

Analyst Briefing Notes

Budget Committee

(October 17, 2008)

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October 10, 2008

PART I: CAPITAL PROGRAM**Executive Summary**

- The 2008 Approved Capital Budget of \$410.000 million was 18.8% or \$76.982 million spent, as at June 30th, 2008. Actual expenditures by year-end are anticipated to be \$307.169 million or 74.9% of the 2008 Approved Capital Budget.
- The projection of 2008 funding to be carried forward into the 2009 Recommended Capital Budget is \$58.600 million. Large multi-year projects requiring 2008 carry forward funding include the Humber Wastewater Treatment Plant sludge thickening building upgrade; Wet Weather Flow Master Plan Class Environmental Assessments; Automated Meter Reading (AMR) System; and, the Horgan Water Treatment Plant heating; ventilation; and, air conditioning system rehabilitation.
- The 2009 Recommended Capital Budget; 2010 to 2013 Plan and 2014 to 2018 Forecast total \$7.743 billion of which \$3.347 billion is projected for the Program's 5-Year Capital Plan, requiring no debt funding. The 5-Year Capital Plan, including carry forward funding from 2008 into 2009, requires 2009 cashflow of \$488.438 million; \$635.081 million in 2010; \$721.950 million in 2011; \$743.886 million in 2012; and, \$757.463 million in 2013.
- The 2009 Recommended Capital Budget includes:
 - Previously approved commitments and new/change in scope projects requiring 2009 cash flow of \$429.838 million. This cash flow combined with carry forward funding of \$58.600 million for 2008 projects brings the total 2009 Recommended Capital Budget to \$488.438 million.
 - Future year commitments include \$494.632 million in 2010; \$516.899 million in 2011; \$485.256 million in 2012; \$398.101 million in 2013; \$139.849 million in 2014; \$126.534 million in 2015; \$48.552 million in 2016; and, \$14.120 million in 2017. Many of the projects included in the 2009 Recommended Capital Budget require construction duration of several years with cash flow spread out over the period, such as the Automated Meter Reading (AMR) System; Basement Flooding Remediation Work Plan; and, Horgan Water Treatment Plant expansion.
- The 2009 Recommended Capital Budget for previously approved and new/change in scope projects (excluding 2008 carry forward funding into 2009) of \$429.838 million is 54.9% allocated to state of good repair projects at \$235.811 million; 24.9% to growth projects at \$106.909 million; 15.4% to service improvement projects at \$66.259 million; and, 4.9% to legislated projects at \$20.859 million:
 - State of good repair projects are driven by renewal needs for the watermain and sewer network and treatment facilities. Toronto Water currently has a significant infrastructure rehabilitation backlog, higher than any other major Canadian urban centre.

- Service improvement projects include biosolids treatment and disposal; odour control; Automated Meter Reading (AMR) System; Basement Flooding Remediation Work Plan; Mandatory Downspout Disconnection Program; Wet Weather Flow Master Plan; landscaping; and, plant optimization.
- Growth projects provide additional water supply and wastewater treatment capacity that will be required to service a projected population of 3 million people by 2031. Projects to meet future demand include initiatives for improving water efficiency; reducing water loss; and, expansion projects.
- Legislated projects address existing and emerging Provincial legislation, which includes Bill 195, Safe Drinking Water Act, Bill 81, Nutrient Management Act and the recent Bill 43, Clean Water Act. Legislative projects also include compliance with the Federal government's Environmental Protection Act. Funding for legislative projects is expected to increase significantly in future years as regulations governing water and wastewater services continue to evolve.
- The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides funding to advance the following priority actions outlined in the Mayor's Mandate and Council's policy agenda:
 - **Climate Change Adaptation, Clean Air and Sustainable Energy Action Plan:** The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides approximately \$804.641 million in funding for a broad range of projects that will form part of the Action Plan for Climate Change Adaptation. This includes the Water Efficiency Plan (\$33.849 million); Basement Flooding Remediation Work Plan (\$350.500 million); Mandatory Downspout Disconnection Program (\$41.040 million); Energy Efficiency Measures (\$160.052 million); Automated Meter Reading (AMR) System (\$219.000 million); and, Green Roof Technology (\$0.200 million).
 - **Help to Clean Up Lake Ontario to Make Toronto's Beaches More Swimmable:** The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides \$596.630 million in funding for projects to continue 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.
- Over the 10-year planning horizon, the state of good repair backlog declines from \$1.771 billion in 2009 to \$100.155 million in 2018, reflecting a reduction of \$1.671 billion or 94.3%.

Recommendations

The City Manager and Acting Chief Financial Officer recommends that:

1. Council approve the 2009 Recommended Capital Budget for Toronto Water with a total project cost of \$1.567 billion, and 2009 cash flow of \$488.438 million and future year commitments of \$2.224 billion comprised of the following:
 - a) New Cash Flow Funding for:
 - i) 242 new sub-projects with a 2009 total project cost of \$1.567 billion that requires cash flow of \$98.996 million in 2009 and a future year commitment of \$213.091 million in 2010; \$264.294 million in 2011; \$265.069 million in 2012; \$397.681 million in 2013; \$139.629 million in 2014; \$126.292 million in 2015; \$48.297 million in 2016; and, \$14.120 million in 2017;
 - ii) 169 previously approved sub-projects with a 2009 cash flow of \$330.842 million and a future year commitment of \$281.541 million in 2010; \$252.605 million in 2011; \$220.187 million in 2012; \$0.420 million in 2013; \$0.220 million in 2014; \$0.242 million in 2015; and, \$0.255 million in 2016;
 - b) 2008 approved cash flow for 49 previously approved sub-projects with carry forward funding from 2008 into 2009 totalling \$58.600 million;
2. Council approve that no new debt be issued to finance the 2009 cash flow requirement for the capital program and that the 2009 Recommended Toronto Water Capital Budget be fully funded from service charges; available reserve funds; including development charges; and, other revenues;
3. Council approve the 2010-2013 Capital Plan for Toronto Water totalling \$963.492 million in project estimates, comprised of \$140.449 million in 2010; \$205.051 million in 2011; \$258.630 million in 2012; and, \$359.362 million in 2013;
4. Council approve operating impacts of (\$31.966) million from 2009 to 2014 emanating from the approval of the 2009 Recommended Capital Budget, be approved for inclusion in the 2009 and future year operating budgets;
5. Council approve in principle the 2014-2018 Capital Forecast for Toronto Water totalling \$4.067 billion in project estimates, comprised of \$654.352 million in 2014; \$737.100 million in 2015; \$849.269 million in 2016; \$894.671 million in 2017; and \$931.574 million in 2018; and that this forecast be used as a foundation for preparing a firm 2010 to 2019 Capital Plan and Forecast as part of the 2010 budget process; and,
6. this report be considered concurrently with the 2009 Water and Wastewater Service Rate Report (October 2008), from the Acting Deputy City Manager and Chief Financial Officer and General Manager for Toronto Water.

