Agenda – Council – April 27, 2016

Report – Standing Policy Committee on Water and Waste, Riverbank Management and the Environment – April 14, 2016

Item No. 1 2016 to 2018 Water and Sewer Rates

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On April 20, 2016, the Executive Policy Committee concurred in the recommendation of the Winnipeg Public Service and submitted the following to Council:

1. That a three-year increase to the water rate, based on the amount of water used in cubic metres (m3), be approved effective April 1, 2016, and effective January 1, 2017 and 2018 as follows:

Water	Approved Rate/m3 2015	**Recommended Rate/m3 2016**	**Recommended Rate/m3 2017**	**Recommended Rate/m3 2018**
Rate (0–272 m3/quarter)	$1.45	**$1.63**	**$1.78**	**$1.82**
Rate (over 272 m3/quarter)	$1.38	**$1.63**	**$1.78**	**$1.82**

2. That a three-year increase to the sewer rate, based on the amount of water used in cubic metres (m3), including the amount allocated for the Environmental Projects Reserve (EPR), be approved effective April 1, 2016, and effective January 1, 2017 and 2018:

Sewer	Approved Rate/m3 2015	**Recommended Rate/m3 2016**	**Recommended Rate/m3 2017**	**Recommended Rate/m3 2018**
Rate (m3/quarter)	$2.28	**$2.40**	**$2.55**	**$2.80**
Allocated to EPR	$0.28	**$0.31**	**$0.31**	**$0.40**

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3. That a three-year increase to the daily basic charge rate for all meter sizes be approved effective April 1, 2016, and effective January 1, 2017 and 2018.

Meter Size (inches)	Approved Rate / day 2015	**Recommended Rate / day 2016**	**Recommended Rate / day 2017**	**Recommended Rate / day 2018**
5/8	$0.35	**$0.41**	**$0.49**	**$0.55**
3/4	$0.36	**$0.43**	**$0.51**	**$0.57**
1	$0.40	**$0.48**	**$0.56**	**$0.62**
1.5	$0.48	**$0.54**	**$0.63**	**$0.69**
2	$0.64	**$0.72**	**$0.82**	**$0.90**
3	$1.86	**$2.01**	**$2.21**	**$2.39**
4	$2.31	**$2.49**	**$2.72**	**$2.94**
6	$3.36	**$3.61**	**$3.92**	**$4.24**
8	$4.56	**$4.88**	**$5.29**	**$5.71**
10	$5.76	**$6.16**	**$6.67**	**$7.19**
private meter	$0.30	**$0.36**	**$0.44**	**$0.50**

4. That a three-year increase per kilogram (kg) of overstrength compound Total Suspended Solids (TSS), Total Nitrogen (TN) and Total Phosphorus (TP) be approved effective April 1, 2016, and January 1, 2017 and 2018.

Overstrength Compound	Approved Rate/kg 2015	**Recommended Rate/kg 2016**	**Recommended Rate/kg 2017**	**Recommended Rate/kg 2018**
TSS	$1.03	**$1.12**	**$1.18**	**$1.25**
TN	$3.00	**$3.50**	**$4.00**	**$4.60**
TP	$8.00	**$10.00**	**$12.00**	**$15.00**

Report – Standing Policy Committee on Water and Waste, Riverbank Management and the Environment – April 14, 2016

5. That a per property buy-in charge for service sharing agreements for the years 2016 to 2018 and retroactive for year 2015, be approved based on water meter size in inches or equivalent maximum water demand (MWD) in litres per second (l/s). Retroactive approval is requested for 2015 as service sharing agreements in place for 2015 will be billed a buy-in charge in the first quarter of 2016.

Sewer Services Buy-In Charge 2015		**Recommended Rate/property 2015**	**Recommended Rate/property 2016**	**Recommended Rate/property 2017**	**Recommended Rate/property 2018**
Water Meter Size (inches)	**MWD (litres/sec)**				
5/8”	0.0-0.9	**$2,300**	**$2,350**	**$2,400**	**$2,450**
¾”	0.91-1.3	**$3,400**	**$3,500**	**$3,550**	**$3,600**
1”	1.31-2.4	**$5,700**	**$5,800**	**$5,900**	**$6,000**
1 ½“	2.41-3.8	**$11,400**	**$11,700**	**$11,900**	**$12,100**
2”	3.81-7.6	**$18,200**	**$18,600**	**$19,000**	**$19,300**
3”	> 7.6	**$34,100**	**$34,800**	**$35,500**	**$36,200**

6. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report – Standing Policy Committee on Water and Waste, Riverbank Management and the Environment – April 14, 2016

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On April 20, 2016, the Executive Policy Committee concurred in the recommendation of the Winnipeg Public Service and submitted the matter to Council.

Further on April 20, 2016, Peter Miller, Volunteer at Green Action Centre, submitted a presentation titled "Responsible and Smart Waste Management and Sustainable Budgeting" with respect to the matter.

STANDING COMMITTEE RECOMMENDATION:

On April 14, 2016, due to a tie vote, the Standing Policy Committee on Water and Waste, Riverbank Management and the Environment submitted the matter to the Executive Policy Committee and Council without recommendation.

On March 4, 2016, the Standing Policy Committee on Water and Waste, Riverbank Management and the Environment laid over the matter to its meeting on April 14, 2016.

Further on March 4, 2016, the Winnipeg Public Service submitted a presentation titled "Water and Waste Department 2016-2018 Water and Sewer Rates" dated March 4, 2016 with respect to the matter.

ADMINISTRATIVE REPORT

ISSUE: **2016 to 2018 WATER AND SEWER RATES**

Critical Path: **Standing Policy Committee on Water and Waste, Riverbank Management and the Environment – Executive Policy Committee – Council**

AUTHORIZATION

Author	Department Head	CFO	CAO
L. Szkwarek, CPA, CGA Acting Manager, Finance and Administration	M. L. Geer, CPA, CA Acting Director, Water and Waste Department	M. Ruta	D. McNeil

RECOMMENDATIONS

1. Council approve a three-year increase to the water rate, based on the amount of water used in cubic metres (m3), effective April 1, 2016, and effective January 1, 2017 and 2018 as follows:

Water	Approved Rate/m3 2015	**Recommended Rate/m3 2016**	**Recommended Rate/m3 2017**	**Recommended Rate/m3 2018**
Rate (0–272 m3/quarter)	$1.45	**$1.63**	**$1.78**	**$1.82**
Rate (over 272 m3/quarter)	$1.38	**$1.63**	**$1.78**	**$1.82**

2. Council approve a three-year increase to the sewer rate, based on the amount of water used in cubic metres (m3), including the amount allocated for the Environmental Projects Reserve (EPR), effective April 1, 2016, and effective January 1, 2017 and 2018:

Sewer	Approved Rate/m3 2015	**Recommended Rate/m3 2016**	**Recommended Rate/m3 2017**	**Recommended Rate/m3 2018**
Rate (m3/quarter)	$2.28	**$2.40**	**$2.55**	**$2.80**
Allocated to EPR	$0.28	**$0.31**	**$0.31**	**$0.40**

3. Council approve a three-year increase to the daily basic charge rate for all meter sizes effective April 1, 2016, and effective January 1, 2017 and 2018.

Meter Size (inches)	Approved Rate / day 2015	**Recommended Rate / day 2016**	**Recommended Rate / day 2017**	**Recommended Rate / day 2018**
5/8	$0.35	**$0.41**	**$0.49**	**$0.55**
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10	$5.76	**$6.16**	**$6.67**	**$7.19**
private meter	$0.30	**$0.36**	**$0.44**	**$0.50**

4. Council approve a three-year increase per kilogram (kg) of overstrength compound Total Suspended Solids (TSS), Total Nitrogen (TN) and Total Phosphorus (TP) effective April 1, 2016, and January 1, 2017 and 2018.

Overstrength Compound	Approved Rate/kg 2015	**Recommended Rate/kg 2016**	**Recommended Rate/kg 2017**	**Recommended Rate/kg 2018**
TSS	$1.03	**$1.12**	**$1.18**	**$1.25**
TN	$3.00	**$3.50**	**$4.00**	**$4.60**
TP	$8.00	**$10.00**	**$12.00**	**$15.00**

5. Council approve a per property buy-in charge for service sharing agreements for the years 2016 to 2018 and retroactive for year 2015, based on water meter size in inches or equivalent maximum water demand (MWD) in litres per second (l/s). Retroactive approval is requested for 2015 as service sharing agreements in place for 2015 will be billed a buy-in charge in the first quarter of 2016.

Sewer Services Buy-In Charge 2015		**Recommended Rate/property 2015**	**Recommended Rate/property 2016**	**Recommended Rate/property 2017**	**Recommended Rate/property 2018**
Water Meter Size (inches)	**MWD (litres/sec)**				
5/8”	0.0-0.9	**$2,300**	**$2,350**	**$2,400**	**$2,450**
¾”	0.91-1.3	**$3,400**	**$3,500**	**$3,550**	**$3,600**
1”	1.31-2.4	**$5,700**	**$5,800**	**$5,900**	**$6,000**
1 ½“	2.41-3.8	**$11,400**	**$11,700**	**$11,900**	**$12,100**
2”	3.81-7.6	**$18,200**	**$18,600**	**$19,000**	**$19,300**
3”	> 7.6	**$34,100**	**$34,800**	**$35,500**	**$36,200**

REASON FOR THE REPORT

Changes to the water, sewer, daily basic and overstrength rates, and service sharing buy-in charges require Council approval.

