### City of St. Catharines

# 2014 – 2019 Water and Wastewater Financial Plan



### City of St. Catharines Water Systems Financial Plan Statement of Projected Financial Position - Water Operations 2014 - 2019

	2014	2015	2016	2017	2018	2019
Assets						
Financial Assets						
Cash - Note 1.	4,743,000	4,023,870	3,455,072	3,087,085	3,168,790	3,569,274
Accounts Receivable - Note 2.	5,700,000	5,814,000	5,930,280	6,048,886	6,169,863	6,293,261
Total Financial Assets	10,443,000	9,837,870	9,385,352	9,135,971	9,338,654	9,862,535
Liabilities						
Current Liabilities	000 005	007.400	070 540	F02 024	444 574	250.050
Current Portion of Debentures Payable - Note 3.	866,635	897,189	870,549	593,821	444,571	358,058
Accounts Payable - Note 4.	919,767	924,924	930,060	934,101	938,185	943,041
Long Term Liabilities Long Term Portion of Debentures Payable - Note 3.	3,139,650	3,169,461	2,478,912	1,885,091	1,494,519	1,136,461
Total Liabilities	4,926,052	4,991,574	4,279,521	3,413,012	2,877,276	2,437,561
Net Financial Assets	5,516,947	4,846,295	5,105,831	5,722,958	6,461,378	7,424,974
Non-Financial Assets						
Inventory - Note 5.	185,000	196,234	208,150	220,790	234,197	248,418
Tangible Capital Assets - Note 6.	117,141,667	127,354,087	137,111,917	146,601,559	156,409,729	166,426,547
Accumulated Amortization - Note 6.	(27,227,893)	(29,096,674)	(31,186,818)	(33,487,928)	(35,999,873)	(38,713,576)
Total Non-Financial Assets	90,098,773	98,453,647	106,133,250	113,334,421	120,644,053	127,961,389
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Accumulated Surplus, End of Period	95,615,721	103,299,942	111,239,081	119,057,379	127,105,431	135,386,363
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### City of St. Catharines Water Systems Financial Plan Statement of Projected Operations - Water Operations 2014 - 2019

	2014	2015	2016	2017	2018	2019
Revenues						
Water Rates - Note 7.	22,616,648	23,068,981	23,530,361	24,000,968	24,480,987	24,970,607
Other Revenue	380,000	387,600	395,352	403,259	411,324	419,551
Grants & Funding - Note 8.	150,000	2,431,000	2,566,982	2,250,000	2,250,000	2,250,000
Total Revenue	23,146,648	25,887,581	26,492,695	26,654,227	27,142,311	27,640,158
Cost of Water Sold - Note 9.						
Fixed Costs	2,928,504	2,966,575	3,005,140	3,038,197	3,071,617	3,108,476
Purchase of Water	8,108,700	8,132,516	8,155,581	8,171,010	8,186,602	8,208,022
Total Cost of Water Sold	11,037,204	11,099,091	11,160,721	11,209,206	11,258,219	11,316,498
Gross Profit	12 100 444	14 700 400	15 221 074	15 115 020	15 004 002	16 222 660
GIOSS FIOR	12,109,444	14,788,490	15,331,974	15,445,020	15,884,093	16,323,660
Expenditures - Note 10.						
General Administration	1,340,817	1,351,619	1,345,983	1,322,920	1,281,402	1,229,026
Engineering Overhead	1,131,122	1,153,744	1,176,819	1,200,356	1,224,363	1,248,850
Mains, Valves, Hydrants	1,736,670	1,771,403	1,806,831	1,842,968	1,879,827	1,917,424
Water Service Lines - Note 11.	366,580	373,912	381,390	389,018	396,798	404,734
Replacement of lead service pipes	50,000	51,000	52,020	53,060	54,122	55,204
Meters	364,310	371,596	379,028	386,609	394,341	402,228
Interest on Debenture Debt - Note 3.	182,148	162,214	160,620	130,681	93,243	71,559
Annual amortization - Note 6.	1,807,443	1,868,781	2,090,144	2,301,111	2,511,945	2,713,703
Total Expenditures	6,979,090	7,104,269	7,392,835	7,626,722	7,836,041	8,042,728
Net Surplus - Note 12.	5,130,354	7,684,221	7,939,139	7,818,298	8,048,052	8,280,932
Accumulated Surplus, Beginning of Period	90,485,367	95,615,721	103,299,942	111,239,081	119,057,379	127,105,431
Accumulated Surplus, End of Period	95,615,721	103,299,942	111,239,081	119,057,379	127,105,431	135,386,363