PART I: CAPITAL PROGRAM

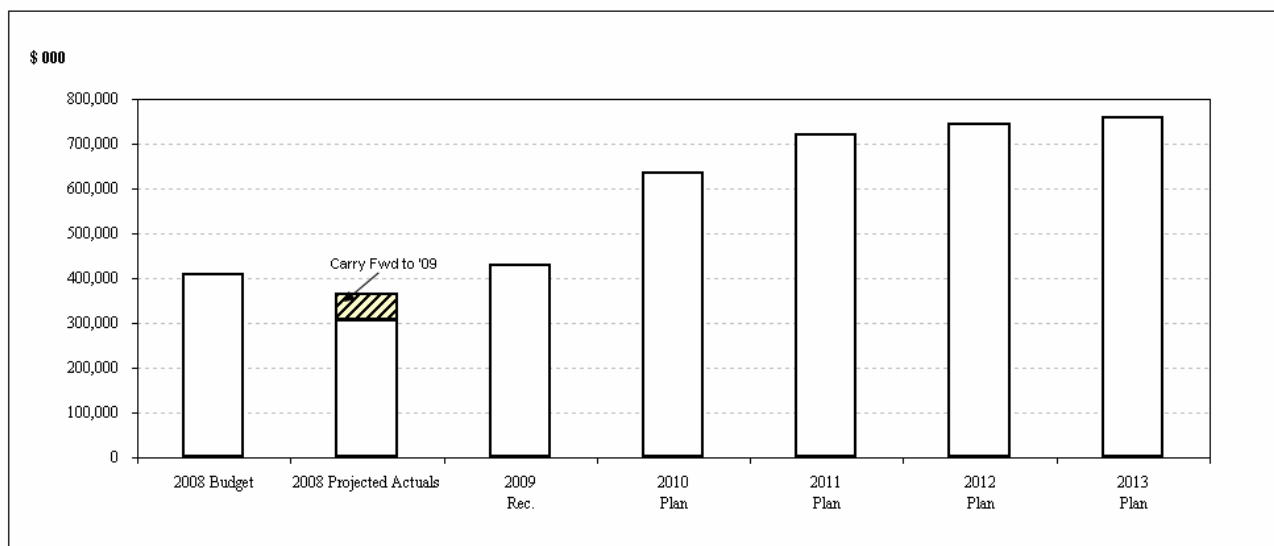
2008 Capital Variance Review

2008 Budget to Actuals Comparison - Total Gross Expenditures (\$000s)					
2008 Approved	Actuals as of June 30 (2nd Qtr Variance)		Projected Actuals at Year End		Balance
\$	\$	% Spent	\$	% Spent	\$ Unspent
410,000	76,982	18.8%	307,169	74.9%	102,831

Comments / Issues:

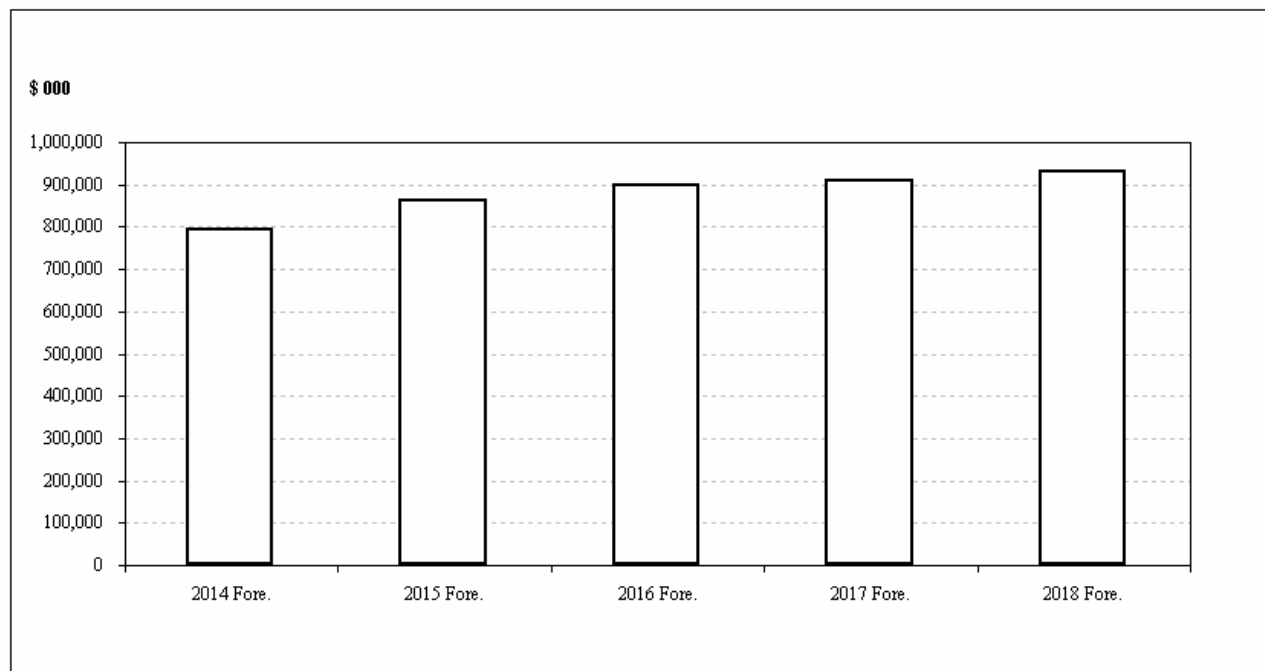
- The Toronto Water 2008 Approved Capital Budget of \$410.000 million was 18.8% or \$76.982 million spent, as at June 30th, 2008. The capital budget spending rate was influenced by the large snow fall in early 2008 which limited construction work from January to April and delays in obtaining environmental assessment approvals from the Ministry of the Environment.
- Actual expenditures by year-end are anticipated to be \$307.169 million or 74.9% of the 2008 Approved Capital Budget. This represents a projected increase of 21.8% or \$55.034 million in spending over the 2007 rate of \$252.135 million. The high year-end forecasted spending rate for 2008 is the result of construction proceeding on several large projects; expenditures forecast for the large number of contracts awarded early in the year; and, the multi-year contracts initiated in 2007 which are now fully underway and expected to meet cash flow projections for 2008.
- The funding from 2008 carried forward into 2009 included in the 2009 Recommended Capital Budget is \$58.600 million and is lower than the projected unspent actual expenditures of \$102.831 million, reflecting construction delays from adverse weather conditions and time lags in obtaining environmental assessment approvals from the Ministry of the Environment. The 2009 Recommended Capital Budget does not reflect any subsequent changes to funding being carried forward from 2008 into 2009 based on the unspent cash flow balance projected as at June 30th, 2008.
 - Large multi-year projects requiring 2008 carry forward funding include the Humber Wastewater Treatment Plant sludge thickening building upgrade; Wet Weather Flow Master Plan Class Environmental Assessments; Automated Meter Reading (AMR) System; yard and building renovations; and, the Horgan Water Treatment Plant heating; ventilation; and, air conditioning system rehabilitation.

