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The Regional Municipality of Durham Report

To: Finance and Administration Committee
From: Commissioner of Finance
Report: #2022-F-22
Date: December 13, 2022

Subject:

2023 Business Plans and Budget and Nine-Year Capital Forecast for the Consolidated Water Supply and Sanitary Sewerage Systems

Recommendations:

That the Finance and Administration Committee recommends to Regional Council:

- A) That the 2023 Business Plans and Budget for the Water Supply System, with a total gross expenditure of \$222.66 million (net user rate supported expenditure of \$122.82 million) and related financing as set out below, be approved:

	2022 Gross Budget (\$ 000's)	2023 Gross Budget (\$ 000's)	Variance Incr/(Decr) (\$ 000's)
<u>EXPENDITURES</u>			
Operations:			
Watermain Cleaning and Repairs	3,545	3,481	(64)
Valves and Hydrants	3,255	3,129	(126)
Water Connections	4,725	4,405	(320)
Water Meter Repair and Testing	594	590	(4)
Depot Operations	6,220	7,181	961
Water Supply Plants - Plants East	3,332	3,498	166
Water Supply Plants - Plants Central	14,601	15,492	891
Water Supply Plants - Plants North	3,011	3,316	305
Sun Valley Co-Operative Water System	30	30	-
Engineering and Staff Support	8,293	8,804	511
Facilities Management	8,184	8,535	351
Administration	342	370	28
Headquarters Shared Costs	1,153	1,203	50
Utility Finance	3,552	3,620	68
Share of Regional Corporate Costs	13,043	13,495	452
Subtotal Operations	73,880	77,149	3,269
Capital/Debt Charges:			
TCA Capital	6,812	23,320	16,508
Construction of Municipal Services	120,104	120,878	774
Debt Charges	1,312	1,312	-
Subtotal Capital/Debt Charges	128,228	145,510	17,282
TOTAL EXPENDITURES	202,108	222,659	20,551
<u>FINANCING</u>			
Contributions from Reserve Funds:			
Residential Development Charges - Growth Related Capital	63,793	68,205	4,412
Commercial Development Charges - Growth Related Capital	2,420	2,462	42
Industrial Development Charges - Growth Related Capital	1,607	-	(1,607)
Industrial Development Charges - Debt Charges	415	415	-
Institutional Development Charges - Debt Charges	22	22	-
Water Rate Stabilization Reserve Fund	5,882	3,644	(2,238)
Asset Management Reserve Fund	5,623	5,763	140
Servicing of Employment Lands	683	-	(683)
Equipment Replacement Reserve	63	40	(23)
Fees and Service Charges	3,240	3,521	281
Financing From Others:			
Federal Grant	67	-	(67)
Debenture Proceeds:			
Depot Rationalization - Ajax Depot Expansion	-	1,667	1,667
Depot Rationalization - New Oshawa/Whitby Depot	-	12,667	12,667
Depot Rationalization - New Sunderland Depot	-	1,333	1,333
Financing From Non-User Revenue Sources	83,815	99,739	15,924
User Revenues Financing (includes \$102 in 2023 frontage charges)	118,293	122,920	4,627
TOTAL FINANCING	202,108	222,659	20,551

B) That the Nine-Year Capital Forecast for 2024 to 2032 inclusive, in the amount of \$1.77 billion, including project debenture financing of \$441.98 million, as detailed in the Water Supply System Capital Budget, be received for information;

- C) That the 2023 Business Plans and Budgets for the Sanitary Sewerage System with a total gross expenditure of \$285.48 million (net user rate supported expenditure of \$123.44 million) and related financing as set out below, be approved:

	2022 Gross Budget (\$ 000's)	2023 Gross Budget (\$ 000's)	Variance Incr/(Decr) (\$ 000's)
EXPENDITURES			
Operations:			
Cleaning, Repairs and Maintenance Holes	2,188	2,208	20
Sewer Connections	3,567	3,388	(179)
Depot Operations	3,492	3,612	120
WPCPs and Pumping Stations	25,240	26,393	1,153
Duffin Creek WPCP	38,399	46,580	8,181
Regional Environmental Laboratory	3,213	3,053	(160)
Engineering and Staff Support	8,076	8,439	363
Facilities Management	9,516	10,243	727
Administration	345	373	28
Headquarters Shared Costs	1,153	1,203	50
Utility Finance	3,552	3,620	68
Share of Regional Corporate Costs	16,436	16,767	331
Subtotal Operations	<u>115,177</u>	<u>125,879</u>	<u>10,702</u>
Capital/Debt Charges:			
Duffin Creek WPCP - TCA Capital	3,044	2,007	(1,037)
Regional Environmental Lab - TCA Capital	1,057	703	(354)
TCA Capital	4,804	18,484	13,680
Construction of Municipal Services	138,660	126,309	(12,351)
Debt Charges	13,028	12,094	(934)
Subtotal Capital/Debt Charges	<u>160,593</u>	<u>159,597</u>	<u>(996)</u>
TOTAL EXPENDITURES	<u>275,770</u>	<u>285,476</u>	<u>9,706</u>
FINANCING			
Contributions from Reserve Funds:			
Residential Development Charges - Growth Related Capital	25,703	36,203	10,500
Residential Development Charges - Debt Charges	7,836	7,758	(78)
Commercial Development Charges - Growth Related Capital	2,341	2,609	268
Commercial Development Charges - Debt Charges	820	815	(5)
Industrial Development Charges - Growth Related Capital	192	1,874	1,682
Industrial Development Charges - Debt Charges	532	509	(23)
Institutional Development Charges - Debt Charges	8	7	(1)
Sanitary Sewer Rate Stabilization Reserve Fund	9,826	442	(9,384)
Asset Management Reserve Fund	9,275	11,107	1,832
Servicing of Employment Lands	509	-	(509)
Equipment Replacement Reserve	44	40	(4)
Regional Environmental Lab Equipment Replacement Reserve	750	475	(275)
Fees and Service Charges	7,044	7,639	595
Financing From Others:			
Federal Grant	27	-	(27)
Region of York - TCA	2,505	1,692	(813)
Region of York - Construction of Municipal Services	60,883	38,999	(21,884)
Region of York - Operating	29,488	35,821	6,333
Region of York - Environmental Lab Operations	456	349	(107)
Debenture Proceeds:			
Depot Rationalization - Ajax Depot Expansion	-	1,667	1,667
Depot Rationalization - New Oshawa/Whitby Depot	-	12,667	12,667
Depot Rationalization - New Sunderland Depot	-	1,333	1,333
Financing From Non-User Revenue Sources	<u>158,239</u>	<u>162,006</u>	<u>(11,900)</u>
User Revenues Financing (includes \$27 in 2023 frontage charges)	<u>117,531</u>	<u>123,470</u>	<u>5,939</u>
TOTAL FINANCING	<u>275,770</u>	<u>285,476</u>	<u>9,706</u>

