

**TO:** Mayor J. Lehman and Members of Council

**FROM:** C. Millar, MBA, CPA, CGA, Director of Finance & Treasurer *CM*

**NOTED:** P. Elliott-Spencer, MBA, CPA, CMA, General Manager of Community and Corporate Services *CM*  
C. Ladd, Chief Administrative Officer *for PES*

**RE:** Supplemental Scenario for Water System Financial Plan Staff Report

**DATE:** November 16, 2015

At the October 28, 2015 Finance and Corporate Services Committee, in relation to the Water Operations Branch 2015 Drinking Water System Financial Plan staff report, Committee members requested that staff provide additional supplemental rate scenarios directed as follows:

That staff in the Finance Department:

- a) Prepare revised versions of Table 4-2 and Table B-2 using the following additional rate scenario:
  - i) water rate increases of 1% for the period of 2016 to 2024; and
  - ii) wastewater rate increases of 2% for the period of 2016 to 2020, and 1% for the period of 2021 to 2024;
- b) Provide comment regarding the implication of the above scenario; and
- a) The revised tables and associated comments be circulated to members of Council in advance of City Council consideration of the recommended motion concerning the Water Operations Branch 2015 Drinking Water System Financial Plan.

Watson & Associates, who modelled both the Water Financial Plan and the related Fiscal Impact Analysis (FIA), have provided updated tables and comments in the attached.

#### **ANALYSIS**

Watson & Associates has summarized and provided comments on key elements associated with the FIA on pages 1 to 3 of the attached. Important assumptions to highlight include the following:

- Water and Wastewater Financial Plan extends to 2024 as legislation requires, however, the forecast included in the FIA extended to 2031;
- For water assets, there is a total of \$66.5M in replacement costs needed to 2031, out of which \$48M has been scheduled in the FIA to occur in the period 2025 to 2031. These estimated future construction costs are not indexed and are in 2014 dollar values;
- For wastewater assets, there is a total of \$211M in replacement costs needed to 2031, out of which \$162.2M is scheduled for the period 2025 to 2031. These estimated future construction costs are not indexed and are in 2014 dollar values;
- FIA assumes 9,975 new customers being added to the Water and Wastewater system by 2024 for the annexed lands, and 7,924 new customers for the Barrie municipal boundary;
- Water reserves have cash flowed \$13.84M of debt costs which the FIA assumes will be paid back from the Development Charge reserves in 2018; and,
- Wastewater reserves have cash flowed \$9.75M of debt costs which the FIA assumes will be paid back by Development Charges between 2029 and 2031.

**2015 Drinking Water Financial Plan**

In paragraph 19, of the Drinking Water System Financial Plan staff report, the Financial Plan suggests the following annual rate adjustments in order to maintain fiscal viability of the systems:

Service/Year	2016	2017	2018	2019	2020	2021	2022	2023	2024
Water	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	1.0%	1.0%	1.0%
Wastewater	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	2.75%	2.75%	2.25%

These rate increases reflect the use for a typical residential home consuming 180 cubic metres per year.

Water Reserves

From Appendix A, page 4-5 of the Drinking Water System Financial Plan staff report, the water related capital and development charge ending reserve balances associated with rates noted above are as follows:

Reserves	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
DC's	(\$9.9M)	(\$4.1M)	\$6.8M	\$6.8M	21.3M	\$33.6M	\$46.5M	\$53.5M	\$62.9M	\$74.4M
Capital	\$10.1M	\$14.5M	\$19.9M	\$40.3M	\$45.9M	\$49.7M	\$59.1M	\$69.6M	\$80.6M	\$90.2M

From 2025 to 2031, there is capital works estimated in 2014 dollars of \$48M that would be funded from the Water Capital Reserve.

Wastewater Reserves

From Appendix A, page B-5 of the Drinking Water System Financial Plan staff report, the wastewater related capital and development charge ending reserve balances associated with rates noted above are as follows:

Reserves	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
DC's	\$3.2M	\$3.8M	\$4.3M	(\$3.4M)	\$0.5M	\$3.2M	\$5.7M	\$7.8M	\$10.2M	\$14.5M
Capital	\$2.3M	\$12.5M	\$18.4M	\$21.1M	\$20.1M	\$36.0M	\$55M	\$72.4M	\$90.1M	\$91.2M

From 2025 to 2031, there are capital works estimated in 2014 dollars of \$162.2M that would be funded from the Wastewater Capital Reserve.

