

**TOWN OF THE BLUE MOUNTAINS  
WATER & WASTEWATER RATE STUDY**

**Council Presentation**

**APRIL 11, 2007**

**HEMSON Consulting Ltd.**

# TOPICS

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- **Study Objectives**
- **Water System Costs**
- **Water Demands**
- **Water Rate Analysis**
- **Wastewater Rate Analysis**
- **Rate Comparison other Municipalities**
- **Appendix: Detailed Tables**

# STUDY OBJECTIVES

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- **Quantify the full cost of providing water and sewer services in the Town of The Blue Mountains**
  - Operating costs
  - Capital costs
  - Long-term infrastructure repair & replacement
- **Calculate water and sewer rates that provide for the full recovery of all costs**
- **Examine existing rates, rate structures and system equitability**

# RATE STRUCTURES EXAMINED

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- **Two alternative rate structures and three expenditure options have been examined**
- **Alternatives**
  - **Alternative 1: Uniform Consumption Rate**
    - One rate, \$/m<sup>3</sup>, levied against consumption – uniform for all users and all consumption levels
  - **Alternative 2: Tiered Rates**
    - Monthly fixed rate varied by meter size plus consumption charge with four tiers (increased \$/m<sup>3</sup> with each tier)

## EXPENDITURE OPTIONS EXAMINED

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- **Three 2007 expenditure options examined under each of the two rate alternatives:**
  - **Option 1: 2007 Town Budget**
  - **Option 2: 2007 Town Budget + 100% asset replacement**
  - **Option 3: 2007 Town Budget + 25% asset replacement**
- **Rates also calculated based on the 2005 and 2006 budgets to provide context**

# WATER SYSTEM COSTS

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- **Analysis is based on 2007 Budget (Option 1)**
- **The other options include asset replacement contributions:**
  - **Based on “overview” calculation of life-cycle cost of all infrastructure**
  - **Calculations based on two asset replacement scenarios:**

Option 2: Full recovery of calculated annual reserve contributions

Option 3: 25% of the fully calculated annual contribution or 2007 reserve fund contributions (whichever is greater)

# **WATER SYSTEM NON-USER RATE REVENUES**

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- **Provision for other non-user rate revenues**
  - Connection charges
  - Hydrants
  - Turn-on & shut-off charges
  - Service charges and other fees
  - Based on 2007 budget
  
- **Non-user rates revenues netted off prior to rate calculation**

# WATER DEMAND

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- Water demand based on historical data
- Historical water production:
  - 2005 = 1,570,700 m<sup>3</sup>
  - 2006 = 1,681,860 m<sup>3</sup>
- Estimate for 2007 is 5% increase over 2006:
  - 2007 = 1,765,950 m<sup>3</sup>
- Water Production netted down by 30% to reflect non-metered water losses
- Rates calculated on total metered water demand of 1,236,170 m<sup>3</sup> for 2007

# ALTERNATIVE 1: UNIFORM WATER RATE

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- **Calculated uniform rate based on:**
  - Net Expenditures ÷ Metered Water Demand
- **The 2007 data yields a uniform rate:**
  - Option 1: Base 2007 Budget: \$ 2.021/m<sup>3</sup>
  - Option 2: (100% Asset Replacement) \$ 2.618/m<sup>3</sup>
  - Option 3: (25% Asset Replacement) \$ 2.102/m<sup>3</sup>
- **The 2006 data yields a uniform rate of \$1.494/m<sup>3</sup>**
  - **Reason for Difference**
    - Base 2007 budget is 40% higher 2006
    - Inclusion of asset replacement reserve contributions

## **ALTERNATIVE 2: TIERED WATER RATES**

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- **Tiered rates alternative structure:**
  - **Monthly fixed rate varied by meter size, plus**
  - **Consumption charge with four increase tiers**
- **Fixed monthly fee provides secure revenue source and cash flow stability**
- **Increase in tiered consumption charge encourages & rewards conservation**

# ALTERNATIVE 2 WATER RATES: TIERED FEES WITH TIERED RATES

- Tiered monthly charges

<u>Meter Size</u>	<u>Fixed Charge Per Month</u>
5/8" (Typical Residential)	\$ 15
3/4	\$ 17
1"	\$ 21
1 1/2 "	\$ 27
2"	\$ 44
3"	\$168
4"	\$214
6"	\$321

- Tiered rates based on: 4 tiers with increments of \$0.15

- The 2007 data yields the following rates:

<u>TIERS</u>	<u>2007 Calculated Rates</u>		
	<u>Option 1</u>	<u>Option 2</u>	<u>Option 3</u>
0 – 15 m <sup>3</sup>	\$1.24	\$1.84	\$1.35
16 – 30 m <sup>3</sup>	\$1.39	\$1.99	\$1.50
31 – 45 m <sup>3</sup>	\$1.54	\$2.14	\$1.65
Over 45 m <sup>3</sup>	\$1.69	\$2.29	\$1.80

# COMPARISON OF PROPOSED RATE STRUCTURES

WATER RATES		2005 Budget	2006 Budget	2007 Town Budget	2007 Restated Budget Option 1	2007 Restated Budget Option 2
<b><u>ALTERNATIVE 1: Uniform Rate</u></b>						
<b>Fixed Monthly Rate (\$/month):</b>						
Meter Size ("):	For all Sizes	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Variable Consumption Rate (\$/m3)</b>		\$ 1.100	\$ 1.494	\$ 2.021	\$ 2.618	\$ 2.102
<b><u>ALTERNATIVE 2: Variable Fee with Tiered Rates</u></b>						
<b>Fixed Monthly Rate (\$/month):</b>						
Meter Size ("):						
	5/8"	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00
	3/4"	\$ 17.00	\$ 17.00	\$ 17.00	\$ 17.00	\$ 17.00
	1"	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00
	1 1/2"	\$ 27.00	\$ 27.00	\$ 27.00	\$ 27.00	\$ 27.00
	2"	\$ 44.00	\$ 44.00	\$ 44.00	\$ 44.00	\$ 44.00
	3"	\$ 168.00	\$ 168.00	\$ 168.00	\$ 168.00	\$ 168.00
	4"	\$ 214.00	\$ 214.00	\$ 214.00	\$ 214.00	\$ 214.00
	6"	\$ 321.00	\$ 321.00	\$ 321.00	\$ 321.00	\$ 321.00
<b>Variable Consumption Rate (\$/m3)</b>						
	0 - 15 m3	\$ 0.289	\$ 0.711	\$ 1.240	\$ 1.836	\$ 1.350
	16-30 m3	\$ 0.439	\$ 0.861	\$ 1.390	\$ 1.986	\$ 1.500
	31-45 m3	\$ 0.589	\$ 1.011	\$ 1.540	\$ 2.136	\$ 1.650
	46 m3 and over	\$ 0.739	\$ 1.161	\$ 1.690	\$ 2.286	\$ 1.800