### City of St. Catharines Water Systems Financial Plan Statement of Projected Cash Flows - Water Operations 2014 - 2019

	2014	2015	2016	2017	2018	2019
Operating Transactions						
Cash received from:						
Revenues	23,146,648	24,187,581	26,492,695	26,654,227	27,142,311	27,640,158
Gas Tax Funding	-	1,700,000	-	-	-	-
Grants	-	-	-	-	-	-
Cash paid for:						
Operating Expenses	(17,834,146)	(18,041,146)	(18,392,936)	(18,705,247)	(19,001,016)	(19,287,666)
Finance charges	(182,148)	(162,214)	(160,620)	(130,681)	(93,243)	(71,559)
Adjustment for Non-Cash items:						
Addback of amortization	1,807,443	1,868,781	2,090,144	2,301,111	2,511,945	2,713,703
Change in non cash balances	-	(120,077)	(123,060)	(127,205)	(130,301)	(132,762)
Cash Provided by Operating Transactions	6,937,797	9,432,925	9,906,222	9,992,204	10,429,697	10,861,873
Carital Transactions						
Capital Transactions	(6 771 000)	(10 212 420)	(0.757.920)	(0.490.642)	(0.000.170)	(10.016.010)
Cash required to acquire tangible capital assets	(6,771,000)	(10,212,420)	(9,757,830)	(9,489,642)	(9,808,170)	(10,016,818)
Cash Required by Capital Transactions	(6,771,000)	(10,212,420)	(9,757,830)	(9,489,642)	(9,808,170)	(10,016,818)
Investing Transactions	-	-	-	-	-	-
Cash Provided (Required) by Investing Transactions						
Financing Transactions						
Proceeds on debt issuance	0	927.000	180,000	0	54,000	0
Cash required for debt repayment	(891,698)	(866,635)	(897,189)	(870,549)	(593,821)	(444,571)
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Cash Provided (Required) by Financing Transactions	(891,698)	60,365	(717,189)	(870,549)	(539,821)	(444,571)
Increase (Decrease) in Cash and Cash Equivalents	(724,901)	(719,130)	(568,798)	(367,987)	81,706	400,484
Cash and Cash Equivalents, Beginning of Year	5,467,901	4,743,000	4,023,870	3,455,072	3,087,085	3,168,790
Cash and Cash Equivalents, End of Year	4,743,000	4,023,870	3,455,072	3,087,085	3,168,790	3,569,274

### **Consumption Patterns**

The City of St. Catharines has seen declining annual consumption of water by its citizens as a result of more efficient appliances and increased public awareness of environmental concerns such as conservation. It is difficult to project consumption patterns due to numerous outside factors such as annual precipitation, more efficient technology and public demand.

The 2014 Water and Wastewater Budget estimated consumption for 2014 at 15.1 million cubic metres. Consumption is projected to decline to 14.8 million cubic metres by 2016 and 14.4 million cubic metres by 2019.

### Inflation

To project future operating and capital costs, it is assumed for Financial Plan purposes that inflation will be at 2%. The projected inflation figure was provided by the Bank of Canada which sets monetary policy in Canada.

### Sustainability

Per discussions with engineers responsible for oversight of the Water system, the annual replacement rate for the Water system is 2%. The replacement rate is based on the current condition of the infrastructure, estimated useful lives of new infrastructure and maintaining an adequate level of pipe breakage.