**Scenario Request**

The following scenario related to rate increases and impact to reserves was requested by Finance and Corporate Services Committee:

Service/Year	2016	2017	2018	2019	2020	2021	2022	2023	2024
Water	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Wastewater	2.0%	2.0%	2.0%	2.0%	2.0%	1.0%	1.0%	1.0%	1.0%

Water Reserves

From Page 7, Table 4-2B of the attached:

Reserves	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
DC's	(\$9.9M)	(\$4.1M)	\$6.8M	\$6.8M	21.3M	\$33.6M	\$46.5M	\$53.5M	\$62.9M	\$74.4M
Capital	\$10.1M	\$14.3M	\$19.2M	\$38.9M	\$43.5M	\$45.9M	\$53.4M	\$62.0M	\$71.0M	\$78.6M

Wastewater Reserves

From Page 9, Table B-2B of the attached:

Reserves	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
DC's	\$3.2M	\$3.8M	\$4.3M	(\$3.4M)	\$0.5M	\$3.2M	\$5.7M	\$7.8M	\$10.2M	\$14.5M
Capital	\$2.3M	\$12.2M	\$17.3M	\$18.8M	\$16.3M	\$30.3M	\$46.2M	\$59.9M	\$72.6M	\$68.1M

**Staff Recommendation**

The City of Barrie's current estimated replacement value of water and wastewater assets is approximately \$1.5B. As noted in the tables, the total Water and Wastewater Capital Reserve balances total \$12.4M for 2015.

The forecasted improvement to the City's Water and Wastewater Capital Reserves is based on many assumptions. As noted on page 3 of the attached, Watson & Associates highlights that slower growth and higher construction costs, would put more pressures on the City's annual revenues. The analysis assumes higher growth in 2015 and 2016, based on the FIA, however this growth is unlikely to materialize due to the outstanding appeals to the Secondary Plans.

Staff do not recommend the proposed scenario rates to be sufficient to maintain a financially viable water and wastewater system. While the reserve balances at 2024 seem significant, the amount of capital works that require funding from 2025 to 2031 are very significant, and may exceed reserve balances. As a result, in order to mitigate annual revenue risks in the short term, for the 2016 budget, staff are recommending a water rate increase of 2.5% and a 5% rate increase for wastewater. These recommended rates for 2016 are slightly higher than proposed in the Water Financial Plan.

## Memorandum

To:	Craig Millar	Fax	<input type="checkbox"/>
From:	Gary Scandlan	Courier	<input type="checkbox"/>
Date:	November 6, 2015	Mail	<input type="checkbox"/>
Re:	Water and Wastewater Financial Plan Scenario	e-mail	<input type="checkbox"/>

Further to your request to update the Water and Wastewater Rates and schedules to the Financial Plan for a scenario which provides for lower rate increases to the average annual residential bill, we are pleased to provide you with the updates and commentary as requested.

Your request was to:

- a) *Prepare revised versions of Table 4-2 and Table B-2 using the following additional rate scenario:*
  - i. *water rate increases (i.e. Average Residential Customer Bill) of 1% for the period of 2016 to 2024; and*
  - ii. *wastewater rate increases of 2% for the period of 2016 to 2020 and 1% for the period of 2021 to 2024;*
- b) *Provide comment regarding the implication of the above scenario; and*
- c) *The revised tables and associated comments be circulated to members of Council in advance of City Council consideration of the recommended motion concerning the Water Operations Branch 2015 Drinking Water System Financial Plan.*

### **Part 1: Updates to the Fiscal Impact Analysis related to water and wastewater services for Scenario Analysis:**

To undertake the updates of Table 4-2 and Table B-2 in the Financial Plan, we have had to make changes to the water and wastewater rate analysis that formed an integral part of the fiscal impact analysis (FIA). Within the FIA, there are a number of issues that were identified through the process, including the following:

1. The forecast included in the Water and Wastewater Financial Plan extends to 2024 however, the forecast included in the FIA extended to 2031.

#### Services

- |  |  |   |   |
|--|--|---|---|
| ▪ Demographics, Pupil Forecasting, Industrial/Commercial Forecasts | ▪ Development/Education Development Charge Policy  | ▪ Financial Analysis of Municipal Restructuring Options | ▪ Fiscal Impact of Development                          |
| ▪ Land Needs and Market Studies                                    | ▪ Long Range Financial Planning for Municipalities | ▪ Municipal Management Improvement                      | ▪ O.M.B. Hearings – Financial, Market, Demographic      |
| ▪ School Board Planning and Financing                              | ▪ Servicing Cost Sharing                           | ▪ Tax Policy Analysis                                   | ▪ Waste Management Rate Setting, Valuation and Planning |

2. A target for both water and wastewater services was that 34% of revenues be received from the monthly fixed charges and 66% to be received from the variable rate (based on volume usage).
3. Debt Capacity could not exceed the City's approved financial framework which capped at 20% of own source revenues (note the Province sets a maximum limit of 25% on municipalities). The FIA had the City's debt capacity peaking at 19 for a number of years within the forecast period including 2019 and 2022 through 2025.
4. City Council had concerns that the backlog of asset replacement coupled with the additional infrastructure coming due for replacement over the forecast period (to 2031) was significant. For water these costs (uninflated 2014\$) equated to \$66.5 million and for wastewater the costs equated to \$211 million.

The assets were grouped by City staff into four categories including low, medium, high and extreme needs. With the level of growth anticipated over the forecast and the infrastructure needs required to service the growth, it was determined that only the extreme and high needs (and a minor amount of medium needs) could be accommodated within the forecast period (to 2031) for the tax supported services.

