

CITY OF BRANDON  
PUBLIC UTILITIES BOARD APPLICATION  
2008 -- 2010

September 17, 2007

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## EXECUTIVE SUMMARY – 2008 to 2010 Utility Rate Study

### ***Utility Rate Structure Goals***

1. **SAFETY** -- The new rates must provide sufficient revenue to maintain a safe water supply for the residents and businesses in the City of Brandon. Safe water is a precious commodity that has historically been relatively inexpensive. The proposed rate structure should promote conservation to local consumers. Conservation will also lengthen the time frame before a major expansion in capacity is required in the City of Brandon.
2. **ENVIRONMENT** -- In addition to maintaining a safe water supply, it is also necessary to provide adequate funding to meet and exceed the ever-increasing standards for treatment of wastewater created by Brandon's users. The water leaving Brandon must be, at a minimum, in as good a condition as the water coming into the City, and preferably in better condition.

The City of Brandon is also making a conscious effort to work towards being a sustainable community. This includes recognition that water is a precious resource so conservation and efficient use of that resource is being considered in decision making. Further information regarding the City of Brandon conservation strategy is contained in Appendix E to this document.

3. **SELF-SUFFICIENCY** -- To work towards a self-sufficient utility, decreasing the Utility's reliance upon property tax revenue subsidization.
4. **RELIABILITY** -- To provide the funds required to operate a reliable utility system. This means undertaking capital projects as they should be done and performing preventative repairs and maintenance rather than reacting through crisis management. Estimating future needs for both capital and operations will allow a plan to be put into place to build a revenue base to cover those costs when the projects should be performed, not forcing the City to delay projects to the point of crisis due to financial constraints. In accordance with this strategy, reserve funds have been built up over the previous six years and will be utilized to smooth the financial effect of significant expense fluctuations between years. In addition, the preservation of adequate reserve funding will put the City of Brandon in a position to avoid most future debt issuance excepting only the largest capital projects.
5. **COMPETITIVENESS** -- The new rates should be comparable with the rates charged in other similar-sized cities across the Prairie Provinces. As the City of Brandon competes for both residents and businesses with other cities, it is important to keep Brandon's rates comparable with those of other cities.

## ***Study Cornerstones***

The three-year income statements should allow only minimal accumulations or depletions from the nominal surplus.

Secondly, projections of future operating and capital costs are utilized as they provide the best information to determine future rate requirements. Historical information is essential, but only to the point that it helps to indicate future financial needs. To meet the goal of planning for the future, costs for the future affected by the new rate structure are projected with the best available information, utilizing both Engineering and Treasury personnel.

Thirdly, as it is increased volume that has placed stress on the system and created the need for many of the future increased costs, rate increases should be applied to the various users who create the increased costs on an equitable basis.

Utilizing information from the Engineering and Treasury Departments of the City of Brandon, a projected income statement was created with schedules attached providing further information to support the amounts in the projected income statement.

## ***Proposed Rate Changes***

Public Utility Board Order No. 178/03 approved rates for the years 2004 through 2006. The City of Brandon has completed that time frame and has found that the previous rate increases have allowed the Utility to utilize preventative maintenance programs and the objectives associated with Goal 4 above including the adequate funding of reserves. However, after one year without rate increases, it is proposed to embark on an additional 3-year program of rate increases to further the progress in these areas and to get the Utility closer to its goal of self-sufficiency.

### *1. Service Charges – Currently \$12.50 – Proposed \$13.50, \$15.00, \$16.00*

A \$1.00 per quarter increase in 2008, a \$1.50 increase in 2009 and an increase of \$1.00 in 2010 is proposed. Administrative costs are not being fully covered by the projected service charges generated in any of the years. More appropriate allocation of supervisory and overhead costs in the years covered by this study have necessitated larger increases in this area.

Discounts of approximately 20% are proposed for customers who agree to receive monthly invoicing and make monthly payments using electronic commerce. This is proposed as an incentive to customers that will reduce administrative costs related to the printing and posting of invoices and the cashier function of payment receipt. It is also felt that, as the quarterly bills become more significant in value, there may be a benefit to customers to have the ability to manage and budget their costs on a more frequent basis.

## 2. *Water Rates*

DOMESTIC – Currently \$1.44 – Proposed \$1.46, \$1.49, \$1.53

An increase to the domestic rates in the declining block structure of \$0.02 per cubic meter for the year 2008, \$0.03 per cubic meter for the year 2009, and \$0.04 for the year 2010 is proposed.

INTERMEDIATE – Currently \$1.16 – Proposed \$1.20, \$1.25, \$1.31

An increase to the intermediate rates in the declining block structure of \$0.04 per cubic meter for the year 2008, \$0.05 per cubic meter for the year 2009, and \$0.06 for the year 2010 is proposed.

WHOLESALE – Currently \$0.98 – Proposed \$1.04, \$1.12, \$1.21

An increase to the wholesale rates in the declining block structure of \$0.06 per cubic meter for the year 2008, \$0.08 per cubic meter for the year 2009, and \$0.09 for the year 2010 is proposed.

By applying higher increases to the intermediate level and then even higher increases to the wholesale level, the City of Brandon is attempting to further collapse the declining block structure with an end goal of a single rate per unit in the year 2013. As it is partially the volume used that stresses the system and creates increased costs, the proposed increases charge the consumers who create the costs in a more equitable format through volume used and may promote further conservation efforts by the high volume customers. By the year 2010, the water revenue collected is projected be relatively equal to the costs associated with water treatment and distribution with a slight deficit.

Bulk water rates are proposed to remain steady at 25 cents per 35 gallons or \$1.57 per cubic meter. This will marginally maintain the bulk rate in excess of the metered rate throughout the three-year period.

## 3. *Wastewater Rates*

DOMESTIC / INTERMEDIATE – Currently \$0.68 – Proposed \$0.73, \$0.77, \$0.81

An increase to the domestic / intermediate rates in the declining block structure of \$0.05 per cubic meter in 2008 and \$0.04 in 2009 and 2010 is proposed.

WHOLESALE – Currently \$0.53 – Proposed \$0.60, \$0.66, \$0.72

An increase to the wholesale rate in the declining block structure of \$0.07 per cubic meter in 2008 and \$0.06 in 2009 and 2010 is proposed.

As with water rates, these proposed rate increases charge users who create the increased costs in a more equitable format. Although wastewater revenues are projected to exceed wastewater expenses in 2010, the rates are trending up to prepare for the expected debt servicing that will occur in 2011 and future. It is also expected that future undefined costs dictated by increasing environmental standards will necessitate wastewater rates to increase more rapidly than water rates.

#### *4. Service Charges*

Fees for service calls related to re-sealing meters or connections and disconnections are proposed to increase from \$50 to \$75 to more closely reflect the cost of the service provided. Additionally, the hydrant fee is proposed to increase from \$125 to \$200 for the same reason. These fees have not been adjusted for several years.

### **Comparisons**

In comparing the utility rates with those projected in other cities across the prairies, Brandon's rates are expected to be comparable for residents, business and industry. A comparison was performed through surveying twelve other cities across the Prairie Provinces and determining the utility rates charged in those cities. The comparison utilized actual volumes for users in the City of Brandon and the rate structures of the other cities to calculate total yearly utility charges. For other cities, the rates have been estimated at current rates increased by 4% where the actual 2008 rates were unavailable. Of the thirteen cities compared, a residential user in Brandon would pay the eighth lowest bill and a large industrial user would have the tenth lowest bill, as evidenced in Appendix B.

