



Report to: General Committee

Date Report Authored: October 23, 2013

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**SUBJECT:** Water and Wastewater System Financial Plan  
**PREPARED BY:** Veronica Siu, Senior Business Analyst, Ext.2232  
Daphne Ross, Manager, Business Compliance, Ext. 3360

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**RECOMMENDATIONS:**

- 1) THAT the report entitled “Water and Wastewater System Financial Plan” prepared in accordance with the Safe Drinking Water Act and Ontario Regulation 453/07 be received;
- 2) AND THAT Council, as the Owner and Operating Authority of the City of Markham’s Drinking Water System, approve the Corporation of the City of Markham’s “Water and Wastewater System Financial Plan”, which indicates that the Markham drinking water and wastewater system is financially viable;
- 3) AND THAT Council authorize Staff to submit the “Water and Wastewater System Financial Plan” to the Ministry of Municipal Affairs and Housing on or before expiry of the current licence on February 11, 2014;
- 4) AND THAT Staff be authorized and directed to do all things necessary to give effect to this resolution

**EXECUTIVE SUMMARY:**

Not applicable

**PURPOSE:**

To obtain Council’s approval of the “Water and Wastewater System Financial Plan”, which will be submitted to the Ministry of Municipal Affairs and Housing for renewal of the Markham’s Municipal Drinking Water Licence (MDWL).

**BACKGROUND:**

Part Two of Justice Dennis O’Connor’s Walkerton Inquiry Report stated that the Ministry should move towards a municipal licensing program regime incorporating the concepts of quality management. The recommendation forms the basis of the MDWL program.

The MDWL program provides a framework for municipal residential drinking-water systems, replacing the previous Certificate of Approval (C of A). Requirements for the issuance of a MDWL became mandatory for all owners of municipal residential drinking-water systems in 2007, as part of the Safe Drinking Water Act (SDWA).

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The requirements for the issuance of the MDWL are:

1. A Drinking Water Works Permit (DWWP)
2. A Permit to Take Water (not applicable to Markham)
3. An approved Operational Plan
4. An accredited Operating Authority
5. An approved Financial Plan

Council approval is required for the both the Operational and Financial Plans.

Markham received the MDWL in August 2009 and was one of the first municipalities in Ontario to obtain the licence. In June 2010, Council approved Markham's first Water and Wastewater Financial Plan for years 2010 to 2016. There is a requirement to renew the licence every 5 years and the renewal application deadline is February 11, 2014. All five items listed above must be submitted to the Ministry of Municipal Affairs and Housing by this date. The Operational Plan has been kept up-to-date with all revisions endorsed by Council on September 17, 2013. All other items with the exception of the Financial Plan have been prepared and are ready for submission. Failure to approve and submit a Financial Plan prior to the deadline may result in the loss of the City's MDWL.

O.Reg. 453/07 requires the following:

- The Financial Plan be approved by resolution of Council that specifies that the drinking water system is financially viable;
- Full-cost accounting to be utilized to determine the true cost of the drinking water system; and
- Projections be at least six years, beginning in the year by which the MDWL would otherwise expire.

Together with the approved Operational Plan, the Financial Plan must be made available to the public who are served by the City's drinking-water system. Both of these plans are available on the City's website.

The Financial Plan must include a statement that the financial impacts of the drinking-water system have been considered, and must apply for a period of at least six years (see page 2 of the attached Financial Plan – Appendix "A"). For each year in which the Financial Plan applies, the Financial Plan must include details of the following:

- i. Details of the proposed or projected financial position of the drinking water system itemized by,
  - a) Total financial assets,
  - b) Total liabilities,
  - c) Net debt,
  - d) Non-financial assets that are tangible capital assets, tangible capital assets under construction, inventories of supplies and prepaid expenses, and

