Solid Waste Management Services

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),
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.

- **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 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);
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.


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**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>129,885</td>
<td>100,121</td>
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<td>84,284</td>
<td>10,545</td>
<td>84,284</td>
<td>47,445</td>
<td>18,022</td>
<td>12,579</td>
<td>176,331</td>
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<td>2019</td>
<td></td>
<td></td>
<td>10,545</td>
<td>12,579</td>
<td>32,442</td>
<td>124,888</td>
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<td>2020</td>
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<td>2021</td>
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<td>2022</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Gross Expenditures:**

- 2017 Capital Budget & Approved FY Commitments: $129,885
- Projected: $100,121
- Actual: $84,284
- 2018 New/Change in Scope and Future Year Commitments: $47,445
- Projected: $12,579
- Actual: $18,022
- Total Gross Annual Expenditures & Plan: $344,594

**Financing:**

- Debt
  - Reserves/Reserve Funds: $76,695
  - Development Charges: $56,858
  - Provincial/Federal Debt Recoverable: $16,675
  - Other Revenue: $35,943

**Total Financing:**

- Total Gross Annual Expenditures: $344,594

**By Project Category:**

- Health & Safety: $117,543
- SOGR: $89,382
- Service Improvement: $113,440
- Growth Related: $24,229

**Total by Project Category:**

- Asset Value ($ at year-end): $539,716
- Yearly SOGR Backlog Estimate (not addressed by current plan): $539
- Accumulated Backlog Estimate (end of year): $4,039
- Backlog: Percentage of Asset Value (%): 0.0%
- Debt Service Costs: $1,097
- Operating Impact on Program Costs: $2,044

**New Positions:**

- New Positions: (961)
## Table 1b
10-Year Capital Plan
2023 - 2027 Recommended Capital Plan

<table>
<thead>
<tr>
<th>Year</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2018-2027 Total</th>
<th>10-Year Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Expenditures:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017 Capital Budget &amp; Approved FY Commitments</td>
<td>3,515</td>
<td>1,000</td>
<td>1,000</td>
<td>3,500</td>
<td>185,346</td>
<td>29.6%</td>
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</tr>
<tr>
<td>Requested Changes to Approved FY Commitments</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>2018 New/Change in Scope and Future Year Commitments</td>
<td>3,561</td>
<td>3,241</td>
<td>3,241</td>
<td>441</td>
<td>3,000</td>
<td>56,857</td>
<td>9.1%</td>
</tr>
<tr>
<td>2023 - 2027 Capital Plan Estimates</td>
<td>53,918</td>
<td>48,932</td>
<td>42,128</td>
<td>54,237</td>
<td>60,568</td>
<td>384,671</td>
<td>61.4%</td>
</tr>
</tbody>
</table>

- 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, 2,375, 2,420, 1,715, 1,782, 2,052, 20,440, 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%
- 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)

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)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Project Cost</th>
<th>Change in Scope</th>
<th>Previously Approved</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017 - 2026 Capital Budget &amp; Plan</td>
<td>$103,777</td>
<td>$106,927</td>
<td>$85,487</td>
<td>$85,487</td>
</tr>
<tr>
<td>2018 - 2027 Rec’d Capital Budget &amp; Plan</td>
<td>$92,828</td>
<td>$92,828</td>
<td>$61,955</td>
<td>$53,217</td>
</tr>
</tbody>
</table>

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

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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.
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)