# COMPARISON OF CALCULATED RATES – ANNUAL WATER CHARGE

## TOWN OF THE BLUE MOUNTAINS

*Annual Water Charge for a Typical Single Dwelling Unit*

**2006 Existing Charge:** \$ 281 /unit

### **2007 Budget**

#### **Alternative 1 - Uniform Charge**

Option 1: 2007 Town Budget \$ 360 /unit

Option 2 - 100% Asset Contribution \$ 466 /unit

Option 3 - 25% Asset Contribution \$ 374 /unit

#### **Alternative 2 - Tiered Charges**

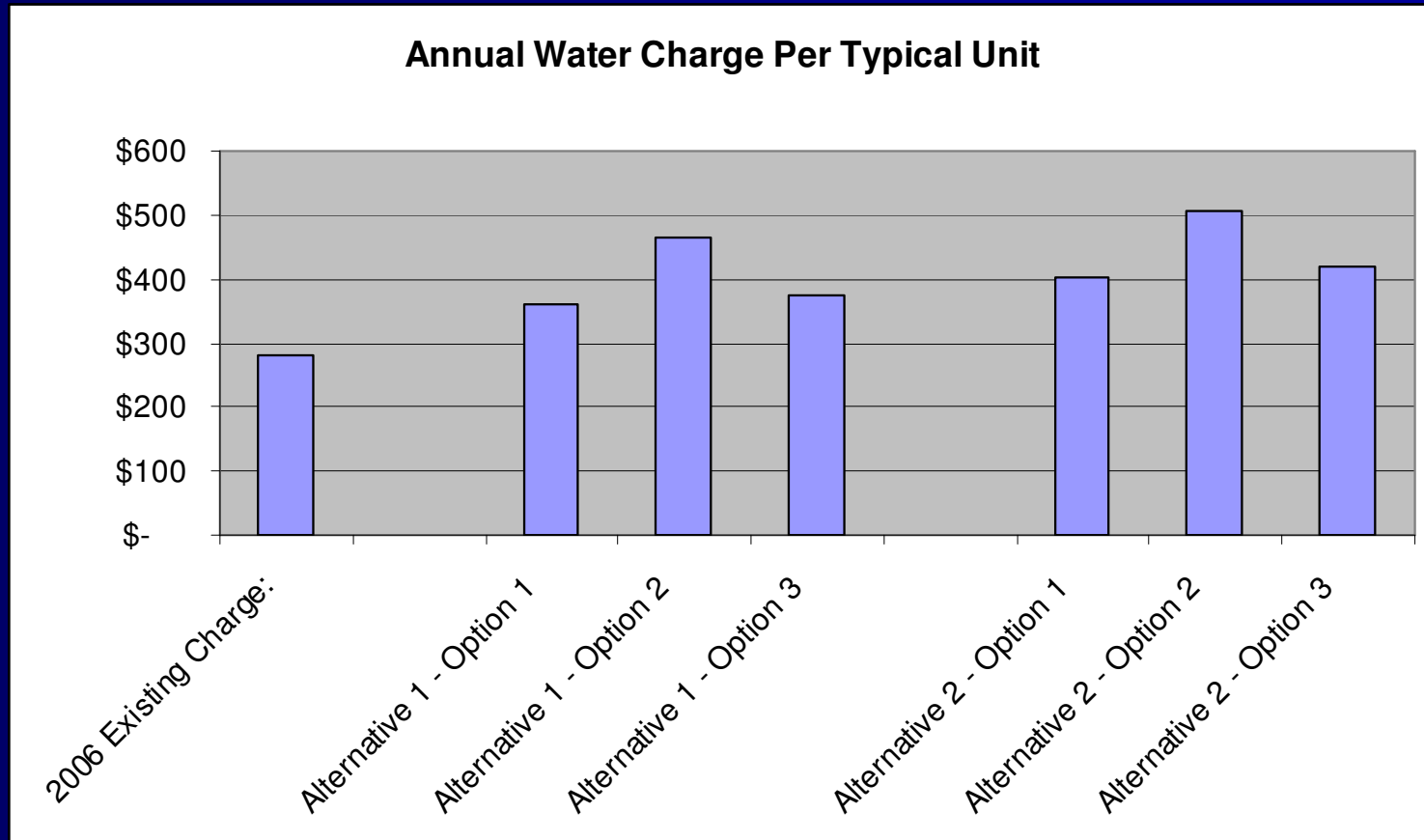
Option 1: 2007 Town Budget \$ 401 /unit

Option 2 - 100% Asset Contribution \$ 507 /unit

Option 3 - 25% Asset Contribution \$ 420 /unit

(1) Based on an average annual water demand of 178 m<sup>3</sup>.

# COMPARISON OF CALCULATED RATES – ANNUAL WATER CHARGE



# WATER RATE STRUCTURES

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- **Examine water rate structures in other municipalities**
- **Most rate structures include a fixed component (\$/bill) plus a consumption-based charge**
- **Next slide provides a summary of the residential rate structures**

# WATER RATE STRUCTURES

Municipality/Town	Monthly Service Charge	Variable Rate		
		Uniform	Other	None
Barrie	●		●	
Bradford West Gwillimbury	●		●	
Collingwood	●		●	
Innisfil	●	●		
King	●		●	
Meaford (Rural/Urban)	●	●		
Midland	●	●		
New Tecumseth	●	●		
Orangeville	●		●	
Owen Sound (Rural/Urban)	●		●	
Wasaga Beach	●			●

\*\* Wasaga Beach residents are charged at a flat rate

# WATER RATE COMPARISON

## Comparison of Annual Water Charge Typical Residential Unit <sup>(1)</sup>

Municipality			
1.	Wasaga Beach	\$	192
2.	Barrie	\$	210
3.	New Tecumseth	\$	224
4.	Midland	\$	230
6.	Orangeville	\$	232
5.	Township of King (April 1, 2006)	\$	273
7.	Bradford West Gwillimbury	\$	297
8.	Collingwood	\$	298
9.	Innisfil (2007 Rates)	\$	346
10.	Meaford Urban	\$	265
	Meaford Rural	\$	331
11.	Owen Sound Urban	\$	359
	Owen Sound Rural	\$	718

(1) Based on an average annual water demand of 178 m<sup>3</sup>.

