

City of Mississauga - Stormwater Financing Study



Public Information Meeting 2
November 20, 2012
Iceland's Arena (North Lounge)

Project Manager: Lincoln Kan, P.Eng.

Consultant PM: Mike Gregory, P.Eng., AECOM



Meeting Purpose and Objectives

- Summarize current initiative by Mississauga
- Present study findings and recommendations
 - Current and future service levels for the City's stormwater program
 - Funding options to support the future level of service
 - Staff recommendations and implementation plan
- Open Discussion

Project Summary

- Issue 1: Level of Service
 - The City needs to spend more on stormwater management
 - Higher levels of service are needed
- Issue 2: Allocation of Charges
 - Dedicated and sustainable revenue is required to support all program needs
 - Allocation should be fair and equitable (same basis of charge to all properties)
- Options considered:
 - Property tax increase
 - Adjustments to current Development Charges program
 - New user fee

Project Highlights & Schedule

- Range of funding options to be investigated (tax, DC, stormwater rate)
- Led by: Leadership Team, Steering Committee, and Working Team
- In consultation with:
 - Stormwater Financing Stakeholder Group (SFSG)
 - General public (via PICs, website, etc.)
- Recommendations presented to Council on Wednesday December 5

Task / Description	2012										
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. Existing Stormwater Management Program	█	█	█	█	█						
2. Future Stormwater Management Program				█	█	█					
3. Funding Options					█	█	█	█			
4. Stakeholder Meetings and Draft Report		█	█	█	█	█	█	█	█	█	█
5. Final Report											█

Public Information Meeting 1 (June 27, 2012)

- Presentation and poster boards
 - Outlined key components of municipal stormwater management
 - Presented summary of funding options
- 24 attendees signed in
- General impressions, common themes & issues:
 - Need more service (recognize funding gap and
 - Equitable charge to appropriate users (distinguishable by ratepayer type)
 - Incentive/credit program would be desirable
 - What is the City doing with its impervious surfaces?

What is the City Doing with its Impervious Surfaces?

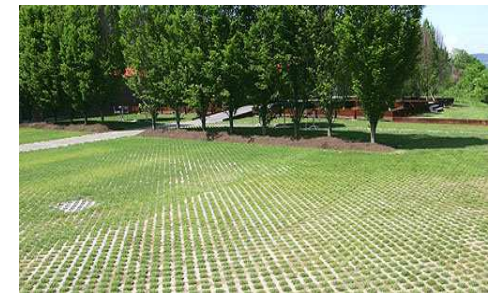




Lakeside Park







CURRENT AND FUTURE SERVICE LEVELS

Fletchers Creek Debris



Cooksville Creek Bank Erosion



Water Quality



Cooksville Creek Flooding



Stormwater Infrastructure Assets

Mississauga Stormwater Inventory	Est. Quantity	Unit of Measure	Estimated Useful Life (Years)	Average Network Age	Closing Net Book Value (2011)	Total Replacement Value (2011)
Storm sewers	2,000	km length	100	29	\$534 Million	\$1.6 Billion
Catch basins	48,000	number				
Stormwater manholes	28,000	number				
Outlets to receiving waters	1,000	number				
Diversion structures (trunk sewers)	100	km length				
Ditches / storm water swales in urban areas	250	km length				
SWM Facilities (Hard and Soft Components)	57	number	25-50	19	\$26 Million	\$76 Million
Watercourses, Streams, Rivers, and Creeks (31 Separate Creeks)	200	km length	25	18	\$21 Million	\$58 Million
Total Cost						\$1.7 Billion

Stormwater Management Program Tax Funded Expenditures- Current Service Level - 2012

Activity	Cost (\$)	Description
Operation & Maintenance		
Engineering & Works	5,260,000	Day to day operating costs of Stormwater Management Program
Support Services	1,010,000	Support staff required for the planning of future stormwater infrastructure needs
Community Services (estimated)	350,000	Departmental project costs associated with stormwater-related programs
<i>Subtotal</i>	6,620,000	
Capital Improvement Projects		
Erosion Control	4,470,000	Watercourse erosion protection and rehabilitation
Flood Relief	1,260,000	Culvert capacity improvements and flood protection berms
Storm Sewer	350,000	Rehabilitation and replacement of existing storm sewers
Studies	1,000,000	Stormwater-related studies
Stormwater Management Facilities (SWM)	280,000	pond dredging/rehabilitation, quantity control facilities and low impact development practices
Channelization	470,000	Watercourse conveyance improvements
Community Services (estimated)	200,000	Departmental project costs associated with stormwater-related programs
<i>Subtotal</i>	8,030,000	
Total	14,650,000	

Note : The 2012 capital budget also includes \$2 million for infrastructure associated with growth. These projects have been funded with development charges revenue.

