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WATER, WASTEWATER & STORMWATER MANAGEMENT SERVICES 2023 DRAFT OPERATING BUDGET

Published January 23rd, 2023

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WATER, WASTEWATER & STORMWATER

WHO?

The City of Richmond Hill in collaboration with the Region of York provides water wastewater and stormwater services for residents and businesses in Richmond Hill.

Delivery of the water and wastewater program is a shared responsibility between three departments: Planning & Infrastructure, Community Services and Corporate and Financial Services.

WHAT?

Water refers to drinking water. York Region acquires water from the City of Toronto and the Region of Peel, and sells it to the City of Richmond Hill. The City then distributes the water to properties within the City.

Wastewater refers to used drinking water which drains from plumbing (for example sinks, toilets and showers) and enters the sanitary sewer system. Wastewater is collected from individual properties by the City and directed to York Region sanitary sewer mains which take wastewater to the Duffin Creek Water Pollution Control Plant in Pickering for treatment.

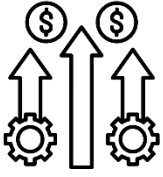
Stormwater is water from rain and snowmelt events that flows over land or impervious surfaces.

HOW?

The Region of York acquires water from the City of Toronto and the Region of Peel. The Region charges the City a wholesale rate and the City passes on these costs to the residents and businesses at a combined retail rate.



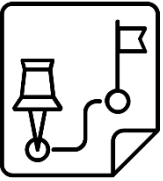
ACCOMPLISHMENTS



Business function improvement utilizing Energov software as part of Site Alteration Permit (infill servicing)



Established an Air Valve inventory and initiated a preventative maintenance program



Maximo – enhanced work order functionality by utilizing GIS Mapping for preventative maintenance and inspection work orders



Expanded the Advance Metering Infrastructure (AMI) from 5 to 17 locations, improving meter reading capability



Continued replacements of ICI water meters to ensure accurate billing of larger water accounts



Transitioned from Stormwater Management fee from a flat rate structure to multi-tiered rate structure based on property characteristics

