2019 forecast is for total consumption to be just under 58 million cubic metres. The 2020 Budget is approximately 0.3% above the consumption in the 2019 Budget and 2019 Forecast.

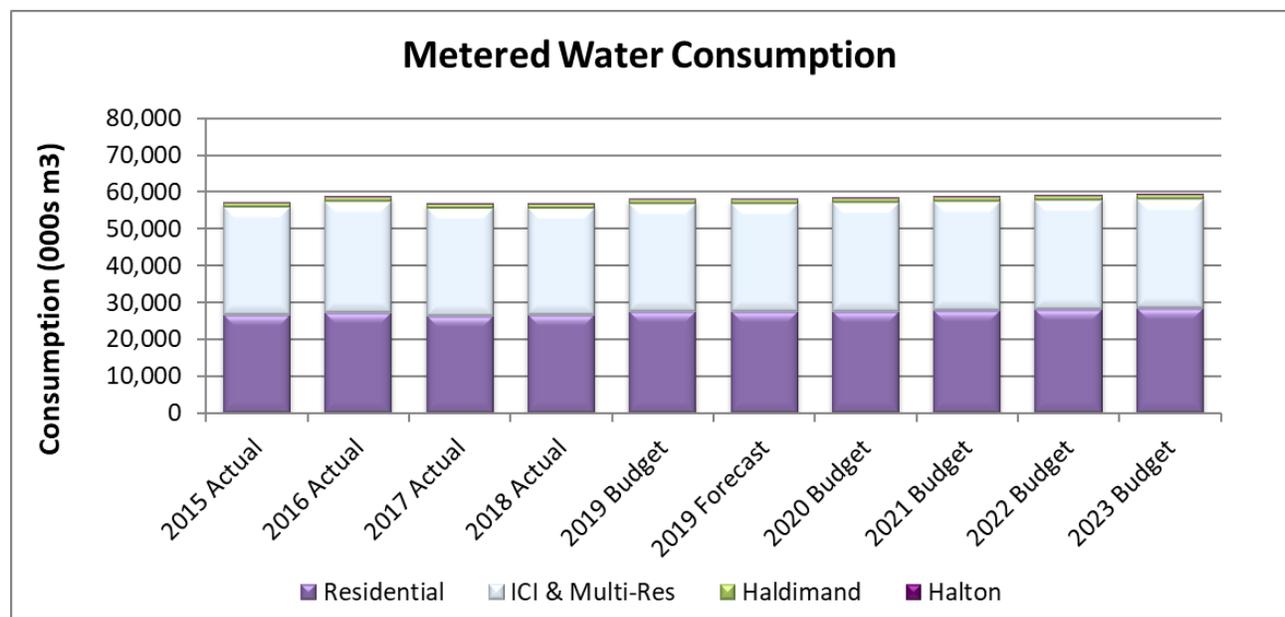
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Total water consumption over the 10-year forecast period (2020 to 2029) projects continued flat consumption demand. This relatively conservative forecast reflects the following:

- 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

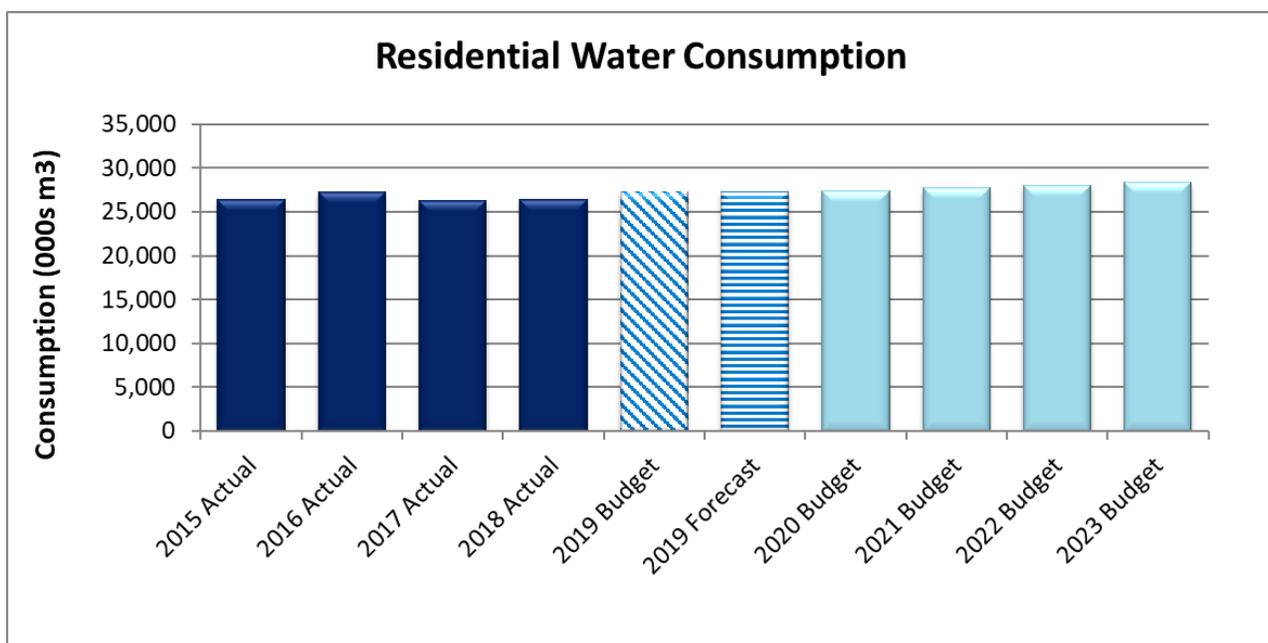


Residential Consumption - 2020 Budget \$101.8 M

Since 2015, 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 2020, staff is recommending that the forecast for average residential consumption remain at 200 m³ 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