EXECUTIVE SUMMARY

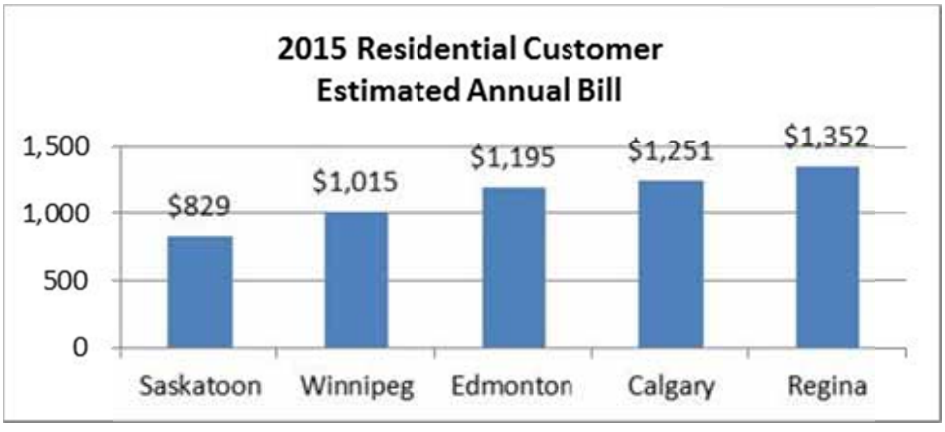
Water – Sewer – Daily Basic Rates: Recommended is a three-year increase for water, sewer and daily basic rates effective April 1, 2016, and January 1, 2017 and 2018 which applies to all customers.

For a residential customer (assumed family of four) with a quarterly consumption of 60 cubic metres, recommended water and sewer rates result in a 9.2%, 8.9% and 7.4% impact or estimated increase in the quarterly water bill of approximately $23, $25 and $23, for 2016 to 2018 respectively.

For 2016, the recommended increase for residential customers is approximately 25 cents per day. A litre of water would cost less than one-half of a penny.

Residential customer quarterly bill (60 m3 per quarter family of 4)				
	2015	**2016**	**2017**	**2018**
Water	$87	**$98**	**$107**	**$109**
Sewer	$137	**$144**	**$153**	**$168**
DBC	$32	**$37**	**$44**	**$50**
Total Quarterly Bill	$256	**$279**	**$304**	**$327**
Overall $ Change		**$23**	**$25**	**$23**
Overall % Change		**9.2%**	**8.9%**	**7.4%**

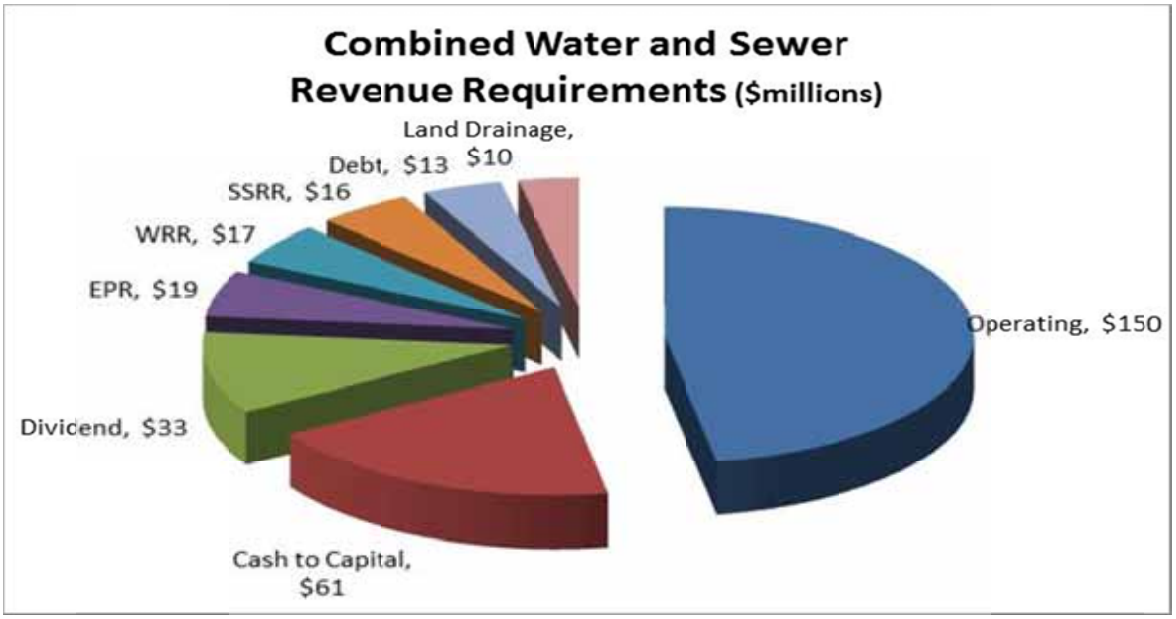
Comparison to Other Canadian Cities: Winnipeg's water and sewer rates encompass funding for fire supply, land drainage and infrastructure while many other cities have separate rates on the utility bills for these services. Combining known components of water and sewer 2015 rates, Winnipeg's remains competitive to other cities of similar size. (Appendix H)



Overstrength Charges: The recommended increases in overstrength charges only apply to business/industrial customers who discharge effluent above established limits and must pay for the cost of additional treatment. Recommended is a three-year increase in total suspended solids (TSS), total nitrogen (TN) and total phosphorus (TP) rates effective April 1, 2016, and effective January 1, 2017 and 2018. Costs associated with TSS, TN and TP are currently being subsidized by the volume sewer rate payer. The recommended increase in rates is required to move toward full cost of recovery for these services which is expected in the year 2020.

Service Sharing Buy-In Charge: Recommended is a buy-in charge for service sharing agreements for the years 2016 to 2018 and retroactive for year 2015. The buy-in charge will be in effect for service sharing agreements in place and to be billed for years 2015 to 2018. 2015 is the first year that requires billing of provisions to the municipalities with approved service sharing agreements.

Revenue Requirements: For 2016, total water and sewer revenue requirements are estimated at $318.3 million and will fund cash to capital spending, transfers to reserves, transfer to land drainage, operating cost, debt servicing, and the dividend.



Note: Reflects 12 months of cost requirements.

Internal Practices Review: In 2015, the Department undertook a comprehensive evaluation of the cost of service (COS) rate model, assumptions and procedures to review best practices, and ensure model accuracy. Practices include contributions and balances in reserves, debt limits, financial stability targets, capital cash flow spending, and dividends. The 2016 rate model balances approved practices, COS principles and industry recommended practices where possible, which equate what customers pay for and the benefit they receive, to affordability, with the aim of minimizing customer impact in the years 2016 to 2018.

The rate increases recommended in the 2016 rate report are influenced by the following:

- The 10-year financial plan reflects spending for required capital investment in water and sewer infrastructure where approximately 84% is driven by direct or indirect licencing requirements.

- Dividend of 12% of gross water and sewer sales, an estimated $416 million over the 10-year financial plan.
- Continued decrease in water consumption. A decrease in consumption correlates to an increase in rates in the short term.

In order to reduce the impact of rate increases, the Department has undertaken the following:

- Maintain a maximum sewer system renewal reserve (SSRR) balance of between $3 million and $5 million. Council adopted practice for SSRR maximum ending balances is equal to subsequent year's projected funding requirements, or approximately $18 million to $24 million.
- Maintain a maximum water main renewal reserve (WRR) balance of between $1 million and $4 million. Council adopted practice for WRR maximum ending balances is equal to subsequent year's projected funding requirements, or approximately $16 million to $26 million.
- Reduce working capital target from 11% to 8% of combined water and sewer sales, or between 40 to 60 days operations and maintenance. This may impact the utilities ability to absorb the cost of significant unplanned events, like the winter 2013 to 2014 frozen services event.
- Deferral in growth-oriented and select maintenance capital projects. These deferrals will not impact water quality, effluent quality, public health or the department's ability to meet regulatory requirements.

The Public Service will report back annually on the utility's current and projected financial status given approved rates. If there is a significant change to assumptions used in the 10-year financial plan, an adjustment to the utility rates may be recommended.

IMPLICATIONS OF THE RECOMMENDATIONS

The cost of Winnipeg's high quality water and sewer services remains affordable at less than one half of a cent per litre (2016 recommended rates). In the short term, rates will increase to support transfers and fixed maintenance costs, regulatory-driven capital investment, and dividends. Longer term rates are forecast to increase nearer to inflation.

The Department continues to move towards full cost recovery of the City's water, sewer, daily basic, and overstrength charges. Water and sewer rates reflect full cost and 2016 will be the first year for a uniform water rate. Daily basic charge will reach cost of service in 2019. Overstrength charges are expected to approach full cost in 2020.