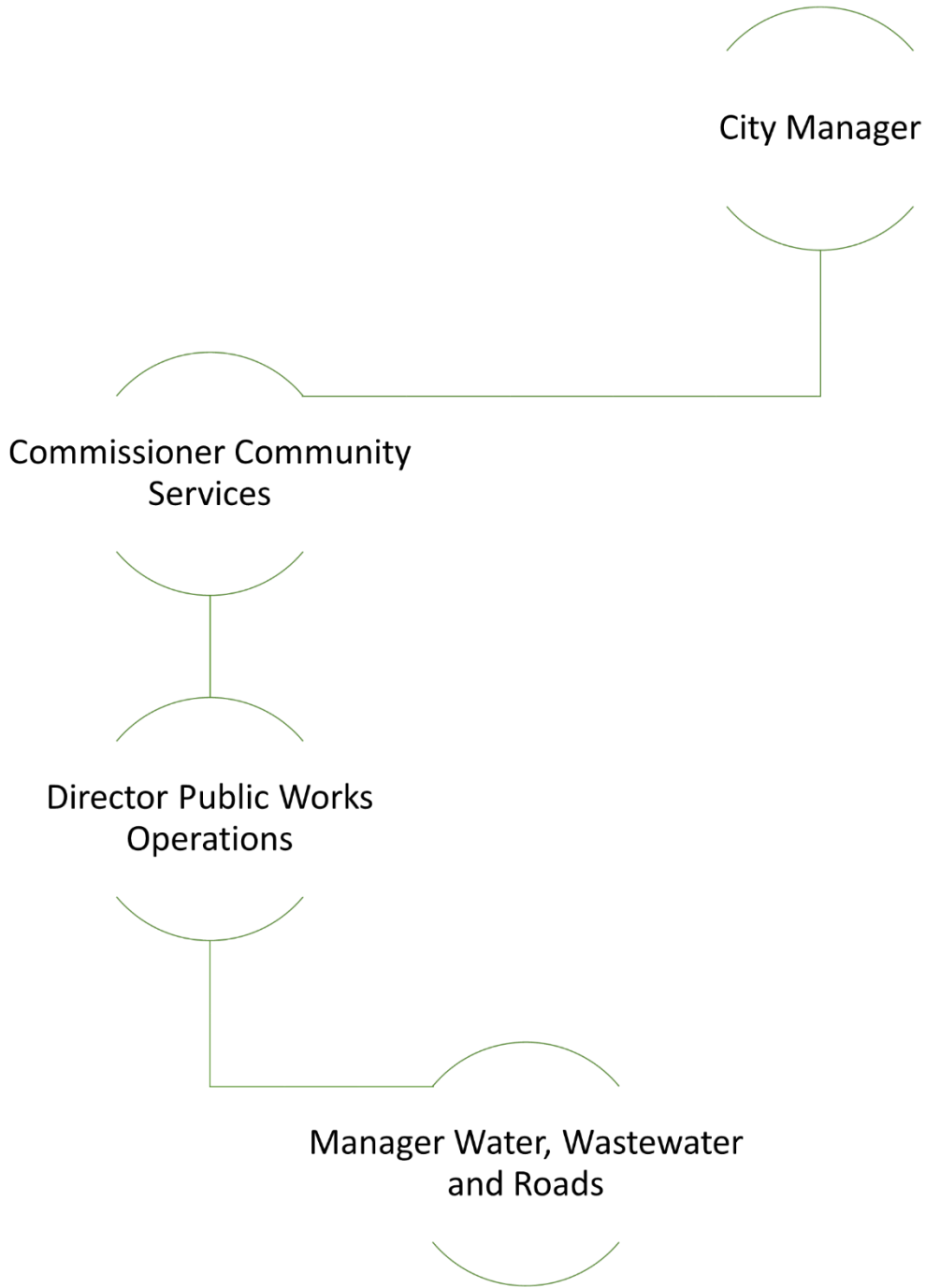


PRIORITIES

- Sanitary Sewer CCTV/Flushing Program – review and enhance the annual CCTV/Flushing preventative maintenance program to ensure it is better aligned to problem areas Residential/Commercial (grease, heavy debris, etc.)
- Inflow and Infiltration Program – Establish priority areas of sanitary sewer for Inflow and Infiltration reduction in collaboration with York Region
- Sanitary pump stations condition assessment to support rehabilitation and repair requirements and assist in the progression of the Asset Management Program
- Further expand Advance Metering Infrastructure (AMI) coverage across the City to improve water metering capability and billing efficiency
- Modernize water revenue billing by implementing a Customer Portal
- Stormwater management funding and rate structure review

HEADCOUNT

Department & Division	2022	2023
	Approved	Draft Budget
Water and Wastewater Services	30	30





WATER AND WASTEWATER

WATER AND WASTEWATER

WHO?

The City of Richmond Hill ensures the community is provided with safe drinking water and safely treated wastewater management. Richmond Hill's Drinking Water Quality Management System and Policy guides the operations and management of our water distribution systems.

WHAT?

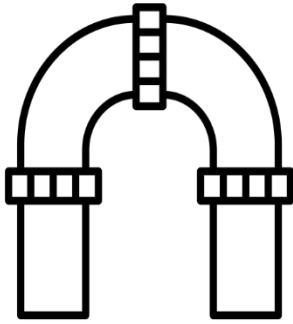
The Public Works Operations Division is responsible for the execution of daily maintenance, inspection, and repairs of the water distribution system, and the wastewater collection system. The Corporate and Financial Services Department is responsible for billings, collections, maintenance of water meters in Financial Services and deals with service inquiries through Access Richmond Hill.

HOW?

City of Richmond Hill aims to deliver a high standard of water quality and prevent health hazards through administration, communication and water quality testing. Always striving to ensure that our service is delivered equitably, efficiently and with excellent customer service to help improve the lives of Richmond Hill residents.