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- e) Changes in tangible capital assets that are additions, donations, write downs and disposals.
- ii. Details of the proposed or projected financial operations of the drinking water system itemized by,
    - a) Total revenues, further itemized by water rates, user charges and other revenues,
    - b) Total expenses, further itemized by amortization expenses, interest expenses and other expenses,
    - c) Annual surplus or deficit, and
    - d) Accumulated surplus or deficit.
  - iii. Details of the drinking water system's proposed or projected gross cash receipts and gross cash payments itemized by,
    - a) Operating transactions that are cash received from revenues, cash paid for operating expenses and finance charges,
    - b) Capital transactions that are proceeds on the sale of tangible capital assets and cash used to acquire capital assets,
    - c) Investing transactions that are acquisitions and disposal of investments,
    - d) Financing transactions that are proceeds from the issuance of debt and debt repayment,
    - e) Changes in cash and cash equivalents during the year, and
    - f) Cash and cash equivalents at the beginning and end of the year.

#### **OPTIONS/ DISCUSSION:**

The Financial Plan is currently only required for the water system, as set out in the Regulation. This requirement may be expanded to include a wastewater system at a future date when the regulations governing the Sustainable Water and Sewer Systems Act are released.

The basis for the Financial Plan is the City's annually updated Waterworks Reserve Study ("Reserve Study") which includes both water and wastewater services. The Reserve Study utilizes a rolling 25-year planning horizon and examines funding requirements for operating, capital, reserve and reserve fund contributions. Based on the total costs, projections of growth and consumption, the Reserve Study determines the water and wastewater rates to ensure long-term sustainability. This methodology is the same as that used for the last Financial Plan, which was approved by Council in June 2010.

The Financial Plan covers the period of 2013 to 2019 and satisfies the requirement that the projection cover six years from the year by which the MDWL would otherwise expire (year 2014).

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**FINANCIAL CONSIDERATIONS AND TEMPLATE: (external link)**

The water and wastewater operating activities result in a surplus position each year over the planning period (approximately \$74.6M over 7 years, or a cumulative total of the “Net Change in Cash from Operating Activities” in the Statement of Cash-Flow found on page 5 of the attached Financial Plan – Appendix “A”). The positive cash-flows from operations combined with the available balance in the Waterworks Capital/Stabilization Reserve (includes water and wastewater) are forecasted to be sufficient for the planned capital acquisitions during this period. The cash-flow projections are based on the Reserve Study that includes the full cost of providing water and wastewater services.

As adequate funding is available when required over the planning period, external debt through issuance of debentures for capital acquisitions is not required.

The Financial Plan demonstrates that the City’s water and wastewater system is financially viable through the Reserve Study, active management of financial liability and by maintaining a healthy level of liquidity.

The completed “Water and Wastewater System Financial Plan” is provided in Attachment “A”.

**HUMAN RESOURCES CONSIDERATIONS**

Not applicable

**ALIGNMENT WITH STRATEGIC PRIORITIES:**

**Growth Management** – The preparation of the City’s Financial Plan must apply for a period of at least six years, which takes into consideration the future growth of the City’s drinking-water system.

**Municipal Services** – The completion of the MDWL is crucial as the City requires this licence in order to continue provide drinking water to the City’s consumers.

**Green Print** – The development of the Financial Plan supports the sustainability of the City’s water system ensuring the continued delivery of clean and safe drinking water.

**BUSINESS UNITS CONSULTED AND AFFECTED:**

The completion of the Financial Plan is the joint effort of the Financial Services Department and the Waterworks Division. Financial Services is taking the lead role in the development of the Financial Plan, with Waterworks Division providing the required data and support in order to complete the Financial Plan.

The undersigned represents the Corporate Top Management of City of Markham’s Drinking Water Distribution System. By signing below, the Corporate Top Management

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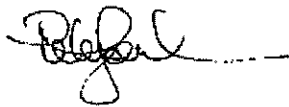
of the Operating Authority has reviewed the Financial Plan, and hereby recommends the Financial Plan to be brought forward to the Owner's attention.