HISTORY / DISCUSSION

Water and sewer rates are designed to fund all costs of operations and capital projects related to water and wastewater quality, city growth and regulatory requirements. Rate setting components and practices are explained below:

A. WHAT IS THE PROCESS

The Department employs industry standard best practices to establish water and sewer rates. The rate making process utilizes cost of service (COS) principles which supports prevailing methods of funding services, and provides a defensible correlation between what customers pay for and the benefit they receive.

The Department is recommending a three-year rate approval, a process which is common practice in Canada, supports transparency and consistency for our customers, and provides financial stability for the utility. Bond rating agencies look more favourably upon utilities which have adopted multi-year plans as it demonstrates a commitment to the financial planning process.

B. WHAT DRIVES RATES

The Department is committed to protecting public health, property and the environment by delivering high quality drinking water, and collecting and treating sewage in accordance with licencing agreements. The water and sewer utility is self-supporting, and must plan to ensure uninterrupted customer service. Maintaining financial stability in order to provide essential services is the main driver of rate change. A discussion of rate drivers, practices and assumptions includes the following:

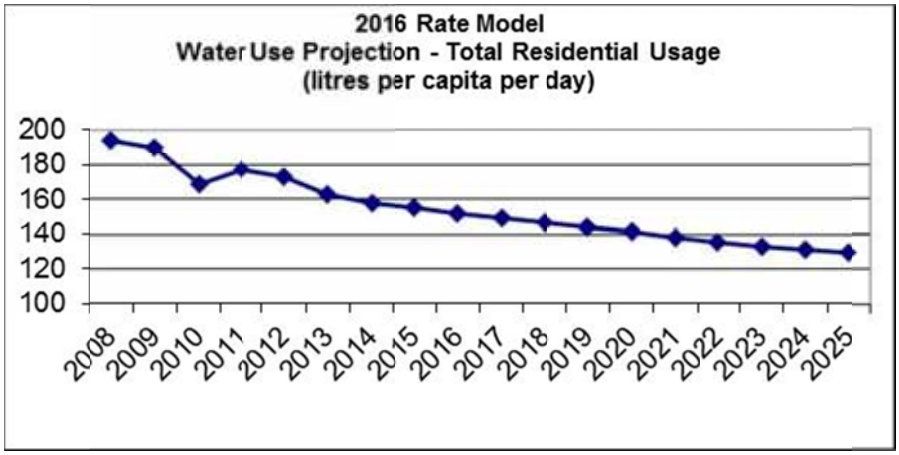
1. Consumption
2. Revenue Requirements
3. Debt Servicing
4. Capital Spending
5. Reserve Balances
6. Dividends
7. Financial Stability

1. Consumption

Winnipeggers continue to embrace water conservation practices. Conservation can eliminate the need for costly expansion of existing infrastructure. Winnipeg's projected total residential trend usage reflects declining per capita consumption. This is consistent with cities surveyed across North America. (Appendix A)

Winnipeg's population growth is expected to rise steadily over the next 10 years (StatsCan 2015).

The reduction in overall consumption due to technology (water saving devices) and regulatory requirements is expected to surpass population growth for the majority of the 10-year financial model. For rate making purposes, water consumption is estimated to continue to decline at an estimated 0.2% per year until approximately 2024. At that time it is expected that declines in water usage due to technology will reach a plateau, and population growth will begin to drive increasing consumption.

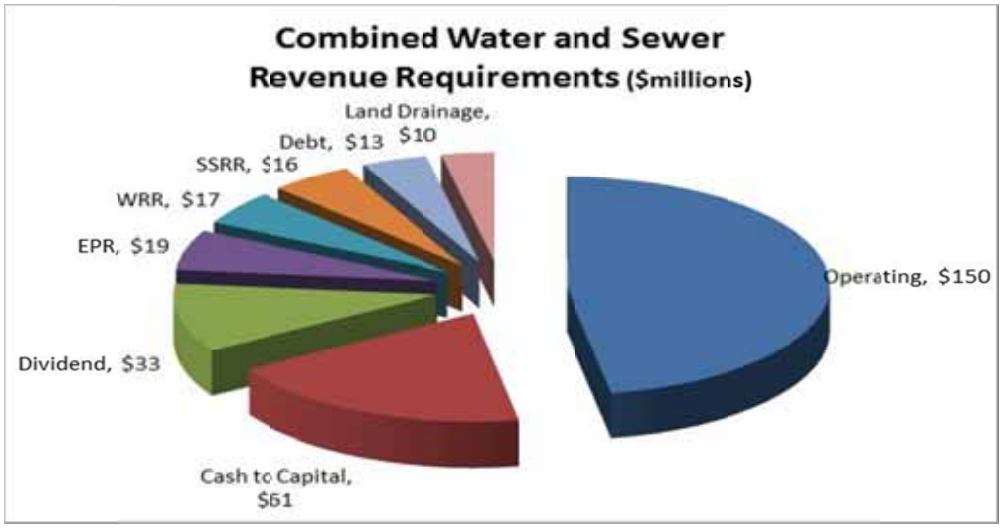


Forecasting a decline in consumption is consistent with research on water planning for the Winnipeg area as per AECOM Regional Water Supply Conceptual Planning Study Update, February 2011.

In addition, Advances in Water Research, a Water Research Foundation Publication on Sustainability, indicates that household indoor water use has decreased by 22% since 1999. The majority of the decrease is attributable to toilets and clothes washers. (Appendix B)

2. Revenue Requirements

For 2016, total water and sewer revenue requirements are estimated at $318.3 million and will fund cash to capital spending, transfers to reserves, transfer to land drainage, operating cost, debt servicing, and the dividend.



Note: Reflects 12 months of cost requirements.

3. Debt Servicing

The Department adheres to the City Council approved Debt Strategy as approved October 28, 2015. The strategy includes measures of affordability for the self-supporting utilities and the City of Winnipeg overall. Debt servicing as a percent of revenue for the City overall is not to exceed 11%. The utilities debt servicing as a percent of revenue is not to exceed 20%. The department's 10-year financial plan for debt ranges between 6% and 14% of revenue, and is within the water and sewer utility targets established by Council.

The Department utilizes debt funding for capital projects. Through the capital budget process, a comprehensive funding plan is prepared which seeks to maximize the use of limited resources while minimizing the impact to ratepayers. Balancing debt and equity funding manages the impact on short term rate increases, supports intergenerational equity and is viewed favourably by the credit rating agencies.

4. Capital Spending

Capital improvement programs are funded through a combination of debt, reserves, cash to capital and other levels of government. Federal and provincial funding totaling $267 million is available for wastewater treatment expansion and upgrade related projects. There is currently no federal funding for the North End Sewage Treatment Plant Nutrient Removal Upgrade

project. There are no federal or provincial funding agreements for the Biosolids or Combined Sewer Overflow (CSO) projects to date.

Capital spending directly impacts the timing of rate increases and the ability for the utility to maintain financial stability targets. In order to adhere to City Council's debt strategy and mitigate required rate increases, the Department is recommending a deferral and decrease in certain capital projects. These proposed revisions are for projects targeted at growth or deemed to not have extreme consequences of deferring maintenance. These recommended changes will hold the projected borrowing at $605 million and will reduce the 2016 to 2019 cash flow requirements for cash to capital funded projects by $42.1 million through deferral of projects. (Appendix C)

The capital budget reflects increases required to meet planned water, sewer and land drainage projects. Changes to provincially mandated projects may affect funding requirements and rates.

5. Reserve Balances

a. Environmental Projects Reserve (EPR):

The EPR supports the sewage treatment improvement program as directed by the Province and set forth in the Department's Asset Management Program. Capital projects consist of biological nutrient removal and upgrades at the North End and South End Sewage Treatment Plants, Biosolids Management and CSO control.

Basement flood relief, formerly funded by Sewer System Rehabilitation Reserve programming, is now being treated as a component of CSO mitigation. As of 2016 all CSO related works, including $10.3 million in basement flood relief, will be funded through the EPR.

The capital program integrates a sustainable funding strategy that utilizes a combination of debt, equity and funding from the provincial and federal governments. The use of multiple funding sources supports intergenerational equity by helping to reduce short-term increases to the sewer rate, and taking advantage of favourable interest rates for borrowing. Timing of capital project implementation or changes to licencing requirements may impact reserve contributions. Contributions are forecast to increase and still comply with the City debt strategy as approved by Council on October 28, 2015.