METRICS



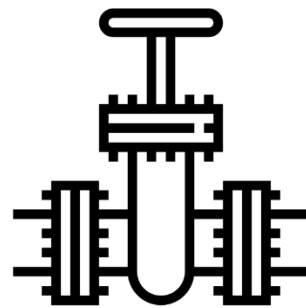
654 Km - Watermain



599 Km – Sanitary Sewer



4,665 - Hydrants



6 – Sanitary Pump Stations

FINANCIALS

2023 Water and Wastewater Budget Highlights

Budget Category	2021 Actual	Preliminary Actuals at Oct 31, 2022	2022 Approved Budget	2023 Draft Budget	Variance (Favourable) / Unfavourable	% Change
Personnel - Full-Time	\$ 3,287,361	\$ 2,602,118	\$ 3,435,900	\$ 3,522,000	\$ 86,100	
Personnel - Casual	-	111,478	129,300	129,300	-	
Water - Regional Charges	24,899,927	17,929,508	26,278,400	28,164,400	1,886,000	
Wastewater - Regional Charges	37,953,443	26,582,021	39,843,000	39,796,800	(46,200)	
Contracts / Services	4,845,319	4,169,558	5,521,300	5,414,300	(107,000)	
Materials / Supplies	775,360	570,118	900,300	904,500	4,200	
Other Expenditures	33,936	41,909	59,600	59,600	-	
Transfer to Operating Fund	5,627,800	4,907,300	5,886,700	6,158,400	271,700	
Transfer to Reserves & Reserve Funds	8,532,700	8,075,000	10,026,300	11,506,400	1,480,100	
Total Expenditures	\$ 85,955,846	\$ 64,989,010	\$ 92,080,800	\$ 95,655,700	\$ 3,574,900	3.9%
Water Supply Revenue	(420,414)	(157,877)	(85,200)	(135,200)	(50,000)	
Water & Wastewater Revenue	(85,292,245)	(60,732,266)	(87,998,800)	(91,365,500)	(3,366,700)	
Transfer from Operating Fund	(608,822)	-	(489,200)	(586,900)	(97,700)	
User Fees	(2,379,856)	(4,390,785)	(2,112,400)	(2,153,200)	(40,800)	
Investment Income	(60,000)	-	(60,000)	(60,000)	-	
Reserves and Reserve Funds	-	-	(60,000)	(60,000)	-	
Recovery from Stormwater	(900,000)	(1,363,000)	(1,275,200)	(1,294,900)	(19,700)	
Total Revenues	\$ (89,661,337)	\$ (66,643,928)	\$ (92,080,800)	\$ (95,655,700)	\$ (3,574,900)	3.9%
Net Budget	\$ (3,705,491)	\$ (1,654,918)	\$ -	\$ -	\$ -	

RATE HISTORY

A 1% Water & Wastewater rate increase generates \$663,100 greater revenues. The 2023 Draft Water & Wastewater Budget proposes a 3.3% combined retail rate increase effective April 1, 2023 consistent with the Water/Wastewater Financial Plan approved by Council in 2019. The budget includes the following:

- a. A proposed combined wholesale rate increase of 3.3% (effective April 1, 2023) from the Region of York for combined Water & Wastewater services;
- b. Greater transfers to the operating fund to reflect increased workflow activity toward Water & Wastewater issues and functions;
- c. Contribution to Repair & Replacement reserve funds to continue to provide for full replacement funding of Water & Wastewater assets.

The following table shows the historical Water and Wastewater rates:

Year	York Region Wholesale Rates						City Retail Rate					
	Water	% Inc.	Wastewater	% Inc.	Combined	% Inc.	Water	% Inc.	Wastewater	% Inc.	Combined	% Inc.
2014	0.8697	7.5%	1.1099	12.0%	1.9796	10.0%	1.3810	5.7%	1.7590	9.9%	3.1400	8.0%
2015	0.9345	7.5%	1.2431	12.0%	2.1776	10.0%	1.4823	7.3%	1.9717	12.1%	3.4540	10.0%
2016	0.9582	2.5%	1.4158	13.9%	2.3740	9.0%	1.5196	2.5%	2.2453	13.9%	3.7649	9.0%
2017	1.0021	4.6%	1.5855	12.0%	2.5876	9.0%	1.6564	9.0%	2.4474	9.0%	4.1037	9.0%
2018	1.1051	10.3%	1.7154	8.2%	2.8205	9.0%	1.8295	10.5%	2.5820	5.5%	4.4115	7.5%
2019	1.2178	10.2%	1.8565	8.2%	3.0743	9.0%	1.9667	7.5%	2.7757	7.5%	4.7424	7.5%
2020 Budget	1.3274	9.0%	2.0236	9.0%	3.3510	9.0%	2.1140	7.5%	2.9840	7.5%	5.0980	7.5%
2020 Actual	1.2178	0.0%	1.8565	0.0%	3.0743	0.0%	1.9667	0.0%	2.7757	0.0%	4.7424	0.0%
2021	1.2178	0.0%	1.8565	0.0%	3.0743	0.0%	1.9667	0.0%	2.7757	0.0%	4.7424	0.0%
2022	1.2580	3.3%	1.9178	3.3%	3.1758	3.3%	2.0316	3.3%	2.8673	3.3%	4.8989	3.3%
2023	1.3623	8.3%	1.9183	0.0%	3.2806	3.3%	2.0986	3.3%	2.9619	6.7%	5.0605	3.3%

