



City Budget  
2012

Toronto Water  
Capital Budget Analyst Notes

The City of Toronto's budget is presented by program and service, in Analyst Note format. The City's Capital Budget funds major infrastructure.

# 2012–2021 Capital Program

## 2012 CAPITAL BUDGET ANALYST BRIEFING NOTES BUDGET COMMITTEE NOVEMBER 10, 2011

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## PART I: RECOMMENDATIONS

The City Manager and Chief Financial Officer recommend that:

- 1) Council approve the 2012 Recommended Capital Budget for Toronto Water with a total project cost of (\$84.206 million), and 2012 cash flow of \$607.517 million and future year commitments of \$1.876 billion comprised of the following:
  - a) New Cash Flow Funding for:
    - i) 258 new/change in scope sub-projects with a 2012 total project cost of (\$84.206 million) that requires cash flow of \$31.181 million in 2012 and a future year commitment/commitment adjustment of (\$46.332 million) in 2013, (\$116.851 million) in 2014, (\$71.573 million) in 2015, \$34.857 million in 2016, (\$6.715 million) in 2017, \$34.232 million in 2018, \$32.688 million in 2019, (\$9.625 million) in 2020 and \$33.932 million in 2021; and
    - ii) 208 previously approved sub-projects with a 2012 cash flow of \$576.336 million and a future year commitment of \$574.174million in 2013, \$503.660 million in 2014, \$406.285 million in 2015, \$171.223 million in 2016, \$121.741 million in 2017, \$89.599 million in 2018, \$69.707 million in 2019 and \$54.928 million in 2020;
- 2) Council approve the 2013–2021 Recommended Capital Plan for Toronto Water totalling \$5.393 billion in project estimates, comprised of \$128.956 million in 2013; \$351.171 million in 2014; \$432.900 million in 2015; \$568.497 million in 2016; \$659.022 million in 2017; \$694.189 million in 2018; \$769.076 million in 2019; \$883.792 million in 2020; and \$905.115 million in 2021;
- 3) Council consider operating impacts of \$0.150 million in 2014; \$0.397 million in 2015; \$0.346 million in 2016; \$0.152 million in 2017; \$0.053 million in 2018; \$0.115 million in 2019; \$6.990 million in 2020; and, \$4.878 million in 2021 emanating from the approval of the 2012 Recommended Capital Budget for inclusion in the 2012 and future year operating budgets;
- 4) Council approve the transfer of \$18.455 million to the Water Capital Financing Reserve (XR6003) from the Toronto Universal Metering project (CPW515–1);
- 5) Council approve the transfer of \$13.760 million to the Wastewater Capital Financing Reserve (XR6004) from the 2004 Sewer Development Charge Reserve (XR2026); and
- 6) The General Manager of Toronto Water in consultation with the Deputy City Manager and Chief Financial Officer report to Budget Committee in June 2012 on strategies to maximize funding capacity and/or provide reductions in current project costs to address

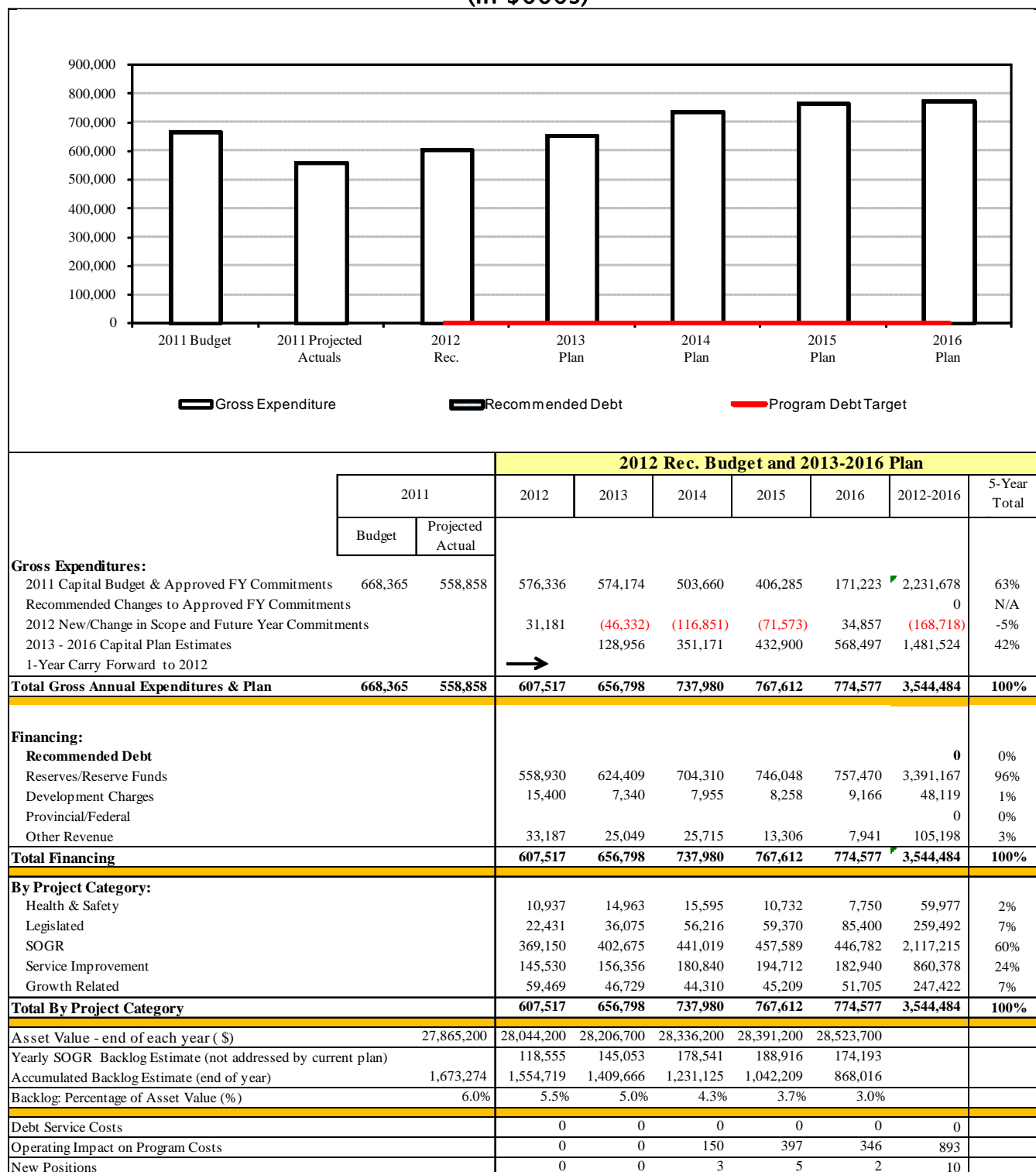
existing and emerging unfunded capital priorities for consideration prior to the 2013 Capital Budget process.

## PART II: 2012 – 2021 CAPITAL PROGRAM

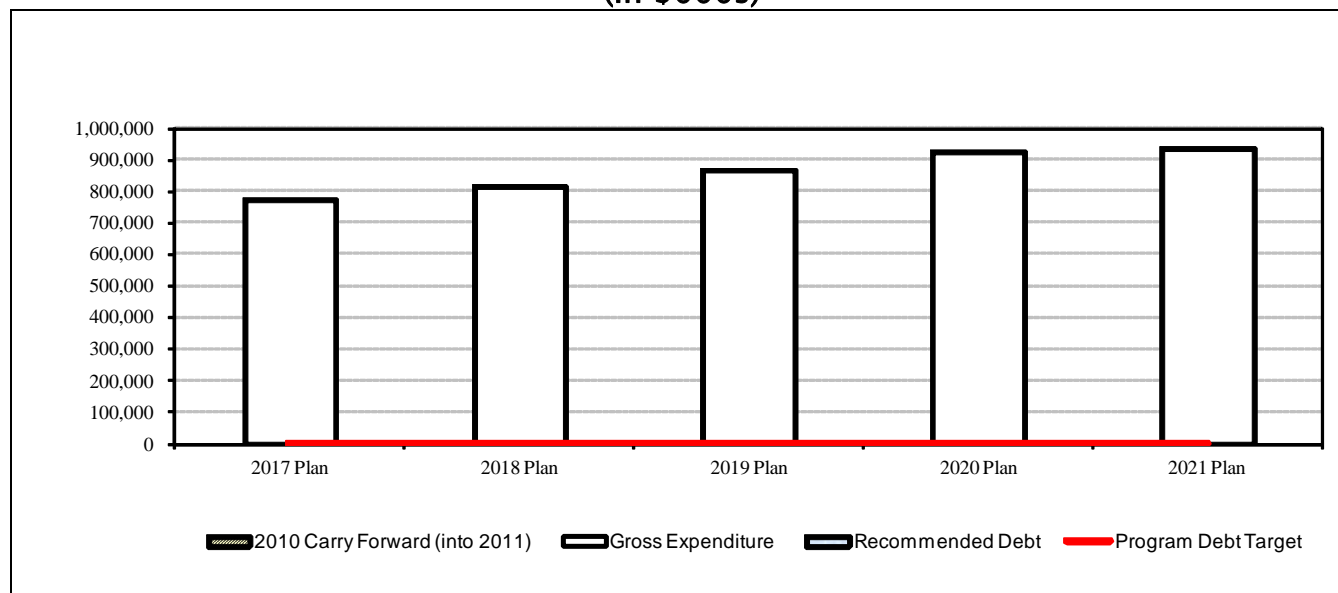
### 10-Year Capital Plan

#### 2012 Recommended Budget, 2013–2016 Recommended Plan

(In \$000s)



**10-Year Capital Plan**  
**2017–2021 Recommended Plan**  
(In \$000s)



	2017 - 2021 Capital Plan						10-Year Total Percent
	2017	2018	2019	2020	2021	2012-2021	
<b>Gross Expenditures:</b>							
2011 Capital Budget & Approved FY Commitments	121,741	89,599	69,707	54,928		2,567,653	33%
Recommended Changes to Approved FY Commitments						0	0%
2012 New/Change in Scope and Future Year Commitments	(6,715)	34,232	32,688	(9,625)	33,932	(84,206)	-1%
2017 - 2021 Capital Plan Estimates	659,022	694,189	769,076	883,792	905,115	5,392,718	68%
<b>Total Gross Annual Expenditures &amp; Plan</b>	<b>774,048</b>	<b>818,020</b>	<b>871,471</b>	<b>929,095</b>	<b>939,047</b>	<b>7,876,165</b>	<b>100%</b>
<b>Financing:</b>							
<b>Recommended Debt</b>						<b>0</b>	<b>0%</b>
Reserves/Reserve Funds	758,790	783,696	821,349	885,503	900,715	7,541,220	96%
Development Charges	8,605	8,266	8,671	10,526	10,976	95,163	1%
Provincial/Federal						0	0%
Other Revenue	6,653	26,058	41,451	33,066	27,356	239,782	3%
<b>Total Financing</b>	<b>774,048</b>	<b>818,020</b>	<b>871,471</b>	<b>929,095</b>	<b>939,047</b>	<b>7,876,165</b>	<b>100%</b>
<b>By Project Category:</b>							
Health & Safety	4,500	4,700	950	950	950	72,027	1%
Legislated	113,450	104,450	91,220	53,370	47,800	669,782	9%
SOGR	454,344	472,271	512,131	571,314	562,489	4,689,764	60%
Service Improvement	154,712	177,644	193,973	215,316	250,663	1,852,686	24%
Growth Related	47,042	58,955	73,197	88,145	77,145	591,906	8%
<b>Total By Project Category</b>	<b>774,048</b>	<b>818,020</b>	<b>871,471</b>	<b>929,095</b>	<b>939,047</b>	<b>7,876,165</b>	<b>100%</b>
Asset Value - end of each year (\$)	28,648,700	28,802,700	29,063,200	29,143,200	29,682,200		
Yearly SOGR Backlog Estimate (not addressed by current plan)	147,411	145,414	167,534	207,093	197,314		
Accumulated Backlog Estimate (end of year)	720,605	575,192	407,658	200,565	3,251		
Backlog: Percentage of Asset Value (%)	2.5%	2.0%	1.4%	0.7%	0.01%		
Debt Service Costs	0	0	0	0	0	0	
Operating Impact on Program Costs	152	53	115	6,990	4,878	13,081	
New Positions	1	0	1	0	1	13	