<table>
<thead>
<tr>
<th>Total Expenditures by Category</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027 Total</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Legislated</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landfill Development</td>
<td>11,334</td>
<td>16,108</td>
<td>18,931</td>
<td>13,414</td>
<td>14,805</td>
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<td>14,815</td>
<td>148,987</td>
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<tr>
<td>Perpetual Care of Landfills</td>
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<td>8,200</td>
<td>8,217</td>
<td>8,200</td>
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<td>5,000</td>
<td>5,000</td>
<td>67,951</td>
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</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>24,668</td>
<td>24,308</td>
<td>27,148</td>
<td>21,614</td>
<td>19,805</td>
<td>20,139</td>
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<td>19,815</td>
<td>19,815</td>
<td>216,938</td>
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<tr>
<td><strong>State of Good Repair</strong></td>
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<tr>
<td>Collection Yard Asset Mgmt</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>20,500</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
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<td>13,134</td>
<td>13,726</td>
<td>6,885</td>
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<td>9,800</td>
<td>10,766</td>
<td>3,362</td>
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<td>7,900</td>
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<td><strong>Service Improvements</strong></td>
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<tr>
<td>Biogas Utilization</td>
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<td>8,470</td>
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<td>Engineering Planning Studies</td>
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<td>1,500</td>
<td>1,500</td>
<td>15,000</td>
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</tr>
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<td>Green Lane: Landfill Gas Utilization</td>
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<td>IT Corporate Initiatives</td>
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<td>SWM IT Application Initiatives</td>
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<td>1,974</td>
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<td>2,516</td>
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<td>-</td>
<td>-</td>
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<td>5,767</td>
<td>12,946</td>
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<tr>
<td>Two Way Radio Replacement</td>
<td>2,235</td>
<td>270</td>
<td>270</td>
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*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 cervices 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)

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**Financing:**

|                      |       |       |       |       |       |       |       |       |       |       |                                   |
| Debt/CFC             |       |       |       |       |       |       |       |       |       |       |                                   |
| Debt Recoverable     | 35,943| 9,388 | 3,405 | 2,728 | 2,132 | 1,380 | 659  | 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| 3,582| 3,282| 185,702                          |
| Development Charges  |       |       |       |       |       |       |       |       |       |       |                                   |
| Provincial/Federal   |       |       |       |       |       |       |       |       |       |       |                                   |
| **Total Financing**  | 92,801| 57,042| 33,157| 17,775| 18,931| 7,076| 4,241| 4,241| 4,241| 3,941| 242,205                         |
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)

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<tr>
<td>Biogas Utilization - Dufferin and Disco SSO</td>
<td>(1,007.0)</td>
<td>(58.0)</td>
<td>(61.0)</td>
<td>(65.0)</td>
<td>(1,191.0)</td>
<td>(1,406.0)</td>
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<tr>
<td>Replacement Waste Bins Single Family</td>
<td>600.0</td>
<td></td>
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<tr>
<td>Dufferin SSO Facility</td>
<td>1,398.0</td>
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<tr>
<td>Two Way Radio Replacement</td>
<td>46.0</td>
<td>46.0</td>
<td>46.0</td>
<td>46.0</td>
<td>230.0</td>
<td>460.0</td>
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<tr>
<td>New Projects - Future Years</td>
<td></td>
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<td></td>
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<tr>
<td>IT Business Systems Integration</td>
<td>107.0</td>
<td>120.0</td>
<td></td>
<td></td>
<td>227.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (Net)</td>
<td>2,044.0</td>
<td>(961.0)</td>
<td>95.0</td>
<td>105.0</td>
<td>(19.0)</td>
<td>1,264.0</td>
<td>1,279.0</td>
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</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Capital Project Delivery: New Temporary Positions</th>
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<tbody>
<tr>
<td><strong>Project Name</strong></td>
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<tr>
<td>------------------</td>
</tr>
<tr>
<td>IT Corporate Initiatives</td>
</tr>
<tr>
<td>Work Management System Implementation</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

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:
  - 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*.

<table>
<thead>
<tr>
<th>Category</th>
<th>Budget 2012</th>
<th>Spending Rate %</th>
<th>Budget 2013</th>
<th>Spending Rate %</th>
<th>Budget 2014</th>
<th>Spending Rate %</th>
<th>Budget 2015</th>
<th>Spending Rate %</th>
<th>Budget 2016</th>
<th>Spending Rate %</th>
<th>Spending Rate 5 Year 2012-2016 Avg. %</th>
<th>Budget 2017</th>
<th>Spending Rate %</th>
<th>Projected Actual *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislated</td>
<td>44,359</td>
<td>75.0%</td>
<td>29,162</td>
<td>45.8%</td>
<td>26,788</td>
<td>65.7%</td>
<td>24,363</td>
<td>61.3%</td>
<td>23,447</td>
<td>78.9%</td>
<td>65.9%</td>
<td>25,419</td>
<td>84.2%</td>
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<td>SOGR</td>
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<td>15,589</td>
<td>49.5%</td>
<td>10,429</td>
<td>39.1%</td>
<td>18,397</td>
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<td>51.8%</td>
<td>20,100</td>
<td>71.8%</td>
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<td>32.7%</td>
<td>61,565</td>
<td>20.9%</td>
<td>21,262</td>
<td>44.2%</td>
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<td>37.3%</td>
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<td>Growth Related</td>
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<td></td>
<td></td>
<td></td>
<td>83.9%</td>
<td>39,767</td>
<td>80.2%</td>
<td>31,911</td>
</tr>
<tr>
<td>Total</td>
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<td>101,787</td>
<td>37.3%</td>
<td>103,942</td>
<td>36.7%</td>
<td>56,054</td>
<td>50.7%</td>
<td>96,669</td>
<td>66.7%</td>
<td>49.8%</td>
<td>129,885</td>
<td>77.1%</td>
<td>100,121</td>
</tr>
</tbody>
</table>