5-Year Capital Plan (2009 Recommended Budget, 2010-2013 Plan)



	2008		5-Year Capital Plan					Total 2009-2013	5-Year Total Percent
	Budget	Projected Actual	2009	2010	2011	2012	2013		
Gross Expenditures:									
2008 Capital Budget & Future Year Commitments	410,000	307,169	345,271	295,030	255,881	219,007		1,115,189	
Recommended Changes to Commitments			(14,429)	(13,489)	(3,276)	1,180	420	(29,594)	
2009 New/Change in Scope and Future Year Commitments			98,996	213,091	264,294	265,069	397,681	1,239,131	
2010 - 2013 Capital Plan Estimates				140,449	205,051	258,630	359,362	963,492	
1-Year Carry Forward to 2009		58,600							
Total Gross Annual Expenditures & Plan	410,000	365,769	429,838	635,081	721,950	743,886	757,463	3,288,218	
Financing Sources:									
Reserves/Reserve Funds	378,398		371,087	553,157	623,329	659,989	696,227	2,903,789	
Development Charges	10,162		12,330	18,307	20,723	18,408	17,543	87,311	
Federal								-	
Provincial								-	
Other Revenue	21,440		46,421	63,617	77,898	65,489	43,693	297,118	
Total Financing	410,000		429,838	635,081	721,950	743,886	757,463	3,288,218	
By Category:									
Health & Safety								0.0%	
Legislated	38,375		20,859	20,697	22,560	28,735	38,200	131,051	
SOGR	208,377		235,811	328,743	350,495	391,015	429,475	1,735,539	
Service Improvement	72,376		66,259	119,488	149,565	158,546	169,435	663,293	
Growth Related	90,872		106,909	166,153	199,330	165,590	120,353	758,335	
Total By Category	410,000		429,838	635,081	721,950	743,886	757,463	3,288,218	
Yearly SOGR Backlog Estimate (not addressed by current plan)			(43,698)	(105,661)	(163,109)	(173,890)	(183,922)	(670,280)	
Accumulated Backlog Estimate (end of year)		1,771,045	1,727,347	1,621,685	1,458,577	1,284,687	1,100,765	1,100,765	
Operating Impact on Program Costs			(470)	(11,467)	(10,884)	(2,345)	(3,100)	(27,796)	

5-Year Capital Forecast (2014-2018)



	5-Year Capital Forecast							10-Year Total Percent
	2014	2015	2016	2017	2018	2014-2018	2009-2018	
Gross Expenditures:								
2008 Capital Budget & Future Year Commitments	-	-	-	-	-	-	1,115,189	
Recommended Changes to Commitments	220	242	255	-	-	717	28,877	
2009 New/Change in Scope and Future Year Commitments	139,629	126,292	48,297	14,120	-	328,338	1,567,469	
2014 - 2018 Capital Forecast Estimates	654,352	737,100	849,269	894,671	931,574	4,066,966	5,030,458	
Total Gross Annual Expenditures & Plan	794,201	863,634	897,821	908,791	931,574	4,396,021	7,684,239	
Financing Sources:								
Reserves/Reserve Funds	746,842	810,829	840,170	862,370	893,507	4,153,718	7,057,507	91.8%
Development Charges	14,534	15,254	15,105	9,737	9,018	63,648	150,959	2.0%
Federal								0.0%
Provincial								0.0%
Other Revenue	32,825	37,551	42,546	36,684	29,049	178,655	475,773	6.2%
Total Financing	794,201	863,634	897,821	908,791	931,574	4,396,021	7,684,239	100.0%
By Category:								
Health & Safety								0.0%
Legislated	37,801	21,650	18,242	19,155	19,500	116,348	247,399	3.2%
SOGR	476,058	470,831	517,352	546,450	583,160	2,593,851	4,329,390	56.3%
Service Improvement	197,575	277,012	260,534	274,246	273,230	1,282,597	1,945,890	25.3%
Growth Related	82,767	94,141	101,693	68,940	55,684	403,225	1,161,560	15.1%
Total By Category	794,201	863,634	897,821	908,791	931,574	4,396,021	7,684,239	100.0%
Yearly SOGR Backlog Estimate (not addressed by current plan)	(194,634)	(187,123)	(185,549)	(201,105)	(232,198)	(1,000,610)	(1,670,890)	
Accumulated Backlog Estimate (end of year)	906,131	719,008	533,459	332,353	100,155	100,155	100,155	
Operating Impact on Program Costs	(3,700)					(3,700)	(31,496)	

10-Year Capital Plan and Forecast Overview

- Over the 10-year planning horizon, Toronto Water will be 100% self-sustaining with no debenture financing and with no impact on the municipal property tax levy.
- Funding for the 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast balances infrastructure renewal needs for state of good repair and Council's priorities for 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 following summarizes the funding by project category:
 - The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast reflects the allocation of significant financial resources to state of good repair projects to address the renewal needs of aging and deteriorating infrastructure. Projects that maintain assets in a state of good repair represent 56.3% or \$4.329 billion of the total planned cash flow of \$7.684 billion over the 10 year period.
 - Service improvement projects represent approximately 25.3% or \$1.946 billion of the 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast. Key service improvement projects include biosolids treatment and disposal; odour control at wastewater treatment plants; Automated Meter Reading (AMR) System; Wet Weather Flow Master Plan; Mandatory Downspout Disconnection Program; Basement Flooding Remediation Work Plan; landscaping; and, plant optimization.
 - Growth projects account for 15.1% or \$1.162 billion of the 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast. Additional capacity will be required to service a projected population of 3 million people by 2031. To address future demand, projects include initiatives for improving water efficiency; reducing water loss; and, expansion projects required for future water supply and wastewater treatment needs.
 - Legislative projects account for 3.2% or \$247.399 million of the 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast. These projects address existing and emerging Provincial legislation, which includes Bill 195, Safe Drinking Water Act and Bill 81, Nutrient Management Act. Legislative projects also include compliance 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. In addition, an implementation plan is currently being developed for a Canada-wide strategy for the management of municipal wastewater effluent.
- The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast is funded primarily from the Program's reserves, which account for approximately 91.8% or \$7.058 billion. Development charges provide funding for approximately 2.0% or \$150.959 million. Capital cost sharing with York Region and other sources of revenue, such as user fees for construction of new water and sewer connections, represent the remaining 6.2% or \$475.773 million.

- Toronto Water currently has a significant infrastructure rehabilitation backlog, estimated at \$1.771 billion by 2008 year-end. This backlog is more than any other major Canadian urban centre. The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast reflects an increase in the replacement rate to achieve the optimal level in approximately 10 years and mitigate most of the accumulated backlog.

Multi-Year Debt Affordability Targets

The City did not set multi-year debt affordability targets for the 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast. Toronto Water is self-sustaining and does not impact the municipal property tax levy. Operating and capital investments are funded through water and sewage rates established each year by Council and included in the City's By-law (Municipal Code, Chapter 849: Water and Sewage Services). Other sources of funding include user fees; capital cost sharing with York Region; and, development charges.

Project Financing

The 2009-2013 Recommended Capital Plan is funded primarily from the Program's reserves, which account for 88.3% or \$2.904 billion of the new cash flow funding of \$3.288 billion. Development charges provide funding for 2.7% or \$87.311 million. Capital cost sharing with York Region and other sources of revenue, such as user fees for construction of new water and sewer connections, represent the remaining 9.0% or \$297.118 million. Multi-year capital cost sharing agreements with York Region have been finalized.

Over the 10-year planning horizon, project financing remains relatively unchanged, with reserves accounting for 91.8% or \$7.058 billion of the new cash flow funding of \$7.684 billion. Other sources of funding, including development charges, account for 8.2% or \$626.732 million.