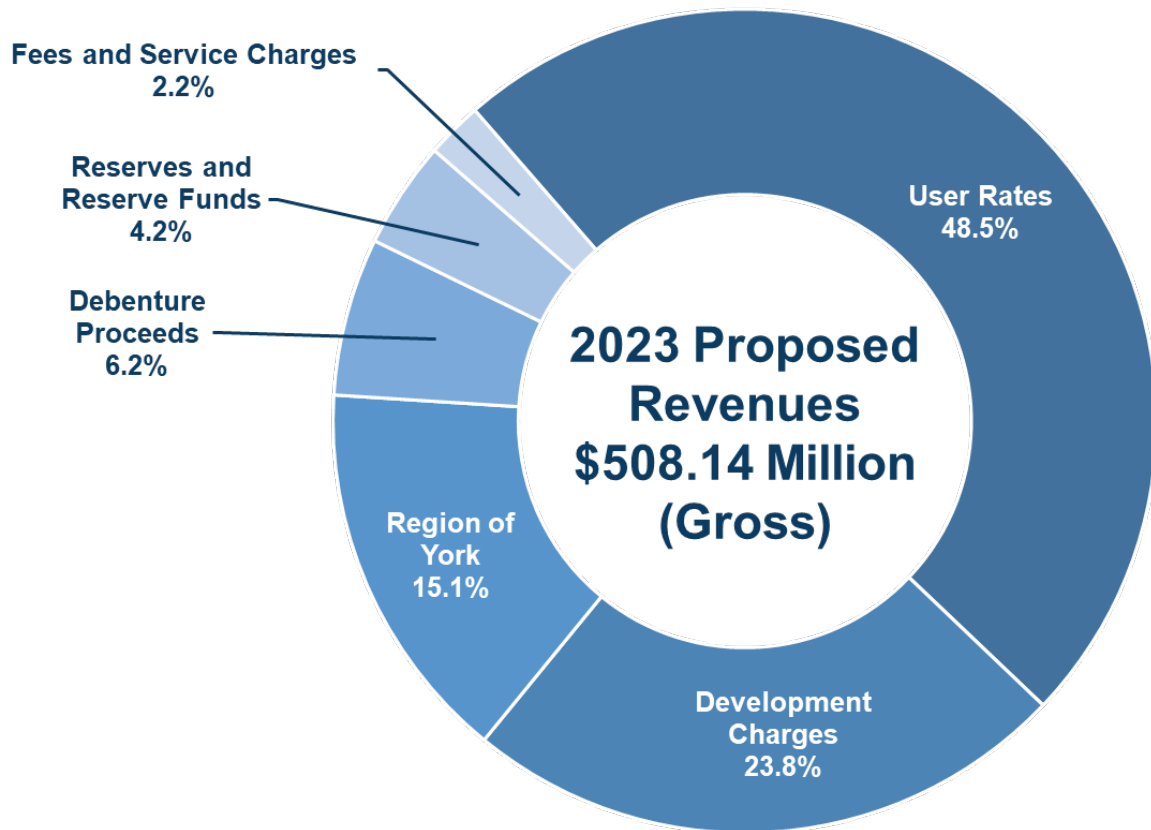
- D) That the Nine-Year Capital Forecast for 2024 to 2032 inclusive, in the amount of \$2.26 billion, including project debenture financing of \$460.72 million, as detailed in the Sanitary Sewerage System Capital Budget, be received for information;
 - E) That capital project approval be granted for expenditures and financing for the 2023 capital projects detailed in the 2023 Capital Project Appendices within the 2023 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget, where contract awards are compliant with the Region's Budget Management Policy; and
 - F) That the necessary By-laws with respect to the 2023 Business Plans and Budget for the Consolidated Water Supply and Sanitary Sewerage Systems be presented to Regional Council.
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Report:

1. Overview of Recommended 2023 Water Supply and Sanitary Sewerage Systems Business Plans and Budget

- 1.1 The gross 2023 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget at \$508.14 million (\$222.66 million Water Supply and \$285.48 million Sanitary Sewerage) is included for approval and for recommendation to Regional Council on December 21, 2022. The recommended budget requires a total of \$246.26 million in user rate revenue (\$122.82 million Water Supply and \$123.44 million Sanitary Sewerage), consistent with the proposed water and sewer user rate increase of 4.3 per cent overall (3.6 per cent for Water Supply and 5.0 per cent for Sanitary Sewerage).
- 1.2 The 2023 Water Supply and Sanitary Sewerage Systems Business Plans and Budget, with a proposed overall user rate increase of 4.3 per cent, provides for several base budget pressures and non-discretionary items. These investments are required for the continued operation of the water supply and sanitary sewerage systems in compliance with regulatory performance requirements. Strategic investments are proposed to advance new infrastructure and operations in response to growth pressures; address critical renewal and replacement of capital infrastructure maintaining water and sewer assets in a state of good repair in alignment with asset management best practices; and to realize the achievement of the Region's climate change mitigation and adaptation targets.

1.3 The following pie chart provides greater detail on the financing of the \$508.14 million 2023 Consolidated Water Supply and Sanitary Sewerage Systems Budget.



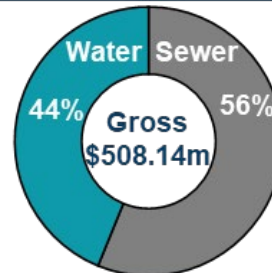
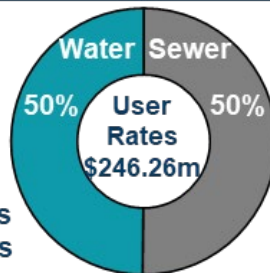
1.4 The 2023 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget, as recommended in this report, reflect the financial parameters of the proposed user rate increase (Report #2022-F-23).

2. Highlights of the 2023 Water Supply and Sanitary Sewerage Systems Business Plans and Budget

Water Supply and Sanitary Sewerage Systems



184,950 Water Customers
180,179 Sewer Customers



8,389
FTEs
New Staffing

Services:

Water Supply System

- Maintain and operate the Region's linear water distribution system in an efficient and cost-effective manner for the Region's approximately 184,950 customers.
- Maintain all systems to meet regulations to ensure safe drinking water supply is delivered to customers.
- Plan, design, construct and operate water supply infrastructure.

Sanitary Sewerage System

- Maintain and operate the Region's Sewage Collection Systems to ensure safe and efficient treatment of effluent for the Region's approximately 180,179 customers.
- Maintain all systems to meet regulations to ensure the protection of the water environment.
- Plan, design, construct and operate sanitary sewerage infrastructure.

Utility Finance

- Set-up, maintain and issue over 750,000 billings for customer accounts related to water and sanitary sewerage. Receive, deposit and record approximately 790,000 water and sanitary sewer payments.
- Provide customer service to water and sanitary sewer customers, including responding to over 90,000 telephone inquiries and 40,000 emails annually.
- Obtain water meter readings associated with residential and non-residential customer accounts, as well as investigating and assisting customers to identify water consumption problems.

2022 Accomplishments:

Regional water supply and sanitary sewerage systems continue to provide safe drinking water and protect the water environment. Quality and environmental management systems support and integrate operations to meet regulatory performance requirements.