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.

- 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
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)

<table>
<thead>
<tr>
<th>2017 Budget</th>
<th>As of June 30, 2017</th>
<th>Projected Actuals at Year-End</th>
<th>Unspent Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>$</td>
<td>$</td>
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<tr>
<td>129,885</td>
<td>20,930</td>
<td>100,121</td>
<td>29,764</td>
</tr>
</tbody>
</table>

* 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 have 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)

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<td>Landfill Development</td>
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<td>Perpetual Care of Landfills</td>
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<tr>
<td><strong>Sub-Total</strong></td>
<td>4,027</td>
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<td>24,308</td>
<td>27,148</td>
<td>21,614</td>
<td>19,805</td>
<td>121,570</td>
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<td>19,815</td>
<td>19,815</td>
<td>220,965</td>
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<td>Dufferin Facilities Asset Mgmt</td>
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<td><strong>Sub-Total</strong></td>
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<tr>
<td>Biogas Utilization</td>
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<td>1,199</td>
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<td>Long Term Waste Mgmt Strategy</td>
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<tr>
<td>Two Way Radio Replacement</td>
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<td>270</td>
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*Note: All figures are in Canadian Dollars (CAD).*

toronto.ca/budget2018
Appendix 3

2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan
### Current and Future Year Cash Flow Commitments

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### Solid Waste Management

#### Apprendix 3: 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

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## CITY OF TORONTO

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

### Solid Waste Management

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

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

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

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**Transfer Station Asset Management**

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Sub-total 26,402

### SOL908062  
**Diversification Facilities Asset Management**

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Sub-total 2,750

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**Two-Way Radio Replacement**

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Sub-total 270

### SOL908171  
**Engineering Planning Studies**

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Sub-total 15,000

### SOL908338  
**Dufferin Waste Facility Site Improvement**

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Sub-total 2,400

### SOL908488  
**Compressed Natural Gas Fill Station**
# Appendix 3: 2018 Recommended Capital Budget; 2019 to 2027 Recommended Capital Plan

**Solid Waste Management**

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

#### Solid Waste Management

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#### Status Code Description

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

#### Category Code Description

- **01** Health and Safety
- **02** Legislated
- **03** State of Good Repair
- **04** Service Improvement and Enhancement
- **05** Growth Related
- **06** Reserved Category 1
- **07** Reserved Category 2

---

**CITY OF TORONTO**

Gross Expenditures ($000's)

Current and Future Year Cash Flow Commitments and Estimates

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**REPORT 7C**

Report Phase 2 - Program 17 Solid Waste Management  Program Phase 2 Sub-Project Category 01,02,03,04,05,06,07  Part B Sub-Project Status S2,S5,S6  Part C Sub-Project Status S2,S3,S4
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

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Sub-total: 3,467

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Sub-total: 15,743

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Sub-total: 250

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Sub-total: 1,116

### Provincial Grants and Subsidies

- **Total 2018-2022**: 0
- **Total 2023-2027**: 0
- **Total 2018-2027**: 0

### Current and Future Year Cash Flow Commitments

- **2018-2022**: 0
- **2023-2027**: 0
- **2018-2027**: 0

### Debt - Recoverable

- **Total Financing**: 0
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Sub-total: 13,952