Please refer to the 2009 Water and Wastewater Service Rate Report (October 2008), from the Acting Deputy City Manager and Chief Financial Officer and the General Manager for Toronto Water, regarding annual water and wastewater rate increases required to fund the capital program.

Development Charge Funded Projects

The City will be considering a new Development Charges By-law in late 2008. Maximizing the utilization of development charge funding for growth projects will be an objective for the new By-law.

Development charges will be utilized to partially fund growth projects because of increased need arising from new development for water supply and wastewater treatment services. Funding from development charges, subject to Council approval of the new By-law, will account for 2.0% or \$150.959 million of the total new cash flow of \$7.684 billion.

State of Good Repair Backlog and Unmet Service Needs

State of Good Repair

Toronto Water currently has a significant infrastructure rehabilitation backlog, higher than any other major Canadian urban centre. With the largest asset base in the country, the combined impact of cast-iron pipes installed before the 1920s, representing 14% of the watermain network along with 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 reaching the end of their lifecycle, resulting in a significant renewal backlog.

The rate of watermain breaks in Toronto is currently the highest of Ontario municipalities and has recently levelled off. However, a significant and sustained increase of renewal will be required to reduce the break rate to acceptable levels. Toronto Water is anticipating that watermain breaks per 100 km of watermain will reduce by 10% from the 2000-2005 average of 27.60 to 24.84 in 2010. The need to reduce pipe breaks and subsequent leaks is essential, not only to restore revenues from lost water sales and sewer surcharges 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.
- Loss of fire protection to high-rise buildings as it becomes more difficult to sustain needed water pressure and volumes.
- Risks to human health through the contamination of surface water and drinking water.
- Increased energy consumption and related CO₂ emissions as pumps and motors must work harder to deliver service.

Currently, only 1.5 % of the watermains and 0.55 % of the sewers are being renewed annually. This is creating a backlog, given that the optimal replacement rate should range from 1% to 2% per annum. The 2008 end-year value of the infrastructure deficiency is estimated at \$1.771 billion. This calculation is the result of a detailed analysis based on current information; condition assessments; and, assumptions of service life by asset class, coupled with recently completed assessments of water and wastewater treatment facilities. The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast will reduce the state of good repair backlog from \$1.771 billion in 2009 to \$100.155 million in 2018, representing a decrease of \$1.671 billion or 94.3% over the 10-year planning horizon.

Unmet Service Needs

Unmet service needs are addressed by growth and service improvement capital projects which have been identified typically through facility master plans; multi-year service plans; Standing Committee and Council reports; etc. Toronto Water's 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast does not include full funding to address the following service needs:

- **Lawrence Heights Revitalization:** The Lawrence Heights Revitalization is currently in the conceptual planning stage. The Revitalization Plan is a multi-year initiative, with the goal of creating a liveable and sustainable community with a mix of housing; retail; community services and facilities; parks; and, employment opportunities. Toronto Community Housing owns and

operates 1,208 units of rental housing in Lawrence Heights and is home to approximately 3,500 people. The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast does not include funding for the Lawrence Heights Revitalization, given that the project has not moved beyond the conceptual planning stage. However, Toronto Water has provided funding for the studies currently underway to identify the infrastructure requirements for the new development.

- **Gibraltar Point Erosion:** Toronto Water, in consultation with the Toronto and Region Conservation Authority and other key stakeholders, are currently assessing the study and design requirements to protect the Gibraltar Point Beach, located on Toronto Island, from further erosion damage. The Toronto Water 2009-2013 Recommended Capital Plan provides \$0.500 million in funding for the study only. No additional funding has been allocated to this project.
- **Biosolids and Residuals Master Plan:** The Biosolids and Residuals Master Plan is currently being updated and finalized, taking into consideration the recommendations of the Peer Review Report, presented to Council at its meeting of June 23 and 24, 2008. Additional public consultation and surveys are being undertaken during the Master Plan updating process. The updated Master Plan will then be released for a 30 day public review period upon completion, anticipated for late-Fall 2009. The financial impact of implementing the Master Plan solutions will be included in subsequent budget submissions. Funding for biosolids management reflects the design and construction of emergency repairs to existing biosolids management facilities.
- **Toronto Transit City Light Rail Plan:** At its March 21, 2007 meeting, the Toronto Transit Commission approved the Toronto Transit City Light Rail Plan. The Transit City Plan involves the construction of 7 new light rail lines which will operate in their own dedicated rights-of-way. This Plan will bring fast; reliable; and, environmentally-friendly light rail transit to the City. Transit City will result in the creation of an interconnected network of rapid transit across the City. On June 15, 2007, the Province of Ontario announced the MoveOntario 2020 Plan which provides \$17.5 billion for rapid transit funding in the Greater Toronto Area and Hamilton, including all of the Transit City lines. The Province has committed \$11.5 billion of this funding on the expectation that the Federal government will supply the remaining \$6.0 billion. To date, the Federal government has not committed any funding to MoveOntario 2020. Aside from preliminary work on environmental assessments and design, the Transit City project is not funded. The Toronto Water 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast does not include funding for the relocation of below ground infrastructure to accommodate the Transit City Light Rail Plan, given that the project has not moved beyond the conceptual planning stage and the lack of secured funding from the Federal and Provincial governments at this time.

Program Capacity and Readiness to Proceed

The 2008 Approved Capital Budget of \$410.000 million was 18.8% or \$76.982 million spent, at of June 30th, 2008. Actual expenditures by year-end are anticipated to be \$307.169 million or 74.9% of the 2008 Approved Capital Budget. The 2008 projected spending rate by year-end represents a continued improvement over the Program's historic spending capacity. The last several years, with the exception of a minor decline in 2007, have shown a consistent ramping up of capital spending, with 2004 expenditures of \$191.323 million; 2005 expenditures of \$202.853 million; 2006 expenditures of \$264.545 million; and, 2007 expenditures of \$252.135 million.

Facility and needs assessment studies have been finalized for major capital works included in the 2009-2013 Recommended Capital Plan. Designs are complete for many of the larger projects, which include the Horgan Water Treatment Plant; Dufferin Reservoir expansion; and, Ashbridges Bay Wastewater Treatment Plant odour control. These projects are currently being tendered or awaiting final approval from the Ministry of Environment. It is anticipated construction will commence in early 2009. Design is now preceding on many of the trunk water mains with construction to start in 2009.

Cost projections are based on engineering estimates using historical unit rates from City tenders and data from other municipalities for similar projects. Future year costs have been adjusted based on industry recognized inflationary indices. Inflationary growth in commodity markets, such as chemicals; concrete; steel; and, fuel, are forecasting strong growth for 2009 and beyond.

The 2009-2013 Recommended Capital Plan also includes increased utilization of trenchless technology, such as cured-in-place pipe lining; pipe bursting; cleaning; internal chemical grouting; external grouting; mechanical sealing; and, structural spot repair, for the renewal needs of aging and deteriorating underground infrastructure. Trenchless technology minimizes the impact on local communities, and is less costly than traditional construction methods, allowing for higher levels of infrastructure renewal.