For water and wastewater services it was determined that all four levels of asset replacement could be accommodated however, much of the asset replacement works would have to be moved to the end of the forecast period. This meant budgeting and funding asset replacement in the forecast years 2025-2031. Of the total \$66.5 million in water related asset replacement needs, \$48 million is in the 2025-2031 period. For wastewater, \$162.2 million of the \$211 million is scheduled in the 2025-2031 period.

5. The forecast of customers and volume usage included in the FIA (and the Financial Plan) was based on the detailed growth forecast and included new customers in both the former Barrie municipal boundary and the annexed lands.

The annexed land customers were anticipated to be in 2017 with 9,975 new customers in this area being added to the water and wastewater systems by 2024. In addition, the forecast also included 7,928 new customers in the former Barrie municipal boundary.

6. The City has already undertaken expansions to both the water and wastewater treatment facilities to accommodate the growth however, has been cash flowing much of the growth related debt awaiting the development to take place. For the years 2011 to 2014, the water reserves have cash flowed over \$13.84 million and the wastewater reserves have cash flowed over \$9.75 million. The FIA includes the repayment of these funds from future Development Charge revenues (in 2018 for water and 2029-2031 for wastewater). The City will have to continue to cash flow the growth related portion of the treatment debt until DC revenue is received and will likely have to adjust the timing of the repayments to the non-growth related reserves (especially for water). The FIA analysis included assumptions to ensure the water and wastewater reserves were at sufficient levels to continue to cash flow these debt payments over the short term.

## Scenario Analysis

Based on the foregoing, we have updated the analysis based on the following annual increase for water and wastewater:

- 2016-2020 period - 1% for water and 2% for wastewater
- 2021-2024 period - 1% for water and 1% for wastewater
- 2025-2031 period – 1% for water and 1% for wastewater (note that this was subsequently revised)

With the FIA already anticipating the debt capacity peaking at 19%, we have not assumed any additional debt in these updated calculations; instead we have lowered transfers to reserves/reserve funds.

### ***Water:***

In regard to water, the assumptions above would lower the reserves by \$11.5 million for 2024 and by \$28.3 million for 2031. This would result in a reserve balance of \$71 million and \$85 million respectively. We would note that while the 2031 balance appears like a sizable amount, our understanding is that the City will be responsible to fund over \$200 million in water infrastructure asset replacement in the next 10-20 year period (post 2031).

### ***Wastewater:***

In regard to wastewater, the assumptions above would lower the reserves by \$23.1 million for 2024 and by \$67.7 million for 2031. This would result in a balance of \$62.3 million and negative \$18 million (i.e. deficit), respectively. Since the reserves would result in a negative balance, we have increased the wastewater rates from 1% in the latter part of the forecast. This would result in a revised ending reserve balance of \$4.95 million in 2031. The annual increases to achieve this would be approximately 5% per year (2025-2031). We have included this alternate scenario in the updates to the Financial Plan tables as requested.

Similar to water, it is our understanding that the City will be responsible to fund \$680 million in wastewater infrastructure asset replacement in the 2032-2051 period.

### ***Other Concerns:***

In addition to the above, we would just remind you that there are a number of assumptions (as noted earlier) which could affect the estimated revenues to be received (e.g. slower growth, higher capital costs, etc.). The scenario for wastewater has reduced the margin for error to a minimum and hence the City would need to monitor annual revenues to ensure that the proposed reserve balances will actually materialize.

## **Part 2: Updates to Ontario Regulation 453/07 Financial Plans for Scenario Analysis:**

### **Statement of Operations**

The Statement of Operations summarizes the revenues and expenses generated for a given period. The annual surplus/deficit measures whether the revenues generated were sufficient to cover the expenses incurred and, in turn, whether net financial assets have been maintained or depleted. It is important to note that an annual surplus is beneficial to ensure funding is available to non-expense costs such as tangible capital asset acquisitions, reserve/reserve fund transfers and debt principal payments.

Another important indicator on this statement is accumulated surplus/deficit. An accumulated surplus indicates that the available net resources are sufficient to provide future services. An accumulated deficit indicates that resources are insufficient to provide future services and that borrowing or rate increases are required to finance annual deficits. This accumulated surplus is predominantly made up of reserve and reserve fund balances as well as historical investments in tangible capital assets.

#### ***Water***

##### **Scenario 1A - Initially Reported Results (Table 4-2A)**

Table 4-2A illustrates the ratio of expenses to revenues decreasing from 93% in 2015 to 86% by 2024 (with lower percentages during 2016 to 2023). As a result, annual surplus grows from approximately \$2.3 million in 2015 to just under \$6.2 million by 2024 (with higher results in 2016 to 2023).

From Table 4-2A, the financial plan proposes to add approximately \$154.6 million to a 2014 accumulated surplus of approximately \$214.9 million over the forecast period.

##### **Scenario 1B – Revised Results (Table 4-2B)**

Table 4-2B illustrates the ratio of expenses to revenues decreasing from 93% in 2015 to 90% by 2024 (with lower percentages during 2016 to 2023). As a result, annual surplus grows from approximately \$2.3 million in 2015 to just over \$4.1 million by 2024 (with higher results in 2016 to 2023).

