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

TO:	Mayor and Members General Issues Committee
COMMITTEE DATE:	June 28, 2023
SUBJECT/REPORT NO:	Stormwater Funding Review (FCS22043(b)) (City Wide) (Outstanding Business List Item)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Katie Black (905) 546-2424 Ext. 6415 John Savoia (905) 546-2424 Ext. 7298
SUBMITTED BY: **SIGNATURE:**	Mike Zegarac General Manager, Finance and Corporate Services Corporate Services Department

RECOMMENDATION(S)

(a) That the Stormwater Rate Structure as outlined in Appendix “A” to Report FCS22043(b) be approved effective September 1, 2025;

(b) That staff develop the 2025-2034 Rate Supported Budget incorporating the Stormwater Rate Structure;

(c) That property tax levy funding related to stormwater expenditures to be funded by the new stormwater rate structure, be transferred to the Climate Change Reserve and applied to climate change / environmental initiatives in conjunction with the introduction of the Stormwater Rate Structure;

(d) That staffing requirements for the Stormwater Rate Structure once implemented be referred to the 2025 Rate Supported Budget;

(e) That the City Solicitor be authorized and directed to prepare all necessary by-laws, for Council approval, in order to implement Recommendations (a) through (d) of Report FCS22043(b);

(f) That staff develop and report back regarding the implementation of a Stormwater Incentives Program;

(g) That staff develop and implement a communication strategy to advise property owners of the Stormwater Rate Structure to be implemented;

(h) That the single source procurement of AECOM Canada Ltd as external consultants for the Stormwater Funding implementation, pursuant to Procurement Policy #11 – Non-competitive Procurements be approved;

(i) That the General Manager, Finance and Corporate Services, be authorized to negotiate, enter into and execute a contract and any ancillary documents required to procure AECOM Canada Ltd as the consultant to support the implementation of the Stormwater Rate Structure in a form satisfactory to the City Solicitor;

(j) That the implementation of the Stormwater Rate Structure with an upset limit of $500,000, be funded from the Stormwater Reserve (108010);

(k) That the subject matter respecting an assessment of steps and resources required to implement a dedicated user fee for stormwater, be identified as complete and removed from the General Issues Committee Outstanding Business List.

EXECUTIVE SUMMARY

At its meeting January 25, 2023, Council approved the following direction with respect to the Stormwater Funding Review (Review):

(a) That staff be directed to report back to the General Issues Committee (GIC) in the second quarter of 2023 on the steps and resources required to implement a dedicated user fee for stormwater services, with an implementation date no later than January 2025; and

(b) That, in addition to the guiding principles that may be adopted by Council through Report FCS22043(a), staff be directed to include all aspects of the City's stormwater services to be funded from the revenues associated with this dedicated user fee.

The purpose of Report FCS22043(b) is to provide the findings of the Review and to present a recommended stormwater rate structure to be implemented as of September 1, 2025.

The City of Hamilton's stormwater management program helps protect the public, private property, infrastructure and the environment from flooding, erosion and poor surface water quality. Currently, the City primarily funds its stormwater management program through its water and wastewater utility revenues. That means that properties contribute to stormwater services based on the amount of municipal potable water that is used.

The City is investigating the viability of implementing a more equitable stormwater funding model. This will ensure the City adheres to Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure, which requires municipalities to have sustainable funding mechanisms for key assets.

Guiding Principles, approved by GIC in November 2022, have formed the foundation of the Review. Table 3 of Report FCS22043(b) found in the Historical Background section provides a brief description of what the principles are intended to achieve. A successful stormwater rate structure will result when an appropriate balance is achieved between the various principles being considered. Under a roster assignment, AECOM Canada Ltd (AECOM) has been engaged to conduct the Review.

The Review entailed an assessment of Hamilton's current stormwater funding model and a variety of stormwater funding structures utilized by different municipalities in Ontario. The various funding models have been assessed for alignment against the Guiding Principles (refer to AECOM's Review report attached as Appendix "C" to Report FCS22043(b)).

Table 1 of Report FCS22043(b) provides the timeline for the Review that, based on staff recommendations, would culminate with the implementation of a stormwater rate structure in September 2025.

Table 1: Review Process Steps Timeline

Phase	Timeline	Process Step
Phase One	September 2022	Retained AECOM Canada Ltd (AECOM) through the use of the Roster and City Policy # 9 – Consulting and Professional Services to support Review
	October 2022	Developed Guiding Principles for Council's consideration
	November 30, 2022	Report to GIC obtained approval of Guiding Principles to be used to evaluate stormwater funding models and develop alternative stormwater rate structures for Council's consideration
	Dec 2022 - Jan 2023	AECOM conducted Stormwater Funding Review
	February 2023	Council Education Sessions – provided information related to how the City's stormwater funding structure compares with other municipalities and best practices
	May 2023	Provided information presentations to Environment Hamilton and the Hamilton Industrial Environmental Association
	Feb – May 2023	Incorporated feedback from Council sessions to develop a recommended rate structure
	June 28, 2023	Report to GIC with recommended stormwater rate structure for Council's consideration
Phase Two	July 2023 to Q1 2025	Assuming Council approval of a stormwater rate structure, coordinate with new water billing solution to integrate required stormwater billing and implement a plan for customer communications
	July – December 2023	Community Engagement with Stakeholders and the creation of a Financial Incentive program for property owners
	Spring 2024	Development of a Review / Appeal process
	Winter 2024	2025 Rate and Tax supported budgets incorporating revised stormwater rate structure
	September 1, 2025	Revised Stormwater Rate Structure implemented

Hamilton's stormwater program is currently funded mostly through combined water / wastewater / stormwater rates and to a much lesser extent by property taxes, with development charges contributing to stormwater infrastructure related to new development.