**RECOMMENDED  
BY:**

29/11/2013

11/28/2013

X



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Peter Loukes, P. Eng.  
Director, Environmental Services

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Brenda Librecz  
Commissioner, Community & Fire Services

28/11/2013

X



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Andy Taylor  
Chief Administrative Officer

**ATTACHMENTS:**

Attachment "A" – City of Markham Water and Wastewater System Financial Plan



**Water and Wastewater System  
Financial Plan**  
The Corporation of the City of Markham

Financial Plan No.: 021-301

*Prepared in accordance with  
the Safe Drinking Water Act  
and its associated regulations.*

## BACKGROUND

As of the end of 2012, the City of Markham provides water and wastewater services to approximately 75,000 residential and 2,300 non-residential customers. Development pressures, changing economic conditions, and an increasing demand by the public for a responsible approach to managing water resources requires a detailed evaluation of the planning and financing of water and wastewater operations. In addition, recent changes to maintenance standards and testing practices have put pressure on municipalities to conform to provincial health and safety standards.

The legislative framework under which water services are managed in Ontario has also changed with the introduction of the *Safe Drinking Water Act, 2007 (SDWA)*. *Ontario Regulation 453/07* of the *SDWA* requires public providers of water and wastewater services to submit a Financial Plan to the Ministry of Municipal Affairs and Housing which:

- accounts for the inventory of the tangible capital assets required to provide the services;
- assesses the revenue and expenditures of providing the services; and
- describes how the provider intends to fund the cost of providing the services.

The Financial Plan is intended to provide information relating to the financial stability of the water and wastewater systems. This information forms the basis for a strategy to ensure the safe and reliable delivery of water and wastewater services over the long-term. The Financial Plan must be for a period of at least six years and should be approved by a resolution that is passed by Council.

In response to the *SDWA* and *O.Reg 453/07*, Markham submitted its first Financial Plan for the water and wastewater systems in June 2010. There is a requirement to apply for the renewal licence by February 11, 2014 and one of the requirements is the submission of an updated Financial Plan.

The Financial Plan proactively includes the wastewater services, although the current legislation does not require wastewater services to be included. The inclusion of wastewater services is anticipated as the *SDWA* also requires municipalities develop a full-cost recovery plan once the regulations governing the proposed Bill 13, *Sustainable Water and Waste Water Systems Improvement and Maintenance Act, 2010* are in place. At the time of this report, Bill 13 is in the process of being approved.

The Financial Plan is developed based on the comprehensive water and wastewater Reserve Study that was undertaken in 2007. The Study has been and will continue to be updated annually. The reserve study utilizes full-cost accounting and considers the full cost of providing water and wastewater services. The Study also includes provisions for financing the annual operations, the ongoing rehabilitation and eventual replacement of

the City's extensive inventory of water and wastewater assets. The Reserve Study incorporates a 25-year planning horizon and establishes a strategy for funding the water and wastewater services at the City of Markham, ensuring the required funding for the planning period is available and avoids the need for borrowing. While the reserve study utilizes the replacement costs, the Financial Plan utilizes the historical depreciated costs that were compiled in conformance to the Public Sector Accounting Boards legislation of governments accounting of Tangible Capital Assets (TCA).

The Financial Plan, which is derived from the Reserve Study has considered the financial impacts of the drinking water system including all ongoing operating and capital requirements. The cash flows projected from operating activities that are based on full-cost accounting, combined with the reserves available provides a reasonable assurance of the financial viability of the water and wastewater system operations at the City.

The Financial Plan is prepared for a seven-year planning period. The current plan covers the years 2013 to 2019.

The Financial Plan is prepared using the most accurate information available at the time of publication. The estimates are based on current technical and financial requirements and may be subject to change. Actual results could differ from these estimates.