## 10–Year Capital Plan Overview

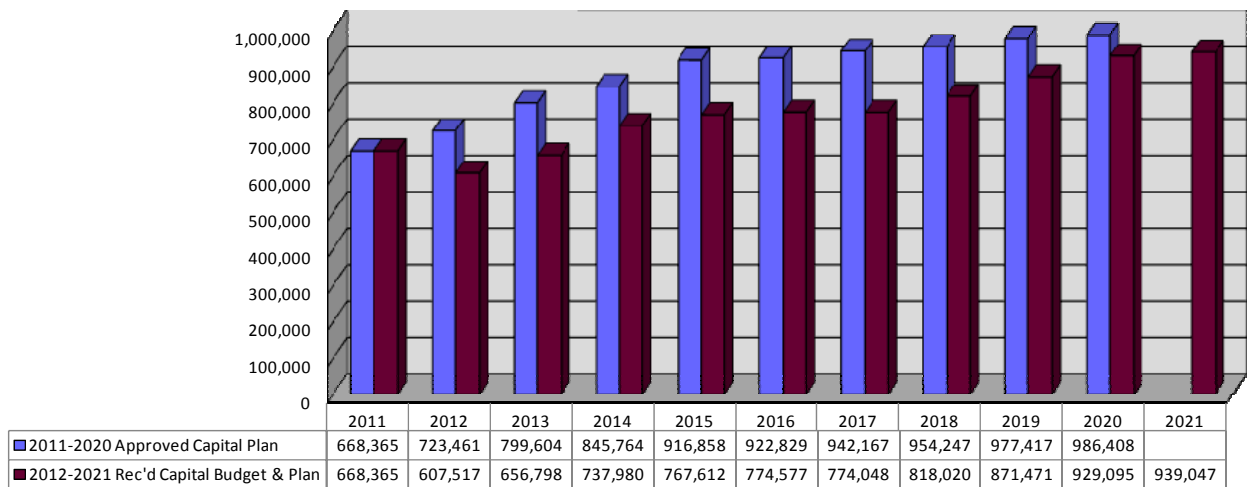
- Toronto Water is responsible for water treatment and supply; wastewater collection and treatment; and stormwater management across the City.
  - Water treatment and supply is managed using 4 water filtration plants; 10 reservoirs and 4 elevated storage tanks; 5,015 km of distribution watermains and 510 km of trunk watermains; 52,900 valves and 40,460 hydrants; 470,202 water service connections; 18 water pumping stations;
  - Wastewater collection and treatment; and stormwater management is controlled using 4 wastewater treatment plants; 5 storage and detention tanks; 4,397 km of sanitary, 1,301 km of combined and 358 km of trunk sewers; 4,305 km of storm sewers and 546 km of roadside ditches; 463,300 sewer service connections; 82 wastewater pumping stations; 371 km of water courses; 88 stormwater management ponds; 2,300 outfalls and 122,500 catchbasins.
- The estimated replacement value of Toronto Water's inventory of capital assets is \$27.865 billion.
- Funding for the 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan balances infrastructure renewal needs for state of good repair and new service improvement projects while ensuring the delivery of water supply and wastewater treatment within an increasingly stringent regulatory framework. In addition, funding is also provided to ensure that increases in system capacity keep pace with population growth.
- The 2012–2021 Recommended Capital Plan totals \$7.876 billion, of which \$3.544 billion or 45% is projected for the first 5 years, with the final 5 years requiring funding of \$4.332 billion or 55%.
  - The 10 Year Recommended Capital Plan reflects a decrease of \$1.132 billion or 14% from the 2011–2020 Approved Capital Plan due to a decrease in available capital financing arising from:
    - A forecasted decrease in water consumption from the 2011 rate model results in a decrease in anticipated water rate revenues of \$686.8 million over the 10–Year planning period;
    - \$60 million in reduced available capital financing required to re-establish a sufficient Water Capital Financing Reserves balance, which has been depleted as a result of accelerated capital spending from 2009 to 2011 beyond Toronto Water's spending rate targets (established for rate and budget setting purposes); and

- A reduction of \$445 million in available capital financing over the 10–year planning period to reflect the Program's increased spending capacity, which has been aligned to actual spend rates experienced from 2009 onward.
- Over the 10–year planning horizon, Toronto Water continues to be 100% self–sustaining with no debenture financing and with no impact on the municipal property tax levy.
- The 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan is funded primarily from the Program's reserves, which account for approximately 96% or \$7.541 billion. Development charges provide funding of approximately 1% or \$95.163 million. Revenues for capital cost sharing with York Region provides the remaining 3% or \$239.782 million in funding for the Program.
- Toronto Water currently has a significant infrastructure rehabilitation backlog, estimated at \$1.673 billion or 6.0% of Toronto Water's total asset value by year–end. This backlog is more than any other major Canadian urban centre.
  - The 2012 Recommended Budget and 2013–2021 Recommended Capital Plan reflects an increase in the infrastructure renewal rate, investing \$4.690 billion in SOGR projects ensuring the reduction of Toronto Water's infrastructure renewal backlog to \$3.251 million or 0.01% of Toronto Water's total asset value by 2021.
- Operating Budget impacts arising from approval of the 10–Year Recommended Capital Plan total \$13.081 million net and 13.0 positions emanating from the Highland Creek Treatment Plant Biosolids Implementation and Construction project, the Disinfection Construction project at the Ashbridges Bay Treatment Plant, Basement Flooding Relief, Stormwater and Combined Sewer Overflow End of Pipe Facilities and the Ashbridges Bay Wastewater Treatment Plant capital projects.



Key Changes to the 2011 – 2020 Approved Capital Plan

Changes to the 2011–2020 Approved Capital Plan  
(In \$000s)



- The 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan reflects a decrease of \$1.132 billion or 14% from the 2011–2020 Approved Capital Plan.
  - Forecasted decreases in water consumption over the 10-year planning horizon, will reduce funding for capital expenditures by \$686.789 million requiring significant decreases to capital projects in each year of the 10-Year Recommended Capital Plan period.
  - Accelerated capital spending in 2009, 2010 and projected year end spending for 2011, beyond Toronto Water's spending rate targets (established for rate and budget setting purposes) of 76% in 2009, 78% in 2010 and 80% in 2011 have depleted Toronto Water's capital financing reserves, resulting in decreases in the recommended Capital Plan to accommodate a multi-year stepped approach to re-establish a sufficient capital financing reserve balance, projected to be approximately \$110 million by 2017.
  - To accommodate the financial impact of Council's decision on the Biosolids Master Plan at the Highland Creek Treatment Plant and Effluent Disinfection Strategies at the Ashbridges Treatment Plant, further decreases of \$98.700 million from the 2011–2020 Approved Capital Plan were required primarily over the 2016 – 2018 period.

- Significant changes to the 10–Year Capital Plan are highlighted in the table below:

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

Key Projects	Total Project Cost	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012 - 2020	Revised Total Project Cost (incl. 2021)
Wet Weather Flow Master Plan	991,958	(6,321)	(17,382)	(24,475)	(17,210)	(74,760)	(91,260)	(76,280)	(62,120)	(66,770)	(436,578)	694,123
Storage & Pumping Facilities	442,552	(1,136)	(16,028)	(7,764)	(10,865)	(13,475)	(37,825)	(62,675)	(97,825)	(123,175)	(370,768)	86,959
Watermain Renewal (Replacement & Rehab)	1,303,178	(46,995)	(42,908)	(43,848)	(38,000)	(35,500)	(36,500)	(36,500)	(31,500)	(31,500)	(343,250)	1,130,848
Transmission Watermains	673,399	(34,842)	(68,112)	(40,391)	(52,419)	(39,651)	(54,541)	(43,083)	(1,455)	26,020	(308,474)	420,900
Basement Flooding	777,600	(15,704)	(24,752)	(23,350)	(17,000)	(8,500)	(7,000)	(17,000)	(17,000)	3,000	(127,306)	743,294
Linear Engineering & Support	453,620	(1,616)	17,884	24,749	29,839	19,639	27,691	30,428	33,577	36,790	218,981	761,671
Sewer Renewal (Rehab & Replacement)	464,265	(3,956)	3,192	1,917	7,133	15,000	23,000	32,000	34,000	34,000	146,286	716,551
Ashbridges Bay WWTP	999,748	1,270	6,965	8,533	(27,615)	(21,491)	19,180	37,150	35,190	41,040	100,222	1,212,820
Net Other Changes		(6,644)	(1,665)	(3,155)	(23,109)	10,486	(10,864)	(267)	1,187	23,282	(10,749)	
<b>Total Change</b>		<b>(115,944)</b>	<b>(142,806)</b>	<b>(107,784)</b>	<b>(149,246)</b>	<b>(148,252)</b>	<b>(168,119)</b>	<b>(136,227)</b>	<b>(105,946)</b>	<b>(57,313)</b>	<b>(1,131,636)</b>	

The following highlights the changes from the 2011–2020 Council Approved Capital Plan, as compared with the 2012–2021 Capital Plan (excluding 2021 planned expenditures).

*Major Reductions in Toronto Water Capital Projects*

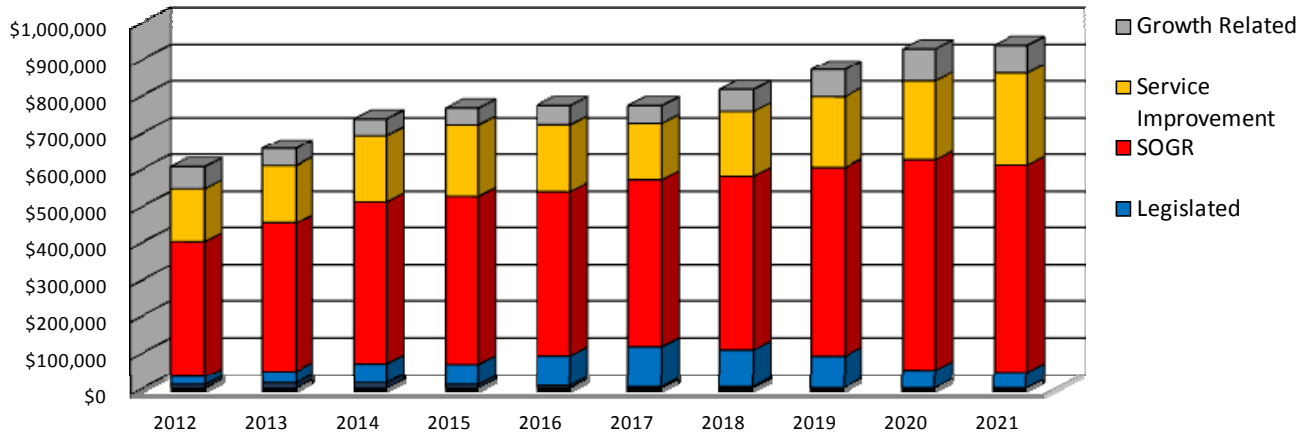
- Significant reductions arising from a decrease in available revenues required for capital expenditures include:
  - The Wet Weather Flow Master Plan project has been reduced by \$6.321 million from \$28.790 million in 2012 and by a total of \$436.578 million from \$991.958 million from 2012 to 2020;
  - Storage and Pumping Facilities projects have been reduced by \$1.136 million from \$30.765 million in 2012 and by a total of \$370.768 million from \$442.552 million from 2012 to 2020;
  - Watermain Renewal (Replacement & Rehab) projects have been reduced by \$46.995 million from \$100.973 million in 2012 and by a total of \$343.250 million from \$1.303 billion from 2012 to 2020, \$157.757 million of this reduction arises from the transfer of road restoration projects from Watermain Renewal projects to Linear Engineering and Support projects;
  - Transmission Watermain projects have been reduced by \$34.842 million from \$75.348 million in 2012 and by a total of \$308.474 million from \$673.399 million from 2012 to 2020; and
  - The Basement Flooding program has also been reduced by \$15.704 million from \$75.800 million in 2012 and by a total of \$127.306 million from \$777.600 million from 2012 to 2020.

