



Solid Waste Management Services

2018 – 2027 CAPITAL BUDGET AND PLAN OVERVIEW

Solid Waste Management Services (SWMS) is responsible for maintaining infrastructure valued at approximately \$540 million excluding landfills, comprised of 7 transfer stations, 2 organics processing facilities, 5 collection yards and approximately of 1.6 million organics, recycling and waste bins. Landfills include the active Green Lane Landfill and 160 closed landfills.

The 2018-2027 Capital Plan totaling \$626.9 million focuses on funding major diversion facilities to advance the City's goal of 70% Waste Diversion by investing in facilities and systems necessary to achieve this target as well as to continue Collection Yard and Transfer Station Asset Management, landfill cell development and Perpetual Care of closed landfills. The 10-Year Capital Plan includes funding of \$158 million for the Council approved Long Term Waste Management Strategy (Waste Strategy),

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CONTACTS

Program:

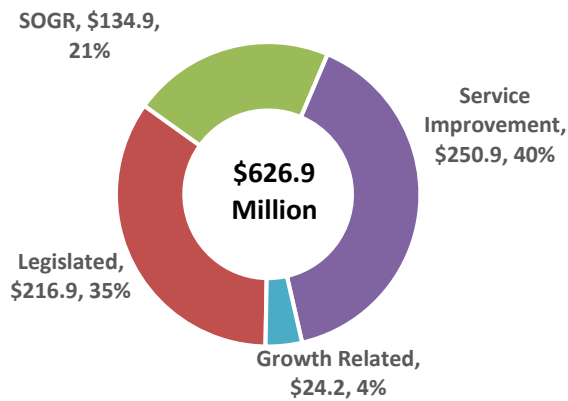
Jim McKay
 General Manager
 Tel: (416) 392-4715
 Email: Jim.McKay3@toronto.ca

Corporate:

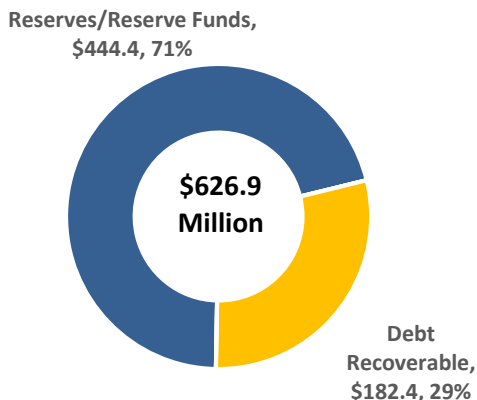
David Troian
 Manager, Financial Planning
 Tel: (416) 392-7896
 E-Mail: David.Troian@toronto.ca

Capital Spending and Financing

2018-2027 Recommended Capital Budget and Plan By Project Category



By Funding Source



Where does the money go?

The 2018–2027 Capital Budget and Plan totalling \$626.876 million provides funding for:

- Legislated projects for the ongoing development of the Green Lane Landfill and perpetual care of closed landfills.
- State of Good Repair (SOGR) projects to improve and maintain transfer station, collection yard and diversion facilities' capacity and effectiveness.
- Service Improvement projects that include the maintenance and life-cycle replacement of all bins as well as building gas utilization facilities. The Waste Strategy is an integral part of Service Improvement projects.
- Growth related projects that are focused on building additional organics and waste processing capacity at the Dufferin and Disco sites.

Where does the money come from?

The 10-Year Capital Plan is funded by two major sources:

- Capital financing of \$444.432 million or 70.9% will be provided primarily from the Waste Management Reserve Fund, with annual contributions to the reserve generated from user fee (rate) revenue in the Operating Budget.
- Recoverable debt funding of \$182.444 million comprises 29.1% of SWMS 10-year capital funding. The City initially funds this debt; SWMS then repays the debt servicing costs over its term through the collection of user fees in their Operating Budget.

State of Good Repair Backlog

The Solid Waste Management Program does not currently have a backlog of State of Good Repair (SOGR). The funding allocated in the 10-Year Capital Plan for SWMS for SOGR projects for 2018 and future years is deemed appropriate to maintain the assets in a state of good repair. The Program is undertaking an asset condition assessment and will report any changes to their SOGR backlog during future Capital Budget processes.

Our Key Issues & Priority Actions

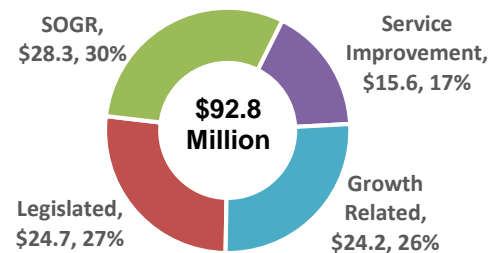
- **Waste Strategy Implementation-** The SWMS' capital program is driven primarily by the City's Waste Strategy and long term infrastructure demands.
 - ✓ SWMS has developed a Waste Strategy that will guide how the City's waste will be managed over the next 30 – 50 years.
 - ✓ The 2018 – 2027 Capital Budget and Plan includes funding of \$158 million for the Waste Strategy as approved by Council in July 2016.

- **Long-Term Capital Funding -** To ensure generated rate revenue is adequate to support SWMS' 10-year capital needs as well as allow for the continued transition to a fully sustainable utility model, reducing the application of recoverable debt when appropriate.
 - ✓ The 2018 Recommended Operating Budget for SWMS includes a 1.9% rate increase to ensure sufficient capital funding for future diversion programs and facilities that maximize the lifespan of the Green Lane landfill beyond 2029, as well as ensure effective solid waste management and disposal.

 - ✓ Future long term funding quantifying factors include pending legislative changes, future revenue opportunities around biogas, additional DC contributions and to be determined efficiency/financial gains from reduced contamination of recyclables.



2018 Recommended Capital Budget By Project Category

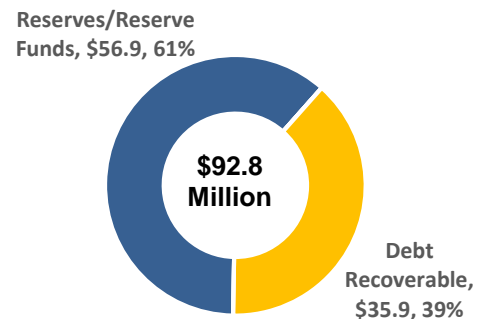


2018 Capital Budget Highlights

The 2018 Recommended Capital Budget for SWMS of \$92.801 million, excluding carry forward funding, will:

- Continue improving and maintaining Transfer Stations and Collection Yards and Diversion Facilities (\$28.3 million);
- Continue developing the Green Lane Landfill (\$11.3 million) with Gas Utilization projects (\$1 million) and providing perpetual care of closed landfills (\$13.3 million);
- Complete building organics processing & waste capacity at the Dufferin & Disco facilities (\$24.2 million);
- Continue improving business practices enabled by technology projects and Engineering Planning (\$6.9 million);
- Continue implementation of approved Waste Strategy options (\$4.1 million).
- Continue improving Diversion Systems with single family & multi-unit organics & recycling containers (\$2.3 million);

By Funding Source



Actions for Consideration

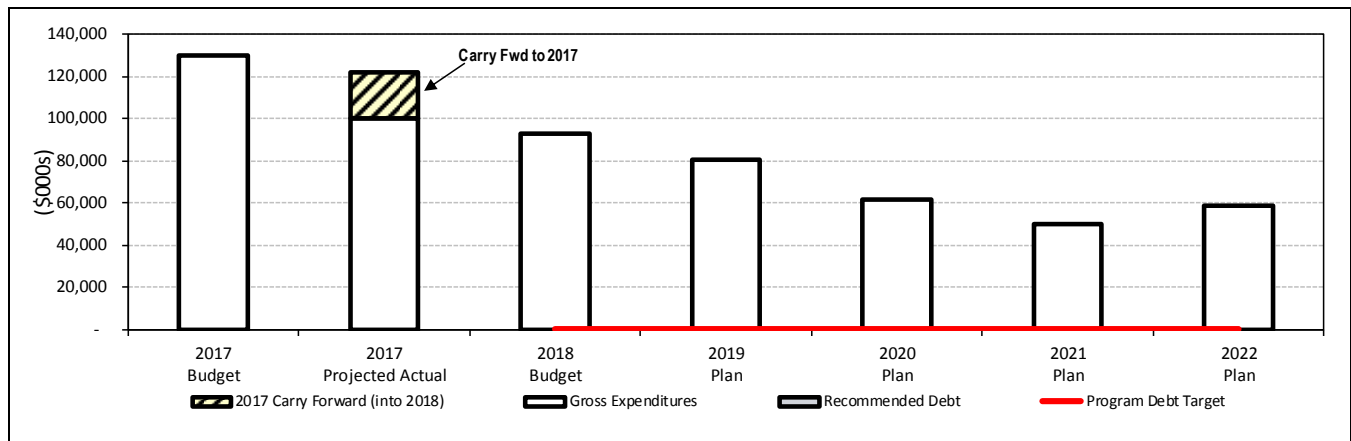
Approval of the 2018 Recommended Capital Budget as presented in these notes requires that:

1. City Council approve the 2018 Recommended Capital Budget for Solid Waste Management Services with a total project cost of \$56.857 million, and 2018 cash flow of \$114.406 million and future year commitments of \$149.404 million comprised of the following:
 - a) New Cash Flow Funds for:
 - i. 36 new / change in scope sub-projects with a 2018 total project cost of \$56.857 million that requires cash flow of \$8.516 million in 2018 and future year cash flow commitments of \$9.597 million for 2019; \$15.135 million for 2020; \$5.195 million for 2021; \$4.930 million for 2022; \$3.561 million for 2023; \$3.241 million for 2024; \$3.241 million for 2025; \$0.441 million for 2026 and \$3 million for 2027;
 - ii. 25 previously approved sub-projects with a 2018 cash flow of \$84.285 million; and future year cash flow commitments of \$47.445 million for 2019; \$18.022 million for 2020; \$12.580 million for 2021; \$14.001 million for 2022; \$3.515 million for 2023; \$1 million for 2024; \$1 million for 2025; and \$3.5 million for 2026;
 - b) 2017 approved cash flow for 18 previously approved sub-projects with carry forward funding from 2017 into 2018 totalling \$21.605 million.
2. City Council approve the 2019 - 2027 Recommended Capital Plan for Solid Waste Management Services totalling \$384.671 million in project estimates, comprised of \$23.792 million for 2019; \$28.801 million for 2020; \$32.442 million for 2021; \$39.853 million for 2022; \$53.918 million for 2023; \$48.932 million for 2024; \$42.128 million for 2025; \$54.237 million for 2026 and \$60.568 million in 2027.
3. City Council consider the operating costs of \$2.044 million net in 2018; \$(0.961) million net in 2019; \$0.095 million net in 2020; \$0.105 million net in 2021; \$(0.019) million net in 2022; \$(0.022) million for 2023; \$(0.026) million for 2024; \$(0.029) million for 2025; \$0.046 million for 2026 and \$0.046 million in 2027, resulting from the approval of the 2018 Recommended Capital Budget for inclusion in the 2018 and future year operating budgets.
4. City Council approve 3 new temporary capital positions for the delivery of 2018 capital projects and that the duration for each temporary position not exceed the life and funding of its respective projects / sub-projects.
5. This report be considered concurrently with the report entitled "*2018 Rate Supported Budgets – Solid Waste Management Services and Recommended 2018 Solid Waste Rates and Fees*" (November 10, 2017) from the Acting Chief Financial Officer and General Manager for Solid Waste Management Services.



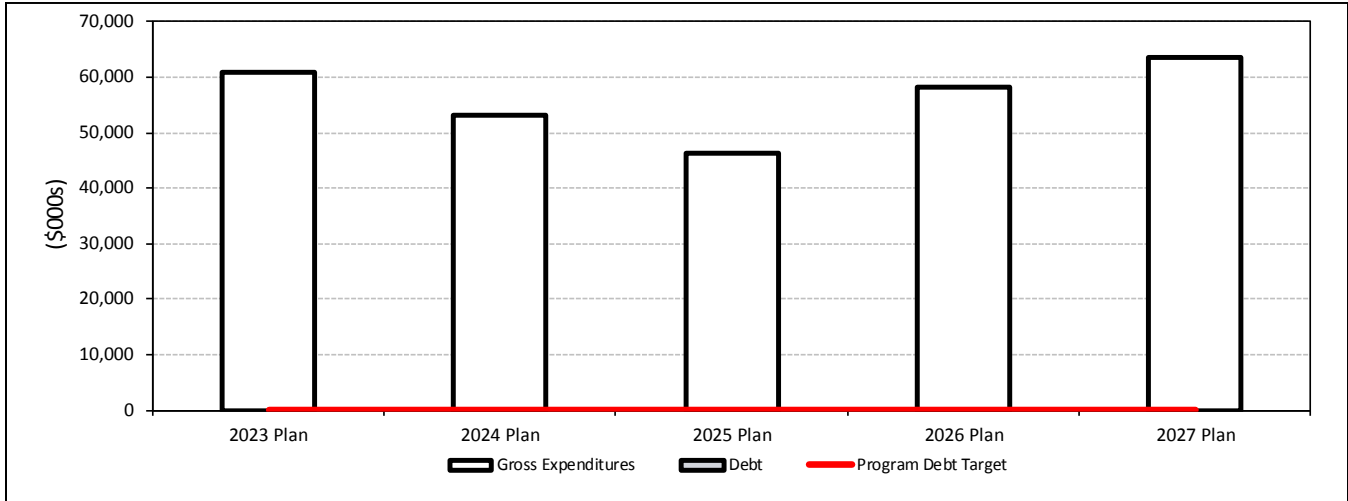
Part 1: 10-Year Recommended Capital Plan

Table 1a
10-Year Capital Plan
2018 Recommended Capital Budget and 2019 - 2022 Recommended Capital Plan



		2018 Recommended Capital Budget and 2019 - 2022 Capital Plan							
		2017	2018	2019	2020	2021	2022	2018 - 2022	5-Year Total Percent
		Budget	Projected Actual						
Gross Expenditures:									
2017 Capital Budget & Approved FY Commitments	129,885	100,121	84,284	47,445	18,022	12,579	14,001	176,331	51.2%
Requested Changes to Approved FY Commitments			1	-	-	1	-	2	0.0%
2018 New/Change in Scope and Future Year Commitments			8,516	9,597	15,135	5,195	4,930	43,373	12.6%
2019 - 2022 Capital Plan Estimates			-	23,792	28,801	32,442	39,853	124,888	36.2%
2-Year Carry Forward for Reapproval									
1-Year Carry Forward to 2018		21,605							
Total Gross Annual Expenditures & Plan	129,885	100,121	92,801	80,834	61,958	50,217	58,784	344,594	100.0%
Program Debt Target									
Financing:									
Debt									
Reserves/Reserve Funds	76,695		56,858	64,159	49,016	36,665	40,379	247,077	71.7%
Development Charges									
Provincial/Federal									
Debt Recoverable	53,190		35,943	16,675	12,942	13,552	18,405	97,517	28.3%
Other Revenue									
Total Financing	129,885	-	92,801	80,834	61,958	50,217	58,784	344,594	100.0%
By Project Category:									
Health & Safety									
Legislated	25,419		24,668	24,308	27,148	21,614	19,805	117,543	34.1%
SOGR	20,100		28,309	30,134	13,726	6,885	10,328	89,382	25.9%
Service Improvement	44,498		15,595	26,392	21,084	21,718	28,651	113,440	32.9%
Growth Related	39,767		24,229					24,229	7.0%
Total by Project Category	129,785	-	92,801	80,834	61,958	50,217	58,784	344,594	100.0%
Asset Value (\$) at year-end	539,716		564,570	564,570	564,570	564,570	564,570	564,570	
Yearly SOGR Backlog Estimate (not addressed by current plan)									
Accumulated Backlog Estimate (end of year)									
Backlog: Percentage of Asset Value (%)	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Debt Service Costs			539	4,039	2,039	1,659	1,821	10,097	
Operating Impact on Program Costs			2,044	(961)	95	105	(19)	1,264	
New Positions									