As the City has experienced financial challenges under the present funding system, the intent of the Review has been to identify and evaluate alternative stormwater funding structures to recover stormwater related costs reflected in the annual rate and tax supported budgets (i.e. revenue neutral). The Review has not evaluated alternative stormwater funding structures with an objective of increasing total revenues. Alternative stormwater funding structures may impact various customer sectors differently with the associated impacts to be identified for Council by the Review. Additional information can be found under the Analysis and Rationale for Recommendations section of Report FCS22043(b).

The target revenue is comprised of the 2025 forecasted stormwater related expenditures in both the rate and tax operating budgets. As directed by Council on January 25, 2023, all aspects of the City's stormwater services are to be funded from the revenues associated with the dedicated stormwater fee. As such, those stormwater related expenditures funded by the general tax levy (principally, funding for local Conservation Authorities and road maintenance associated with culverts, ditches and catch basins), as well as, associated costs required to administer the new user fee have been included in the 2025 target revenue amount.

Staff is recommending that property tax levy funding related to stormwater expenditures to be funded by the new stormwater rate structure, be transferred to the Climate Change Reserve and applied to climate change / environmental initiatives in conjunction with the introduction of the Stormwater Rate Structure.

Stormwater Rate Structure

As per AECOM's review (refer to Appendix "C" to Report FCS22043(b)), an evaluation of seven stormwater fee models has resulted in a recommendation for the City to adopt the Single Family Unit (SFU) stormwater fee structure. The recommendation reflects that the SFU model most closely aligns with the Guiding Principles.

The recommended rate structure would divide properties into two categories:

(i) Residential (low to medium density)
(ii) Industrial, Commercial and Institutional (ICI), Mixed Use properties and high-rise Residential buildings

For additional information on the proposed Stormwater Rate structure refer to Appendix "A" to Report FCS22043(b).

Residential (Low to Medium Density)

Low to medium density Residential properties will be further divided into three categories according to their property type. The stormwater charge per dwelling unit for a given category is calculated based on the average amount of impervious area for properties within that category. All single family detached dwellings (Dwellings) would fall into the

same category and would, therefore, pay the same amount regardless of size or location. The total Residential impervious area (single family residential plus multi-residential) represents 45% of the total City's impervious area and, therefore, will contribute 45% of the total stormwater funding revenue. The remaining 55% would come from all other properties (ICI and mixed use properties).

Appendix "A" to Report FCS22043(b) outlines various residential categories and corresponding assigned SFU fee factors. Recommendation (a) of Report FCS22043(b) seeks Council's approval of the recommended stormwater rate structure. The 2025 stormwater rate charges will be presented for Council's consideration during the 2025 Rate Supported Budget process.

Residential (low to medium density) property types have been grouped into three SFU categories with a corresponding assigned fee factor with a single family detached home representing a base SFU factor of one unit. Similarly, semi-detached and town homes would have an assigned SFU factor of 0.50 or 50% of the applicable fee of a single family home. The representative property categories are derived from classes provided by the Municipal Property Assessment Corporation (Corporation) that is responsible to accurately assess and classify all properties in Ontario.

Of particular note is the residential SFU outside the urban boundary where the average impervious area is more than double that of the residential impervious area in the urban boundary. This analysis would suggest that rural residential SFU should effectively pay double that of a residential SFU within the urban boundary. However, staff supports a universal fee structure for residential single family dwellings regardless of location within the City. For further details, refer to AECOM's analysis, Appendix "C" to Report FCS22043(b).

Industrial, Commercial and Institutional, Mixed Use properties and High-Rise Residential Buildings

ICI, mixed use properties and high-rise residential buildings will be charged based off their impervious surfaces as measured using the most recent aerial imagery available to the City. Impervious areas on properties represent the amount of stormwater runoff they contribute to the City's stormwater management system. Impervious surfaces are defined as those surface areas that generally contribute a higher amount of runoff compared to soft surfaces. Impervious surfaces include buildings, paved areas, driveways, walkways, compacted gravel laneways, pavers, etc. Soft areas include grassed surfaces, soil, treed areas, etc. Properties classified as undeveloped land would be excluded from a stormwater fee, because they do not contain any impervious or hard surface and, therefore, do not contribute to runoff. Within the ICI sector, there are clear differences in the permeability of some properties, which also affects stormwater runoff.

For non-residential and high-rise residential buildings, the proposed fee structure will be based on the concept of billing units. A billing unit represents the average impervious area on a single family detached residential property (approximately 291.00 square

metres) being designated as one billing unit. To calculate the total stormwater charge, the total impervious area for a property is divided by the 291.00 square metres to give the total number of billing units. The number of billing units of the property is then multiplied by the monthly charge per billing unit.

If implemented, the proposed dedicated stormwater fee would apply to virtually all developed properties within the City and, therefore, would include several thousand properties currently not contributing to the program by virtue of not being connected to the City's water and wastewater system (examples include parking lots, storage facilities and properties outside the urban boundary without access to the municipal water and / or wastewater systems). These properties will require "stormwater only" accounts to be set up as they lack a water / wastewater invoice to add the stormwater fee.

While the Review has not evaluated alternative stormwater funding structures with an objective of increasing total revenues, the direction from Council was that all aspects of the City's stormwater services is to be funded from the revenues associated with the dedicated stormwater user fee. As previously noted, the current 2025 rate supported stormwater program (approved in principle) is approximately $40.6 M, whereas all aspects of the stormwater program funded by both rate and general tax levy is estimated to be approximately $54 M in 2025. Table 2 of Report FCS22043(b) provides an array of different residential water user profiles in the City with the estimated annual water and wastewater / stormwater bill under both the current rate structure and the potential dedicated stormwater user fee. Profiles in Table 2 incorporate the combined water and wastewater rate increases that have been approved in principle for 2024 and 2025.