The aggregate estimated replacement cost for the water system is \$460 million in 2014 dollars. With a replacement rate of 2%, this gives an annual capital requirement of \$9.2 million.

### **Accumulated Surplus**

The majority of the opening accumulated surplus captures the net book value of the tangible capital assets which were accumulated in the past but recorded as a current year expense rather than deferred and amortized as per PSAB 3150.

### 1. Cash

The 2013 closing net surplus for the Water system was used as the 2014 opening cash balance.

### 2. Accounts Receivable

Based on actual receivable balances from 2009-2013, the 2014 receivable balance was projected to be \$12 million. As Water and Wastewater receivables are recorded in the same general ledger account, the projected 2014 balance of \$12 million was split based on the pro-ration of 2013 Water and Wastewater revenues. Water represented 48% and Wastewater represented 52% giving estimated receivable balances of \$5.7 million and \$6.3 million respectively.

The accounts receivable balances from 2014 – 2019 increase in line with the increase in revenues from 2014 – 2019.

### 3. Debentures

From 1999 – 2013 debenture rates have ranged from 2.717% to 5.3%

The actual rate used for the 2013 debenture issuance was 3.243%. As rates are projected to increase, an estimate of 4% was used for 2015 debentures and 4.5% for 2016 – 2019 debentures.

The City of St. Catharines funds 10% of project costs through operations and 90% of the remaining project costs after funding and grants have been applied.

The current portion of debentures payable represents the principal repayments to be paid in the next fiscal year.

The long term portion of debentures payable represents the principal repayments to be paid after the next fiscal year.

Interest on debenture debt represents the total interest paid on debenture debt in the current fiscal year.

### 4. Accounts Payable

The most significant cost for the Water system is the purchase of water from the Regional Municipality of Niagara (the Region). As the payables cycle for the City of St. Catharines is typically one month it is assumed that the accounts payable at year end is equal to 1/12<sup>th</sup> of the total cost of the water purchased.

### 5. Inventory

Per discussion with operations management, inventory levels are maintained at an estimated \$185,000 for Water. With the implementation of Radio Read Water Meters due to be completed in 2019, inventory levels will increase by approximately \$40,000 in 2014 dollars. Inflation indexed annually at 2% results in a 2019 balance of \$248,418.

### 6. Tangible Capital Assets

Opening balances for tangible capital assets were obtained from the 2013 year end balances for the draft Audited Financial Statements and draft FIR. Amortization is calculated on a straight line approach with the half year rule used in the year of acquisition. The basis for the straight line approach was taken from the working papers used to support the 2013 tangible capital assets reported in the FIR and draft Audited Financial Statements to ensure consistency.

For simplicity, it is assumed that there were no asset disposals from 2014 – 2019 where nominal cash considerations would be obtained. Note that this potential adjustment is immaterial to the Financial Plan.

#### 7. Revenues

In December 2013, Council approved an Asset Management Plan which included a recommendation is to increase total revenues from user fees annually by 4.5% over the next ten years to increase replacement rates to sustainable levels.

### 8. Grants and Funding

Includes grants such as the Federal Gas Tax and funding from the Region

### 9. Cost of Water Sold

As part of the renewal process for their drinking water licences, the Region prepared and approved an update to their Water and Wastewater Financial Plan in January 2014. Per their Financial Plan, water revenues were projected to increased between 1.1 - 1.3% from 2015 - 2019. These increases were used to project the cost of water purchased from the Region.

### 10. Expenditures

All expenditures with the exception of interest on debenture debt and amortization have been indexed annually at 2% for inflation.

The 2014 expenditures were taken from the 2014 Water operating budget. The expenditures were reviewed with the finance management to identify capital expenditures which were removed.

Interest on debenture debt and amortization were calculated based on projected debentures and capital expenditures.

### 11. Replacement of Lead Service Pipes

Based on conversations with environmental services management, the replacement of lead service pipes has been budgeted at \$50,000 annually.