### SOL907630: Dufferin SSO Facility

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Sub-total: 27,615

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Sub-total: 4,405

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Sub-total: 10,043

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### Solid Waste Management

| SOL907957 | Transfer Station Asset Management | CW S2 | 03 | 4 | 6 | Transfer Station Asset Management-2017 | 4,155 | 7,000 | 0 | 0 | 0 | 11,155 | 0 | 11,155 | | 0 | 0 | 0 | 0 | 11,155 | | 0 | 0 | | 11,155 | 26,402 | 16,155 | 0 | 0 | 0 | 42,557 | 0 | 42,557 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42,557 |
| SOL908082 | Diversion Facilities Asset Management | CW S3 | 03 | 0 | 4 | Diversion Facilities Asset Management-2017 | -2,750 | -700 | 0 | 0 | 0 | -3,450 | 0 | -3,450 | | 0 | 0 | 0 | 0 | -3,450 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -3,450 | 2,750 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,750 |
| SOL908086 | Two-Way Radio Replacement | CW S4 | 04 | 0 | 2 | Two-Way Radio Replacement | 270 | 270 | 85 | 50 | 0 | 675 | 0 | 675 | | 0 | 0 | 0 | 0 | 202 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 473 | 675 |
| SOL908171 | Engineering Planning Studies | CW S3 | 04 | 0 | 3 | Engineering Planning Studies-2017 | -700 | 0 | 0 | 0 | 0 | -700 | 0 | -700 | | 0 | 0 | 0 | 0 | -700 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -700 | 2,750 | 0 | 0 | 0 | 0 | 0 | 0 | 2,750 |
| SOL908389 | Dufferin Waste Facility Site Improvement | CW S2 | 03 | 0 | 1 | Dufferin Waste Facility Site Improvement | 400 | 0 | 0 | 0 | 0 | 400 | 0 | 400 | | 0 | 0 | 0 | 0 | 400 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 400 | 2,000 | 10,000 | 8,000 | 0 | 0 | 20,000 | 0 | 20,000 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20,000 | 2,400 | 10,000 | 8,000 | 0 | 0 | 20,400 | 0 | 20,400 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20,400 |
| SOL908488 | Compressed Natural Gas Fill Station | CW S4 | 04 | 0 | 1 | Compressed Natural Gas Fill Station | 941 | 941 | 941 | 941 | 941 | 4,705 | 3,764 | 8,469 | | 0 | 0 | 0 | 0 | 2,538 | | 0 | 0 | 0 | 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 | 0 | 0 | 0 | 66,941 | 263,810 |
### Solid Waste Management

#### Current and Future Year Cash Flow Commitments and Estimates

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#### Current and Future Year Cash Flow Commitments and Estimates Financed By

- **Reserve Funds (Ind."XR" Ref.)**
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  - 47,654
  - 29,752
  - 15,497
  - 16,799
  - 177,727
  - 19,142
  - 196,869
  - 0
  - 0
  - 0
  - 0
  - 0
  - 0
  - 0

- **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

- **Total**
  - 114,406
  - 57,042
  - 33,157
  - 17,775
  - 18,931
  - 241,311
  - 22,499
  - 263,810
  - 0
  - 0
  - 0
  - 0
  - 0
  - 0
  - 66,941
  - 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
### Project/Financing

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- SOL907246: 0
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**CITY OF TORONTO**

**Appendix 5: 2018 Recommended Capital Budget with Financing Detail**

**Solid Waste Management**

**Sub-Project Summary**

- **Perpetual Care of Landfills**
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  - SOL906580: 0
  - SOL907246: 0
  - SOL907630: 0
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- **Collection Yard Asset Management**
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- **Green Lane Landfill Development**
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- **Dufferin SSO Facility**
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### Appendix 5: 2018 Recommended Capital Budget with Financing Detail

#### Solid Waste Management

**Project Summary**

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## Appendix 5: 2018 Recommended Capital Budget with Financing Detail

### Solid Waste Management

#### Sub-Project Summary

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<td>0 123 SSO IN-UNIT KITCHEN CONTAINERS</td>
<td>01/01/2018/12/31/2027</td>
<td>142</td>
<td>0 0 0 0</td>
<td>0 142</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>0 124 Replacement Waste Bins Single Family</td>
<td>01/01/2017/12/31/2027</td>
<td>1,000</td>
<td>0 0 0 0</td>
<td>0 1,000</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Project Sub-total:</td>
<td></td>
<td></td>
<td>3,467</td>
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<td>3,467</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Program Total:</td>
<td></td>
<td></td>
<td>114,408</td>
<td>0 0 0 0</td>
<td>68,025</td>
<td>0</td>
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</tr>
</tbody>
</table>