**CITY OF MARKHAM  
WATERWORKS DEPARTMENT**

**STATEMENT OF FINANCIAL POSITION**

<i>As at December 31</i>	<b>Actual</b>	<b>Projection</b>						
<i>(All dollar amounts are in \$000)</i>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Financial Assets</b>								
Cash and Cash Equivalents	20,251	21,766	21,278	20,863	22,064	27,098	33,988	44,977
Unbilled Charges	9,870	10,939	11,772	13,021	14,225	15,297	16,095	16,937
Accounts Receivables	5,975	7,372	7,934	8,793	9,631	10,385	10,978	11,551
<b>Total Financial Assets</b>	<b>36,096</b>	<b>40,077</b>	<b>40,984</b>	<b>42,677</b>	<b>45,921</b>	<b>52,780</b>	<b>61,060</b>	<b>73,465</b>
<b>Financial Liabilities</b>								
Accounts Payable	26,703	20,989	23,041	25,891	28,672	31,077	33,052	35,011
Debentures	0	0	0	0	0	0	0	0
<b>Total Financial Liabilities</b>	<b>26,703</b>	<b>20,989</b>	<b>23,041</b>	<b>25,891</b>	<b>28,672</b>	<b>31,077</b>	<b>33,052</b>	<b>35,011</b>
<b>Net Financial Assets / (Debt)</b>	<b>9,393</b>	<b>19,088</b>	<b>17,943</b>	<b>16,787</b>	<b>17,249</b>	<b>21,703</b>	<b>28,008</b>	<b>38,454</b>
<b>Change in Financial Assets</b>		<b>9,695</b>	<b>(1,145)</b>	<b>(1,156)</b>	<b>462</b>	<b>4,455</b>	<b>6,305</b>	<b>10,446</b>
<b>Non-Financial Assets</b>								
Tangible Capital Assets	704,593	684,413	689,308	692,940	696,005	698,391	698,483	697,849
Under Construction	1,254	781	721	858	792	694	675	786
Additions	0	7,026	6,490	7,718	7,128	6,245	6,071	7,076
Donations	0	12,012	11,280	9,272	9,190	7,824	7,199	6,637
Write Downs	0	0	0	0	0	0	0	0
Disposals	0	0	0	0	0	0	0	0
Inventories of Supplies	0	0	0	0	0	0	0	0
Prepaid Expenses	0	0	0	0	0	0	0	0
<b>Total Non-Financial Assets</b>	<b>705,847</b>	<b>704,232</b>	<b>707,799</b>	<b>710,788</b>	<b>713,115</b>	<b>713,153</b>	<b>712,427</b>	<b>712,348</b>
<b>Change in Tangible Capital Assets</b>		<b>(1,615)</b>	<b>3,567</b>	<b>2,988</b>	<b>2,327</b>	<b>38</b>	<b>(726)</b>	<b>(79)</b>
<b>Accumulated Surplus</b>	<b>715,240</b>	<b>723,320</b>	<b>725,742</b>	<b>727,574</b>	<b>730,363</b>	<b>734,856</b>	<b>740,435</b>	<b>750,802</b>

**CITY OF MARKHAM  
WATERWORKS DEPARTMENT**

**STATEMENT OF FINANCIAL OPERATIONS**

<i>(All dollar amounts are in \$000)</i>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Accumulated Surplus - Beginning of Period</b>	<b>715,240</b>	<b>723,320</b>	<b>725,742</b>	<b>727,574</b>	<b>730,363</b>	<b>734,856</b>	<b>740,435</b>
<b>Revenues</b>							
Water Rates	88,461	95,207	105,518	115,574	124,621	131,730	138,616
User Charges	1,329	1,299	1,382	1,410	1,438	1,467	1,496
Other	196	339	372	378	376	411	494
Donations (Contributions from developers)	12,102	11,545	9,694	9,756	8,524	8,022	7,575
<b>Total Revenues</b>	<b>102,088</b>	<b>108,389</b>	<b>116,966</b>	<b>127,117</b>	<b>134,960</b>	<b>141,630</b>	<b>148,181</b>
<b>Expenses</b>							
Amortization	(15,167)	(15,530)	(15,859)	(16,189)	(16,514)	(16,819)	(17,083)
Interest	0	0	0	0	0	0	0
Operating Costs	(78,841)	(90,437)	(99,276)	(108,140)	(113,953)	(119,232)	(120,732)
<b>Total Expenses</b>	<b>(94,008)</b>	<b>(105,967)</b>	<b>(115,134)</b>	<b>(124,329)</b>	<b>(130,467)</b>	<b>(136,051)</b>	<b>(137,815)</b>
<b>Annual Surplus / (Deficit)</b>	<b>8,080</b>	<b>2,422</b>	<b>1,832</b>	<b>2,789</b>	<b>4,493</b>	<b>5,579</b>	<b>10,366</b>
<b>Accumulated Surplus / (Deficit) - End of Period</b>	<b>723,320</b>	<b>725,742</b>	<b>727,574</b>	<b>730,363</b>	<b>734,856</b>	<b>740,435</b>	<b>750,802</b>