Sewer Utility Environmental Projects
Capital Spending and Financing Schedule $000s

Year	Annual Capital Expenditure	Project Financing				
		Volume Rate [1]	Fed/Prov	Debt	Retained Earnings	Total
To 2014	151,015	195,673	34,507	-	28,012	258,192
2015	61,574	18,312	6,600	-	34,068	58,980
2016	**94,816**	**19,004**	**15,000**	**-**	**52,793**	**86,797**
2017	**153,596**	**18,870**	**19,000**	**32,752**	**20,581**	**91,203**
2018	**214,789**	**23,561**	**22,031**	**124,278**	**44,919**	**214,789**
2019	**163,455**	**32,152**	**26,400**	**104,904**	**-**	**163,456**
2020	**191,719**	**33,330**	**26,800**	**123,589**	**8,000**	**191,719**
2021	**192,260**	**33,298**	**25,630**	**126,332**	**7,000**	**192,260**
2022	**160,799**	**32,219**	**35,726**	**92,854**	**-**	**160,799**
2023	**63,568**	**28,885**	**34,400**	**283**	**-**	**63,568**
2024	**44,712**	**23,725**	**20,906**	**-**	**-**	**44,631**
2025	**23,076**	**23,076**	**-**	**-**	**-**	**23,076**
2026	30,000	20,000	-	-	-	20,000
2027	30,000	20,000	-	-	-	20,000
2028	30,000	20,000	-	-	-	20,000
2029	30,000	26,000	-	-	-	26,000
2030	30,000	30,000	-	-	-	30,000
2031	30,000	30,000	-	-	-	30,000
2032	30,000	30,000	-	-	-	30,000
2033	30,000	30,000	-	-	-	30,000
2034	30,000	30,000	-	-	-	30,000
Total 10-year 2016-2025	**1,302,790**	**268,119**	**225,893**	**604,992**	**133,293**	**1,232,297**
Total to 2025	**1,515,379**	**482,104**	**267,000**	**604,992**	**195,373**	**1,549,469**
Total to 2034	1,785,379	718,104	267,000	604,992	195,373	1,785,469

[1] Includes Interest

The ten-year financing plan incorporates the following funding sources:

- Federal/Provincial: Total funding is expected at $267 million, $50 million in federal/provincial funding as secured under a Canada Strategic Infrastructure Fund Agreement, $206 million from the Province as announced in the 2007 Throne Speech, and $11 million from the Federal Green Infrastructure Fund. Federal/provincial funding for the current 10-year financial plan is estimated at $226 million.
- Any additional funding from other levels of government as was recommended in the 2003 Clean Environment Commission report would mitigate rate increases.
- The 10-year financial plan does not include an additional $100M in provincial funding announced in the 2015 Throne Speech as there is currently insufficient information regarding the details of the proposal.
- Sewer rate includes a per cubic meter of consumption allocation ($0.31/m3 for 2016 to 2017 and $0.40/m3 for 2019) that is dedicated to funding the EPR projects. Funding for the 10-year financial plan is estimated at $268 million.
- Debt funding is estimated at $605M and falls within the City's overall debt strategy.

Contributions to the EPR will approximate the portion of subsequent year's pay-as-you-go funding requirements. Council approved practices edict that the maximum reserve balance will be no more than the total of the projected share of EPR projects over the upcoming five-year forecast period.

For future years, once plant upgrades are complete, rate contributions will match planned capital spending to meet anticipated ongoing program needs (CSO mitigation). Approved practices state that the maximum ending balance in the EPR in any fiscal year can be approximately equal to the subsequent year's projected funding requirements. This will support

the pay-as-you-go philosophy whereas ongoing infrastructure renewal capital projects are financed using cash to capital to the extent possible.

In order to minimize the impact of rate increases, the current 10-year financial plan anticipates a near zero ending balance in the EPR beginning 2017. The Department will monitor reserve balances and adjust future contributions according to established reserve practices and project requirements.

b. Sewer System Rehabilitation Reserve (SSRR):

As of 2016 the SSRR supports the sewer renewal program as set forth in the Department's Asset Management Program. SSRR will no longer fund basement flood relief. Basement flood relief is a component of CSO mitigation which is funded by the EPR. As of 2016 all CSO related works will be funded through the EPR.

The 10-year financial plan incorporates funding from sewer rates. Timing of capital project implementation may impact reserve contributions. Annual contributions to the SSRR will be approximately equal to the subsequent year's program funding requirements.

Council approved practices state that the maximum ending balance in the SSRR in any fiscal year can be approximately equal to the subsequent year's projected funding requirements. In order to reduce the impact of rate increases, the Department will maintain a maximum SSRR balance of between $3 million and $5 million. The Department will monitor reserve balances and adjust contributions according to anticipated program requirements, and not exceed maximum limits. The Department acknowledges that there is risk in maintaining reserve balances that may not sustain emergency situations.

c. Watermain Renewal Reserve (WRR)

The WRR supports the renewal of watermains as set forth in the Department's Asset Management Program.

The 10-year financial plan incorporates funding from water rates. Timing of capital project implementation may impact reserve contributions. Annual contributions to the WRR will be approximately equal to the subsequent year's water main renewal funding requirements.

Council approved practices state that the maximum ending balance in the WRR in any fiscal year can be approximately equal to the subsequent year's projected funding requirements. In order to reduce the impact of rate increases, the Department will maintain a maximum WRR balance of between $1 million and $4 million. The Department will monitor reserve balances and adjust contributions according to anticipated program requirements, and not exceed maximum limits. The Department acknowledges that there is risk in maintaining reserve balances that may not sustain emergency situations.

6. Dividends

Based on the recommended three-year rate increases, the Water and Waste Department is expected to pay the following dividends:

	Budget $000s	Proposed $000s		
	2015	**2016** [1]	**2017**	**2018**
Water	$12,435	$13,326	$14,948	$15,494
Sewer	$18,296	$18,848	$20,652	$22,728
Total	$30,731	$32,174	$35,600	$38,222

[1] Includes impact of 3 months delay in approving 2016 water and sewer rates.

The annual dividend represents the City's return on investment in the utility. On March 3, 2015 Council approved that the utility dividend policy be amended and the annual dividend payment to the City increase from 8% to 12% of budgeted gross water and sewer sales. The 10-year financial plan assumes no change to the 12% rate.

Utility dividend policies, where identified, are typical within cities surveyed in Canada. Benchmarking data indicates an increasing trend to cap or limit dividends in order to minimize the impact of rate increases. (Appendix A)

7. Financial Stability

Working capital is comprised of current assets (cash and accounts receivable) net of current liabilities (current accounts payable); cash or near cash items that can respond quickly to unexpected fluctuations. The working capital target provides medium term stability, adequate liquidity to sustain operations, and the ability to absorb losses in any given year when consumption falls short of anticipated levels and/or unforeseen emergency funds are required.

Industry best practices recommend utilities maintain a minimum working capital target. Historically, the Department planned for a target of 11% of the combined water and sewer sales (approximately 60 to 120 days cash on hand) which is considered within normal for industry and rated as good by bond rating agencies (Standard & Poor's). In order to minimize the impact of rate increases, the Department is recommending adoption of a combined working capital target of 8% or between 30 to 60 days cash and investments on hand. Bond rating agencies rate this level of liquidity as adequate.

For the years 2016 to 2018, the working capital target will reach 7% and increase to 8% over the 10-year model. Should the utility experience unplanned emergency events, there is a risk that further rate increases might be requested.

The water and sewer funds adhere to a set of operating principles that can be found in Appendix D.

C. <u>WHAT ARE THE RECOMMENDED RATES</u>

8. Water Rate
9. Sewer Rate
10. Daily Basic Charge
11. Overstrength Rate
12. Customer Impact
13. Service Sharing Buy-In Charge

8. Water Rate

Year 2016 is the first year of a uniform water rate for all customers. The water rates are increasing primarily due to inflation and dividends.

Recommended is a three-year increase to the water rate, based on the amount of water used in cubic metres (m3), effective April 1, 2016, and effective January 1, 2017 and 2018.

	Approved Rate/m3 2015	**Recommended Rate/m3 2016**	**Recommended Rate/m3 2017**	**Recommended Rate/m3 2018**
Rate (0–272 m3/quarter)	$1.45	**$1.63**	**$1.78**	**$1.82**
Rate (over 272 m3/quarter)	$1.38	**$1.63**	**$1.78**	**$1.82**

Uniform water rates are more suitable from both a water conservation and cost of service standpoint, and are reflective of industry standard (Appendix A). The move to a uniform water rate is supported given the historical change in customers' consumption patterns. The trend across North America, including Winnipeg, is that water usage patterns are fairly consistent across customer types and there is no longer a basis to charge different rates based upon variations in peak demands.

The water rate funds: operating and maintenance costs such as salary, services, materials, parts and supplies; debt payments on borrowing for the water treatment plant; transfers for ongoing water main renewal programs; cash to capital for planned capital projects funded by retained earnings; other transfers to support recreational water use; and the dividend.

A 10-year cost requirement summary can be found in Appendix E.

9. Sewer Rate

The sewer rate is increasing primarily due to the $1.3 billion in sewage treatment improvements of which $1.1 billion are associated either directly or indirectly with provincially mandated licencing requirements, and dividends.

Recommended is a three-year increase to the sewer rate, based on the amount of water used in cubic metres (m3) effective April 1, 2016, and effective January 1, 2017 and 2018. The sewer rate includes an allocation to fund a transfer to the Environmental Projects Reserve (EPR).

	Approved Rate/m3 2015	**Recommended Rate/m3 2016**	**Recommended Rate/m3 2017**	**Recommended Rate/m3 2018**
Rate (m3/quarter)	$2.28	**$2.40**	**$2.55**	**$2.80**
Allocated to EPR	$0.28	**$0.31**	**$0.31**	**$0.40**

The sewer rate funds: operating and maintenance costs such as salary, services, materials, parts and supplies; debt payments on new borrowing for provincially mandated capital projects; transfers for ongoing sewer main renewal programs; environmental projects reserve

contributions; cash to capital for planned capital projects funded by retained earnings; transfer to support land drainage and flood control; and the dividend.