It should be noted that the City of Brandon water rates are relatively higher compared to other centres as opposed to wastewater rates. Water distribution and wastewater collection systems do not vary significantly from one community to the next unless there is a reason such as large elevation differences, sparsely populated areas, etc. that would cause cost per customer to be greater than the norm. Wastewater and water treatment expenses can vary significantly from community to community based on the quality of the source water for water treatment and the ability of the receiving stream to accept relatively greater wastewater loadings. In Brandon's case, the Assiniboine River is our source water for the water treatment facility. The Assiniboine River flow varies significantly throughout the year which creates quality issues during spring run-off and low flow periods. The poor source water quality adds to the capital and operating expenses by increasing the level of effort required to soften and clarify the water.

During the course of this recent study, it was also noted that wastewater rates appear to be trending upwards more dramatically in most centres driven by environmental regulations requiring a greater degree of treatment.

### **Summary**

Brandon's proposed rates will encourage conservation while remaining comparable with those of the other like-sized centres, as set out as one goal for the new rates. The rates proposed are sufficient to allow Brandon's utility to become less reliant upon general fund subsidization and continue the process of building reserve funds to a level to pay for future projects. The proposed rate structure will also provide revenue to perform capital projects and to operate in accordance with future plans. Most importantly, the rate increases provide sufficient revenue to maintain a safe water supply.

## APPENDIX A – Forecasted Income Statement and Supporting Schedules

**CITY OF BRANDON  
UTILITY RATE STUDY  
PROJECTED INCOME STATEMENT, 2008-2010**

	2008	2009	2010
<b>REVENUE</b>			
<b>Service Charges</b> , per schedule 2	\$ 706,104	\$ 784,560	\$ 836,864
<b>Consumption Charges</b> , per schedule 3			
Water Charges	8,354,354	8,938,086	9,349,317
Wastewater Charges	3,690,289	3,908,989	4,127,690
<b>Total Consumption Charges</b>	<b>12,044,643</b>	<b>12,847,075</b>	<b>13,477,007</b>
<b>Total Revenue</b>	<b>12,750,747</b>	<b>13,631,635</b>	<b>14,313,871</b>
<b>EXPENSES</b> , per schedule 1			
<b>Water</b>			
Operating	4,959,627	5,089,811	5,248,791
Debt Servicing	686,250	687,372	737,548
Capital and Reconstruction	1,561,250	2,185,000	2,020,000
Reserve Appropriations	1,350,000	1,350,000	1,350,000
<b>Total Water Expenses</b>	<b>8,557,127</b>	<b>9,312,183</b>	<b>9,356,339</b>
<b>Wastewater</b>			
Operating	1,744,253	1,776,981	1,765,263
Debt Servicing	-	-	784,978
Capital and Reconstruction	200,000	250,000	-
Reserve Appropriations	500,000	500,000	500,000
<b>Total Wastewater Expenses</b>	<b>2,444,253</b>	<b>2,526,981</b>	<b>3,050,241</b>
<b>Total Expenses</b>	<b>11,001,380</b>	<b>11,839,164</b>	<b>12,406,580</b>
<b>Income (Loss) Before Other Items</b>	<b>1,749,367</b>	<b>1,792,471</b>	<b>1,907,291</b>
<b>Utility Administration</b> , per schedule 1	1,764,411	1,805,521	1,859,688
<b>Income (Loss) for the Year</b>	<b>\$ (15,044)</b>	<b>\$ (13,050)</b>	<b>\$ 47,603</b>

**CITY OF BRANDON  
UTILITY RATE STUDY  
SCHEDULE 1: EXPENDITURES AND OTHER ITEMS**

	YEAR		
	2008	2009	2010
<b>WATER EXPENSES</b>			
<b>Operating Expenses</b>			
Water Supply	\$ 423,811	\$ 432,278	\$ 445,246
Transmissions and Distribution	1,497,710	1,530,199	1,576,105
Maintenance of Dam	10,000	10,000	10,000
Water Treatment	3,409,306	3,503,534	3,608,640
Recoveries:			
Hydrant Rentals	(249,200)	(249,200)	(249,200)
Bulk Water Sales	(40,000)	(40,000)	(40,000)
Miscellaneous Revenues	(50,000)	(55,000)	(60,000)
Water Penalties	(42,000)	(42,000)	(42,000)
<b>Total Operating Expenses</b>	<b>4,959,627</b>	<b>5,089,811</b>	<b>5,248,791</b>
<b>Debt Servicing</b> - Future Debenture Costs (Sched 6)	<b>686,250</b>	<b>687,372</b>	<b>737,548</b>
<b>Capital and Reconstruction</b>			
Water Reconstruction	900,000	390,000	485,000
Water Capital, per schedule 4	661,250	1,795,000	160,000
<b>Total Capital and Reconstruction</b>	<b>1,561,250</b>	<b>2,185,000</b>	<b>645,000</b>
<b>Reserve Allocations</b>	<b>1,350,000</b>	<b>1,350,000</b>	<b>1,350,000</b>
<b>Total Water Expenses</b>	<b>8,557,127</b>	<b>9,312,183</b>	<b>7,981,339</b>
<b>WASTEWATER EXPENSES</b>			
<b>Operating Expenses</b>			
Wastewater Collection	687,832	636,050	655,132
Wastewater Treatment and Disposal	1,537,041	1,616,591	1,637,516
Recoveries:			
Net Wastewater Treatment Revenues	(411,620)	(406,660)	(458,385)
Industrial Surcharges	(42,000)	(42,000)	(42,000)
Miscellaneous Revenues	(9,000)	(9,000)	(9,000)
Wastewater Penalties	(18,000)	(18,000)	(18,000)
<b>Total Operating Expenses</b>	<b>1,744,253</b>	<b>1,776,981</b>	<b>1,765,263</b>
<b>Debt Servicing</b> - Future Debenture Pmts (Sched 6)			784,978
<b>Capital and Reconstruction</b>			
Wastewater Reconstruction			
Wastewater Capital, per schedule 5	200,000	250,000	
<b>Total Capital and Reconstruction</b>	<b>200,000</b>	<b>250,000</b>	<b>-</b>
<b>Reserve Allocations</b>	<b>500,000</b>	<b>500,000</b>	<b>500,000</b>
<b>Total Wastewater Expenses</b>	<b>2,444,253</b>	<b>2,526,981</b>	<b>3,050,241</b>
<b>OTHER ITEMS</b>			
Transfer from General Fund	(1,748,146)	(1,691,549)	(783,082)
Debenture Payments Funded by General Fund	1,748,146	1,691,549	783,082
Utility Administration	1,764,411	1,805,521	1,859,688
<b>Total Other Items</b>	<b>1,764,411</b>	<b>1,805,521</b>	<b>1,859,688</b>
<b>Total Expenses and Other Items</b>	<b>\$ 12,765,791</b>	<b>\$ 13,644,685</b>	<b>\$ 12,891,268</b>

**CITY OF BRANDON  
UTILITY RATE STUDY  
SCHEDULE 2 - SERVICE CHARGE CALCULATION**

METER SIZE	NUMBER OF METERS	YEARS		
		2008	2009	2010
0.63"	12048	\$ 650,592	\$ 722,880	\$ 771,072
0.75"	390	21,060	23,400	24,960
1"	335	18,090	20,100	21,440
1.5"	140	7,560	8,400	8,960
2"	129	6,966	7,740	8,256
3"	23	1,242	1,380	1,472
4"	4	216	240	256
6"	6	324	360	384
8"	1	54	60	64
<b>Total Service Charges</b>		<b>\$ 706,104</b>	<b>\$ 784,560</b>	<b>\$ 836,864</b>

**Quarterly Service Charges:**

2007	\$ 12.50		
2008	\$ 13.50		
2009		\$ 15.00	
2010			\$ 16.00

<b>Monthly Service Charges</b>	\$ 3.60	\$ 4.00	\$ 4.25
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**NOTE:**

Customers qualifying for the monthly billing option will be charged based on one-third of the quarterly charge discounted by 20%.