**CITY OF MARKHAM  
WATERWORKS DEPARTMENT**

**STATEMENT OF CASH-FLOWS**

<i>(All dollar amounts are in \$000)</i>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>OPENING CASH &amp; CASH EQUIVALENTS</b>	<b>20,251</b>	<b>21,766</b>	<b>21,278</b>	<b>20,863</b>	<b>22,064</b>	<b>27,098</b>	<b>33,988</b>
<b>OPERATING ACTIVITIES</b>							
<b>Revenues</b>							
Water Rates	88,461	95,207	105,518	115,574	124,621	131,730	138,616
User Charges	1,329	1,299	1,382	1,410	1,438	1,467	1,496
Change in Unbilled Charges	(1,069)	(833)	(1,249)	(1,204)	(1,072)	(798)	(842)
Change in Accounts Receivables	(1,397)	(562)	(859)	(838)	(754)	(592)	(574)
<b>Total Revenues</b>	<b>89,789</b>	<b>96,506</b>	<b>106,900</b>	<b>116,984</b>	<b>126,060</b>	<b>133,197</b>	<b>140,112</b>
<b>Expenses</b>							
Operating	(78,841)	(90,437)	(99,276)	(108,140)	(113,953)	(119,232)	(120,732)
Finance Charges	0	0	0	0	0	0	0
Change in Accounts Payable	(5,714)	2,052	2,850	2,781	2,405	1,975	1,959
<b>Total Expenses</b>	<b>(78,841)</b>	<b>(90,437)</b>	<b>(99,276)</b>	<b>(108,140)</b>	<b>(113,953)</b>	<b>(119,232)</b>	<b>(120,732)</b>
<b>Net Change in Cash from Operating Activities</b>	<b>2,769</b>	<b>6,725</b>	<b>8,367</b>	<b>9,583</b>	<b>12,686</b>	<b>14,550</b>	<b>19,924</b>
<b>CAPITAL ACTIVITIES</b>							
Acquisition of Tangible Capital Assets	(7,926)	(7,553)	(9,153)	(8,760)	(8,028)	(8,072)	(9,428)
Surplus Funds from Closed Capital	6,477	0	0	0	0	0	0
Proceeds from Sales of Tangible Capital Assets	0	0	0	0	0	0	0
<b>Net Change in Cash from Capital Activities</b>	<b>(1,450)</b>	<b>(7,553)</b>	<b>(9,153)</b>	<b>(8,760)</b>	<b>(8,028)</b>	<b>(8,072)</b>	<b>(9,428)</b>
<b>INVESTING ACTIVITIES</b>							
<b>Net Change in Cash from Investing Activities</b>	<b>196</b>	<b>339</b>	<b>372</b>	<b>378</b>	<b>376</b>	<b>411</b>	<b>494</b>
<b>Net Change in Cash and Cash Equivalents</b>	<b>1,515</b>	<b>(488)</b>	<b>(415)</b>	<b>1,201</b>	<b>5,033</b>	<b>6,890</b>	<b>10,989</b>
<b>CLOSING CASH &amp; CASH EQUIVALENTS</b>	<b>21,766</b>	<b>21,278</b>	<b>20,863</b>	<b>22,064</b>	<b>27,098</b>	<b>33,988</b>	<b>44,977</b>

## STATEMENT OF FINANCIAL POSITION

The statement of financial position presents the Waterworks department's assets, liabilities and equity as at the end of each reporting period.

### Financial Assets

Financial Assets are the resources controlled by the organization as a result of past events and from which future economic benefits are expected to flow to the organization. Financial assets include items such as cash and cash equivalents, unbilled charges, and accounts receivables. The opening value of cash and cash equivalents is consistent with the combined opening balances of waterworks reserves and reserve funds for 2013.