2022 Accomplishments:

- No Boil Water Advisory days.
- 99.8 per cent compliance of drinking water test results.
- No unplanned sanitary sewage by-pass events.
- 100 per cent compliance of wastewater effluent results to protect the water environment.
- Advanced the multi-year modernization of water supply and sanitary sewerage operational data with a focus on municipal well systems and wastewater solids management.
- Implemented the enterprise maintenance management system (EMMS). Plant and maintenance operations are now utilizing this comprehensive work management system to manage activities, capture life cycle cost data and provide real time maintenance information.
- Initiated a three-year project to retrofit existing water meters with radio frequency remote reading devices (RF) to eliminate manual meter readings. This is a significant enhancement from a customer service perspective and has been much anticipated as the follow-up step to the MyDurhamWater project.
- Expanded monthly billing for the largest industrial, commercial and institutional water supply and sanitary sewerage customers to better understand customer requirements and support long-term planning.
- Expanded customer enrollments in MyDurhamWater to 42,000 (approximately 22 per cent of total customers), with 16,740 customers choosing the paperless e-billing option.

Over the course of 2022, 23 water supply and sanitary sewerage capital projects were advanced. The following list highlights the detailed design and construction of some of the major projects which commenced in 2022:

- Twinning of the Liverpool Road forcemain, Pickering – construction has commenced with a completion target of August 2023.
- Whitby Water Supply Plant industrial raw water pumping station, outfall works and chlorination lines replacement, Whitby – commence work order to be issued in December 2022 with a completion target of October 2024.
- Courtice Trunk Sanitary Sewer and Watermain on Baseline Road from Courtice Road to Trulls Road and Trulls Road from Baseline Road to Bloor Street, Clarington (the project includes the reconstruction of Baseline Road from Courtice Road to Trulls Road) – construction has commenced with a completion target of December 2023.
- Watermain and sanitary sewer replacement on Balsam Street from Old Simcoe Road to Rosa Street, Scugog Township – construction to commence Spring 2023 with a completion target of July 2023.
- Cannington Water Supply System, new well and pumphouse with standby power, Brock Township – construction has commenced with a completion target of November 2023.

Operating and Staffing:

- The proposed 2023 Operating Business Plans and Budget for Water Supply and Sanitary Sewerage Systems is \$203.0 million (\$77.1 million Water Supply; \$125.9 million Sanitary Sewerage).
- The following is a summary of the operating priorities and pressures:
 - Annualization of 16.520 FTE positions approved in 2022.
 - Annualization of the annual licensing, consulting and cloud hosting fees for Maximo, the Region's maintenance management system and preliminary consulting work to position the Region to migrate to Maximo Application Suite before 2025.
 - Significant inflationary increases including chemicals (\$5.8 million - 66.3 per cent increase) and electricity and natural gas (\$3.0 million – 16.7 per cent increase) – a portion of this increase is recovered from the Region of York for their share of the Duffin Creek Water Pollution Control Plant operating costs.
 - Enhancements to the Region's utility locate program to ensure compliance with the *Ontario Underground Infrastructure Notification System Act, 2012*.
 - Ongoing investment in the modernization of the Region's Business Planning and Budget process, including system modernization.
 - Continued enhancements to water billing software to support meter reading activities.
- A total of 8.389 new full-time equivalent positions (FTE) are proposed at a 2023 cost of \$0.6 million, or \$1.1 million annualized, for the Water Supply and Sanitary Sewerage Systems share. A portion of these costs are allocated at varying levels to capital projects. The details on these proposed positions are located in the Detailed Consolidated 2023 Business Plans and Budget for Water Supply and Sanitary Sewerage Systems available on-line through the link provided on the December 13, 2022 Finance and Administration Committee agenda. The following provides a high-level summary of the proposed new positions:
 - Emergency Management Coordinator (0.500 FTE) – to support emergency management programs and initiatives corporately and departmentally as a dedicated liaison with Durham Emergency Management (this position is shared with Works General Tax and Waste Management).
 - Inspector 3 Capital Construction (0.642 FTE) – to support the projects in the Construction Division and reduce reliance on consulting services and temporary staff (this position is shared with Works General Tax).
 - Supervisor Maintenance Operations (1.000 FTE) – to monitor, develop, schedule and manage the various positions pertaining to the development of the Region's centralized utility locate program.
 - Supervisor Facilities Design, Construction and Asset Management (0.657 FTE) – to support the increase in program delivery for depots, sewage treatment plants and water pumping stations, and major capital projects supporting corporate priorities (this position is shared with Works General Tax and Waste Management).

Operating and Staffing:

- Junior Project Engineer Environmental Services Design (2.000 FTEs) – to support the vertical group in the delivery of capital projects.
- Works Technician 2 Environmental Services Design (1.000 FTE) – to provide Computer Assisted Design (CAD) support to the vertical and linear project teams.
- Works Technician 5 Environmental Services Design (1.000 FTE) – to support the vertical group in the delivery of capital projects.
- Business Analyst (0.590 FTE) – to provide business support for the Enterprise Maintenance Management System (this position is shared with Works General Tax).
- Senior Accounting Clerk (1.000 FTE) – to provide additional support for customer high billing investigations.

Risks and Uncertainties:

Areas of risk that could impact the operating and capital budgets include:

- Increasing cost of operations due to unprecedented inflation on materials and supplies critical for service provision and capital project delivery.
- Ongoing supply chain and labour challenges.
- Changes in local market demands for engineering and construction services potentially impacting industry capacity for infrastructure projects.
- Increasing legislative requirements from provincial and federal approval agencies.
- Revenue/Funding pressures (e.g., provincial/federal infrastructure programs which require matching Regional investment).
- Debt carrying costs as a result of the current volatile debt markets and impacts of federal monetary policies.
- Growth across the Region, including development of several new communities in Seaton, West Whitby, North Oshawa, Bowmanville and Newcastle Village, that will increase the demand for services to support residents and businesses as well as the operational and maintenance requirements for Regional infrastructure.
- Ensuring sufficient staff resources to deliver a growing capital program to avoid impacts to delivery schedules of projects or delays in response times for reactive maintenance activities.
- Impact of climate change on water and sanitary sewer systems infrastructure investment levels. Changing and unpredictable weather patterns impacting treatment operations as well as preventative and reactive maintenance activities for the regional water supply and sanitary sewerage linear infrastructure network.