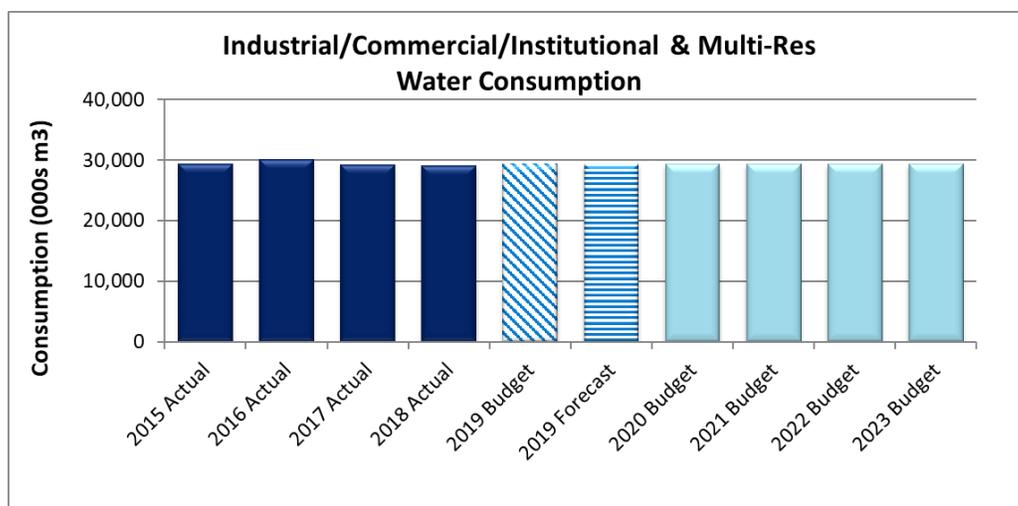
Industrial / Commercial / Institutional and Multi-Res Consumption – 2020 Budget \$112.6 M

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 3.0 L 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, in 2018, 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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OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

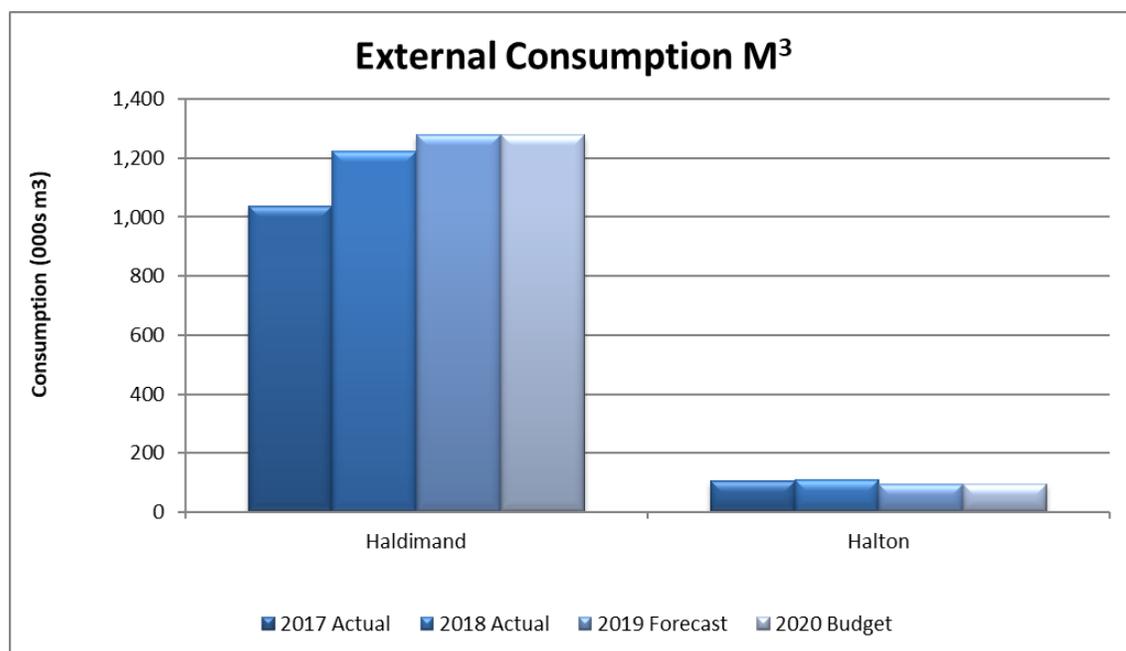
External Consumption – 2020 Budget \$2.7 M

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 few 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. In September 2019, a renewal agreement has been executed that will conclude on November 16, 2031.

Chart 10



OTHER REVENUE HIGHLIGHTS

Sewer Discharge Permits – 2020 Budget \$8.7 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 – 2020 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 FCS19070 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 – 2020 Budget \$1.85 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.

2020-2029 Rate Capital Budget

Table 4 summarizes the \$2.49 B capital program and the financing requirements for the 2020 – 2029 water, wastewater and storm capital budget. Of this amount, \$1.223 M or 49% is for wastewater, \$991 M or 40% is for water and \$279 M or 11% is for the storm program. A total of \$858 M or 34% of the 10-year capital program is required in the first three years (2020 – 2022). This is predominantly due to the Woodward Wastewater Treatment Plant (WWTP) Upgrade and Biosolids Plant construction.