**Status Code Description**

- **S2**: Prior Year (With 2018 and/or Future Year Cashflow)
- **S3**: Prior Year - Change of Scope 2018 and/or Future Year Cost/Cashflow
- **S4**: New - Stand-Alone Project (Current Year Only)
- **S5**: New (On-going or Phased Projects)
<table>
<thead>
<tr>
<th>Category Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Health and Safety C01</td>
</tr>
<tr>
<td>02</td>
<td>Legislated C02</td>
</tr>
<tr>
<td>03</td>
<td>State of Good Repair C03</td>
</tr>
<tr>
<td>04</td>
<td>Service Improvement and Enhancement C04</td>
</tr>
<tr>
<td>05</td>
<td>Growth Related C05</td>
</tr>
<tr>
<td>06</td>
<td>Reserved Category 1 C06</td>
</tr>
<tr>
<td>07</td>
<td>Reserved Category 2 C07</td>
</tr>
</tbody>
</table>
Appendix 6
Reserve / Reserve Fund Review –

Program Specific($000s)

<table>
<thead>
<tr>
<th>Reserve / Reserve Fund Name</th>
<th>Project / Sub-Project Name and Number</th>
<th>Balance as of December 31, 2017</th>
<th>Planned Contributions / Withdrawals $000s</th>
</tr>
</thead>
<tbody>
<tr>
<td>XR103 Perpetual Care of Landfill Reserve Fund</td>
<td>Beginning Balance (Jan. 1)</td>
<td>39,373</td>
<td>2018 - 2027 Total</td>
</tr>
<tr>
<td>Estimated Interest Earned</td>
<td>197</td>
<td>8,200</td>
<td>2019</td>
</tr>
<tr>
<td>New Control Systems</td>
<td>(3,212)</td>
<td>(8,200)</td>
<td>2020</td>
</tr>
<tr>
<td>Total Proposed Net Contributions/Withdrawals</td>
<td>(1,239)</td>
<td>(7,352)</td>
<td>2021</td>
</tr>
</tbody>
</table>