*Significant Increases in Toronto Water Capital Projects*

- Toronto Water has decreased capital expenditures for the majority of their projects for the 10 year period, however certain capital projects have been allocated increased funding due to address key priorities outlined below:
  - Linear Engineering and Support projects have been increased by \$218.981 million, representing a 48.3% increase in total project cost, following a re-categorization of \$215.557 million in Road Restoration project funding previously accounted within Sewer and Watermain Renewal projects. These projects are required for asset condition assessment, design and project management to deliver the Toronto Water capital program; salary charge backs from Technical Services for engineering expenses incurred in the execution of the capital program; and, road restoration chargeback costs to restore the condition of the pavement subsequent to the renewal of water infrastructure;
  - The Ashbridges Bay Wastewater Treatment Plant project has been increased by \$100.222 million, representing a 10% increase in total project costs primarily to address the financial impact of Council's decision on Effluent Disinfection Strategies at the Treatment Plant; and
  - Recommended funding for Sewer Renewal (Rehab and Replacement) projects have increased by \$146.286 million (actual increase of \$204.086 million less a transfer of Road Restoration projects to Linear Engineering and Support) to address the infrastructure renewal backlog for this asset class based on recently updated condition assessments, to better coordinate with road reconstruction projects, to reduce costs and construction impacts on the local community; and to prevent disruption and costs to the City due to collapses or failures in the sewer system.

## 2012 – 2021 Recommended Capital Plan

2012–2021 Capital Plan by Project Category  
(In \$000s)

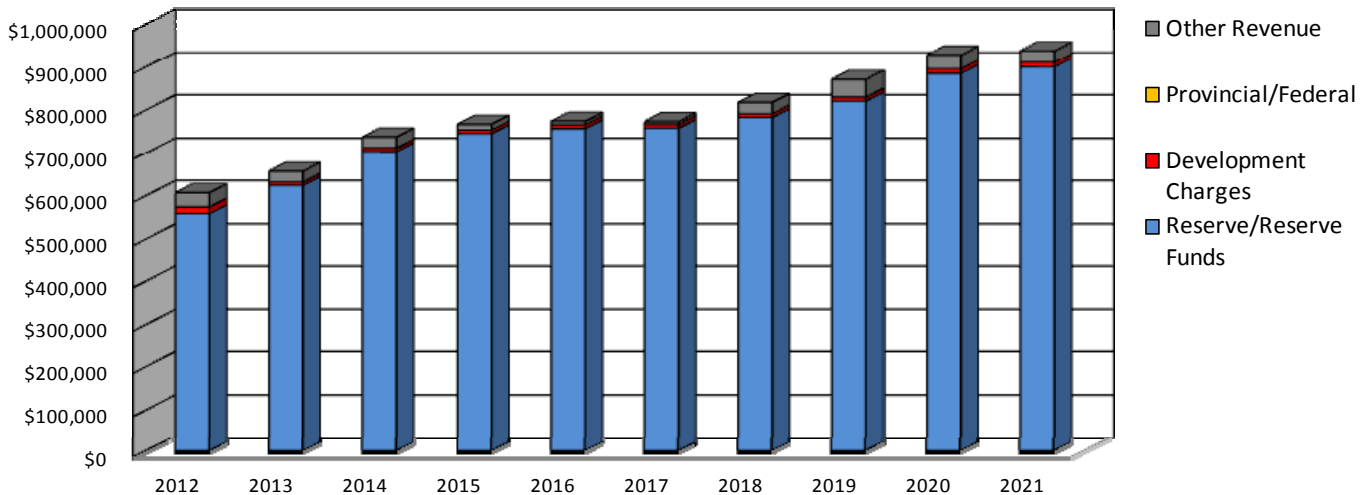


- Health and Safety projects represent approximately 1% or \$72.027 million (\$59.977 million over the first five years) of total funding in the 10–Year Recommended Capital Plan.
  - Annual capital funding for these projects are primarily within the first 5 years of the 10–Year Recommended Capital Plan period to improve the safety of chemical storage and upgrade electrical systems at address Health and Safety upgrades and electrical rehabilitations at wastewater treatment plants.
  - Funding for Health and Safety projects is minimal in the second 5 years of the 10–Year Recommended Capital Plan reflecting the anticipated completion of 6 of the 9 Toronto Water Health and Safety projects by 2016.
- Capital funding for Toronto Water's Legislated projects are concentrated within the 2014 – 2019 period of the 10–Year Recommended Capital Plan. 9% of total funding is allocated to Legislated projects in the 10–Year Recommended Capital Plan with annual funding of approximately \$67 million that increases to \$113.450 million in 2017 for the Ashbridges Bay Effluent System projects.
  - These projects are required to comply with existing and emerging provincial legislation, including Bill 195 –Safe Drinking Water Act and Bill 81– Nutrient Management Act and the recently approved Bill 72 – Water Opportunities and Water Conservation Act. Legislative projects are also required to comply with the Federal government's Environmental Protection Act.
  - Funding for Legislative projects is expected to increase in future years as regulations governing water supply and wastewater treatment continue to become more stringent in the post–Walkerton period.

- State of Good Repair (SOGR) projects continue to drive Toronto Water's capital program.
  - \$2.117 billion in funding is recommended for infrastructure renewal projects from 2012 to 2016, representing 45% of the 10–Year Recommended Capital Plan funding allocated to SOGR projects. Total SOGR funding will amount to \$4.690 billion by 2021, which equates to 60% of total recommended funding for Toronto Water's 10–Year Recommended Capital Plan.
  - SOGR funding increases in 2013 to \$402.675 million from \$369.150 million in 2012 and averages approximately \$437 million per year from 2013 to 2016.
  - SOGR funding continues to increase by roughly \$23 million per year beginning in 2017 to ensure the continued reduction of Toronto Water's infrastructure renewal backlog.
- Service Improvement projects represent approximately 24% or \$1.853 billion (\$860.378 million over the first five years) of total funding in the 10–Year Recommended Capital Plan.
  - Annual capital funding for these projects consistently increase by an average of \$9 million from 2012 (\$145.530 million) to 2016 (\$182.940 million). 2012 funding is reflective of a reduced level of capital spending than what had been projected in the prior year to account for reduced water revenues and the following planned increases coincide with planned annual water rate increases of 9% until 2014.
  - Funding for Service Improvement projects continue to increase by an average of \$13.5 million in the second 5 years of the 10–Year Capital Plan period to fund additional Basement Flooding and Storm Water Management project requirements as well as increased funding required for the Biosolids Management project at the Highland Creek Wastewater Treatment Plant.
- Growth projects represent approximately 8% or \$591.906 million (\$247.422 million over the first five years) of total recommended funding in the 10–Year Recommended Capital Plan.
  - Funding for anticipated growth projects such as new and enhanced watermains and service connections are consistent over the 10–Year Capital Plan period, averaging \$59.2 million per year, however funding for planned significant stand alone projects will vary from year to year based on growth requirements.
  - During the first 5 years of the 2012 – 2021 Recommended Capital Plan period, annual funding for growth projects range from \$46.729 million in 2013 to \$51.705 million in 2016.

- Funding for growth projects begins to increase in 2019 to \$73.197 million primarily from the planned construction of the Eastmall and Mount Pleasant cast iron water mains.

**2012–2021 Capital Plan by Funding Source**  
(In \$000s)



- Over the 10–year planning horizon, Toronto Water continues to be 100% self–sustaining with no debenture financing.
- The 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan is funded primarily from the Program’s reserves, representing approximately 96% or \$7.541 billion of total capital financing.
  - Capital funding from Toronto Water reserves increases from \$558.930 million in 2012 to \$757.470 million in 2016. This increase in reserve funding coincides with the planned annual water rate increases of 9% until 2014 to address infrastructure renewal spending which has more than doubled over the last 5 years.
  - In the second 5 years of the 10–Year Capital Plan period, capital funding from Toronto Water’s reserves continue to increase but at a lower rate than previous years. This is reflective of the planned lower annual water rate increases of 3% beginning in 2015.
- Other revenues, such as capital cost sharing with York Region represent 3% or \$239.782 million of total capital financing.
- Development charges provide approximately 1% or \$95.163 million of funding the 10–Year Recommended Capital Plan.

## Summary of Major Capital Initiatives by Category (In \$000s)

	2012 Rec. Budget	2013 Plan	2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	2012-2021 Total
<b>State of Good Repair (incl. H&amp;S &amp; Leg.)</b>											
<i>Ashbridges Bay WWTP (Various SOGR Projects)</i>	53,648	60,133	91,011	94,060	89,755	80,880	73,550	90,520	101,470	91,800	826,827
<i>District Watermain Replacement</i>	27,441	39,226	50,000	60,000	70,000	80,000	90,000	100,000	110,000	110,000	736,667
<i>Linear Infrastructure Engineering</i>	28,018	55,781	58,624	60,113	58,647	62,625	64,493	66,415	68,395	70,436	593,547
<i>District Watermain Rehabilitation</i>	18,500	20,000	25,000	30,000	35,000	40,000	45,000	50,000	55,000	60,000	378,500
<i>Sewer System Rehabilitation</i>	19,697	22,000	20,000	25,000	35,000	45,000	50,000	50,000	50,000	50,000	366,697
<i>Sewer Replacement Program</i>	22,356	22,552	22,250	25,233	30,000	35,000	40,000	45,000	50,000	55,000	347,391
<i>Humber WWTP - Liquid Treatment &amp; Handling</i>	2,646	9,796	5,746	42,109	42,109	42,084	42,084	42,809	43,285	42,585	315,253
<i>Ashbridges Bay WWTP - Effluent System</i>	1,660	3,150	4,000	3,500	28,000	64,050	63,650	48,820	4,470	7,500	228,800
<i>District Water Service Repair</i>	13,711	13,000	14,000	15,000	16,000	19,000	19,000	19,000	19,000	19,000	166,711
<i>Highland Creek &amp; Humber WWTP Odour Control Projects</i>	1,800	10,000	30,000	30,000	30,000	15,000	5,400	6,000	11,500	11,300	151,000
<i>RL Clark W.T.P. R&amp;R</i>	9,330	8,530	9,974	10,355	15,000	20,050	24,324	19,074	20,000	12,900	149,537
<i>Highland Creek WWTP Upgrades</i>	13,517	27,119	37,273	30,503	13,308	2,903	812	782	782	782	127,781
<i>Downtown Watermain Enhancement</i>	25,528	25,134	25,135	10,983	15	7					86,802
<i>WWTP - Health &amp; Safety Upgrades &amp; Rehab</i>	10,584	14,463	13,695	9,282	6,250	950	950	950	950	950	59,024
<i>Other SOGR (incl. H&amp;S &amp; Leg.) Projects</i>	154,082	122,829	106,122	81,553	70,848	64,745	62,158	64,931	90,782	78,986	897,036
<b>Sub-Total</b>	<b>402,518</b>	<b>453,713</b>	<b>512,830</b>	<b>527,691</b>	<b>539,932</b>	<b>572,294</b>	<b>581,421</b>	<b>604,301</b>	<b>625,634</b>	<b>611,239</b>	<b>5,431,573</b>
<b>Service Improvements</b>											
<i>Basement Flooding Relief</i>	53,596	61,048	71,150	73,000	73,000	73,000	73,000	73,000	93,000	93,000	736,794
<i>Don &amp; Waterfront Trunk CSO</i>	500	2,000	13,500	33,500	34,500	49,500	56,500	56,500	54,900	54,900	334,900
<i>Water Metering Program</i>	36,000	47,738	51,114	42,531	23,350						200,733
<i>Highland Creek WWTP - Solids &amp; Gas Handling</i>	700	4,000	6,000	9,000	20,000	30,000	32,000	31,200	13,700	4,600	151,200
<i>Storm Water Management End of Pipe Facilities</i>	850	3,250	8,200	4,800	11,950	1,300	4,300	12,960	19,980	56,180	123,770
<i>Implementation of the Wet Weather Flow Master Plan</i>	6,595	6,039	9,000	9,500	9,750	9,750	9,750	9,500	9,500	9,500	88,884
<i>Other Service Improvement Projects</i>	47,289	32,281	21,876	22,381	11,390	6,162	9,094	10,813	22,636	32,483	216,405
<b>Sub-Total</b>	<b>145,530</b>	<b>156,356</b>	<b>180,840</b>	<b>194,712</b>	<b>182,940</b>	<b>154,712</b>	<b>177,644</b>	<b>193,973</b>	<b>215,316</b>	<b>250,663</b>	<b>1,852,686</b>
<b>Growth Related</b>											
<i>Trunk Watermain Expansion and Upgrades</i>	758	1,760	2,300	15,700	27,750	25,550	38,050	52,000	62,120	50,975	276,963
<i>New Sewer Connections and Construction</i>	17,503	17,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	183,003
<i>Horgan W.T.P. Expansion</i>	16,650	16,300	16,300	3,500							52,750
<i>Other Growth Projects</i>	24,558	11,169	7,210	7,509	5,455	2,992	2,405	2,697	7,525	7,670	79,190
<b>Sub-Total</b>	<b>59,469</b>	<b>46,729</b>	<b>44,310</b>	<b>45,209</b>	<b>51,705</b>	<b>47,042</b>	<b>58,955</b>	<b>73,197</b>	<b>88,145</b>	<b>77,145</b>	<b>591,906</b>
<b>Total</b>	<b>607,517</b>	<b>656,798</b>	<b>737,980</b>	<b>767,612</b>	<b>774,577</b>	<b>774,048</b>	<b>818,020</b>	<b>871,471</b>	<b>929,095</b>	<b>939,047</b>	<b>7,876,165</b>

### Major Capital Initiatives

- The mix of projects included in the 10–Year Recommended Capital Plan balances infrastructure renewal needs to ensure assets are maintained in a state of good repair, service improvement projects, funding to increase system capacity to keep pace with population growth, while ensuring the City's delivery of water supply and wastewater treatment within an increasingly stringent regulatory framework.

