



# City of Barrie

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Water & Wastewater Financial Plan  
Council Presentation

May 17, 2021

# Study Purpose



- Identify all current and future water and wastewater system capital needs over the next 10 years;
- Identify cost recovery options for capital;
- Estimate future operating costs over the next 10 years;
- Consider future lifecycle (asset management) needs in the post 10-year forecast period;
- Recommend new rates to recover the cost of the water and wastewater systems; and
- Based on the completion of the rate study, the formal “Financial Plan” may be submitted through the Province as part of the City’s licensing requirements.

# Current Rates



2021 - Water Billing Rates	
Fixed Charge (Monthly)	
<b>Residential</b>	14.02
<b>Non-Residential:</b>	
13-19 mm	14.02
25-32 mm	35.05
38 mm	70.11
50 mm	112.17
75 mm	245.37
100 mm	420.66
150 mm	876.36
200 mm	1121.73
250 mm	1612.51
300mm	1612.51
Volume Charge	

## Increasing Residential (Monthly m<sup>3</sup>)

\$	1.1062	Block 1 per m <sup>3</sup> (0-15 m <sup>3</sup> )
\$	2.2125	Block 2 per m <sup>3</sup> (16-30 m <sup>3</sup> )
\$	3.3187	Block 3 per m <sup>3</sup> (31-45 m <sup>3</sup> )
\$	4.4250	Block 4 per m <sup>3</sup> (>45 m <sup>3</sup> )

## Increasing Non-Residential (Monthly m<sup>3</sup>)

\$	1.1062	Block 1 per m <sup>3</sup> (0-15 m <sup>3</sup> )
\$	1.6594	Block 2 per m <sup>3</sup> (>15 m <sup>3</sup> )

2021 - Wastewater Billing Rates	
Fixed Charge (Monthly)	
<b>Residential</b>	18.96
<b>Non-Residential:</b>	
13-19 mm	18.96
25-32 mm	47.40
38 mm	94.81
50 mm	151.70
75 mm	331.82
100 mm	568.96
150 mm	1185.05
200 mm	1516.86
250 mm	2180.49
300mm	2180.49
Volume Charge	

## Increasing Residential (Monthly m<sup>3</sup>)

\$	1.5974	Block 1 per m <sup>3</sup> (0-15 m <sup>3</sup> )
\$	2.7156	Block 2 per m <sup>3</sup> (16-30 m <sup>3</sup> )
\$	2.7156	Block 3 per m <sup>3</sup> (31-45 m <sup>3</sup> )
\$	-	Block 4 per m <sup>3</sup> (>45 m <sup>3</sup> )

## Increasing Non-Residential (Monthly m<sup>3</sup>)

\$	1.5213	Block 1 per m <sup>3</sup> (0-15 m <sup>3</sup> )
\$	2.2822	Block 2 per m <sup>3</sup> (>15 m <sup>3</sup> )

# Water and Wastewater Forecast Users and Volumes



- The average annual forecast for new customers is as follows:
  - **Former Municipal Boundary Area:** Annual average of approximately 950 additional units
  - **Salem & Hewitt's Secondary Plan Areas:** Annual average of approximately 1,000 additional units
- Volumes for new customers have been assumed as follows:
  - Low and Medium Density Residential – 180 cu.m.
  - High Density Residential – 130 cu.m.

# Capital Needs & Associated Financing (2021 to 2030)



Inflated \$

Description	Water 2021-2030	Wastewater 2021-2030
<b><i>Capital Works</i></b>		
Non-Growth Related	136,715,488	110,127,499
Growth Related - Facilities	1,265,000	334,027,700
Growth Related - Former Municipal Boundary Areas	27,512,505	66,746,419
Growth Related - Salem & Hewitt's Secondary Plan Areas	52,544,403	109,389,595
<b>Total</b>	<b>218,037,397</b>	<b>620,291,213</b>
<b><i>Capital Financing</i></b>		
DC Reserve Fund - Facilities	1,265,000	102,265,813
DC Reserve Fund - Former Municipal Boundary Areas	14,681,765	39,029,453
DC Reserve Fund - Salem & Hewitt's Secondary Plan Area	52,451,913	108,865,485
Growth Related Debentures - Facilities	-	125,583,649
Non-Growth Related Debentures	21,101,600	-
Capital Reserve Fund	128,537,118	244,546,813
<b>Total</b>	<b>218,037,397</b>	<b>620,291,213</b>



# Lifecycle Infrastructure Costs

- Total value of existing water infrastructure is \$1.19 billion;
- Total value of existing wastewater infrastructure is \$1.41 billion;
- This provides for a “per customer” investment by the City of \$26,440 for water and \$31,714 for wastewater.