The capital program also includes \$661 M for growth infrastructure related to Growth Related Integrated Development Strategy (GRIDS) which will be funded from Development Charges, except for \$80 M in Development Charge (DC) 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. 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						
2020 to 2029 RATE PROGRAM CAPITAL BUDGET						
\$(000'S)						
	2020	2021	2022	2023	2024 to 2029	2020 to 2029
WATER						
Capital Program	67,495	123,358	100,025	67,841	632,483	991,202
Source of Funding						
Subsidy/Other Revenue	6,353	1,681	-	-	30	8,064
Development Charges	9,186	48,784	25,632	3,685	95,370	182,657
Reserves & Other Internal Sources	1,660	640	640	640	2,560	6,140
Contribution from Operating	50,296	52,953	56,553	63,516	512,023	735,341
External Debt	-	19,300	17,200	-	22,500	59,000
Total	67,495	123,358	100,025	67,841	632,483	991,202
WASTEWATER						
Capital Program	218,606	157,808	108,361	70,055	667,654	1,222,484
Source of Funding						
Subsidy/Other Revenue	80,036	22,092	-	-	-	102,128
Development Charges	44,227	39,739	26,612	14,681	290,818	416,077
Reserves & Other Internal Sources	24,770	12,220	-	-	-	36,990
Contribution from Operating	52,673	55,057	54,249	54,174	375,636	591,789
External Debt	16,900	28,700	27,500	1,200	1,200	75,500
Total	218,606	157,808	108,361	70,055	667,654	1,222,484
STORM SEWERS						
Capital Program	39,880	22,215	19,850	20,050	176,945	278,940
Source of Funding						
Subsidy/Other Revenue	370	473	75	75	450	1,443
Development Charges	23,195	7,360	4,000	4,000	24,060	62,615
Reserves & Other Internal Sources	630	-	-	-	-	630
Contribution from Operating	15,685	14,382	15,775	15,975	151,235	213,052
External Debt	-	-	-	-	1,200	1,200
Total	39,880	22,215	19,850	20,050	176,945	278,940
TOTAL RATE PROGRAM						
Capital Program	325,981	303,381	228,236	157,946	1,477,082	2,492,626
Source of Funding						
Subsidy/Other Revenue	86,759	24,246	75	75	480	111,635
Development Charges	76,608	95,883	56,244	22,366	410,248	661,349
Reserves & Other Internal Sources	27,060	12,860	640	640	2,560	43,760
Contribution from Operating	118,654	122,392	126,577	133,665	1,038,894	1,540,182
External Debt	16,900	48,000	44,700	1,200	24,900	135,700
Total	325,981	303,381	228,236	157,946	1,477,082	2,492,626

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Chart 11 illustrates the \$2.49 B capital program for the 2020 – 2029 water, wastewater and storm capital budget.

Chart 11

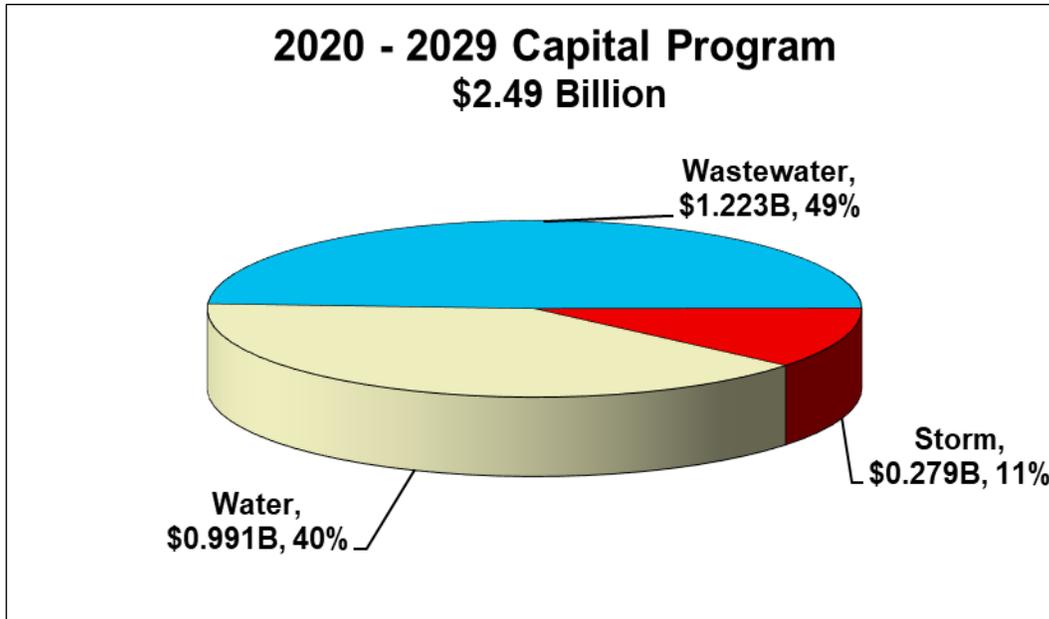
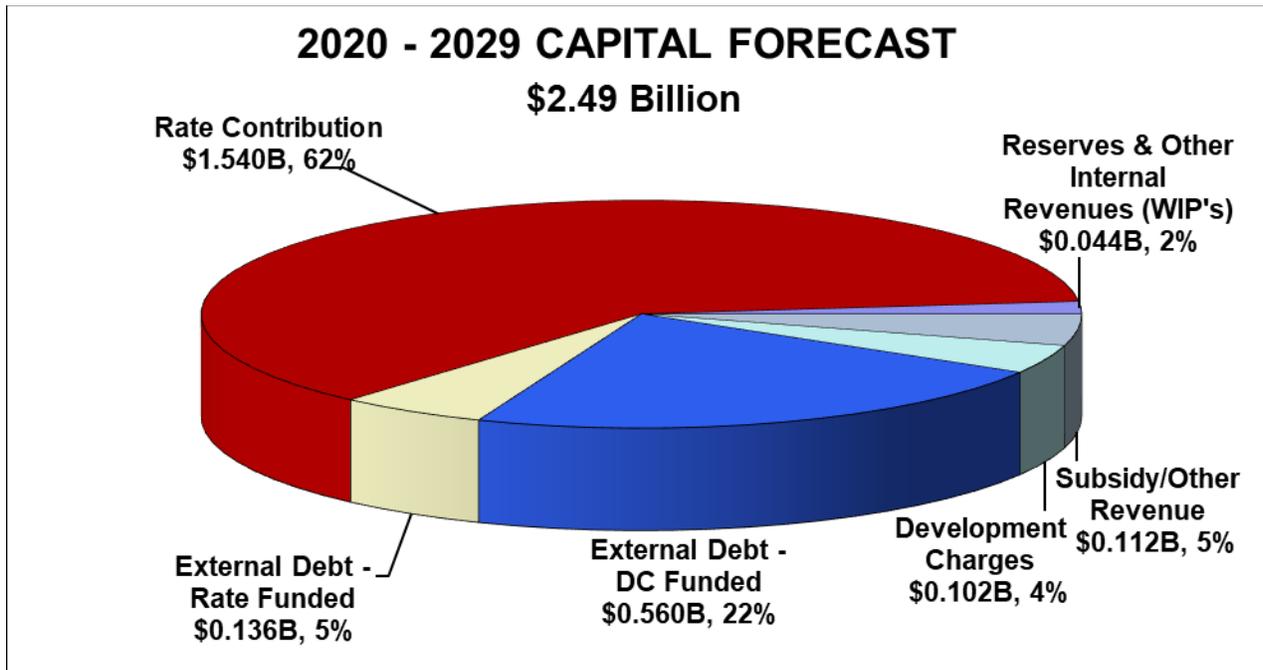