#### *State of Good Repair (SOGR), Health & Safety, & Legislated*

- Toronto Water's 10–Year Recommended Capital Plan primarily focuses on on–going state of good repair projects for the renewal of the City's infrastructure ensuring the replacement or rehabilitation of aging watermains and sewers and investment in the City's aging wastewater treatment facilities.
- The 10–Year Recommended Capital Plan's State of Good Repair funding will address Toronto Water's SOGR backlog, currently estimated at \$1.555 billion by the end of 2012 and projected to be virtually eliminated by year–end 2021.
- The 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan includes funding of \$228.800 million to meet legislated requirements governing the Ashbridges Bay Wastewater Treatment Effluent System. This funding will enable Toronto Water to apply UV disinfection for secondary effluent and liquid sodium bisulphite for primary effluent streams at the Ashbridges Bay facility.

*Service Improvements*

- The updated Basement Flooding Relief Work Plan approved by Council at its meeting of September 21, 2011, set out a multi-pronged (lot level; storm drainage; and, sewer infrastructure improvements) adaptive management approach to reduce the risk of basement flooding from more frequent extreme storms the City is experiencing, and capping cost to benefitting property at \$32,000.
  - Using this multi-pronged approach in all of the previously identified 32 chronic basement flooding areas the 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan provides service improvement funding of \$736.794 million to implement the Basement Flooding Relief Work Plan.
  - The first contracts for remediation in the most critical areas have been completed under the infrastructure stimulus fund program.
- \$334.900 million in funding is recommended for the Don & Waterfront Trunk Sanitary Sewer and Combined Sewer Overflow Control Strategy to improve the water quality along the waterfront.
- The 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan provides \$200.733 million in funding for completion of the Water Metering Program.
  - The Water Metering Program, approved by Council, at its meeting of June 23 and 24, 2008 includes the installation of meters for the remaining flat rate customers; and the City-wide water meter replacement program coupled with the concurrent installation of automated meter reading technology (i.e. a radio frequency based fixed area network). The Program will be completed by 2017.
  - Based on 2006 total water consumption and 2007 water rates, the City is losing approximately \$28.000 million per year in revenue due to old and inaccurate large volume water meters.
  - The 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan provides \$200.733 million in funding for completion of the Water Metering Program.
  - It has been estimated that approximately \$33.000 million per year will be realized once the Program is fully implemented through a combination of additional revenues and operating efficiencies, which would enable this project to pay for itself in approximately 7 years.
- The 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan includes funding of \$151.200 million for the Highland Creek Wastewater Treatment Plant Biosolids Master Plan Implementation.



- Funding is required for the Implementation and Construction projects that will enable the long-term beneficial use of biosolids through the replacement of the existing incinerators with new beneficial use technologies.
- The 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan also provides funding of \$123.770 million for Storm Water Management End of Pipe Facilities projects, which also address the Wet Weather Flow Master Plan.
  - The Wet Weather Flow Master Plan impacts capital projects which directly improve water quality along the waterfront, including: the Bonar Creek Stormwater Wetland (Etobicoke Waterfront); Etobicoke Waterfront Storm Sewer Discharges; Coatsworth Cut Storm Sewer and Combined Sewer Overflow Control Project; and, the Scarborough Waterfront Combined Sewer Overflow Discharges projects.
  - Once implemented, these projects will address most of the storm sewer discharges to the waterfront and all but 9 of the 69 combined sewer overflow discharges in the City. The remaining combined sewer overflows, discharging to the Humber River watershed, are being addressed through a separate Class Environmental Assessment that was initiated in 2011.
- \$88.884 million in funding is recommended for projects to continue the implementation of the Wet Weather Flow Master Plan to manage the discharge of pollutants into waterways and Lake Ontario.
  - The goal of the Plan is to reduce and ultimately eliminate the adverse impacts of wet weather flow on the built and natural environments to achieve a measurable improvement in ecosystem health of the City's watersheds and waterfront, with emphasis on improving water quality along the City's waterfront beaches.

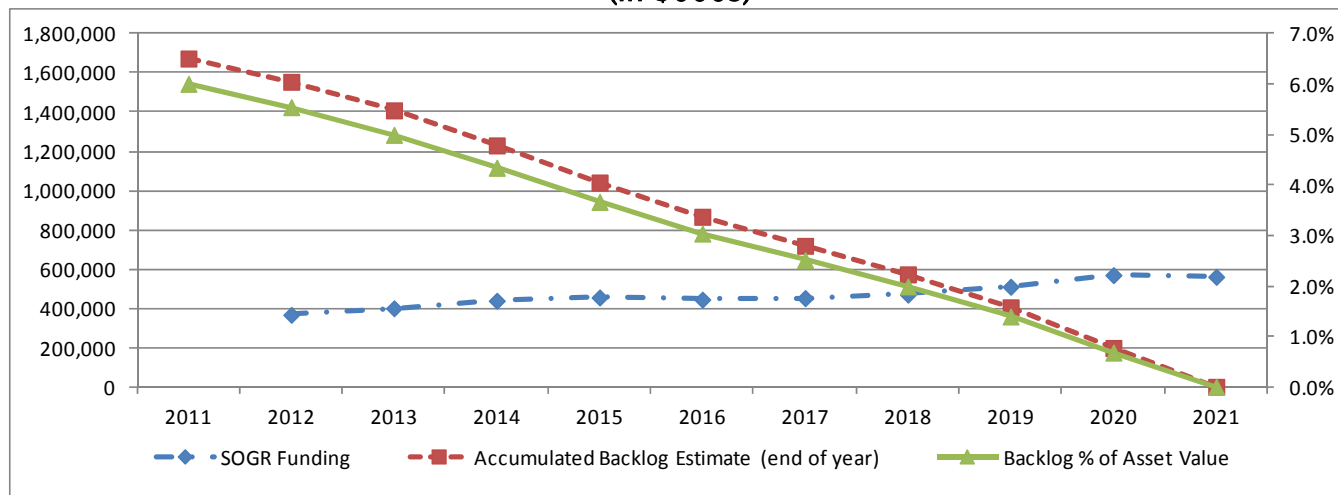
#### *Growth Related Projects*

- Funding of \$276.963 million is recommended in the 10-Year Capital Plan for the Trunk Watermain Expansion and Upgrade projects to increase the hydraulic capacity in the Toronto Water Supply System, ensuring Toronto Water will continue to meet water demand in the City of Toronto and York Region. Many of these projects are cost shared with the Region of York.
- The 10-Year Recommended Capital Plan provides \$188.003 million in funding for the New Sewer Construction, New Watermain Construction and New Connection projects to provide the necessary servicing capacity based on projected population growth needs and for the installation of service connections for new homes and developments.

- These projects address growth within the City as the available hydraulic capacity in the existing sanitary sewer system is insufficient to service the needs of new development or redevelopment in the service area.
- The 10–Year Recommended Capital Plan provides funding of \$52.750 million for the completion and expansion of the F.J. Horgan Water Filtration Plant from 455 ML/d to 795 ML/d. The increase in production capacity is the most cost efficient method of meeting forecasted increases in demand in the City of Toronto as well as water supply to York Region as prescribed in the Toronto–York Region Agreement.

### State of Good Repair (SOGR) Backlog

**SOGR Funding & Backlog**  
(In \$000s)



- Toronto Water will have a backlog of state of good repair work for water and wastewater infrastructure renewal estimated at \$1.673 billion by year-end 2011, representing 6.0% of the asset replacement value of \$27.865 billion.
- The 10-Year Recommended Capital Plan dedicates \$4.752 billion (\$2.135 billion during the first five years) or \$475 million on average annually to address state of good repair.
  - Significant investments in water and wastewater infrastructure renewal projects will reduce the backlog of SOGR work to \$868.016 million by year-end 2016, representing 3.0% of the asset replacement value.
  - By year-end 2021, Toronto Water will have nearly addressed the Program's SOGR backlog, estimated at \$3.251 million or 0.01% of the asset replacement value.
- Refer to PART IV: ISSUES FOR DISCUSSION in this document for a more detailed discussion on the cause of Toronto Water's current SOGR backlog, the impact that this backlog has on residents, businesses and visitors of the City and infrastructure renewal projects that will address the backlog over the 2012 - 2021 Recommended Capital Plan period.

### 10-Year Capital Plan: Operating Impact Summary (In \$000s)

	2012 Rec. Budget	2013 Plan	2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	2012- 2021 Total
<b>2012 Recommended Capital Budget</b>											
Program Cost (Net)			100	247	147						494
Approved Positions			2	3							5
<b>Recommended 10-Year Capital Plan</b>											
Program Cost (Net)			50	150	199	152	53	115	6,990	4,878	12,587
Approved Positions			1	2	2	1		1		1	8
<b>Total</b>											
Program Net			150	397	346	152	53	115	6,990	4,878	13,081
Approved Positions			3	5	2	1		1		1	13

- The 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan will result in operating impacts from previously approved and new/change in scope capital projects for 2014 of \$0.150 million; 2015 of \$0.397 million; 2016 of \$0.346 million; 2017 of \$0.152 million; 2018 of \$0.053 million; 2019 of \$0.115 million; 2020 of \$6.990 million; and 2021 of \$4.878 million.
- As directed by Council at their meeting of May 17, 2011, (PW3.4 Biosolids Master Plan Update – Highland Creek Treatment Plant) the Highland Creek Treatment Plant Implementation and Construction project will implement long-term beneficial use of biosolids with the intent of replacing the existing incinerators with new beneficial use technologies. The operating impacts arising from operational and utility requirements for the beneficial use option as the primary biosolids management strategy is estimated at \$4.486 million in 2020; \$4.753 million in 2021; and additional incremental impacts of \$6.032 million estimated from 2022 to 2038.
- The Ashbridges Bay Wastewater Treatment Effluent System project, which will allow Toronto Water to apply UV disinfection for secondary effluent and sodium bisulphite for primary effluent streams at the Ashbridges Bay facility, will also result in operating impacts arising from operational and utility requirements of \$2.504 million in 2020 and \$0.075 million in 2021.
- The operating impacts do not reflect additional revenue that will be realized from implementation of the Automated Meter Reading (AMR) System project. In 2010, it was anticipated that the financial benefits of approximately \$33.000 million per year would be realized once the AMR System is fully implemented through a combination of additional revenues and operating efficiencies.
- Toronto Water has identified 13 new positions arising from approval of the 2013–2021 Recommended Capital Plan. Capital Projects with complement additions include:
  - Basement Flooding Relief Work Plan (2015 – 1 position, 2016 – 1 position, and 2017 – 1 position).

- End of Pipe Facilities (2014 – 1 position, 2015 – 1 position, 2016 – 1 position, and 2021 – 1 position).
- Wet Weather Flow Master Plan (2019 – 1 position).
- Ashbridges Bay Wastewater Treatment Plant Odour Control (2014 – 2 positions, and 2015 – 3 position).