TOTAL RESERVE FUND BALANCE AT YEAR-END: 38,133

<table>
<thead>
<tr>
<th>Reserve / Reserve Fund Name</th>
<th>Project / Sub-Project Name and Number</th>
<th>Balance as of December 31, 2017</th>
<th>Planned Contributions / Withdrawals $000s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Interest Earned</td>
<td>704</td>
<td>7,277</td>
<td>2019</td>
</tr>
<tr>
<td>Contributions (Withdrawals)</td>
<td>(3,437)</td>
<td>(10,000)</td>
<td>2020</td>
</tr>
<tr>
<td>Operating</td>
<td>12,021</td>
<td>84,687</td>
<td>2021</td>
</tr>
<tr>
<td>Prior Y/Y Operating Surplus</td>
<td>5,519</td>
<td>(8,200)</td>
<td>2022</td>
</tr>
<tr>
<td>Transfer/From Vehicle Reserve</td>
<td>(18,313)</td>
<td>(8,200)</td>
<td>2023</td>
</tr>
<tr>
<td>Funding of Landfill Gas Utilization</td>
<td>-</td>
<td>(300)</td>
<td>2024</td>
</tr>
<tr>
<td>Funding of Transfer Station Capital</td>
<td>(13,716)</td>
<td>(26,402)</td>
<td>2025</td>
</tr>
<tr>
<td>Funding of Collection Yard Capital</td>
<td>(217)</td>
<td>(250)</td>
<td>2026</td>
</tr>
<tr>
<td>Funding of Diversion Facilities Asset Mgmt</td>
<td>(500)</td>
<td>(2,750)</td>
<td>2027</td>
</tr>
<tr>
<td>Funding of Disposal Facility Asset Mgmt</td>
<td>(194)</td>
<td>(1,321)</td>
<td>2018 - 2027 Total</td>
</tr>
<tr>
<td>Funding of Dufferin SSD Funding</td>
<td>(9,350)</td>
<td>(8,285)</td>
<td>2019</td>
</tr>
<tr>
<td>Funding of Biogas Utilization</td>
<td>(7)</td>
<td>(742)</td>
<td>2020</td>
</tr>
<tr>
<td>Funding of Long Term Waste Mgmt Strategies</td>
<td>(2,726)</td>
<td>(1,673)</td>
<td>2021</td>
</tr>
<tr>
<td>Funding of Diversion Systems</td>
<td>(24,197)</td>
<td>(3,467)</td>
<td>2022</td>
</tr>
<tr>
<td>Funding of SWM IT Application Initiatives</td>
<td>(846)</td>
<td>(682)</td>
<td>2023</td>
</tr>
<tr>
<td>Funding of IT Corporate Initiatives</td>
<td>(702)</td>
<td>(1,317)</td>
<td>2024</td>
</tr>
<tr>
<td>Fund Revenue Services Billing System (updated)</td>
<td>(193)</td>
<td>(385)</td>
<td>2025</td>
</tr>
<tr>
<td>Funding of Two-way Radios</td>
<td>(1,200)</td>
<td>(81)</td>
<td>2026</td>
</tr>
<tr>
<td>Funding of CNG Refuel Station Installation</td>
<td>(915)</td>
<td>(282)</td>
<td>2027</td>
</tr>
<tr>
<td>Funding of Dufferin Waste Facility Asset Management</td>
<td>(100)</td>
<td>2018 - 2027 Total</td>
<td></td>
</tr>
<tr>
<td>Funding of Engineering Planning Studies</td>
<td>(795)</td>
<td>(450)</td>
<td>2019</td>
</tr>
<tr>
<td>Funding of Green Lane Landfill Development (balance of B3%)</td>
<td>-</td>
<td>(13,692)</td>
<td>2020</td>
</tr>
<tr>
<td>Net Total Proposed Contributions (Withdrawals)</td>
<td>(52,725)</td>
<td>(27,708)</td>
<td>2021</td>
</tr>
<tr>
<td>Total Project Funding Withdrawals</td>
<td>(75,970)</td>
<td>(55,741)</td>
<td>2022</td>
</tr>
</tbody>
</table>

TOTAL RESERVE FUND BALANCE AT YEAR-END: 82,577

* Based on the 2017 Q2 Variance Report
### Reserve / Reserve Fund Review – Appendix 6 - Continued

**Program Specific ($000s)**

<table>
<thead>
<tr>
<th>Reserve / Reserve Fund Name</th>
<th>Project / SubProject Name and Number</th>
<th>Balance as of December 31, 2017</th>
<th>Proposed Cash Flows $000s</th>
<th>2018 - 2027 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>XRL1408 Green Lane Reserve Fund</td>
<td>Beginning Balance (Jan. 1)</td>
<td>14,585.91</td>
<td>13,974</td>
<td>12,961</td>
</tr>
<tr>
<td></td>
<td>Contributions / (Withdrawals)</td>
<td>1,078</td>
<td>860</td>
<td>860</td>
</tr>
<tr>
<td></td>
<td>Estimated Interest Earned</td>
<td>73</td>
<td>70</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Cell Excavation and Base Const.</td>
<td>(463)</td>
<td>(780)</td>
<td>(1,518)</td>
</tr>
<tr>
<td></td>
<td>Site Services/Final Cover/Storm Control</td>
<td>(577)</td>
<td>(600)</td>
<td>(166)</td>
</tr>
<tr>
<td></td>
<td>Total Proposed (Withdrawals)</td>
<td>(1,763)</td>
<td>(1,943)</td>
<td>(2,416)</td>
</tr>
<tr>
<td></td>
<td>Net Total Proposed Contributions / (Withdrawals)</td>
<td>(612)</td>
<td>(1,013)</td>
<td>(1,491)</td>
</tr>
</tbody>
</table>

**TOTAL RESERVE FUND BALANCE AT YEAR-END**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13,974</td>
<td>12,961</td>
<td>11,470</td>
<td>9,548</td>
<td>8,444</td>
<td>7,126</td>
<td>5,751</td>
<td>4,418</td>
<td>3,078</td>
<td>1,732</td>
<td>13,974</td>
</tr>
</tbody>
</table>

* Based on the 2017 Q2 Variance Report