Chart 12 provides the sources of capital financing for the 2020 – 2029 forecast period. The growth-related infrastructure investment included in the 2020 – 2029 forecast to accommodate for growth is \$661 M, of which all but \$142 M will be funded from debt with the associated debt charges recovered from development charges over the next 20 years. It is assumed that DC collections of \$142 M held in reserve will be utilized to fund dollar for dollar growth capital, reducing the amount of debt required to fund growth capital.

The 2020–2029 Capital Forecast includes \$3.2 M in funding from capital work-in-progress (WIP's). Capital funding from reserves in years 2020 through 2029 totals \$40.4 M, which helps to mitigate rate supported debt financing.

Chart 12



Rate Reserves

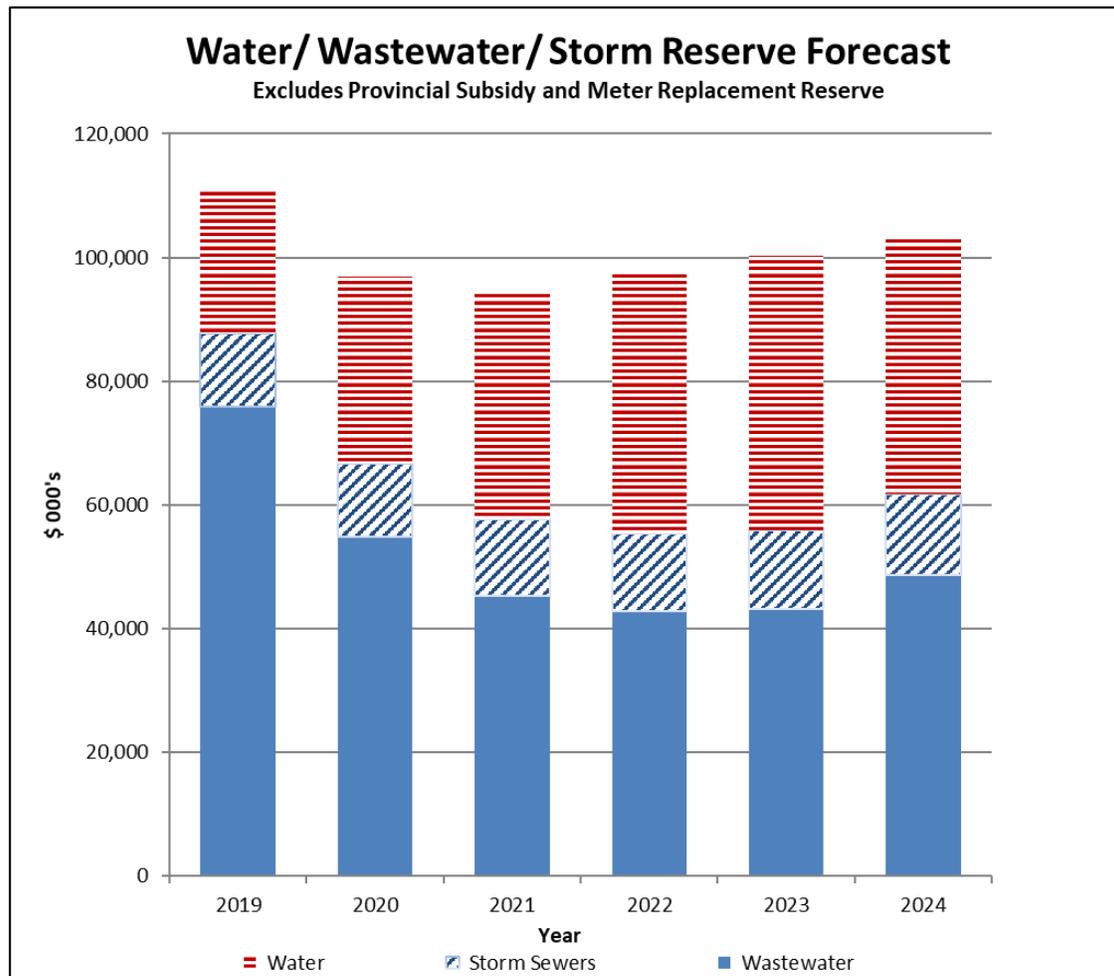
Chart 13 provides the projected reserve balances for the Water, Wastewater and Storm programs. The 2020 Budget Forecast reflects utilizing \$12.12 M in reserve funds to fund the WWTP project, \$11.14M to fund the Biosolids project and \$0.64 M for the Water Program. It should be noted, the reserve forecast 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 \$111 M at the end of 2019, to \$94 M in 2021 and then increase over the years to \$119 M in 2029. The decrease in reserves coincides with construction of the Clean Harbour and Biosolids Projects at the WWTP plant of which the City is funding over \$60 M from the Wastewater Reserve from 2018 to 2021. All three system 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 Reserves in anticipation of large projects in the 10-year forecast. Reserves will act as a mitigation strategy in the event of cost variances for these large projects.