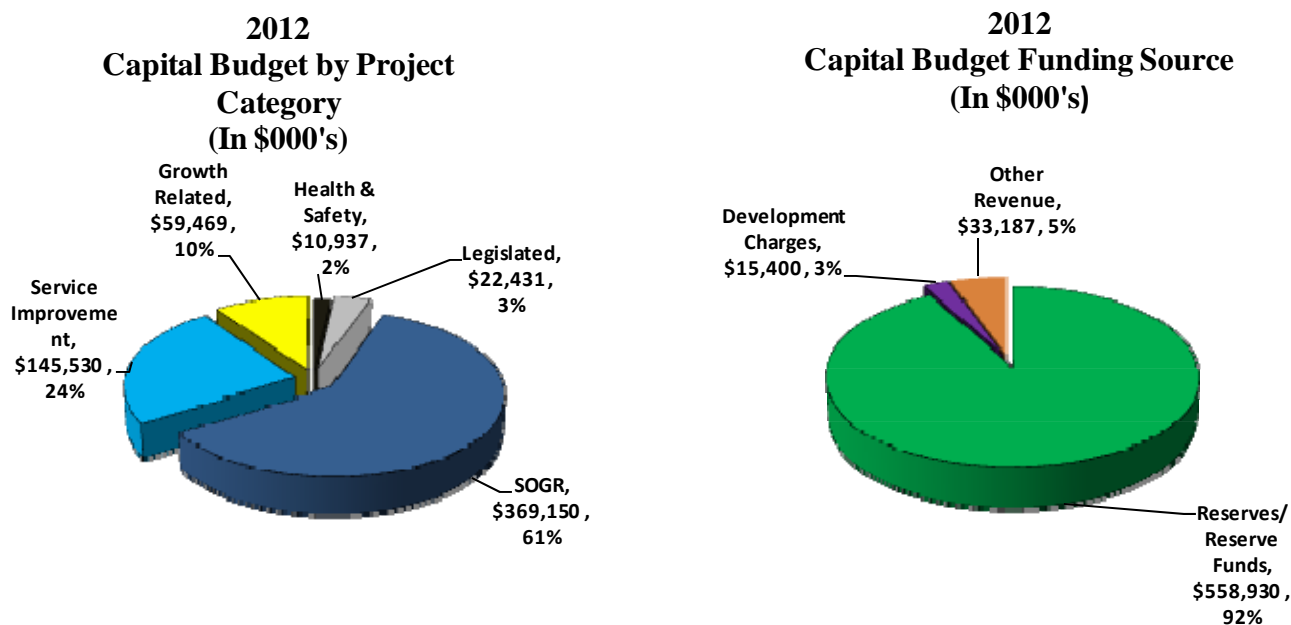
**Capital Project Delivery, Temporary Positions  
(In \$000s)**

Position Title	CAPTOR Project Number	# of Positions	Project Delivery		Salary and Benefits \$ Amount (In \$000s)				
			Start Date	End Date	2012	2013	2014	2015	2016 to 2021
Manager Water Meter Program	WAT906340-2	1.00	1/1/2011	12/31/2016	133.6	133.6	133.6	133.6	133.6
Supervisor Meters & Locates	WAT906340-2	3.00	1/1/2011	12/31/2016	321.7	321.7	321.7	321.7	321.7
Inspector Municipal Construction	WAT906340-2	4.00	1/1/2011	12/31/2016	382.3	382.3	382.3	382.3	382.3
Bylaw Officer	WAT906340-2	2.00	1/1/2011	12/31/2016	150.3	150.3	150.3	150.3	150.3
Support Assistant B	WAT906340-2	1.00	1/1/2011	12/31/2016	67.5	67.5	67.5	67.5	67.5
<b>Total</b>		<b>11.00</b>			<b>1,055.4</b>	<b>1,055.4</b>	<b>1,055.4</b>	<b>1,055.4</b>	<b>1,055.4</b>

- Toronto Water's 2011 Approved Operating Budget included the addition of 11 temporary positions beginning in 2011 to implement the Water Metering Capital Program. Capital funding for these temporary capital project delivery positions will continue until 2016 and is included in 2012 Recommended Base Operating Budget for Toronto Water.

## PART III – 2012 RECOMMENDED CAPITAL BUDGET

### 2012 Capital Budget by Project Category and Funding Source



- The 2012 Recommended Capital Budget requires new 2012 cash flow funding of \$607.517 million.
- State of Good Repair projects account for \$369.150 million or 61% of recommended funding for the 2012 Capital Budget. The 2012 Recommended Capital Budget provides funding to address emerging SOGR requirements as well as \$118.555 million or 7.1% to address the current SOGR backlog of \$1.673 billion.
- Service Improvement projects represent 24% or \$145.530 million of the total new recommended cash flow for 2012. Examples of service improvement projects include biosolids treatment and disposal; wastewater treatment plant odour control; Water Metering Program; Basement Flooding Relief Work Plan; elements of the Wet Weather Flow Master Plan; and, wastewater treatment plant optimization.
- Growth projects account for 10% or \$59.469 million of total recommended funding for 2012 and include initiatives for improving water efficiency; reducing water loss; and, expansion projects required for future water supply and wastewater treatment demand.
- Legislated projects are included with funding of \$22.431 million or 3% of the 2012 recommended funding allocated in the Capital Budget, the most significant project in 2012 is the District Water Service Repair project which includes Lead Water Service Replacement.

- Health and Safety projects account for 2% or \$10.937 million of total recommended funding for 2012 and include building and electrical upgrades at wastewater treatment plants.
- Toronto Water's 2012 Recommended Capital Budget continues to be 100% self-sustaining from water rate revenues and does not require debenture financing. The Toronto Water Capital Budget does not impact the municipal property tax levy.
- The 2012 Recommended Capital Budget is funded primarily from the Program's reserves, which accounts for approximately 92% or \$558.930 million.
- Capital cost sharing with York Region for construction of new water and sewer connections, represent 5% or \$33.187 million of 2012 funding.
- Development charges provide funding of \$15.400 million or 3% of the Capital Budget.

**2012 Recommended Cash Flow & Future Year Commitments**  
(In \$000s)

	2012 Previously Approved Cash Flow Commitments	2012 New Cash Flow Rec'd	2012 Total Cash Flow Rec'd	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total Cost
<b>Expenditures</b>													
Previously Approved	576,336		576,336	574,174	503,660	406,285	171,223	121,741	89,599	69,707	54,928		2,567,653
Change in Scope		(57,909)	(57,909)	(113,015)	(168,420)	(117,571)	20,879	(8,815)	31,982	30,688	(11,625)	32,532	(361,274)
New		10,285	10,285										10,285
New w/Future Year		78,805	78,805	66,683	51,569	45,998	13,978	2,100	2,250	2,000	2,000	1,400	266,783
<b>Total Expenditure</b>	576,336	31,181	607,517	527,842	386,809	334,712	206,080	115,026	123,831	102,395	45,303	33,932	2,483,447
<b>Financing</b>													
Debt			0										0
Other	52,272	(19,085)	33,187	25,049	25,488	10,582	4,889	5,850	24,521	29,513	14,881	15,011	188,971
Reserves/Res Funds	510,583	48,346	558,929	495,702	355,356	320,183	197,537	106,935	97,177	72,265	30,252	18,812	2,253,148
Development Charges	13,481	1,920	15,401	7,091	5,965	3,947	3,654	2,241	2,133	617	170	109	41,328
Provincial/Federal			0										0
<b>Total Financing</b>	576,336	31,181	607,517	527,842	386,809	334,712	206,080	115,026	123,831	102,395	45,303	33,932	2,483,447

\*Please refer to Appendix 3 for detailed project listings

- Toronto Water's 2012 Recommended Capital Budget is \$607.517 million which includes previously approved 2012 commitment funding of \$576.336 million; and, \$31.181 million for new/change in scope projects.
- In addition to previously approved future year commitments of \$1.991 billion from 2013 to 2020, approval of the 2012 Recommended Capital Budget will result in adjustments to future year funding commitments for new/change in scope projects of (\$46.332 million) in 2013; (\$116.851 million) in 2014; (\$71.573 million) in 2015; \$34.857 million in 2016; (\$6.715 million) in 2017; \$34.232 million in 2018; \$32.688 million in 2019; (\$9.625 million) in 2020; and \$33.932 million in 2021.
- The high rate of future year commitment funding reflects the nature of Toronto Water's capital program which includes many multi-year, multi-million dollar projects such as the Water Metering Program; Horgan Water Treatment Plant Expansion; Transmission

Watermains; Wastewater Treatment Plant Upgrade Projects; Basement Flooding Relief Work Plan and Watermain Replacement. The use of multi-year contracts has allowed Toronto Water to increase its capital delivery rate.



## 2012 Recommended Capital Project Highlights

## 2012 Recommended Projects

(In \$000s)

Project	Total Project Cost	2012	2013	2014	2015	2016	2012 - 2016	2017	2018	2019	2020	2021	2012 - 2021
HORGAN W.T.P. EXPANSION	57,750	19,150	18,800	16,300	3,500		57,750						57,750
WATER STORAGE EXPANSION	23,984	19,455	4,464	50	15		23,984						23,984
CLARK RESIDUE MGMT. FACILITIES	106	106					106						106
WATER EFFICIENCY PROGRAM	4,330	600	1,000	910	910	910	4,330						4,330
ISLAND PLANT WINTERIZATION	742	385	257	100			742						742
WM MARKHAM/SHEPPARD TO BAYVIEW/FINCH	300	300					300						300
ENGINEERING STUDIES	10,342	4,121	5,675	346	200		10,342						10,342
BUSINESS SYSTEM INFRASTRUCTURE - PW	23,390	11,733	7,636	442	1,003	833	21,647	490	45	45	1,163		23,390
METERING & METER READING SYS	200,733	36,000	47,738	51,114	42,531	23,350	200,733						200,733
AVENUE ROAD TRUNKMAIN REPLACEMENT	16,035	12,000	17	4,018			16,035						16,035
HORGAN TRUNK MAIN EXPANSION	49,218	8	210	200	3,200	15,200	18,818	15,200	15,200				49,218
RL CLARK WTP R&R	25	25					25						25
ISLAND W.T.P. R&R	2,550	50	1,100	200	200	200	1,750	200	200	200	200		2,550
DISTRICT WATERMANS - NEW	1,000	500	500				1,000						1,000
PW ENGINEERING	5,720	2,120	2,200	850	550		5,720						5,720
DOWNTOWN W/M ENHANCEMENT	86,802	25,528	25,134	25,135	10,983	15	86,795	7					86,802
F.J. HORGAN WTP R&R	43	25	18				43						43
TRANSMISSION R&R	3,721	3,156	565				3,721						3,721
TRANSMISSION R&R	3,145	505	2,090		25	525	3,145						3,145
HARRIS W.T.P. R&R	19,370	7,390	5,000	2,330	2,700	1,950	19,370						19,370
FJ HORGAN W.T.P. R&R	7,970	250	1,150	3,100	3,000	470	7,970						7,970
TRUNK WATERMAIN EXPANSION	4,480	2,250	790	740	650	50	4,480						4,480
SWITCH GEAR TRANSFORMER	16,412	1,412	5,050	5,200	4,750		16,412						16,412
TRANSMISSION OPERATIONS OPTIMIZER	600	600					600						600
WATER SUSTAINABILITY PROGRAM	1,400	400	1,000				1,400						1,400
RL CLARK W.T.P. R&R	149,537	9,330	8,530	9,974	10,355	15,000	53,189	20,050	24,324	19,074	20,000	12,900	149,537
DIST W/M REPLACEMENT	34,667	27,441	7,226				34,667						34,667
DIST W/M REHABILITATION	40,500	20,500	20,000				40,500						40,500
DIST WATER SERVICE REPAIR	28,711	15,711	13,000				28,711						28,711
NEW SERVICE CONNECTIONS	33,003	16,503	16,500				33,003						33,003
ENGINEERING	55,018	28,018	9,000	9,000	9,000		55,018						55,018
ISLAND W.T.P. R&R	6,481	2,231	1,525	1,525	375	525	6,181		150		150		6,481
D2/D4 TRUNK WATERMAIN UPGRADES	2,870	400	650	650			1,700		100	200	320	550	2,870
BAYVIEW TRUNK WATERMAIN - PH2	81,000						0	1,000	20,000	30,000	15,000	15,000	81,000
REGENT PARK CAPITAL CONTRIBUTION	3,781	638	255		859	330	2,082	132	745	287	115	420	3,781
ASHBRIDGES BAY W WTP REHAB	51,517	9,907	12,969	19,430	7,510	1,252	51,068	200	149	100			51,517
HUMBER T.P.	45	35	10				45						45
ASHBRIDGES BAY TREATMENT PLANT - III	50	50					50						50
TRUNK SEWER SYSTEM	31,167	8,698	10,219	9,135	3,115		31,167						31,167
BASEMENT FLOODING RELIEF	146,522	60,096	61,048	7,860	5,200	5,200	139,404	3,118	1,000	1,000	1,000	1,000	146,522
HIGHLAND CREEK W WTP - BUILDING SERV & SITE DEV	12,700	2,500	1,500	700	4,000	4,000	12,700						12,700
W&WV LABORATORIES	285	75	70	70	70		285						285
SWM END OF PIPE FACILITIES	7,600	2,350	2,250	3,000			7,600						7,600
SWM SOURCE CONTROL PROG	2,550	475	575	350	300	300	2,000	300	250				2,550
HIGHLAND CREEK W WTP - ODOUR CONTROL	3,334	910	764	610	510	230	3,024	200	100	10			3,334
ASHBRIDGES BAY T.P. - III YR2004	7,949	5,319	1,638	102	60	30	7,149				400	400	7,949
HIGHLAND CREEK T.P. - IV YR2004	550	264	260	26			550						550
HUMBER T.P. - II YR2004	643	304	306	33			643						643
WET WEATHER FLOW MP	17,384	6,595	6,039	2,000	1,000	1,250	16,884	250	250				17,384
SEWER ASSET PLANNING	7,953	4,355	1,448	880	880	390	7,953						7,953
NEW SEWER CONSTRUCTION	2,000	1,000	1,000				2,000						2,000
DIST SEWER REHAB OPS YR2005	2,615	2,100	515				2,615						2,615
HIGHLAND CREEK TP YR2005	1,555	740	250	350	184	17	1,541	10	4				1,555
HUMBER TP YR2005	11,908	6,596	4,365	746	100	101	11,908						11,908
ASHRIDGES BAY TP YR2005	16,199	6,270	3,730	4,265	1,315	619	16,199						16,199
WESTERN BEACHES RETROFIT	5,750	250	500	2,000	3,000		5,750						5,750
OPERATIONAL SUPPORT	6,571	1,821	1,300	1,450	1,000	1,000	6,571						6,571
SEWER SYSTEM REHABILITATION	59,152	21,997	27,293	4,662	3,700	1,500	59,152						59,152