Pressures on the Capital Program

- Minimize storm related flood risks to all buildings/structures in the City
 - Cooksville Flood Evaluation Study – flood storage facilities
 - Estimated cost - \$150 million (\$79 million in 2013 to 2022 program)
 - Flood evaluation studies of other flood prone areas need to be done
- Enhanced water quality treatment initiatives
 - Increase water quality treatment from current coverage of 15%
 - Low impact development, naturalization programs, social marketing
- Infrastructure life cycle renewal costs
 - Watercourse rehabilitation and stormwater management pond dredging
 - Addressing aging storm sewer pipes is the dominant long-term pressure
- Climate change adaptation
 - Storm sewer networking model
 - Infrastructure vulnerability assessments and upgrades

Operating Cost Pressures

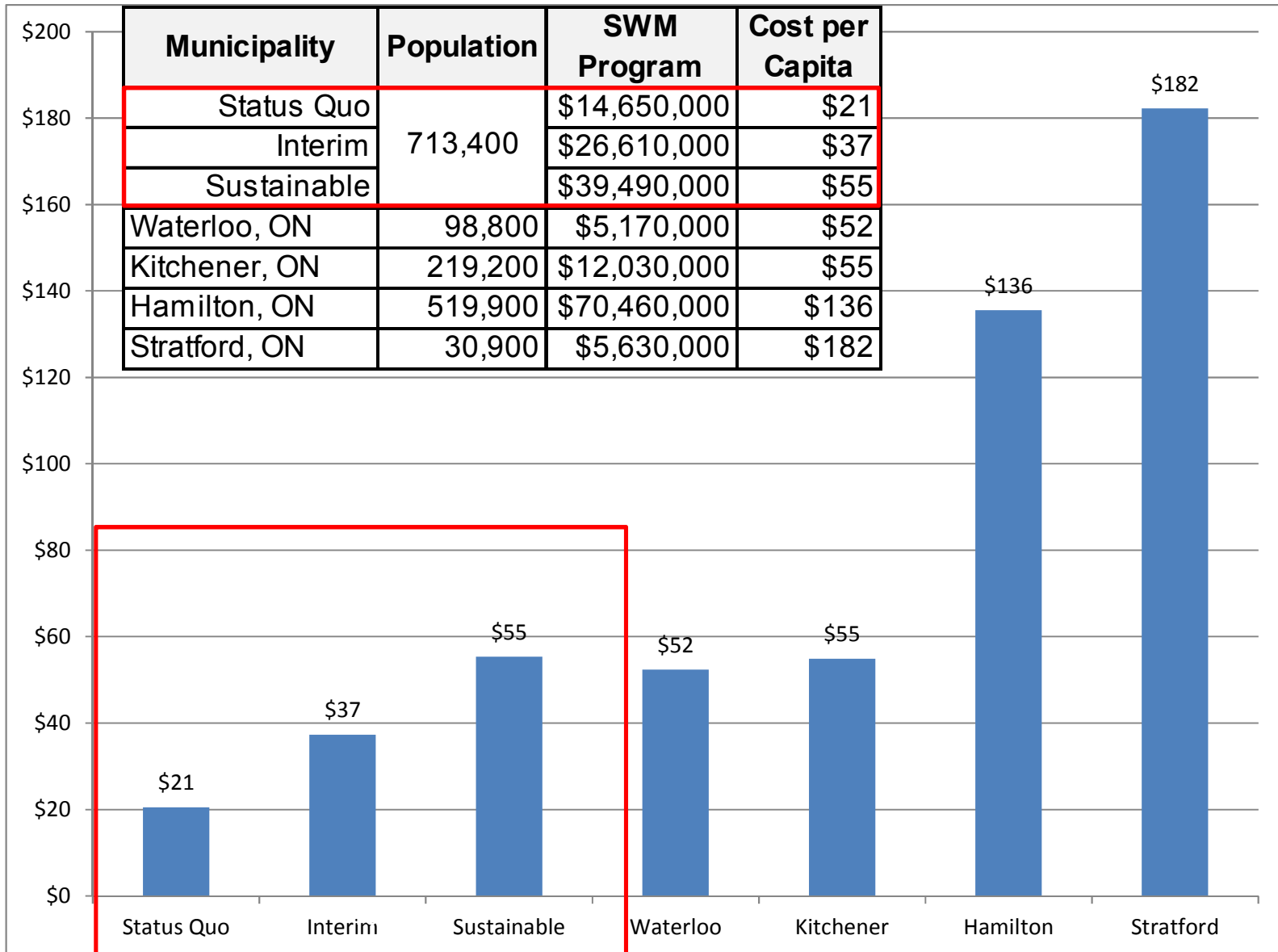
- Additional Operation & Maintenance funding:
 - Expand woody debris management program City-wide
 - Maintain low impact development (LID) installations
 - Improvements to sewer inspection and cleaning programs
- Additional staffing and material needs:
 - Enhanced bylaw enforcement
 - Stormwater management facility monitoring
 - Naturalization programs
- Approximately \$1.5 million additional annual funding required