Changes to the 5-Year Capital Plan (2009-2012)

The following highlights the changes from the 2008-2012 Approved Capital Plan with the 2009-2013 Recommended Capital Plan. As outlined in the table below, the 2009 Recommended Capital Budget of \$488.438 million represents a decline of 15.6% or \$90.391 million compared to 2008 Approved Capital Plan of \$578.829 million. For 2010 to 2012, there is a small increase in the Recommended 5-Year Capital Plan of \$3.679 million in 2010; \$31.308 million in 2011; and, \$34.610 million in 2012.

(In \$ Thousands)	2009	2010	2011	2012	Total
Approved 2008-2012 Capital Plan	578,829	631,402	690,642	709,276	2,610,149
Recommended 2009-2013 Capital Plan	488,438	635,081	721,950	743,886	2,589,355
Change \$	(90,391)	3,679	31,308	34,610	(20,794)
Change %	-15.6%	0.6%	4.5%	4.9%	-0.8%

These changes represent a total reduction of \$20.794 million or 0.8% from the 2008-2012 Approved Capital Plan. The 2009-2013 Recommended Capital Plan is virtually unchanged, demonstrating Toronto Water's commitment to addressing key Council priorities while reducing the state of good repair backlog for linear infrastructure. The fluctuations in annual cashflow from year to year reflect the current design and construction schedules, particularly affected by several large multi-year and multi-million dollar contracts. Delays in receiving approvals from the Ministry of Environment have continued to impact the tendering of the Ashbridges Bay Odour Control projects with funding of approximately \$100.000 million and will result in construction continuing into 2013 rather than being substantially complete in 2012.

Capital Project Highlights

The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast reflects the strategic direction of the Toronto Water Multi-Year Business

Plan and supports several key priority actions outlined in the Mayor's Mandate and Council's policy agenda. The following highlights key capital projects:

Climate Change Adaptation, Clean Air and Sustainable Energy Action Plan

The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides \$804.641 million in funding for a broad range of projects that will form part of the Action Plan for Climate Change Adaptation. This includes the following:

- **Water Efficiency Plan:** Council at its meeting of February 4, 5 and 6, 2003, adopted the Water Efficiency Plan. The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides \$33.849 million in funding to advance municipal system leak detection; toilet and clothes washer replacement rebates; computer controlled irrigation for City facilities; industrial, commercial and institutional indoor and residential outdoor water audits; and, public education and promotions. To illustrate the success of the Water Efficiency Plan, from 2004 to 2007, rebates included 216,749 for low-flow toilets and 28,021 for high efficiency washing machines.

While the Plan was directed at deferring the expansion of water and wastewater infrastructure by creating "in-system" capacity through the implementation of water efficiency measures, many direct environmental benefits have also accrued, including reduced chemical and energy use. The electricity used in treating and pumping drinking water and treatment of wastewater is produced partially by gas and oil fired generating stations, resulting in smog and CO₂ emissions. It is estimated that during the implementation period of the Water Efficiency Plan, 90,000 tonnes of CO₂ emissions will have been avoided. When fully implemented, the Plan will avoid approximately 14,000 tonnes per year of CO₂ emissions. Reductions in energy consumption will also reduce SO₂ and, NO_x emissions.

In 2009, Toronto Water will be updating the Water Efficiency Plan to assess the savings achieved to date; various sector targets; and, success of individual initiatives.

- **Basement Flooding Remediation Work Plan:** The City of Toronto has experienced wide spread flooding events in recent years. For example, in 2005 over 4,200 basement flooding complaints were received by Toronto Water, in response to an extreme storm, which exceeded a 100 year event. Evidence suggests that the trend in climate change and subsequent extreme weather events will continue in the future, putting added stress on Toronto Water's aging infrastructure.

As a result, Council at its meeting of September 24 and 25, 2008, adopted a multi-pronged (lot level; storm drainage; and, sewer infrastructure) adaptive management approach to address this problem and reduce the risk of basement flooding. This approach will be applied in all of the previously identified 31 chronic basement flooding areas. The environmental assessments are nearing completion in the 4 study areas with the most chronic basement flooding issues. Funding of approximately \$195.000 million will be required to address the priority projects identified in these study areas. Environmental assessments for the remaining study areas are now underway and it is anticipated that additional expenditures in the range of several hundred million dollars will be required to fully implement the projects.

The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides service improvement funding of \$350.500 million. The total implementation cost estimates of the Work Plan will be refined following completion of the class environmental assessments in mid-2009 and included in Toronto Water's 2010 Capital Budget Submission.

- **Mandatory Downspout Disconnection Program:** Council at its meeting of September 24 and 25, 2008, also agreed to process all applications to the City's former Voluntary Downspout Disconnection Program that were received by November 20, 2007. An estimated 47,000 requests for the Voluntary Program were received by Toronto Water up to November 20, 2007. Based on past experience, it is estimated that the disconnection of downspouts is feasible for approximately 80% of these applications, reflecting 37,600 properties. Due to the forecasted length of time required for Toronto Water to process and implement all the applications, eligible property owners may opt out of the waiting list and disconnect their downspout(s). The program also recommends a reimbursement to property owners on the waiting list, who opt to undertake their own disconnection. Reimbursement will be based on the reasonable cost of labour and materials for completing the eligible work to an upset limit of \$500.00 per property.

The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides \$41.040 million in funding to service the 37,600 applications on the waiting list, as well as provide assistance to low income properties.

- **Energy Efficiency Measures:** The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides \$160.052 million in funding for energy efficiency measures to achieve optimal savings and reduce CO₂ emissions, such as completion of the Deep Lake Water Cooling project; energy audits; facility lighting and electrical upgrades; replacement of pumps and motors with high efficiency units; and, implementation of real-time power monitoring and the Transmission Operations Optimizer (TOO), an automated control strategy to optimize treated water pumping and associated reservoir levels based on a number of variables, including water demand; production cost; hydro rates; and, weather data.

Toronto Water has begun implementing measures, such as the Energy Management Work Plan, for both water and wastewater treatment plants. With 2007 as the base year, the target reduction in consumption is 5% over 5 years (25,000 MWh). The Work Plan will include energy audits and baseline analysis. Prior to implementation of these measures, Toronto Water had begun energy efficiency measures. In 2007, the actual cost of electricity for water treatment and supply was \$29.100 million and for wastewater treatment \$16.300 million, providing a total savings of \$0.892 million over the 2006 fiscal year.

- **Automated Meter Reading System:** Council at its meeting of June 23 and 24, 2008, approved the Automated Meter Reading (AMR) System. The AMR System includes a systematic, 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) over a 6 year period. Based on 2006 total water consumption and 2007 water rates, the City is losing approximately \$28.000 million per year due to aging and inaccurate water meter infrastructure.

The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides \$219.000 million in funding for implementation of the AMR System. The financial benefits of approximately \$33.000 million per year will be realized once the AMR System is fully implemented through a combination of additional revenues and operating efficiencies. This project will pay for itself in approximately 7 years.

- **Green Roof Technology:** The 2009 Recommended Capital Budget provides funding of \$0.200 million for the Green Roof Incentive Program to provide on-site stormwater retention consistent with the objectives of the City's Wet Weather Flow Master Plan. Since the Incentive Program's inception in 2006, 6,800m² of green roof technology have been installed throughout the City. Toronto Water has also initiated a pilot program to investigate retrofitting the Rosehill and Lawrence Pumping Stations with green roof technology.