**CITY OF BRANDON  
UTILITY RATE STUDY  
SCHEDULE 3 - WATER AND WASTEWATER USAGE CHARGES  
Current Thresholds**

Consumption Levels (cubic meters)	2007 Actual Rates			2008 Proposed			2009 Proposed			2010 Proposed		
	Rate	Increase	Charges	Rate	Increase	Charges	Rate	Increase	Charges	Rate	Increase	Charges
<b>Water Consumption Charges</b>												
0-150	\$ 1.44	\$ 1.46	1.39%	\$ 4,409,606.00	\$ 1.49	2.05%	\$ 4,500,214.00	\$ 1.53	2.68%	\$ 4,621,025.00		
151-3000	\$ 1.16	\$ 1.20	3.45%	\$ 1,963,919.00	\$ 1.25	4.17%	\$ 2,045,749.00	\$ 1.31	4.80%	\$ 2,143,945.00		
over 3000	\$ 0.98	\$ 1.04	6.12%	\$ 1,980,829.00	\$ 1.12	7.69%	\$ 2,392,123.00	\$ 1.21	8.04%	\$ 2,584,347.00		
				<b>\$ 8,354,354.00</b>			<b>\$ 8,938,086.00</b>			<b>\$ 9,349,317.00</b>		
<b>Wastewater Charges</b>												
3000 and under	\$ 0.68	\$ 0.73	7.35%	\$ 3,325,451.00	\$ 0.77	5.48%	\$ 3,507,667.00	\$ 0.81	5.19%	\$ 3,689,884.00		
over 3000	\$ 0.53	\$ 0.60	13.21%	\$ 364,838.00	\$ 0.66	10.00%	\$ 401,322.00	\$ 0.72	9.09%	\$ 437,806.00		
				<b>\$ 3,690,289.00</b>			<b>\$ 3,908,989.00</b>			<b>\$ 4,127,690.00</b>		
<b>Total Consumption Charges</b>				<b>\$ 12,044,643.00</b>			<b>\$ 12,847,075.00</b>			<b>\$ 13,477,007.00</b>		
Domestic	\$ 2.12	\$ 2.19	3.30%		\$ 2.26	3.20%		\$ 2.34	3.54%			
Intermediate	\$ 1.84	\$ 1.93	4.89%		\$ 2.02	4.66%		\$ 2.12	4.95%			
Wholesale	\$ 1.51	\$ 1.64	8.61%		\$ 1.78	8.54%		\$ 1.93	8.43%			
REVENUE INCREASE						5.60%						4.90%

**VOLUME ASSUMPTIONS (cubic meters)**

		<b>ACTUAL (2006)</b>		<b>ESTIMATED (2008)</b>		<b>ESTIMATED (2009)</b>		<b>ESTIMATED (2010)</b>
<b>Water</b>								
0-150	46.97%	3,020,278	46.03%	3,020,278	44.46%	3,020,278	44.46%	3,020,278
151-3000	25.45%	1,636,599	24.94%	1,636,599	24.09%	1,636,599	24.09%	1,636,599
over 3000	27.58%	1,773,373	29.03%	1,904,643	31.44%	2,135,824	31.44%	2,135,824
<b>Wastewater</b>								
3000 and under		4,555,412		4,555,412		4,555,412		4,555,412
over 3000		608,064		608,064		608,064		608,064

**CITY OF BRANDON  
UTILITY RATE STUDY  
SCHEDULE 4: FUTURE CAPITAL PROJECTS - WATER**

	<b>RATE FUNDED AMOUNT</b>	<b>RESERVE FUNDED AMOUNT</b>	<b>DEBT FUNDED AMOUNT</b>
<b>2008</b>			
WTF DISINFECTION IMPLEMENTATION	\$ 150,000		
WTF HYDRAULIC UPGRADE	250,000		
WTF LOW LIFT PUMPING AND REACTOR UPGRADE		2,200,000	
WATERMAIN - CURRIE BOULEVARD	261,250		
	<b>\$ 661,250</b>	<b>\$ 2,200,000</b>	<b>\$ -</b>
<b>2009</b>			
WATER METER TRANSMITTER BATTERY REPLACEMENT	160,000		
WTF LOW LIFT PUMPING AND REACTOR UPGRADE		1,000,000	
ALTERNATE POWER - BOOSTER STATIONS	400,000		
WTF BOILER / CHEMICAL STORAGE	650,000		
WATERMAIN - VICTORIA AVE E	585,000		
	<b>\$ 1,795,000</b>	<b>\$ 1,000,000</b>	<b>\$ -</b>
<b>2010</b>			
WATER METER READING EQUIPMENT REPLACEMENT	40,000		
WATER METER TRANSMITTER BATTERY REPLACEMENT	160,000		
WTF SOLIDS CONTACT UNIT RETROFIT PHASE I		1,000,000	
DEBENTURE BALLOON PAYMENTS		1,571,334	
WTF DISINFECTION IMPLEMENTATION			3,500,000
WATERMAIN - VICTORIA AVE E	585,000		
WTF INTAKE STRUCTURE	750,000		
	<b>\$ 1,535,000</b>	<b>\$ 2,571,334</b>	<b>\$ 3,500,000</b>
<b>2011</b>			
WATER METER TRANSMITTER BATTERY REPLACEMENT	160,000		
WTF FILTERS AND MEDIA REPLACEMENT		1,600,000	
WTF CHEMICAL UPGRADE			3,500,000
WTF YARD PIPING REFURBISH	300,000		
	<b>\$ 460,000</b>	<b>\$ 1,600,000</b>	<b>\$ 3,500,000</b>
<b>2012</b>			
WATER METER TRANSMITTER BATTERY REPLACEMENT	160,000		
WTF FILTERS AND MEDIA REPLACEMENT		1,600,000	
	<b>\$ 160,000</b>	<b>\$ 1,600,000</b>	<b>\$ -</b>

**CITY OF BRANDON  
UTILITY RATE STUDY  
SCHEDULE 5: FUTURE CAPITAL PROJECTS - WASTEWATER**

	<b>RATE FUNDED AMOUNT</b>	<b>RESERVE FUNDED AMOUNT</b>	<b>DEBT FUNDED AMOUNT</b>
<b>2008</b>			
ELDERWOOD LIFT STATION UPGRADE	\$ 200,000		
WWTF UPGRADE, combined treatment design		300,000	
	<b>\$ 200,000</b>	<b>\$ 300,000</b>	<b>\$ -</b>
<b>2009</b>			
WWTF UPGRADE, combined treatment			7,750,000
WWTF PRIMARY TREATMENT ROTATING SCREENS	250,000		
	<b>\$ 250,000</b>	<b>\$ -</b>	<b>\$ 7,750,000</b>
<b>2010</b>			
DEBENTURE BALLOON PAYMENTS		2,382,686	
ALTERNATE POWER - LIFT STATIONS	200,000		
WWTF UPGRADE, combined treatment			7,750,000
	<b>\$ 200,000</b>	<b>\$ 2,382,686</b>	<b>\$ 7,750,000</b>
<b>2011</b>			
	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>2012</b>			
	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**CITY OF BRANDON  
 UTILITY RATE STUDY  
 SCHEDULE 6: FUTURE DEBENTURED PROJECTS (PAYMENTS)**