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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 2019 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 2020-2029 Financing Plan. Construction for Phase Two related to expansion is proposed to start in 2026 and be completed in 2028.

The total budget for the Wastewater Treatment Plant upgrade and expansion has increased by \$5.5 M in the 2020 budget forecast compared to the 2019 budget forecast, as reflected in Table 5. The total project budget increase was made up by a \$5.5 M increase in the cost of the Clean Harbour 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 2019 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 2019 and 2020 Rate Budgets for the Wastewater Treatment Plant upgrade and expansion.

The WWTP expansion project implementation plan has remained unchanged when compared to the 2019 forecast. It is scheduled to begin construction in 2026 with 100% of the cost funded by development charge debt. 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 (2020 – 2023) and adjust the plant expansion project and associated financing plan to align with growth requirements. Staff in both Corporate Services (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 ratepayer.

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Table 5

Woodward Wastewater Treatment Plant Project - Gross Capital Forecasts												
(\$ Millions)												
	Total	pre		2021	2022	2023	2024	2025	2026	2027	2028	2029
2020 Budget												
Phase 1 - Clean Harbour	412.0	216.8	100.6	69.4	25.2	-	-	-	-	-	-	-
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	708.4	218.3	102.4	71.2	27.7	2.5	3.1	3.1	94.3	92.9	92.9	-
2019 Budget												
Phase 1 - Clean Harbour	406.5	216.8	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	218.3	91.0	98.9	5.9	2.5	3.1	3.1	94.3	92.9	92.9	-
Increase (Decrease)												
Phase 1 - Clean Harbour	5.5	-	11.4	(27.7)	21.8	-	-	-	-	-	-	-
Phase 2 - Expansion	-	-	-	-	-	-	-	-	-	-	-	-
Total WWTP	5.5	-	11.4	(27.7)	21.8	-	-	-	-	-	-	-

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) with funding provided on a milestone completion basis.

The 2020–2029 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, \$112.372 M has been committed as a funding source in previous years’ budgets, leaving \$87.628 M in funding for the Clean Harbour project to be applied in years 2020 and 2021.

In May 2017, the City received approval for 16 projects funded under the Clean Water and Wastewater Fund (CWWF). The CWWF provided communities with vital infrastructure funding to help accelerate short term investments to support the rehabilitation and modernization of drinking water, wastewater and stormwater infrastructure, and the planning and design of future facilities and upgrades to existing systems. The federal and provincial governments provided a maximum of 50% and 25% respectively toward the total eligible costs of projects totalling \$43,890,763. The City received a total CWWF government funding allocation of \$32,918,072 with the City share amounting to \$10,972,691. The CWWF Program project substantial completion timeline was extended to March 31, 2020 from an original deadline of March 2018.

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On April 4, 2019, Infrastructure Canada announced the approval of the \$1.05 M Combined Sewer Overflow Backflow Prevention Project with 40% federal funding of \$420 K from the Disaster Mitigation and Adaptation Fund (DMAF) and the City to fund \$630 K (refer to Report FCS19038). This project to install back-flow devices at four Combined Sewer Overflow (CSO) outlets is to be completed between 2020 to 2025.

In March 2018, the federal government with the Ontario government announced the signing of a bilateral agreement that will provide more than \$11.8 B through the Investing in Canada Plan. The Investing in Canada Infrastructure Fund Program (ICIP) is a federal infrastructure program designed to create long-term economic growth, build inclusive, sustainable and resilient communities and support a low-carbon economy. There are a number of funding streams to be delivered nationally over the next decade (2018 to 2028) including \$2.3 B for Green Infrastructure for Ontario. Among the green infrastructure objectives is to ensure communities can provide safe drinking water for their citizens. The 2020–2029 Rate Capital Financing Plan makes no assumptions as to potential funding the City may receive under a future green infrastructure intake.

Addressing Climate Change

In March 2019, Council approved a declaration that “a climate emergency exists that threatens the city, region, province, nation, civilization, humanity and the natural world.”