Note: Rates shown are on a per cubic metre basis.

VARIANCE DRIVERS

Accounts	Variance (\$)	Variance (%)	Drivers (Explanation)
Personnel - Full-Time	\$86,100	2.5%	Full-time salaries and benefits increased \$73,700 due to step level, benefit rates and general cost of living increases for staff, including a WWW Compliance Coordinator position upgrade for \$12,400
Water - Regional Charges	\$1,886,000	7.2%	3.3% wholesale rate increase from the Region of York for the provision of water and wastewater effective April 1, 2023. The increase in Water and Wastewater Regional Charges reflect January to March 2023 billings from Region of York at the 2022 rate and April to December at the 2023 rate, and are based on forecasted volumes maintained at 2022 levels. In 2023 the combined Water and Wastewater volumes are forecasted to be 20,708,200 (2022 budget -20,840,100) cubic metres, based on previous years' experience
Wastewater - Regional Charges	(\$46,200)	(0.1%)	
Contracts / Services	(\$107,000)	(1.9%)	Contracts decreased \$159,700 in Backwater Valve Subsidy, Environmental Compliance contracts and Insurance contracts based on 3-year trend in spending offset against increased \$52,700 contract fees as a result of transitioning to Advanced Metering Infrastructure (AMI) subscription model to collect water meter reads remotely.
Materials / Supplies	\$4,200	0.5%	
Transfer to Operating Fund	\$271,700	4.6%	Increase transfer to Operating of \$271,700 which includes staffing costs allocated to staff in the Corporate & Financial Services Department providing billing, collection, meter management and customer service and Information Technology Division, Administration Division in Public Works Operations increase is based on recommendations from the Water and Wastewater Financial/Rate Study
Transfer to Reserves & Reserve Funds	\$1,480,100	14.8%	Transfer to Water Rate Stabilization Reserve increased by \$1,288,000 to account for the surplus budgeted for 2023 and Transfer to Water & Wastewater Repair and Replacement Reserve Funds \$192,100 funding for life cycle replacement of Water and Wastewater related infrastructure
Total Expenditures	(\$3,574,900)	3.9%	
Water Supply Revenue	(\$50,000)	58.7%	
Water & Wastewater Revenue	(\$3,366,700)	3.8%	The Water Supply Revenue increased as the proposed residential and business combined retail rate is budgeted to increase by 3.3% effective April 1, 2023
Transfer from Operating Fund	(\$97,700)	20.0%	Transfer from Operating of \$97,700 is due to addition of a new splashpad in 2022 for Ed Sackfield Complex
User Fees	(\$40,800)	1.9%	User Fees of \$40,800 are for the increase in ownership change fees, water collection charge, water meter reading fees and service recoveries to reflect the historical trend in revenues
Recovery from Stormwater	(\$19,700)	1.5%	Transfer from Stormwater increased \$19,700 to cover costs expended under Water & Wastewater Services on behalf of Stormwater Services
Total Revenues	(\$3,574,900)	3.9%	

The table below shows historical and projected volumes:

*Water Volumes
(m3)

Year	Budget	Actual	Variance	Variance (%)
2014	21,904,380	20,962,206	- 942,174	-4.3%
2015	20,954,300	21,112,435	158,135	0.8%
2016	20,954,300	21,558,681	604,381	2.9%
2017	21,113,340	20,164,709	- 948,631	-4.5%
2018	21,153,222	20,279,343	- 873,879	-4.1%
2019	20,885,505	19,499,844	- 1,385,661	-6.6%
2020	20,000,000	20,815,596	815,596	4.1%
2021	20,660,300	20,443,666	- 216,634	-1.0%
2022	20,840,100	20,784,806	- 55,294	-0.3%
2023	20,708,200	-----	-----	

* Estimate



STORMWATER MANAGEMENT SERVICES

STORMWATER MANAGEMENT SERVICES

WHO?