Help to Clean Up Lake Ontario to Make Toronto's Beaches More Swimmable

The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides \$596.630 million in planned funding for projects to continue 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.

The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides funding to complete environmental assessments followed by the design and construction for projects identified in the Master Plan. Projects which directly affect improvements to waterfront quality include the: Don and Waterfront Trunk Sanitary Sewer and Combined Sewer Overflow Control Strategy; Etobicoke Waterfront Storm Sewer Discharges; Bonar Creek Stormwater Wetland (Etobicoke Waterfront); Coatsworth Cut Storm Sewer and Combined Sewer Overflow Control Project; Eastern Beaches Storm Sewer Discharges; and, the Scarborough Waterfront Combined Sewer Overflow Discharges.

Addressing Renewal Needs of Aging and Deteriorating Infrastructure

Projects that maintain aging water and sewer infrastructure in a state of good repair represent 56.3% or \$4.329 billion of the planned expenditures in the 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast. These projects are intended to extend the useful life of assets; ensure service reliability; and, postpone replacement.

- **Rehabilitation:** Programs are designed to rehabilitate aging watermains include installing cathodic protection to prevent corrosion; cleaning and lining; and, replacing deficient hydrants and valves to improve system performance.
- **Replacement:** Projects are included in the capital program for pipes that are structurally deficient or where increased water demand or sewer flow warrants larger pipe sizes. In many areas, pipe relining and trenchless technology will be used to minimise the impact on local communities.

- **Treatment Facilities:** The replacement of aging or obsolete processes and electrical/mechanical equipment, and refurbishing buildings at water supply and wastewater treatment plants and pumping stations continues to be high priority. Projects are intended to maintain state of good repair and ensure on-going compliance with the Safe Drinking Water Act and related Ministry of the Environment regulations.
- **Stream Erosion Control Measures:** There is funding of \$51.600 million for stream erosion control measures required to protect Toronto Water infrastructure from damage caused by flooding from extreme storm events. Toronto Water, in consultation with the Toronto and Region Conservation Authority, is developing an implementation plan to identify priorities for repair and confirm if additional funds will be required in future capital budget submissions.
- **Lead Water Service Connection Replacement Program:** Council at its meeting of July 16, 17, 18 and 19, 2007, adopted replacement of the Water Service Connection Replacement Program with the Lead Water Service Connection Replacement Program. The Program will accelerate replacement of lead water service connections over a 9 year period, in response to amendments to the Safe Drinking Water Act, 2002, to reduce the potential for elevated levels of lead in drinking water at the tap. The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast allocates \$227.367 million in funding for the Lead Water Service Connection Replacement Program.

Summary of Major Capital Initiatives

(In \$Thousands)	2009 Rec. Budget	2010 Plan	2011 Plan	2012 Plan	2013 Plan	2014 -2018 Forecast	2009 -2018 Total
New & Expanded Facility Projects	25,800	40,852	56,200	79,000	74,200	43,700	319,752
IT Projects	4,650	8,000	8,000	8,000			28,650
Sub-Total	30,450	48,852	64,200	87,000	74,200	43,700	348,402
Other Major City Initiatives							
Action Plan for Climate Change Adaptation:							
Water Efficiency Plan	8,047	7,315	6,115	6,162	6,210		33,849
Automated Meter Reading System (AMR)	8,000	16,000	30,000	45,000	45,000	75,000	219,000
Basement Flooding Remediation Work Plan	5,500	15,000	25,000	30,000	35,000	240,000	350,500
Energy Efficiency Measures	24,540	29,993	33,219	32,900	26,790	12,610	160,052
Mandatory Downspout Disconnection Program	5,130	5,130	5,130	5,130	5,130	15,390	41,040
Green Roof Technology	200						200
Help to Clean Up Lake Ontario	22,205	32,305	33,320	40,945	52,375	415,480	596,630
Lead Water Service Connection Replacement Program	15,800	16,000	18,000	20,000	22,000	135,567	227,367
Sub-Total	89,422	121,743	150,784	180,137	192,505	894,047	1,628,638
Total	119,872	170,595	214,984	267,137	266,705	937,747	1,977,040

Comments / Issues:

- The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast provides new/expanded facilities funding of \$319.752 million, examples include the Island Water Treatment Plant; Horgan Water Treatment Plant; and, Humber Wastewater Treatment Plant.
- Funding for information technology amounts to \$28.650 million of the 2009-2013 Recommended Capital Plan. The project provides funding for the implementation of Toronto Water Technology Blueprint to accomplish the Program's strategic and technical objectives using integrated technologies.

**Operating Budget Impact 10-Year Capital Plan & Forecast
Incremental Operating Impact Summary**

(In \$Thousands)	2009 Rec. Budget	2010 Plan	2011 Plan	2012 Plan	2013 Plan	5-Year Plan	2014 -2018 Forecast	2009-2018 Total
2009 Recommended Capital Budget								
Program Costs (net)	(470)					(470)		(470)
Approved Positions								
Recommended 5-Year Capital Plan								
Program Costs (net)		(11,467)	(10,884)	(2,345)	(3,100)	(27,796)		(27,796)
Approved Positions		4.0	5.0			9.0		9.0
Recommended 5-Year Capital Forecast								
Program Costs (net)							(3,700)	(3,700)
Approved Positions								
Total								
Program Costs (net)	(470)	(11,467)	(10,884)	(2,345)	(3,100)	(28,266)	(3,700)	(31,966)
Approved Positions		4.0	5.0			9.0		9.0

Comments / Issues:

- Toronto Water has identified 9 new positions arising from approval of the 2009-2013 Recommended Capital Plan. The sludge thickening building upgrade project at the Humber Treatment Plant accounts for 2 of the additional staff in 2010 and 2011. The remaining 5 permanent positions reflect resources required for the Ashbridges Bay Wastewater Treatment Plant odour control project.
- The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast includes operating impacts from previously approved and new/change in scope capital projects for 2009 of (\$0.470) million; 2010 of (\$11.467) million; 2011 of (\$10.884) million; 2012 of (\$2.345) million; 2013 of (\$3.100) million; and, 2014 of (\$3.700) million. The operating impacts primarily reflect additional revenue that will be realized from implementation of the Automated Meter Reading (AMR) System. The financial benefits of approximately \$33.000 million per year will be realized once the AMR System is fully implemented through a combination of additional revenues and operating efficiencies.