<b>WATER PROJECTS</b>			
<b>AMOUNT</b>	<b>YEAR ISSUED</b>	<b>ANNUAL DEBT SERVICING</b>	<b>DESCRIPTION</b>
\$ 3,500,000	2010	\$ 354,506	WTF DISINFECTION IMPLEMENTATION
\$ 3,500,000	2011	\$ 354,506	WTF UPGRADE CHEMICAL DISTRIBUTION SYSTEM
\$ 10,000,000	2020	\$ 1,012,875	NINTH STREET RESERVOIR STORAGE

<b>WASTEWATER PROJECTS</b>			
<b>AMOUNT</b>	<b>YEAR ISSUED</b>	<b>ANNUAL DEBT SERVICING</b>	<b>DESCRIPTION</b>
\$ 7,750,000	2009	\$ 784,978	COMBINED TREATMENT PHASE II
\$ 7,750,000	2010	\$ 784,978	COMBINED TREATMENT PHASE III

**NOTE: Debt servicing charges begin in the year following the year issued.**

**CITY OF BRANDON  
UTILITY RATE STUDY  
ASSUMPTIONS**

- 1 New debentures are estimated to have 15 year repayment terms carrying interest at 5.75%.
- 2 New debentures are assumed to be issued late in the year with servicing beginning in the next year.
- 3 Debt issuance and reserve appropriations are net of conditional grant recoveries expected
- 4 Interest rate on deposits is estimated at 4%.
- 5 Any outside funding received for capital projects, such as government grants, will be used to create funds to fund projects that have been delayed.
- 6 Operating expenses are those amounts estimated in the operating budgets for the years 2008-2010.
- 7 Reserve allocations are those required to maintain the reserves at target assuming capital projects as outlined in 10 year plan.
- 8 For service charge calculation, the number of users has been estimated as the same. If the number of users increases or decreases significantly, the costs of administration which the service charges cover will also increase or decrease.
- 9 The consumption for years 2008-2010 has been estimated to remain constant at 2006 levels with the exception of one large customer. Otherwise, it is believed that the rising price of the commodity will drive conservation efforts. Therefore, any increase in consumption that results from growth in meter population is expected to be lost through conservation.
- 10 Rate increases are assumed to take effect in January of each year.
- 11 To qualify for the monthly billing option customers must agree to receive invoicing electronically and make payment using an automatic debit method.

## APPENDIX B – Reserve Funds

### WATER DISTRIBUTION RESERVE

	ESTIMATED OPENING BALANCE	APPROPRIATIONS		INTEREST EARNED	PROPOSED EXPENDITURES	CLOSING BALANCE
		Funded by:				
		Rates	Other			
<b>2007</b>	4,795,555	1,000,000		157,622	2,710,000	3,243,177
<b>2008</b>	3,243,177	1,350,000		112,727	2,200,000	2,505,904
<b>2009</b>	2,505,904	1,350,000		107,236	1,000,000	2,963,140
<b>2010</b>	2,963,140	1,350,000		94,099	2,571,334	1,835,905
<b>2011</b>	1,835,905	1,200,000		65,436	1,600,000	1,501,341
<b>2012</b>	1,501,341	1,200,000		52,054	1,600,000	1,153,395
<b>2013</b>	1,153,395	1,200,000		45,136	1,250,000	1,148,531

### WASTEWATER RESERVE

	ESTIMATED OPENING BALANCE	APPROPRIATIONS		INTEREST EARNED	PROPOSED EXPENDITURES	CLOSING BALANCE
		Funded by:				
		Rates	Other			
<b>2007</b>	2,980,786	325,000		81,231	2,225,000	1,162,017
<b>2008</b>	1,162,017	500,000		50,481	300,000	1,412,498
<b>2009</b>	1,412,498	500,000		66,500		1,978,998
<b>2010</b>	1,978,998	500,000		41,506	2,382,686	137,818
<b>2011</b>	137,818	500,000		15,513		653,331
<b>2012</b>	653,331	500,000		36,133		1,189,464
<b>2013</b>	1,189,464	500,000		57,579		1,747,043

APPENDIX C – Rate Comparisons to Other Centres

**CITY OF BRANDON- WATER & SEWER RATE COMPARISON  
ANNUAL WATER & SEWER RATES - DOMESTIC**

<i>Prior Study Rank</i>	<i>2007 Rank</i>	<i>2008 Rank</i>	<i>Centre</i>	<i>Difference from Brandon</i>	<i>2007 Annual Charges</i>	<i>Difference from Brandon</i>	<i>2008 Annual Charges</i>	
1	1	1	Steinbach	\$ (321.58)	\$ 322.02	\$ (332.30)	\$ 334.90	3.9998%
2	2	2	Moose Jaw	\$ (204.92)	\$ 438.68	\$ (203.68)	\$ 463.52	5.6624%
3	3	3	Saskatoon	\$ (129.63)	\$ 513.97	\$ (132.67)	\$ 534.53	4.0002%
5	4	4	Red Deer	\$ (80.78)	\$ 562.82	\$ (81.87)	\$ 585.33	3.9995%
9	6	5	Selkirk	\$ (39.99)	\$ 603.61	\$ (39.45)	\$ 627.75	3.9993%
8	5	6	Portage la Prairie	\$ (41.14)	\$ 602.46	\$ (28.77)	\$ 638.43	5.9705%
4	7	7	Medicine Hat	\$ (9.62)	\$ 633.98	\$ (7.86)	\$ 659.34	4.0001%
<b>10</b>	<b>9</b>	<b>8</b>	<b>Brandon</b>	\$ -	<b>\$ 643.60</b>	\$ -	<b>\$ 667.20</b>	3.6669%
11	10	9	Lethbridge	\$ 2.03	\$ 645.63	\$ 4.26	\$ 671.46	4.0007%
6	8	10	Prince Albert	\$ (0.17)	\$ 643.43	\$ 35.77	\$ 702.97	9.2535%
7	11	11	Calgary	\$ 64.52	\$ 708.12	\$ 79.56	\$ 746.76	5.4567%
12	12	12	Regina	\$ 109.14	\$ 752.74	\$ 115.65	\$ 782.85	4.0001%
13	13	13	Winnipeg	\$ 163.80	\$ 807.40	\$ 235.12	\$ 902.32	11.7563%

NOTE calculation based on an average household consumption of 70 cubic meters per quarter assumes a 4% increase to the centres that have not established 2008 rates