The Stormwater management program that is distributed through three departments. The Planning & Infrastructure Department is responsible for major repair and reconstruction of infrastructure (part of Capital program). The Community Services department maintains & operates sanitary sewer infrastructure, along with storm sewers and stormwater ponds. The Corporate and Financial Services department is responsible for billings, collections, and deals with service inquiries through Access Richmond Hill.

WHAT?

Stormwater runoff comes from rain and from melting snow. It flows into storm sewers, and in some areas to stormwater management ponds. Ponds hold back stormwater and release it slowly into natural streams and rivers. City of Richmond Hill's storm management systems involves operating stormwater ponds, storm sewers and catch basins to store, direct and control stormwater runoff. These efforts protect our community's more than 150 km of streams and rivers, prevents flooding and erosion, and improves water quality.

HOW?

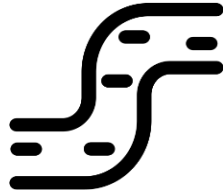
By managing stormwater, Richmond Hill reduces erosion and flooding, protecting both the community and municipal infrastructure, like roads, sidewalks and trails.



METRICS



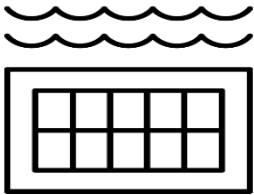
85 – Stormwater Ponds



554 Km – Storm Sewers



18,000 – Catch Basins



122 – Oil and Grit Separators



9,727 – Storm man holes

FINANCIALS

2023 Stormwater Management Service Budget Highlights

Budget Category	2021 Actuals	Preliminary Actuals at Oct 31, 2022	2022 Approved Budget	2023 Draft Budget	Variance (Favourable) / Unfavourable	% Change
Contracts / Services	\$ 822,530	\$ 543,122	\$ 765,200	\$ 771,000	\$ 5,800	
Materials / Supplies	64,164	57,929	102,400	95,000	- 7,400	
Transfer to Operating Fund	1,823,800	1,758,000	2,109,600	2,151,800	42,200	
Transfer to Reserve & Reserve Funds	1,314,600	2,389,000	2,867,300	1,218,700	- 1,648,600	
Transfer to WWW Fund	400,000	1,063,000	1,275,200	1,294,900	19,700	
Total Expenditures	\$ 4,425,094	\$ 5,811,051	\$ 7,119,700	\$ 5,531,400	\$ (1,588,300)	(22.3%)
User Fees	(4,184,527)	(3,334,260)	(6,894,700)	(5,306,400)	1,588,300	
Reserves and Reserve Funds	(375,000)	(187,500)	(225,000)	(225,000)	-	
Total Revenues	\$ (4,559,527)	\$ (3,521,760)	\$ (7,119,700)	\$ (5,531,400)	\$ 1,588,300	(22.3%)
Net Budget	\$ (134,433)	\$ 2,289,291	\$ -	\$ -	\$ -	

RATE HISTORY

The Stormwater Management fee was initially adopted by Council in 2013. The basis of the fee was presented in the Stormwater Management Financing Feasibility Study (SRCFS.13.007). It was also determined that the two-tier flat rate did not adequately account for urban stormwater runoff created by higher density and non-residential (e.g., commercial, industrial) developments. A more equitable and sustainable rate structure was required to reflect the equitable allocation of the rate burden between residential and non-residential rate payers. In 2020, Council approved the new rate structure recommended by staff, distributing the total revenue requirement to recover stormwater related costs by using the total area of the City (excluding exempt land such as schools and places of worship) and applying the impervious area by property type to derive a stormwater rate per square foot. The individual property annual stormwater charge is then calculated by the rate per square foot and the site area of the respective property. Staff implemented this new, more equitable rate structure for billing effective April 2022. For the 2023 budget staff will be reviewing the funding for stormwater management and refining the rate structure model, by reviewing the property classification and land use types to ensure an equitable allocation between residential and non-residential rate payers. The 2023 stormwater management rate structure reflects the capping of the impervious areas for residential to 1 acre and the capping for agriculture land, golf courses and vacant lands to 10 acres.