Area	Total Replacement Value	Suggested amount to be included in 10-year forecast based on estimated life	Amount included in 2021-2030 forecast	Net Replacement for Future Lifecycle	Annual Lifecycle Replacement
<b>Water</b>					
SWTP	268,900,162	40,713,757	121,856,104	228,186,405	10,903,195
Other Water Facilities	117,374,845	36,806,196		80,568,649	3,441,597
Meters	12,201,658	9,588,216		2,613,442	206,214
Miscellaneous (Backflow Devices, Yard Hydrants, Bulk Water Filling Stations)	488,697	18,034		470,664	26,708
Valves & Chambers	55,896,178	2,664,361		53,231,817	2,376,031
PRV & Chambers	19,199,787	1,043,632		18,156,154	493,338
Hydrants	47,311,762	2,805,653		44,506,109	1,919,186
Watermains	667,326,626	31,372,673		635,953,953	21,123,716
<b>Total Water</b>	<b>1,188,699,715</b>	<b>125,012,522</b>	<b>121,856,104</b>	<b>1,063,687,193</b>	<b>40,489,984</b>
<b>Wastewater</b>					
Wastewater Facilities	815,906,713	157,291,309	192,319,757	658,615,404	26,651,881
Biosolids Facility	121,266,391	6,371,548		114,894,843	3,846,949
Pumping Stations	59,655,965	25,629,572		34,026,393	1,600,291
Maintenance Holes	75,706,686	1,190,732		74,515,954	2,483,972
Sanitary Sewers	338,088,222	2,667,700		335,420,522	9,877,460
<b>Total Wastewater</b>	<b>1,410,623,976</b>	<b>193,150,861</b>	<b>192,319,757</b>	<b>1,217,473,115</b>	<b>44,460,553</b>
<b>Total</b>	<b>2,599,323,691</b>	<b>318,163,383</b>	<b>314,175,862</b>	<b>2,281,160,308</b>	<b>84,950,537</b>

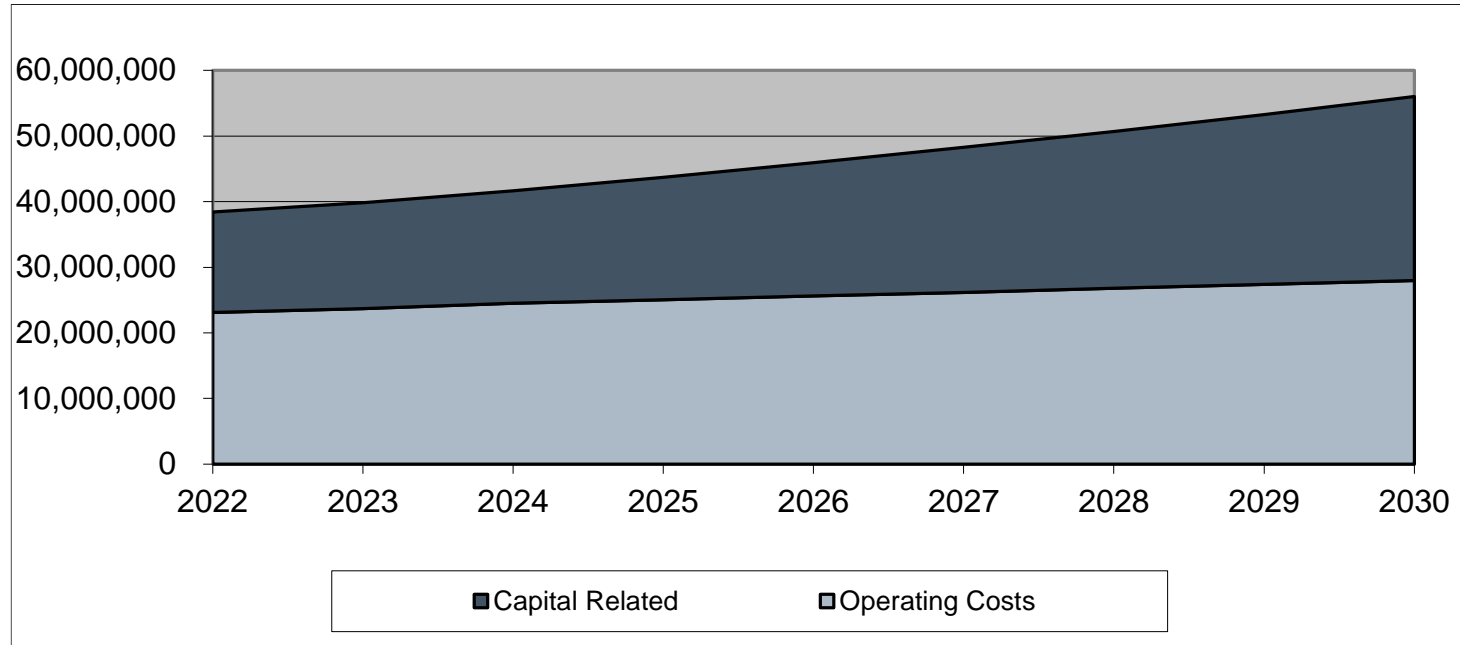
Investment per customer is \$26,440 for water and \$31,714 for wastewater

# Operating Budgets



- Operating expenditures (for water and wastewater) are increasing over the forecast to recognize:
  - Inflationary Impacts
    - 2% for most operating expenditures
    - 5% for chemicals, fuel and hydro
- Additional full-time staff are anticipated over the forecast period and have been incorporated into the forecast