The 2012 Recommended Capital Budget provides funding of \$2.483 billion to:

- Complete the Liquid Stream Upgrades at the Humber Wastewater Treatment Plant (\$2.095 million);

- Continue state of good repair projects to address infrastructure renewal such as District Watermain Replacement and Rehabilitation (\$75.167 million) and Sewer System Replacement and Rehabilitation (\$92.543 million)
- Continue the completion of Horgan Water Treatment Plant Expansion (\$57.750 million);
- Continue the implementation of the Wet Weather Flow Master Plan (\$17.384 million);
- Continue the Basement Flooding Relief project (\$146.522 million);
- Continue implementation of the Water Metering Program (\$200.733 million);
- Begin to upgrade the M & T building sanitary sewage pumping stations at the Ashbridges Bay Treatment Plant ensuring continued MOE compliance (\$5.725 million);
- Begin the design of phase 1 of odour control implementation at the Humber Wastewater Treatment Plant (\$51.800 million); and
- Begin the Don & Waterfront Trunk Sanitary Sewer and Combined Sewer Overflow Control Strategy to improve the water quality along the waterfront (\$22.400 million).

## PART IV: ISSUES FOR DISCUSSION

### 2012 Issues

#### *Capital Financing Reserve – Projected 2011 Year End Balance*

- Toronto Water's capital program is 100% self-sustaining from water rate revenue, as a result no debenture financing is required and the Program does not impact the municipal property tax levy.
- The 10-Year Recommended Capital Plan is primarily funded from the Program's capital financing reserves, accounting for \$7.541 billion or approximately 96% of all funding.
- Accelerated capital spending in 2009, 2010 and projected year end spending for 2011, beyond Toronto Water's capital spending rate targets coupled with a reduced level of water consumption is projected to result in a negative year-end balance within the combined Toronto Water capital financing reserves, as indicated in the table below:

Description	\$000s
Reserve Opening Balance – January 1, 2011	496
Transfer from 2010 Year-End Operating Surplus	21,924
2011 Projected Reserve Contributions	436,072
2011 Projected Reserve Draws	(500,572)
<b>*2011 Projected Year-End Reserve Balance</b>	<b>(42,080)</b>

\*The projected year-end balance is prior to additional recommended reserve contributions.

- To reduce the negative projected year-end reserve balance it is recommended that \$32.215 million in funding intended for Meter Replacement and Water Efficiency projects be transferred to the Toronto Water Capital Financing Reserve as indicated in the table below:

Description	\$000s
Toronto Water Net Capital Credit (Water Metering Program - Previous Years)	18,455
2008 - 2011 Unapplied Development Charge Funding - Water Efficiency Plan	13,760
<b>Sub-Total - Transferred Funding</b>	<b>32,215</b>
Stabilization Reserve Transfer (Reversed in 2012 through Project Reductions)	9,865
<b>2011 Final Projected Year-End Reserve Balance</b>	<b>0</b>

- A further transfer of \$9.865 million from the Toronto Water Stabilization Reserve will prevent the Toronto Water Capital Financing Reserves from being in a negative position in 2011. The Toronto Water Stabilization Reserve will be replenished to \$30 million in 2012 through capital project reductions recommended in 2012.

- Of the recommended \$1.132 billion in reductions from the 2011 – 2020 Approved Capital Plan, approximately \$60 million is required to re-establish a sufficient capital financing reserve balance by 2014 through a multi-year stepped approach.

#### *State of Good Repair (SOGR) Backlog*

- The water and wastewater infrastructure renewal backlog is a recognized problem within older municipalities across North America. The construction of water and wastewater infrastructure has generally aligned with urban growth cycles; and much of this older infrastructure is currently at or reaching the end of its expected service life.
- Toronto Water currently has a significant infrastructure renewal backlog, higher than any other major Canadian urban centres. With the largest asset base in the country, estimated at \$27.865 billion and where some infrastructure dates back to the 1800s, much of this infrastructure is reaching the end of its expected service life resulting in an average of 1400 watermain breaks per year, currently the highest break rate in Ontario.
- For example, 14% of the City’s 5,500 kilometers of watermain was installed before the 1920s, and the thinner-walled watermains installed in North York and parts of Scarborough during high growth periods in the 1950s, representing 16% of the watermain network, are also reaching the end of their lifecycle, resulting in a significant renewal backlog.
- The 10-Year Recommended Capital Plan includes State of Good Repair Funding of \$4.752 billion with annual cash flow funding of: 2012 – \$369.500 million; 2013 – \$404.175 million; 2014 – \$445.619 million; 2015 – \$462.589 million; 2016 – \$452.782 million; 2017 – \$460.794 million; 2018 – \$480.671 million; 2019 – \$521.531 million; 2020 – \$581.714 million; and, 2021 – \$572.889 million that will contribute towards reducing the watermain break rate. The need to reduce pipe breaks and subsequent leaks is essential, not only to restore revenues from lost water sales but also to minimize the following:
  - ✓ Disruption to local residential; traffic; and, business activities.
  - ✓ Significant repair and rehabilitation costs for affected roads and underground utilities.
  - ✓ Risk to providing inadequate fire protection to high-rise buildings
  - ✓ Increased energy consumption and related CO2 emissions as pumps and motors must work harder to deliver service.
- The 2011 year-end value of the infrastructure renewal backlog is estimated at \$1.673 billion, reflecting 6% of Toronto Water’s total asset value of \$27.865 billion. This is based on a detailed analysis of current condition assessments and assumptions of

service life by asset class, coupled with recently completed assessments of water and wastewater treatment facilities.

- The 10-Year Recommended Capital Plan includes \$4.752 billion of funding to address the state of good repair backlog from \$1.673 billion in 2011 to \$3.251 million by 2021.
- For the purposes of the state of good repair backlog analysis, the City's stormwater management facilities, including stormwater ponds and underground storage tanks have not been included as they are relatively new infrastructure. Further, stream restoration needs to address existing erosion scars across the City; and mitigate future stream erosion are also not included in the analysis.

### *Extreme Weather Events*

- The City of Toronto has experienced wide spread surface and basement flooding as a result of extreme storm events. On August 19, 2005, for example, over 4,200 basement flooding complaints were received by Toronto Water, as a result of an extreme storm which exceeded a 1 in 100 year return frequency.
- The most impacted areas were areas of the City developed during the 1950s and 1960s, with separated storm and sanitary sewer systems, and which have also had a history of basement flooding complaints during extreme storm events.
- In April 2006, Council approved a Basement Flooding Protection Work Plan requiring a comprehensive engineering review to address chronic basement flooding problems. 32 Chronic Basement Flooding Study Areas have been identified, across the City. The engineering reviews have noted that the existing sewer systems perform as designed, but are unable to accommodate the storm runoff volumes from these extreme storms, which have been occurring more frequently, and may be attributed to the impacts of climate change.
- In approving the Work Plan, Council adopted enhancements to the design of the sanitary sewer and storm drainage systems, in chronic basement flooding prone areas. These enhancements provide a higher level of protection against basement flooding than currently provide by the existing storm and sanitary sewer systems. As directed by Council, storm drainage improvement works to provide protection from a 1 in 100 year return frequency storm event, up from the current 1 in 2 to 1 in 5 year return frequency storm, are being implemented where feasible, as part of the City's Climate Change Adaptation Strategy.
- These Basement Flooding area studies follow the Municipal Class Environmental Assessment process, wherein a wide range of options including lot level controls, storm sewer inlet controls, sewer system improvements and storm drainage system

improvements, are considered, with input from the local community. As of the end of 2011, seven studies have been completed. Construction for the first set of remedial works (from the first four of the completed studies) began in earnest in late 2009. All 32 of the Basement Flooding Protection Program studies are to be completed by the end of 2014.

- Many challenges exist with the implementation of works recommended by the EA studies, and retrofitting an area to accommodate the higher level of storm drainage and overland flow controls in existing fully developed areas present the most significant challenge in terms of cost, scheduling and disruption to the local communities.
- In September 2011, Council in reviewing the staff report *PW7.6 Wet Weather Flow Master Plan and Basement Flooding Protection Program Update*, approved a prioritization for the implementation of works, across all study areas, based on the estimated cost of the work to the City apportioned to each benefiting property.
  - Works exceeding the \$0.032 million per benefiting property threshold are to be implemented only as appropriate funding opportunities are available, through other City infrastructure renewal programs, or third party funding which will reduce the City's cost per benefiting property.
- The 2012 Recommended Capital Budget and 2013 – 2021 Recommended Capital Plan includes \$743.294 million in funding for Basement Flooding Relief projects. The cost to implement priority projects across all 32 study areas will be updated, on an annual basis with subsequent Capital Budget submissions, as Class Environmental Assessment Studies are completed.

#### *Recent and Emerging Provincial Regulations*

- The provision of water and wastewater services in Ontario continues to experience increased legislative and regulatory reform. In the post-Walkerton period, greater attention has been paid to drinking water quality and there is increased acceptance of the importance of a multi-barrier approach. Changes which occurred through the Safe Drinking Water Act and the Drinking Water Protection Regulations have resulted in capital budget pressures for Toronto Water over the past several years.
- The following provides a summary of the key provincial regulation changes in recent years. There remain a number of very significant changes in the regulatory framework of the industry about which little information is presently known. For example, the Province is still developing the requirements beyond the conceptual framework for the Sustainable Water and Sewage Systems Act.