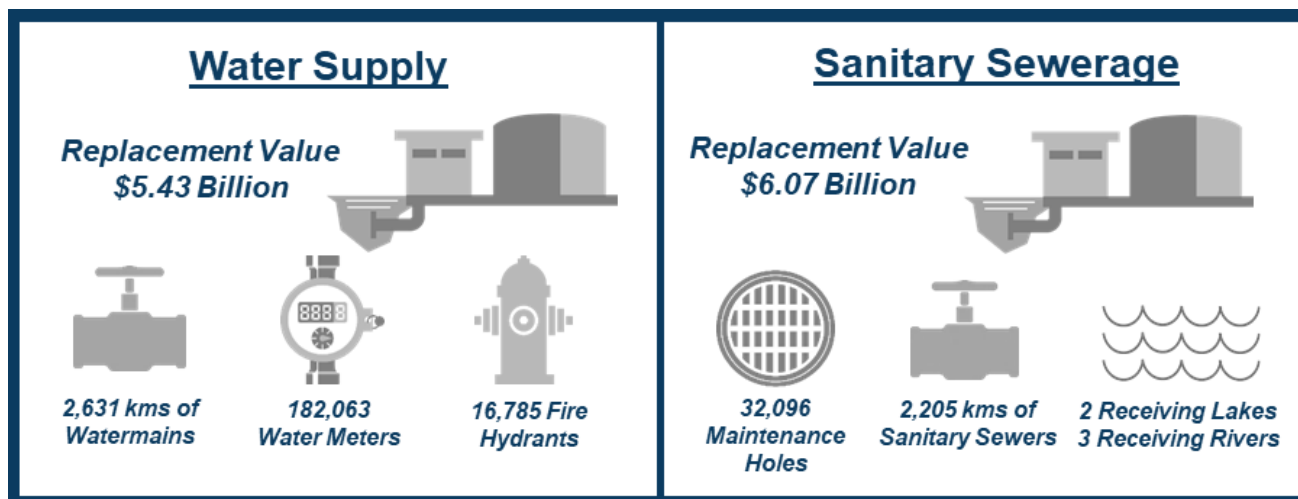
Future Pressures:

- Annualization of new positions proposed in the 2023 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets will result in a \$0.57 million pressure (\$0.33 million Water Supply and \$0.24 million Sanitary Sewerage) in the 2024 Business Plans and Budget.
- Annual debt servicing costs totaling \$3.0 million (\$1.5 million Water Supply and \$1.5 million Sanitary Sewerage) in the 2024 Business Plans and Budget for the debt financing proposed in the 2023 Water Supply and Sanitary Sewerage Systems Business Plans and Budget.
- Infrastructure requirements to address Regional growth.
- Ongoing asset management and infrastructure maintenance requirements.
- Operating costs related to major facility and system expansions.
- Implementation of the recommendations from the Integrated Resource Recovery Studies for the Region's Water Pollution Control Plants.
- Continued review of district heating and cooling opportunities using sanitary sewerage infrastructure.
- Maintenance and replacement of building elements such as roofing, envelope, HVAC systems, windows etc., with enhancements to reduce energy consumption and carbon emissions.
- Bill 23 – Supporting Growth and Housing in York and Durham Regions Act, 2022 suddenly received Royal Assent on November 28, 2022, in the Provincial Legislature. This legislation will have a significant impact on the Region's capital forecast and associated financing. Staff will be working to assess the financial impacts on future Regional budgets through the update to the Region's Development Charges Background Study and specific Bill 23 impact reports in early 2023. A thorough review of the proposed legislation details is not available in time for this report. Impacts will be accommodated beginning in the 2024 Business Plans and Budget. The following are the impacts that staff have identified to date:
 - This legislation will impact the amount of development charges available to fund new and expanded infrastructure to service growth. Without development charges this infrastructure will need to be funded from user rates.
 - The provincial direction to develop 1.5 million homes in an expedited manner and allowing the development of Greenbelt lands with restricted timelines will be another development pressure competing for Regional infrastructure funds.
 - Schedule 10 within Bill 23 provides the provincial direction for the wastewater servicing for the Upper York Sewage Solution which includes the Lake Ontario option of conveying wastewater south to the York Durham Sewage System. A detailed review of the proposed servicing option will need to be conducted in consultation with the Region of York to determine infrastructure planning impacts.

Future Pressures:

- Financial impact of works needed to comply with Provincial and Federal Regulatory requirements associated with the Region’s water supply and water pollution control plants (i.e., the *Clean Water Act*, and the *Lake Simcoe Protection Act*). The following are legislative and regulatory changes and reviews that staff continue to monitor closely due to their potential impacts on water supply and sanitary sewerage services:
 - Perfluoroalkyl (PFAS) substances are an emerging regulatory concern in Canada and the United States of America. The sources of PFAS substances can originate from fire-fighting foams, consumer products, packaging, landfills and industrial processes. The regulatory requirements for drinking water are developing. There is currently considerable variation in the guideline magnitudes among regulatory agencies due in part to the limited data available on the substances.
 - Innovation, Science and Economic Development Canada (ISED) has proposed changes to the radio frequencies that the Region currently uses for SCADA communications. If the proposed adjustments are made, modifications to the Region’s Wide Area Network base to a new frequency will be required, resulting in significant changes to equipment at Regional facilities.

3. 2023 Capital Budget and 2024 – 2032 Capital Forecast and Financing Plan



3.1 The 2023 and Nine-Year Water Supply and Sanitary Sewerage Systems Capital Forecast (2023 – 2032) is approximately \$4.3 billion (approximately \$1.9 billion for Water Supply and \$2.4 billion for Sanitary Sewerage) as outlined in Table One.

Table One
Water Supply and Sanitary Sewerage Systems
Total Capital Forecast and Preliminary Financing Plan

Water Supply System(\$,000's)	Proposed			Forecast			Total
	2023	2024	2025	2026	2027	2028-2032	2024-2032
Capital Expenditures							
Linear Infrastructure	64,491	134,883	74,439	84,315	59,235	233,521	586,393
Buildings & Structures	67,294	72,540	224,197	242,814	243,667	257,035	1,040,253
Machinery & Equipment	6,898	12,501	10,599	7,105	8,771	39,524	78,500
Information Technology Infrastructure	208	10,136	3,375	5,914	516	1,362	21,303
Vehicles	1,285	549	28	153	96	337	1,163
Furniture and Fixtures	10	208	18	12	11	24	273
Allowances & Other Provisions	3,997	4,832	4,450	4,536	6,442	26,241	46,501
Capital Expenditures Subtotal	144,183	235,649	317,106	344,849	318,738	558,044	1,774,386
Capital Financing							
Development Charges	70,667	92,347	99,608	50,669	58,973	113,851	415,448
Reserve Fund - Asset Management	5,764	13,507	6,155	6,206	6,362	34,913	67,143
Reserve Fund - Water Rate Stabilization	3,644	12,459	20,002	70,727	29,025	16,396	148,609
Reserve Fund - Servicing of Employment Lands	-	2,450	1,408	-	-	-	3,858
Reserve - Equipment Replacement	40	40	-	-	40	120	200
Developer Contributions	-	7,000	314	-	81,826	-	89,140
Debentures - DC Funded	-	23,652	56,019	156,739	32,570	25,054	294,034
Debentures - User Rate Funded	15,666	11,667	73,272	-	45,705	17,300	147,944
User Rate	48,402	72,527	60,328	60,508	64,237	350,410	608,010
Capital Financing Subtotal	144,183	235,649	317,106	344,849	318,738	558,044	1,774,386
Sanitary Sewerage System (\$,000's)							
Sanitary Sewerage System (\$,000's)	Proposed			Forecast			Total
	2023	2024	2025	2026	2027	2028-2032	2024-2032
Capital Expenditures							
Linear Infrastructure	46,615	189,710	52,978	135,408	82,729	414,584	875,409
Buildings & Structures	32,325	77,110	199,213	46,429	42,965	502,641	868,358
Machinery & Equipment	61,829	70,076	43,577	61,263	80,977	213,243	469,136
Information Technology Infrastructure	989	458	1,808	1,856	491	1,765	6,378
Vehicles	435	549	28	153	96	337	1,163
Furniture and Fixtures	10	202	11	12	11	24	260
Allowances & Other Provisions	5,315	5,865	4,415	4,765	4,665	23,075	42,785
Capital Expenditures Subtotal	147,518	343,970	302,030	249,886	211,934	1,155,669	2,263,489
Capital Financing							
Development Charges	40,686	84,625	57,716	48,117	59,777	115,863	366,098
Reserve Fund - Asset Management	11,107	21,352	11,108	15,238	10,494	56,539	114,731
Reserve Fund - Environmental Lab	475	575	125	400	325	915	2,340
Reserve Fund - Sewer Rate Stabilization	442	86,151	36,989	13,100	18,340	55,284	209,864
Reserve Fund - Servicing of Employment Lands	-	1,653	-	580	1,066	-	3,299
Reserve - Equipment Replacement	40	40	-	-	40	120	200
Recovery from York	40,691	51,670	27,882	54,980	58,199	404,296	597,027
Debentures - DC Funded	-	38,893	52,177	69,297	12,000	106,140	278,507
Debentures - User Rate Funded	15,667	11,667	69,000	-	-	101,550	182,217
User Rate	38,410	47,344	47,033	48,174	51,693	314,962	509,206
Capital Financing Subtotal	147,518	343,970	302,030	249,886	211,934	1,155,669	2,263,489