In response, the 2020–2029 Rate Capital Financing Plan includes several projects that aim to address climate change with adaptation and mitigation measures. Over \$6 M has been identified for 2020 projects including:

- Inflow and Infiltration Studies and Flow Monitoring Program
- CSO Characterization Program
- Flooding and Drainage Master Plan Strategy
- South Street East and East Street South in Dundas Drainage Improvement
- Winona Area Drainage Improvements
- Stormwater Computer Model Enhancement
- Beach Strip Stormwater Pumping Stations
- Stoney Creek and Battlefield Creek Flood and Erosion Control
- Combined Sewer Overflow Backflow Prevention Project

Projected Water / Wastewater / Storm Debt

The 2020 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 2020–2029 has increased by \$18.6 M from the 2019 Rate Budget. The

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increase in debt is resulting from an effort to maintain Council approved minimum reserve balances, while staying within Council approved debt levels. The forecasted DC supported debt financing has decreased by approximately \$43.8 M over the same period, resulting in an overall net decrease in forecasted debt financing of \$25.2 M from the forecast in the 2019 Rate Budget. The decrease in reliance on DC supported debt is attributable to funding dollar for dollar DC growth projects from Reserve, where possible, as well as, staging of growth infrastructure. The Growth Capital is partially offset with a \$20 M contribution from DC reserves in the 2020 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 \$297 M in 2023, compared with the 2019 budget forecasted debt peak of \$307 M in 2022. The debt funded from DC's is projected to peak at \$564 M in 2028, whereas the 2019 forecast was \$708 M in 2028. The decrease in DC supported debt is due to deferral of major capital growth projects such as the Water Treatment Plant, as well as, funding dollar for dollar growth projects from DC Reserves.

Table 6 provides the ten-year debt forecast compared to the 2019 Budget forecast.

Table 6

Projected Rate & DC Supported Outstanding Debt											
(\$ Millions)											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019 Rate Budget											
Funded from Rates	187	222	274	307	284	267	254	226	198	173	146
Funded from DC's	102	221	298	377	391	400	416	511	612	708	673
Total	289	443	572	684	675	667	670	737	810	881	819
2020 Rate Budget											
Funded from Rates	145	177	237	291	297	280	266	240	216	191	165
Funded from DC's	4	85	176	235	259	261	286	396	494	564	539
Total	149	262	413	526	557	541	553	636	710	755	704
Increase (Decrease)	(140)	(181)	(159)	(158)	(118)	(126)	(117)	(101)	(100)	(126)	(115)

Consistent with the 2019 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 2020 Rate Capital Budget, versus full commitment-based budgeting.

Chart 14 compares the total outstanding debt (Rate and DC Funded) from the 2019 Budget forecast to the 2020 Budget forecast. The graph illustrates the lower debt

requirements when compared to the prior year budget forecast. The decrease in debt is due to deferral of major capital growth projects such as the Water Treatment Plant, as well as, funding dollar for dollar growth projects from DC Reserves. The higher debt levels in the later years can be attributed to the accelerated timeline of the Wastewater Treatment Plant expansion project which is to be 100% DC debt funded.

Chart 14

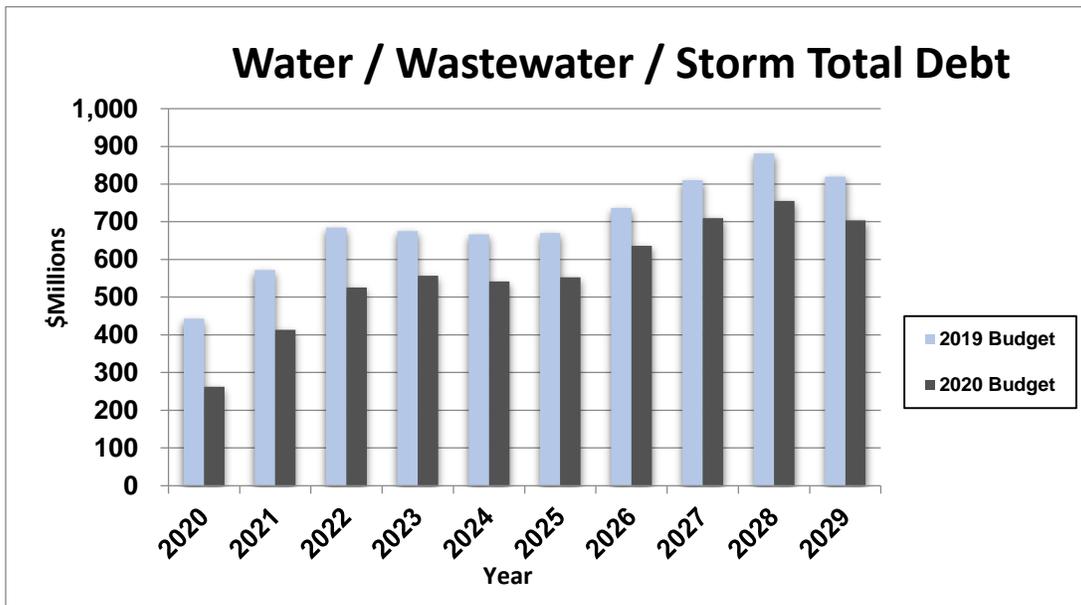


Chart 15 illustrates the projected outstanding debt for the 10-year period (2020–2029) and the funding source of the associated debt charges.