Table 1b
10-Year Capital Plan
2023 - 2027 Recommended Capital Plan



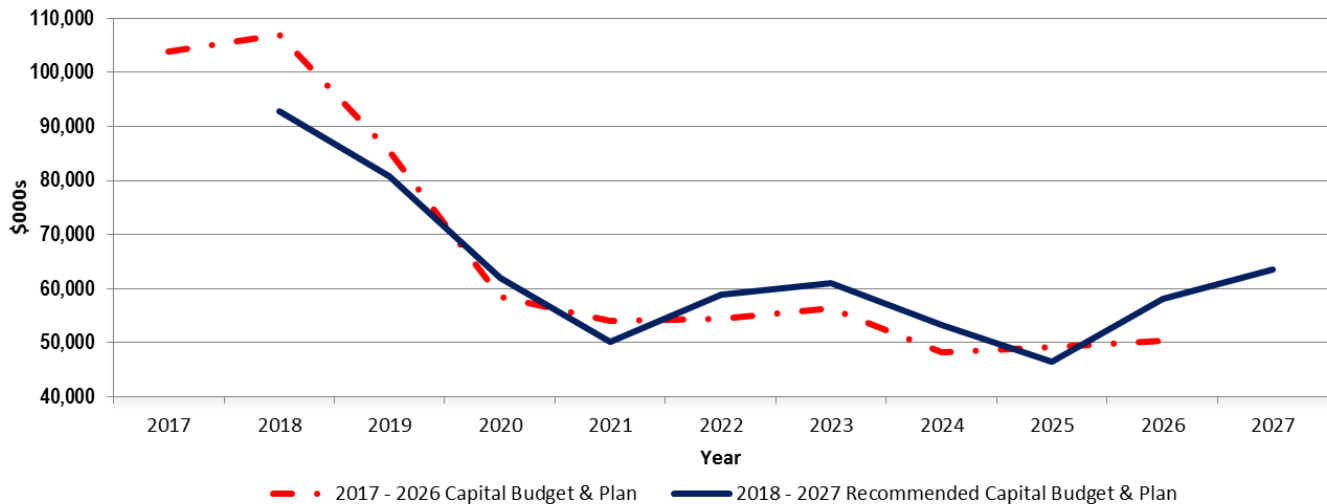
	2023 - 2027 Recommended Capital Plan						
	2023	2024	2025	2026	2027	2018 - 2027	10-Year Total Percent
Gross Expenditures:							
2017 Capital Budget & Approved FY Commitments	3,515	1,000	1,000	3,500		185,346	29.6%
Requested Changes to Approved FY Commitments	-	-	-	-		2	0.0%
2018 New/Change in Scope and Future Year Commitments	3,561	3,241	3,241	441	3,000	56,857	9.1%
2023 - 2027 Capital Plan Estimates	53,918	48,932	42,128	54,237	60,568	384,671	61.4%
2-Year Carry Forward for Reapproval						-	
Total Gross Annual Expenditures & Plan	60,994	53,173	46,369	58,178	63,568	626,876	100.0%
Program Debt Target						-	
Financing:							
Debt						-	
Reserves/Reserve Funds	40,929	39,756	32,532	43,270	40,868	444,432	70.9%
Development Charges						-	
Provincial/Federal						-	
Debt Recoverable	20,065	13,417	13,837	14,908	22,700	182,444	29.1%
Other Revenue						-	
Total Financing	60,994	53,173	46,369	58,178	63,568	626,876	100.0%
By Project Category:							
Health & Safety						-	
Legislated	20,135	19,815	19,815	19,815	19,815	216,938	34.6%
SOGR	9,800	10,766	3,362	13,641	7,900	134,851	21.5%
Service Improvement	31,059	22,592	23,192	24,722	35,853	250,858	40.0%
Growth Related						24,229	3.9%
Total by Project Category	60,994	53,173	46,369	58,178	63,568	626,876	100.0%
Asset Value(\$) at year-end	564,570	564,570	564,570	564,570	564,570	564,570	
Yearly SOGR Backlog Estimate (not addressed by current plan)						-	
Accumulated Backlog Estimate (end of year)	-	-	-	-	-	-	
Backlog: Percentage of Asset Value (%)	0.0%	0.0%	0.0%	0.0%	0.0%		
Debt Service Costs	2,375	2,420	1,715	1,782	2,052	20,440	
Operating Impact on Program Costs	(22)	(26)	(29)	46	46	1,279	
New Positions							

Key Changes to the 2017 - 2026 Approved Capital Plan

The 2018 Recommended Capital Budget and the 2019 – 2027 Recommended Capital Plan reflects a decrease of \$40.379 million in capital funding from the 2017 - 2026 Approved Capital Plan.

The chart and table below provide a breakdown of the \$40.379 million or 6.1% decrease in the Capital Program on an annual basis from 2018 to 2026.

Chart 1
Changes to the 2016 - 2026 Approved Capital Plan (In \$000s)



(\$000s)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	10-Year Total
2017 - 2026	103,777	106,927	85,487	58,487	53,949	54,433	56,319	48,302	49,152	50,422		667,255
2018 - 2027		92,801	80,834	61,958	50,217	58,784	60,994	53,173	46,369	58,178	63,568	626,876
Change %		(13.2%)	(5.4%)	5.9%	(6.9%)	8.0%	8.3%	10.1%	(5.7%)	15.4%		(6.1%)
Change \$		(14,126)	(4,653)	3,471	(3,732)	4,351	4,675	4,871	(2,783)	7,756		(40,379)

As made evident in the chart above, the \$40.379 million decrease in the Capital Program reflects changes to the timing of cash flow funding for major projects to better align spending with project activities and timelines as well as updated estimates. Adjustments have been made to projects such as Transfer Station Asset Management, the Dufferin Waste Facility, ongoing Landfill Development, Perpetual Care of Old Landfills, Information Technology projects and projects for Landfill Gas Utilization and Biogas Utilization at organics facilities. Also included is the short-term deferral of cash flow funding for the Long Term Waste Management Strategy based on capacity to spend as well as the inclusion of funding in the last year of the 10-Year Plan.

As reflected in Table 2 on the following page, changes to the 2017 – 2026 Approved Capital Plan, resulting in the \$0.170 million decrease in capital funding over the nine common years of the Capital Plans (2018 – 2027) arise from the nominal re-estimation and re-prioritization of SWMS' capital projects based on the following factors:

- A requirement to invest in *Transfer Station Asset Management* in the short term to ensure facilities are maintained in a state of good repair.
- A revised project schedule for the *Dufferin Waste Facility* (staff building).

- Revisions to the estimates for the *Landfill Gas Utilization project*, the project schedule for the *Biogas Utilization projects* at organics facilities and the *Compressed Natural Gas Fill Stations project* at SWMS facilities to reflect current estimates and established agreements with third parties.
- Revision to the estimates for the Waste Strategy in 2018 and 2019 noting that the majority of funding is allocated to the year 2027 and beyond.

A summary of project changes for the years 2017 to 2027 totalling \$0.170 million are provided in Table 2 below:

**Table 2
Summary of Project Changes (In \$000s)**

\$000s	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2018 - 2026 Total
2017 - 2026 Capital Budget & Plan	103,777	106,927	85,487	58,487	53,949	54,433	56,319	48,302	49,152	50,422	-	563,478
2018 - 2027 Rec'd Capital Budget & Plan		92,801	80,834	61,958	50,217	58,784	60,994	53,173	46,369	58,178	63,568	563,308
Capital Budget & Plan Changes (2018 - 2026)		(14,126)	(4,653)	3,471	(3,732)	4,351	4,675	4,871	(2,783)	7,756		(170)

	Total Project Cost	2018	2019	2020	2021	2022	2023	2024	2025	2026	2018 - 2026	2027	Revised Total Project Cost
Previously Approved													
<i>Landfill Development excl. Gas Utilization</i>		(3,819)	1,000	1,861	334	304	320	-	-	-	-	14,815	
<i>Dufferin Waste Facility</i>	20,500	(6,000)	2,000	4,000	-	-	-	-	-	-	-		20,500
<i>Long Term Waste Mgmt Strategy</i>	142,085	(3,000)	3,000	-	-	-	-	-	-	-	-	25,000	167,085
<i>Engineering Planning Studies</i>												1,500	
<i>Diversion Facilities Asset Mgmt</i>												1,500	
Total Previously Approved		(12,819)	6,000	5,861	334	304	320	-	-	-	-	42,815	187,585
Change in Scope													
<i>Transfer Stn Asset Mgmt</i>		609	1,384	(5,224)	(3,155)	2,278	2,590	3,116	(4,538)	5,741	2,801	6,150	
<i>Perpetual Care of Landfills</i>		5,234	(800)	217	200	-	-	-	-	-	4,851	5,000	
<i>SWM IT Application Initiatives</i>	11,925	(252)	(742)	1,552	494	(31)	-	-	-	-	1,021		12,946
<i>Dufferin SSO Facility</i>	75,829	1,000	-	-	-	-	-	-	-	-	1,000		76,829
<i>Green Lane: Landfill Gas Utilization</i>	19,416	(4,150)	(11,038)	-	-	-	-	-	-	-	(15,188)		4,228
<i>Biogas Utilization</i>	18,486	(3,435)	(243)	299	(2,371)	1,199	1,199	1,199	1,199	1,199	245	5,928	18,731
<i>Diversion Systems</i>		(1,575)	(475)	(475)	(475)	(475)	(475)	(475)	(475)	(175)	(5,075)	3,425	
<i>Two Way Radio Replacement</i>	2,235	270	270	250	250	85	50	40	40	-	1,255		3,490
<i>Collection Yard Asset Mgmt</i>		50	50	50	50	50	50	50	50	50	450	250	
Total Change in Scope		(2,249)	(11,594)	(3,331)	(5,007)	3,106	3,414	3,930	(3,724)	6,815	(8,640)	20,753	
New													
<i>Compressed Natural Gas Fill Station</i>		941	941	941	941	941	941	941	941	941	8,470		8,470
Total New		941	941	941	941	941	941	941	941	941	8,470		8,470
Total Changes		(14,127)	(4,653)	3,471	(3,732)	4,351	4,675	4,871	(2,783)	7,756	(170)	63,568	196,055

Significant Capital Project Changes for Solid Waste Management Services:

Cash flow funding for the following previously approved capital projects have been adjusted based on historical spending rates, capacity and expected progress and completion of the projects, as outlined below:

Project Cost Increases:

- Transfer Station Asset Management:** The overall project cost has increased by \$2.8 million over the period 2018 to 2026 due to increased requirements to maintain the SOGR (State of Good Repair) of transfer station facilities. This increase will fund repair work for various projects such as roofing, paving, drainage systems, sprinkler systems and repairs to tipping floors.
- Perpetual Care of Landfills:** The overall project cost has increased by \$4.9 million over the period 2018 to 2026 including \$5.2 million in 2018. This project includes activities such as construction and grounds maintenance, annual water and leachate monitoring, landfill gas control system monitoring and assessments, air quality monitoring, and both leachate and ground water monitoring well installation and oversight. This

project includes the procurement of engineering services to engage in site monitoring and reporting legislated by the Ministry of Environment & Climate Change, or to conduct studies and to prepare designs for landfill control systems.

Project Cost Decreases:

- ***Diversion Systems (Bins):*** The recommended decrease of \$5.1 million over the period 2018 to 2026 is primarily driven by the Replacement Residential Waste & Organics Bins projects. A POA was approved for the contract to add additional funds in 2014. The added service resulted in enhanced customer service and operational efficiencies. Additional funds were and are required due to an increase in the overall demand from residents for bin-related service requests due to campaigns to upsize recycle bins or downsize garbage bins to increase participation in diversion programs. A contract had also been awarded to replace current green bins with a '2nd Generation Green Bin'. The new bins were rolled out starting late 2015. Some funds are still required to maintain a supply of the current bins until all residents have received the new ones. This project cost adjustment will align commitments to existing contract/RFQs estimates.
- ***Green Lane: Landfill Gas Utilization:*** Landfill gas from the Green Lane Landfill is currently being collected and flared. Rather than flaring, the landfill gas can be viewed as an asset with the potential to produce energy and provide revenue. Installation of a landfill gas utilization system would produce electricity of between 5.6 MW and 8.5 MW. Electricity was intended to be sold to the local utility through a negotiated power purchase agreement. However, electricity generation is no longer being pursued given the fact it produces almost no reduction to emissions and that it is not as financially beneficial as renewable natural gas (RNG). The intent of this project is now to install infrastructure in order to 'clean' Landfill Gas and create RNG, which can be injected into the local natural gas grid. Once in the grid the City will be able to use the RNG for any combination of fuel, electricity and or/heat, depending on commodity market realities in the future. The recommended decrease of \$15.2 million over the period 2018 to 2019 is primarily driven by this change in scope and purpose and results in estimated cash flow requirements of \$1 million in 2018 and \$2.5 million in 2019 for engineering studies.

Deferrals/Accelerations:

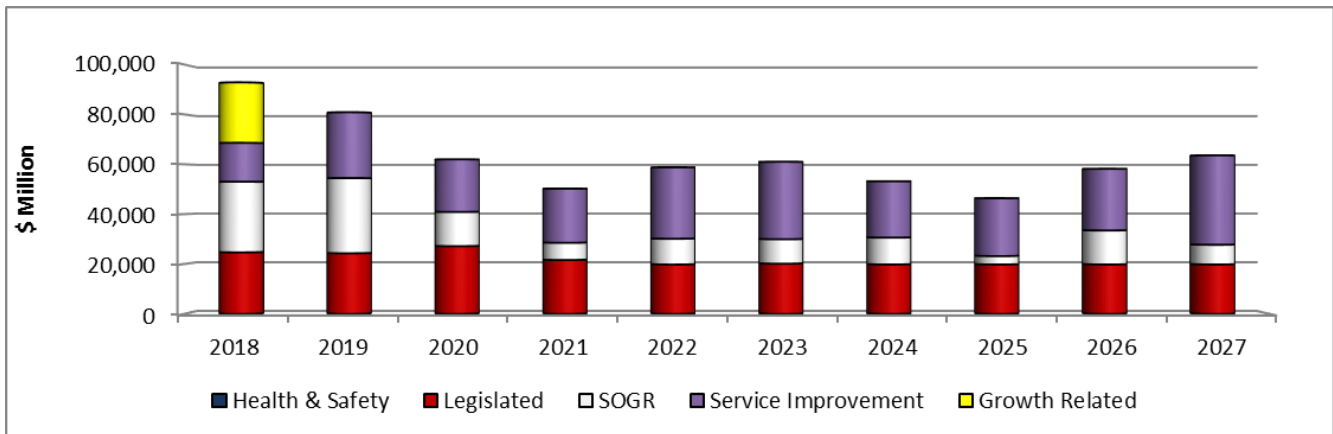
- ***Long Term Waste Management Strategy:*** This project for the Waste Strategy is being decreased by \$3 million for 2018, deferring cash flow funding to 2019. These estimated cash flows per year for future diversion and waste management programs and facilities have been deferred based on current, short-term estimated requirements. The overall 10-Year Plan includes \$158 million to begin the implementation phase of the strategy with possible facility requirements starting in 2027. Initial cost estimates reflect the July 2016 Council approval of the Waste Strategy.
- ***Dufferin Waste Facility:*** This project is to fund the design, contract administration, and construction of a new staff facility at the Dufferin Waste Management Facility (DWMF) at 75 Vanley Crescent. An assessment was completed in 2015 to address future staff facility needs and current deficiencies. The execution of this project will address existing and future staff facility needs at the DWMF and SWMS will be further aligned with the goals of the SWMS strategic plan regarding *Motivated and Engaged Employees and Operation Excellence*. Cash flow funding of \$6 million is being deferred from 2018 to 2019/20 to reflect current planning estimates.

New Project:

- ***Compressed Natural Gas Fill Station:*** This project addresses the need for infrastructure related to the compressed natural gas fueling at Bermondsey and Ellesmere Yards as required by the ten year agreement with Enbridge Gas for the period 2018 to 2026. The estimated cash flow requirements are \$0.941 million annually. Moving towards natural gas fueling, instead of traditional diesel, will significantly reduce fuel costs, as well as reduce emissions, as natural gas is the cleanest burning fossil fuel.

2018 – 2027 Recommended Capital Plan

Chart 2
2018 – 2027 Recommended Capital Plan by Project Category (In \$000s)



As illustrated in the chart above, the Recommended 10-Year Capital Plan for SWMS of \$626.876 million provides 40% for Service Improvement projects and Legislative mandated projects of 34.6% as priorities. 21.5% of funding is for State of Good Repair (SOGR) projects with Growth Related projects representing the remaining 3.9% over the 10-year period.