Table 2: Residential Profile Impact Analysis

Residential Type	**Single Family Dwelling**			**Townhome**	**Detached Home not on City System**
Water User Profile	Average Residential User	Low Water User (Single Occupant)	Large Water User (Multi Generational Home)	Average Townhome User	N/A
Meter Size	meters < 25mm				N/A
Annual Consumption	200m3	100m3	300m3	170m3	N/A
Forecast Monthly SW Fee	$ 14.20	$ 14.20	$ 14.20	$ 7.10	$ 14.20
Current Annual WWW Bill	$ 1,061.50	$ 684.70	$ 1,532.50	$ 920.20	N/A
Restated WWW Bill, 2025	$ 937.55	$ 599.95	$ 1,359.55	$ 810.95	N/A
WWW Bill, Net Change	**$ (123.95)**	**$ (84.75)**	**$ (172.95)**	**$ (109.25)**	**N/A**
Annual Storm Bill	$ 170.40	$ 170.40	$ 170.40	$ 85.20	$ 170.40
Annual Net Change	**$ 46.45**	**$ 85.65**	**$ (2.55)**	**$ (24.05)**	**$ 170.40**
Annual Net Change %	**4.4%**	**12.5%**	**(0.2%)**	**(2.6%)**	**N/A**

AECOM has been retained under a Roster assignment to conduct the Stormwater Funding Review with their findings presented within Appendix "C" to Report FCS22043(b). In order for the recommended stormwater rate structure to be implemented efficiently, staff is recommending continuing to utilize AECOM as the primary consultant through the implementation phase. AECOM has an experienced team who have completed stormwater funding studies and / or stormwater rate implementations for several Ontario municipalities including: Kitchener, Guelph, Mississauga, Markham, Ottawa, Waterloo, Stratford, Sault Ste Marie, Thunder Bay, Barrie, Brantford, Ajax and Sudbury.

Alternatives for Consideration – See Page 22-23

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: The total cost of the dedicated stormwater fee implementation with an upset limit of $500 K will be funded from the Stormwater Reserve (108010). The cost of the Stormwater Fee Implementation phase includes continued support for consulting services by AECOM and for staff to manage and implement the dedicated fee. The Stormwater Reserve (108010) has sufficient funds to support the Review and related staffing costs with a 2022 year-end balance exceeding $6.0 M.

Staffing: If Council approves the implementation of a stormwater rate structure for September 2025, temporary staff will be required at various times throughout the implementation phase to work with the consultant resource.

Legal: Under the authority of Sections 9, 10, 11 and 391 of the *Municipal Act, 2001*, the City has the authority to charge a user fee to cover the cost of a service, including stormwater management services. A key consideration is to ensure that there is a connection between the amount of the user fee and the cost of the service being provided, such that it is not categorized as a tax. Another key consideration is that the by-law to be drafted will include provisions allowing review/appeal of proposed stormwater assessments on the basis that the property is assessed too high as well as the existence of possible legal exemptions from assessment. This method is used in a number of other municipalities and was revealed during the review of best practices among the by-laws of similar municipalities identified by the consultant. Advantages of this approach are that it is unnecessary to determine all possible exceptions and possible exemptions at the time of by-law passage, with the associated benefit that the by-law will automatically adopt and comply with legislative amendments and legal rulings as and when they occur

Legal Services will be engaged during the stormwater fee implementation.

As Report FCS22043(b) deals with the approval of a policy framework for imposing stormwater fees, public notice has been given under the City's Public Notice Policy By-law 07-351.

HISTORICAL BACKGROUND

Hamilton's stormwater program is currently funded mostly through combined water / wastewater / stormwater rates and, to a much lesser extent by property taxes, with development charges contributing to stormwater infrastructure related to new development. Prior to 2004, the stormwater program was funded primarily by property taxes.

In June 2022, Council directed staff to report back with proposed Guiding Principles for Council's consideration that would direct the evaluation of alternative stormwater rate funding structures as part of a Stormwater Funding Review (refer to Report FCS22043 for details).

As such, AECOM was retained under a Roster assignment to conduct the Stormwater Funding Review. AECOM has an experienced team who have completed stormwater funding studies and/or stormwater rate implementations for several Ontario municipalities including: Kitchener, Guelph, Mississauga, Markham, Ottawa, Waterloo, Stratford, Sault Ste Marie, Thunder Bay, Barrie, Brantford, Ajax and Sudbury.

Guiding Principles approved by GIC in November 2022 have formed the foundation of the Review. Table 3 of Report FCS22043(b) provides a brief description of what the Principles are intended to achieve. A successful stormwater rate structure will result when an appropriate balance is achieved between the various principles being considered.

The Review entailed an assessment of Hamilton's current stormwater funding model and a variety of stormwater funding structures utilized by different municipalities in Ontario. The various funding models have been assessed for alignment against the Guiding Principles (refer to AECOM's Review report attached as Appendix "C" to Report FCS22043(b)).

Table 3: Guiding Principles

Guiding Principle	Description of Intent
Fairness and Equity	Customer contributions are proportional to their impact on the system and the cost to run the system (i.e., user-pay). User fees are non-discriminatory amongst customers and sectors.
Climate Resilient and Environmentally Sustainable	Encourages customers to become more resilient to climate change through adoption of on-site controls to reduce run-off, while providing the City with funding needed to increase system-level stormwater resiliency and protect

	natural resources and waterbodies from the impacts of stormwater and the harmful pollutants it carries.
Affordable and Financially Sustainable	Provides sustainable, predictable and dedicated funding. Uses full cost pricing to meet entire stormwater revenue needs at the City's desired level of service. Allows for regular fee reviews to keep pace with changes in the cost-of-service delivery or desired service levels. Allows the City to address infrastructure deficiencies and unfunded liabilities. Considers the financial impact on various customer sectors and is comparable with other municipalities.
Justifiable	Residents and businesses understand how much they contribute to stormwater management and for what the money is being used. Customers have been consulted and involved in the decision-making process, particularly those that will be most affected. Consistent with best practices and applicable laws in order to guarantee that the funding structure is justifiable and transparent if challenged.
Simple to Understand and Manage	Should be readily understood by staff, Council and customers. System is efficiently maintained by City's staff.