4. Proposed 2023 Water Supply and Sanitary Sewerage Capital Budget and Financing

2023 Water Supply and Sanitary Sewerage Capital Budgets

- 4.1 The proposed 2023 Water Supply (\$144.2 million) and Sanitary Sewerage (\$147.5 million) Capital Budgets:
- a) Invest in new infrastructure to address anticipated growth at anticipated growth levels prior to Royal Assent of Bill 23 which adds additional growth as well as greenbelt growth that will require infrastructure planning;
 - b) Reflect advancement of Council's strategic investments in water supply and sanitary sewer infrastructure to pre-service designated employment lands;
 - c) Address infrastructure rehabilitation, renewal and replacement requirements based on the approved asset management strategy;
 - d) Ensure regulatory compliance;
 - e) Invest in infrastructure that incorporate climate change mitigation and adaptation; and,
 - f) Allow all capital projects ready for construction to proceed.
- 4.2 More specifically, the proposed 2023 Water Supply and Sanitary Sewerage Capital Budgets provide for:
- a) Planning, detailed design and construction of 5.3 kilometres of linear pipe and four vertical facilities as identified within the Asset Management Plan;
 - b) Planning, detailed design and construction of 15.1 kilometres of linear pipe in co-ordination with Regional and Area Municipal road programs and 3.7 kilometres of independent watermain projects;
 - c) Planning, detailed design and construction of several Water Supply facilities and Sanitary Sewerage vertical assets including the expansion of the Whitby Water Supply Plant, Lake Simcoe and Duffin Creek Water Pollution Control Plant and Liberty Street Zone 1 Reservoir and pumping station;
 - d) Phased 3 and 4 regulatory works to be tendered, related to the Technical Standards and Safety Authority (TSSA) fuel tank replacement/upgrades;
 - e) Integrated security capital project to replace the security control panels and programming at all Regional facilities to meet the new facility standard;
 - f) Planning, detailed design and property acquisition for depot expansion and modernization projects as recommended by the Depot Rationalization study;
 - g) Additional financing for the energy retrofit and modernization of 101 Consumers Drive, Whitby, to optimize space, reduce greenhouse gas emissions and provide energy efficient lighting; and
 - h) Year two of a three-year project to retrofit existing water meters with radio frequency remote reading devices (RF) to minimize manual meter readings. The total estimated cost of this initiative over the three-year period (2022 to 2024) is \$10.0 million and is proposed to be funded from the Water Rate Stabilization Reserve Fund.

- 4.3 A full listing of the proposed 2023 capital projects and associated financing are included in the proposed 2023 Consolidated Water Supply and Sanitary Sewerage Business Plans and Budget.

Addressing Asset Management Renewal Needs and Climate Considerations

- 4.4 Based on the most recent asset management data, there are approximately \$23.8 million of water linear assets in very poor condition, and \$34.6 million in poor condition. The proposed 2023 Water Supply Capital Budget includes \$22.0 million in linear betterments and replacements (watermains, valves, connections) to address those assets in various conditions with differing risk profiles and based on the ability to achieve access as part of Regional Road, Area Municipal Road, and Ministry of Transportation Ontario (MTO) projects. In addition, there is also \$3.2 million included for other linear replacements such as water meters and hydrants.
- 4.5 For Water Supply buildings and plant equipment (vertical assets), there is approximately \$2.2 million included in the proposed 2023 Water Supply Capital Budget to address asset management needs.
- 4.6 Based on the most recent asset management data, there is approximately \$26.8 million in sanitary sewerage linear assets that are in very poor condition and \$59.0 million in poor condition. The proposed 2023 Sanitary Sewerage Capital Budget includes \$9.8 million to address the priority sewer linear assets.

Proposed 2023 Water Supply and Sanitary Sewerage Capital Financing

- 4.7 The proposed 2023 water supply and sanitary sewerage capital financing is achievable and relies on:
- a) The proposed overall user rate increase of 4.3 per cent;
 - b) The use of \$111.4 million in upfront Residential, Commercial and Industrial Development Charges required to support the 2023 Water Supply and Sanitary Sewerage Capital Programs. This is an increase of \$15.3 million (15.9 per cent) from the approved 2022 budget;
 - c) The use of \$5.8 million in Water Asset Management Reserve Fund financing and \$11.1 million in Sanitary Sewerage Asset Management Reserve Fund financing which represents an increase of \$2.0 million (13.2 per cent) from the approved 2022 budget;
 - d) The use of \$3.6 million in Water Rate Stabilization Reserve Funds and \$0.4 million in Sewer Rate Stabilization Reserve Funds. While the 2023 proposed draws are less than the 2022 approved draws, significant funding totaling \$358.5 million is required from these reserves over the forecast period (\$148.6 million Water Supply; \$209.9 million Sanitary Sewerage), particularly in 2024; and,
 - e) Debenture financing of \$31.3 million for facility projects, including the Ajax Depot expansion (\$3.3 million), the new Oshawa/Whitby Depot (\$25.3 million), and the new Sunderland Depot (\$2.7 million).