The following table shows the historical rates:

Stormwater Management Rate History

Property Type	2022 Rates	2023 Rates	% Inc.
Residential	\$ 9.54	\$ 9.54	0%
Commercial/Industrial	\$ 21.02	\$ 21.02	0%
Multi Residential	\$ 21.02	\$ 21.02	0%
Agricultural Land/Farm	\$ 3.20	\$ 3.20	0%
Golf Courses	\$ 4.25	\$ 4.25	0%
Vacant Land	\$ 3.20	\$ 3.20	0%

Rate per 1,000 sq ft/annum

VARIANCE DRIVERS

Accounts	Var (\$)	Var (%)	Drivers (Explanation)
Contracts / Services	\$5,800	0.8%	
Materials / Supplies	(\$7,400)	-7.2%	
Transfer to Operating Fund	\$42,200	2.0%	Increase in transfer to the Operating Fund reflects a phased-in contribution for stormwater operating costs incurred through the Operating budget
Transfer to Reserve & Reserve Funds	(\$1,648,600)	-57.5%	Transfers to the Water Quality Reserve Fund is the net amount available to allocate to the Reserve Fund after factoring stormwater related revenues and expenditures. In 2023, transfers to the reserve fund is decreased by \$1.648 M due to reductions in revenue as a result of capping of areas in the residential category (1 acre), vacant (10 acres), golf (10 acres) and farmland (10 acres), as well as changes to land area classifications.
Transfer to WWW Fund	\$19,700	1.5%	Transfer to the Water & Wastewater Fund represents stormwater operating costs incurred via Water & Wastewater Services
Total Expenditures	(\$1,588,300)	-22.3%	
User Fees	\$1,588,300	-23.0%	Stormwater revenues decreased by \$1.588M. While billing rates stayed the same (2022 rates). The combination of capping of areas in the residential category (1 acre), vacant (10 acres), golf (10 acres) and farmland (10 acres) as well as changes to land area classifications reduced overall revenues.
Total Revenues	\$1,588,300	-22.3%	

The Stormwater Management Rate is a charge that applies to developed and undeveloped land as stormwater runs off both types of land. For residents and businesses on City water, the stormwater rate is applied directly to the water bill. Residents and businesses who are not on City water will receive an annual bill for the Stormwater Management Rate. The funds provide a dedicated sustainable funding source for long-term upkeep of the stormwater system in Richmond Hill.

A photograph of a street intersection with a green overlay containing the text "BUSINESS CASES". The background shows a paved road with white lane markings, a white car on the left, and buildings and utility poles in the distance under an overcast sky.

BUSINESS CASES

Wastewater Compliance Coordinator – Position Upgrade

Overview

In a continuing effort to support sustainability of our infrastructure, a request is being made to increase the hours of work of the Water and Wastewater Compliance Coordinator from a 35 hour to a 40 hour work week.

The Water and Wastewater Section of the Public Works Operations Division in the Community Services Department is comprised of twenty permanent Certified Operators, two Forepersons, two Supervisor and four Technicians. These personnel provide a number of services to residents and customers of the City of Richmond Hill, and are responsible for the execution of daily maintenance, inspection, and repairs of the water distribution system, and the wastewater collection system. This infrastructure includes 654 km of watermain, 599 km of sanitary sewer, 4665 hydrants, and 6 sanitary pump stations. Over the last few year's staff have also taken on maintaining the storm sewer system and associated assets, of which includes 554km of storm sewers, 9727 storm manholes, and 122 Oil Grit Separators. The sustainability of these essential services is the most important function of the many activities performed by this section.

Program Description

Reporting to the Manager Water Wastewater and Road Operations, the Water and Wastewater Compliance Coordinator position has evolved over the last few years and has taken on additional responsibilities of which has led to working closely with staff that work 40 hours per week. Some of the newer programs include the Backwater Valve program, effluent sampling review and Sewer Use Bylaw compliance, OGS (Oil Grit Separators) maintenance and compliance program, and equipment calibration as part of legislative and safety requirements. The Water and Wastewater Compliance Coordinator is also responsible for initiating work orders and maintaining existing database, completing appropriate documentation including data and statistics and is also required to perform site inspections while working closely with CUPE and other technical staff all of which work 40 hours a week. This position is also required to fill in during vacation absences of other technical staff. These extra hours of filling in during vacation or working with 40 hour work seek staff creates overtime spending or banked time. Increasing the Water and Wastewater Compliance Coordinator to a 40 hour a week (SEA Gr.6) will reduce some overtime spending.