The City of Hamilton's stormwater management program helps protect the public, private property, infrastructure and the environment from flooding, erosion and poor surface water quality. Currently, the City primarily funds its stormwater management program through its water and wastewater utility revenues. That means that properties contribute to stormwater services based on the amount of municipal potable water that is used. The City is investigating the viability of implementing a more equitable stormwater funding model. This will ensure the City adheres to Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure, which requires municipalities to have sustainable funding mechanisms for key assets.

Stormwater is water that comes from rain and melted snow that flows over land and into storm drains, ditches, creeks and lakes. In natural landscapes, stormwater is soaked up like a sponge, which then nourishes plants and slowly replenishes creeks, lakes, wetlands and aquifers. In more urban areas, impervious surfaces such as asphalt, concrete and rooftops prevent stormwater from naturally soaking into the ground replenishing aquifers and contributing to creek base flows during dry periods. Instead, the water runs quickly into storm drains and sewer systems and then to our creeks and lakes. These hard surface areas create more stormwater runoff and carry more pollutants, such as oil, grit, nutrients and litter into creeks and lakes.

Since a lot of the City's land is covered in hard surfaces, water cannot soak into the ground in the same way as natural areas. If stormwater cannot soak into the ground, it runs off into the stormwater system. The stormwater system costs money to build, operate and maintain.

The City's stormwater management system protects the health and safety of the public, property (private and public) and the environment by managing the quality and quantity of stormwater. Stormwater management also helps reduce the potential for flooding and erosion. The City is responsible for managing stormwater within its jurisdiction, a program that includes planning, constructing, operating and maintaining natural and engineered infrastructure. The City's stormwater management system includes drains (catch basins), sewers, ditches, ponds, watercourses, culverts etc. These assets all require a funding source for maintenance, repairs and replacement (at the end of their service life).

The City has been an active participant in the Hamilton Harbour Remedial Action Plan since its inception in the 1980's and has invested over $500 M to build or improve point-source water / wastewater / stormwater infrastructure to assist in delisting Hamilton Harbour as an Area of Concern. With these investments completed or progressing as planned, this shifts the primary harbour impact to non-point watershed sources of pollution. The City's Watershed Action Plan will endeavour to minimize the impacts of the City's non-point source pollution such as road run-off, road salt, sediment from construction sites, golf course operations, etc.

There are many different pressures on the stormwater system: urbanization, aging infrastructure, greater understanding of environmental impacts and the increasing impacts of climate change. Without proper financing and preventative maintenance, there is potential for disruptive failures and costly repairs.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

Report FCS22043(b) proposes a stormwater fee structure for the consideration of Council that supports the principle of a sustainable user-pay stormwater program.

The adoption of a dedicated Stormwater Fee will help to ensure that the City adheres to Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure, which requires municipalities to have sustainable funding mechanisms for key assets.

RELEVANT CONSULTATION

Staff in the City Manager's Office (Communications), Corporate Services (Legal Services), Public Works (Hamilton Water) and Planning and Economic Development departments have been consulted and support the recommendations of Report FCS22043(b).

In May 2023, presentations from staff and AECOM were provided to Environment Hamilton and the Hamilton Industrial Environmental Association, along with their associated members / networks.

ANALYSIS AND RATIONALE FOR RECOMMENDATIONS

Stormwater Charge Overview

The recommended stormwater management funding model that has been developed is based on the establishment of a dedicated stormwater charge intended to recover the full costs of the City's stormwater management program. The stormwater charge is premised on the impact properties have on the City's stormwater management system. As such, the model is based on properties' impervious (hard surface) areas as a representation of the amount of stormwater runoff they contribute to the City's stormwater management system. If approved, the model will remove the amount currently paid by rate payers for stormwater management from the water and wastewater rate, and the amounts paid by taxpayers for catch basin / culvert maintenance and conservation authority levies. The proposed stormwater charge will be a separate dedicated charge on the utility bill. With the establishment of a dedicated stormwater charge the water and wastewater rates charged to consumers would be restated and for the average residential consumer their 2025 water / wastewater costs would decrease by approximately 12%.

The stormwater charge model has been developed as a direct way to pay for stormwater management. The stormwater charge would be shown as a separate line item on existing utility bills and rate payers would clearly see how much they are paying for the City's stormwater management services. The stormwater management program's continued funding through the stormwater charge will be determined by Council annually during each budget process.

The basic calculation for a stormwater rate is simply the municipal stormwater management program expense divided by the number of billing units within the municipality. The City's consultant is recommending the number of billing units to each property be allocated based on their portion of Hamilton's total impervious area.

Staff is recommending the SFU fee structure for a dedicated stormwater fee. Residential properties (low to medium density) are charged based on averages of different residential types. Non-residential properties, mixed use, as well as, high-rise residential buildings will be charged based on actual measured impervious area using aerial photography. A statistical sampling of measured impervious area for single family detached homes has been performed to determine the average SFU size (i.e., square meters of impervious area for the average single family detached home). The average SFU size becomes the base billing unit with one stormwater billing unit assigned to each single family detached home.