From Table 4-2B, the financial plan proposes to add approximately \$143.1 million to a 2014 accumulated surplus of approximately \$214.9 million over the forecast period.

##### **Comparison of Results (Table A)**

Table A highlights the impacts of the revised water forecast to the Statement of Operations within the Financial Plan.

The revised projections in Scenario B produce an increasingly higher annual expense to revenue ratio than under Scenario A, with a 4% difference by 2024 (Scenario A at 86%;

Scenario B at 90%). The impact on the ratio results from Scenario A's higher projected annual total revenue for the years 2016 to 2024. Over the course of the projection period, Scenario A proposes cumulative total revenue of \$506.6 million, whereas Scenario B totals to just under \$495.0 million.

As a result, after 2015, annual surplus under Scenario B is consistently lower than Scenario A. Over the projection period, Scenario A proposes to add \$154.6 million to accumulated surplus, compared to Scenario B's cumulative result of \$143.1 million.

### ***Wastewater***

#### **Scenario 2A - Initially Reported Results (Table B-2A)**

Table B-2A illustrates the ratio of expenses to revenues decreasing from 73% in 2015 to 60% by 2024 (with lower percentages during 2016 to 2023). As a result, annual surplus grows from approximately \$12.1 million in 2015 to just under \$25.6 million by 2024 (with higher results during 2016 to 2023).

From Table B-2A, the financial plan proposes to add approximately \$303.6 million to a 2014 accumulated surplus of approximately \$243.3 million over the forecast period.

#### **Scenario 2B – Revised Results (Table B-2B)**

Table B-2B illustrates the ratio of expenses to revenues decreasing from 73% in 2015 to 65% by 2024 (with lower percentages during 2016 to 2023). As a result, annual surplus grows from approximately \$12.1 million in 2015 to just over \$19.9 million by 2024 (with higher results during 2016 to 2023).

From Table B-2B, the financial plan proposes to add approximately \$280.5 million to a 2014 accumulated surplus of approximately \$243.3 million over the forecast period.

#### **Comparison of Results (Table B)**

Table B highlights the impacts of the revised wastewater forecast to the Statement of Operations within the Financial Plan.

The revised projections in Scenario B produce an increasingly higher annual expense to revenue ratio than under Scenario A, with a 5% difference by 2024 (Scenario A at 60%; Scenario B at 65%). The impact on the ratio results from Scenario A's higher projected annual total revenue for the years 2016 to 2024. Over the course of the projection period, Scenario A proposes cumulative total revenue of \$664.6 million, whereas Scenario B totals to just under \$641.5 million.

As a result, after 2015, annual surplus under Scenario B is consistently lower than Scenario A. Over the projection period, Scenario A proposes to add \$303.6 million to accumulated surplus, compared to Scenario B's cumulative result of \$280.5 million.



**Table 4-2A  
Statement of Operations (Scenario A): Water Services  
UNAUDITED: For Financial Planning Purposes Only  
2015-2024**