Projections of unbilled charges and accounts receivables are based on historical trends. Unbilled charges and accounts receivables are a percentage of annual sales.

### Liabilities

Liabilities are financial obligations to outside organizations or individuals that are the result of transactions or events that occurred on or before the end of the accounting period. Liabilities include long-term debentures and accounts payable.

Projections of accounts payable are based on the historic averages. The City of Markham's Waterworks department does not currently hold any long-term debentures nor is it a consideration within the planning period.

### Non-Financial Assets

#### *Tangible Capital Assets*

Tangible capital assets (TCA) are non-financial assets having physical substance that:

- are held for use in the production or supply of goods and services, for rental to others, for administrative purposes for the development, construction, maintenance or repair of other tangible capital assets;
- have useful economic lives extending beyond an accounting period;
- are used on a continuing basis; and
- are not for resale in the ordinary course of operations (PS 3150.05).

Assets are categorized as equipment, vehicles or infrastructure related to water and wastewater servicing and then further categorized based on function. Recording methods and accounting treatments differ between asset categories as some are recorded individually as single assets, while the majority of assets are grouped into asset pools. An

asset pool is a grouping of many related assets that is recorded as a single asset. The individual assets within each pool usually have like characteristics or are part of a complex network system, and have similar useful lives.

The categories of water and wastewater tangible capital assets, the attributed useful life (in years) and recording method are outlined in *Table 1*.

<b>Table 1</b>				
<b>TANGIBLE CAPITAL ASSET CATEGORIES</b>				
<b>CATEGORY 1</b>	<b>CATEGORY 2</b>	<b>CATEGORY 3</b>	<b>USEFUL LIFE (years)</b>	<b>RECORDING METHOD</b>
Equipment	O&M Tools and Equipment		9	Pooled (by year)
Infrastructure	Drinking Water Distribution System		60	Pooled (by year)
	Sanitary Sewage Collection System		85	Pooled (by year)
	Sanitary Sewage Pumping Station	Architecture	50	Single Asset (by station)
		Building Mechanical	25	Single Asset (by station)
		Building Structure	100	Single Asset (by station)
		Civil – Fence & Pavement	20	Single Asset (by station)
		Civil – Underground Parking	100	Single Asset (by station)
		Electrical	50	Single Asset (by station)
		Instrumentation & Control	15	Single Asset (by station)
		Machinery	50	Single Asset (by station)
		Process Mechanical	25	Single Asset (by station)
		Substructure – Concrete	100	Single Asset (by station)
		Substructure – Misc. Metals	50	Single Asset (by station)
Vehicles	Licenced Vehicles		7	Pooled (by year)

The value for Tangible Capital Assets in 2012 is the net book value of all tangible capital assets related to the City of Markham's water and wastewater system. The tangible capital assets value in each year of the projection includes additions, donations, write downs and disposals from the prior year but not those from the current year.

Depreciation is calculated using the straight-line depreciation method, and assumes a zero residual value. Assets are added to the asset inventory using the “half-year rule”. All assets being put into service within the fiscal year will be recorded in the asset inventory with an in-service date of July 1 regardless of actual service date. Accordingly, in their first year, 6 months depreciation will be charged against new assets.

The net book value of all water and wastewater tangible capital assets is outlined in *Table 2*. The net book value represents the value of all assets (in thousands of dollars) as of January 1, 2013.

<b>Table 2</b>			
<b>Net Book Value of In-Service Tangible Capital Assets</b>			
<i>As at January 1, 2013</i>			
<b>Category 1</b>	<b>Category 2</b>	<b>Category 3</b>	<b>(\$000)</b>
<b>Equipment</b>	O&M Tools and Equipment		748.4
<b>Infrastructure</b>	Drinking Water Distribution System		387,994.6
	Sanitary Sewage Collection System		313,348.9
	Sanitary Sewage Pumping Stations	Architecture	51.6
		Building Mechanical	39.0
		Building Structure	284.6
		Civil access area	-
		Civil - Fence and Pavement	10.8
		Civil - Underground Piping	233.0
		Electrical	210.7
		Instrumentation & Control	242.3
		Machinery	9.6
		Process Mechanical	246.9
		Substructure - Concrete	491.5
		Substructure - Misc. Metals	83.5
<b>Vehicles</b>	Licensed Vehicles		598.0
<b>Total In-Service Tangible Capital Assets</b>			<b>704,593</b>