Fractional billing units are assigned to other residential property types based on statistical sampling of their measured impervious area. Multi-family residential properties, such as townhouses, have a smaller footprint than single family detached homes and would, therefore, be charged less than single family detached homes. Given the wide variability in impervious area statistics for non-residential, mixed-use properties and high-rise

residential buildings, the impervious area for these types of properties is measured individually. The charge for these properties is determined by dividing the measured impervious area by the average SFU size.

The intent is for Hamilton's stormwater charge to be administered through the existing utility bills at the same frequency used to bill for water and wastewater services. Virtually, all developed properties would receive a stormwater charge, including those without water meters and accounts that do not consume water. Where necessary, staff would administer "stormwater charge only" bills (i.e., for properties that do not receive water / wastewater utility bills, such as some parking lots, storage facilities and properties outside of the municipal water and / or wastewater systems).

Hamilton Rate Supported Financial Model

The current rate supported financial model approved by Council is premised upon the objective that capital and operating programs are fully self-funded and financially stable, without excessive year-over-year fluctuations in the charge over the long term.

The introduction of a dedicated stormwater charge would require separating the stormwater management operating and capital programs and their funding from the current water and wastewater / stormwater financial model, with the premise that the total of the two components would remain revenue neutral because funding is premised on cost recovery. Stormwater management capital and operating programs would be funded by the stormwater charge, while all other water and wastewater programs would continue to be funded by the water and wastewater rates. No additional revenue would be generated from the implementation of a stormwater charge than is already provided for in the Rate Supported 10-year operating and capital forecast and the amounts funded by the tax supported budget related to catch basin / culvert maintenance and conservation authority levies.

The analysis presented in Report FCS22043(b) is based on an assumed implementation in 2025 with a projected stormwater charge cost recovery of approximately $54 M for that year to cover the cost of the stormwater management operating and capital program. By removing stormwater management funding from the water and wastewater rate, the water and wastewater rates would correspondingly decrease. The average residential user would see a reduction of 2025 water / wastewater costs of 12%.

Proposed Stormwater Charge Rate Structure

The model developed for Hamilton will divide properties into two categories:
(i) Residential (low to medium density); and (ii) Industrial, Commercial and Institutional, Mixed Use properties and High-Rise Residential buildings. Residential will be further divided into three categories according to their property type with the associated stormwater charges calculated based on the average amount of impervious area for properties within each category as illustrated in Table 4.

Table 4: Stormwater Charge Categories

Category	Number of Categories Based on Property Type
Residential (low to medium density)	3
Apartment and Condominium Buildings	None (individualized calculations)
Industrial, Commercial and Institutional	None (individualized calculations)
Mixed Use Properties	None (individualized calculations)

AECOM has used an analysis method to determine the impervious surface areas across the entire City using aerial photography. Impervious areas on properties represent the amount of stormwater runoff they contribute to the City's stormwater management system. Impervious surfaces are defined as those surface areas that generally contribute a higher amount of runoff compared to soft surfaces. Impervious surfaces include buildings, paved areas, driveways, walkways, compacted gravel laneways, etc. Soft areas include grassed surfaces, soil, treed areas, etc. The analysis did not assess topography, soil types or other property characteristics because doing so would substantially increase the difficulty and cost of analysis. The surface analysis methods employed in Hamilton are similar to those adopted in other municipalities that have implemented stormwater charges.

Table 5 of Report FCS22043(b) illustrates the results of AECOM's analysis for all categories. The impervious surface proportion for each category is equal to the corresponding funding allocation for each category. For example, Residential properties account for 45% of hard surfaces on all properties across Hamilton and, therefore, 45% of stormwater charges are allocated to the Residential property category.

Table 5: Impervious Area by Property Category

Property category	Number of Parcels	Estimated Impervious Area (m2)	Dwelling Units (d.u.)	Impervious surface area proportion
Residential (Includes Apartment and Condominium Buildings)	147,617	47,592,440	213,329	45%
Industrial, Commercial and Institutional	7,719	48,100,000	n/a	55%
Mixed Use	4,244	8,500,000	2,875	
Miscellaneous	738	800,000	3,470	
Undeveloped	5,058		n/a	
Total	**165,376**	**104,992,440**	**219,674**	**100%**

As per Table 6, residential properties will be grouped into one of four residential classes. The first three classes calculate a stormwater fee based on the corresponding assigned SFU factor. For example, if the SFU rate was $14.20/month a single family detached home would be charged $14.20 on their monthly water / wastewater / stormwater utility bill. Whereas each unit in a fourplex would each be billed $3.55/month for their stormwater fee ($14.20 SFU Monthly Fee/4 units). The fourth class is dedicated to residential condo or multi-family high-rise buildings. The fee for these residences is based on their impervious area and calculated identical to how ICI properties are charged.

Table 6: Residential Stormwater Categories

Representative Property	Number of Parcels	Assigned SFU Factor
Residential SFD (in Urban Boundary)	113,597	1.00
Residential SFD (outside Urban Boundary)	9,309	1.00
Residential Link Home	1,239	1.00
Residential Condo - Standard - Detached	31	1.00
Residential Semi Detached	6,838	0.50
Residential Townhouse (Freehold)	11,722	0.50
Residential Multifamily - Towns	143	0.50
Residential Condo - Standard - Towns	402	0.50
Residential Duplex	2,210	0.50
Residential Triplex	801	0.30
Residential Fourplex	272	0.30
Residential Fiveplex	87	0.30
Residential Sixplex	134	0.30
Residential Condo - Standard - Building	149	assessed individually
Residential MultiFamily - Building	683	assessed individually

Proposed Stormwater Charge Program Components

In the development of an implementation plan for a stormwater charge, staff considered several additional stormwater charge program components. This section will outline what these additional components would entail at a high level, although the details of each, if any, would have to be determined as part of the implementation of a stormwater charge in accordance with any decision by Council.