	Forecast									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Water Revenue</b>										
Base Charge Revenue	8,233,087	8,571,276	8,909,624	9,279,567	9,633,973	9,925,678	10,233,827	10,572,593	10,820,024	11,135,001
Rate Based Revenue	16,662,517	16,858,543	17,156,370	17,650,320	18,322,468	19,146,133	20,004,689	20,453,356	21,050,409	21,565,812
Earned Development Charges Revenue	9,818,165	13,346,189	12,106,908	12,290,915	10,624,871	10,905,871	10,905,871	15,135,871	11,412,287	10,218,443
Developer Contributions	-	10,173,097	11,346,057	11,984,373	12,190,468	11,449,910	11,793,408	12,147,210	12,511,626	-
Other Revenue	595,902	607,900	620,000	632,500	645,100	658,099	671,299	684,800	698,300	994,641
<b>Total Revenues</b>	<b>35,309,671</b>	<b>50,169,435</b>	<b>51,368,240</b>	<b>51,653,688</b>	<b>53,082,924</b>	<b>51,804,691</b>	<b>53,609,094</b>	<b>58,993,850</b>	<b>56,628,436</b>	<b>43,913,897</b>
<b>Water Expenses</b>										
Operating Expenses	17,723,300	18,349,700	18,439,200	18,807,800	19,183,900	19,567,600	19,959,000	20,358,300	20,765,400	21,180,700
Interest on Debt	6,522,766	6,512,873	6,640,825	6,734,557	6,850,731	6,976,302	7,102,487	7,238,712	7,375,000	7,511,300
Amortization	8,749,885	8,817,922	8,725,266	8,986,442	9,186,478	9,394,222	9,612,443	9,131,870	9,487,105	9,831,548
<b>Total Expenses</b>	<b>32,995,951</b>	<b>33,680,495</b>	<b>33,805,291</b>	<b>34,528,799</b>	<b>35,021,109</b>	<b>35,538,124</b>	<b>36,037,930</b>	<b>35,841,882</b>	<b>36,712,253</b>	<b>37,750,549</b>
<b>Annual Surplus/(Deficit)</b>	<b>2,313,720</b>	<b>16,488,940</b>	<b>17,562,949</b>	<b>17,124,889</b>	<b>18,061,815</b>	<b>16,266,567</b>	<b>17,571,164</b>	<b>23,151,948</b>	<b>19,916,183</b>	<b>6,163,348</b>
Accumulated Surplus/(Deficit), beginning of year	214,982,943	217,296,663	233,765,603	251,368,552	268,493,441	286,555,256	302,821,823	320,392,987	343,544,935	363,461,118
Accumulated Surplus/(Deficit), end of year	217,296,663	233,765,603	251,368,552	268,493,441	286,555,256	302,821,823	320,392,987	343,544,935	363,461,118	369,624,466
<b>Note 5:</b>										
<b>Accumulated Surplus/(Deficit) Reconciliation:</b>										
<b>Reserve Balances</b>										
Reserves: Development Charges	(9,939,175)	(4,085,346)	6,833,840	6,829,717	21,344,117	33,597,583	46,482,653	53,520,523	62,957,544	74,379,151
Reserves: Capital/Other	10,067,681	14,508,338	19,665,715	40,325,672	45,978,696	48,790,007	59,127,822	69,619,271	80,601,394	90,237,148
<b>Total Reserves Balance</b>	<b>128,506</b>	<b>10,422,992</b>	<b>26,699,555</b>	<b>47,155,389</b>	<b>67,322,813</b>	<b>83,387,590</b>	<b>106,610,475</b>	<b>123,139,794</b>	<b>143,558,938</b>	<b>164,616,299</b>
Less: Debt Obligations and Deferred Revenue	(131,760,618)	(141,046,339)	(154,553,744)	(152,711,286)	(165,621,885)	(175,408,783)	(185,719,469)	(195,767,180)	(212,482,662)	(220,434,127)
Add: Long-term Accounts Receivable	13,840,334	13,840,334	13,840,334	-	-	-	-	-	-	-
Add: Tangible Capital Assets	335,088,441	350,568,616	365,382,407	374,049,338	384,854,328	394,844,016	400,501,981	416,172,321	432,394,842	425,442,294
<b>Total Ending Balance</b>	<b>217,296,663</b>	<b>233,765,603</b>	<b>251,368,552</b>	<b>268,493,441</b>	<b>286,555,256</b>	<b>302,821,823</b>	<b>320,392,987</b>	<b>343,544,935</b>	<b>363,461,118</b>	<b>369,624,466</b>
<b>Financial Indicators - Scenario A</b>										
1) Expense to Revenue Ratio	93%	67%	66%	67%	66%	69%	67%	61%	65%	66%
2) Increase/(Decrease) in Total Revenues	506,553,906	35,309,671	50,169,435	51,368,240	51,653,688	53,082,924	51,804,691	58,993,830	56,628,436	43,913,897
3) Increase/(Decrease) in Accumulated Surplus	154,641,523	16,488,940	17,562,949	17,124,889	18,061,815	16,266,567	17,571,164	23,151,948	19,916,183	6,163,348

**Table 4-2B  
Statement of Operations (Scenario B): Water Services  
UNAUDITED: For Financial Planning Purposes Only  
2015-2024**