A 10-year rate requirement summary can be found in Appendix F.

10. Daily Basic Service Charge (DBC)
Recommended is a three-year increase in the daily basic service charge (DBC) rate for all meter sizes effective April 1, 2016, and effective January 1, 2017 and 2018. Billed on a daily rate, this charge is based on meter size and covers the fixed cost of water meters (including maintenance and reading), Water Bill Inquiry (WBI) customer contact centre, and billing and production costs.

The DBC is increasing as part of a multi-year strategy to phase in full cost recovery of this service by the year 2019. For a residential customer with a 5/8 inch meter, the increase would be $0.06, $0.08, and $0.06 per day or an estimated annual cost of $151, $179 and $199 for years 2016 to 2018 respectively.

11. Overstrength Sewage Rates
Recommended is an increase to the Total Suspended Solids (TSS), Total Nitrogen (TN) and Total Phosphorus (TP) effective April 1, 2016, and effective January 1, 2017 and 2018.

Compound (per kilogram)	Approved 2015	**Recommended 2016**	**Recommended 2017**	**Recommended 2018**
Total Suspended Solids (TSS)	$1.03	**$1.12**	**$1.18**	**$1.25**
Total Nitrogen (TN)	$3.00	**$3.50**	**$4.00**	**$4.60**
Total Phosphorus (TP)	$8.00	**$10.00**	**$12.00**	**$15.00**

The provincially issued Environment Act Licences for the sewage treatment plants stipulate effluent limits for BOD, TSS, nitrogen and phosphorus.

Costs associated with TSS, TN and TP are currently being subsidized by the volume sewer rate. The recommended increase in rates is required to move toward full cost of recovery for these services such that those customers who discharge overstrength effluent are paying for the additional costs to treat. Increases are being phased in over a multi-year period and approach cost of service in the year 2020.

Overstrength Industry 10250 cubic meters [1]	Approved 2015	**Recommended 2016**	**Recommended 2017**	**Recommended 2018**
Quarterly TSS surcharge (627 mg/L)	$2,924	**$3,180**	**$3,350**	**$3,549**
Dollar increase per quarter		**$256**	**$170**	**$199**
Quarterly TN surcharge (108 mg/L)	$1,476	**$1,722**	**$1,968**	**$2,263**
Dollar increase per quarter		**$246**	**$246**	**$295**
Quarterly TP surcharge (24.6 mg/L)	$1,197	**$1,497**	**$1,796**	**$2,245**
Dollar increase per quarter		**$299**	**$299**	**$449**

[1] Large Volume Sewer Discount program provides for a 30% cost reduction for qualifying customers.

12. Customer Impact
For a residential customer (assume family of four) using 240 cubic meters of water per year, recommended rate increases would result in an estimated 9.2%, 8.9%, and 7.4% impact for years 2016 to 2018 respectively. (Appendix G).

Quarterly Bill					
	m3 per quarter	2015	**2016**	**Change $**	**%**
Residential	60	$256	**$279**	**$23**	**9.2%**
Small Business	400	$1,541	**$1,677**	**$136**	**8.9%**
Large Business	4,425	$16,382	**$18,016**	**$1,634**	**10.0%**
Overstrength Business	125,000	$351,941	**$393,339**	**$41,398**	**11.8%**
Quarterly Bill					
	m3 per quarter	**2016**	**2017**	**Change $**	**%**
Residential	60	$279	**$304**	**$25**	**8.9%**
Small Business	400	$1,677	**$1,806**	**$129**	**7.7%**
Large Business	4,425	$18,016	**$19,361**	**$1,345**	**7.5%**
Overstrength Business	125,000	$393,339	**$424,346**	**$31,007**	**7.9%**
Quarterly Bill					
	m3 per quarter	**2017**	**2018**	**Change $**	**%**
Residential	60	$304	**$327**	**$23**	**7.4%**
Small Business	400	$1,806	**$1,930**	**$123**	**6.8%**
Large Business	4,425	$19,361	**$20,661**	**$1,300**	**6.7%**
Overstrength Business	125,000	$424,346	**$449,383**	**$25,037**	**5.9%**

Decreases in consumption will affect the amount of the water bill. For example, for 2016, if a residential customer is able to utilize water saving devices to reduce consumption to 50 cubic meters per quarter, the estimated quarterly bill would be $239, a savings of $40 from a bill of $279 estimated using 60 cubic meters per quarter.

For 2016, the recommended increase for residential customers is approximately 25 cents per day. A litre of water would cost less than one-half of a penny.

13. Service Sharing Buy-In Charge
On December 12, 2012 Council approved the basic terms of service sharing agreements for the provision of sewer services to neighbouring municipalities. Agreements have provisions relating to sewer charges which include: (1) volume rate user fee which is 100% of the sewer rate as adopted by Council and; (2) one-time utility buy-in charge.

Recommended is a buy-in charge for service sharing agreements for the years 2016 to 2018 and retroactive for year 2015. The buy-in charge will be based on a per water meter size in inches or per equivalent maximum water demand (MWD) in litres per second (l/s), and will be in effect for service sharing agreements in place and to be billed for years 2015 to 2018. 2015 is the first year that requires billing of provisions to the municipalities with approved service sharing agreements. Municipalities with services sharing agreements established in 2015 will be billed the buy-in charge in the first quarter of 2016.

Sewer Services Buy-In Charge		Recommended Rate/property 2015	Recommended Rate/property 2016	Recommended Rate/property 2017	Recommended Rate/property 2018
Water Meter Size (inches)	MWD (litres/sec)				
5/8"	0.0-0.9	**$2,300**	**$2,350**	**$2,400**	**$2,450**
¾"	0.91-1.3	**$3,400**	**$3,500**	**$3,550**	**$3,600**
1"	1.31-2.4	**$5,700**	**$5,800**	**$5,900**	**$6,000**
1 ½"	2.41-3.8	**$11,400**	**$11,700**	**$11,900**	**$12,100**
2"	3.81-7.6	**$18,200**	**$18,600**	**$19,000**	**$19,300**
3"	> 7.6	**$34,100**	**$34,800**	**$35,500**	**$36,200**

D. WHAT MAY INFLUENCE FUTURE RATES

14. Financial Projection Uncertainties
15. Land Drainage Rate Planning

14. Financial Projection Uncertainties

The detailed financial projections and rate plans are contained in Appendices C (water) and D (sewer). There are several variables that can affect the financial projection and resulting water and sewer rates.

- Consumption: Trends across North America, including Winnipeg, indicate a continued gradual decline of litres per capita per day (LCD) over the next 10 years as consumers continue to embrace water conservation. Rate model projections incorporate the continued trend of declining consumption combined with forecasted increase in population and growth in the non-residential sectors. If actual consumption is less than plan, this could cause a rate increase; conversely, actual consumption greater than plan could effect a rate decrease or mitigate future increases.

- Capital Investment: Capital investment is based on the Department's current estimate of improvements that are required. Many items can influence capital program expenditures, including: escalation in market price, introduction of new technology, availability of consultant and contractor resources, detailed design, and mandated improvements. Risk to the 10-year financial plan is further influenced by:
  - North End Sewage Treatment Plant (NEWPCC) Nutrient Removal/Upgrade: NEWPCC is in the early stages of project definition and thus a Class 5 budget estimate. Given the size of the NEWPCC project, a budget variance of +$100 million is well within the Class 5 estimate tolerance.
  - Biosolids: The final treatment option(s) for the biosolids that are recommended in the Biosolids Master Plan require regulatory approval. They cannot be implemented until the Regulator approves the Biosolids Master Plan and issues appropriate environmental licences. The estimates for this work are based on a Class 5 cost estimate with an expected accuracy range of between -50% and + 100%, and will be refined after the Regulator has issued a biosolids licence.
  - Combined Sewer Overflow (CSO): The City is directed by a Provincial Environment Act Licence to review alternatives and recommend a plan to reduce combined sewer discharges to our rivers. It is expected the Province will further clarify the Licence criteria over the next two years and direct the City to implement an action plan in 2018. The preliminary costs for such a program are estimated in the billions with construction activities that could span many years.

Depending upon the target completion date and the selected control limits for the works, additional budget may be required to address the CSO Master Plan.

- Economic Development: The City's economic climate can have significant impact on the financial plan. The addition or deletion of a major customer could effect a change in rates due to the consumption and sales revenue associated with large volume users.

- New Legislation: Environmental and public health concerns are driving more stringent standards in the water and sewage industry. The Environment Act Licences for the three sewage treatment plants have required large increases in capital and operating costs. Further introduction of new legislation could cause an increase in rates through the operating and capital costs associated with compliance.

- Foreign Currency Exposure: Fluctuating currency exchange rates is a risk that must be managed and addressed within the financial plan as many commodities for the capital programs may be purchased outside of Canada.