Requests for Review / Appeal

Requests for review / appeal may arise from residential customers who believe they have received an inaccurate stormwater charge. For example, customers assigned a residential property type category and feel as though their property has been assigned an incorrect SFU factor. City staff would process the application, conduct the review / appeal and update the customer with the result.

Similar recourse would exist for ICI, mixed use, or high-rise residential building properties. However, the review / appeal requests would require evidence that the calculation of impervious area on the property (on which the stormwater charge is based) is incorrect. The review / appeal process would also include any instance where a property owner feels they are entitled to a legal exemption.

Incentive Programs

Incentive programs are increasingly a part of a comprehensive stormwater rate structure to improve equity, provide incentives to implement and maintain on-site stormwater measures and advance environmental objectives. The basic principle in developing an incentive program is that credits / rebates could be offered to landowners that help reduce the load on the City's stormwater management system. Property owners who reduce the amount of stormwater runoff or improve the quality of the stormwater runoff that discharges from their property into the municipal stormwater management system and / or surrounding bodies of water may be eligible for a credit / rebate. If credits are to be given, the methodology for calculation of the credit must be determined. Credits are generally based on reduction of impact or reduction of cost of service and evaluated on approved flood prevention (quantity) and pollution reduction (quality) controls.

ICI, Mixed Use properties and High-Rise Residential Building Properties

The purpose of an incentives program will be to account for and encourage on-site stormwater management. Staff intend to use various criteria during the formulation of the incentives program such as: are the works quantifiable; are the results verifiable; and is the program justifiable and easy to implement.

Quantification of on-site stormwater management is typically demonstrated through the preparation of a stormwater management report prepared by a professional engineer and allows staff to understand how stormwater runoff is being retained and managed on a property. These reports, in turn, would allow staff to understand the impact of properties on the municipal stormwater system. Typical on-site stormwater management practices include low impact development / green infrastructure (e.g. permeable pavement, bioswales, green roofs, etc.), stormwater ponds, underground detention tanks and drainage inlet controls, among others. Results of on-site stormwater management would need to be verified to ensure the work has been properly installed and is functioning as designed and in perpetuity.

An incentives program is justifiable if the impact of the on-site stormwater management works has a significant and positive impact on the City's stormwater management system relative to the costs associated with administering the program. As with other components of this stormwater charge model, staff will strive to keep the administrative burden and associated costs of an incentives program to a minimum.

Residential Properties

On-site stormwater management is typically demonstrated through the preparation of a professional engineer's stormwater management report. Requiring such a report for a residential property would be unreasonable given its associated costs relative to a potential incentive. Given the large number of residential properties within the City (approximately 147,000), verification of even a small portion would be extremely expensive for the City. Moreover, further verification in future years would be necessary to ensure that the equipment or constructed works remain in good working order.

If the recommendations in Report FCS22043(b) are approved, staff would work with AECOM and stakeholders on a credit program development for ICI, mixed-use and high-rise residential building properties, as well as, an incentive program for residential (low to medium density) properties and report back to Council with the recommended program.

AECOM has advised that cost recovery implications from incentive programs for ICI, mixed-use and high-rise residential building properties, as well as, residential properties tend to be account for 3% of the overall program cost. For 2025, the estimated cost for incentive programs is approximately $1.6 M per year and has been included in the overall funding structure model.

Proposed Stormwater Charge Impact Analysis

Staff conducted an impact analysis to get a better understanding of the potential impacts of the stormwater charge model on all property types. Generalizing the results of the impact analysis is complicated by the fact that there are several variables that affect the result, namely, impervious area, property category and water consumption and assessed value of the property. Water consumption is a factor in the analysis because the stormwater charge model requires the separation of the portion paid for stormwater management currently embedded in the water / wastewater rate, thereby, resulting in the wastewater / stormwater fees decreasing upon implementation.

At a very general level, the analysis demonstrates that small properties with higher water consumption would generally have a net decrease on their utility bill, while large properties with low water consumption would generally have a net increase.

For analysis purposes, staff utilized water consumption history data from 2022 and assumed 2025 water / wastewater rates that have been approved, in principle. The impact analysis compares 2025 costs with and without the recommended stormwater

charge and incorporates the reduction of water / wastewater rates when the stormwater fee becomes effective. It should be noted Hamilton's unique block water and wastewater rate structure remains applicable to residential accounts with meters less than 25mm in diameter size.

Residential Impact Profile Analysis

Table 7 to Report FCS22043(b) reflects the net impact of implementing the recommended stormwater fee considering various water consumption profiles, connection to the municipal water system and various property types. For example, a property with average water consumption of 200m3 per year with a water meter <25mm would have a net annual increase of $46, whereas, a town home with annual consumption of 170m3 would have a net annual savings of approximately $24.

Profiles in Table 7 incorporate the combined water and wastewater rate increases that have been approved, in principle, for 2024 and 2025.