### 12. Net Surplus

Surplus as applied under Ontario Regulation 453/07 is not consistent with the usage of the term surplus for Municipalities. Surplus under O. Reg. 453/07 refers to the accrual net income which does not include the cash required to purchase capital expenditures or to pay down debenture principal. The Statement of Projected Cash Flows mirrors the budgeting process for Municipalities which considers the cash required to fund operating and capital activities.

### City of St. Catharines Wastewater Systems Financial Plan Statement of Projected Financial Position - Wastewater Operations 2014 - 2019

	2014	2015	2016	2017	2018	2019
Assets						
Financial Assets						
Cash (Bank Indebtedness) - Note 1.	(2,589,020)	(2,370,075)	(2,086,887)	(1,541,273)	(666,798)	590,011
Accounts Receivable - Note 2.	6,300,000	6,520,500	6,748,718	6,951,179	7,159,714	7,374,506
Total Financial Assets	3,710,980	4,150,425	4,661,831	5,409,906	6,492,917	7,964,517
Liabilities						
Current Liabilities						
Current Portion of Debentures Payable - Note 3.	776,187	811,977	659,170	413,870	103,923	107,396
Accounts Payable - Note 4.	1,621,147	1,669,781	1,731,563	1,783,510	1,837,016	1,892,126
Long Term Liabilities						
Long Term Portion of Debentures Payable - Note 3.	2,217,973	1,405,996	746,826	332,956	229,033	121,638
Total Liabilities	4,615,307	3,887,755	3,137,559	2,530,336	2,169,972	2,121,159
Net Financial Assets (Debt)	(904,327)	262,670	1,524,271	2,879,570	4,322,945	5,843,358
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Non-Financial Assets						
Inventory - Note 5.	95,000	96,900	98,838	100,815	102,831	104,888
Tangible Capital Assets - Note 6.	121,073,084	123,706,644	126,356,546	129,164,204	132,064,169	135,560,132
Accumulated Amortization - Note 6.	(40,640,788)	(42,455,825)	(44,304,536)	(46,187,700)	(48,106,635)	(50,069,388)
Total Non-Financial Assets	80,527,296	81,347,719	82,150,848	83,077,318	84,060,365	85,595,632
Accumulated Surplus, End of Period	79,622,969	81,610,389	83,675,119	85,956,888	88,383,310	91,438,989
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## City of St. Catharines Wastewater Systems Financial Plan Statement of Projected Operations - Wastewater Operations 2014 - 2019

	2014	2015	2016	2017	2018	2019
Revenues						
Wastewater - Note 7.	26,188,917	27,105,529	28,054,223	28,895,849	29,762,725	30,655,607
Grants & Funding - Note 8.	605,000	500,000	431,000	500,000	500,000	1,000,000
Total Revenue	26,793,917	27,605,529	28,485,223	29,395,849	30,262,725	31,655,607
Cost of Water Sold - Note 9.						
Regional Wastewater	19,453,764	20,037,377	20,778,760	21,402,123	22,044,186	22,705,512
Total Cost of Water Sold	19,453,764	20,037,377	20,778,760	21,402,123	22,044,186	22,705,512
Gross Profit	7,340,153	7,568,152	7,706,463	7,993,727	8,218,538	8,950,095
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Expenditures - Note 10.						
Sewers - General costs	512,440	522,689	533,143	543,805	554,682	565,775
FLAP Program	213,008	217,268	221,614	226,046	230,567	235,178
Lateral Replacement	597,090	609,032	621,212	633,637	646,309	659,236
Drain Clearing	185,630	189,343	193,129	196,992	200,932	204,951
Overhead	1,304,246	1,330,331	1,356,938	1,384,076	1,411,758	1,439,993
Pollution Control	739,357	754,144	769,227	784,612	800,304	816,310
Interest on Debenture Debt - Note 3.	157,246	142,889	97,759	59,625	28,631	10,220
Annual amortization - Note 6.	1,818,516	1,815,037	1,848,711	1,883,165	1,918,934	1,962,753
Total Expenditures	5,527,533	5,580,732	5,641,732	5,711,958	5,792,116	5,894,415
Net Surplus - Note 11.	1,812,620	1,987,420	2,064,730	2,281,769	2,426,422	3,055,679
Accumulated Surplus, Beginning of Period	77,810,349	79,622,969	81,610,389	83,675,119	85,956,888	88,383,310
Accumulated Surplus, End of Period	79,622,969	81,610,389	83,675,119	85,956,888	88,383,310	91,438,989