- Legislated projects (\$216.938 million) include on-going landfill projects at the Green Lane landfill and the perpetual care of closed landfill sites.
- Funding is dedicated to State of Good Repair projects (\$134.851 million) for Transfer Stations, Collection Yards and Diversion Facilities and is relatively constant over the 10-year plan with more emphasis on the short term to complete required repairs. State of Good Repair projects also include new staff facilities at the Dufferin Waste Facility.
- Service Improvement projects (\$250.858 million) comprise all bin purchases, gas utilization projects, IT projects and waste diversion programs and facilities resulting from the approved Long Term Waste Management Strategy.
- The Growth Related projects (\$24.229 million) are major organics (SSO) processing facilities at Dufferin and Disco due for completion in 2018.

Capital Plan by Project Category

The following table provides details by project category within the 2018 – 2027 Recommended Capital Budget and Plan for Solid Waste Management Services:

Table 3
2018 - 2027 Capital Plan by Project Category (In \$000s)

	Total App'd Cash Flows to Date*	2018 Budget	2019 Plan	2020 Plan	2021 Plan	2022 Plan	2023 Plan	2024 Plan	2025 Plan	2026 Plan	2027 Plan	2018 - 2027 Total	Total Project Cost
Total Expenditures by Category													
Legislated													
Landfill Development		11,334	16,108	18,931	13,414	14,805	15,135	14,815	14,815	14,815	14,815	148,987	
Perpetual Care of Landfills		13,334	8,200	8,217	8,200	5,000	5,000	5,000	5,000	5,000	5,000	67,951	
Sub-Total		24,668	24,308	27,148	21,614	19,805	20,135	19,815	19,815	19,815	19,815	216,938	-
State of Good Repair													
Collection Yard Asset Mgmt		250	250	250	250	250	250	250	250	250	250	2,500	
Diversion Facilities Asset Mgmt		2,750	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	16,250	
Dufferin Waste Facility	500	2,000	10,000	8,000	-	-	-	-	-	-	-	20,000	20,500
Transfer Stn Asset Mgmt		23,309	18,384	3,976	5,135	8,578	8,050	9,016	1,612	11,891	6,150	96,101	
												-	
Sub-Total	500	28,309	30,134	13,726	6,885	10,328	9,800	10,766	3,362	13,641	7,900	134,851	20,500
Service Improvements													
Biogas Utilization	3,211	-	1,199	1,199	1,199	1,199	1,199	1,199	1,199	1,199	5,928	15,520	16,120
Compressed Natural Gas Fill Station		941	941	941	941	941	941	941	941	941	-	8,470	8,470
Diversion Systems		2,325	3,425	3,425	3,425	3,425	3,425	3,425	3,425	3,425	3,425	33,150	
Engineering Planning Studies		1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	15,000	
Green Lane: Landfill Gas Utilization	728	1,000	2,500	-	-	-	-	-	-	-	-	3,500	4,228
IT Corporate Initiatives	3,321	3,449	1,776	2,061	-	-	-	-	-	-	-	7,286	10,607
Long Term Waste Mgmt Strategy	9,164	4,136	11,457	9,192	13,801	21,160	23,944	15,487	16,087	17,657	25,000	157,920	167,085
SWM IT Application Initiatives	4,189	1,974	3,324	2,516	602	341	-	-	-	-	-	8,757	12,946
Two Way Radio Replacement	2,235	270	270	250	250	85	50	40	40	-	-	1,255	3,490
Sub-Total	22,848	15,595	26,392	21,084	21,718	28,651	31,059	22,592	23,192	24,722	35,853	250,858	222,946
Growth Related													
Disco SSO Facility	80,602	4,405	-	-	-	-	-	-	-	-	-	4,405	85,007
Dufferin SSO Facility	57,005	19,824	-	-	-	-	-	-	-	-	-	19,824	76,829
Sub-Total	137,607	24,229	-	-	-	-	-	-	-	-	-	24,229	161,836
Total Expenditures by Category (excluding carry forward)	160,955	92,801	80,834	61,958	50,217	58,784	60,994	53,173	46,369	58,178	63,568	626,876	405,281

*Life to Date approved cash flows are provided for multi-year capital projects with cash flow approvals prior to 2017, excluding ongoing capital projects (e.g. Perpetual Care of Landfills)

2018 – 2027 Capital Projects

The 10-Year Capital Plan for SWMS is primarily comprised of Service Improvement projects for facilities and systems and includes provision for implementation of the Waste Strategy to make progress on achieving the waste diversion target of 70%. Legislated projects include perpetual care of old landfills as well as landfill development at Green Lane. State of Good Repair (SOGR) is dedicated to on-going asset management of transfer stations, collection yards and diversion facilities. Growth Related projects address the completion of Dufferin and Disco organics processing facility expansion / renovation with scheduled completion for both sites in 2018.

Service Improvements

- Service Improvement projects account for \$250.858 million or 40% of the total 10-Year Recommended Capital Plan.
 - Diversion Systems (\$33.150 million) – Funding is provided to implement and replace garbage, recycling and organics containers for single family residential and multi-residential buildings as well as recycling upgrades for multi-residential buildings.

- Landfill Gas Utilization and Biogas Utilization (\$19.020 million) – The project funding will provide infrastructure whereby gas produced by decomposition of waste will be converted to RNG. A total of \$3.5 million over the 10-Year Plan period is allocated to the Landfill Gas Utilization project at Green Lane and \$15.520 million to the Biogas project that will address requirements at the Dufferin/Disco organics processing facilities.
- Waste Strategy (\$157.920 million) – This project has a total project cost of approximately \$698 million with most cash flow funding planned beyond the last year of the 10-Year Capital Plan period to 2046. Funding is for professional technical services to begin implementing study results, securing any Provincially mandated environmental approvals and permits, Request for Proposal (RFP) and construction service efforts required for a vendor procurement process for a new facility.
- SWM IT Application Initiatives (\$8.757 million) – Funding is provided in order to implement various technology solutions in SWMS, including transfer station efficiencies, asset management, revenue forecasting, eService delivery performance measurement, contract management and business process improvements.
- IT Corporate Initiatives (\$7.286 million) – This project provides funding for SWMS' Work Management System which is the multi-year project to procure and implement a common new Work Management System that will be utilized by Toronto Water, Transportation Services, Parks Forestry & Recreation and SWMS.
- Compressed Natural Gas Fill Station (\$8.470 million): This project addresses the need for infrastructure related to the compressed natural gas fueling of vehicles as required by the ten year agreement with Enbridge Gas for the period 2018 to 2026.

Legislated

- Legislated projects include cash flow funding of \$216.938 or 34.6% of the total 10-Year Recommended Capital Plan funding.
 - Green Lane Landfill Cell Development, Systems & Acquisition (\$148.987 million) – The 10-Year Recommended Capital Plan provides annual funding for cell development at the Green Lane Landfill site including new waste cell excavation and construction, landfill systems and buffer land acquisition. Landfill Systems projects include leachate and gas control systems as well as final cover/storm control/site services and engineering and monitoring capability.
 - Perpetual Care (\$67.951 million) – This project provides funding for Capital works necessary for the ongoing maintenance of closed environmentally sound landfill sites after primary operations have ended. Cash flow funding estimates allow for an average of \$7 million annually over the 10-year period for ongoing control system requirements.

State of Good Repair (SOGR)

- SOGR projects account for \$134.851 million or 21.5% of the total 10-Year Recommended Capital Plan's expenditures.
 - Funding is allocated to Transfer Station, Collection Yard & Diversion Facility Asset Management projects as well as the specific project for the Dufferin Waste maintenance and staff building. These projects provide funding to build various improvements to these facilities that are required to meet health and safety, operational and environmental requirements.

Growth Related

- Growth Related projects account for \$24.229 million or 3.9% of the total 10-Year Recommended Capital Plan's expenditures.

- Dufferin Organics Facility (\$19.824 million) With a total project cost of approximately \$76.829 million, construction of this facility began in 2012 and will increase organics processing capacity from 25,000 to approximately 55,000 tonnes per year project will expand the receiving area and install a system to treat wastewater before discharge to the sanitary sewer.
- Disco Rd. Organics Facility (\$4.405 million) Commissioning of the facility is near completion. The plant is operating, processing approximately 75,000 tonnes/year of organics. The contractor is in process of making plant modifications to address remaining deficiencies. 2018 cash flow funding of \$4.405 million includes contract administration & IDC Toronto Water wastewater charges as well as post construction warranty.

2018 Recommended Capital Budget and Future Year Commitments

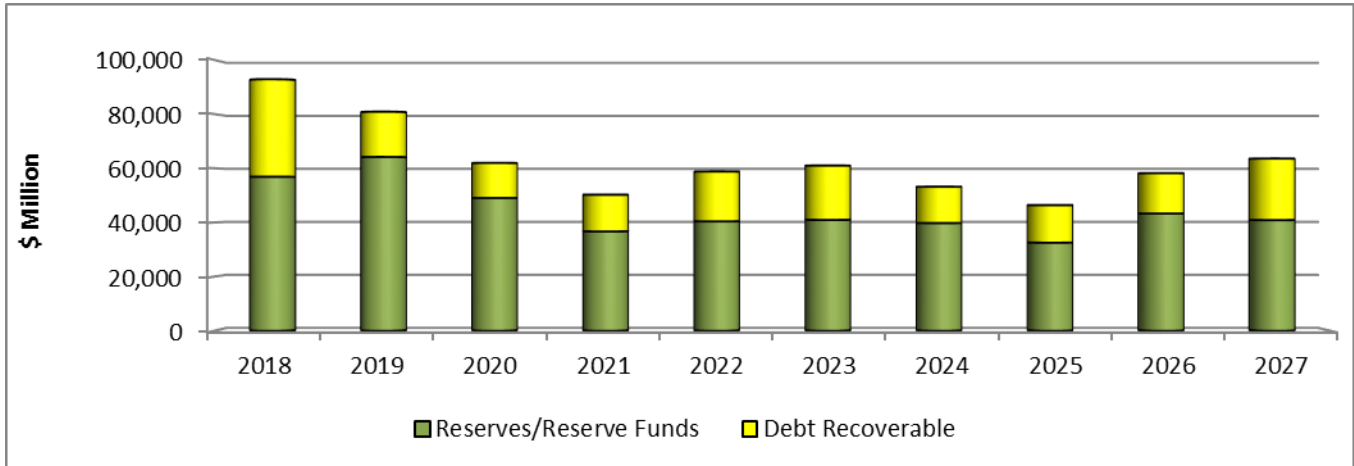
Table 3a, next page, shows the sub-set of the 10-Year Capital Plan that is the 2018 Recommended Capital Budget and Future Year Commitments, consisting of 2018 and future year cash flow for projects previously approved by Council; adjustments (Scope Change) to those previously approved projects as well as new projects that collectively require Council approval to begin, continue or complete capital work.

- Approval of the 2018 Recommended Capital Budget of \$92.801 million will result in future year funding commitments of \$57.042 million in 2019, \$33.157 million in 2020, \$17.775 million in 2021, \$18.931 million in 2022, \$7.076 million for 2023; \$4.241 million for 2024; \$4.241 million for 2025; \$3.941 million for 2026 and \$3 million in 2027 for a total of \$242.205 million.

**Table 3a –
2018 Cash Flow & Future Year Commitments (In \$000s)**

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Total 2018 Cash Flow & FY Commits
Expenditures:											
Previously Approved											-
<i>Biogas Utilization</i>	3,435	1,202									4,637
<i>Disco SSO Facility</i>	4,405										4,405
<i>Diversion Facilities</i>											
<i>Asset Mgmt</i>	2,750	700									3,450
<i>Diversion Systems</i>	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	3,500		11,500
<i>Dufferin SSO Facility</i>	18,824										18,824
<i>Engineering Planning</i>	700										700
<i>IT Corporate Initiatives</i>	3,012	1,397	1,452								5,861
<i>Landfill Development</i>	13,653	13,608	15,570	11,580	13,001	2,515					69,927
<i>Landfill Gas Utilization</i>	5,150	13,538									18,688
<i>Long Term Waste Mgmt Strategy</i>	7,136										7,136
<i>Perpetual Care of Landfills</i>	8,100	9,000									17,100
<i>Transfer Stn Asset</i>	16,120	7,000									23,120
Subtotal	84,285	47,445	18,022	12,580	14,001	3,515	1,000	1,000	3,500	-	185,348
Change in Scope											
<i>Biogas Utilization</i>	(3,435)	(3)	1,199	1,199	1,040						-
<i>Diversion Facilities</i>											
<i>Asset Mgmt</i>	(2,750)	(700)									(3,450)
<i>Diversion Systems</i>	1,325	2,425	2,425	2,425	2,400	2,300	2,300	2,300	(500)	3,000	20,400
<i>Engineering Planning</i>	(700)										(700)
<i>IT Corporate Initiatives</i>	437										437
<i>Landfill Development</i>	(2,319)	1,000	1,861	334	304	320					1,500
<i>Landfill Gas Utilization</i>	(4,150)	(11,038)									(15,188)
<i>Long Term Waste Mgmt Strategy</i>	(3,000)	3,000									-
<i>Perpetual Care of Landfills</i>	325	(8,496)									(8,171)
<i>SWM IT Application</i>	1,736	2,845	360								4,941
<i>Transfer Stn Asset</i>	3,170	(4,441)									(1,271)
Subtotal	(9,361)	(15,408)	5,845	3,958	3,744	2,620	2,300	2,300	(500)	3,000	(1,502)
New w/Future Year											
<i>Collection Yard Asset</i>	250										250
<i>Compressed Natural Gas Fill Station</i>	941	941	941	941	941	941	941	941	941		8,469
<i>Diversion Facilities</i>											
<i>Asset Mgmt</i>	2,750										2,750
<i>Dufferin SSO Facility</i>	1,000										1,000
<i>Dufferin Waste Facility</i>	2,000	10,000	8,000								20,000
<i>Engineering Planning</i>	1,500										1,500
<i>Perpetual Care of Landfills</i>	4,909		264	246	245						5,664
<i>SWM IT Application</i>	238	198									436
<i>Transfer Stn Asset</i>	4,019	13,596									17,615
<i>Two Way Radio Replacement</i>	270	270	85	50							675
Subtotal	17,877	25,005	9,290	1,237	1,186	941	941	941	941	-	58,359
Total Expenditure	92,801	57,042	33,157	17,775	18,931	7,076	4,241	4,241	3,941	3,000	242,205
Financing:											
Debt/CFC											-
Debt Recoverable	35,943	9,388	3,405	2,278	2,132	1,380	659	659	659		56,503
Other											-
Reserves/Res Funds	56,858	47,654	29,752	15,497	16,799	5,696	3,582	3,582	3,282	3,000	185,702
Development Charges											-
Provincial/Federal											-
Total Financing	92,801	57,042	33,157	17,775	18,931	7,076	4,241	4,241	3,941	3,000	242,205

Chart 3
2018 – 2027 Recommended Capital Plan by Funding Source (In \$000s)



The Recommended 10-Year Capital Plan of \$626.876 million cash flow funding will be financed by the following sources:

- Recoverable Debt accounts for \$182.444 million or 29.1% of the financing over the 10-year period.
 - City debt guidelines are not issued for SWMS, as debt is recoverable from user fees with repayment of the debt servicing costs funded in SWMS annual Operating Budget., dedicated to Legislated, Service Improvement and Growth Related projects:
 - Green Lane Landfill Development (\$17.667 million).
 - Dufferin & Disco SSO Facilities (\$16.961 million).
 - Waste Strategy (\$110.548 million).
 - Biogas Utilization (\$10.863 million)
 - SWMS IT Projects (\$9.095 million)
 - Two Way Radio Replacement (\$0.879 million)
 - Engineering Planning Studies (\$10.5 million)
 - Compressed Natural Gas Fill Station (\$5.931 million)
- Reserve and Reserve Funds constitute \$444.432 million or 70.9% of required funding over 10 years for the following major projects:
 - Green Lane Landfill Development (\$134.820 million)
 - Transfer Station & Diversion Facility Asset Mgmt. (\$112.351 million)
 - Perpetual Care of Landfills (\$67.951 million)
 - Waste Strategy (\$47.373 million)
 - Diversion Systems -Bins (\$33.150 million)
 - Dufferin Waste Facility (\$20 million)
 - Dufferin & Disco SSO Facilities (\$7.268 million)

- SWMS IT Projects (\$6.948 million)
- Biogas Utilization (\$4.657 million)
- Engineering Planning Studies (\$4.5 million)
- Collection Yard Asset Mgmt. & Two Way Radio Replacement (\$2.876 million)
- Compressed Natural Gas Fill Station (\$2.538 million)

State of Good Repair (SOGR) Backlog

- Solid Waste Management Services has not currently identified a backlog of State of Good Repair projects. At this time, the funding allocated in the 10-Year Capital Plan for SWMS for State of Good Repair projects is deemed appropriate to maintain the assets in a steady state of good repair.
- SWMS is currently in the process of assessing the condition of its capital assets.
 - With consultants, SWMS developed an Asset Management Framework together with an implementation plan to address business gaps. The implementation plan will generate asset management plans for different asset classes. The asset management plans will provide projected capital and maintenance spending budgets for SOGR capital work based on asset conditions to ensure the reliability to deliver approved service levels.