Future Stormwater Program Service Levels

Status Quo	Interim	Sustainable
<ul style="list-style-type: none"> Based on 2012 Capital and Operating Budget – maintains current service level Unfunded Capital Program needs identified in 10-year Capital Plan would remain unfunded Unfunded Operations and Maintenance pressures would remain unfunded No money would be put aside for future storm infrastructure renewal needs (storm pipe system) 	<ul style="list-style-type: none"> All currently identified Capital, Operations and Maintenance and pipe renewal needs would be funded Introduces a “Pipe Renewal” reserve fund, starting with an initial annual collection rate of \$2.4 million (0.15% of the \$1.6 billion (2012) storm pipe system replacement cost) 	<ul style="list-style-type: none"> All currently identified Capital, Operations and Maintenance and pipe renewal needs would be funded Introduces a “Pipe Renewal” reserve fund with an annual collection rate of \$16 million (1% of the \$1.6 billion (2012) storm pipe system replacement cost)
Annual Cost = \$14,650,000	Annual Cost = \$26,610,000	Annual Cost = \$39,490,000

Comparison to Other Ontario Municipalities

(Recommended Service Level per Capita)





FUNDING OPTIONS

Stormwater Funding Options – North America

- Property Tax
- Development/Growth Related
 - Development charges or impact fees (new development)
 - Cash-in-lieu charges (infill/redevelopment)
- Stormwater User Fee
 - Typical range in Canada is \$2-10 per month for average homeowner
 - Wide variety in service levels and portion of program that is rate financed
 - Flat fee: equal charge to all utility customers (Calgary, Saskatoon)
 - Tiered flat fee: charges by customer type (London, Aurora, Waterloo)
 - Variable rate: property owners based on measured impervious area (>700 throughout the U.S. and 1 in Canada – Kitchener)

Impervious Area Based Stormwater Rate

- Charge based on impervious area measurements:
 - Rooftops
 - Driveways
 - Parking areas
 - Patios
 - Sidewalks
- Fair and equitable basis for user fee
 - Based on property's contribution of runoff volume and pollutant loading
 - Not assessed value, # of water meters, frontage, zoning type, area, etc...



Comparison of Funding Options

Funding Method	City Wide Applicability	Used for Capital Costs	Used for O&M Costs	Used for Eng'rg/ Support Costs	Fair & Equitable Allocation	Dedicated Funding Source	Effort To Admin-istrate	Environ-mental Benefits
Property Tax	Yes	Yes	Yes	Yes	No	No	Low	Low
Development Charges	No	New Capital	No	Partly	Partly	Yes	Medium	Medium
Stormwater Rate	Yes	Yes	Yes	Yes	Yes	Yes	High	High

- No change to Development Charges program (new 2013 study will assess the program for the period 2014-2018)
 - Only used to fund eligible growth-related capital costs and only for the services for which they were collected
 - Does not cover Operations & Maintenance costs or life cycle reinvestment of assets
 - Funds from Development Charges is declining as the City is nearly built out
- Level of service increases to be funded through increased property tax or new stormwater rate financing mechanism