Table 7: Residential Impact Profile Analysis

Residential Type	**Single Family Dwelling**			**Townhome**	**Detached Home not on City System**
Water User Profile	Average Residential User	Low Water User (Single Occupant)	Large Water User (Multi Generational Home)	Average Townhome User	N/A
Meter Size	meters < 25mm				N/A
Annual Consumption	200m3	100m3	300m3	170m3	N/A
Forecast Monthly SW Fee	$ 14.20	$ 14.20	$ 14.20	$ 7.10	$ 14.20
Current Annual WWW Bill	$ 1,061.50	$ 684.70	$ 1,532.50	$ 920.20	N/A
Restated WWW Bill, 2025	$ 937.55	$ 599.95	$ 1,359.55	$ 810.95	N/A
WWW Bill, Net Change	**$ (123.95)**	**$ (84.75)**	**$ (172.95)**	**$ (109.25)**	**N/A**
Annual Storm Bill	$ 170.40	$ 170.40	$ 170.40	$ 85.20	$ 170.40
Annual Net Change	**$ 46.45**	**$ 85.65**	**$ (2.55)**	**$ (24.05)**	**$ 170.40**
Annual Net Change %	**4.4%**	**12.5%**	**(0.2%)**	**(2.6%)**	**N/A**

ICI and High-Rise Residential Building Properties Impact Analysis

Tables 8 and 9 to Report FCS22043(b) reflect the net impact of implementing the recommended stormwater fee on various ICI profiles with various meter sizes and water consumption patterns. As with residential, this sector currently pays for water, wastewater and stormwater services based on water consumption. Small businesses with proportionately higher water consumption will see the greatest decrease in their annual water / wastewater / stormwater utility billings. Businesses that don't rely on high water consumption and, therefore, currently pay very little for water will see the greatest

impact from the shift to a stormwater fee based on impervious area. Businesses that are large water users will likely see a decrease due to the fact that the current structure is calculated based on water / wastewater consumption. Those property owners that have large meters and, in turn, larger daily fixed charges but small consumption, will likely see a net increase in their annual water / wastewater / stormwater utility billings.

A property's net increase or decrease on their utility bill will depend on the size of their meter, their annual water consumption, as well as, their impervious area (billing units). For example, a property with average annual water usage of 18,000m3, an impervious area of 55,200 square meters (189.7 billing units) and a 100mm sized meter, would have an annual net increase of approximately $22 K or 23% on their bill under the stormwater charge scenario compared to the same amount of water use under the status quo scenario. Conversely, a property with average annual water use of 505,000m3, an impervious area of 93,200 square meters (319.6 billing units) and a 250mm sized meter, would have an annual net decrease of approximately $199 K or 8.2% on their bill under the stormwater charge scenario compared to the same amount of water use under the status quo scenario.

Profiles in Tables 8 and 9 incorporate the combined water and wastewater rate increases that have been approved in principle for 2024 and 2025.

Table 8: ICI Profile Impact Analysis

Property Type	Institutional (Secondary School)	Commercial (Big Box Retailer)	Commercial (Car Wash)	Commercial (Fast Food Chain)
Meter Size	150mm	100mm	50mm	38mm
Annual Consumption	4,159m3	18,064m3	4,430m3	3,170m3
Impervious Area	27,696m2	55,200m2	1,800m2	3,300m2
Forecast Monthly SW Fee	$ 1,352	$ 2,694	$ 88	$ 160
Annual WWW Bill, Current Structure	$ 39,664	$ 95,119	$ 24,077	$ 16,938
Restated WWW Bill, 2025	$ 34,888	$ 84,899	$ 21,639	$ 15,282
WWW Bill, Net Change	**$ (4,776)**	**$ (10,220)**	**$ (2,438)**	**$ (1,657)**
Annual Storm Bill	$ 16,222	$ 32,325	$ 1,056	$ 1,926
Annual Net Change	**$ 11,446**	**$ 22,105**	**$ (1,382)**	**$ 269**
Annual Net Change %	**28.9%**	**23.2%**	**(5.7%)**	**1.6%**

Table 9: ICI Profile Impact Analysis

Property Type	Industrial (Food Processing)	Institutional (Hospital)	Industrial (Large Industrial Water User)	Commercial (York Blvd Parkade)
Meter Size	250mm	Various Meters	Various Meters	N/A
Annual Consumption	505,000m3	301,940m3	947,144m3	N/A
Impervious Area	93,200m2	41,300m2	32,600m2	4,100m2
Forecast Monthly SW Fee	$ 4,538	$ 2,015	$ 1,590	$ 200
Annual WWW Bill, Current Structure	$ 2,424,723	$ 1,512,494	$ 4,501,198	N/A
Restated WWW Bill, 2025	$ 2,170,976	$ 1,352,222	$ 4,031,623	N/A
WWW Bill, Net Change	**$ (253,746)**	**$ (160,271)**	**$ (469,576)**	**N/A**
Annual Storm Bill	$ 54,460	$ 24,180	$ 19,085	$ 2,403
Annual Net Change	**$ (199,286)**	**$ (136,092)**	**$ (450,491)**	**$ 2,403**
Annual Net Change %	**(8.2%)**	**(9.0%)**	**(10.0%)**	**N/A**

Shifts Between Property Categories

If implemented, the stormwater charge would result in a shift in the contributions paid into the stormwater management program by each of the property categories. Table 10 illustrates these shifts. The "status quo scenario" column shows the current breakdown based on program funding from the water rate. The "stormwater charge scenario" column shows the breakdown under the stormwater charge scenario and is equal to the proportion of impervious surface from each property category. The sum of the shifts in percentage points is zero.

Table 10: Shifts Between Property Categories Related to Paying into the Stormwater Management Program as a Result of Implementing a Stormwater Charge

Property Category	Stormwater Management Funding % (status quo scenario)	Stormwater Management Funding % (stormwater charge scenario)	Funding contribution shift (%)	Funding Contribution (stormwater charge scenario)
Residential	49%	45%*	(4%)	$23 M*
ICI	51%*	55%	4%	$31 M

*****Includes multi-residential

Stormwater Rate Effective Date

Alectra Utilities Corporation ("Alectra") has been providing water and wastewater / stormwater account management and billing services to the City of Hamilton ("City") since December 2001. On August 6, 2021, the City was advised that Alectra's Board of Directors, at its May 21st meeting, approved an Alectra staff recommendation to discontinue water billing services as of December 31, 2024 (for details refer to Report FCS21082). It should be noted that Alectra similarly provided notice of termination to the municipalities of Guelph, Markham and Vaughan.