10-Year Capital Plan: Net Operating Budget Impact

Table 5
Net Operating Impact Summary (In \$000s)

Projects	2018 Budget		2019 Plan		2020 Plan		2021 Plan		2022 Plan		2018 - 2022		2018 - 2027	
	\$000s	Pos.	\$000s	Pos.	\$000s	Pos.	\$000s	Pos.	\$000s	Pos.	\$000s	Pos.	\$000s	Pos.
Previously Approved														
<i>Biogas Utilization - Dufferin and Disco SSO</i>			(1,007.0)		(58.0)		(61.0)		(65.0)		(1,191.0)	-	(1,406.0)	-
<i>Replacement Waste Bins Single Family</i>	600.0										600.0	-	600.0	-
<i>Dufferin SSO Facility</i>	1,398.0										1,398.0	-	1,398.0	-
<i>Two Way Radio Replacement</i>	46.0		46.0		46.0		46.0		46.0		230.0	-	460.0	-
New Projects - Future Years											-	-	-	-
<i>IT Business Systems Integration</i>					107.0		120.0				227.0	-	227.0	-
											-	-	-	-
Total (Net)	2,044.0	-	(961.0)	-	95.0	-	105.0	-	(19.0)	-	1,264.0	-	1,279.0	-

The 10-Year Recommended Capital Plan will increase future year Operating Budgets by a total of \$1.279 million net over the 2018 – 2027 period, as shown in the table above. These future operating impacts will be reviewed each year as part of the annual Operating Budget process.

These operating impacts reflect the financial impact arising from the completion of the following capital projects:

- *Biogas Utilization* – The City's organics processing facilities at the Dufferin Facility and Disco Road transfer station will generate combustible biogas through anaerobic digestion. The biogas can be similarly utilized as a source of renewable energy (electricity or renewable natural gas) to provide an economic benefit to the City.
 - The sale of the renewable energy product will achieve a favourable return on the initial capital investment of \$13.8 million and will generate a revenue stream over a 20 year period. By 2027, the estimated incremental net operating revenue is projected at \$1.406 million.
- *Replacement Waste Bins Single Family* – The contract for Single Family bins has added services and deliveries not anticipated at the original start of the contract. Further analysis indicates additional operating funding will be required for these changes. The added services and deliveries have enhanced customer service but also operational efficiencies. These include the addition of residential green bin deliveries and the provision of 35 gallon organic carts to multi-residential and non-residential customers. Additional funds have also been required due to an increase in the overall demand from residents for bin-related service requests as well as media campaigns to upsize recycle bins or downsize garbage bins to increase participation in diversion programs.
 - The estimated incremental net operating cost is \$0.600 million mainly to renew the current Bin contract for an additional 10 years so that residents and customers can continue utilizing the current bins, including repair and replacement when necessary.
- *Dufferin SSO Facility* – This operating impact reflects the annual cost of operating the Dufferin Organics Processing Facility (DOPF) to process 12,000 tonnes out of an annual total of 28,000 tonnes of green bin organics in 2018. This cost was considered as part of facility commissioning and absorbed by the capital project up to 2017. The adjustment of \$1.398 million will align the operating budget with expected actual spending in 2018.
- *Two Way Radio Replacement* – Annual maintenance costs of \$0.046 million as required for new two way radio system. This impact includes monthly air time of system and a provision to implement the Ernst & Young Safety Recommendation to install On-board Monitoring/Coaching Devices. By 2027, the estimated incremental net operating cost will be \$0.460 million

- *IT Business Systems Integration* – This information technology project for SWMS will address business issues such as establishing SWMS system integration through WebMethods, work with other initiatives such as the Short Term Application Improvement, system integration with contractors' systems within the Contract Management initiative and Work Management System (WMS). Also includes migration of existing system integrations (Revenue Services and GCC) to the Corporate integration platform where possible. By 2027, the estimated incremental net operating cost is \$0.227 million.

**Table 6
Capital Project Delivery: New Temporary Positions**

Project Name	CAPTOR Project Number	Position Title	# of Pos.	Project Delivery		Salary and Benefits \$ Amount (\$000s)			
				Start Date	End Date (m/d/yr)	2018	2019	2020	2021
<i>IT Corporate Initiatives</i>									
<i>Work Management System Implementation</i>	SOL907956-8	Research Analyst 1	1.0	05/01/2018	12/31/2020	60.9	91.4	91.4	-
<i>Work Management System Implementation</i>	SOL907956-8	Quality Assurance Analyst	1.0	05/01/2018	12/31/2020	52.6	78.8	78.8	-
<i>Long Term Waste Management Strategy</i>									
<i>Reduce & Reuse, Multi-Resident & Incentives</i>	SOL907632-7,25	Project Lead SWM	1.0	01/01/2018	10/31/2020	109.2	109.2	109.2	109.2
Total			3.0			222.7	279.4	279.4	109.2

Approval of the 2018 – 2027 Recommended Capital Budget and Plan will result in a requirement for 3 new/extended temporary capital project delivery positions to implement the following projects:

- *Work Management System Implementation* – 2 positions are required at a cost of \$0.454 million over the 2018 to 2020 timeframe. Solid Waste is one of five divisions participating in the Work Management Champion Group, seeking to define specifications for, and then acquire, an enterprise Work Management Solution (WMS) for the City of Toronto. This solution will be primarily focused on the planning and management of work orders, including work orders associated with unplanned events (reactive scenario) and with planned events (e.g. regular maintenance or pre-planned construction).
- *Reduce & Reuse, Multi-Resident & Incentives* – 1 position is required at a cost of \$0.438 million over the 2018 to 2021 period. This is a new project to support the planning and implementation of new Waste Strategy options that will prioritize reduce and reuse efforts that supports diversion in multi-residential buildings. The position will undertake audits to benchmark and measure performance, review and consult on multi-residential development standards, explore data management tools and costs to support community composting and support the development of agreements with partners on potential incentive programs.

It is recommended that Council approve these new 3 temporary capital positions for the delivery of the above capital projects / sub-projects and that the duration for each temporary position not exceed the life of the funding of its respective capital projects / sub-projects.



Part 2: Issues for Discussion

Issues for Discussion

Issues Impacting the 2018 Capital Budget

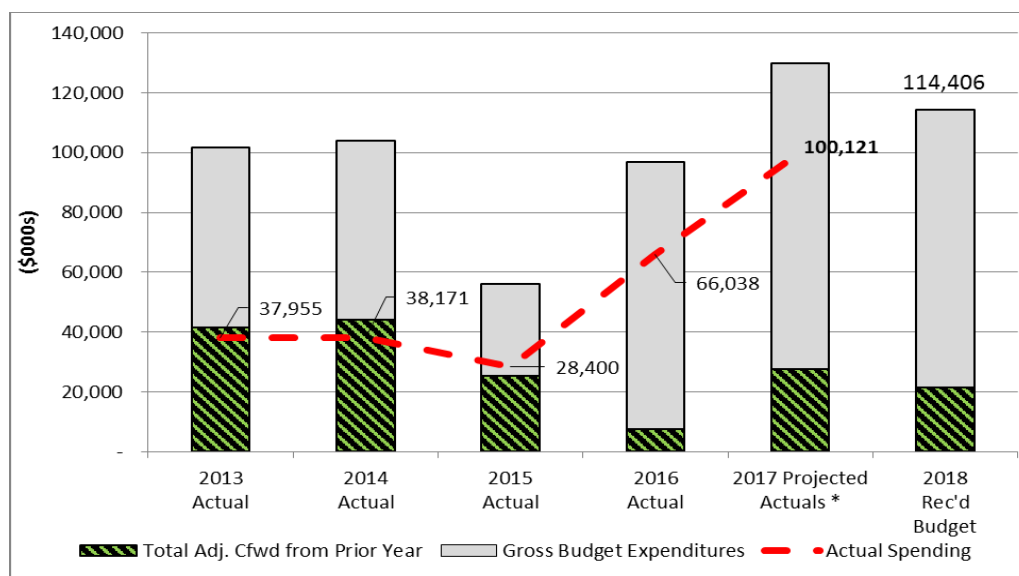
Review of Capital Projects and Spending

- City Council, at its meeting of May 24, 2017 considered the report entitled "2018 Budget Process - Budget Directions and Schedule EX25.18" and directed staff to:
 - Submit their 2018 – 2027 Capital Budget and Plans requiring that:
 - b. annual cash flow funding estimates be examined to more realistically match cash flow spending to project activities and timing, especially in the first 5 years of the Capital Plan's timeframe.
- The table below illustrates the ongoing spending pattern for SWMS by project category since 2012. The 5-year average overall spending 2012 to 2016 is 49.8% of the approved budget. 2017 spending is projected to be \$100.121 million or 77.1% which is a 15.6% increase in anticipated spending based on 2nd quarter projections*.

Category	2012		2013		2014		2015		2016		Spending Rate 5 Year 2012-2016 Avg. %	2017		
	Budget	Spending Rate %	Budget	Spending Rate %	Budget	Spending Rate %	Budget	Spending Rate %	Budget	Spending Rate %		Budget	Projected Actual *	Spending Rate %
Legislated	44,359	75.0%	29,162	45.8%	26,788	65.7%	24,363	61.3%	23,447	78.9%	65.9%	25,419	21,391	84.2%
SOGR	17,155	56.4%	12,587	39.5%	15,589	49.5%	10,429	39.1%	18,397	65.1%	51.8%	20,100	14,433	71.8%
Service Improvement	77,105	46.2%	60,038	32.7%	61,565	20.9%	21,262	44.2%	35,300	50.0%	37.3%	44,598	32,386	72.6%
Growth Related									19,524	83.9%	83.9%	39,767	31,911	80.2%
Total	138,619	56.7%	101,787	37.3%	103,942	36.7%	56,054	50.7%	96,669	66.7%	49.8%	129,885	100,121	77.1%

- Chart 4, below, shows the spending trend of the total capital program for SWMS since 2013. The budget bars are split between new annual cash flows and funding carried forward from prior years.

Chart 4



- While the 2013 & 2014 cash flows were adjusted downward based on capacity to spend and readiness to proceed actual spending for these years did not materialize to the extent expected.

- Cash flow funding approved in 2015 reflected the major deferral of funding approved by Council in September 2015. As can be seen by the red dashed line actual spending was still significantly below the approved and revised budget for 2015.
- Spending gains were realized in 2016 (\$66.038 million) based on cash flow adjustments approved as part of the 2016 Budget process; with those adjustments approved in order to address under spending experienced from 2013 to 2015.
- The projected actual capital spending for 2017 is anticipated to be \$100.121 million as of the 2nd quarter. This is well below the 2017 budget of \$129.885 million. The 2018 Recommended Capital Budget of \$114.406 million includes amounts carried forward of \$21.605 million.
- Chart 4 illustrates that further efforts to align budgeted cash flows with the Program's capacity to spend have been made as part of the 2018 Budget process. These actions were taken:
 - 1) The 2018 Recommended Capital Budget includes a recommended \$23.020 million in 2018 requested cash flow funding was deferred into 2019 and future years based on a review of each capital project's readiness to proceed in 2018 and the capacity to spend in each capital program area. 2018 deferrals include:
 - Green Lane Landfill Development (\$2.0 million) to 2019/2020;
 - Landfill Gas Utilization (\$2.5 million) to 2019;
 - Long Term Waste Management Strategy (\$3 million) to 2019; and
 - Biogas Utilization (\$15.520 million) to the period 2019 to 2027.
 - 2) The 2018 Recommended Capital Budget and Plan also recommends \$149.4 million in future year cash flow commitments that will allow the Program to initiate multi-year capital work that will ultimately result in greater spending and delivery rates in future years.
- SWMS in consultation with the Financial Planning Division, will continue to monitor spending in 2018, report capital spending quarterly through the City's variance reports and report on any future adjustments as required, as part of the 2019 Budget process.

Issues Impacting the 10-Year Capital Plan

Achieving the 70% Division Target & the Long Term Waste Management Strategy

- The Solid Waste Management Services' capital program is driven primarily by the City's Waste Strategy and long term infrastructure demands and it is therefore on that basis that the 2018 Capital Budget and 2019-2027 Capital Plan has been established.
- City Council, at its meeting of July 12, 2016 adopted report *PW14.2 Final Long Term Waste Management Strategy*, including recommended options and implementation plan, as presented in Attachment 1 to the report that identified \$143.916 million in required Operating and Capital funding from 2016 to 2026 along with \$560 million in additional capital funding requirements from 2027 to 2046.
- The link to the report and attachment are provided below:

Report

<http://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-94037.pdf>

Attachment 1

<http://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-94038.pdf>

- Consistent with this Report, the 2018 – 2027 Recommended Capital Budget and Plan provides cash flow funding of \$157.920 million dedicated to the Long Term Waste Management Strategy project.
- It is important to note that the Waste Strategy, as adopted in its entirety, is anticipated to divert an additional 200,000 tonnes of material by 2026 from all City serviced and non-City serviced sources (both residential and non-residential). Based on current projections, investment in these strategies will extend the life of Green Lane Landfill until approximately 2040.

Long-Term Capital Program Reserve Funding & the Rate Model

- The 2018-2027 Recommended Capital Plan for SWMS is 29.1% funded through recoverable debt. The City advances debt funding annually required for Solid Waste Managements' capital work and the Program repays the annual debt servicing costs (interest and principal) through funding generated by the volume based user fees collected. The Program contributes to the SWMS Debt Reserve Fund through the Program's Operating Budget. Corporate non-program debt charge accounts then recover the required amount annually from the debt reserve fund.
- SWMS also utilizes the Waste Management Reserve Fund, which is maintained annually through contributions from SWMS' Operating Budget. The reserve fund then provides annual funding for the Program's capital requirements that are not funded through recoverable debt, this reserve fund also acts as a rate stabilization reserve. The projected 2017 year-end balance of the reserve fund is \$82.577 million.
- An analysis of SWMS capital needs was undertaken to determine annual capital reserve contribution requirements, funded from the SWMS Operating Budget to:
 1. Fund the SWMS 10-Year Recommended Capital Budget and Plan that requires \$626.9 million in total funding, excluding funds carried forward from 2017 into 2018.
 2. Continue the transition to a fully sustainable utility model, based on utilizing the Waste Management Reserve Fund.
 - The amount of recoverable debt allocated by project is dependent on the annual reserve fund balance available, the magnitude of project funding requirements and the annual contribution level of funding to the reserve fund. The annual contribution of funding to the reserve fund is driven by projected operating expenditures and revenues, which in large part, are driven by Council approved rate increases. The larger the projected reserve fund annual balances, the less dependence on debt issuance.
 3. Provide adequate annual funding to invest in future capital needs beyond the ten year planning period, i.e. beyond 2027, including three significant Waste Strategy investments that total \$560 million, will be required as noted below:
 - Mixed Waste Processing Facility with Organics Recovery (\$310 million);
 - Near and Long Term Residual Waste Management (\$150 million); and
 - Future Green Bin Organics Processing Capacity (\$100 million).
 - Rate Model analysis has determined that an annual blended rate increase of 1.9% in 2018 will allow for adequate annual contributions to the reserve fund from the SWMS Operating Budget, ensuring that the reserve fund can maintain a positive balance each year from 2018 to 2027 while at the same time building a base to support the three future objectives noted above.