### City of St. Catharines Wastewater Systems Financial Plan Statement of Projected Cash Flows - Wastewater Operations 2014 - 2019

	2014	2015	2016	2017	2018	2019
Operating Transactions						
Cash received from:						
Revenues	26,188,917	27,105,529	28,054,223	28,895,849	29,762,725	30,655,607
Gas Tax Funding	605,000	500,000	431,000	500,000	500,000	1,000,000
Grants	-	-	-	=	=	=
Cash paid for:	(0.1.00.1.00.1)	()	(00 000 =00)	( , ,)	(	(00 -00 -0-)
Operating Expenses	(24,824,051)	(25,475,221)	(26,322,733)	(27,054,455)	(27,807,672)	(28,589,707)
Finance charges	(157,246)	(142,889)	(97,759)	(59,625)	(28,631)	(10,220)
Adjustment for Non-Cash items:						
Addback of amortization	1,818,516	1,815,037	1,848,711	1,883,165	1,918,934	1,962,753
Change in non cash balances	-	(173,766)	(168,374)	(152,491)	(157,046)	(161,738)
Cash Provided by Operating Transactions	3,631,136	3,628,691	3,745,068	4,012,442	4,188,310	4,856,695
Capital Transactions						
Cash required to acquire tangible capital assets	(2,801,500)	(2,633,560)	(2,649,902)	(2,807,658)	(2,899,965)	(3,495,963)
Cash Required by Capital Transactions	(2,801,500)	(2,633,560)	(2,649,902)	(2,807,658)	(2,899,965)	(3,495,963)
Investing Transactions						
Cash Provided (Required) by Investing Transactions		-	-	-	-	-
Financing Transactions						
Proceeds on debt issuance	0	0	0	0	0	0
Cash required for debt repayment	(747,311)	(776,187)	(811,977)	(659,170)	(413,870)	(103,923)
Oddit required for debt repayment	(141,511)	(110,101)	(011,577)	(000,170)	(413,070)	(100,020)
Cash Provided (Required) by Financing Transactions	(747,311)	(776,187)	(811,977)	(659,170)	(413,870)	(103,923)
Increase (Decrease) in Cash and Cash Equivalents	82,325	218,945	283,188	545,614	874,475	1,256,809
Cash and Cash Equivalents, Beginning of Year	(2,671,345)	(2,589,020)	(2,370,075)	(2,086,887)	(1,541,273)	(666,798)
Cash and Cash Equivalents, End of Year	(2,589,020)	(2,370,075)	(2,086,887)	(1,541,273)	(666,798)	590,011

### **Consumption Patterns**

The City of St. Catharines has seen declining annual consumption of water by its citizens as a result of more efficient appliances and increased public awareness of environmental concerns such as conservation. It is difficult to project consumption patterns due to numerous outside factors such as annual precipitation, more efficient technology and public demand.

The 2014 Water and Wastewater Budget estimated consumption for 2014 at 15.1 million cubic metres. Consumption is projected to decline to 14.8 million cubic metres by 2016 and 14.4 million cubic metres by 2019.

### Inflation

To project future operating and capital costs, it is assumed for Financial Plan purposes that inflation will be at 2%. The projected inflation figure was provided by the Bank of Canada which sets monetary policy in Canada.

### Sustainability

Per discussions with engineers responsible for oversight of the Wastewater system, the annual replacement rate for the Wastewater system is 1%. The replacement rate is based on the current condition of the infrastructure, estimated useful lives of new infrastructure and maintaining an adequate level of pipe breakage.

The aggregate estimated replacement cost for the wastewater system is \$357 million in 2014 dollars. With a replacement rate of 1%, this gives an annual capital requirement of \$3.57.