Property Tax Option

Stormwater Program Item	Status Quo (2012) ¹	Pay-As-You-Go Financing of Future Stormwater Management Program (2014-2023)								
		Status Quo			Interim			Sustainable		
Program Cost	\$14,650,000	\$14,650,000			\$26,610,000			\$39,490,000		
Property Tax & PILT Allocation	2.36%	3.96%			7.19%			10.67%		
Single-Family Detached Home		Charge	Δ	%	Charge	Δ	%	Charge	Δ	%
10-percentile assessed value	\$22.10	\$37.13	\$15.03	68%	\$67.44	\$45.34	205%	\$100.09	\$77.99	353%
50-percentile assessed value	\$28.58	\$48.01	\$19.43	68%	\$87.21	\$58.63	205%	\$129.42	\$100.85	353%
90-percentile assessed value	\$40.69	\$68.36	\$27.67	68%	\$124.16	\$83.47	205%	\$184.26	\$143.57	353%
Brooks Drive	\$28.37	\$47.66	\$19.29	68%	\$86.57	\$58.20	205%	\$128.47	\$100.10	353%
Robin Drive	\$42.69	\$71.72	\$29.03	68%	\$130.28	\$87.59	205%	\$193.34	\$150.65	353%
Homelands Drive	\$27.39	\$46.01	\$18.62	68%	\$83.58	\$56.19	205%	\$124.03	\$96.64	353%
Beacham Street	\$31.08	\$52.22	\$21.14	68%	\$94.85	\$63.77	205%	\$140.76	\$109.67	353%
King Richard's Place	\$40.14	\$67.44	\$27.30	68%	\$122.50	\$82.35	205%	\$181.79	\$141.65	353%
Condominium										
Sherobee Road	\$15.86	\$26.64	\$10.78	68%	\$48.39	\$32.54	205%	\$71.82	\$55.96	353%
Multi-Family (7+ Units)										
Goreway Drive (per unit)	\$10.54	\$17.71	\$7.17	68%	\$32.18	\$21.63	205%	\$47.75	\$37.21	353%
Commercial										
Mall	\$10,445	\$17,548	\$7,103	68%	\$31,875	\$21,429	205%	\$47,303	\$36,858	353%
Tax-Exempt										
Church (Dundas St.)	\$0	\$0	\$0	n/a	\$0	\$0	n/a	\$0	\$0	n/a

Notes:

1. Current program includes \$8.7M (Tax & Payment In-Lieu-Of Taxes) plus \$5.9M (Reserves & Debt).

Single Family Unit (SFU)

- Single Family
- Multi-Family
- Condominiums
- Townhouses

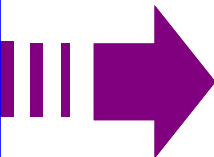


= Flat Rate (1 billing unit per Single Family home)



= Flat Rate (fractional billing units per residential dwelling unit)

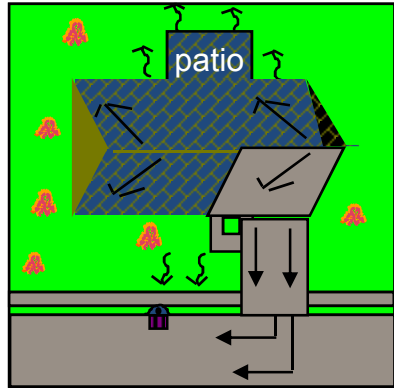
- Governmental
- Commercial
- Institutional
- Industrial



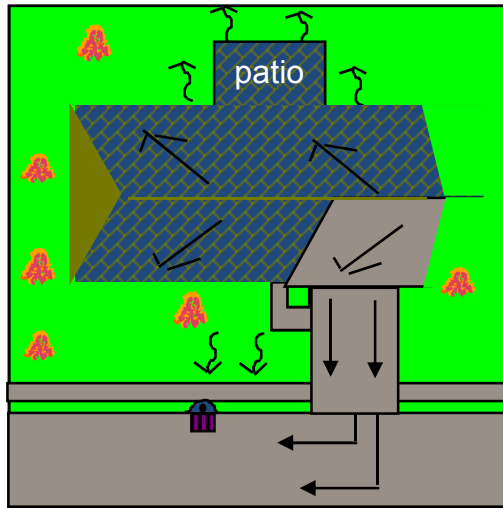
$$\frac{\text{Parcel Impervious Area}}{\text{SFU Base Area}^*} = \text{Units}$$