Appendices

Appendix 1 2017 Performance

2017 Key Accomplishments

In 2017, Solid Waste Management Services made significant progress and/or accomplished the following:

- ✓ Waste Diversion
 - Completion of Green Bin 2.0 Rollout
 - Residential Contamination Pilot project (SF and Multi-Res)
 - Development of Coffee Pod Testing Methodology
- ✓ Long Term Waste Management Strategy
 - MWA Awards for Promotion & Education
 - Mayor's Towering Challenge
- ✓ Green Lane Landfill
 - Construction of Landfill Gas Flare 3
 - Completion of Perpetual Care Reserve Fund Study for Green Lane Landfill
- ✓ Completion of Full Asset Inventory & Condition Assessment
- ✓ Finish Commissioning of Disco Organics Facility
- ✓ RNG Consultant Retainer
- ✓ Mobile App for Parks and Nights Collection
- ✓ Completion of 10+ capital projects
- ✓ Initiation of 10+ new capital projects
- ✓ Completion of Perpetual Care Reserve Fund Study for Closed Landfill Sites

2017 Financial Performance

2017 Budget Variance Analysis (in \$000's)

2017 Budget	As of June 30, 2017		Projected Actuals at Year-End		Unspent Balance	
\$	\$	% Spent	\$	% Spent	\$ Unspent	% Unspent
129,885	20,930	16.1%	100,121	77.1%	29,764	22.9%

* Based on 2017 Second Quarter Capital Variance Report

For additional information regarding the 2017 Q2 capital variances and year-end projections for SWMS, please refer to the attached link for the report entitled "*Capital Variance Report for the Six-Month Period Ended June 30, 2017*" considered by City Council at its meeting on October 2, 3 & 4, 2017.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX27.18>

Impact of the 2017 Capital Variance on the 2018 Recommended Capital Budget

- As of the 2nd Quarter, review of SWMS capital projects in 2017 shows:

- Significant delay experienced on 22 projects/subprojects (78% of the budget or \$100.9 million) mainly due to delay in awarding RFQs, issues with contractors, site conditions, insufficient staff and coordination with other projects. This includes large projects such as Diversion Systems (Waste Bins, Green Bins); Gas Utilization projects, Transfer Station Asset Management, Collection Yard upgrades, mobile radio replacements, IT projects and the Disco & Dufferin SSO Facilities.
- Long Term Waste Strategy (\$6.224 million) is expected to be delayed by 32 months on the overall schedule so that the project is anticipated to be \$3.3 million underspent by December 2017. Funding allocations are currently under review.
- 14 projects/subprojects (22% of the budget or \$28.5 million) are considered as being on-schedule and mainly include on-going work at Green Lane, perpetual care of old landfills, Diversion Facility Asset Management, Engineering Planning Studies and the Dufferin Waste Facility.
- As a result of the delays in the capital projects, as described in the 2017 Q2 Capital Variance Report, funding of \$21.605 million is being carried forward to the 2018 Recommended Capital Budget to continue the capital work.
- A detailed review of the 2018 – 2027 Recommended Capital Budget and Plan has been conducted and the necessary adjustments has been made to the timing of cash flow funding for unique and major capital projects such as Landfill Development, Landfill Gas Utilization, Construction of Biogas Utilization Facilities and the Long Term Waste Management Strategy. By deferring the cash flow funding to future years, the 2018 Recommended Capital Budget reflects readiness to proceed and will lead to a higher rate of spending.

Appendix 2

**2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan (\$000s)
(Including Carry Forward Funding)**

Project	Total Project Cost	Prior Year Carry Forward	2018	2019	2020	2021	2022	2018 - 2022	2023	2024	2025	2026	2027	2018 - 2027 Total
Legislated:														
Landfill Development	-	1,618	11,334	16,108	18,931	13,414	14,805	76,210	15,135	14,815	14,815	14,815	14,815	150,605
Perpetual Care of Landfills	-	2,409	13,334	8,200	8,217	8,200	5,000	45,360	5,000	5,000	5,000	5,000	5,000	70,360
Sub-Total		4,027	24,668	24,308	27,148	21,614	19,805	121,570	20,135	19,815	19,815	19,815	19,815	220,965
State of Good Repair:														
Collection Yard Asset Mgmt	-		250	250	250	250	250	1,250	250	250	250	250	250	2,500
Diversification Facilities Asset Mgmt	-		2,750	1,500	1,500	1,500	1,500	8,750	1,500	1,500	1,500	1,500	1,500	16,250
Dufferin Waste Facility	500	400	2,000	10,000	8,000	-	-	20,400	-	-	-	-	-	20,400
Transfer Stn Asset Mgmt	-	3,093	23,309	18,384	3,976	5,135	8,578	62,475	8,050	9,016	1,612	11,891	6,150	99,194
Sub-Total		3,493	28,309	30,134	13,726	6,885	10,328	92,875	9,800	10,766	3,362	13,641	7,900	138,344
Service Improvements:														
Biogas Utilization	3,211	2,473	-	1,199	1,199	1,199	1,199	7,269	1,199	1,199	1,199	1,199	5,928	17,993
Compressed Natural Gas Fill Station	-		941	941	941	941	941	4,705	941	941	941	941	-	8,470
Diversification Systems	-	1,142	2,325	3,425	3,425	3,425	3,425	17,167	3,425	3,425	3,425	3,425	3,425	34,292
Engineering Planning Studies	-		1,500	1,500	1,500	1,500	1,500	7,500	1,500	1,500	1,500	1,500	1,500	15,000
Green Lane: Landfill Gas Utilization	728		1,000	2,500	-	-	-	3,500	-	-	-	-	-	3,500
IT Corporate Initiatives	3,321	940	3,449	1,776	2,061	-	-	8,226	-	-	-	-	-	8,226
Long Term Waste Mgmt Strategy	9,164	1,440	4,136	11,457	9,192	13,801	21,160	61,186	23,944	15,487	16,087	17,657	25,000	159,360
SWM IT Application Initiatives	4,189	299	1,974	3,324	2,516	602	341	9,056	-	-	-	-	-	9,056
Two Way Radio Replacement	2,235		270	270	250	250	85	1,125	50	40	40	-	-	1,255
Sub-Total		6,294	15,595	26,392	21,084	21,718	28,651	119,734	31,059	22,592	23,192	24,722	35,853	257,152
Growth Related:														
Disco SSO Facility	80,602		4,405	-	-	-	-	4,405	-	-	-	-	-	4,405
Dufferin SSO Facility	57,005	7,791	19,824	-	-	-	-	27,615	-	-	-	-	-	27,615
Sub-Total		7,791	24,229	-	-	-	-	32,020	-	-	-	-	-	32,020
Total		21,605	92,801	80,834	61,958	50,217	58,784	366,199	60,994	53,173	46,369	58,178	63,568	648,481

Appendix 3

2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 3: 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

Solid Waste Management

Sub-Project No.	Project Name	Ward	Stat.	Cat.	Current and Future Year Cash Flow Commitments									Current and Future Year Cash Flow Commitments Financed By											
					2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing			
SOL000065 Diversion Systems Bins																									
0 112	SSO In-Unit Kitchen Containers - Change	CW	S3	04	0	100	100	100	100	400	0	400	0	0	0	0	400	0	0	0	0	0	0	0	400
0 113	SSO In-Unit Kitchen Containers - Future Years	CW	S6	04	0	0	0	0	0	0	500	500	0	0	0	0	500	0	0	0	0	0	0	0	500
0 117	Multi-Residential In-Unit Recycling Bags	CW	S3	04	25	25	25	25	0	100	0	100	0	0	0	0	100	0	0	0	0	0	0	0	100
0 119	Replacement Waste Bins Single Family	CW	S2	04	2,000	1,000	1,000	1,000	1,000	6,000	6,500	12,500	0	0	0	0	12,500	0	0	0	0	0	0	0	12,500
0 120	2nd Generation Green Bin Replacement - Change	CW	S3	04	300	300	300	300	300	1,500	900	2,400	0	0	0	0	2,400	0	0	0	0	0	0	0	2,400
0 121	2nd Generation Green Bin Replacement - Future Year	CW	S6	04	0	0	0	0	0	0	600	600	0	0	0	0	600	0	0	0	0	0	0	0	600
0 123	SSO IN-UNIT KITCHEN CONTAINERS	CW	S2	04	142	0	0	0	0	142	0	142	0	0	0	0	142	0	0	0	0	0	0	0	142
0 124	Replacement Waste Bins Single Family	CW	S3	04	1,000	2,000	2,000	2,000	2,000	9,000	8,500	17,500	0	0	0	0	17,500	0	0	0	0	0	0	0	17,500
0 125	Multi-Residential In-Unit Recycling Bags - Future	CW	S6	04	0	0	0	0	25	25	125	150	0	0	0	0	150	0	0	0	0	0	0	0	150
Sub-total					3,467	3,425	3,425	3,425	3,425	17,167	17,125	34,292	0	0	0	0	34,292	0	0	0	0	0	0	0	34,292
SOL906419 Perpetual Care of Landfills																									
0 9	Perpetual Care of Landfills-CSW312-17	CW	S2	02	-226	856	0	0	0	630	0	630	0	0	0	0	630	0	0	0	0	0	0	0	630
0 12	Perpetual Care of Landfills-CSW312-16	CW	S2	02	10,410	9,000	0	0	0	19,410	0	19,410	0	0	0	0	19,410	0	0	0	0	0	0	0	19,410
0 13	Perpetual Care of Landfills-CSW312-16	CW	S3	02	0	-7,640	0	0	0	-7,640	0	-7,640	0	0	0	0	-7,640	0	0	0	0	0	0	0	-7,640
0 15	Perpetual Care of Landfills-CSW312-18	CW	S6	02	0	7,696	7,953	7,954	4,755	28,358	25,000	53,358	0	0	0	0	53,358	0	0	0	0	0	0	0	53,358
0 16	Perpetual Care of Landfills-CSW312-16	CW	S4	02	205	0	264	246	245	960	0	960	0	0	0	0	960	0	0	0	0	0	0	0	960
0 17	Perpetual Care of Landfills-CSW312-16	CW	S2	02	325	-856	0	0	0	-531	0	-531	0	0	0	0	-531	0	0	0	0	0	0	0	-531
0 18	Perpetual Care of Landfills-CSW312-17	CW	S3	02	325	-856	0	0	0	-531	0	-531	0	0	0	0	-531	0	0	0	0	0	0	0	-531
0 19	Perpetual Care of Landfills-CSW312-18	CW	S4	02	4,704	0	0	0	0	4,704	0	4,704	0	0	0	0	4,704	0	0	0	0	0	0	0	4,704
Sub-total					15,743	8,200	8,217	8,200	5,000	45,360	25,000	70,360	0	0	0	0	70,360	0	0	0	0	0	0	0	70,360
SOL906580 Collection Yard Asset Management																									
0 48	Collection Yard Asset Management Change	CW	S4	03	250	0	0	0	0	250	0	250	0	0	0	0	250	0	0	0	0	0	0	0	250
0 49	Collection Yard Asset Management - Future Years	CW	S6	03	0	250	250	250	250	1,000	1,250	2,250	0	0	0	0	2,250	0	0	0	0	0	0	0	2,250
Sub-total					250	250	250	250	250	1,250	1,250	2,500	0	0	0	0	2,500	0	0	0	0	0	0	0	2,500
SOL907246 Green Lane Landfill Development																									

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 3: 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

Solid Waste Management

Sub-Project No.	Project Name	Ward	Stat.	Cat.	Current and Future Year Cash Flow Commitments									Current and Future Year Cash Flow Commitments Financed By									
					2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing	
<u>SOL907246 Green Lane Landfill Development</u>																							
0 27	Landfill Gas Control System	CW	S2	02	1,312	1,467	5,082	2,299	1,815	11,975	2,515	14,490	0	0	0	0	13,374	0	0	0	0	1,116	14,490
0 28	Leachate Control System	CW	S2	02	803	1,730	2,528	1,395	1,362	7,818	0	7,818	0	0	0	0	7,135	0	0	0	0	683	7,818
0 33	BUFFER LAND ACQUISITION - Future Years	CW	S6	02	0	1,500	1,500	1,500	1,500	6,000	7,500	13,500	0	0	0	0	13,500	0	0	0	0	0	13,500
0 35	Engineering and Monitoring Future Years	CW	S6	02	0	0	0	0	0	0	625	625	0	0	0	0	625	0	0	0	0	0	625
0 36	Cell Excavation & Base Construction - Future Years	CW	S6	02	0	0	0	0	0	0	39,925	39,925	0	0	0	0	39,925	0	0	0	0	0	39,925
0 38	Site Services/Final Cover/Storm Future Years	CW	S6	02	0	0	0	0	0	0	6,140	6,140	0	0	0	0	6,140	0	0	0	0	0	6,140
0 39	Leachate Control System - Future Years	CW	S6	02	0	0	0	0	0	0	7,310	7,310	0	0	0	0	7,310	0	0	0	0	0	7,310
0 40	Landfill Gas Control System - Future Years	CW	S6	02	0	0	0	0	0	0	10,060	10,060	0	0	0	0	10,060	0	0	0	0	0	10,060
0 42	Landfill Gas Utilization	CW	S2	04	5,150	13,538	0	0	0	18,688	0	18,688	0	0	0	0	5,606	0	0	0	0	13,082	18,688
0 44	Cell Excavation & Base Construction	CW	S2	02	10,704	9,120	6,412	6,314	7,887	40,437	0	40,437	0	0	0	0	31,338	0	0	0	0	9,099	40,437
0 45	Engineering & Monitoring	CW	S2	02	144	182	156	146	150	778	0	778	0	0	0	0	655	0	0	0	0	123	778
0 46	Site Services/Final Cover/Storm Control	CW	S2	02	2,308	1,109	1,392	1,426	1,787	8,022	0	8,022	0	0	0	0	6,060	0	0	0	0	1,962	8,022
0 52	BUFFER LAND ACQUISITION	CW	S3	02	1,500	0	0	0	0	1,500	0	1,500	0	0	0	0	225	0	0	0	0	1,275	1,500
0 53	Landfill Gas to Renewable Natural Gas	CW	S3	04	-4,150	-11,038	0	0	0	-15,188	0	-15,188	0	0	0	0	-5,427	0	0	0	0	-9,761	-15,188
0 54	Landfill Gas Control System	CW	S3	02	90	0	-30	0	-30	30	-30	0	0	0	0	0	-52	0	0	0	0	52	0
0 55	Leachate Control System	CW	S3	02	-30	0	15	0	0	-15	15	0	0	0	0	25	0	0	0	0	0	-25	0
0 56	Site Services/Final Covers/Storm - Change	CW	S3	02	1,691	0	0	-564	-564	563	-563	0	0	0	0	-1,437	0	0	0	0	0	1,437	0
0 57	Cell Excavation & Base Construction - Change	CW	S3	02	-5,507	1,000	1,876	877	877	-877	877	0	0	0	0	0	0	0	0	0	0	0	0
0 58	Engineering and Monitoring Change	CW	S3	02	-63	0	0	21	21	-21	21	0	0	0	0	0	0	0	0	0	0	0	0
Sub-total					13,952	18,608	18,931	13,414	14,805	79,710	74,395	154,105	0	0	0	0	135,062	0	0	0	0	19,043	154,105
<u>SOL907630 Dufferin SSO Facility</u>																							
0 3	Dufferin SSO Facility Expansion	CW	S2	05	26,615	0	0	0	0	26,615	0	26,615	0	0	0	0	7,984	0	0	0	0	18,631	26,615
0 6	Dufferin Organics Processing Facility Haulage	CW	S4	05	1,000	0	0	0	0	1,000	0	1,000	0	0	0	0	300	0	0	0	0	700	1,000
Sub-total					27,615	0	0	0	0	27,615	0	27,615	0	0	0	0	8,284	0	0	0	0	19,331	27,615

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Gross Expenditures (\$000's)