	Forecast										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
<b>Water Revenue</b>											
Base Charge Revenue	8,233,087	8,459,477	8,679,289	8,930,248	9,203,620	9,482,294	9,776,677	10,075,555	10,311,354	10,611,523	
Rate Based Revenue	16,662,517	16,739,714	16,927,119	17,273,205	17,715,084	18,164,809	18,618,379	19,075,902	19,632,746	20,109,437	
Earned Development Charges Revenue	9,818,165	13,958,619	13,346,189	12,106,908	12,290,915	10,624,871	10,905,871	15,135,871	11,412,287	10,218,443	
Developer Contributions	-	10,173,087	11,346,057	11,984,373	12,190,468	11,449,910	11,793,408	12,147,210	12,511,626	-	
Other Revenue	595,902	607,900	620,000	632,500	645,100	658,089	671,299	684,800	811,590	941,804	
Total Revenues	35,309,671	49,938,807	50,918,654	50,927,234	52,045,187	50,379,983	51,765,634	57,119,338	54,679,603	41,881,207	
<b>Water Expenses</b>											
Operating Expenses	17,723,300	18,349,700	18,439,200	18,807,800	19,183,900	19,567,600	19,959,000	20,358,300	20,785,400	21,180,700	
Interest on Debt	6,522,766	6,512,873	6,640,825	6,734,557	6,650,731	6,576,302	6,466,487	6,351,712	6,459,748	6,738,301	
Amortization	8,749,885	8,817,922	8,725,266	8,986,442	9,186,478	9,394,222	9,612,443	9,131,870	9,487,105	9,831,548	
Total Expenses	32,995,951	33,680,495	33,805,291	34,528,799	35,021,109	35,538,124	36,037,930	36,841,862	36,712,253	37,750,549	
Annual Surplus/(Deficit)	2,313,720	16,258,312	17,113,363	16,398,435	17,024,078	14,841,859	15,727,704	21,277,456	17,967,350	4,130,658	
Accumulated Surplus/(Deficit), beginning of year	214,982,943	217,296,663	233,554,975	250,668,338	267,066,773	284,090,851	298,932,710	314,660,414	335,937,870	353,905,220	
Accumulated Surplus/(Deficit), end of year	217,296,663	233,554,975	250,668,338	267,066,773	284,090,851	298,932,710	314,660,414	335,937,870	353,905,220	358,035,878	
<b>Note 5:</b>											
<b>Accumulated Surplus/(Deficit) Reconciliation:</b>											
<b>Reserve Balances</b>											
Reserves: Development Charges	(9,939,175)	(4,085,346)	6,833,840	6,829,717	21,344,117	33,597,583	46,482,653	53,520,523	62,957,544	74,379,151	
Reserves: Capital/Other	10,067,681	14,277,711	19,165,502	38,899,005	43,514,291	45,900,893	53,395,249	62,012,206	71,045,495	78,648,559	
Total Reserves Balance	128,506	10,192,365	25,999,342	45,728,722	64,858,408	79,498,476	99,877,902	115,532,729	134,003,039	153,027,710	
Less: Debt Obligations and Deferred Revenue	(131,760,618)	(141,046,339)	(154,553,744)	(152,711,286)	(165,621,885)	(175,409,783)	(185,719,469)	(195,767,180)	(212,492,662)	(220,434,127)	
Add: Long-term Accounts Receivable	13,840,334	13,840,334	13,840,334	-	-	-	-	-	-	-	
Add: Tangible Capital Assets	335,068,441	350,568,616	365,382,407	374,049,338	384,854,328	394,844,016	400,501,981	416,172,321	432,394,842	425,442,294	
Total Ending Balance	217,296,663	233,554,975	250,668,338	267,066,773	284,090,851	298,932,710	314,660,414	335,937,870	353,905,220	358,035,878	
<b>Financial Indicators - Scenario B</b>											
1) Expense to Revenue Ratio	93%	67%	66%	68%	67%	71%	70%	63%	67%	90%	
2) Increase/(Decrease) in Total Revenues	35,309,671	49,938,807	50,918,654	50,927,234	52,045,187	50,379,983	51,765,634	57,119,338	54,679,603	41,881,207	
2) Increase/(Decrease) in Accumulated Surplus	2,313,720	16,258,312	17,113,363	16,398,435	17,024,078	14,841,859	15,727,704	21,277,456	17,967,350	4,130,658	

**Table A  
Comparison of Financial Indicators: Water Services  
UNAUDITED: For Financial Planning Purposes Only  
2015-2024**

Financial Indicators	Total Change	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1) Expense to Revenue Ratio - Scenario A		93%	67%	66%	67%	66%	69%	67%	61%	65%	86%
1) Expense to Revenue Ratio - Scenario B		93%	68%	66%	68%	67%	71%	70%	63%	67%	90%
2) Increase/(Decrease) in Total Revenues - Scenario A	506,553,906	35,309,671	50,169,435	51,388,240	51,653,688	53,082,324	51,804,691	53,609,094	58,983,830	56,628,436	43,913,897
2) Increase/(Decrease) in Total Revenues - Scenario B	494,965,318	35,309,671	49,938,807	50,918,654	50,927,234	52,045,187	50,379,983	51,765,634	57,119,338	54,679,603	41,881,207
3) Increase/(Decrease) in Accumulated Surplus - Scenario A	154,641,523	2,313,720	16,488,940	17,582,949	17,124,889	18,061,815	16,266,567	17,571,164	23,151,948	19,916,183	6,163,348
3) Increase/(Decrease) in Accumulated Surplus - Scenario B	143,052,935	2,313,720	16,258,312	17,113,363	16,398,435	17,024,078	14,841,859	15,727,704	21,277,456	17,967,350	4,130,658

**Table B-2A  
Statement of Operations (Scenario A): Wastewater Services  
UNAUDITED: For Financial Planning Purposes Only  
2015-2024**