*Range: 210 to 440 m² (2,200 to 4,800 ft²)
Mississauga: 267 m² (2,870 ft²)

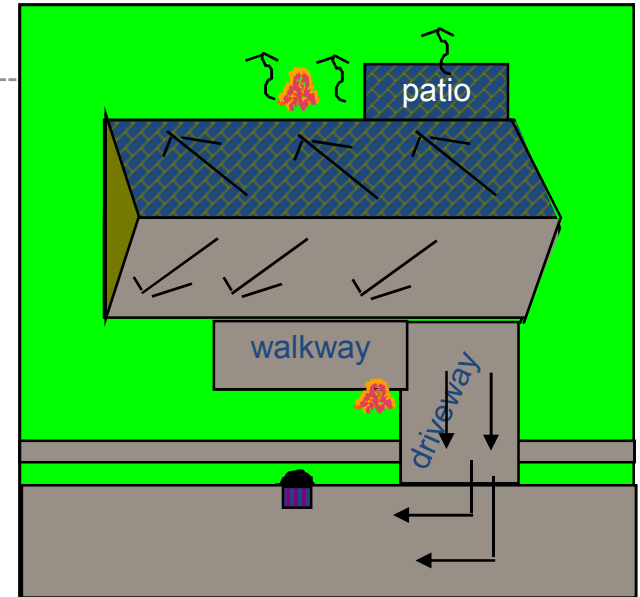
Tiered SFU Rate Structure



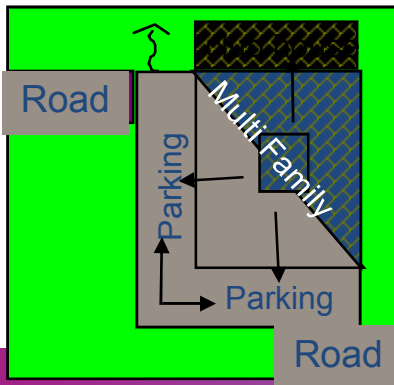
Small Single Family Home
 168 m² = 0.6 SFU
 Lowest 10% (0-168 m²)



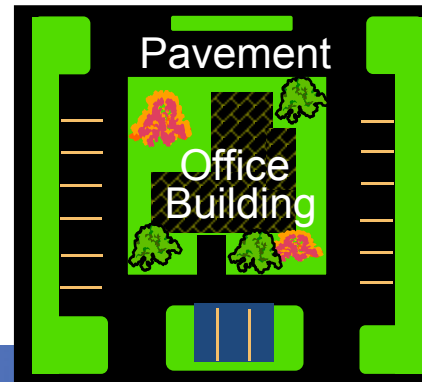
Average Single Family Home
 259 m² = 1.0 SFU
 Middle 80% (169-343 m²)



Large Single Family Home
 344 m² = 1.3 SFU
 Highest 10% (>344 m²)



Multi-Family
 1 Dwelling Unit =
 0.2 - 1.0 SFU



$$\text{Units} = \frac{\text{Non-Residential Impervious Area}}{\text{SFU Area}}$$

Tiered SFU Analysis

Parcel Type	Number of Parcels	Dwelling Units (d.u.)
Single-Family (small)	9,370	9,370
Single-Family (medium)	74,967	74,967
Single-Family (large)	9,370	9,370
Two Unit Residences	31,205	31,205
Triplex	53	159
4-plex	10	40
5-plex	7	35
6-plex	24	144
Condominium	59,451	59,451
Townhouse/Row House	5,204	5,024
Multi-Family (7+ Units)	298	31,900
Linked Homes	1,945	1,945
Row Housing	51	2,894
Co_Op Housing	23	2,804
Mobile Home Park	3	313
Residential Subtotal	191,981	229,621
Industrial/Comm/Institutional	10,776	n/a
Miscellaneous	943	
Vacant	3,117	
Unknown	0	
Non-Residential Subtotal	14,836	
Total	206,817	

- Small Tier: impervious area of properties within the smallest 10 percentile of single-family homes
- Medium Tier: middle 80 percentile
- Large Tier: impervious area of properties within the largest 10 percentile of single-family homes

Equivalent Single Family Unit (SFU) = 266.8 sq.m. (2872 sq.ft.)