Appendix 3: 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

Solid Waste Management

Sub- Project No. Project Name Priority/SubProj No. Sub-project Name Ward Stat. Cat.						Current and Future Year Cash Flow Commitments							Current and Future Year Cash Flow Commitments Financed By												
						2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing		
<u>SOL907631 Disco SSO Facility</u>																									
0	2	2017 Carry Forward to 2018	CW	S2	05	4,405	0	0	0	0	4,405	0	4,405	0	0	0	0	1,321	0	0	0	0	3,084	4,405	
Sub-total						4,405	0	0	0	0	4,405	0	4,405	0	0	0	0	1,321	0	0	0	0	3,084	4,405	
<u>SOL907632 Long Term Waste Management Strategy</u>																									
0	7	Reduce & Reuse, Multi-Residential and Incentives	CW	S6	04	0	1,257	1,257	1,216	1,245	4,975	6,199	11,174	0	0	0	0	3,350	0	0	0	0	7,824	11,174	
0	10	Drop off depots	CW	S6	04	0	245	980	480	480	2,185	24,220	26,405	0	0	0	0	7,921	0	0	0	0	18,484	26,405	
0	11	Commissioners TS	CW	S2	04	100	0	0	0	0	100	0	100	0	0	0	0	30	0	0	0	0	70	100	
0	12	Promotion and Education	CW	S2	04	1,580	0	0	0	0	1,580	0	1,580	0	0	0	0	474	0	0	0	0	1,106	1,580	
0	15	Commissioners TS	CW	S6	04	0	500	500	5,000	10,000	16,000	12,200	28,200	0	0	0	0	8,460	0	0	0	0	19,740	28,200	
0	16	Mixed Waste Processing with Organics Recovery	CW	S2	04	3,685	0	0	0	0	3,685	0	3,685	0	0	0	0	1,105	0	0	0	0	2,580	3,685	
0	18	Enhanced services for ICI & const, reno & demo	CW	S2	04	180	0	0	0	0	180	0	180	0	0	0	0	54	0	0	0	0	126	180	
0	19	Enhanced services for ICI & const, reno & demo	CW	S6	04	0	235	235	235	415	1,120	2,176	3,296	0	0	0	0	989	0	0	0	0	2,307	3,296	
0	20	Unit for Research, Innovation and Circular Economy	CW	S2	04	370	0	0	0	0	370	0	370	0	0	0	0	111	0	0	0	0	259	370	
0	22	Promotion & Education	CW	S6	04	0	2,480	2,480	2,980	1,230	9,170	7,920	17,090	0	0	0	0	5,127	0	0	0	0	11,963	17,090	
0	23	Mixed Waste Processing with Organics Recovery	CW	S6	04	0	3,370	3,370	3,520	7,420	17,680	43,050	60,730	0	0	0	0	18,219	0	0	0	0	42,511	60,730	
0	24	Unit for Research, Innovation and Circular Economy	CW	S6	04	0	370	370	370	370	1,480	2,410	3,890	0	0	0	0	1,167	0	0	0	0	2,723	3,890	
0	25	Reduce & Reuse, Multi-Residential and Incentives	CW	S2	04	2,661	0	0	0	0	2,661	0	2,661	0	0	0	0	797	0	0	0	0	1,864	2,661	
0	26	Mixed Waste Processing facility with Organics Reco	CW	S3	04	-2,000	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0	27	Promotion and Education	CW	S3	04	-1,000	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sub-total						5,576	11,457	9,192	13,801	21,160	61,186	98,175	159,361	0	0	0	0	47,804	0	0	0	0	111,557	159,361	
<u>SOL907863 Biogas Utilization</u>																									
0	3	Construction of Biogas Utilization - Disco	CW	S3	04	-3,435	-1,202	0	0	0	-4,637	0	-4,637	0	0	0	0	-1,390	0	0	0	0	-3,247	-4,637	
0	6	Construction of Biogas Utilization - Dufferin	CW	S3	04	0	1,199	1,199	1,199	1,040	4,637	0	4,637	0	0	0	0	1,392	0	0	0	0	3,245	4,637	
0	8	Biogas Utilization at Disco	CW	S2	04	5,908	1,202	0	0	0	7,110	0	7,110	0	0	0	0	2,131	0	0	0	0	4,979	7,110	

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 3: 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

Solid Waste Management

Sub- Project No. Project Name Priority/SubProj No. Sub-project Name Ward Stat. Cat.						Current and Future Year Cash Flow Commitments							Current and Future Year Cash Flow Commitments Financed By												
						2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing		
<u>SOL907863</u> <u>Bioogas Utilization</u>																									
0	9	Bioogas Utilization at Dufferin	CW	S6	04	0	0	0	0	159	159	10,724	10,883	0	0	0	0	3,265	0	0	0	0	7,618	10,883	
Sub-total						2,473	1,199	1,199	1,199	1,199	7,269	10,724	17,993	0	0	0	0	5,398	0	0	0	0	12,595	17,993	
<u>SOL907919</u> <u>SWM IT Application Initiatives</u>																									
0	8	Business Systems Integration	CW	S6	04	0	0	107	120	0	227	0	227	0	0	0	0	68	0	0	0	0	159	227	
0	13	Asset Management Solution (AMS)	CW	S6	04	0	140	1,112	0	0	1,252	0	1,252	0	0	0	0	375	0	0	0	0	877	1,252	
0	19	SWMS Business Intelligence Implementation	CW	S3	04	486	200	0	0	0	686	0	686	0	0	0	0	205	0	0	0	0	481	686	
0	32	SWMS Business Intelligence Implementation	CW	S2	04	299	0	0	0	0	299	0	299	0	0	0	0	90	0	0	0	0	209	299	
0	35	SWMS Transfer Station Efficiencies	CW	S3	04	1,000	2,020	0	0	0	3,020	0	3,020	0	0	0	0	906	0	0	0	0	2,114	3,020	
0	44	SWMS Transfer Station Efficiencies - Future Years	CW	S6	04	0	0	300	0	0	300	0	300	0	0	0	0	90	0	0	0	0	210	300	
0	45	SWMS Stakeholder-Customer Relationship-Future Yrs	CW	S3	04	250	625	360	0	0	1,235	0	1,235	0	0	0	0	370	0	0	0	0	865	1,235	
0	46	Contract Management (Contract Monitoring) - Change	CW	S6	04	0	141	387	141	0	669	0	669	0	0	0	0	200	0	0	0	0	469	669	
0	50	SWMS OPERATIONAL SOLUTION DELIVERY - PHASE 1	CW	S4	04	238	198	0	0	0	436	0	436	0	0	0	0	131	0	0	0	0	305	436	
0	51	SWMS OPERATIONAL SOLUTION DELIVERY - PHASE 2	CW	S6	04	0	0	250	341	341	932	0	932	0	0	0	0	279	0	0	0	0	653	932	
Sub-total						2,273	3,324	2,516	602	341	9,056	0	9,056	0	0	0	0	2,714	0	0	0	0	6,342	9,056	
<u>SOL907956</u> <u>IT Corporate Initiatives</u>																									
0	5	Electronic Document & Records Mgmt Solution	CW	S2	04	378	0	0	0	0	378	0	378	0	0	0	0	113	0	0	0	0	265	378	
0	6	Time & Attendance Management Solution (TAMS)	CW	S6	04	0	172	261	0	0	433	0	433	0	0	0	0	130	0	0	0	0	303	433	
0	7	Learning Management Solution (LMS)	CW	S6	04	0	207	348	0	0	555	0	555	0	0	0	0	311	0	0	0	0	244	555	
0	8	Work Management System (WMS) Implementation	CW	S2	04	3,574	1,397	1,452	0	0	6,423	0	6,423	0	0	0	0	3,921	0	0	0	0	2,502	6,423	
0	10	Electronic Document & Records Mgmt Solution Change	CW	S3	04	437	0	0	0	0	437	0	437	0	0	0	0	131	0	0	0	0	306	437	
Sub-total						4,389	1,776	2,061	0	0	8,226	0	8,226	0	0	0	0	4,606	0	0	0	0	3,620	8,226	
<u>SOL907957</u> <u>Transfer Station Asset Management</u>																									
0	41	Transfer Station Asset Management-CSW361-16	CW	S2	03	15,058	0	0	0	0	15,058	0	15,058	0	0	0	0	15,058	0	0	0	0	0	15,058	
0	42	Transfer Station Asset Management-CSW361-16	CW	S3	03	-4,569	125	0	0	0	-4,444	0	-4,444	0	0	0	0	-4,444	0	0	0	0	0	-4,444	
0	43	Transfer Station Asset Management-CSW361-18	CW	S6	03	0	2,229	3,976	5,135	8,578	19,918	36,719	56,637	0	0	0	0	56,637	0	0	0	0	0	56,637	

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 3: 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

Solid Waste Management

Sub-Project No.	Project Name	Ward	Stat.	Cat.	Current and Future Year Cash Flow Commitments									Current and Future Year Cash Flow Commitments Financed By									
					2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing	
SOL907957 Transfer Station Asset Management																							
0 44	Transfer Station Asset Management-CSW361-17	CW	S3	03	7,739	-4,566	0	0	0	3,173	0	3,173	0	0	0	0	3,173	0	0	0	0	0	3,173
0 45	Transfer Station Asset Management-CSW361-18	CW	S4	03	4,019	13,596	0	0	0	17,615	0	17,615	0	0	0	0	17,615	0	0	0	0	0	17,615
0 46	Transfer Station Asset Managemnet-2017	CW	S2	03	4,155	7,000	0	0	0	11,155	0	11,155	0	0	0	0	11,155	0	0	0	0	0	11,155
Sub-total					26,402	18,384	3,976	5,135	8,578	62,475	36,719	99,194	0	0	0	0	99,194	0	0	0	0	0	99,194
SOL908082 Diversion Facilities Asset Management																							
0 3	Diversion Facilities Asset Management-2018	CW	S6	03	0	1,500	1,500	1,500	1,500	6,000	7,500	13,500	0	0	0	0	13,500	0	0	0	0	0	13,500
0 4	Diversion Facilities Asset Management-2017	CW	S3	03	-2,750	-700	0	0	0	-3,450	0	-3,450	0	0	0	0	-3,450	0	0	0	0	0	-3,450
0 5	Diversion Facilities Aseet Management-2017	CW	S2	03	2,750	700	0	0	0	3,450	0	3,450	0	0	0	0	3,450	0	0	0	0	0	3,450
0 6	Diversion Facilities Asset Management-2018	CW	S4	03	2,750	0	0	0	0	2,750	0	2,750	0	0	0	0	2,750	0	0	0	0	0	2,750
Sub-total					2,750	1,500	1,500	1,500	1,500	8,750	7,500	16,250	0	0	0	0	16,250	0	0	0	0	0	16,250
SOL908086 Two-Way Radio Replacement																							
0 2	Two-Way Radio Replacement	CW	S4	04	270	270	85	50	0	675	0	675	0	0	0	0	202	0	0	0	0	473	675
0 3	Two-Way Radio Replacement - Future Years	CW	S6	04	0	0	165	200	85	450	130	580	0	0	0	0	174	0	0	0	0	406	580
Sub-total					270	270	250	250	85	1,125	130	1,255	0	0	0	0	376	0	0	0	0	879	1,255
SOL908171 Engineering Planning Studies																							
0 3	Engineering Planning Studies-2017	CW	S3	04	-700	0	0	0	0	-700	0	-700	0	0	0	0	-700	0	0	0	0	0	-700
0 5	ENGINEERING PLANNING STUDIES - 2017	CW	S2	04	700	0	0	0	0	700	0	700	0	0	0	0	700	0	0	0	0	0	700
0 6	ENGINEERING PLANNING STUDIES - 2018	CW	S6	04	0	1,500	1,500	1,500	1,500	6,000	7,500	13,500	0	0	0	0	4,050	0	0	0	0	9,450	13,500
0 7	ENGINEERING PLANNING STUDIES - 2018	CW	S4	04	1,500	0	0	0	0	1,500	0	1,500	0	0	0	0	450	0	0	0	0	1,050	1,500
Sub-total					1,500	1,500	1,500	1,500	1,500	7,500	7,500	15,000	0	0	0	0	4,500	0	0	0	0	10,500	15,000
SOL908389 Dufferin Waste Facility Site Improvement																							
1 1	Dufferin Waste Facility Site Improvement 2017	CW	S2	03	400	0	0	0	0	400	0	400	0	0	0	0	400	0	0	0	0	0	400
0 3	Dufferin Waste Facility Site Improvement 2018-2020	CW	S4	03	2,000	10,000	8,000	0	0	20,000	0	20,000	0	0	0	0	20,000	0	0	0	0	0	20,000
Sub-total					2,400	10,000	8,000	0	0	20,400	0	20,400	0	0	0	0	20,400	0	0	0	0	0	20,400
SOL908488 Compressed Natural Gas Fill Station																							

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 3: 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

Solid Waste Management

Sub- Project No. Project Name PrioritySubProj No. Sub-project Name Ward Stat. Cat.						Current and Future Year Cash Flow Commitments						Current and Future Year Cash Flow Commitments Financed By												
						2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserve Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing	
<u>SOL908488 Compressed Natural Gas Fill Station</u>																								
0	1	Compressed Natural Gas Fill Station			CW S4 04	941	941	941	941	941	4,705	3,764	8,469	0	0	0	0	2,538	0	0	0	0	5,931	8,469
Sub-total						941	941	941	941	941	4,705	3,764	8,469	0	0	0	0	2,538	0	0	0	0	5,931	8,469
Total Program Expenditure						114,406	80,834	61,958	50,217	58,784	366,199	282,282	648,481	0	0	0	0	455,599	0	0	0	0	192,882	648,481

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 3: 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

Solid Waste Management

Sub- Project No. Project Name Priority SubProj No. Sub-project Name Ward Stat. Cat.					Current and Future Year Cash Flow Commitments and Estimates						Current and Future Year Cash Flow Commitments and Estimates Financed By												
					2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserve Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing	
Financed By:																							
Reserve Funds (Ind."XR" Ref.)					68,025	64,159	49,016	36,665	40,379	258,244	197,355	455,599	0	0	0	0	455,599	0	0	0	0	0	455,599
Debt - Recoverable					46,381	16,675	12,942	13,552	18,405	107,955	84,927	192,882	0	0	0	0	0	0	0	0	0	192,882	192,882
Total Program Financing					114,406	80,834	61,958	50,217	58,784	366,199	282,282	648,481	0	0	0	0	455,599	0	0	0	0	192,882	648,481

- Status Code Description**
 S2 S2 Prior Year (With 2018 and/or Future Year Cashflow)
 S3 S3 Prior Year - Change of Scope 2018 and/or Future Year Cost/Cashflow
 S4 S4 New - Stand-Alone Project (Current Year Only)
 S5 S5 New (On-going or Phased Projects)
 S6 S6 New - Future Year (Commencing in 2019 & Beyond)

- Category Code Description**
 01 Health and Safety C01
 02 Legislated C02
 03 State of Good Repair C03
 04 Service Improvement and Enhancement C04
 05 Growth Related C05
 06 Reserved Category 1 C06
 07 Reserved Category 2 C07

Appendix 4

2018 Cash Flow and Future Year Commitments

CITY OF TORONTO

Gross Expenditures (\$000's)
Appendix 4: 2018 Cash Flow and Future Year Commitments

Solid Waste Management

Sub- Priority	Project No. SubProj No.	Project Name Sub-project Name	Ward	Stat.	Cat.	Current and Future Year Cash Flow Commitments							Current and Future Year Cash Flow Commitments Financed By											
						2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing	
<u>SOL000065 Diversion Systems Bins</u>																								
0	112	SSO In-Unit Kitchen Containers - Change	CW	S3	04	0	100	100	100	100	400	0	400	0	0	0	0	400	0	0	0	0	0	400
0	117	Mult-Residential In-Unit Recycling Bags	CW	S3	04	25	25	25	25	0	100	0	100	0	0	0	0	100	0	0	0	0	0	100
0	119	Replacement Waste Bins Single Family	CW	S2	04	2,000	1,000	1,000	1,000	1,000	6,000	6,500	12,500	0	0	0	0	12,500	0	0	0	0	0	12,500
0	120	2nd Generation Green Bin Replacement - Change	CW	S3	04	300	300	300	300	300	1,500	900	2,400	0	0	0	0	2,400	0	0	0	0	0	2,400
0	123	SSO IN-UNIT KITCHEN CONTAINERS	CW	S2	04	142	0	0	0	0	142	0	142	0	0	0	0	142	0	0	0	0	0	142
0	124	Replacement Waste Bins Single Family	CW	S3	04	1,000	2,000	2,000	2,000	2,000	9,000	8,500	17,500	0	0	0	0	17,500	0	0	0	0	0	17,500
		Sub-total				3,467	3,425	3,425	3,425	3,400	17,142	15,900	33,042	0	0	0	0	33,042	0	0	0	0	0	33,042
<u>SOL906419 Perpetual Care of Landfills</u>																								
0	9	Perpetual Care of Landfills-CSW312-17	CW	S2	02	-226	856	0	0	0	630	0	630	0	0	0	0	630	0	0	0	0	0	630
0	12	Perpetual Care of Landfills-CSW312-16	CW	S2	02	10,410	9,000	0	0	0	19,410	0	19,410	0	0	0	0	19,410	0	0	0	0	0	19,410
0	13	Perpetual Care of Landfills-CSW312-16	CW	S3	02	0	-7,640	0	0	0	-7,640	0	-7,640	0	0	0	0	-7,640	0	0	0	0	0	-7,640
0	16	Perpetual Care of Landfills-CSW312-16	CW	S4	02	205	0	264	246	245	960	0	960	0	0	0	0	960	0	0	0	0	0	960
0	17	Perpetual Care of Landfills-CSW312-16	CW	S2	02	325	-856	0	0	0	-531	0	-531	0	0	0	0	-531	0	0	0	0	0	-531
0	18	Perpetual Care of Landfills-CSW312-17	CW	S3	02	325	-856	0	0	0	-531	0	-531	0	0	0	0	-531	0	0	0	0	0	-531
0	19	Perpetual Care of Landfills-CSW312-18	CW	S4	02	4,704	0	0	0	0	4,704	0	4,704	0	0	0	0	4,704	0	0	0	0	0	4,704
		Sub-total				15,743	504	264	246	245	17,002	0	17,002	0	0	0	0	17,002	0	0	0	0	0	17,002
<u>SOL906580 Collection Yard Asset Management</u>																								
0	48	Collection Yard Asset Management Change	CW	S4	03	250	0	0	0	0	250	0	250	0	0	0	0	250	0	0	0	0	0	250
		Sub-total				250	0	0	0	0	250	0	250	0	0	0	0	250	0	0	0	0	0	250
<u>SOL907246 Green Lane Landfill Development</u>																								
0	27	Landfill Gas Control System	CW	S2	02	1,312	1,467	5,082	2,299	1,815	11,975	2,515	14,490	0	0	0	0	13,374	0	0	0	0	1,116	14,490
0	28	Leachate Control System	CW	S2	02	803	1,730	2,528	1,395	1,362	7,818	0	7,818	0	0	0	0	7,135	0	0	0	0	683	7,818
0	42	Landfill Gas Utilization	CW	S2	04	5,150	13,538	0	0	0	18,688	0	18,688	0	0	0	0	5,606	0	0	0	0	13,082	18,688
0	44	Cell Excavation & Base Construction	CW	S2	02	10,704	9,120	6,412	6,314	7,887	40,437	0	40,437	0	0	0	0	31,338	0	0	0	0	9,099	40,437
0	45	Engineering & Monitoring	CW	S2	02	144	182	156	146	150	778	0	778	0	0	0	0	655	0	0	0	0	123	778