- **Bill 195, Safe Drinking Water Act:** The Act expands on existing policy and practice for water testing for the protection of human health and the prevention of drinking water health hazards. Regulations passed under the Act require municipalities to publish annual reports describing the operation of the water system and the results of testing required to ensure that residents are provided with safe drinking water.
  - Recent amendments to Ontario Regulation 170/03 for large municipal residential systems included a new requirement where, as a result of having the 2 of 3 rounds of regulated testing, exceeding the Ontario Ministry of the Environment (MOE) water quality standard for lead of 10 parts per billion, in more than 10% of drinking water samples, a Corrosion Control Plan for the City of Toronto, was developed and submitted to MOE for their approval in 2010.
  - Subject to approval from MOE, it is anticipated that the Corrosion Control Plan will be fully implemented by 2013. The estimated capital cost to implement corrosion control (new infrastructure) at all four water treatment plants is \$7.275 million with an annual estimated operating impact of \$1.250 million per year. In order to reduce the risk of lead in drinking water, it is likely that corrosion control will be a permanent measure as small amounts of lead may continue to leach from private side lead pipes that have not been replaced, internal plumbing containing lead solder joints and brass fixtures.
  - In February, 2011, Council approved a multi-faceted Lead in Drinking Water Mitigation Strategy which includes the implementation of the Corrosion Control Plan, once approved, and the continued replacement of the City owned sections of lead water service connections, in conjunction with the City's planned infrastructure renewal projects, and priority replacements of individual connections meeting prescribed criteria. This is complemented with a Faucet Filter Program, which provides free faucet mounted lead removal filters to high risk and low income households; and a onetime only free faucet filter to households, following the replacement of the City owned section of the water service, to address the potential temporary increase in drinking water lead levels following the replacement.
- **Bill 43, Clean Water Act:** This Act provides protection for municipal drinking water supplies through developing collaborative; locally driven; science-based protection plans by municipalities; conservation authorities; and, the public. Source Water Protection Plans are to be submitted to the Ontario Ministry of the Environment in 2012 for final approval. The City of Toronto has senior staff representation from Toronto Water and Toronto Public Health on the CTC Source Protection Committee. This Committee, led through the Toronto and Region Conservation Authority, is overseeing the development of a Source Protection Plan for the Toronto area, including a focus on the near shore area of Lake Ontario: Toronto's source water. The Plan, once developed, may have

implications for the implementation schedule of the City of Toronto's Wet Weather Flow Master Plan, considered a foundation for the Plan.

- ***Canada-Wide Strategy for the Management of Municipal Wastewater.*** This Strategy, which was endorsed by the Council of Ministers of the Environment (CCME) on February 17, 2009, sets out a harmonized framework to manage discharges from more than 3,500 wastewater facilities in Canada. The proposed Regulations developed under the Fisheries Act will set national effluent quality standards for specified deleterious substances in effluent discharged from wastewater systems. Although Toronto wastewater plants are expected to be in good standing with much of the proposed new requirements, deleterious substances specified under the proposed Regulations include total residual chlorine and un-ionized ammonia and therefore generate impacts to future capital plans – particularly for the Ashbridges Bay Treatment Plant. Details including proposed phase in requirements are expected to be released by the Federal government in November 2011. Only at that time can the total magnitude of the financial impact be assessed.
- As noted above, the full financial implications arising from the new and emerging provincial government legislation is not known at this time. Toronto Water has included project costs in the 2012 Recommended Capital Budget and 2013–2021 Recommended Capital Plan based on current information, where possible. Funding for legislative projects is expected to increase significantly in future years as regulations governing water and wastewater services continue to evolve.

## Future Year Issues

### *Recommended Reductions to the 2011 – 2020 Approved Capital Plan and Unfunded Emerging Capital Priorities*

- The 2012 Recommended Capital Budget and 2013– 2021 Recommended Capital Plan reflects project decreases of \$1.132 billion or 14% from the 2011 – 2020 Approved Capital Plan, excluding 2021 planned expenditures. Furthermore, the 10-Year Recommended Capital Plan does not address an additional estimated \$306 million (plus) in unfunded emerging capital priorities.
- Despite the 2012 recommended 9% water rate increase and planned 9% increases until 2014, revenue modeling projects that the Program could not sustain funding for existing capital priorities or levels approved in the Program's 2011 – 2020 Capital Plan. In addition to required reductions to the 2011 – 2020 Approved Capital Plan, funding requirements for emerging capital priorities require offsets from within previously approved capital projects.



- Capital financing issues experienced by Toronto Water in 2012 can be attributed to multiple factors including:

### ***Accelerated Capital Spending***

- As previously described in the 2012 Issues, accelerated capital spending in 2009, 2010 and projected spending in 2011, beyond Toronto Water's capital spending rate targets has contributed to a depleted balance in the Water Capital Financing Reserves.
  - The beginning balance of the Water Capital Financing Reserves in 2011 was \$0.496 million as compared to a beginning balance of \$193.801 million on January 1, 2008. It is anticipated that a contribution of approximately \$10 million from the Water Stabilization reserve will be required in 2011 to ensure the reserve does not reflect a negative position by year end.
- Actual spending from 2009 onwards is reflective of the Program's increased spending capacity, however this has resulted in a reduction of available capital financing of approximately \$445 million over the 10-Year planning period arising from:
  - Replenishment of the Water Stabilization Reserve (\$10 million in 2012);
  - Re-establishing a sufficient Water Capital Financing Reserves balance by 2014 (\$60 million from 2012 – 2014); and
  - Adjusting the anticipated capital expenditure for planning and rate setting purposes to reflect Toronto Waters increased capacity to spend above their previous completion rate estimates of 76% in 2009, 78% in 2010 and 80% in 2010 (\$375 million from 2012 – 2021).

### ***Water Consumption Forecast***

- As noted in the accompanying 2012 Water and Wastewater Rates report, there has been a trend towards reduced water consumption over the last decade, despite population growth. Toronto's water consumption projected to 2011 year-end is estimated at 346 million cubic metres, which represents a substantial drop from 374 million cubic meters consumed in 2005. Besides weather conditions, the decline in water consumption is attributed to water efficiency measures and economic factors.
- 2011 water consumption is expected to be about 1.5% lower than 2010 actual consumption. The base forecasted consumption utilized in the rate modeling for the following years is estimated to decrease by 1.5% in each year until 2015.

- Adjusting the water consumption forecast from the 2011 rate model results in a decrease in anticipated water rate revenues of \$48.3 million in 2012 and \$686.8 million over the 10–Year planning period.

### *Council Direction*

- On May 17, 2011, Council amended a report from the General Manager of Toronto Water entitled, Biosolids Master Plan Update – Highland Creek Treatment Plant approving both the beneficial use option as the primary biosolids management strategy and the landfill disposal option as a contingency option for the Highland Creek Treatment Plant.
  - The 2011 – 2020 Approved Capital Plan included capital funding of \$142.6 million based on the recommendation from the General Manager of Toronto Water for on–site thermal reduction of biosolids by replacing existing multiple hearth incinerators with new modern fluidized bed incinerators with state of the art scrubbing technology.
- On May 17, 2011, Council also amended a report from the General Manager of Toronto Water entitled, Peer Review Findings of the Ashbridges Bay Treatment Plant Effluent Class Environmental Assessment Study, directing staff to implement Alternative 2 (the use of UV for disinfection in secondary effluent streams and the use of liquid sodium bisulphite for disinfection in primary effluent streams).
  - The 2011 – 2020 Approved Capital Plan included capital funding of \$169.3 million based on the recommendation from the General Manager of Toronto Water to implement Alternative 4 (the use of liquid sodium hypochlorite for disinfection and liquid sodium bisulphite for Dechlorination of both the secondary and primary effluent streams).
- As a result of these 2 combined decisions the Ashbridges Bay effluent system and Highland Creek solids and gas handling projects have increased by approximately \$98.7 million over the 10–Year planning period arising from:
  - Increased Capital Costs for Highland Creek of \$8.6 million;
  - Increased incremental operating impacts from Highland Creek of \$5.6 million;
  - Increased Capital Costs for Ashbridges Bay of \$66.4 million;
  - Increased incremental operating impacts for Ashbridges Bay of \$1.0 million;
  - Increased unbudgeted 20 year life cycle costs for Ashbridges Bay of \$17.1 million over the 10–Year planning period (\$34.2 million over 20 years);

- Given limited capital funding due to reduced revenues from accelerated capital spending and lower water consumption plus added project costs, significant project deferrals and/or reductions have been made from the 2011 – 2020 Approved Capital Plan, namely:
  - Wet Weather Flow Master Plan projects – decrease of \$436.6 million from 2012 – 2020;
  - Storage and Pumping Facility projects – decrease of \$370.8 million from 2012 – 2020;
  - Watermain Renewal projects – decrease of \$343.3 million from 2012 – 2020;
  - Transmission Watermain projects – decrease of \$308.5 million from 2012 – 2020;
  - Basement Flooding projects – decrease of \$127.3 million from 2012 – 2020;
- Furthermore, Toronto Water has identified unfunded emerging capital priorities that require approximately \$231.2 million in capital financing in the following project areas:

Description	\$000s
Lawrence Heights Redevelopment (Initial Phase)	15,000
Lawrence Heights Redevelopment (Future Phases)	45,000
Island Tunnel (Future Costs)	6,000
Ashbridges Bay Streetcar Maintenance & Storage Facility	31,000
Waterfront Master Service Plan	70,000
UV Treatment (Ashbridges Bay) Life Cycle Costs	34,200
Net Other	30,000
Eglinton Crosstown	TBD
<b>Estimated Unbudgeted Emerging Priorities</b>	<b>231,200 +</b>

- When combined with reduced key capital projects of \$1.132 billion, capital funding for Toronto Water's Capital financing pressures total a minimum of \$1.363 billion.
  - This estimate does not include further service improvement projects such as basement Flooding and Wet Weather Flow Implementation projects beyond the 10–Year period.
- In order to accommodate these capital pressures, the City must consider a combination of revenue (rate) generation and expenditure reduction strategies.
- To address the identified Toronto Water capital financing pressures, it is recommended that the General Manager of Toronto Water in consultation with the Deputy City Manager and Chief Financial Officer report to Budget Committee in June 2012 on strategies to maximize funding capacity and/or provide reductions in current project costs to address

existing and emerging unfunded capital priorities for consideration prior to the 2013 Capital Budget process.

# Appendix 1

## 2011 Performance

### 2011 Key Accomplishments

- ✓ Maintained a 100% full compliance rating for all water and wastewater treatment facilities with respect to Ministry of Environment inspections.
- ✓ Implemented the City's Lead in Drinking Water Mitigation Strategy.
- ✓ Completed an audit of the City of Toronto's Drinking Water Quality Management System (DWQMS), by the Canadian General Standards Board, indicating effective implementation of the Ministry of Environment's DWQMS.
- ✓ By the end of 2011 or early 2012 the following major capital projects will be completed; Coxwell Sanitary Trunk Sewer Bypass; Avenue Road Trunk Watermain; Horgan Water Treatment Plant Expansion; Ashbridges Bay WWTP Primary Treatment and Odour Control (D-Building); Earl Bales Stormwater Project; and other Infrastructure Stimulus Funding Projects.
- ✓ Completed the Wet Weather Flow Master Plan Class Environmental (EA) for Highland Creek Geomorphology Systems Master Plan Class EA; and Scarborough Waterfront CSO and Stormwater Outfalls Control Class EA.
- ✓ Anticipating filing Notices of Completion for the following Class EA studies in early 2012 requiring 30 day review and subsequent Ministry approval: Don River and Central Waterfront Class EA study; Etobicoke Stormwater Management Facilities Class EA; and Duncan Creek Erosion Control and Creek Restoration Master Plan Class EA.
- ✓ Completed 7 basement flooding Class EA studies to investigate the causes of basement and surface flooding and make recommendations to reduce the risk of future flooding.
  - An additional 7 studies are ongoing with completion anticipated in 2012. Wards include: 1, 3, 4, 9, 12, 15, 29, 30, 31, and 32.
  - Toronto Water began a further 8 studies in late-2011 with completion anticipated in 2013. Wards include: 7, 8, 9, 10, 15, 16, 26, 31, and 34.
  - 10 Class EA studies will begin in 2012 and be completed by end of 2014. Wards include: 11, 13, 23, 24, 25, and 34.
  - All Class EA studies are expected to be completed by the end of 2014.

## 2011 Capital Variance Review

**2011 Budget to Actuals Comparison – Total Gross Expenditures**  
(In \$000s)

2011 Approved	Actuals as of September 30th (3rd Qtr Variance)		Projected Actuals at Year End		Unspent Balance	
	\$	% Spent	\$	% Spent	\$	% Unspent
668,365	337,546	50.5%	558,858	83.6%	109,507	16.4%

- Capital expenditures for the period ending September 30th, 2011 totaled \$337.546 million or 50.5 % of the 2011 Approved Capital Budget of \$668.365 million.
- Toronto Water is projecting spending of \$558.858 million or 83.6% of the 2011 Approved Capital Budget by year-end.
- The current projected year-end spending rate of 83.6% results in an additional \$44.539 million contribution from the capital financing reserve above the Rate Model spending rate target for 2011 of 80%.
- Capital projects projected for completion in 2011 include:
  - ✓ Coxwell Trunk Emergency Repair;
  - ✓ Phase 1 Construction of the Coatsworth Cut; and
  - ✓ Construction of Storm Water Management at Earl Bales Park.
- In 2011, significant progress will also be made on the following projects:
  - ✓ Horgan Filtration Plant Expansion;
  - ✓ Milliken Reservoir and Pumping Station;
  - ✓ Dufferin Reservoir;
  - ✓ Replacement of the Avenue Road Transmission Watermain; and
  - ✓ Substantial legislated and state of good repair work will continue at the Wastewater Treatment Plants and on Linear Infrastructure.