## CITY OF BRANDON- WATER & SEWER RATE COMPARISON ANNUAL WATER & SEWER RATES - BUSINESS

<i>Prior Study Rank</i>	<i>2007 Rank</i>	<i>2008 Rank</i>	<i>Centre</i>	<i>Difference from Brandon</i>	<i>2007 Annual Charges</i>	<i>Difference from Brandon</i>	<i>2008 Annual Charges</i>	
	2	1	Steinbach	\$ (17,831.77)	\$ 24,398.23	\$ (19,643.84)	\$ 25,374.16	4.0000%
	1	2	Moose Jaw	\$ (18,108.80)	\$ 24,121.20	\$ (19,104.60)	\$ 25,913.40	7.4300%
	3	3	Prince Albert	\$ (9,223.60)	\$ 33,006.40	\$ (11,720.72)	\$ 33,297.28	0.8813%
	10	4	Calgary	\$ (9,196.88)	\$ 33,033.12	\$ (11,069.28)	\$ 33,948.72	2.7718%
	4	5	Selkirk	\$ (7,670.33)	\$ 34,559.67	\$ (9,075.94)	\$ 35,942.06	4.0000%
	5	6	Red Deer	\$ (7,086.87)	\$ 35,143.13	\$ (8,469.14)	\$ 36,548.86	4.0000%
	7	7	Saskatoon	\$ (6,378.64)	\$ 35,851.36	\$ (7,732.59)	\$ 37,285.41	4.0000%
	8	8	Lethbridge	\$ (6,363.30)	\$ 35,866.70	\$ (7,716.63)	\$ 37,301.37	4.0000%
	9	9	Medicine Hat	\$ (5,939.00)	\$ 36,291.00	\$ (7,275.36)	\$ 37,742.64	4.0000%
	6	10	Portage la Prairie	\$ (6,897.28)	\$ 35,332.72	\$ (7,170.33)	\$ 37,847.67	7.1179%
	<b>11</b>	<b>11</b>	<b>Brandon</b>	\$ -	\$ <b>42,230.00</b>	\$ -	\$ <b>45,018.00</b>	6.6019%
	12	12	Regina	\$ 1,807.68	\$ 44,037.68	\$ 781.19	\$ 45,799.19	4.0000%
	13	13	Winnipeg	\$ 19,410.00	\$ 61,640.00	\$ 25,012.68	\$ 70,030.68	13.6124%

NOTE calculation based on a large full service hotel consumption of 6,300 cubic meters per quarter assumes a 4% increase to the centres that have not established 2008 rates

## CITY OF BRANDON- WATER & SEWER RATE COMPARISON ANNUAL WATER & SEWER RATES - INDUSTRIAL

<i>Prior Study Rank</i>	<i>2007 Rank</i>	<i>2008 Rank</i>	<i>Centre</i>	<i>Difference from Brandon</i>	<i>2007 Annual Charges</i>	<i>Difference from Brandon</i>	<i>2008 Annual Charges</i>	
2	1	1	Steinbach	\$ (1,570,243.87)	\$ 245,934.13	\$ (1,715,918.50)	\$ 255,771.50	4.0000%
10	2	2	Selkirk	\$ (905,045.73)	\$ 911,132.27	\$ (1,024,112.44)	\$ 947,577.56	4.0000%
4	3	3	Portage la Prairie	\$ (750,606.95)	\$ 1,065,571.05	\$ (821,077.62)	\$ 1,150,612.38	7.9808%
3	4	4	Moose Jaw	\$ (727,073.24)	\$ 1,089,104.76	\$ (801,684.66)	\$ 1,170,005.34	7.4282%
1	5	5	Calgary	\$ (427,753.64)	\$ 1,388,424.36	\$ (388,707.48)	\$ 1,582,982.52	14.0129%
7	6	6	Saskatoon	\$ (420,138.97)	\$ 1,396,039.03	\$ (519,809.41)	\$ 1,451,880.59	4.0000%
8	7	7	Prince Albert	\$ (331,112.60)	\$ 1,485,065.40	\$ (485,054.79)	\$ 1,486,635.21	0.1057%
6	8	8	Red Deer	\$ (320,757.62)	\$ 1,495,420.38	\$ (416,452.80)	\$ 1,555,237.20	4.0000%
5	9	9	Medicine Hat	\$ (109,791.32)	\$ 1,706,386.68	\$ (197,047.85)	\$ 1,774,642.15	4.0000%
<b>9</b>	<b>10</b>	<b>10</b>	<b>Brandon</b>	\$ -	<b>\$ 1,816,178.00</b>	\$ -	<b>\$ 1,971,690.00</b>	8.5626%
11	11	11	Regina	\$ 162,128.05	\$ 1,978,306.05	\$ 85,748.29	\$ 2,057,438.29	4.0000%
12	12	12	Winnipeg	\$ 1,004,189.17	\$ 2,820,367.17	\$ 1,242,859.37	\$ 3,214,549.37	13.9763%

NOTE calculation based on a large industrial company consumption of 63,625 cubic meters per quarter assumes a 4% increase to the centres that have not established 2008 rates  
**Lethbridge has been removed from this category because the calculation relies on content of sewerage metrics**

**CONTINUING CONSOLIDATION  
WATER AND WASTEWATER RATES  
BY-LAW NO. 6877**

**BEING A BY-LAW of The City of Brandon to establish water and wastewater rates for the use of water and wastewater facilities owned and operated by the City of Brandon;**

**WHEREAS it is deemed necessary and expedient to establish a new schedule of water and wastewater rates for the use of water and wastewater facilities owned and operated by the City of Brandon;**

**AND WHEREAS it is deemed necessary and expedient to repeal the schedule of water and wastewater rates presently in effect as authorized by By-law No. 6753 and approved by The Public Utilities Board Order No. 178/03.**

**NOW THEREFORE the Council of the City of Brandon, duly assembled, enacts as follows:**

- 1. By-law No. 6753 as approved by The Public Utilities Board Order No. 178/03 is hereby repealed;**
- 2. Schedule “A” attached hereto be the current schedule of water and wastewater rates.**
- 3. This by-law and the rates hereto shall come into full force and effect on the day following the date of passage.**

**DONE AND PASSED by the Council of The City of Brandon duly assembled this day of A.D. 2007.**

-

**MAYOR**

**CITY CLERK**

**Read a first time this            day of            A.D. 2007**

**Read a second time this        day of            A.D. 2007**

**Read a third time this         day of            A.D. 2007**

**SCHEDULE "A"**  
**to Water and Wastewater Rates By-law No. 6877**

**1. SCHEDULE OF RATES - 2008**

**(a) Quarterly Commodity Rates**

	Rates per Cubic Meter		
	<u>Water</u>	<u>Wastewater</u>	<u>Water &amp; Wastewater</u>
First 150 cu. m. per quarter (Domestic Rate)	\$1.46	\$0.73	\$ 2.19
Next 2,850 cu. m. per quarter (Intermediate Rate)	\$1.20	\$0.73	\$ 1.93
All over 3,000 cu. m. per quarter (Wholesale Rate)	\$1.04	\$0.60	\$ 1.64

**(b) Quarterly Service Charge (per meter)**

**\$13.50**

**(c) Monthly Commodity Rates**

	Rates per Cubic Meter		
	<u>Water</u>	<u>Wastewater</u>	<u>Water &amp; Wastewater</u>
First 50 cu. m. per month (Domestic Rate)	\$1.46	\$0.73	\$ 2.19
Next 950 cu. m. per month (Intermediate Rate)	\$1.20	\$0.73	\$ 1.93
All over 1,000 cu. m. per month (Wholesale Rate)	\$1.04	\$0.60	\$ 1.64