5. Capital Forecast and Preliminary Financing Plan

- 5.1 The Water Supply and Sanitary Sewerage Capital Forecast program (2024-2032) is based on servicing forecasted growth, addressing ongoing renewal, replacement and repair needs of existing infrastructure aligned with the Region's asset management strategy, and ensuring continued compliance with regulatory requirements.
- 5.2 There are a number of development areas being planned and implemented within each municipality. The proposed Water Supply and Sanitary Sewerage Capital Budget and Forecast identifies the required servicing infrastructure for the designated urban areas. Regional staff continue to monitor the use of major water supply and sanitary sewage infrastructure to plan major infrastructure expansions, system capacity and reliability to service growth. It is important to note that the provincial direction to develop 1.5 million homes in an expedited manner and allowing the development of Greenbelt lands with restricted timeliness will impact the Region's 2024 – 2032 Water Supply and Sanitary Sewerage Capital Forecast. Over the coming months, Regional staff will be analyzing the impact on the capital forecast for inclusion in the 2024 Business Plans and Budget.
- 5.3 The 2024-2032 capital program also includes major building expansions for both the water supply system and the sanitary sewage system including:

Water Supply System

- a) Zone 1 feedermain on Bayly Street from Toy Avenue to Pickering Beach Road, Pickering/Ajax
- b) Zone 1 feedermain from Whitby Water Supply Plant to Thornton Road, Whitby/Oshawa
- c) Zone 4 feedermain from Thickson Road Zone 4 water pumping station to Zone 4 Reservoir, Whitby
- d) Zone 4 feedermain on Columbus Road from Thickson Road to Ritson Road, Whitby/Oshawa
- e) Zone 3 feedermain on Conlin Road from Garrard Road to Ritson Road, Oshawa/Whitby
- f) Zone 4 feedermain from proposed Zone 4 Water Pumping Station at Harmony Reservoir to Proposed Winchester Zone 4 Reservoir, Oshawa
- g) Zone 1 feedermain on Lambs Road from Highway 2 (King Street) to Zone 1 Liberty Street Reservoir, Bowmanville
- h) Proposed Whitby Zone 4 Storage Facility, Whitby
- i) Taunton Road Zone 2 Reservoir Expansion, Oshawa
- j) Taunton Road Zone 3 Water Pumping Station Expansion, Oshawa
- k) Proposed Oshawa Zone 4 Water Storage Facility, Oshawa
- l) Scugog Water Supply System – Alternative Water Supply Source, Scugog
- m) Expansion of the Ajax Water Supply Plant, Ajax
- n) Expansion of the Whitby Water Supply Plant, Whitby

- o) Bowmanville Water Supply Plant Expansion, Clarington
- p) Beaverton Water Supply Plant Expansion, Brock

Sanitary Sewerage System

- a) Durham York Primary Trunk Sanitary Sewer System – Condition Assessment and Rehabilitation requirements, Pickering
- b) Durham York Sewage System – Primary Trunk Sanitary Sewer Twinning, Pickering
- c) Courtice Trunk Sanitary Sewer (Phases 4 through 6), Clarington
- d) Baseline Road Trunk Sanitary Sewer from Simpson Avenue to Bennett Road, Clarington
- e) Port Darlington Road Trunk Sanitary Sewer from Baseline Road to existing easement, Clarington
- f) Brooklin Sanitary Diversion Strategy, Whitby
- g) Harmony Creek Sanitary Sewage Pumping Station expansion and forcemain twinning, Oshawa
- h) Expansion of Corbett Creek Water Pollution Control Plant, Whitby
- i) Expansion of the Conlin Road Sanitary Sewage Pumping Station and twinning of the forcemain, Oshawa
- j) Expansion of the Courtice Water Pollution Control Plant, Oshawa
- k) Expansion of the Lake Simcoe Water Pollution Control Plant, Brock

5.4 Aligned with the Region's asset management strategy, staff analyze asset data to inform the annual business plans and budgets on infrastructure lifecycle costing requirements. This is crucial to ensure sound and timely investments are made to maintain the Region's approved levels of service to stakeholders, through properly maintained assets at optimized lifecycle costs.

5.5 A robust long-term preliminary financing plan was developed for the nine-year water supply and sanitary sewerage capital forecast that uses:

- a) Current growth projections to forecast future Development Charge receipts and revenues available to finance the growth-related capital projects in the forecast program. It should be noted that the changes to the *Development Charge Act* from Bill 23 will impact the amount of Development Charges available to fund new and expanded infrastructure to service growth. Over the coming months, Regional staff will be analyzing the impact on Development Charge revenue. Development Charge revenue shortfalls will need to be funded from user rates, debt, and/or reserve and reserve funds. Before the impacts of Bill 23, the Region was projecting a total of \$1.1 billion in Development Charge shortfalls from 2023 to 2032 (\$0.5 billion Water Supply; \$0.6 billion Sanitary Sewerage) – these shortfalls are anticipated to grow with the provincial changes in Bill 23;

- b) Reserve funds (e.g., Water and Sewer Rate Stabilization, Asset Management, and the Servicing of Employment Lands Reserve Funds) to finance major capital projects and those projects required for asset management reasons without unduly placing pressure on user rate payers, potentially reducing the need for debt and saving the Region debt interest financing costs;
 - c) Debt, where feasible, for large plant expansions that are projected to have user rate and development charge shortfalls;
 - d) Gradual and smooth annual increases in user rate revenues that are financially sustainable and affordable; and
 - e) Financial planning policies as approved in the Region's Long-Term Financing Planning Framework.
- 5.6 The resultant long-term preliminary financing plan (sources and timing of funding) is summarized in Table One above.

Opportunities to Use Reserve Funds

- 5.7 As shown in Table One, there are years where expenditures are significant due to large plant expansion projects and rehabilitation projects. In accordance with the Long-Term Financial Planning Framework, the preliminary financing plan incorporates the sustainable use of the Water Rate Stabilization Reserve Fund, Sewer Rate Stabilization Reserve Fund and Asset Management Reserve Funds for these large projects. Application of funding from these reserve funds and consideration of future debenture financing will allow these projects to proceed when required.
- 5.8 The following provides a summary of the proposed use of reserve fund financing and Development Charges for 2023 and the 2024 to 2032 forecast period based on the 2023 to 2032 capital forecast and financing strategy.
- a) Development Charges - Water
 - Proposed 2023 – Capital Program - \$70.7 million
 - Proposed 2023 – Debt Servicing Costs - \$0.4 million
 - 2024 to 2032 Capital Forecast – Capital Program - \$415.4 million
 - 2024 to 2032 Capital Forecast – Debt Servicing Costs - \$279.9 million
 - b) Development Charges - Sewer
 - Proposed 2023 – Capital Program - \$40.7 million
 - Proposed 2023 – Debt Servicing Costs - \$9.1 million
 - 2024 to 2032 Capital Forecast – Capital Program - \$366.1 million
 - 2024 to 2032 Capital Forecast – Debt Servicing Costs - \$200.9 million

- c) Water Asset Management Reserve Fund
 - Proposed 2023 – Capital Program - \$5.8 million
 - 2024 to 2032 Capital Forecast – Capital Program - \$67.1 million
- d) Sewer Asset Management Reserve Fund
 - Proposed 2023 – Capital Program - \$11.1 million
 - 2024 to 2032 Capital Forecast – Capital Program - \$114.7 million
- e) Water Servicing of Employment Lands
 - 2024 to 2032 Capital Forecast – Capital Program - \$3.9 million
- f) Sewer Servicing of Employment Lands
 - 2024 to 2032 Capital Forecast – Capital Program - \$3.3 million
- g) Water Rate Stabilization Reserve Fund
 - Proposed 2023 – Capital Program - \$3.6 million
 - 2024 to 2032 Capital Forecast – Capital Program - \$148.6 million
- h) Sewer Rate Stabilization Reserve Fund
 - Proposed 2023 – Capital Program - \$0.4 million
 - 2024 to 2032 Capital Forecast – Capital Program - \$209.9 million

5.9 The use of these reserve funds will be considered on an annual basis as part of the Region's long-term financial planning process with recommended draws presented to Regional Council through the annual Water Supply and Sanitary Sewerage Capital Budgets. This capital forecast projects significant usage of reserve funds over the ten-year planning horizon. Of particular note, current balances of the Water Rate Stabilization Reserve Fund and the Sewer Rate Stabilization Reserve fund will be essentially fully utilized and significant Development Charges utilization will occur to accommodate the forecasted growth.