#### *Tangible Capital Assets – Under Construction*

Also, referred to as “Work-in-Progress”, this value represents expenditures related to tangible capital assets, which are not yet in service. It is estimated that 10% of all tangible capital assets added through City operations will be under construction at year-end.

### *Tangible Capital Assets – Additions*

The value for tangible capital asset additions represents the value of assets acquired by the City through the capital program net of the half-year depreciation. This includes new assets and also replacements for existing assets which have reached the end of their life-cycle. It is estimated that the City will add \$42 million of infrastructure to the water and wastewater system over the planning period.

### *Tangible Capital Assets – Donations (developer contributions)*

Tangible capital asset donations are the infrastructure the City has assumed from developers as part of the subdivision assumption process. The asset value from donations for each year is based on the historical average value of infrastructure required to service a single household, applied incrementally to the growth projection. The estimated value of assets required to service a single household is \$2,630 and \$4,250 for wastewater and water services, respectively.

### *Tangible Capital Assets – Write Downs*

A write down is used to reflect a partial impairment in the value of an asset. An asset may be written-down in instances where they may be stolen, lost, destroyed or become obsolete. Alternatively, if a reduction in the value of an asset is objectively estimated and is expected to be permanent, then the value would also be written down. There are no anticipated write downs within the planning period.

### *Tangible Capital Assets – Disposals*

Disposal costs related to the replacement of water or wastewater infrastructure is captured within the cost of the new asset. There is no gain or loss anticipated from the disposal of tangible capital assets forecast within the planning period.

### *Inventories of Supplies and Prepaid Expenses*

Inventories of supplies and prepaid expenses are accounted for in operating expenditures since all payments are assumed to be current.

## STATEMENT OF FINANCIAL OPERATIONS

The statement of financial operations outlines the annual revenues, expenses, income (annual surplus) and accumulated surplus (the total of financial and non-financial assets) of the City of Markham's Waterworks department.

### Revenues

The annual revenues are categorized by their sources: water rates, user charges, donations, and other sources.

#### *Water and Wastewater Rates*

Water rate revenues are forecast based rates determined through our annual reserve fund study. The total annual revenue is the product of the applicable rates and the forecast consumption. Water and wastewater rates are updated April 1 of each year.

#### *User Charges*

Revenues derived from user charges include payment for services such as water on-off fees, water meter installation fees, and water sampling/testing. Annual projections of these revenues are based on historical averages.

#### *Donations (developer contributions)*

Donations from developers take the form of infrastructure assumed by the City through the subdivision process. The value for accounting purposes is equivalent to the value of tangible capital asset donations described under the statement of financial position.

#### *Other Sources*

Revenue from other sources is primarily earnings from investments (i.e. Revenues resulting from the investment of reserves and reserve funds).

### Expenses

#### *Amortization*

Amortization expenses are the annual depreciation value of tangible capital assets in service. The annual amortization expenses by asset category for the planning period are outlined in *Table 3*.