Relationship to Council's Strategic Priorities 2020-2022:

This position aligns with Richmond Hills Strategic priorities of fiscal responsibility by providing to our asset management plan, and Balancing Growth and Green by ensuring a resilient Richmond Hill.

Climate Change Considerations:

Climate change is an emerging issue risk to water, sanitary, and storm infrastructure. Increased frequency of flooding, higher operational and infrastructure costs, and structural damage are effects of climate change. Compliance and associated responsibility will provide support to business processes in order to manage infrastructure maintenance and repairs, and any emergency issues should they arise.

Wastewater Compliance Coordinator – Position Upgrade

Comparative Analysis

Position Title	Association	Hours of work week
<i>Water and Wastewater Compliance Coordinator</i>	SEA	35
WWW Supervisor	SEA	40
Water Quality Analyst	SEA	40
Wastewater Technician	SEA	40
Infill Servicing Technician	SEA	40
WWW Operators	CUPE	40

The Water and Wastewater Compliance Coordinator works collaboratively with Technical staff and Water Operators all of which work 40 hours a week.

Analysis of Alternative Approaches

The position upgrade will supplement and assist other 40 hour work week staff in contract management and will allow for increased flexibility in relation to reduced staff availability arising from the accommodation of vacation planning. The risk of not upgrading this position is longer wait time for operators and technical staff during assignments, and increased overtime when assisting with activities performed by CUPE staff.

Cost and Benefit Analysis

The following chart summarizes the cost of upgrading this position. The positions increase cost to be funded from the Water and Wastewater Rates. There is the potential for some overtime spending to be reduced. The annual operating cost associated with increasing the hours of work from 35 to 40 is \$12,400

Wastewater Compliance Coordinator – Position Upgrade

	Current Year (2023) Impact	Full Year (2024) Impact		
Start Date	01-Apr-23			
End Date or Contract Terms	31-Dec-23			
Full Time or Contract	Full Time	Full Time		
CUPE/Admin/SEA/FIRE	SEA - 40 hr	SEA - 40 hr		
Grade	6	6		
Step	5	5		
Annual Salary	\$ 102,000	\$102,900		
Annual Benefit	27,200	28,800		
Operating Costs				
Salaries (Prorated Salary Based on Start)	76,500	102,900		
Benefits	20,500	28,800		
Reduction in Full Time Wages and Benefits (SEA35- 6/5)	-84,600	- 113,800		
Corporate allocation for conference	0	0		
Equipment & Vehicle Rental				
Specialized or mandatory training				
Membership				
Uniforms				
Minor Capital (cell phone and smart phone charges)				
Total Operating Costs	\$12,400	\$17,900		
Funding Source				
Reduction in casual wages & benefits				
Program efficiencies (contracts, consulting, etc)				
Reserve Fund - Specify				
Grants				
Tax Rate	12,400	17,900		
Total Funding Sources	\$12,400	\$17,900		
Difference	0	0		
Capital Costs				
Office Furniture (<i>If Required</i>) (\$7.5K) & desktop with standard software (\$4,800) (Desktop or Laptop Computer, Standard Corporate Software, Soft/Land Line Telephone and Associated Service costs, Data/Telco cable runs (<i>If Required</i>) etc). Rugged Toughbook (\$7,600) with vehicle mount and other accessories (\$1,800). Smartphone & first year licensing/operating costs (\$1,100)				
Office built for Managers and above (<i>If Required</i>) (\$35K)				
Computer hardware/software beyond standard issue				
Vehicle				
Total Capital Costs	\$0	\$0		
Funding Source				
Reserve Fund - Specify				
Grants				
Cash to Capital Reserve	0	0		
Total Funding Sources	\$0	\$0		
Difference	0	0		
Total Operating and Capital Costs	\$12,400	\$17,900		

Richmond Hill