Chart 15

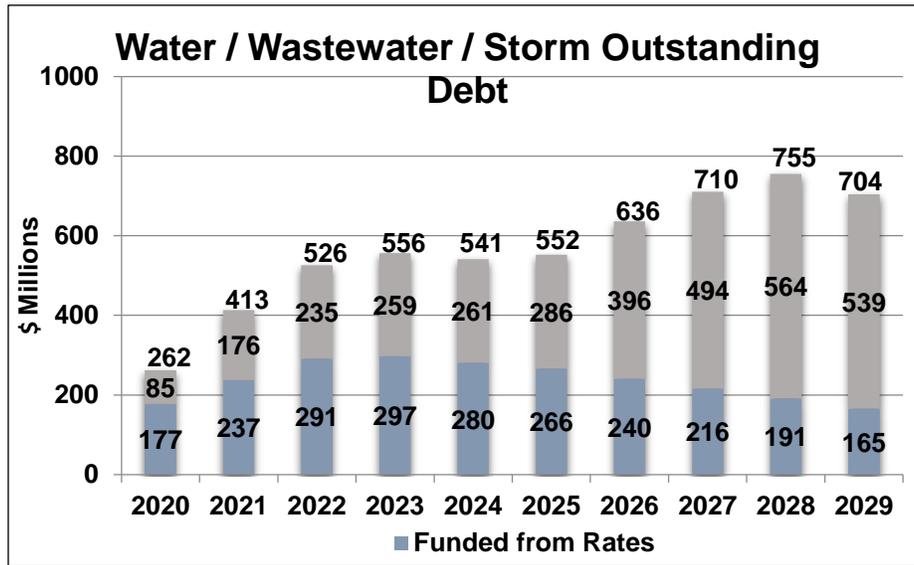
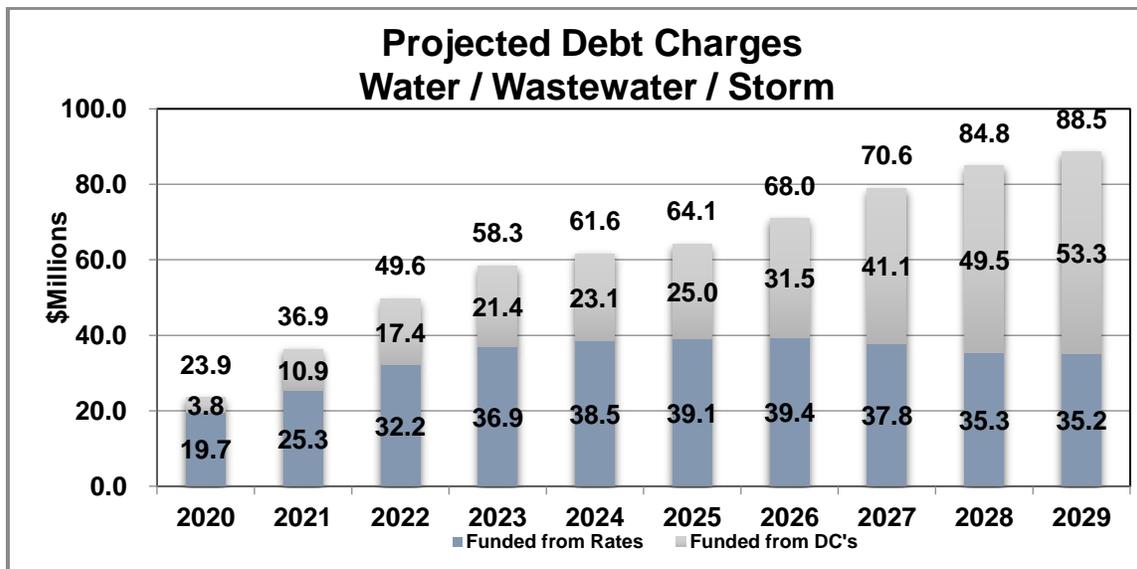


Chart 16 shows the forecasted debt charges funded by water / sewer rates and by Development Charges. In the upcoming years, staff in Corporate Services and in conjunction with staff in Public Works will monitor the forecasted DC Debt charges in comparison to DC Revenue, to mitigate potential risks to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

Chart 16



Impact of Capital Budget on Operating Budget

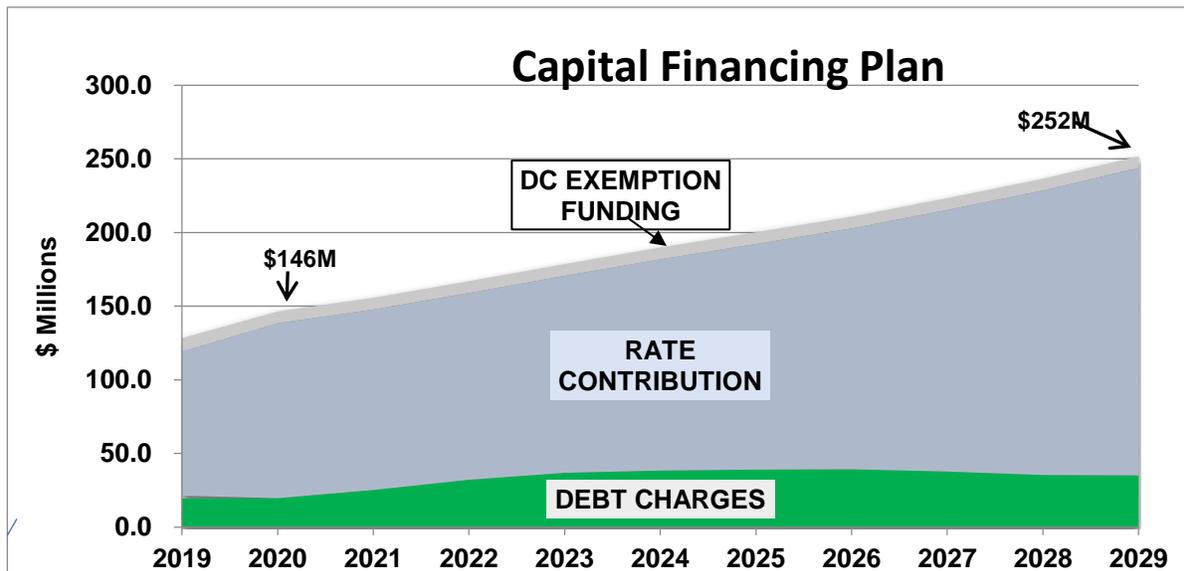
As summarized in Table 7, the 2020 Rate Budget incorporates \$146.3 M capital financing costs which is an increase of \$20.2 M from the 2019 Rate budget. The 2020 budgeted debt charges increase by \$0.3 M, while contribution to capital increased by \$20.1 M when compared to the 2019 budget. DC exemption funding decreased by \$1.0 M. The increase in contribution to capital is a result of directing the majority of rate increases to capital investment, as well as adjustments to the operating budget, freeing up capital investment capacity.