5.10 As mentioned previously, the 2024 to 2032 capital forecast will be updated as part of the 2024 Business Planning and Budget process to incorporate the impacts of Bill 23. It is anticipated that the use of reserve and reserve funds and Development Charges will change as a result of Bill 23 receiving Royal Assent.

Potential Debt Financing Requirements and Considerations

5.11 Achieving the forecasted capital program and smoothing out the pressures on the user rate revenues as best as possible will also require the issuance of debt financing for large capital projects where there is an anticipated shortfall in the Residential and Commercial Development Charge receipts as well as a user rate shortfall.

5.12 The 2023 capital budget and 2024 to 2032 capital forecast, outlined in Table One, identifies the potential to issue approximately \$934.0 million in debenture financing (\$457.6 million for Water Supply and \$476.4 million for Sanitary Sewerage). Table Two details the debt servicing costs and associated financing based on the current outstanding debt and the projected new debt contemplated in the 2023 capital budget and 2024 to 2032 capital forecast.

Table Two
Consolidated Water Supply and Sanitary Sewerage – Debt Servicing Costs

Water Supply System (\$,000's)	Proposed 2023	2024	2025	Forecast 2026	2027	2028-2032	Total 2024-2032
Capital Expenditures							
Existing Debenture Payments	1,312	1,313	1,312	1,313	1,312	6,562	11,812
Future Debenture Payments		1,509	4,912	19,368	32,469	216,370	274,628
Capital Expenditures Subtotal	1,312	2,822	6,224	20,681	33,781	222,932	286,440
Capital Financing							
Development Charges	437	438	2,716	10,113	23,213	141,409	177,889
User Revenue	875	2,384	3,508	10,568	10,568	81,523	108,551
Capital Financing Subtotal	1,312	2,822	6,224	20,681	33,781	222,932	286,440

Sanitary Sewerage System (\$,000's)	Proposed 2023	2024	2025	Forecast 2026	2027	2028-2032	Total 2024-2032
Capital Expenditures							
Existing Debenture Payments	12,094	11,440	11,254	11,252	7,746	17,424	59,116
Future Debenture Payments		1,509	6,380	18,055	24,731	199,691	250,366
Capital Expenditures Subtotal	12,094	12,949	17,634	29,307	32,477	217,115	309,482
Capital Financing							
Development Charges	9,089	9,143	12,704	18,188	21,376	139,538	200,949
User Revenue	3,005	3,806	4,930	11,119	11,101	77,577	108,533
Capital Financing Subtotal	12,094	12,949	17,634	29,307	32,477	217,115	309,482

5.13 With the proposed issuance of debenture financing for the residential and commercial Development Charges shares of the major projects over the forecast, future debt servicing commitments will be funded from future residential and commercial Development Charges. The following graphs provide the number of residential units required to fund future debt servicing costs as compared to the current ten-year residential units planning forecast. It is estimated that the future residential Development Charge debt requirements could require up to 52 per cent of future water residential Development Charge receipts and up to 54 per cent of future sanitary sewerage residential Development Charge receipts. With the passing of Bill 23, Development Charge receipts are projected to decline resulting in a greater percentage of residential units being committed to fund future debt servicing costs.

Table Three – Water Supply System

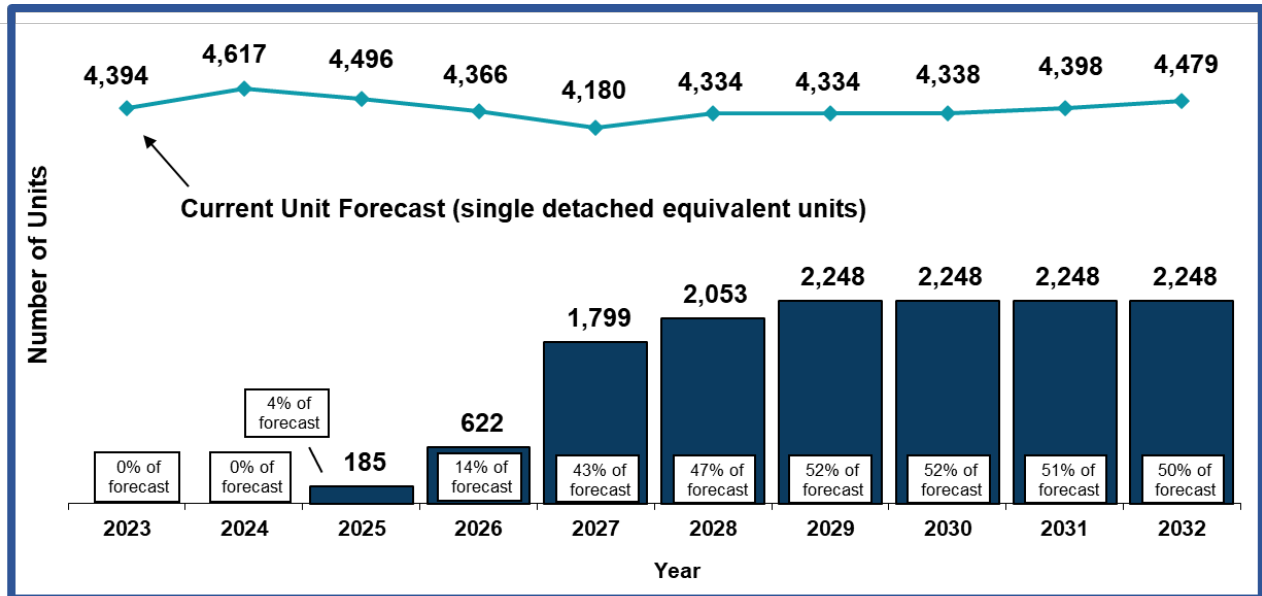
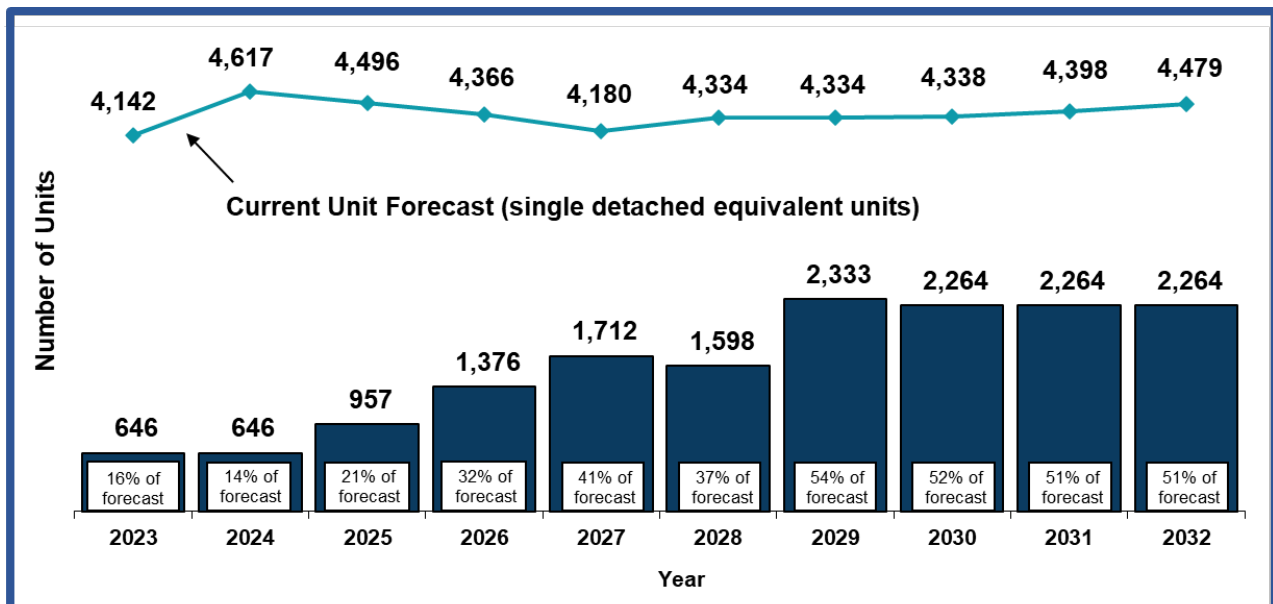