**(d) Monthly Service Charge (per meter)**

**\$ 3.60**

2. **SCHEDULE OF RATES - 2009**

(a) **Quarterly Commodity Rates**

	Rates per Cubic Meter		
	<u>Water</u>	<u>Wastewater</u>	<u>Water &amp; Wastewater</u>
First 150 cu. m. per quarter (Domestic Rate)	\$1.49	\$0.77	\$ 2.26
Next 2,850 cu. m. per quarter (Intermediate Rate)	\$1.25	\$0.77	\$ 2.02
All over 3,000 cu. m. per quarter (Wholesale Rate)	\$1.12	\$0.66	\$ 1.78

(b) **Quarterly Service Charge (per meter)** \$15.00

(c) **Monthly Commodity Rates**

	Rates per Cubic Meter		
	<u>Water</u>	<u>Wastewater</u>	<u>Water &amp; Wastewater</u>
First 50 cu. m. per month (Domestic Rate)	\$1.49	\$0.77	\$ 2.26
Next 950 cu. m. per month (Intermediate Rate)	\$1.25	\$0.77	\$ 2.02
All over 1,000 cu. m. per month (Wholesale Rate)	\$1.12	\$0.66	\$ 1.78

(d) **Monthly Service Charge (per meter)** \$ 4.00

3. **SCHEDULE OF RATES - 2010**

(a) **Quarterly Commodity Rates**

	Rates per Cubic Meter		
	<u>Water</u>	<u>Wastewater</u>	<u>Water &amp; Wastewater</u>
First 150 cu. m. per quarter (Domestic Rate)	\$1.53	\$0.81	\$ 2.34
Next 2,850 cu. m. per quarter (Intermediate Rate)	\$1.31	\$0.81	\$ 2.12
All over 3,000 cu. m. per quarter (Wholesale Rate)	\$1.21	\$0.72	\$ 1.93

(b) **Quarterly Service Charge (per meter)**

\$16.00

(c) **Monthly Commodity Rates**

	Rates per Cubic Meter		
	<u>Water</u>	<u>Wastewater</u>	<u>Water &amp; Wastewater</u>
First 50 cu. m. per month (Domestic Rate)	\$1.53	\$0.81	\$ 2.34
Next 950 cu. m. per month (Intermediate Rate)	\$1.31	\$0.81	\$ 2.12
All over 1,000 cu. m. per month (Wholesale Rate)	\$1.21	\$0.72	\$ 1.93

(d) **Monthly Service Charge (per meter)**

\$ 4.25

4. **Meter Resealing Fee**

When damages or meter tampering or both are reported all costs to restore or replace the meter, as determined by the City Engineer, plus payment for the estimated quantity of unmetered water and related wastewater commodity charge, plus a charge of \$75.00 for resealing the meter shall be charged unless prior written authorization for breaking the seal was issued by the City Engineer.

5. **Disconnection Fee**

A customer who is disconnected from the utility, including temporary hydrant disconnections, either at their request or due to the non payment of bills shall be charged a disconnection fee of \$75.00.

6. **Connection Fee**

A customer who requires either a temporary hydrant connection or a reconnection of an existing service shall be charged a fee of \$75.00 per connection.

7. **Bulk Water Sales**

All water sold in bulk shall be charged at the rate of \$0.25 per 35 gallons.

8. **Hydrant Fee**

The City of Brandon or any other hydrant owner will pay to the utility an annual fee of \$200.00 for each hydrant connected to the system which shall include the cost of annual inspection and water used for firefighting.

9. **Wastewater Surcharge**

City Council may, by resolution, impose a surcharge for wastewater having a Biochemical Oxygen Demand (BOD) in excess of 300 parts per million (ppm) and containing substances requiring special treatment; such charge to be based on the actual costs of the additional treatment required for the particular wastewater or industrial wastewater and each such resolution shall be considered as though an amendment to this by-law has been enacted.

10. **Additional Meters**

Where deemed expedient, the City may elect to install auxiliary meters to separately record the amount of wastewater or water for billing purposes or upon application to the City Engineer, by an owner or operator of a premises where a wastewater service is installed, the City shall install an auxiliary meter at the expense of the applicant, for such purpose.

11. **Estimated Wastewater Quantity**

Where there is a private water supply and no wastewater meter is installed, the cost for wastewater shall be based upon the average consumption of water for that type of user as established from time to time by the City.

**12. Billings and Penalties**

A late payment charge of 1¼% per month shall be charged on the dollar amount owing after the billing due date. The due date will be not less than fourteen (14) days after the mailing of bills.

**13. Disconnection**

Service may be disconnected and discontinued immediately and without further notice in the event of non-payment of the account within 30 days after due date.

**14. Reconnection**

Any service disconnected due to non-payment of account shall not be reconnected until all arrears, penalties, the disconnection fee and the reconnection fee have been paid.

**15. Outstanding Bills**

Pursuant to Section 252(2) of The Municipal Act, the amount of all outstanding charges for water and wastewater service are a lien and charge upon the land serviced, and shall be collected in the same manner in which ordinary taxes upon the land are collectible, and with like remedies.

**16. Meter Testing**

If any owner or consumer desires to have the water meter in their premises tested, the City Engineer shall have such meter tested. If the said meter, upon such test, is found to be accurate, a charge of \$150.00 for any size meter up to 2” shall be made for the said test. Meters sized in excess of 2” will be assessed a fee equal to the actual cost of testing plus 20%. Said fees shall be added to the utility account and collected along with the next scheduled billing. If payment of same is not made, the water may be shut off until payment is made.

**17. Meter Replacement**

Where the meter requires replacement due to damage or freezing, a labour fee of \$75.00, plus the cost of the meter plus 20% shall be added to the utility account and collected along with the next scheduled billing. If payment of same is not made, the water may be shut off until payment is made.

**18. Collection Referral Fee**

Where a utility bill has been in the name of a tenant and that tenant has failed to pay the account in full within 30 days of the due date, a collection referral fee in the amount of 30% of said outstanding amount may be added to the outstanding amount. Should the outstanding bill remain uncollected for a period of 60 days, the fee will be cancelled and the original outstanding amount added to taxes pursuant to Section 252(2) of The Municipal Act.

## APPENDIX E – Additional Information

### ***Introduction***

This section will provide a brief review of the current status of the City's water and wastewater utility in terms of its present condition and capacity as well as identify the issues facing the Utility in the future.

### ***Present Condition and Capacity***

The water treatment facility relies on the Assiniboine River as its source water and employs a conventional lime / soda ash softening and clarification process followed by filtration and disinfection. The facility comprises of three "plants" or process trains that can be operated independently or in any combination. These plants range in age from 30 to 60 years old but have been continually updated and maintained. The facility is robust, has a high degree of redundancy and produces high quality water. The capacity of the facility has recently been upgraded, however increased capacity and water quality are required to meet a growing demand and changing regulations.

The water distribution system is continually maintained and has seen significant capacity upgrades in the previous decade with the addition of booster stations and physical and operational changes made to the Ninth Street Reservoir. The City maintains a computerized hydraulic model of the distribution system that is used to determine upgrades based on growth. The distribution system currently meets the City's demand for water supply and nominal upgrades are planned for the future.

The City owns and operates two wastewater treatment facilities; namely the Municipal wastewater treatment facility (MWWTF) and the Industrial wastewater treatment facility (IWWTF). The IWWTF is a stand-alone treatment facility dedicated to treating the wastewater generated by Maple Leaf Pork. All of the operating costs associated with the IWWTF are the responsibility of Maple Leaf Pork and therefore are not a factor in Brandon utility rates. The MWWTF employs a sequencing batch reactor (SBR) process that was commissioned in 1994. The facility was designed to meet the treatment objectives of the day, however the need for nutrient reduction is now a requirement and the existing facility was not designed to reduce nutrients to the level currently required. This facility will need to be upgraded to be in compliance with the Provincial Nutrient Management Strategy.