**Table 3**  
**Amortization Expenses by Asset Category**  
(all dollars amounts are in \$000)

CATEGORY 1	CATEGORY 2	CATEGORY 3	2013	2014	2015	2016	2017	2018	2019
<b>Equipment</b>	O&M Tools and Equipment		127.2	140.1	138.8	137.0	129.3	121.8	102.2
	Drinking Water Distribution System		8,048.5	8,297.8	8,532.7	8,777.4	9,000.0	9,206.7	9,406.7
	Sanitary Sewage Collection System		6,757.3	6,838.3	6,922.2	6,998.0	7,077.0	7,164.1	7,256.1
		Architecture	1.5	1.5	1.5	1.5	1.5	1.5	1.5
		Building Mechanical	2.6	2.6	2.6	2.6	2.6	2.6	2.6
		Building Structure	3.3	10.1	19.2	26.9	34.1	36.9	37.8
		Civil access area	-	-	-	-	-	-	-
		Civil - Fence and Pavement	3.0	3.0	1.6	0.2	0.2	0.2	0.2
		Civil - Underground Piping	5.7	5.7	5.7	5.7	5.7	5.7	5.7
		Electrical	6.9	6.9	6.9	6.9	6.9	6.9	6.9
		Instrumentation & Control	24.4	23.1	23.1	19.8	16.5	16.5	16.5
		Machinery	0.3	0.3	0.3	0.3	0.3	0.3	0.3
		Process Mechanical	20.3	20.3	20.3	20.3	20.3	20.3	20.3
		Substructure - Concrete	6.1	6.1	6.1	6.1	6.1	6.1	6.1
<b>Infrastructure</b>	Sanitary Sewage Pumping Stations	Substructure - Misc. Metals	2.4	2.4	2.4	2.4	2.4	2.4	2.4
<b>Vehicles</b>	Licensed Vehicles		157.4	171.5	175.0	183.8	211.0	227.0	217.1
<b>TOTAL AMORTIZATION EXPENSE</b>			<b>15,167</b>	<b>15,530</b>	<b>15,859</b>	<b>16,189</b>	<b>16,514</b>	<b>16,819</b>	<b>17,083</b>

### *Interest*

Interest expenses are the costs related to borrowing. There are no interest expenses as the Waterworks department does not currently hold or anticipate any debentures within the planning period.

### *Operating Costs*

Costs related to the operation of the water and wastewater systems include purchases of water, sewerage service, billing and administration, and staffing.

## **STATEMENT OF CASH-FLOWS**

The statement of cash-flows provides information about the changes in cash and cash equivalents of the City of Markham's Waterworks department within each reporting period. The statement outlines changes from operating activities, investing activities and financing activities.

### **Opening Cash and Cash Equivalents**

The opening balance of the statement of cash-flows represents the opening balance of the Waterworks department's reserves and reserve funds.

### **Operating Activities - Revenues**

#### *Water and Wastewater Rates*

Water rate revenues are forecast based rates determined through our annual reserve fund study. The total annual revenue is the product of the applicable rates and the forecast consumption. Water and wastewater rates are updated April 1 of each year.

#### *User Charges*

Revenues derived from user charges include payment for services such as water on-off fees, water meter installation fees, and water sampling/testing. Annual projections of these revenues are based on historical averages.

#### *Change in Unbilled Charges/Accounts Receivable*

Changes in unbilled charges and accounts receivable is calculated based on the current year unbilled charges/accounts receivable less prior year unbilled charges/accounts receivable and represent changes in cash received.

### **Operating Activities - Expenses**

#### *Operating*

All other costs related to providing water and wastewater services are summarized under this heading. Costs related to the operation of the water and wastewater system includes purchases of water, sewerage service, billing and administration, and staffing.

### *Finance Charges*

Finance charges are the costs related to borrowing. There are no finance charges as the Waterworks department does not currently hold or anticipate any debentures within the planning period.

### *Change in Accounts Payable*

Change in accounts payable is calculated based on the current year accounts payable less prior year accounts payable and represent changes in cash expended.

## **Capital Activities**

### *Acquisition of Tangible Capital Assets*

This value represents the cash applied towards the funding of tangible capital assets. This includes the cost of new assets, and the rehabilitation and replacement of existing assets.

### *Proceeds from Sales of Tangible Capital Assets*

The asset disposal process is controlled by Purchasing by-law 2004-341, Part V, Disposal of Personal Property. There are no sales of tangible capital assets anticipated to occur within the planning period.

## **Investing Activities**

Net investing transactions are the earnings from investment of reserves and reserve funds.

## **Closing Cash and Cash Equivalents**

The closing balance of the statement of cash-flows represents the opening balance and all financial transactions throughout the fiscal year. This becomes the opening balance for the subsequent year.