Table Four – Sanitary Sewerage System



5.14 The risk to the Region with proceeding with large expansion projects that require debenture financing is that future development charge receipts are committed to pay future ongoing debt servicing costs. For example, if the Region experiences a significant housing market downturn, and receives less development charge receipts and revenues than forecasted, then there could be reduced Development Charge funding available for future expansion projects as a significant share of Development Charge receipts will be required to fund ongoing debt servicing costs. This is particularly concerning in light of Bill 23.

User Rate Pressures

5.15 The pressures on future user rates over the forecast period as highlighted in the preliminary financing plan are the result of:

- a) Future replacement/rehabilitation needs as identified in the annual asset management report; and,
- b) Significant growth-related capital projects that are required (i.e., plant expansions) where there is a potential development charge revenue shortfall that is projected to be funded by user rates.

5.16 Ongoing review of the capital forecast program, the timing of projects and use of financing strategies, including the use of reserve funds, debenture financing, pressures on user rate revenues and the impacts of Bill 23 will be conducted as part of Region's annual business planning and budget process. Refinements will be based on rate of growth and new developments (impacting both growth related capital requirements and available Development Charge receipts and revenues), evolving asset management needs to balance capital needs with availability of reserve funds, other financing strategies and affordable user rate increases.

6. Climate Change

6.1 The Region's water supply and sanitary sewerage programs are significant components of the Region's corporate climate change initiatives. The Region's water supply and sanitary sewerage capital and operating programs include mitigation and adaptation measures and strategies to address the Region's climate change initiatives.

6.2 The ongoing capital projects being completed to address the asset management needs of the Region also serve to address climate change initiatives (i.e., reduce greenhouse gas emissions and increase the Region's adaptive capacity and resiliency to changes in climate). The following provides a list of capital works that will address climate change initiatives:

- a) Replacement of deficient sanitary sewers to reduce infiltration of groundwater into the sanitary sewer collection system to mitigate flooding, inflow and infiltration;
- b) Upgrades to plants and pumping stations which include electrical upgrades and standby power to operate systems during communications and electrical power failures;
- c) Enhanced erosion protection at creek crossings to protect watermains and sanitary sewer systems;
- d) Continue to advance sustainability as a core element in the design and construction of Regional infrastructure using best practices and innovations developed through in-house research and partnerships with academia;
- e) Energy conservation measures are incorporated into asset management and financial planning processes;

- f) Investigation on recapturing of gases/steam generated from processing activities at the Region's WPCPs to heat plants which reduces greenhouse gas emissions (e.g., Biogas utilization at the Courtice, Corbett Creek and Duffin Creek WPCPs);
- g) Implementation of the recommendations from the Integrated Resource Recovery Studies for Water Pollution Control Plants;
- h) Continued review of district heating and cooling opportunities using sanitary sewerage infrastructure;
- i) Depot expansion and modernization initiatives, including the construction of new depots to replace the existing Oshawa/Whitby and Sunderland depots; and
- j) Energy retrofit and modernization of 101 Consumers Drive, Whitby to optimize space, reduce greenhouse gas emissions and provide energy efficient lighting.

7. Line-by-line Review

- 7.1 As part of the development of the proposed consolidated 2023 Water Supply and Sanitary Sewerage Systems Business Plans and Budget, line-by-line reviews of historical actuals to identify 2023 base budget reductions that do not impact levels of service were completed.
- 7.2 The following base budget savings have been identified and are reflected in the proposed 2023 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget.

Division	Water Supply	Sanitary Sewerage	Total
Works	\$598,000	\$520,000	\$1,118,000
Utility Finance	\$181,000	\$181,000	\$362,000
Corporate Items	\$9,000	\$10,000	\$19,000
Total	\$788,000	\$711,000	\$1,499,000

8. Relationship to Strategic Plan

- 8.1 This report aligns with/addresses the following strategic goal and priorities in the Durham Region Strategic Plan.
- a) Goal 5 Service Excellence – to provide exceptional value to Durham taxpayers through responsive, effective and fiscally sustainable services delivery. By responsibly managing the Region's financial assets, the proposed 2023 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget looks to optimize resources to deliver critical infrastructure and servicing for current and future generations.

9. Conclusion

- 9.1 The 2023 Consolidated Water Supply and Sanitary Sewerage Systems Business Plans and Budget totaling \$508.14 million, require a total of \$246.26 million in user rate revenue (\$122.82 million Water Supply and \$123.44 million Sanitary Sewerage) and can be provided within the overall water supply and sanitary sewerage user rate increase of 4.3 per cent (3.6 per cent Water Supply and 5.0 per cent Sanitary Sewerage) as recommended in Report #2022-F-23. This proposed rate increase results in an annual increase of \$45.92 for an average residential customer. It is critical to note that these two reports are intrinsically linked as any material changes to projects or activities requiring user rate financing will have an impact on the user rates proposed in Report 2022-F-23.
- 9.2 Accordingly, the 2023 Business Plans and Budget for the Water Supply and Sanitary Sewerage Systems are recommended for approval.

10. Attachments

- 10.1 Detailed Consolidated 2023 Business Plans & Budgets for the Water Supply and Sanitary Sewerage Systems are available on-line through the link provided on the December 13, 2022 Finance and Administration Committee agenda or in hard copy by contacting the Finance Department at (905) 668-7711 ext. 2305.

Respectfully submitted,

Original Signed By

Nancy Taylor, BBA, CPA, CA
Commissioner of Finance

Recommended for Presentation to Committee

Original Signed By

Elaine Baxter-Trahair
Chief Administrative Officer