A hydraulic model of the wastewater collection system is nearing completion and preliminary findings are that there are no significant deficiencies in the system. The main issues for the wastewater collection system will be the continuation of the separation of combined sewers and the upgrading of wastewater pumping stations to meet increased flows.

### ***Summary***

The primary issues for each component of the utility can best be summarized as follows;

- Water Treatment
  - Increased capacity by retrofitting existing infrastructure
  - Alternate disinfection system
- Water Distribution
  - Continued maintenance and growth upgrades
- Wastewater Treatment
  - Construct central treatment facility
- Wastewater Collection
  - Eliminate combined sewers
  - Increase pumping station capacity

## ***Water Treatment***

The two main challenges for any water treatment facility are to be able to satisfy the system demand in terms of water quantity as well as meeting all of the water quality objectives.

In 2007 the capacity of the water treatment facility was increased by 15% by upgrading one of the three solid contact units. Engineering work is continuing and is expected to result in a further 40% increase by upgrading the remaining two solid contact units. The work will also include minor hydraulic upgrades to accommodate the increased capacity. This increase in capacity will satisfy the forecasted water demand for 15 years and will provide for redundancy in the facility. This work is scheduled to be completed in 2010.

Industry trends and changing legislation will have an impact on the manner in which Brandon's water is disinfected. The current method of disinfection is a combination of chlorine and ultra violet light. The disadvantage of disinfection by chlorine is the generation of disinfection by-products. The City has recently engaged the services of a consulting firm to review the current method of disinfection and make definite recommendations on improving disinfection. Since the study has not been completed it is not possible to budget.

## ***Water Distribution***

The water distribution system has been in operation since 1896 and has seen many upgrades, enhancements and replacements. The system consists of the piped network and is supplemented by two underground storage reservoirs and four water booster stations. One of the reservoirs is located at the water treatment facility and the other is located at Ninth Street and Brandon Avenue. The booster stations are located at the south, west and north ends of the City.

The Ninth Street Reservoir underwent an upgrade in 1998 to increase its pumping capacity and is scheduled to have its storage capacity increased. The Capital Budget allows funding for the storage increase. The storage Reservoir at the water treatment facility meets current day demand but may need to be altered to satisfy the chlorine contact time as specified in the recently passed regulation. The engineering work for this issue is currently underway. The booster stations are all less than 25 years old with the last two installed in 1999 and 2001. The first two stations have been upgraded in both technology and capacity.

The annual capital budget allows for the replacement and new installation of watermains and service connections based on system demand and operating performance. A computer-based hydraulic model of the water distribution system is in place and is used to plan for growth and to define fire flow requirements. The model is used in the capital budget planning process. The water quality in the distribution system is continually monitored and any water quality issues have been traced back to infrequency of use and not as a result of any water distribution system defect.

## ***Wastewater Treatment***

The City of Brandon owns and operates two wastewater treatment facilities, namely the Municipal Wastewater Treatment Facility (MWWTF) and the Industrial wastewater Treatment Facility (IWWTF). Maple Leaf Pork has exclusive use of the IWWTF and therefore pays all operating and capital improvement expenses.

The MWWTF employs a sequencing batch reactor technology and struggles to meet its effluent discharge parameters. The facility is in compliance with the Environment Act License but there is no opportunity to increase its capacity or increase its ability to produce a higher quality effluent with out a major upgrade. Maple Leaf Pork has a need to increase its productivity and therefore the capacity of the IWWTF would need to be increased. In the past five years Maple Leaf Pork, Wyeth Organics and the City of Brandon joined forces to determine if there were any advantages to combining resources to construct a single treatment facility that would meet the community's wastewater needs.

This effort has developed a plan to modify and expand the IWWTF into a facility that would accept and treat all of the wastewater generated in Brandon. The MWWTF would be retained as a primary treatment facility and would also accept septic waste. The Existing IWWTF would be expanded and membrane technology added to satisfy the community's wastewater needs including nutrient reduction. A Pre-Design Engineering study is nearing completion which will examine the viability of this option and provide cost

estimates. Work completed to date confirms that the combined facility will meet the Provincial requirements and that there is a financial advantage to all parties. Application has been made to the Provincial / Federal Governments for financial assistance.

### ***Wastewater Collection***

The city's wastewater collection system consists of gravity and forced sewer mains as well as six wastewater lift stations. The largest of these stations have received significant upgrades since 2000. The largest lift station, Hilton Avenue Lift Station received a major upgrade in 2000, the Riverheights Lift Station was replaced by a gravity sewer early in 2007 and the last major lift station, Aberdeen Avenue, will be replaced in 2007 / 08. The current 2007 Capital Budget allows for the replacement of the Aberdeen Avenue Lift Station. Once this project is complete all of the major stations will be either new or newly refurbished and all will have standby electric service. The smaller stations have received regular maintenance and servicing.

A hydraulic model of the wastewater collection system is currently in the final stages of completion and will be used to identify existing deficiencies and recommend improvements. This model will also be used to better manage our wastewater collection system in terms of identifying and correcting infiltration and inflows. The regulatory community is moving into the area of regulating wastewater collection systems and this model will be able to assist in achieving those requirements. Preliminary model results indicate that there are no significant deficiencies in capacity.

Also nearing completion is a similar model for the land drainage system, although this is not strictly a Utility responsibility, both models will be used to define options to separate combined sewers.

## ***Conservation Strategy***

The City of Brandon is currently in the process of documenting a strategy for community water conservation. Water conservation is associated with a plan or program consisting of several strategies or techniques that, when implemented, reduces the overall demand for water and increases the efficiency of a water system. The City of Brandon uses the term water efficiency strategy as its plan for actions or techniques designed to result in the more efficient use of our municipal water system. The strategy would consist of water efficiency incentives and measures.

Water efficiency incentives are those specific tools or practices that result in more efficient water use, such as single family toilet retro-fits, clothes washer rebates, leak detection kits, or meter rates.

Water efficiency measures are those tools, devices, or techniques which promote conservation by motivating customers to make better use of municipal water. Water efficiency measures can include educational programs, water use regulations, metered water usage reports and promotion of water saving techniques.

The City of Brandon currently utilizes water meters with low flow indicators and has done so since 2000. Further, we are currently testing meters with data storage capacity to increase our knowledge of the magnitude of a customer leak.

Our future strategy will include:

- Retrofitting our own facilities to maximize efficient use
- Education component consisting of a school program, a landlord package, and marketing documents
- Pricing strategy focused on collapsing the declining block system
- Leak detection initiatives driven by information on new meters which will initiate customer warnings regarding potential leaks within their private plumbing system
- Building code changes to encourage low flow devices
- Addressing freezing services to prevent the need to run water in the winter months.

The City of Brandon will ensure that the Public Utilities Board is provided a copy of the final document once City Council has received the report.

## ***Unaccounted for Water***

The City of Brandon performs an annual analysis of unaccounted for water. Unaccounted for water is defined as the difference between the amount of water that is produced and the amount of water sold or used for internal purposes. Unaccounted for water includes underground leakage, unauthorized use, unavoidable leakage, authorized but poorly recorded use, inaccurate meters and unusual cases.