15. Land Drainage Rate Planning

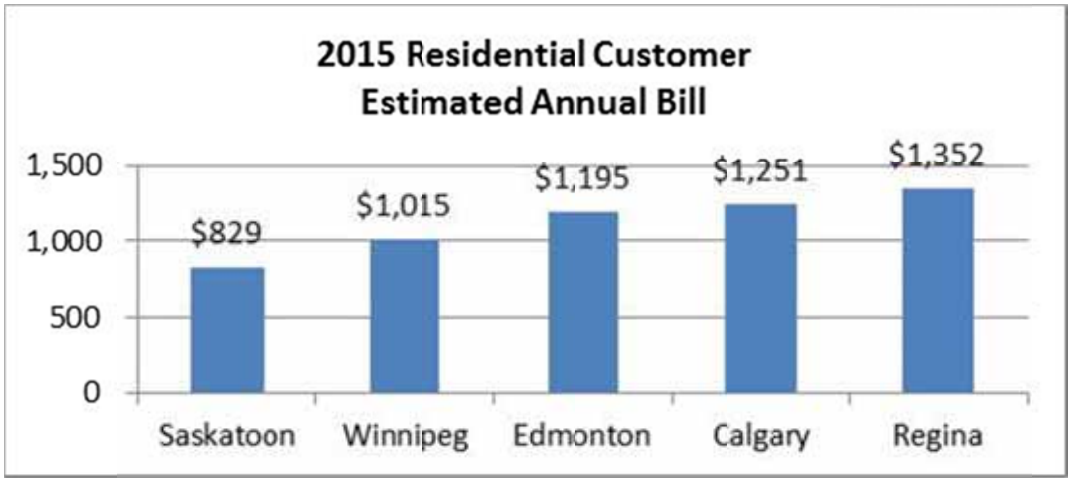
For 2016, the sewer rate will fund $20.5 million for land drainage and flood control, operating and capital costs, $10.2 million for land drainage operating costs through a direct transfer from the sewer utility, and $10.3 million for basement flood relief through transfers to the EPR reserve. Land drainage fees based on the amount of water consumed is not reflective of the cost of those services nor of the benefit a customer receives. Funding land drainage costs using the sewer rate is not consistent with industry practices or cost of service principles. A separate land drainage fee is a common practice in other cities surveyed across Canada. (Appendix A)

The potential for the introduction of a land drainage fee will be the subject of a future report to be tabled with Council.

E. COMPETITIVENESS

Winnipeg's combined water and sewer rate remains competitive to other cities of similar size as surveyed using known 2015 rates.

Increases are being driven by more stringent regulatory standards, capital expansion and declining consumption trends. Winnipeg's water and sewer rates encompass funding for all services including fire supply, land drainage and infrastructure. Many other cities have separate rates on the utility bills for these services. For 2015, combining known fees and charges applied in other cities that are included in Winnipeg water and sewer rates, Winnipeg ranks second out of five cities for affordability for a residential and commercial customer and fourth out of five for a large industrial customer. (Appendix H)



The trend of increasing rates is evident in all cities. From 2014 to 2015, the impact of rate increases in other Canadian Cities ranged from 4.4% to 9.6% for residential customers.

Customer Impact
From year 2014 to year 2015

	Winnipeg	Edmonton	Regina	Saskatoon	Calgary
Residential	4.3%	4.4%	8.0%	9.3%	9.6%
Commercial	3.5%	7.7%	6.7%	4.9%	15.4%
Large Industrial	3.9%	1.4%	7.9%	9.4%	25.6%

F. COMMUNICATION

Following Council approval the Water and Waste Department will communicate the water and sewer rate, and overstrength rate increases to customers as follows:

Strategy	Timeline
Website updated with new rates	March 2016
Message imprinted on each water/sewer bill	March-June 2016

The Water and Waste Department will communicate sewer and buy-in charge rates to municipalities as follows:

Strategy	Timeline
Notice to municipalities impacted by rates	March-June 2016

FINANCIAL IMPACT

Financial Impact Statement **Date:** Date January 26, 2016

Project Name:

2016 to 2018 WATER AND SEWER RATES

The rates and financial plans for water and sewer funds are contained in Appendices to this report. These plans are reflected in the current operating and capital estimates and as such, a financial impact statement has not been prepared.

There is no financial impact associated with the overstrength changes discussed in this report. Operating costs and total revenue will not be impacted. The source from which costs are recovered will change, but total cost recovery will not increase.

These proposed rate increases reflect the introduction of a cost of service recovery strategy with the goal of eliminating subsidies by classes of customers and service types.

"Original signed by L. Szkwarek, CPA, CGA"
Lucy Szkwarek, CPA, CGA
Acting Manager Finance and Administration

CONSULTATION

In preparing this report there was consultation with:

n/a

OURWINNIPEG POLICY ALIGNMENT

This report is in accordance with the OurWinnipeg policies through sections 03-5 Maximize our Existing Water Supply/Ensure Availability of Future Water Supplies and 04-4 Maximize our Existing Wastewater Treatment and Collection System Capacity, as this falls in line with ensuring purity and reliability of the water supply through improving service reliability, protecting the health of our local rivers and Lake Winnipeg, and reducing costs by aligning service rates with the actual costs of delivering services.

OurWinnipeg Reference: 02-2 Environment

SUBMITTED BY

Water and Waste Department
Finance and Administration Division
Prepared by: Lucy Szkwarek, CPA, CGA
Date: January 28, 2016
File No. 010-07-20-01-00
010-07-20-02-00

Appendices

The following appendices are attached as additional information:

APPENDIX A	Benchmarking
APPENDIX B	Consumption
APPENDIX C	Capital Projects Program Deferrals
APPENDIX D	Water and Sewer Utility Principles of Operation
APPENDIX E	Water Works System Fund Financial Projections
APPENDIX F	Sewage Disposal System Fund Financial Projections
APPENDIX G	Customer Impact Total Bill
APPENDIX H	Competitiveness to Other Canadian Cities

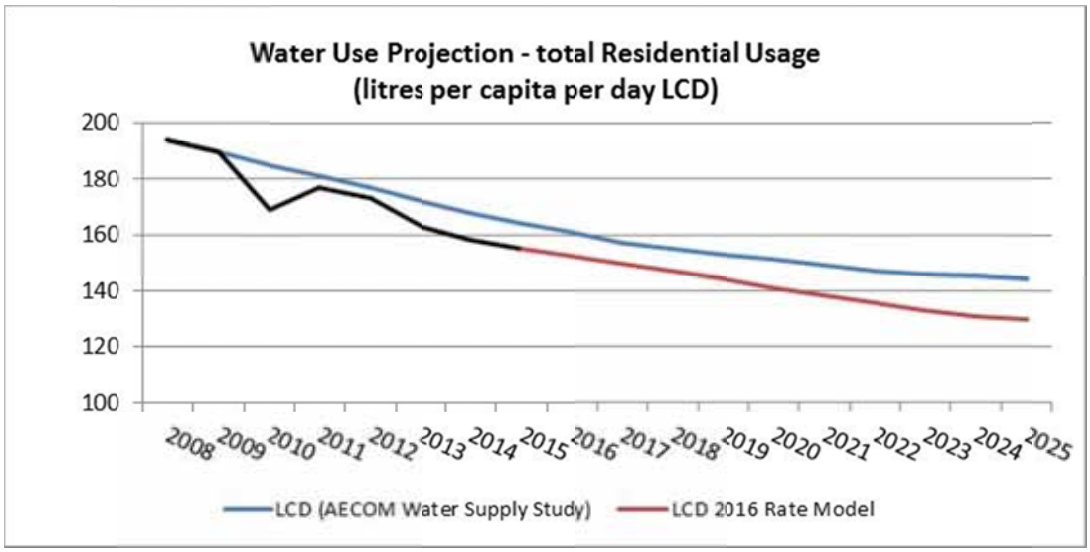
APPENDIX A
BENCHMARKING

As at Sept 2015	Winnipeg	Calgary	Edmonton	Regina	Saskatoon
Dividends	Yes 12% budgeted revenue	Yes Dividend capped at $28.75 for water and $13.75M for wastewater.	Yes 10.875% as a return on equity.	Yes Franchise Fee 7.5% previous year's budgeted revenue	No currently reviewing return on investment payment
Dividend trends	Increased from 8% to 12% in 2015	Amount is capped and remains unchanged from 2004.	Dividends issued to the extent that each utility's capital structure is maintained at a 60/40% debt/equity level.	No increases proposed	n/a
Water rate structure	Uniform	Uniform	Inclining residential Declining non-residential	Uniform	Inclining residential Uniform non-residential
Trend billed water	Declining	Declining	Declining	Declining	Declining
Capital reserves	Yes	No	Yes	Yes	Yes
Separate land drainage fee	No	Yes	Yes	Yes	Yes
Rates based on COS	Yes	Yes	Yes	Yes	Yes
Frequency of rate approval	3 year	4 year	Annual	2 year	3 year
Property tax payments	Yes Municipal and school tax	Yes Franchise fee 10% of revenue in lieu of Property Tax	Yes Net of 8% franchise fee paid by EPCOR	No Part of dividend	Yes 9% grants in lieu of taxes