## Appendix 3

### 2012 Recommended Capital Budget; 2013 to 2021 Capital Plan



## Appendix 4

### 2012 Recommended Cash Flow and Future Year Commitments

## Appendix 5

### 2012 Recommended Capital Project with Financing Details

## Appendix 6

## 2012 Reserve / Reserve Fund Review

## Reserve/Reserve Fund Review - Program Specific

Table 1		Projected Balance as at Dec. 31,	Proposed Withdrawals										2012 - 2021 Total
Reserve / Reserve Fund Name	Project / SubProject Name and Number		2012 Rec. Budget	2013 Plan	2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	
	Beginning Balance	\$19,154	\$19,154	\$18,532	\$24,532	\$31,329	\$38,884	\$46,558	\$54,670	\$64,181	\$74,132	\$81,826	
Water DC Reserve Fund	HORGAN W.T.P. EXPANSION - Design		(\$105)	(\$10)	(\$10)								(\$125)
	HORGAN W.T.P. EXPANSION - Construction		(\$3,408)	(\$1,605)	(\$1,605)	(\$347)							(\$6,965)
XR2111 DC - Water (2009)	WATER STORAGE EXPANSION - Dufferin		(\$1,550)	(\$592)	(\$7)	(\$2)							(\$2,151)
	WATER STORAGE EXPANSION - Milliken		(\$1,887)	(\$40)									(\$1,927)
	WM MARKHAM/SHEPPARD TO BAYVIEW/FINCH		(\$28)										(\$28)
	TASTE AND ODOUR MANAGEMENT										(\$52)	(\$207)	(\$259)
	AVENUE ROAD TRUNK MAIN REPLACEMENT		(\$157)		(\$33)								(\$190)
	HORGAN TRUNK MAIN EXPANSION				(\$18)	(\$284)	(\$1,351)	(\$1,351)	(\$1,351)				(\$4,355)
	ISLAND W.T.P. R&R - Engineering		(\$2)	(\$22)	(\$4)	(\$4)	(\$4)	(\$4)	(\$4)	(\$4)	(\$4)		(\$52)
	ISLAND W.T.P. R&R - Construction				(\$62)	(\$103)	(\$103)	(\$165)	(\$165)	(\$165)	(\$165)		(\$928)
	DISTRICT WATERMANS - NEW		(\$300)	(\$150)	(\$150)	(\$150)	(\$150)	(\$150)	(\$150)	(\$150)	(\$150)	(\$150)	(\$1,650)
	DOWNTOWN W/M ENHANCEMENT		(\$2,528)	(\$1,172)	(\$1,172)	(\$513)	(\$1)						(\$5,386)
	PUMPING EQUIPMENT - PARKDALE, WM JOHNSON		(\$8)										(\$8)
	ELLESMERE PUMPING STATION UPGRADE					(\$1)	(\$28)						(\$29)
	TRUNK WATERMAIN EXPANSION		(\$84)	(\$56)	(\$162)	(\$1,391)	(\$1,240)						(\$2,933)
	TRUNK WATERMAIN UPGRADES		(\$53)	(\$40)	(\$40)		(\$75)	(\$75)	(\$174)	(\$1,430)	(\$4,001)	(\$3,220)	(\$9,108)
	BAYVIEW TRUNK WATERMAIN			(\$58)		(\$15)	(\$58)	(\$1,166)					(\$1,297)
	WATER EFFICIENCY PROGRAM (Partial)		(\$301)	(\$236)	(\$214)	(\$214)	(\$214)	(\$214)	(\$214)	(\$214)	(\$214)	(\$59)	(\$2,094)
	Total Proposed Withdrawals		(\$10,411)	(\$3,981)	(\$3,477)	(\$3,024)	(\$3,224)	(\$3,125)	(\$2,058)	(\$1,963)	(\$4,586)	(\$3,636)	(\$39,485)
	Projected Contributions		\$9,789	\$9,981	\$10,274	\$10,579	\$10,898	\$11,237	\$11,569	\$11,914	\$12,280	\$12,638	\$111,159
<b>TOTAL RESERVE FUND BALANCE AT YEAR-END</b>		<b>\$19,154</b>	<b>\$18,532</b>	<b>\$24,532</b>	<b>\$31,329</b>	<b>\$38,884</b>	<b>\$46,558</b>	<b>\$54,670</b>	<b>\$64,181</b>	<b>\$74,132</b>	<b>\$81,826</b>	<b>\$90,828</b>	

\* Based on 3rd Quarter Variance Report

Reserve/Reserve Fund Review - Program Specific

Table 2		Projected Balance as at Dec. 31,	Proposed Withdrawals										2012 - 2021 Total	
Reserve / Reserve Fund Name	Project / SubProject Name and Number		2012 Rec. Budget	2013 Plan	2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan		
Sanitary Sewer DC Reserve Fund	Beginning Balance	\$58,200	\$44,440	\$41,747	\$40,276	\$38,501	\$36,924	\$34,924	\$32,928	\$31,088	\$29,518	\$29,094		
	2008 - 2011 Unapplied DC Funding for WEP Projects - Transfer to XR6004 Wastewater Capital Financing Reserve	(\$13,760)											\$0	
XR2112 DC - Sewer (2009) XR2026 DC - Sewer (2004)	ASHBRIDGES BAY WWTP REHAB		(\$201)	(\$196)	(\$239)	(\$81)	(\$20)	(\$4)	(\$3)	(\$2)			(\$746)	
	ASHBRIDGES BAY WWTP BIOSOLIDS IMPRVS & STUDIES		(\$1)										(\$1)	
	HIGHLAND CREEK WWTP - O&M UPGRADES										(\$378)	(\$567)	(\$945)	
	HIGHLAND CREEK WWTP - ODOUR CONTROL		(\$18)	(\$112)	(\$400)	(\$398)	(\$393)	(\$101)	(\$10)	(\$116)	(\$223)	(\$219)	(\$1,990)	
	PCS PLANT SERVICES		(\$145)	(\$39)	(\$3)	(\$1)	(\$1)						(\$189)	
	NEW SEWER CONSTRUCTION		(\$900)	(\$450)	(\$450)	(\$450)	(\$450)	(\$450)	(\$450)	(\$450)	(\$450)	(\$450)	(\$4,950)	
	HCTP THICKENING AND DEWATERING		(\$15)	(\$5)	(\$7)	(\$3)								(\$30)
	HUMBER HEADHOUSE UPGRADES		(\$44)	(\$33)										(\$77)
	ABTP Process & Equip Upgrades		(\$32)	(\$7)										(\$39)
	ABTP DEWATERING EQUIPMENT UPGRADES		(\$258)	(\$140)	(\$59)									(\$457)
	HIGHLAND CREEK WWTP - SOLIDS & GAS HANDLING		(\$360)	(\$403)	(\$237)	(\$175)	(\$387)	(\$581)	(\$620)	(\$604)	(\$266)	(\$89)	(\$3,722)	
	ABTP - EFFLUENT SYSTEM		(\$50)	(\$59)	(\$75)	(\$65)	(\$526)	(\$1,204)	(\$1,197)	(\$918)	(\$84)	(\$141)	(\$4,319)	
	ABTP - LIQUID TREATMENT & HANDLING		(\$295)	(\$457)	(\$752)	(\$744)	(\$301)			(\$188)	(\$188)	(\$282)	(\$3,207)	
	ABTP - SOLIDS & GAS HANDLING		(\$7)	(\$38)	(\$241)	(\$241)	(\$511)	(\$326)	(\$320)	(\$226)	(\$226)	(\$2)	(\$2,138)	
	ABTP - ODOUR CONTROL		(\$1,175)	(\$281)	(\$196)	(\$2)								(\$1,654)
	HUMBER - LIQUID TREATMENT & HANDLING		(\$26)	(\$92)	(\$54)	(\$395)	(\$396)	(\$396)	(\$396)	(\$402)	(\$12)	(\$5)	(\$2,174)	
	HUMBER - O&M UPGRADES		(\$16)	(\$5)										(\$21)
	HUMBER - ODOUR CONTROL		(\$18)	(\$47)	(\$94)	(\$94)	(\$94)	(\$94)	(\$94)					(\$488)
	SEWAGE PUMPING STATION UPGRADES		(\$120)	(\$185)	(\$106)	(\$106)	(\$141)	(\$106)	(\$106)	(\$18)				(\$888)
	WATER EFFICIENCY PROGRAM (Partial)		(\$300)	(\$235)	(\$213)	(\$213)	(\$213)	(\$213)	(\$213)	(\$213)	(\$213)	(\$58)	(\$2,084)	
	Total Proposed Withdrawals		(\$3,981)	(\$2,784)	(\$3,126)	(\$2,968)	(\$3,433)	(\$3,475)	(\$3,362)	(\$3,137)	(\$2,040)	(\$1,813)	(\$30,119)	
	Projected Contributions		\$1,288	\$1,313	\$1,351	\$1,391	\$1,433	\$1,479	\$1,522	\$1,567	\$1,616	\$1,663	\$14,623	
<b>TOTAL RESERVE FUND BALANCE AT YEAR-END</b>		<b>\$44,440</b>	<b>\$41,747</b>	<b>\$40,276</b>	<b>\$38,501</b>	<b>\$36,924</b>	<b>\$34,924</b>	<b>\$32,928</b>	<b>\$31,088</b>	<b>\$29,518</b>	<b>\$29,094</b>	<b>\$28,944</b>		

\* Based on 3rd Quarter Variance Report

Reserve/Reserve Fund Review - Program Specific

Table 3		Projected Balance as at Dec. 31,	Proposed Withdrawals										2012 - 2021 Total
Reserve / Reserve Fund Name	Project / SubProject Name and Number		2012 Rec. Budget	2013 Plan	2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan	2020 Plan	2021 Plan	
Storm Water Management DC Reserve Fund	Beginning Balance	\$10,150	\$10,150	\$10,840	\$11,998	\$12,431	\$12,002	\$11,387	\$11,335	\$10,496	\$8,993	\$7,224	
	SWM END OF PIPE FACILITIES		(\$10)	(\$47)	(\$244)	(\$226)	(\$562)	(\$61)	(\$202)	(\$609)	(\$939)	(\$2,640)	(\$5,540)
XR2113 DC - SWM (2009) XR2404 DC - SWM (2004)	DOWNSPOUT DISCONNECTION PROGRAM		(\$48)	(\$27)	(\$16)	(\$14)	(\$14)	(\$14)	(\$12)				(\$145)
	WET WEATHER FLOW MP		(\$245)	(\$120)	(\$95)	(\$48)	(\$48)	(\$24)	(\$24)	(\$24)	(\$24)	(\$24)	(\$676)
	STREAM RESTORATION & EROSION CONTROL		(\$653)	(\$287)	(\$282)	(\$282)	(\$282)	(\$282)	(\$282)	(\$282)	(\$282)	(\$282)	(\$3,196)
	DON & WATERFRONT TRUNK CSO		(\$50)	(\$94)	(\$635)	(\$1,575)	(\$1,575)	(\$1,622)	(\$2,327)	(\$2,656)	(\$2,656)	(\$2,581)	(\$15,771)
	EMERY CREEK POND		(\$3)		(\$78)	(\$120)	(\$26)						(\$227)
	Total Proposed Withdrawals		(\$1,009)	(\$575)	(\$1,350)	(\$2,265)	(\$2,507)	(\$2,003)	(\$2,847)	(\$3,571)	(\$3,901)	(\$5,527)	(\$25,555)
	Projected Contributions		\$1,699	\$1,733	\$1,783	\$1,836	\$1,892	\$1,951	\$2,008	\$2,068	\$2,132	\$2,194	\$19,296
<b>TOTAL RESERVE FUND BALANCE AT YEAR-END</b>		<b>\$10,150</b>	<b>\$10,840</b>	<b>\$11,998</b>	<b>\$12,431</b>	<b>\$12,002</b>	<b>\$11,387</b>	<b>\$11,335</b>	<b>\$10,496</b>	<b>\$8,993</b>	<b>\$7,224</b>	<b>\$3,891</b>	

\* Based on 3rd Quarter Variance Report