Table 7

WATER, WASTEWATER & STORM IMPACT OF CAPITAL ON OPERATING BUDGET (000's)					
	<u>2019 APPROVED</u>	<u>2020 PROPOSED</u>	<u>CHANGE</u>		<u>2020 - 2029 FORECAST</u>
			<u>\$</u>	<u>%</u>	
Debt to be Issued	14,341	16,900	2,559	17.8%	135,700
Debt Charges (Net of DCs)	19,366	19,682	316	1.6%	339,367
Contribution to Capital	97,804	118,654	20,850	21.3%	1,540,182
DC Exemption Funding	9,000	8,000	(1,000)	-11.1%	80,000
Impact on Operating Budget	126,170	146,336	20,166	16.0%	1,959,549

Chart 17 highlights the impact on the operating budget from the Rate Supported Capital program. These impacts are projected to increase from \$146 M in 2020 to \$252 M in 2029. Rate supported debt charges are expected to increase from 8.5% of total revenues in 2020 to 13.7% in 2023, and then decline to 9.9% in 2029.

Chart 17



Debt Management

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 2019 ARL in the amount of \$266,191,448 and is based on 2017 Financial Information Returns.

Using this 2019 ARL, the City Treasurer has calculated an updated ARL of \$218,886,384, shown in Appendix “T” to Report FCS19070. The 2019 ARL was adjusted for possible debt service charges of \$45,130,619 corresponding to approximately \$468.4 M of debt which has been approved by Council in 2019 and prior years but not yet issued. Further adjustments were made for CityHousing Hamilton service charges, as well as 2019 debenture issue charges. The 2019 ARL was then further adjusted for debt service charges assumed or discharged on debt in 2017 and 2018. According to this calculation, the updated ARL of \$218,886,384 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 \$2.2 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.

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ALTERNATIVES FOR CONSIDERATION

Beyond the recommended rate increase, staff can direct changes to this budget submission that would require a review of the 2020 Capital Budget submissions.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

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.

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” to Report FCS19070 – 2020 Hamilton Water Operating Budget – Combined Water, Wastewater and Storm

Appendix “B” to Report FCS19070 – 2020 Hamilton Water Operating Budget – Water

Appendix “C” to Report FCS19070 – 2020 Hamilton Water Operating Budget – Combined Wastewater and Storm

Appendix “D” to Report FCS19070 – 2020 Hamilton Water Operating Budget – Wastewater

Appendix “E” to Report FCS19070 – 2020 Hamilton Water Operating Budget – Storm

Appendix “F” to Report FCS19070 – 2020 Rate Supported Staffing Summary and 2020 Rate Budget – Business Case Summary

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Appendix “G” to Report FCS19070 – 2020 Water and Wastewater / Storm Fees and Charges Effective January 1, 2020 – 2020 Private Fire Line Rates – 2020 Proposed User Fees and Charges)

Appendix “H” to Report FCS19070 – Source of Capital Financing – 2020 to 2029 Rate Program Capital Budget

Appendix “I” to Report FCS19070 – 2020 – 2029 Water / Wastewater / Storm Capital Financing Plan (2020 – 2029 Capital Financing Charges – Rate Programs)

Appendix “J” to Report FCS19070 – Source of Capital Financing – 2020 to 2029 Rate Program Capital Budget

Appendix “K” to Report FCS19070 – Water System – 2020 Capital Budget Project List

Appendix “L” to Report FCS19070 – Water System – 2020 – 2029 Capital Budget List

Appendix “M” to Report FCS19070 – Source of Capital Financing – 2020 to 2029 Rate Program Capital Budget

Appendix “N” to Report FCS19070 – Wastewater System – 2020 Capital Budget Project List

Appendix “O” to Report FCS19070 – Wastewater System – 2020 – 2029 Capital Budget List

Appendix “P” to Report FCS19070 – Source of Capital Financing – 2020 to 2029 Rate Program Capital Budget

Appendix “Q” to Report FCS19070 – Storm Water Management – 2020 Capital Budget Project List

Appendix “R” to Report FCS19070 – Storm Water Management – 2020 – 2029 Capital Budget List

Appendix “S” to Report FCS19070 – 2020 Rate Program Capital Budget Summary

Appendix “T” to Report FCS19070 – City of Hamilton Treasurer’s Updated 2019 Annual Repayment Limit

JS/dt