### Data Sources

All water pumped to the City distribution system comes from the water treatment facility and is metered as it leaves the facility. Water can be sent directly into the distribution system or sent to the 9<sup>th</sup> Street Reservoir which in turn is metered before being pumped from there to the distribution system.

All City of Brandon water services are metered utilizing an automated meter reading system. Permitted non-metered water uses are recorded and tabulated using a variety of volume estimation methods in an effort to account for all water produced or conversely to determine the amount of water unaccounted for. The permitted non-metered uses include the following:

- Fire fighting and fire training purposes
- Temporary water supplies during replacement of existing watermains
- Water used for soil consolidation
- Water used for street cleaning purposes
- Water consumed by the City of Brandon Park Division for irrigation purposes
- Authorized use of hydrants by contractors
- Watermain flushing and cleaning
- Temporary water supplies during replacement of existing watermains

## Results

The following table illustrates the unaccounted for water from 2002 to 2006.

Year	Water Produced (Cubic meters)	Water Counted (Cubic meters)	Percentage Water Loss (Percentage)
2002	7,184,713	6,520,653	9.2
2003	7,864,255	7,185,716	8.6
2004	7,378,763	6,832,817	7.4
2005	7,168,040	6,725,290	6.2
2006	7,608,647*	6,731,154	11.5

\* Estimated value

## Discussion of Results

In 2005/06 the high lift pumps at the Water Treatment Facility were upgraded along with the installation of ultraviolet light disinfection system. This work disrupted the ability to meter in-plant water use during the construction period. The in-plant water use for this period was estimated therefore the 2006 unaccounted for water may not be accurate. In June of 2007 the unaccounted for water was calculated and was found to be 11.5 %. A review of our metering process and calibration is now underway and following that review further leak detection work will begin in the distribution system if warranted.

The City of Brandon trend related to unaccounted for water has been in the range of 6.2% to 9.2% since 2002. Although no reliable industry benchmarks are available it is generally accepted that unaccounted for water less than 10% reflects a well maintained and operated water distribution and metering system.

## ***Reduction of Rate Steps by Consumer Type***

In March of 2007, City Council passed Resolution 145 which prescribed the continuance toward uniform rates from the declining-block method currently employed. It is our belief that uniform rates encourage conservation and provide simplicity of billing to the user.

The uniform rate structure has gained relatively wide acceptance. Uniform rates also afford water utilities a degree of revenue predictability and stability.

As with any rate structure, the effect of a change to uniform rates varies depending on the magnitude of the change and how it is implemented. A transition from block rates can be accomplished by gradually reducing the number of rate blocks and the differentials among them. A phased approach can reduce rate shock, particularly for large-volume customers served previously under declining block rates.

A uniform rate might not be preferred by every water user. Large-volume customers might believe that favourable cost-of-service characteristics justify the use of declining block rates. Conservationists might believe that efficiency and environmental concerns justify the use of increasing block rates. In balancing these perspectives, uniform rates can present a compromise.

The City of Brandon currently has 12,193 customers in the low volume use block. These customers never, or almost never, have a quarterly consumption that takes them into the first discount threshold. There are 848 customers who have consumptions that regularly make it into the first discount threshold and 35 customers who receive the maximum rate of discount or have consumption in the highest block. The proposed rate gap collapse will have the largest impact on the smallest user group whereby they are currently enjoying a 29% discount from the low volume rate. The discount is expected to decrease to 18% by 2010 and is expected to be completely eliminated by 2013. Similarly, the intermediate group is currently enjoying a 13% discount that will be reduced to 9% in 2010 and is expected to be completely eliminated by 2013.

While preparing this application, particular attention was given to trends in other centres related to the collapse of the declining block rate system. It is believed that there is a definite trend towards single rate structures in other centres and that the City of Brandon will be well positioned competitively when a single rate is achieved.

Our research consisted of thirteen centres in the Prairie Provinces. Ten out of thirteen centres are at single rate or have reduced their discounts offered to large users. This would seem to indicate that there is a move toward single rate structures in general. Our findings are summarized below:

- Four centres were single rate for both domestic and commercial water and wastewater customers.
- Moose Jaw moved from a two-tier declining block to a two-tier *inclining* block system for both water and wastewater customers.
- WATER -- Eight centres used declining block entirely or just for their commercial customers. Three of these centres reduced the discount offered to high volume users while two others increased the discount. Saskatoon moved to single rate for domestic but increased the discount for commercial customers. Lethbridge and Calgary maintained a single rate for domestic and reduced the discount for commercial customers.
- WASTEWATER – Two out of three centres using declining block have reduced their discounts while the other centre increased the discount. Red Deer and Medicine Hat have a flat rate for domestic users and a single rate for all other customers. Saskatoon moved from declining block to single rate for domestic and increased the discount for commercial customers. Regina has a single low rate for domestic, another single intermediate rate for multi-residential and a third single high rate for commercial customers. Calgary maintained a single rate for domestic and reduced the discount for commercial customers.

**CITY OF BRANDON  
UTILITY RATE STUDY  
SUMMARY OF RATES BY CONSUMER TYPE**

	2007	2008	2009	2010	2011	2012	2013
<b>DOMESTIC</b>							
Water	\$ 1.44	\$ 1.46	\$ 1.49	\$ 1.53	\$ 1.55	\$ 1.57	\$ 1.58
Wastewater	\$ 0.68	\$ 0.73	\$ 0.77	\$ 0.81	\$ 0.84	\$ 0.88	\$ 0.90
Total	\$ 2.12	\$ 2.19	\$ 2.26	\$ 2.34	\$ 2.39	\$ 2.45	\$ 2.48
Increase/yr	0.00%	3.30%	3.20%	3.54%	2.14%	2.51%	1.22%
Increase/total	0.00%	3.30%	6.60%	10.38%	12.74%	15.57%	16.98%
<b>INTERMEDIATE</b>							
Water	\$ 1.16	\$ 1.20	\$ 1.25	\$ 1.31	\$ 1.40	\$ 1.49	\$ 1.58
Wastewater	\$ 0.68	\$ 0.73	\$ 0.77	\$ 0.81	\$ 0.84	\$ 0.88	\$ 0.90
Total	\$ 1.84	\$ 1.93	\$ 2.02	\$ 2.12	\$ 2.24	\$ 2.37	\$ 2.48
Increase/yr	0.00%	4.89%	4.66%	4.95%	5.66%	5.80%	4.64%
Increase/total	0.00%	4.89%	9.78%	15.22%	21.74%	28.80%	34.78%
Discount	-13.21%	-11.87%	-10.62%	-9.40%	-6.28%	-3.27%	0.00%
<b>WHOLESALE</b>							
Water	\$ 0.98	\$ 1.04	\$ 1.12	\$ 1.21	\$ 1.34	\$ 1.46	\$ 1.58
Wastewater	\$ 0.53	\$ 0.60	\$ 0.66	\$ 0.72	\$ 0.77	\$ 0.83	\$ 0.90
Total	\$ 1.51	\$ 1.64	\$ 1.78	\$ 1.93	\$ 2.11	\$ 2.29	\$ 2.48
Increase/yr	0.00%	8.61%	8.54%	8.43%	9.33%	8.53%	8.30%
Increase/total	0.00%	8.61%	17.88%	27.81%	39.74%	51.66%	64.24%
Discount	-28.77%	-25.11%	-21.24%	-17.52%	-11.72%	-6.53%	0.00%