Tiered SFU Analysis

Parcel Type	Number of Parcels	Dwelling Units (d.u.)	Est'd Impervious Area (m ²)	
			Total	Avg/d.u.
Single-Family (small)	9,370	9,370	1,723,100	183.9
Single-Family (medium)	74,967	74,967	20,001,200	266.8
Single-Family (large)	9,370	9,370	3,414,400	364.4
Two Unit Residences	31,205	31,205	5,705,500	182.8
Triplex	53	159	18,000	113.0
4-plex	10	40	4,000	100.4
5-plex	7	35	2,500	70.9
6-plex	24	144	12,900	89.9
Condominium	59,451	59,451	3,634,200	61.1
Townhouse/Row House	5,204	5,024	702,900	139.9
Multi-Family (7+ Units)	298	31,900	1,555,100	48.8
Linked Homes	1,945	1,945	341,700	175.7
Row Housing	51	2,894	345,000	119.2
Co_Op Housing	23	2,804	104,000	37.1
Mobile Home Park	3	313	80,900	258.5
Residential Subtotal	191,981	229,621	37,645,400	163.9
Industrial/Comm/Institutional	10,776	n/a	53,101,400	n/a
Miscellaneous	943		included in	
Vacant	3,117		total above	
Unknown	0			
Non-Residential Subtotal	14,836		53,101,400	
Total	206,817		90,746,800	

Equivalent Single Family Unit (SFU) = 266.8 sq.m. (2872 sq.ft.)

Tiered SFU Analysis

Parcel Type	Number of Parcels	Dwelling Units (d.u.)	Est'd Impervious Area (m ²)		SFU Factor	SFU Distribution		
			Total	Avg/d.u.		Count	%	
Single-Family (small)	9,370	9,370	1,723,100	183.9	0.69	6,459	1.9%	
Single-Family (medium)	74,967	74,967	20,001,200	266.8	1.00	74,967	22.0%	
Single-Family (large)	9,370	9,370	3,414,400	364.4	1.37	12,798	3.8%	
Two Unit Residences	31,205	31,205	5,705,500	182.8	0.69	21,385	6.3%	
Triplex	53	159	18,000	113.0	0.42	67	0.0%	
4-plex	10	40	4,000	100.4	0.38	15	0.0%	
5-plex	7	35	2,500	70.9	0.27	9	0.0%	
6-plex	24	144	12,900	89.9	0.34	49	0.0%	
Condominium	59,451	59,451	3,634,200	61.1	0.23	13,622	4.0%	
Townhouse/Row House	5,204	5,024	702,900	139.9	0.52	2,635	0.8%	
Multi-Family (7+ Units)	298	31,900	1,555,100	48.8	0.18	5,829	1.7%	
Linked Homes	1,945	1,945	341,700	175.7	0.66	1,281	0.4%	
Row Housing	51	2,894	345,000	119.2	0.45	1,293	0.4%	
Co_Op Housing	23	2,804	104,000	37.1	0.14	390	0.1%	
Mobile Home Park	3	313	80,900	258.5	0.97	303	0.1%	
Residential Subtotal	191,981	229,621	37,645,400	163.9		141,102	41.5%	
Industrial/Comm/Institutional	10,776	n/a	53,101,400	n/a	n/a	199,031	58.5%	
Miscellaneous	943		included in total above			n/a	n/a	included in total above
Vacant	3,117							
Unknown	0							
Non-Residential Subtotal	14,836		53,101,400			199,031	58.5%	
Total	206,817		90,746,800			340,133	100.0%	

Equivalent Single Family Unit (SFU) = 266.8 sq.m. (2872 sq.ft.)

Stormwater Rate Calculation (Tiered SFU)

- Total Billing Units: 340,000
- Collection Rate: 92% (may be lower, subject to Credit Policy)

- Program Cost:

Stormwater Program Item	Status Quo	Interim	Sustainable
Capital	\$8,030,000	\$15,540,000	\$15,540,000
Operations & Maintenance	\$6,620,000	\$7,950,000	\$7,950,000
Storm Pipe Reinvestment	\$0	\$3,120,000	\$16,000,000
Rate Administration	\$770,000	\$770,000	\$770,000
Program Total	\$15,420,000	\$27,380,000	\$40,260,000

- Base charge (\$/SFU/month):
 - Status Quo: \$ 4.11 (\$ 49.32 per year)
 - Interim: \$ 7.29 (\$ 87.48 per year)
 - Sustainable: \$10.73 (\$128.76 per year)
- However...