Total 2009 Recommended Cash Flow & Future Year Commitments (\$000s)

(In \$ Thousands)	2007 & Prior Year Carry Forwards	2009 Previously Approved Cash Flow Commitments	2009 New Cash Flow Rec'd	2009 Total Cash Flow Rec'd	2008 Carry Forwards	Total 2009 Cash Flow (Incl 2008 C/Fwd)	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total Cost
Expenditures																
Previously Approved		330,842		330,842	58,600	389,442	281,541	252,605	220,187	420	220	242	255	-	-	1,144,912
Change in Scope			29,141	29,141		29,141	133,934	171,869	166,079	301,381	107,029	99,092	46,627	14,100	-	1,069,252
New			69,855	69,855		69,855	79,157	92,425	98,990	96,300	32,600	27,200	1,670	20	-	498,217
New w/Future Year			-	-		-	-	-	-	-	-	-	-	-	-	-
Total Expenditure	-	330,842	98,996	429,838	58,600	488,438	494,632	516,899	485,256	398,101	139,849	126,534	48,552	14,120	-	2,712,381
Financing																
Reserves/Res Funds		286,701	84,386	371,087	58,302	429,389	413,588	423,020	409,624	353,743	138,957	125,873	48,291	14,108	-	2,356,593
Development Charges		9,944	2,386	12,330	298	12,628	17,710	19,149	15,150	9,749	892	661	261	12	-	76,212
Other		34,197	12,224	46,421		46,421	63,334	74,730	60,482	34,609	-	-	-	-	-	279,576
Debt			-	-		-	-	-	-	-	-	-	-	-	-	-
Total Financing	-	330,842	98,996	429,838	58,600	488,438	494,632	516,899	485,256	398,101	139,849	126,534	48,552	14,120	-	2,712,381

Comments / Issues:

- The 2009 Recommended Capital Budget is \$488.438 million and provides funding from 2008 projects carried forward into 2008 of \$58.600 million; previously approved commitment funding of \$330.842 million; and, \$98.996 million for new/change in scope projects.
- Large multi-year projects requiring 2008 carry forward funding include the Humber Wastewater Treatment Plant sludge thickening building upgrade; Wet Weather Flow Master Plan Class Environmental Assessments; Automated Meter Reading (AMR) System; yard and building renovations; and, the Horgan Water Treatment Plant heating; ventilation; and, air conditioning system rehabilitation.
- Approval of the 2009 Recommended Capital Budget will result in a commitment to future year funding for new/change in scope projects of \$213.091 million in 2010; \$264.294 million in 2011; \$265.069 million in 2012; \$397.681 million in 2013; \$139.629 million in 2014; \$126.292 million in 2015; \$48.297 million in 2016; and, \$14.120 million in 2017. Future year funding commitments have increased in comparison to previous years. Factors which contribute to the increase include the following:
 - Significant increase for project costs included in the Region of York capital cost sharing agreement, due to the construction techniques selected in consultation with the public (i.e. tunneling). Delivery of these projects, based on the current schedule, is a requirement of the agreement.
 - Many of the multi-year projects to be tendered, such as the Horgan Water Treatment Plant expansion; Milliken and Dufferin expansions; and, Ashbridges Bay Wastewater Treatment Plant odour control and primary treatment upgrades were in the early stages of planning and public consultation during the development of the 2008 Approved Capital Budget and as such, the 2008 budget submission identified these project costs as future year spending. As these projects are scheduled for tendering in 2009, approval is now being sought to commit the funds.

2009 Recommended Capital Budget

Capital Budget by Project Category

- The 2009 Recommended Capital Budget reflects the allocation of significant funding for state of good repair projects. These projects account for approximately \$235.811 million or 54.9% of the total new cash flow of \$429.838 million being recommended for 2009. State of good repair projects are driven by renewal needs for the watermain and sewer network and treatment facilities.
- Service improvement projects represent 15.4% or \$66.259 million of the total recommended cash flow for 2009. Examples of service improvement projects include biosolids treatment and disposal; odour control; Automated Meter Reading (AMR) System; Basement Flooding Remediation Work Plan; Mandatory Downspout Disconnection Program; Wet Weather Flow Master Plan; landscaping; and, plant optimization.
- Growth projects account for 24.9% or \$106.909 million of the 2009 Recommended Capital Budget and include initiatives for improving water efficiency; reducing water loss; and, expansion projects required for future water supply and wastewater treatment demand.
- Approximately 4.9% or \$20.859 million of the 2009 Recommended Capital is allocated to legislated projects. These projects address existing and emerging Provincial legislation, which includes Bill 195, Safe Drinking Water Act, Bill 81, Nutrient Management Act and the recent Bill 43, Clean Water Act. Legislative projects also include compliance with the Federal government's Environmental Protection Act.

Capacity and Readiness to Proceed

The 2009 Recommended Capital Budget is ready to proceed. Facility and needs assessment studies have now been finalized for major capital works. Final designs are completed for many of the larger projects. These projects are currently being tendered or awaiting final approval from the Ministry of Environment. It is anticipated construction will start in early 2009. Design is now proceeding on many of the trunk watermains with construction to commence in 2009.

Capital Project Highlights

The 2009 Recommended Capital Budget provides funding for a broad range of projects that advance the Mayor's Mandate and Council's policy agenda.

- **Climate Change Adaptation, Clean Air and Sustainable Energy Action Plan:** The 2009 Recommended Capital Budget provides funding of \$51.417 million for the Action Plan and includes funding for the Water Efficiency Plan (\$8.047 million); Automated Meter Reading System (\$8.000 million); Basement Flooding Remediation Work Plan (\$5.500 million); Energy Efficiency Measures (\$24.540 million); Mandatory Downspout Disconnection Program (\$5.130 million); and green roof technology (\$0.200 million).
- **Help to Clean Up Lake Ontario to Make Toronto's Beaches More Swimmable:** Funding of \$22.205 million is provided in the 2009 Recommended Capital Budget for various capital programs to help clean up Lake Ontario and make Toronto's beaches more swimmable.

PART II: ISSUES FOR DISCUSSION**Development Charge Funded Projects**

The City will be considering a new Development Charges By-law in late 2008. Maximizing the utilization of development charge funding for growth projects will remain a priority for the new By-law.

The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast includes development charge funding of 2.0% or \$151.959 million of the total new cash flow of \$7.684 billion. Revisions and changes to development charges eligible projects made through the political review process will put added pressure on water supply and wastewater treatment rates to fund the capital program.

Capacity Issues – Ability to Spend

The 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast is an aggressive undertaking with funding increasing from \$488.438 million in 2009 to \$931.574 million in 2018, representing a growth of 90.7% or \$443.136 million. In addition, the cash flow funding is not evenly distributed over the 10-year planning horizon. There is a 47.8 % or \$233.512 million increase in funding from 2009 to 2011. Growth in the capital program increases at an annual rate of 3.7% following 2011.

The significant increase in funding for the 2009-2013 Recommended Capital Plan represents the implementation of several multi-year, multi-million dollar contracts, such as the Horgan Water Treatment Plant Expansion, associated trunk watermain projects and Ashbridges Bay odour control projects. Once underway, these projects are anticipated to have combined expenditures exceeding several hundred million per year.

In delivering the 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast targeted expenditure levels, Toronto Water will continue to work with other City Divisions to ensure that the procurement of services proceeds efficiently. In addition, Toronto Water will continue consultation and detailed coordination with external consulting engineers and the construction industry to ensure that contract suppliers are able to meet the higher level of demand. Toronto Water is in regular contact with Greater Toronto Area municipalities in an attempt to coordinate the scheduling of tenders, where possible.

There are 4 new initiatives which are anticipated to improve Toronto Water's capital budget spending capacity and completion rates, as outlined below.

- **Multi-Year Joint Transportation Services and Toronto Water Capital Program**

To strengthen the coordination between Transportation Services and Toronto Water, Council at its meeting of July 16, 17, 18 and 19, 2007, approved the development and implementation of a coordinated multi-year joint Transportation Services and Toronto Water capital program. This cross-program initiative outlines a new planning process to address a more efficient renewal strategy for rehabilitating the City's aging infrastructure. Once fully implemented, the Plan will enable staff to

secure a coordinated fixed 5 year capital program well in advance of construction activity. In addition, the initiative will permit Technical Services staff to proceed in an unimpeded manner with the scoping and design of capital works several years prior to their scheduled construction dates.