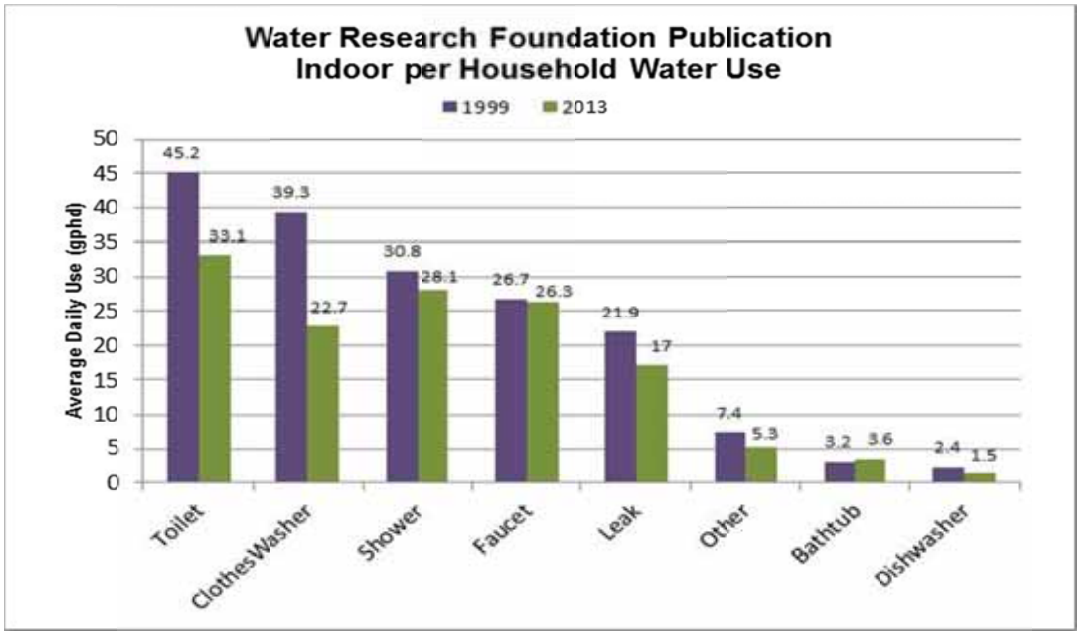
APPENDIX B
CONSUMPTION

AECOM Regional Water Supply Conceptual Planning Study Update, Low Water Use Projection for the City of Winnipeg, February 2011

2016 Rate Model - Historical Actual (—) and 2016 Rate Model Forecasted (—) Consumption



Advances in Water Research
Water Research Foundation Publication
Indoor per Household Water Use (gallons per household)
July-September 2015, Vol 25, No 3
Reproduced



Note: Data from WRF project #4309, Residential End Uses of Water Study Update

APPENDIX C
CAPITAL PROJECT- PROGRAM DEFERRALS

Water Utility - Deferral/Cancellation of Projects to Save $5.1M in Cash Flow from 2016 to 2019	
Project or Program Name	**Service impact**
Transcona Water Main Reliability Study	Delay in improvement in water system redundancy.
Building Renovations - 1199 Pacific Ave	Continued delays in communication between divisions and ongoing operational costs. Added operational and capital costs due to escalation.
Shoal Lake Aqueduct Asset Preservation	Increases timeframe for program delivery; increased risk and non-optimal lifecycle asset management associated with deferring projects.
Tache Booster Pumping Station	Potential inability to balance water demand at the McPhillips Reservoir during an unforeseen emergency operating scenario. Added costs due to escalation and non-optimal project coordination.
Saskatchewan Avenue Water Main	Potential delays in growth/development of OurWinnipeg Precinct 'R'.
Shoal Lake Aqueduct Intake Facility Rehabilitation	Increases timeframe for program delivery; increased risk and non-optimal lifecycle asset management associated with deferring projects.
Sewer Utility - Deferral of Projects to Save $37M in Cash Flow from 2016 tot 2019	
Project or Program Name	**Service impact and/or political pressure**
Fernbank Interceptor	Potential delays in development/growth.
Biosolids - Alternative Disposal Delivery and Management System: Land Application	Reduces options for Biosolids management
Combined Sewer Overflow and Basement Flood Management Strategy: Projects	Increases timeframe for CSO mitigation/solution.
Kenaston Boulevard Interceptor	Potential delays in development/growth.
Southwest Interceptor River Crossing	Potential delays in development/growth.

APPENDIX D
WATER AND SEWER UTILITY PRINCIPLES OF OPERATION

Self-Supporting Utilities: The Utilities do not receive subsidies from the mill rate.

1. Cost of Service Rates: Customers pay water and sewer rates, which represent the operating and capital costs of providing the utility services.

2. Debt Servicing: The Utilities' revenues are sufficient to service the Utilities' long-term debt.

3. Working Capital Reserves: The Water and Sewer Utilities maintain working capital reserves to protect the Utilities' financial position and prevent significant rate fluctuations that may otherwise result from a decline in consumption or major unforeseen expenditures. On an annual basis, the Utilities strive to maintain a minimum combined working capital position of 8% of sales or 60 days combined water and sewer Operating and Maintenance (O&M).

4. Ten Year Financial Plan: Rates in the Water and Sewer Utilities are planned over a ten-year time frame to mitigate the effects of year over year fluctuations and to coincide with the longer term infrastructure development and renewal planning.

5. Infrastructure Renewal: The Water Main Renewal and Sewer System Rehabilitation Reserves were established to provide a consistent approach to financing infrastructure renewal. Maintaining the reserves ensures this approach continues. Reserve contributions by the Utilities are based on an asset management strategy developed by the Utilities and approved through the capital and operating budget processes.

6. Transfers to the General Revenue Fund: The Water and Sewer Utilities transfer funds and/or support operations of the General Revenue Fund in the form of support to the Land Drainage program which funds 100% of the costs of this program, and recreational water for City owned splash pads, pools and arenas.

7. Capital Reserve Funds: The Utilities establish reserves to fund major capital projects. The pay-as-you-go capital program is more economical than traditional debt financing, which equates to lower rates for our customers. In addition, for specific and cost intensive projects, the Department has developed a strategy whereby a portion of the project is funded through reserves and a portion through debt financing. This strategy facilitates an equitable approach for short and long term funding support.

8. Dividends: The Utilities pay an annual dividend to the City of Winnipeg General Revenue Fund as a return on investment. City Council reviews this policy every four years.

WATERWORKS SYSTEM FUND
Financial Projection 2016-2025 ($000s)

Waterworks System	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Revenue										
Sales Revenue	113,878	124,571	129,115	132,062	133,808	136,446	139,451	141,461	143,624	146,016
Non Rate Revenue	4,337	4,320	4,534	4,582	4,823	5,075	5,331	5,598	5,876	6,161
Total Revenue	**118,215**	**128,890**	**133,650**	**136,644**	**138,631**	**141,520**	**144,782**	**147,059**	**149,500**	**152,177**
Expenditures and Appropriations to Capital										
Operating	97,595	99,342	101,664	104,978	107,837	110,744	113,200	115,705	116,963	119,801
Utility Dividend	13,665	14,948	15,494	15,847	16,057	16,373	16,734	16,975	17,235	17,522
Appropriations to Capital	7,346	8,266	8,421	17,291	10,031	12,024	13,832	12,257	12,697	13,205
Total Expenditures and Appropriations to Capital	**118,606**	**122,557**	**125,579**	**138,116**	**133,925**	**139,142**	**143,766**	**144,938**	**146,894**	**150,528**
Surplus(Deficit)	(391)	6,334	8,071	(1,472)	4,706	2,378	1,016	2,121	2,606	1,649
Opening Working Capital	(10,231)	(10,622)	(4,288)	3,783	2,311	7,017	9,396	10,412	12,533	15,139
Ending Working Capital	(10,622)	(4,288)	3,783	2,311	7,017	9,396	10,412	12,533	15,139	16,788
Water Rate ($dollars)	**1.63**	**1.78**	**1.82**	**1.84**	**1.86**	**1.90**	**1.94**	**1.96**	**1.98**	**2.00**
% Change	12.4%	9.2%	2.2%	1.1%	1.1%	2.2%	2.1%	1.0%	1.0%	1.0%
Long-Term Debt Summary										
New debt	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Debt outstanding closing balance	**132,063**	**127,601**	**122,941**	**118,074**	**112,990**	**107,681**	**102,135**	**96,343**	**90,293**	**84,046**

Note: Reflects 12 months of cost requirements.