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 4: 2018 Cash Flow and Future Year Commitments

Solid Waste Management

Sub-Project No.	Project Name	Ward	Stat.	Cat.	Current and Future Year Cash Flow Commitments									Current and Future Year Cash Flow Commitments Financed By									
					2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable	Total Financing	
SOL907632 Long Term Waste Management Strategy																							
0 27	Promotion and Education	CW	S3	04	-1,000	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sub-total					5,576	3,000	0	0	0	8,576	0	8,576	0	0	0	0	2,571	0	0	0	0	6,005	8,576
SOL907863 Biogas Utilization																							
0 3	Construction of Biogas Utilization - Disco	CW	S3	04	-3,435	-1,202	0	0	0	-4,637	0	-4,637	0	0	0	0	-1,390	0	0	0	0	-3,247	-4,637
0 6	Construction of Biogas Utilization - Dufferin	CW	S3	04	0	1,199	1,199	1,199	1,040	4,637	0	4,637	0	0	0	0	1,392	0	0	0	0	3,245	4,637
0 8	Biogas Utilization at Disco	CW	S2	04	5,908	1,202	0	0	0	7,110	0	7,110	0	0	0	0	2,131	0	0	0	0	4,979	7,110
Sub-total					2,473	1,199	1,199	1,199	1,040	7,110	0	7,110	0	0	0	0	2,133	0	0	0	0	4,977	7,110
SOL907919 SWM IT Application Initiatives																							
0 19	SWMS Business Intelligence Implementation	CW	S3	04	486	200	0	0	0	686	0	686	0	0	0	0	205	0	0	0	0	481	686
0 32	SWMS Business Intelligence Implementation	CW	S2	04	299	0	0	0	0	299	0	299	0	0	0	0	90	0	0	0	0	209	299
0 35	SWMS Transfer Station Efficiencies	CW	S3	04	1,000	2,020	0	0	0	3,020	0	3,020	0	0	0	0	906	0	0	0	0	2,114	3,020
0 45	SWMS Stakeholder-Customer Relationship-Future Yrs	CW	S3	04	250	625	360	0	0	1,235	0	1,235	0	0	0	0	370	0	0	0	0	865	1,235
0 50	SWMS OPERATIONAL SOLUTION DELIVERY - PHASE 1	CW	S4	04	238	198	0	0	0	436	0	436	0	0	0	0	131	0	0	0	0	305	436
Sub-total					2,273	3,043	360	0	0	5,676	0	5,676	0	0	0	0	1,702	0	0	0	0	3,974	5,676
SOL907956 IT Corporate Initiatives																							
0 5	Electronic Document & Records Mgmt Solution	CW	S2	04	378	0	0	0	0	378	0	378	0	0	0	0	113	0	0	0	0	265	378
0 8	Work Management System (WMS) Implementation	CW	S2	04	3,574	1,397	1,452	0	0	6,423	0	6,423	0	0	0	0	3,921	0	0	0	0	2,502	6,423
0 10	Electronic Document & Records Mgmt Solution Change	CW	S3	04	437	0	0	0	0	437	0	437	0	0	0	0	131	0	0	0	0	306	437
Sub-total					4,389	1,397	1,452	0	0	7,238	0	7,238	0	0	0	0	4,165	0	0	0	0	3,073	7,238
SOL907957 Transfer Station Asset Management																							
0 41	Transfer Station Asset Management-CSW361-16	CW	S2	03	15,058	0	0	0	0	15,058	0	15,058	0	0	0	0	15,058	0	0	0	0	0	15,058
0 42	Transfer Station Asset Management-CSW361-16	CW	S3	03	-4,569	125	0	0	0	-4,444	0	-4,444	0	0	0	0	-4,444	0	0	0	0	0	-4,444
0 44	Transfer Station Asset Management-CSW361-17	CW	S3	03	7,739	-4,566	0	0	0	3,173	0	3,173	0	0	0	0	3,173	0	0	0	0	0	3,173
0 45	Transfer Station Asset Management-CSW361-18	CW	S4	03	4,019	13,596	0	0	0	17,615	0	17,615	0	0	0	0	17,615	0	0	0	0	0	17,615

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 4: 2018 Cash Flow and Future Year Commitments

Solid Waste Management

Sub- Project No. Project Name Priority/SubProj No. Sub-project Name Ward Stat. Cat.						Current and Future Year Cash Flow Commitments						Current and Future Year Cash Flow Commitments Financed By													
						2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserves	Reserve Funds	Capital from Current	Other 1	Other2	Debt - Recoverable Debt	Total Financing		
<u>SOL907957 Transfer Station Asset Management</u>																									
0	46	Transfer Station Asset Managemnet-2017	CW	S2	03	4,155	7,000	0	0	0	11,155	0	11,155	0	0	0	0	11,155	0	0	0	0	0	11,155	
Sub-total						26,402	16,155	0	0	0	42,557	0	42,557	0	0	0	0	42,557	0	0	0	0	0	42,557	
<u>SOL908082 Diversion Facilities Asset Management</u>																									
0	4	Diversion Facilities Asset Management-2017	CW	S3	03	-2,750	-700	0	0	0	-3,450	0	-3,450	0	0	0	0	-3,450	0	0	0	0	0	-3,450	
0	5	Diversion Facilities Aseet Management-2017	CW	S2	03	2,750	700	0	0	0	3,450	0	3,450	0	0	0	0	3,450	0	0	0	0	0	3,450	
0	6	Diversion Facilities Asset Management-2018	CW	S4	03	2,750	0	0	0	0	2,750	0	2,750	0	0	0	0	2,750	0	0	0	0	0	2,750	
Sub-total						2,750	0	0	0	0	2,750	0	2,750	0	0	0	0	2,750	0	0	0	0	0	2,750	
<u>SOL908086 Two-Way Radio Replacement</u>																									
0	2	Two-Way Radio Replacement	CW	S4	04	270	270	85	50	0	675	0	675	0	0	0	0	202	0	0	0	0	473	675	
Sub-total						270	270	85	50	0	675	0	675	0	0	0	0	202	0	0	0	0	473	675	
<u>SOL908171 Engineering Planning Studies</u>																									
0	3	Engineering Planning Studies-2017	CW	S3	04	-700	0	0	0	0	-700	0	-700	0	0	0	0	-700	0	0	0	0	0	-700	
0	5	ENGINEERING PLANNING STUDIES - 2017	CW	S2	04	700	0	0	0	0	700	0	700	0	0	0	0	700	0	0	0	0	0	700	
0	7	ENGINEERING PLANNING STUDIES - 2018	CW	S4	04	1,500	0	0	0	0	1,500	0	1,500	0	0	0	0	450	0	0	0	0	1,050	1,500	
Sub-total						1,500	0	0	0	0	1,500	0	1,500	0	0	0	0	450	0	0	0	0	1,050	1,500	
<u>SOL908389 Dufferin Waste Facility Site Improvement</u>																									
1	1	Dufferin Waste Facility Site Improvement 2017	CW	S2	03	400	0	0	0	0	400	0	400	0	0	0	0	400	0	0	0	0	0	400	
0	3	Dufferin Waste Facility Site Improvement 2018-2020	CW	S4	03	2,000	10,000	8,000	0	0	20,000	0	20,000	0	0	0	0	20,000	0	0	0	0	0	20,000	
Sub-total						2,400	10,000	8,000	0	0	20,400	0	20,400	0	0	0	0	20,400	0	0	0	0	0	20,400	
<u>SOL908488 Compressed Natural Gas Fill Station</u>																									
0	1	Compressed Natural Gas Fill Station	CW	S4	04	941	941	941	941	941	4,705	3,764	8,469	0	0	0	0	2,538	0	0	0	0	5,931	8,469	
Sub-total						941	941	941	941	941	4,705	3,764	8,469	0	0	0	0	2,538	0	0	0	0	5,931	8,469	
Total Program Expenditure						114,406	57,042	33,157	17,775	18,931	241,311	22,499	263,810	0	0	0	0	196,869	0	0	0	0	66,941	263,810	

CITY OF TORONTO

Gross Expenditures (\$000's)

Appendix 4: 2018 Cash Flow and Future Year Commitments

Solid Waste Management

Sub- Project No. Project Name Priority SubProj No. Sub-project Name Ward Stat. Cat.						Current and Future Year Cash Flow Commitments and Estimates						Current and Future Year Cash Flow Commitments and Estimates Financed By								
						2018	2019	2020	2021	2022	Total 2018-2022	Total 2023-2027	Total 2018-2027	Provincial Grants and Subsidies	Federal Subsidy	Development Charges	Reserve Reserves	Reserve Funds	Capital from Current	Other 1
Financed By:																				
Reserve Funds (Ind."XR" Ref.)						68,025	47,654	29,752	15,497	16,799	177,727	19,142	196,869	0	0	0	0	0	0	196,869
Debt - Recoverable						46,381	9,388	3,405	2,278	2,132	63,584	3,357	66,941	0	0	0	0	0	0	66,941
Total Program Financing						114,406	57,042	33,157	17,775	18,931	241,311	22,499	263,810	0	0	0	0	0	0	263,810

- Status Code Description**
 S2 S2 Prior Year (With 2018 and/or Future Year Cashflow)
 S3 S3 Prior Year - Change of Scope 2018 and/or Future Year Cost/Cashflow
 S4 S4 New - Stand-Alone Project (Current Year Only)
 S5 S5 New (On-going or Phased Projects)

- Category Code Description**
 01 Health and Safety C01
 02 Legislated C02
 03 State of Good Repair C03
 04 Service Improvement and Enhancement C04
 05 Growth Related C05
 06 Reserved Category 1 C06
 07 Reserved Category 2 C07

Appendix 5

2018 Recommended Capital Budget with Financing Detail

(Phase 2) 17-Solid Waste Management

Sub-Project Category: 01,02,03,04,05,06,07

Type: B Sub-Project Status: S2

Type: C Sub-Project Status: S2,S3,S4,S5



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**Appendix 5: 2018 Recommended Capital Budget with Financing Detail
Solid Waste Management
Sub-Project Summary**

Project/Financing Priority Project	Project Name	Start Date	Completion Date	2018	Financing										
				Cash Flow	Provincial Grants Subsidies	Federal Subsidy	Developmt Charges	Reserves	Reserve Funds	Capital From Current	Other 1	Other 2	Debt	Debt - Recoverable	
0	<u>SOL906419</u>	<u>Perpetual Care of Landfills</u>													
0	9 Perpetual Care of Landfills-CSW312-17	01/01/2019	12/31/2027	-226	0	0	0	0	-226	0	0	0	0	0	0
0	12 Perpetual Care of Landfills-CSW312-16	01/01/2016	12/31/2027	10,410	0	0	0	0	10,410	0	0	0	0	0	0
0	16 Perpetual Care of Landfills-CSW312-16	01/01/2017	12/31/2027	205	0	0	0	0	205	0	0	0	0	0	0
0	17 Perpetual Care of Landfills-CSW312-16	01/01/2017	12/31/2017	325	0	0	0	0	325	0	0	0	0	0	0
0	18 Perpetual Care of Landfills-CSW312-17	01/01/2017	12/31/2017	325	0	0	0	0	325	0	0	0	0	0	0
0	19 Perpetual Care of Landfills-CSW312-18	01/01/2018	12/31/2018	4,704	0	0	0	0	4,704	0	0	0	0	0	0
	Project Sub-total:			15,743	0	0	0	0	15,743	0	0	0	0	0	0
0	<u>SOL906580</u>	<u>Collection Yard Asset Management</u>													
0	48 Collection Yard Asset Management Change	01/01/2018	12/31/2027	250	0	0	0	0	250	0	0	0	0	0	0
	Project Sub-total:			250	0	0	0	0	250	0	0	0	0	0	0
0	<u>SOL907246</u>	<u>Green Lane Landfill Development</u>													
0	27 Landfill Gas Control System	01/01/2011	12/31/2027	1,312	0	0	0	0	196	0	0	0	0	0	1,116
0	28 Leachate Control System	01/01/2016	12/31/2027	803	0	0	0	0	120	0	0	0	0	0	683
0	42 Landfill Gas Utilization	01/01/2015	12/31/2017	5,150	0	0	0	0	1,545	0	0	0	0	0	3,605
0	44 Cell Excavation & Base Construction	01/01/2012	12/31/2027	10,704	0	0	0	0	1,605	0	0	0	0	0	9,099
0	45 Engineering & Monitoring	01/01/2013	12/31/2027	144	0	0	0	0	21	0	0	0	0	0	123
0	46 Site Services/Final Cover/Storm Control	01/01/2012	12/31/2027	2,308	0	0	0	0	346	0	0	0	0	0	1,962
0	52 BUFFER LAND ACQUISITION	01/01/2018	12/31/2027	1,500	0	0	0	0	225	0	0	0	0	0	1,275
0	53 Landfill Gas to Renewable Natural Gas	01/01/2018	12/31/2027	-4,150	0	0	0	0	-1,245	0	0	0	0	0	-2,905
0	54 Landfill Gas Control System	01/01/2018	12/31/2026	90	0	0	0	0	13	0	0	0	0	0	77
0	55 Leachate Control System	01/01/2017	12/31/2027	-30	0	0	0	0	-5	0	0	0	0	0	-25
0	56 Site Services/Final Covers/Storm - Change	01/01/2017	12/31/2026	1,691	0	0	0	0	254	0	0	0	0	0	1,437
0	57 Cell Excavation & Base Construction - Change	01/01/2017	12/31/2026	-5,507	0	0	0	0	-826	0	0	0	0	0	-4,681
0	58 Engineering and Monitoring Change	01/01/2017	12/31/2027	-63	0	0	0	0	-63	0	0	0	0	0	0
	Project Sub-total:			13,952	0	0	0	0	2,186	0	0	0	0	0	11,766
0	<u>SOL907630</u>	<u>Dufferin SSO Facility</u>													
0	3 Dufferin SSO Facility Expansion	01/01/2016	12/31/2018	26,615	0	0	0	0	7,984	0	0	0	0	0	18,631
0	6 Dufferin Organics Processing Facility Haulage	01/01/2018	12/31/2018	1,000	0	0	0	0	300	0	0	0	0	0	700
	Project Sub-total:			27,615	0	0	0	0	8,284	0	0	0	0	0	19,331
0	<u>SOL907631</u>	<u>Disco SSO Facility</u>													
0	2 2017 Carry Forward to 2018	01/01/2010	12/31/2018	4,405	0	0	0	0	1,321	0	0	0	0	0	3,084
	Project Sub-total:			4,405	0	0	0	0	1,321	0	0	0	0	0	3,084