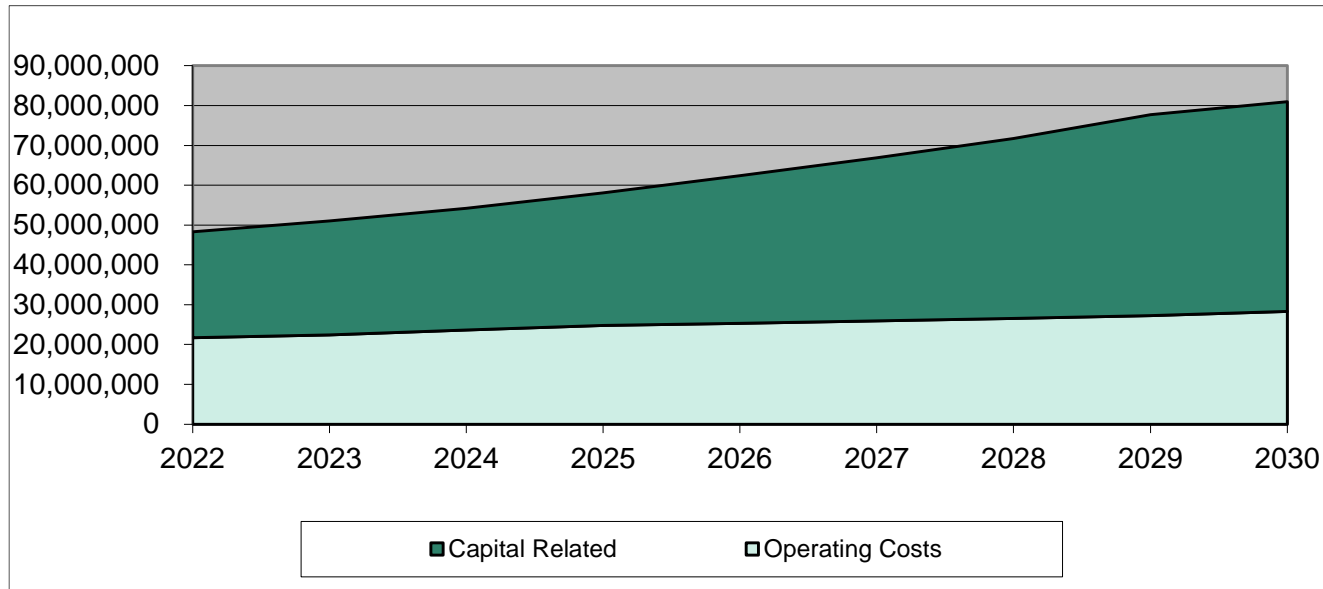
# Water Operating Budget



Description	2022	2023	2024	2025	2026	2027	2028	2029	2030
Operating Costs	23,129,909	23,683,837	24,508,010	25,052,520	25,611,530	26,185,700	26,773,535	27,376,784	27,995,723
Capital Related	15,311,833	16,168,430	17,136,691	18,683,087	20,328,959	22,079,598	23,933,759	25,912,564	28,014,705
Total	38,441,742	39,852,267	41,644,701	43,735,606	45,940,490	48,265,299	50,707,294	53,289,348	56,010,428



# Wastewater Operating Budget



Description	2022	2023	2024	2025	2026	2027	2028	2029	2030
Operating Costs	21,740,792	22,445,592	23,630,860	24,775,123	25,364,355	25,970,422	26,592,552	27,232,511	28,323,308
Capital Related	26,603,050	28,601,122	30,593,312	33,319,741	37,002,224	40,941,542	45,154,331	50,437,873	52,677,109
Total	48,343,842	51,046,713	54,224,172	58,094,863	62,366,579	66,911,965	71,746,883	77,670,384	81,000,416

***Based on 180 cu.m. of annual usage (entire volume would fall into Block 1 rates)***

[illegible]

# Comparison of Residential Annual Bill (based on 180 cu.m)



Municipality	Water	Wastewater	Total
Tay	\$ 833	\$ 1,312	\$ 2,145
Severn	\$ 782	\$ 748	\$ 1,530
Oro-Medonte	\$ 967	\$ 497	\$ 1,464
Ramara	\$ 964	\$ 333	\$ 1,297
Bradford West Gwillimbury	\$ 495	\$ 748	\$ 1,243
Clearview	\$ 653	\$ 497	\$ 1,150
Innisfil	\$ 671	\$ 478	\$ 1,149
New Tecumseth	\$ 400	\$ 748	\$ 1,148
Springwater	\$ 538	\$ 470	\$ 1,008
Penetanguishene	\$ 378	\$ 626	\$ 1,004
Collingwood	\$ 395	\$ 594	\$ 989
Midland	\$ 440	\$ 508	\$ 948
Barrie (Proposed)	\$ 378	\$ 541	\$ 920
Orillia	\$ 430	\$ 488	\$ 917
Barrie (Current)	\$ 367	\$ 515	\$ 880
Essa	\$ 330	\$ 333	\$ 663
Wasaga Beach	\$ 242	\$ 316	\$ 558



Questions?