	Forecast										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
<b>Wastewater Revenue</b>											
Base Charge Revenue	10,688,484	11,178,089	11,688,975	12,291,145	12,953,390	13,639,915	14,380,805	15,216,613	16,109,184	16,862,328	
Rate Based Revenue	21,163,997	21,862,948	22,702,501	23,832,313	25,161,042	26,559,565	28,030,865	29,363,959	30,670,269	32,077,113	
Earned Development Charges Revenue	13,292,416	17,499,389	19,354,105	28,592,420	19,014,045	14,391,642	14,612,142	14,112,692	13,975,132	13,961,375	
Developer Contributions	-	10,441,980	10,755,250	11,077,907	13,251,831	11,752,552	12,105,128	12,468,282	12,842,331	-	
Other Revenue	425,900	434,399	443,000	451,801	460,800	470,100	479,498	489,100	498,900	508,901	
<b>Total Revenues</b>	<b>45,580,807</b>	<b>61,416,815</b>	<b>64,953,831</b>	<b>76,245,586</b>	<b>70,841,108</b>	<b>66,813,774</b>	<b>69,608,438</b>	<b>71,650,646</b>	<b>74,095,816</b>	<b>63,409,717</b>	
<b>Wastewater Expenses</b>											
Operating Expenses	17,637,400	18,367,700	18,338,300	18,704,700	19,166,700	19,499,200	19,849,400	20,246,400	20,651,500	21,064,800	
Interest on Debt	4,814,256	4,678,311	4,516,937	4,467,139	4,330,921	5,738,100	5,375,320	4,996,738	4,601,629	4,189,267	
Amortization	10,986,446	11,090,031	11,426,635	11,882,650	12,235,850	12,208,928	12,394,173	12,091,356	12,318,407	12,511,008	
Total Expenses	33,438,102	34,136,042	34,281,872	35,054,489	36,333,471	37,446,228	37,618,893	37,334,494	37,571,536	37,765,075	
<b>Annual Surplus/(Deficit)</b>	<b>12,142,705</b>	<b>27,280,773</b>	<b>30,671,959</b>	<b>41,191,097</b>	<b>34,507,637</b>	<b>29,367,546</b>	<b>31,989,545</b>	<b>34,316,152</b>	<b>36,524,280</b>	<b>25,644,642</b>	
Accumulated Surplus/(Deficit), beginning of year	243,281,230	255,423,935	282,704,708	313,376,667	354,567,764	389,075,401	418,442,947	450,432,492	484,748,644	521,272,924	
Accumulated Surplus/(Deficit), end of year	255,423,935	282,704,708	313,376,667	354,567,764	389,075,401	418,442,947	450,432,492	484,748,644	521,272,924	546,917,566	
<b>Note 5:</b>											
<b>Accumulated Surplus/(Deficit) Reconciliation:</b>											
Reserve Balances											
Reserves: Development Charges	3,221,683	3,773,470	4,363,179	(3,359,332)	(553,393)	3,243,835	5,689,681	7,779,630	10,240,037	14,458,629	
Reserves: Capital/Other	2,280,559	12,532,263	18,358,896	21,062,101	20,095,050	36,049,024	54,975,887	72,437,803	90,084,150	91,203,185	
<b>Total Reserves Balance</b>	<b>5,502,242</b>	<b>16,305,733</b>	<b>22,722,075</b>	<b>17,702,769</b>	<b>19,541,657</b>	<b>39,292,859</b>	<b>60,665,568</b>	<b>80,217,433</b>	<b>100,304,187</b>	<b>105,661,814</b>	
Less: Debt Obligations and Deferred Revenue	(111,361,147)	(107,794,824)	(106,961,822)	(110,748,676)	(133,708,908)	(128,633,189)	(121,843,307)	(114,318,946)	(106,834,344)	(100,709,321)	
Add: Long-term Accounts Receivable	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	
Add: Tangible Capital Assets	348,575,174	361,426,133	384,908,748	434,906,005	490,534,986	495,075,610	486,902,565	506,142,491	515,095,415	529,257,407	
<b>Total Ending Balance</b>	<b>255,423,935</b>	<b>282,704,708</b>	<b>313,376,667</b>	<b>354,567,764</b>	<b>389,075,401</b>	<b>418,442,947</b>	<b>450,432,492</b>	<b>484,748,644</b>	<b>521,272,924</b>	<b>546,917,566</b>	
<b>Financial Indicators - Scenario A</b>											
1) Expense to Revenue Ratio	73%	56%	53%	46%	51%	56%	54%	52%	51%	60%	
2) Increase/(Decrease) in Total Revenues	664,616,538	61,416,815	64,953,831	76,245,586	70,841,108	66,813,774	69,608,438	71,650,646	74,095,816	63,409,717	
3) Increase/(Decrease) in Accumulated Surplus	303,636,336	12,142,705	27,280,773	41,191,097	34,507,637	29,367,546	31,989,545	34,316,152	36,524,280	25,644,642	

**Table B-2B  
Statement of Operations (Scenario B): Wastewater Services  
UNAUDITED: For Financial Planning Purposes Only  
2015-2024**