### **Accumulated Surplus**

The majority of the opening accumulated surplus captures the net book value of the tangible capital assets which were accumulated in the past but recorded as a current year expense rather than deferred and amortized as per PSAB 3150.

### 1. Cash

The 2013 closing net deficit for the Wastewater system was used as the 2014 opening cash balance.

### 2. Accounts Receivable

Based on actual receivable balances from 2009-2013, the 2014 receivable balance was projected to be \$12 million. As Water and Wastewater receivables are recorded in the same general ledger account, the projected 2014 balance of \$12 million was split based on the pro-ration of 2013 Water and Wastewater revenues. Water represented 48% and Wastewater represented 52% giving estimated receivable balances of \$5.7 million and \$6.3 million respectively.

The accounts receivable balances from 2014 – 2019 increase in line with the increase in revenues from 2014 – 2019.

### 3. Debentures

From 1999 – 2013 debenture rates have ranged from 2.717% to 5.3%

The actual rate used for the 2013 debenture issuance was 3.243%.

The City of St. Catharines funds 10% of project costs through operations and 90% of the remaining project costs after funding and grants have been applied.

The current portion of debentures payable represents the principal repayments to be paid in the next fiscal year.

The long term portion of debentures payable represents the principal repayments to be paid after the next fiscal year.

Interest on debenture debt represents the total interest paid on debenture debt in the current fiscal year.

### 4. Accounts Pavable

The most significant cost for the Wastewater system is the purchase of Wastewater services from the Regional Municipality of Niagara (the Region). As the payables cycle for the City of St. Catharines is typically one month it is assumed that the accounts payable at year end is equal to 1/12<sup>th</sup> of the total cost of wastewater services purchased.

### 5. Inventory

Per discussion with operations management, inventory levels are maintained at an estimated \$95,000 for Wastewater. As inventory turns over within the current fiscal year and assuming that inventory will continue to be maintained at current levels, the Financial Plan allows for 2% inflation annually.

### 6. Tangible Capital Assets

Opening balances for tangible capital assets were obtained from the 2013 year end balances for the draft Audited Financial Statements and draft FIR. Amortization is calculated on a straight line approach with the half year rule used in the year of acquisition. The basis for the straight line approach was taken from the working papers used to support the 2013 tangible capital assets reported in the FIR and draft Audited Financial Statements to ensure consistency.

For simplicity, it is assumed that there were no asset disposals from 2014 – 2019 where nominal cash considerations would be obtained. Note that this potential adjustment is immaterial to the Financial Plan.

#### 7. Revenues

As per the 2014 Wastewater Budget, the revenues generated are not sufficient to cover the costs of the system. Rate adjustments are necessary to eliminate the deficit. As the increase in one year would be substantial, it was recommended that the deficit be addressed over a 5-10 year period.

### 8. Grants and Funding

Includes grants such as the Federal Gas Tax.

#### 9. Cost of Water Sold

As part of the renewal process for their drinking water licences, the Region prepared and approved an update to their Water and Wastewater Financial Plan in January 2014. Per their Financial Plan, wastewater revenues were projected to increased between 3.0 - 3.7% from 2015 - 2019. These increases were used to project the cost of wastewater services purchased from the Region.

### 10. Expenditures

All expenditures with the exception of interest on debenture debt and amortization have been indexed annually at 2% for inflation.

The 2014 expenditures were taken from the 2014 Wastewater operating budget. The expenditures were reviewed with the finance management to identify capital expenditures which were removed.

Interest on debenture debt and amortization were calculated based on projected debentures and capital expenditures.

### 11. Net Surplus

Surplus as applied under Ontario Regulation 453/07 is not consistent with the usage of the term surplus for Municipalities. Surplus under O. Reg. 453/07 refers to the accrual net income which does not include the cash required to purchase capital expenditures or to pay down debenture principal. The Statement of Projected Cash Flows mirrors the budgeting process for Municipalities which considers the cash required to fund operating and capital activities.