- **Capital Program Delivery Working Group**

Commencing in early 2008, Toronto Water has participated with other Cluster B Program staff in a working group to discuss a variety of capital delivery issues, such as strategies for increasing spending/completion rates; impact of inflationary pressures; resource staffing; etc. The General Managers which participate in the Working Group will be reporting to Council in 2009, on process changes that can be considered to accelerate the rate of capital delivery.

- **Multi-Year Engineering Design Assignments**

In order to expedite the design and tendering of linear infrastructure renewal, Toronto Water, in cooperation with Technical Services, is seeking proposals for multi-year engineering assignments. Five year plans are being developed for watermain replacement; basement flooding; and, sewer inspection programs. Packaging these programs into multi-year engineering assignments will increase the City's ability to advance design work and tender the construction of a larger volume of projects.

- **Bid Committee Authority**

Council at its meeting of March 5, 6, 7 and 8, 2007, approved revising the delegated authority for procurement awards. Bid Committee now has the authority to award contracts to an upset limit of \$20.000 million, replacing the previous \$5.000 million limit. This new threshold should have a positive impact to the Program's capital budget spending and project completion rates, as Bid Committee meets weekly as compared to monthly for Standing Committee and Council.

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, changes in the water industry have focused on drinking water quality. These changes occurred through the Safe Drinking Water Act and the Drinking Water Protection Regulations.

The following provides a summary of the key Provincial regulation changes for the water supply and wastewater treatment industry. 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:** This Act expands on existing controls and regulations of drinking water systems and drinking water testing for the protection of human health and the prevention of drinking water health hazards. In addition, 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.

Toronto Water treatment plant upgrades are nearing completion as required by the Act. In addition, Council approved the Lead Water Service Connection Replacement Program (July 2007) in response to amendments to the Act designed to reduce the potential for evaluated levels of lead in drinking water.

The Province issued a new Financial Plan Regulation on August 16, 2007 to aid municipalities in achieving financial sustainability for water and wastewater systems. The regulation only applies to drinking water systems, as a condition of licensure and does not apply to stormwater or wastewater systems. The regulation aligns with the transition to full accrual accounting that will be provincially mandated as at January 1, 2009. The Ontario government has noted that municipal councils will act as water approval agencies for the plans.

- **Bill 81, Nutrient Management Act:** This Act addresses land-applied materials containing nutrients and requires review and approval of nutrient management plans; certification of land applicators; and, a new registry system for all land applications to protect surface and ground water resources from agricultural impacts.
- **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. Bill 43 has recently been approved and regulations under the Act may have an impact on the implementation schedule of the Wet Weather Flow Master Plan. Further, the financial impact associated with the development of Source Water Protection Plans across the City's 6 watersheds and Lake Ontario is not known at this time.
- **Bill 175, Sustainable Water and Sewage Systems Act:** This Act will make it mandatory for municipalities to assess and cost-recover the full amount of water and sewer services, as recommended in the Walkerton Report. The implementation schedule for Bill 175 and regulatory framework has not been determined; 6 years after the Province passed the Act in 2002. However, it is currently anticipated that the municipal reporting requirements of Bill 175 may include a full cost of service report and cost recovery plan report. It is expected that Bill 175 will not have a significant impact on the 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast; however, the regulations could affect the structure and balance requirements for capital reserves.
- **Canada-Wide Strategy for the Management of Municipal Wastewater:** In January, 2008, Toronto Water participated in development of a national strategy designed at reducing discharge of pollution to surface water bodies in Canada from municipal wastewater effluent. During the consultation process, Toronto Water expressed concern that the strategy's requirements would have significant cost implications for all municipalities. In addition, the strategy's narrow focus could result in diversion of funds from initiatives intended to achieve broader improvements to environmental conditions across Lake Ontario. Concern was also expressed that the strategy's objectives could not be realistically met within the short time frame proposed.

The strategy is currently being finalized with the intent that it will be forwarded for approval this year to the Canadian Council of Ministers of the Environment. Following approval, the strategy will be used by the Ontario Ministry of the Environment to establish new regulations and guidelines. Toronto Water continues to monitor this issue closely and will advise of potential future financial implications.

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 2009 Recommended Capital Budget; 2010-2013 Recommended Capital Plan; and, 2014-2018 Proposed Capital Forecast 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.

Reserves/Reserve Funds

Please refer to the 2009 Water and Wastewater Service Rate Report (October 2008), from the Acting Deputy City Manager and Chief Financial Officer and the General Manager for Toronto Water, regarding the adequacy and strategies for managing Toronto Water's reserves/reserve funds.

Issues Referred to the 2009 Budget Process

Implementing Water Efficiency Measures within Parks, Forestry and Recreation Facilities

City Council at its meeting of January 29 and 30 2008, adopted the implementation of water efficiency measures within Parks, Forestry and Recreation facilities. The purpose of this initiative is to implement measures required by Parks, Forestry and Recreation to successfully achieve the objectives of the City's Water Efficiency Plan and Toronto Water's Water Loss Reduction Strategy. The following was recommended:

As part of the annual Capital and Operating Budget submission, the General Manager, Parks, Forestry and Recreation, in collaboration with the General Manager, Toronto Water, and the Deputy City Manager and Chief Financial Officer develop a water conservation strategy for the implementation of water efficiency measures at specific sites proposed in the forthcoming year; and,

The Deputy City Manager and Chief Financial Officer and General Manager of Toronto Water report annually through Toronto Water's Capital and Operating Budget approval process on the aggregate annual water consumption from all Parks, Forestry and Recreation Division sites and facilities, tracking changes in consumption as water efficiency measures are implemented.

Toronto Water in collaboration with the Parks, Forestry and Recreation Division is currently undertaking a water use and consumption audit of all Parks, Forestry and Recreation facilities and sites. The audit includes: a) confirmation of whether water consumption is metered at each site; b) estimates of annual water consumption for indoor and outdoor water uses, respectively, at each site; c) a listing off all sites, in order of priority based on anticipated water reduction potential, for implementation of water efficiency measures; and, d) listing of unmetered sites, in order of priority based on estimated annual water consumption.

Completion of the water use and consumption audit is preliminary scheduled for early Fall-2009. For 2010 and beyond, the General Manager, Parks, Forestry and Recreation, in collaboration with the General Manager, Toronto Water, and the Deputy City Manager and Chief Financial Officer, will identify specific sites proposed in the forthcoming year for implementation of water efficiency

measures as part of their annual capital and operating budget submissions. In addition, Toronto Water will provide, as part of the 2010 Capital and Operating Budget process, the aggregate annual water consumption from all Parks, Forestry and Recreation Division sites and facilities, including changes in consumption as water efficiency measures are implemented.

Appendix 1

2009 Recommended Capital Budget; 2010 to 2013 Plan and 2014 to 2018 Forecast

Appendix 2

2009 Recommended Cash Flow and Future Year Commitments

Appendix 3
2009 Recommended Capital Projects
with Financing Details

Appendix 4
Reserve / Reserve Fund Review

Please refer to the:

2009 Water and Wastewater Service Rate Report