PRELIMINARY ESTIMATES ONLY

Municipal Authority to Enact Fees & Charges

■ Entities exempt from user fee:

- The Crown
 - Canada Lands Company Limited
 - Canada Post Corporation
 - Metrolinx (GO Transit)
- Colleges
- School Boards

■ Entities subject to user fee:

- Greater Toronto Airports Authority
- Ontario Power Generation Inc.
- Universities
- Private Schools
- Public and Private Hospitals
- Regional Municipality of Peel
- City of Mississauga
- Conservation Authorities
- Places of Worship
- All other private properties

Rate Exemptions – Impact to Base Charge

- Approximate impervious area for fee-exempt properties
 - 5.9 million square meters = 22,000 billing units
- Total Billing Units: $340,000 - 22,000 = 318,000$
- Base charge (\$/SFU/month):
 - Status Quo: \$ 4.39 (\$ 52.68 per year)
 - Interim: \$ 7.80 (\$ 93.60 per year)
 - Sustainable: \$11.47 (\$137.64 per year)

PRELIMINARY ESTIMATES ONLY

Stormwater Rate Option (Tiered SFU, with Exemptions)

Billing Units (SFU)	Service Level:	Status Quo (Pay-As-You-Go)	Interim	Sustainable
	Program Cost	\$15,420,000	\$27,380,000	\$40,260,000
	Base Rate (\$/SFU/mo)	\$4.39	\$7.80	\$11.47
Single-Family Detached Home				
0.7	10-percentile (Small Tier)	\$36.31	\$64.52	\$94.87
1.0	10-percentile assessed value	\$52.68	\$93.60	\$137.64
1.0	50-percentile assessed value	\$52.68	\$93.60	\$137.64
1.0	90-percentile assessed value	\$52.68	\$93.60	\$137.64
1.4	90-percentile (Large Tier)	\$71.95	\$127.84	\$187.99
1.0	Brooks Drive	\$52.68	\$93.60	\$137.64
1.0	Robin Drive	\$52.68	\$93.60	\$137.64
1.0	Homelands Drive	\$52.68	\$93.60	\$137.64
1.0	Beacham Street	\$52.68	\$93.60	\$137.64
1.0	King Richard's Place	\$52.68	\$93.60	\$137.64
Condominium				
0.2	Sherobee Road	\$12.07	\$21.45	\$31.54
Multi-Family (7+ Units)				
0.2	Goreway Drive (per unit)	\$9.63	\$17.10	\$25.15
Commercial				
519.1	Mall	\$27,346	\$48,587	\$71,448
Tax-Exempt				
14.9	Church (Dundas St.)	\$787	\$1,399	\$2,057

Notes:

1. Rate assumes 92% collection with annual administration cost of \$770,000.

PRELIMINARY ESTIMATES ONLY

Comparison: Tax versus Stormwater Rate

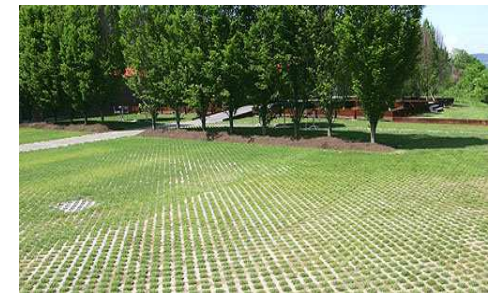
Stormwater Program Item	Existing (2012) ¹	Future - Interim Service Level (2014-2023)							
		Tax (Pay-As-You-Go)			Rate (Tiered SFU, with Exemptions)				
		Charge	Δ_{Existing}	%	Charge	Δ_{Existing}	%	Δ_{Tax}	%
Single-Family Detached Home									
10-percentile (Small Tier)	\$22.10	\$67.44	\$45.34	205%	\$64.52	\$42.42	192%	-\$2.93	-4%
10-percentile assessed value	\$22.10	\$67.44	\$45.34	205%	\$93.60	\$71.50	324%	\$26.16	39%
50-percentile assessed value	\$28.58	\$87.21	\$58.63	205%	\$93.60	\$65.02	228%	\$6.39	7%
90-percentile assessed value	\$40.69	\$124.16	\$83.47	205%	\$93.60	\$52.91	130%	-\$30.56	-25%
90-percentile (Large Tier)	\$40.69	\$124.16	\$83.47	205%	\$127.84	\$87.15	214%	\$3.68	3%
Brooks Drive	\$28.37	\$86.57	\$58.20	205%	\$93.60	\$65.23	230%	\$7.03	8%
Robin Drive	\$42.69	\$130.28	\$87.59	205%	\$93.60	\$50.91	119%	-\$36.68	-28%
Homelands Drive	\$27.39	\$83.58	\$56.19	205%	\$93.60	\$66.21	242%	\$10.02	12%
Beacham Street	\$31.08	\$94.85	\$63.77	205%	\$93.60	\$62.52	201%	-\$1.25	-1%
King Richard's Place	\$40.14	\$122.50	\$82.35	205%	\$93.60	\$53.46	133%	-\$28.90	-24%
Condominium									
Sherobee Road	\$15.86	\$48.39	\$32.54	205%	\$21.45	\$5.59	35%	-\$26.95	-56%
Multi-Family (7+ Units)									
Goreway Drive (per unit)	\$10.54	\$32.18	\$21.63	205%	\$17.10	\$6.56	62%	-\$15.07	-47%
Commercial									
Mall	\$10,445	\$31,875	\$21,429	205%	\$48,587	\$38,142	365%	\$16,713	52%
Tax-Exempt									
Church (Dundas St.)	\$0	\$0	\$0	n/a	\$1,399	\$1,399	n/a	\$1,399	n/a

Notes:

1. Current program includes \$8.7M (Tax & Payment In-Lieu-Of Taxes) plus \$5.9M (Reserves & Debt).

Credit Philosophy – Relate Services to Cost Savings

- Consider cost savings for all components of the collection system, storage/treatment facilities, outfalls, and downstream watercourse:
 - Water quantity control (flooding and erosion protection)
 - Water quality treatment
 - Environmental enhancements (habitat, baseflows, receiving water impacts)
- Consider City standards & SWM requirements at time of development
- Distinguish by Capital, O&M, Storm Pipe Reinvestment, and Admin
- Distinguish local services versus City-wide services
- Amount of expenditures = amount of revenue collected for stormwater and the credit policy maintains this overall balance. Individually:
 - Significant SWM facilities on site = significant credit on stormwater charge



STAFF RECOMMENDATIONS

Future Service Level

- The existing stormwater program does not meet the City's current needs for capital, operations & maintenance, and pipe reinvestment
- ***Recommendation 1: That the Interim service level be selected for the City's stormwater management program.*** This represents a \$26.6M annual program, including full funding of priority capital projects, increased O&M, and an initial Storm Pipe Renewal reserve fund.

Funding Mechanism

- A user pay model should be implemented that is fair and equitable – based on the contribution of stormwater runoff, as indicated by the amount of impervious cover on each property
- Distinguish the variability in impervious area for all properties, which is consistent with the fairness and equity principle
- ***Recommendation 2: That a user fee in the form of a stormwater rate be implemented to support the Interim service level, based on the Tiered SFU rate structure***

Recommendations (continued)

- ***Recommendation 3: That everyone be charged a stormwater rate unless exempted through legislation***

- ***Recommendation 4: Implement a credit program***
 - Credits be applied to non-residential properties that provide on-site stormwater management measures.
 - Incentives be provided to residential properties which may include discount coupons for rain barrels, for example.

- ***Recommendation 5: Proceed with the implementation phase, with billing to begin July 2013***

Contacts

- City Project Manager
Mr. Lincoln Kan
Manager, Environmental Services
Transportation and Works Department
201 City Centre Drive, Suite 800, Mississauga ON L5B 2T4
Phone: 905.615.3200 ext 4086
Email: Lincoln.Kan@mississauga.ca
- Consultant (AECOM)
Mr. Mike Gregory
Senior Water Resources Engineer
50 Sportsworld Crossing Road, Unit 290, Kitchener ON N2P 0A4
Phone: 519.650.8697
Email: mike.gregory@aecom.com

Questions?