APPENDIX F

SEWAGE DISPOSAL SYSTEM FUND

SEWAGE DISPOSAL SYSTEM FUND
Financial Projection 2016-2025 ($000s)

Sewage Disposal System	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Revenue										
Sales Revenue	159,132	172,101	189,400	205,426	212,281	218,974	231,076	242,957	245,898	247,777
Non Rate Revenue	9,366	9,324	9,377	8,978	9,255	9,622	10,081	10,608	11,136	11,664
Total Revenue	**168,498**	**181,425**	**198,776**	**214,404**	**221,536**	**228,596**	**241,158**	**253,566**	**257,034**	**259,441**
Expenditures and Appropriations to Capital										
Operating	127,171	136,281	148,125	156,444	170,648	186,580	199,028	201,792	199,462	201,157
Utility Dividend	19,096	20,652	22,728	24,651	25,474	26,277	27,729	29,155	29,508	29,733
Appropriations to Capital	53,396	30,000	34,000	29,438	25,582	17,205	15,000	24,000	28,000	30,000
Total Expenditures and Appropriations to Capital	**199,663**	**186,933**	**204,853**	**210,533**	**221,703**	**230,062**	**241,757**	**254,947**	**256,970**	**260,890**
Surplus(Deficit)	(31,165)	(5,507)	(6,077)	3,871	(168)	(1,466)	(599)	(1,382)	64	(1,449)
Opening Working Capital	61,027	29,862	24,355	18,278	22,149	21,982	20,516	19,917	18,535	18,599
Ending Working Capital	29,862	24,355	18,278	22,149	21,982	20,516	19,917	18,535	18,599	17,150
Sewer Rate $dollars	**$2.40**	**$2.55**	**$2.80**	**$3.00**	**$3.02**	**$3.12**	**$3.32**	**$3.50**	**$3.50**	**$3.50**
$ Change	5.3%	6.3%	9.8%	7.1%	0.7%	3.3%	6.4%	5.4%	0.0%	0.0%
Long-Term Debt Summary										
New debt Environmental Projects	**-**	32,752	124,278	104,904	123,589	126,332	92,854	283	**-**	**-**
Debt outstanding closing balance		**32,752**	**156,506**	**258,898**	**378,296**	**498,460**	**583,124**	**573,732**	**564,052**	**554,372**

Note: Reflects 12 months of cost requirements.

APPENDIX G
CUSTOMER IMPACT TOTAL BILL

		Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Residential 5/8" meter												
240 m3/yr	Water	$348	$391	$427	$437	$442	$446	$456	$466	$470	$475	$480
	Sewer	$547	$576	$612	$672	$720	$725	$749	$797	$840	$840	$840
Total volume charge		$895	$967	$1,039	$1,109	$1,162	$1,171	$1,205	$1,262	$1,310	$1,315	$1,320
Daily Basic Service Charge		$128	$151	$179	$199	$222	$243	$246	$251	$256	$262	$267
Land Drainage Rate		$0	$0	$0	$0	$21	$43	$64	$66	$67	$68	$70
Total Annual Bill		**$1,023**	**$1,118**	**$1,218**	**$1,308**	**$1,405**	**$1,456**	**$1,516**	**$1,579**	**$1,634**	**$1,645**	**$1,656**
Overall $ Change			$94	$100	$90	$97	$51	$59	$64	$54	$11	$11
Overall % Change			9.2%	8.9%	7.4%	7.4%	3.6%	4.1%	4.2%	3.4%	0.7%	0.7%
Commercial 2" meter												
1,600 m3/yr	Water	$2,284	$2,608	$2,848	$2,912	$2,944	$2,976	$3,040	$3,104	$3,136	$3,168	$3,200
	Sewer	$3,648	$3,840	$4,080	$4,480	$4,800	$4,832	$4,992	$5,312	$5,600	$5,600	$5,600
Total volume charge		$5,932	$6,448	$6,928	$7,392	$7,744	$7,808	$8,032	$8,416	$8,736	$8,768	$8,800
Daily Basic Service Charge		$231	$261	$297	$327	$360	$381	$386	$394	$402	$410	$418
Land Drainage Rate	25,000	$0	$0	$0	$0	$214	$214	$216	$220	$224	$229	$234
Total Annual Bill		**$6,163**	**$6,709**	**$7,225**	**$7,719**	**$8,317**	**$8,403**	**$8,634**	**$9,030**	**$9,362**	**$9,407**	**$9,452**
			$546	$516	$493	$599	$85	$231	$396	$332	$44	$45
			8.9%	7.7%	6.8%	7.8%	1.0%	2.8%	4.6%	3.7%	0.5%	0.5%
Large Restaurant 3" meter												
17,700 m3/yr	Water	$24,502	$28,851	$31,506	$32,214	$32,568	$32,922	$33,630	$34,338	$34,692	$35,046	$35,400
	Sewer	$40,356	$42,480	$45,135	$49,560	$53,100	$53,454	$55,224	$58,764	$61,950	$61,950	$61,950
Total volume charge		$64,858	$71,331	$76,641	$81,774	$85,668	$86,376	$88,854	$93,102	$96,642	$96,996	$97,350
Daily Basic Service Charge		$669	$731	$803	$870	$944	$971	$982	$1,002	$1,022	$1,043	$1,064
Land Drainage Rate	38,600	$0	$0	$0	$0	$330	$330	$333	$340	$347	$353	$361
Total Annual Bill		**$65,527**	**$72,062**	**$77,444**	**$82,644**	**$86,942**	**$87,677**	**$90,169**	**$94,444**	**$98,011**	**$98,392**	**$98,774**
			$6,536	$5,382	$5,200	$4,298	$735	$2,492	$4,274	$3,567	$381	$382
			10.0%	7.5%	6.7%	5.2%	0.8%	2.8%	4.7%	3.8%	0.4%	0.4%
Food Processing 8" meter												
254,500 m3/yr	Water	$351,286	$414,835	$453,010	$463,190	$468,280	$473,370	$483,550	$493,730	$498,820	$503,910	$509,000
	Sewer	$580,260	$610,800	$648,975	$712,600	$763,500	$768,590	$794,040	$844,940	$890,750	$890,750	$890,750
	LVSD *	-$129,078	-$138,240	-$149,693	-$168,780	-$184,050	-$185,577	-$193,212	-$208,482	-$222,225	-$222,225	-$222,225
Total volume charge		$802,468	$887,395	$952,293	$1,007,010	$1,047,730	$1,056,383	$1,084,378	$1,130,188	$1,167,345	$1,172,435	$1,177,525
Daily Basic Service Charge		$1,641	$1,777	$1,927	$2,079	$2,243	$2,283	$2,307	$2,354	$2,401	$2,449	$2,498
Land Drainage Rate	150,000	$0	$0	$0	$0	$1,283	$1,282	$1,294	$1,320	$1,347	$1,374	$1,401
Total Annual Bill		**$804,110**	**$889,172**	**$954,219**	**$1,009,089**	**$1,051,256**	**$1,059,948**	**$1,087,980**	**$1,133,862**	**$1,171,093**	**$1,176,258**	**$1,181,424**
			$85,062	$65,048	$54,869	$42,168	$8,692	$28,032	$45,882	$37,231	$5,165	$5,166
			10.6%	7.3%	5.8%	4.2%	0.8%	2.6%	4.2%	3.3%	0.4%	0.4%
Industrial 10" meter - Overstrength Customer												
500,000	Water	$690,076	$815,000	$890,000	$910,000	$920,000	$930,000	$950,000	$970,000	$980,000	$990,000	$1,000,000
400,000	Sewer	$912,000	$960,000	$1,020,000	$1,120,000	$1,200,000	$1,208,000	$1,248,000	$1,328,000	$1,400,000	$1,400,000	$1,400,000
	LVSD *	-$242,407	-$259,763	-$280,697	-$314,965	-$343,402	-$350,188	-$363,324	-$390,208	-$414,936	-$416,134	-$416,134
Subtotal before overstrength		$1,359,670	$1,515,237	$1,629,303	$1,715,035	$1,776,598	$1,787,812	$1,834,676	$1,907,792	$1,965,064	$1,973,866	$1,983,866
2,589	TSS (kg)	$2,667	$2,900	$3,055	$3,236	$3,495	$3,702	$3,987	$4,326	$4,694	$4,834	$4,834
2,031	BOD (kg)	$2,275	$2,275	$2,275	$2,275	$2,478	$2,681	$2,823	$3,063	$3,323	$3,423	$3,423
2,589	TKN (kg)	$7,768	$9,063	$10,358	$11,911	$13,750	$14,216	$14,579	$15,818	$17,162	$17,677	$17,677
4,164	TP (kg)	$33,312	$41,640	$49,968	$62,460	$74,952	$88,693	$91,691	$99,485	$107,941	$111,180	$111,180
Daily Basic Service Charge		$2,073.72	$2,241.56	$2,426.48	$2,615.56	$2,820.24	$2,866.20	$2,896.00	$2,954.24	$3,014.00	$3,073.84	$3,135.20
Land Drainage	150,000	$0.00	$0.00	$0.00	$0.00	$1,283.27	$1,281.58	$1,294.41	$1,320.30	$1,346.70	$1,373.64	$1,401.11
Total Annual Bill		**$1,407,765**	**$1,573,356**	**$1,697,385**	**$1,797,533**	**$1,875,376**	**$1,901,252**	**$1,951,946**	**$2,034,759**	**$2,102,545**	**$2,115,427**	**$2,125,516**
			$165,591	$124,030	$100,148	$77,843	$25,877	$50,694	$82,812	$67,786	$12,882	$10,089
			11.8%	7.9%	5.9%	4.3%	1.4%	2.7%	4.2%	3.3%	0.6%	0.5%

* Large Volume Sewer Discount (LVSD) applies according to conditions in section 89 of Sewer By-Law 92/2010

APPENDIX H
COMPETITIVENESS TO OTHER CANADIAN CITIES

Presented below are known fees and charges applied in other cities that are included in Winnipeg's water and sewer rates. The following tables reflect estimated customer impacts in cities of similar size using 2015 rates and select consumption -- residential (240 m3), commercial (1,600 m3) and large (254,500 m3) customers.