	Forecast										
	2016	2016	2017	2018	2019	2020	2021	2022	2023	2024	
<b>Wastewater Revenue</b>											
Base Charge Revenue	10,698,494	11,151,024	11,585,874	12,072,111	12,568,528	13,106,475	13,677,863	14,321,430	14,999,965	15,721,262	
Rate Based Revenue	21,163,997	21,522,869	22,085,008	22,929,246	24,019,240	25,103,195	26,174,249	28,385,246	28,931,538	27,490,617	
Earned Development Charges Revenue	13,292,415	17,499,389	19,354,105	28,592,420	19,014,045	14,391,642	14,612,142	14,112,692	13,975,132	13,961,375	
Developer Contributions	-	10,441,990	10,755,250	11,077,907	13,251,831	11,752,552	12,105,128	12,468,282	12,842,331	-	
Other Revenue	425,900	434,399	443,000	451,801	460,800	470,100	479,498	489,100	498,900	508,901	
Total Revenues	45,590,807	61,049,471	64,223,237	75,123,485	69,314,444	64,825,964	66,648,880	67,776,750	69,247,866	57,682,155	
<b>Wastewater Expenses</b>											
Operating Expenses	17,637,400	18,367,700	18,338,300	18,704,700	19,166,700	19,499,200	19,849,400	20,246,400	20,651,500	21,064,800	
Interest on Debt	4,814,256	4,678,311	4,516,937	4,467,139	4,390,921	5,736,100	5,375,320	4,996,736	4,601,629	4,189,267	
Amortization	10,986,446	11,090,031	11,426,635	11,892,650	12,235,850	12,208,928	12,394,173	12,091,356	12,318,407	12,511,008	
Total Expenses	33,438,102	34,136,042	34,281,872	35,054,489	36,333,471	37,446,228	37,618,893	37,334,494	37,571,536	37,765,075	
<b>Annual Surplus/(Deficit)</b>	12,142,706	26,913,429	29,941,366	40,068,996	32,980,973	27,379,736	29,029,987	30,442,256	31,676,330	19,917,080	
Accumulated Surplus/(Deficit), beginning of year	243,281,230	255,423,995	282,337,364	312,278,729	352,347,725	385,328,698	412,708,434	441,738,421	472,180,677	503,857,007	
Accumulated Surplus/(Deficit), end of year	255,423,935	282,337,364	312,278,729	352,347,725	385,328,698	412,708,434	441,738,421	472,180,677	503,857,007	523,774,087	
<b>Note 6:</b>											
<b>Accumulated Surplus/(Deficit) Reconciliation:</b>											
Reserve Balances											
Reserves: Development Charges	3,221,693	3,773,470	4,363,179	(3,359,332)	(553,393)	3,243,835	5,699,661	7,779,630	10,240,037	14,458,629	
Reserves: Capital/Other	2,280,659	12,164,918	17,260,957	18,842,061	16,348,346	30,314,510	46,281,816	59,869,837	72,648,234	68,059,708	
Total Reserves Balance	6,602,242	16,938,388	21,624,136	16,482,729	16,794,963	33,558,345	51,971,497	67,649,467	82,888,271	82,518,337	
Less: Debt Obligations and Deferred Revenue	(11,361,147)	(107,734,824)	(106,961,822)	(110,748,676)	(133,708,908)	(128,633,189)	(121,843,307)	(114,318,946)	(106,834,344)	(100,709,322)	
Add: Long-term Accounts Receivable	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	12,707,666	
Add: Tangible Capital Assets	348,575,174	361,426,133	384,908,748	434,906,005	490,534,968	495,075,610	498,902,565	506,142,491	515,095,415	529,257,407	
Total Ending Balance	286,423,935	282,337,364	312,278,729	352,347,725	386,328,698	412,708,434	441,738,421	472,180,677	503,857,007	523,774,087	
<b>Financial Indicators - Scenario B</b>											
1) Expense to Revenue Ratio	73%	56%	53%	47%	52%	58%	56%	55%	54%	65%	
2) Increase/(Decrease) in Total Revenues	641,473,059	61,049,471	64,223,237	75,123,485	69,314,444	64,825,964	66,648,880	67,776,750	69,247,866	57,682,155	
3) Increase/(Decrease) in Accumulated Surplus	280,492,857	12,142,705	26,913,429	40,068,996	32,980,973	27,379,736	29,029,987	30,442,256	31,676,330	19,917,080	

**Table B**  
**Comparison of Financial Indicators: Wastewater Services**  
**UNAUDITED: For Financial Planning Purposes Only**  
**2015-2024**

Financial Indicators	Total Change	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1) Expense to Revenue Ratio - Scenario A		73%	56%	53%	46%	51%	56%	54%	52%	51%	60%
1) Expense to Revenue Ratio - Scenario B		73%	56%	53%	47%	52%	58%	56%	55%	54%	65%
2) Increase/(Decrease) in Total Revenues - Scenario A	664,616,538	45,580,807	61,416,815	64,953,831	76,245,586	70,841,108	66,813,774	69,608,438	71,650,646	74,095,816	63,409,717
2) Increase/(Decrease) in Total Revenues - Scenario B	641,473,059	45,580,807	61,049,471	64,223,237	75,123,485	69,314,444	64,825,964	66,648,880	67,776,750	69,247,866	57,682,155
3) Increase/(Decrease) in Accumulated Surplus - Scenario A	303,636,336	12,142,705	27,280,773	30,671,959	41,191,087	34,507,637	29,367,546	31,989,545	34,316,152	36,524,280	25,644,642
3) Increase/(Decrease) in Accumulated Surplus - Scenario B	280,492,857	12,142,705	26,913,429	29,941,365	40,068,996	32,880,973	27,379,736	29,029,987	30,442,256	31,676,330	19,917,080