It was planned that at the commencement of Phase 2, the Customer Information System (CIS) Request for Proposal (RFP) would be issued in early January 2023 with the procurement completed by June 30, 2023. Assuming an aggressive 14 to 16-month implementation phase, the City's new utility billing solution was planned for a November 2024 "go-live" launch. However, the CIS RFP development experienced a number of delays that resulted in the RFP release not occurring until the end of March 2023 (for further details refer to Report FCS21082(e)). The revised completion timing of the billing transition program is Q2 2025. Alectra has confirmed that it will continue providing utility billing services into 2025 when the City is able to assume billing responsibility.

While it is certainly an advantage to incorporate a new stormwater rate structure during the development of the CIS, the implementation of a new stormwater rate structure cannot precede the launch of the new utility billing solution. Hence, January 1, 2025 identified as the effective date per the Council motion passed at its meeting held on January 25, 2023 (refer to the Executive Summary of Report FCS22043(b)) is no longer feasible.

As previously mentioned, there are approximately 158,000 active water and wastewater accounts. However, it is estimated there will be approximately an additional 10,000 stormwater only accounts. Most of the new stormwater only accounts are a result of the fact that stormwater fees will be applicable to all developed properties and not necessarily to every existing metered water account. There are several thousand developed properties currently not connected to the municipal water and / or wastewater systems that will be subject to a future stormwater fee. The stormwater only accounts will take some time to set up and a targeted communication strategy will have to be employed with this customer segment as these customers have not previously received a utility invoice from Alectra.

Transitioning the existing customer base of approximately 158,000 accounts from Alectra to the City will require considerable communications to advise and assist customers. There will be changes with all new account numbers, impacts to pre-authorized payments, e-billing and customer service once the new billing solution is implemented. Given the complexity of the billing transition and to manage the associated customer service risks, implementation of a new stormwater rate should not be planned to occur simultaneously with the implementation of the new billing solution. A concurrent launch of the new billing solution and stormwater fee billing would increase the risk that

customer inquiries will overwhelm the City's Customer Contact Centre and Councillors' offices.

It is recommended that the stormwater fee (if approved) be effective September 1, 2025 assuming the Q2 2025 implementation of the new billing solution. Staff will report back if issues arise that affect the billing solution implementation timeframe.

Consultant Resources for Implementation Phase

Per City of Hamilton By-law 21-215, Procurement Policy #11 - "Non-competitive Procurements", staff must obtain Council approval for single source requests greater than $250 K. As previously noted, AECOM completed the Stormwater Funding Review for the City under a roster assignment. As per recommendation (g) to Report FCS22043(b) staff is requesting the single source procurement of AECOM as external consultants for the Stormwater Funding implementation. Having completed the initial discovery / feasibility phase for the City, AECOM's team is familiar with the City's technical, management and financial requirements and can produce the required deliverables in a timely and cost-effective manner. They have completed over 20 stormwater funding studies and user implementations across Canada and over 50 stormwater funding studies / implementations in the United States.

AECOM's experienced team has completed stormwater funding studies and / or stormwater rate implementations for a number of Ontario municipalities including: Kitchener, Guelph, Mississauga, Markham, Ottawa, Waterloo, Stratford, Sault Ste Marie, Thunder Bay, Barrie, Brantford, Ajax and Sudbury.

ALTERNATIVES FOR CONSIDERATION

The Review of stormwater funding models confirmed that there are three stormwater funding models (all based on impervious area) that most closely aligned with the Guiding Principles:

1. Equivalent Residential Unit (ERU)
    - All residential types pay the same, regardless of home type.
    - Not recommended as ERU model does not fully align with the "Fair and Equitable" Guiding Principle as multi-residential property types would not be treated as fairly as a single family home, e.g. home with a secondary dwelling unit would be charged a stormwater fee double that of a single family home.

2. Tiered SFU Model
    - Different types of residential properties pay different amounts, based on their average impervious area.
    - Single family homes are further divided into two or more tiers, e.g. small, medium and large homes.

- Requires further residential property impervious analysis to determine potential tiers and inherently, requires more staff effort on an ongoing basis to administer a tiered SFU model.
- Not recommended as Tiered SFU model does not align with the "Simple to Understand and Manage" Guiding Principle in comparison with the SFU model.

3. Single Family Unit (SFU) (Recommended Model)
   - Different types of residential properties pay different amounts, based on their average impervious area.
   - All single family dwellings pay the same.
   - Most residential rates are based on defined MPAC property type codes allowing efficient fee administration.

It should be noted that staff considered how multi-family and condo buildings would be charged under an SFU model. As in Appendix "A" to Report FCS22043(b), there are 683 multi-family buildings (with 33,162 dwelling units) and 149 condo buildings (with 10,288 units) in Hamilton. One option that was reviewed was simply to include multi-family and condo buildings in the same residential category as multi-residential units with three to six units that have an assigned SFU factor of 0.3. However, by doing so, higher density multi-residential properties would be negatively affected, as for example, a 10-storey building with 100 units would pay much less than a 20-storey building with 200 units despite having a nearly identical footprint. The result would be counter to the "Fair and Equitable" Guiding Principle and to the City's intensification efforts. Hence, within the recommended SFU model, multi-family and condo buildings' stormwater charges will be based on measuring their impervious area rather than the number of residential units within a building.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

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

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

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

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 FCS22043(b) – Recommended Stormwater Fee Structure

Appendix “B” to Report FCS22043(b) – Assessment of Recommended Stormwater Fee Structure with Guiding Principles

Appendix “C” to Report FCS22043(b) – AECOM Stormwater Funding Review: Funding Option Evaluation Report, June 2023