CITY OF TORONTO
Appendix 5: 2018 Recommended Capital Budget with Financing Detail
Solid Waste Management
Sub-Project Summary

Project/Financing Priority Project	Project Name	Start Date	Completion Date	2018	Financing									
				Cash Flow	Provincial Grants Subsidies	Federal Subsidy	Developmt Charges	Reserves	Reserve Funds	Capital From Current	Other 1	Other 2	Debt	Debt - Recoverable
0	<u>SOL907632</u>	<u>Long Term Waste Management Strategy</u>												
0	11 Commissioners TS	01/01/2018	12/31/2027	100	0	0	0	0	30	0	0	0	0	70
0	12 Promotion and Education	01/01/2017	12/31/2026	1,580	0	0	0	0	474	0	0	0	0	1,106
0	16 Mixed Waste Processing with Organics Recovery	01/01/2018	12/31/2027	3,685	0	0	0	0	1,105	0	0	0	0	2,580
0	18 Enhanced services for ICI & const, reno & demo	01/01/2018	12/31/2027	180	0	0	0	0	54	0	0	0	0	126
0	20 Unit for Research, Innovation and Circular Economy	01/01/2018	12/31/2027	370	0	0	0	0	111	0	0	0	0	259
0	25 Reduce & Reuse, Multi-Residential and Incentives	01/01/2017	12/31/2017	2,661	0	0	0	0	797	0	0	0	0	1,864
0	26 Mixed Waste Processing facility with Organics Reco	01/01/2017	12/31/2017	-2,000	0	0	0	0	-600	0	0	0	0	-1,400
0	27 Promotion and Education	01/01/2017	12/31/2017	-1,000	0	0	0	0	-300	0	0	0	0	-700
	Project Sub-total:			5,576	0	0	0	0	1,671	0	0	0	0	3,905
0	<u>SOL907863</u>	<u>Biogas Utilization</u>												
0	3 Construction of Biogas Utilization - Disco	01/01/2018	12/31/2018	-3,435	0	0	0	0	-1,030	0	0	0	0	-2,405
0	8 Biogas Utilization at Disco	01/01/2018	12/31/2018	5,908	0	0	0	0	1,771	0	0	0	0	4,137
	Project Sub-total:			2,473	0	0	0	0	741	0	0	0	0	1,732
0	<u>SOL907919</u>	<u>SWM IT Application Initiatives</u>												
0	19 SWMS Business Intelligence Implementation	01/01/2018	12/31/2019	486	0	0	0	0	145	0	0	0	0	341
0	32 SWMS Business Intelligence Implementation	01/01/2018	12/31/2019	299	0	0	0	0	90	0	0	0	0	209
0	35 SWMS Transfer Station Efficiencies	01/01/2018	12/31/2020	1,000	0	0	0	0	300	0	0	0	0	700
0	45 SWMS Stakeholder-Customer Relationship-Future Yrs	09/08/2018	04/12/2020	250	0	0	0	0	75	0	0	0	0	175
0	50 SWMS OPERATIONAL SOLUTION DELIVERY - PHASE 1	01/01/2018	12/31/2021	238	0	0	0	0	71	0	0	0	0	167
	Project Sub-total:			2,273	0	0	0	0	681	0	0	0	0	1,592
0	<u>SOL907956</u>	<u>IT Corporate Initiatives</u>												
0	5 Electronic Document & Records Mgmt Solution	01/01/2015	12/31/2018	378	0	0	0	0	113	0	0	0	0	265
0	8 Work Management System (WMS) Implementation	01/01/2013	12/31/2020	3,574	0	0	0	0	1,072	0	0	0	0	2,502
0	10 Electronic Document & Records Mgmt Solution Change	01/01/2016	12/31/2018	437	0	0	0	0	131	0	0	0	0	306
	Project Sub-total:			4,389	0	0	0	0	1,316	0	0	0	0	3,073
0	<u>SOL907957</u>	<u>Transfer Station Asset Management</u>												
0	41 Transfer Station Asset Management-CSW361-16	01/01/2017	12/31/2026	15,058	0	0	0	0	15,058	0	0	0	0	0
0	42 Transfer Station Asset Management-CSW361-16	01/01/2018	12/31/2027	-4,569	0	0	0	0	-4,569	0	0	0	0	0
0	44 Transfer Station Asset Management-CSW361-17	01/01/2017	12/31/2027	7,739	0	0	0	0	7,739	0	0	0	0	0
0	45 Transfer Station Asset Management-CSW361-18	01/01/2017	12/31/2017	4,019	0	0	0	0	4,019	0	0	0	0	0
0	46 Transfer Station Asset Managemnet-2017	01/01/2017	12/31/2017	4,155	0	0	0	0	4,155	0	0	0	0	0
	Project Sub-total:			26,402	0	0	0	0	26,402	0	0	0	0	0

(Phase 2) 17-Solid Waste Management Sub-Project Category: 01,02,03,04,05,06,07 Type: B Sub-Project Status: S2 Type: C Sub-Project Status: S2,S3,S4,S5



CITY OF TORONTO
Appendix 5: 2018 Recommended Capital Budget with Financing Detail
Solid Waste Management
Sub-Project Summary

Project/Financing Priority Project	Project Name	Start Date	Completion Date	2018	Financing											
				Cash Flow	Provincial Grants Subsidies	Federal Subsidy	Developmt Charges	Reserves	Reserve Funds	Capital From Current	Other 1	Other 2	Debt	Debt - Recoverable		
0	<u>SOL908082</u>	<u>Diversion Facilities Asset Management</u>														
0	4	01/01/2017	12/31/2026	-2,750	0	0	0	0	-2,750	0	0	0	0	0	0	0
0	5	01/01/2018	12/31/2026	2,750	0	0	0	0	2,750	0	0	0	0	0	0	0
0	6	01/01/2017	12/31/2017	2,750	0	0	0	0	2,750	0	0	0	0	0	0	0
		Project Sub-total:			2,750	0	0	0	0	2,750	0	0	0	0	0	0
0	<u>SOL908086</u>	<u>Two-Way Radio Replacement</u>														
0	2	01/01/2018	12/31/2027	270	0	0	0	0	81	0	0	0	0	0	0	189
		Project Sub-total:			270	0	0	0	0	81	0	0	0	0	0	189
0	<u>SOL908171</u>	<u>Engineering Planning Studies</u>														
0	3	01/01/2017	12/31/2026	-700	0	0	0	0	-700	0	0	0	0	0	0	0
0	5	01/01/2017	12/31/2027	700	0	0	0	0	700	0	0	0	0	0	0	0
0	7	01/01/2017	12/31/2027	1,500	0	0	0	0	450	0	0	0	0	0	0	1,050
		Project Sub-total:			1,500	0	0	0	0	450	0	0	0	0	0	1,050
0	<u>SOL908389</u>	<u>Dufferin Waste Facility Site Improvement</u>														
0	3	01/01/2018	12/31/2020	2,000	0	0	0	0	2,000	0	0	0	0	0	0	0
1	1	01/01/2017	12/31/2019	400	0	0	0	0	400	0	0	0	0	0	0	0
		Project Sub-total:			2,400	0	0	0	0	2,400	0	0	0	0	0	0
0	<u>SOL908488</u>	<u>Compressed Natural Gas Fill Station</u>														
0	1	01/01/2018	12/31/2027	941	0	0	0	0	282	0	0	0	0	0	0	659
		Project Sub-total:			941	0	0	0	0	282	0	0	0	0	0	659
3	<u>SOL000065</u>	<u>Diversion Systems Bins</u>														
0	117	01/01/2018	12/31/2027	25	0	0	0	0	25	0	0	0	0	0	0	0
0	119	01/01/2018	12/31/2027	2,000	0	0	0	0	2,000	0	0	0	0	0	0	0
0	120	01/01/2018	12/31/2027	300	0	0	0	0	300	0	0	0	0	0	0	0
0	123	01/01/2018	12/31/2027	142	0	0	0	0	142	0	0	0	0	0	0	0
0	124	01/01/2017	12/31/2027	1,000	0	0	0	0	1,000	0	0	0	0	0	0	0
		Project Sub-total:			3,467	0	0	0	0	3,467	0	0	0	0	0	0
Program Total:				114,406	0	0	0	0	68,025	0	0	0	0	0	0	46,381

Status Code Description
 S2 S2 Prior Year (With 2018 and/or Future Year Cashflow)
 S3 S3 Prior Year - Change of Scope 2018 and/or Future Year Cost/Cashflow
 S4 S4 New - Stand-Alone Project (Current Year Only)
 S5 S5 New (On-going or Phased Projects)

Category Code Description

01	Health and Safety C01
02	Legislated C02
03	State of Good Repair C03
04	Service Improvement and Enhancement C04
05	Growth Related C05
06	Reserved Category 1 C06
07	Reserved Category 2 C07

Appendix 6 Reserve / Reserve Fund Review–

Program Specific(\$000s)

Reserve / Reserve Fund Name	Project / SubProject Name and Number	Balance as of December 31, 2017	Planned Contributions / (Withdrawals) \$000s										2018 - 2027 Total
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
XR1013 Perpetual Care of Landfill Reserve Fund	Beginning Balance (Jan. 1)	39,373	38,133	30,781	30,935	31,073	31,228	31,384	31,541	31,699	31,857	32,017	38,133
	Estimated Interest Earned	197	191	154	155	155	156	157	158	158	159	160	1,603
	Contributions (Operating)	8,200	8,200	8,200	8,200	8,200	5,000	5,000	5,000	5,000	5,000	5,000	62,800
	Morningside Landfill Remediation												-
	Basic Perpetual Care	(6,424)	(10,495)	(5,467)	(5,478)	(5,467)	(3,333)	(3,333)	(3,333)	(3,333)	(3,333)	(3,333)	(46,906)
	New Control Systems	(3,212)	(5,248)	(2,733)	(2,739)	(2,733)	(1,667)	(1,667)	(1,667)	(1,667)	(1,667)	(1,667)	(23,454)
	Subtotal Perpetual Care Ptoject	(9,636)	(15,743)	(8,200)	(8,217)	(8,200)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(70,360)
	Total Proposed Net Contributions/(Withdrawals)	(1,239)	(7,352)	154	138	155	156	157	158	158	159	160	(5,957)
TOTAL RESERVE FUND BALANCE AT YEAR-END		38,133	30,781	30,935	31,073	31,228	31,384	31,541	31,699	31,857	32,017	32,177	32,177

Reserve / Reserve Fund Name	Project / SubProject Name and Number	Balance as of December 31, 2017	Planned Contributions / (Withdrawals) \$000s										2018 - 2027 Total	
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027		
XR1404 Waste Management Reserve Fund	Beginning Balance (Jan. 1, 2017)	135,302	82,577	54,869	40,444	54,668	84,877	103,868	123,925	147,226	179,978	207,699	82,577	
	Estimated Interest Earned	704	413	274	202	273	424	519	620	736	900	1,038	5,401	
	Contributions (Withdrawals) Operating	12,021	22,666	33,854	46,887	51,032	52,555	53,918	55,322	57,707	63,231	64,715	501,887	
	Prior Y/E Operating Surplus	8,519												
	Transfer to/from Vehicle Reserve	(18,313)		6,104	6,104	6,104							18,313	
	Funding of Landfill Gas Utilization	-	(300)	(893)									(1,193)	
	Funding of Transfer Station Capital	(13,716)	(26,402)	(18,384)	(3,976)	(5,135)	(8,578)	(8,050)	(9,016)	(1,612)	(11,891)	(6,150)	(99,194)	
	Funding of Collection Yard Capital	(217)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(250)	(2,500)	
	Funding of Diversion Facilities Asset Mgmt.	(500)	(2,750)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(16,250)	
	Funding of Disco SSO Facility	(194)	(1,321)										(1,321)	
	Funding of Dufferin SSO Facility	(9,350)	(8,285)										(8,285)	
	Funding of Biogas Utilization	(7)	(742)	(360)	(360)	(360)	(360)	(360)	(360)	(360)	(360)	(1,778)	(5,398)	
	Funding of Long Term Waste Mgmt Strategy	(2,726)	(1,673)	(3,437)	(2,758)	(4,140)	(6,348)	(7,183)	(4,646)	(4,826)	(5,297)	(7,500)	(47,808)	
	Funding of Diversion Systems.	(24,197)	(3,467)	(3,425)	(3,425)	(3,425)	(3,425)	(3,425)	(3,425)	(3,425)	(3,425)	(3,425)	(34,292)	
	Funding of SWM IT Application Initiatives	(846)	(682)	(997)	(755)	(181)	(102)						(2,717)	
	Funding of IT Corporate Initiatives	(702)	(1,317)	(533)	(618)								(2,468)	
	Fund Revenue Services Billing System (updated)	(193)	(385)	(373)	(430)	-	(84)		(108)	(382)	(366)		(2,127)	
	Funding of Two-way Radios	(1,200)	(81)	(81)	(75)	(75)	(26)	(15)	(12)	(12)			(377)	
	Funding of CNG Refuel Station Installation	(915)	(282)	(282)	(282)	(282)	(282)	(282)	(282)	(282)	(279)		(2,538)	
	Funding of Dufferin Waste Facility	(100)	(2,400)	(10,000)	(8,000)								(20,400)	
	Funding of Engineering Planning Studies	(795)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(4,500)	
	Funding of Green Lane Landfill Development (balance of 85%)		-	(13,692)	(16,091)	(11,402)	(12,584)	(12,865)	(12,593)	(12,593)	(12,593)	(12,593)	(117,005)	
	Net Total Proposed Contributions (Withdrawals)	(52,725)	(27,708)	(14,425)	14,224	30,209	18,991	20,058	23,300	32,752	27,721	32,107	157,229	
	Total Project Funding Withdrawals	(73,970)	(50,787)	(48,553)	(32,866)	(21,095)	(33,989)	(34,380)	(32,641)	(25,691)	(36,410)	(33,646)	(350,059)	
	TOTAL RESERVE FUND BALANCE AT YEAR-END		82,577	54,869	40,444	54,668	84,877	103,868	123,925	147,226	179,978	207,699	239,806	239,806

* Based on the 2017 Q2 Variance Report

Appendix 6 - Continued

Reserve / Reserve Fund Review–

Program Specific (\$000s)

Reserve / Reserve Fund Name	Project / SubProject Name and Number	Balance as of December 31, 2017	Proposed Cash Flows \$000s										2018 - 2027 Total
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
XR1408 Green Lane Reserve Fund	Beginning Balance (Jan. 1)	14,585.91	13,974	12,961	11,470	9,548	8,444	7,126	5,751	4,418	3,078	1,732	13,974
	Contributions / (Withdrawals)	1,078	860	860	860	860	860	860	860	860	860	860	8,603
	Estimated Interest Earned	73	70	65	57	48	42	36	29	22	15	9	393
	Buffer Land	(428)	(225)	(225)	(225)	(225)	(225)	(225)	(225)	(225)	(225)	(225)	(2,250)
	Cell Excavation and Base Const.	(463)	(780)	(1,518)	(1,243)	(1,079)	(1,315)	(1,329)	(1,198)	(1,198)	(1,198)	(1,198)	(12,054)
	Engineering and Monitoring	(12)	(12)	(27)	(23)	(25)	(26)	(22)	(19)	(19)	(19)	(19)	(210)
	Leachate Control System	(71)	(116)	(260)	(381)	(209)	(204)	(222)	(219)	(219)	(219)	(219)	(2,269)
	Landfill Gas Control System	(213)	(210)	(220)	(758)	(345)	(268)	(373)	(377)	(377)	(377)	(377)	(3,683)
	Site Services/Final Cover/Storm Control	(577)	(600)	(166)	(209)	(129)	(183)	(100)	(184)	(184)	(184)	(184)	(2,124)
	Total Proposed (Withdrawals)	(1,763)	(1,943)	(2,416)	(2,840)	(2,012)	(2,221)	(2,270)	(2,222)	(2,222)	(2,222)	(2,222)	(22,591)
Net Total Proposed Contributions / (Withdrawals)	(612)	(1,013)	(1,491)	(1,922)	(1,104)	(1,318)	(1,374)	(1,333)	(1,340)	(1,347)	(1,353)	(13,595)	
TOTAL RESERVE FUND BALANCE AT YEAR-END		13,974	12,961	11,470	9,548	8,444	7,126	5,751	4,418	3,078	1,732	379	379

* Based on the 2017 Q2 Variance Report