## TOWN OF THE BLUE MOUNTAINS

*Annual Water Charge for a Typical Single Dwelling Unit*

**2006 Existing Charge:** \$ 281 /unit

### 2007 Budget

#### Alternative 1 - Uniform Charge

Option 1: 2007 Town Budget	\$	360 /unit
Option 2 - 100% Asset Contribution	\$	466 /unit
Option 3 - 25% Asset Contribution	\$	374 /unit

#### Alternative 2 - Tiered Charges

Option 1: 2007 Town Budget	\$	401 /unit
Option 2 - 100% Asset Contribution	\$	507 /unit
Option 3 - 25% Asset Contribution	\$	420 /unit

(1) Based on an average annual water demand of 178 m<sup>3</sup>.

# WASTEWATER SYSTEM COSTS

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- Analysis is based on 2007 Budget (Option 1)
- The other rate calculations include asset replacement contributions:
  - Based on “overview” calculation of life-cycle cost of all infrastructure
  - Calculations based on two asset replacement scenarios:

Option 2:	Full recovery of calculated annual reserve contributions
Option 3:	25% of the fully calculated annual contribution or 2007 reserve fund contributions (which ever is greater)

# WASTEWATER RATE CALCULATIONS

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- Based on and charged against water usage
- Calculations based on wastewater flows being equal to 80% of water demands (as per evaluation of current users and data)
- Wastewater rates have been calculated on the same alternatives and options as the water rates

# ALTERNATIVE 1: UNIFORM WASTEWATER RATE

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- **Calculated uniform rate based on:**
  - Net Expenditures ÷ Metered Water Demand
  
- **The 2007 data yields a uniform rate:**
  - Option 1: Base 2007 Budget: \$ 2.322/m<sup>3</sup>
  - Option 2: (100% Asset Replacement) \$ 2.709/m<sup>3</sup>
  - Option 3: (25% Asset Replacement) \$ 2.407/m<sup>3</sup>
  
- **The 2006 data yields a uniform rate of \$2.137/m<sup>3</sup>**
  - **Reason for Difference**
    - Base 2007 budget is 12% higher 2006
    - Inclusion of asset replacement reserve contributions

# ALTERNATIVE 2 WASTEWATER RATE: TIERED FEES WITH TIERED RATES

- Tiered monthly charges

<u>Meter Size</u>	<u>Fixed Charge Per Month</u>
5/8" (Typical Residential)	\$ 20
3/4	\$ 22
1"	\$ 28
1 1/2 "	\$ 36
2"	\$ 58
3"	\$218
4"	\$278
6"	\$417

- Tiered rates based on: 4 Tiers with increments of \$0.15

- The 2007 data yields the following rates:

<u>TIERS</u>	<u>2007 Calculated Rates</u>		
	<u>Option 1</u>	<u>Option 2</u>	<u>Option 3</u>
0 – 15 m <sup>3</sup>	\$1.46	\$1.85	\$1.54
16 – 30 m <sup>3</sup>	\$1.61	\$2.00	\$1.69
31 – 45 m <sup>3</sup>	\$1.76	\$2.15	\$1.84
Over 45 m <sup>3</sup>	\$1.91	\$2.30	\$1.99

# COMPARISON OF PROPOSED RATE STRUCTURES

## SEWER RATES

2005  
Budget

2006  
Budget

2007  
Town Budget  
Option 1

2007  
Restated Budget  
Option 2

2007  
Restated Budget  
Option 3

### ALTERNATIVE 1: Uniform Rate

#### Fixed Monthly Rate (\$/month):

Meter Size ("):	For all Sizes	\$	-	\$	-	\$	-	\$	-
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Variable Consumption Rate (\$/m3)	\$	1.751	\$	2.137	\$	2.322	\$	2.709	\$	2.407
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### ALTERNATIVE 2: Variable Fee with Tiered Rates

#### Fixed Monthly Rate (\$/month):

Meter Size ("):		\$		\$		\$		\$		\$	
	5/8	\$	20.00	\$	20.00	\$	20.00	\$	20.00	\$	20.00
	3/4	\$	22.00	\$	22.00	\$	22.00	\$	22.00	\$	22.00
	1	\$	28.00	\$	28.00	\$	28.00	\$	28.00	\$	28.00
	1 1/2	\$	36.00	\$	36.00	\$	36.00	\$	36.00	\$	36.00
	2	\$	58.00	\$	58.00	\$	58.00	\$	58.00	\$	58.00
	3	\$	218.00	\$	218.00	\$	218.00	\$	218.00	\$	218.00
	4	\$	278.00	\$	278.00	\$	278.00	\$	278.00	\$	278.00
	6	\$	417.00	\$	417.00	\$	417.00	\$	417.00	\$	417.00

#### Variable Consumption Rate (\$/m3)

	0 - 15 m3	\$	0.990	\$	1.336	\$	1.460	\$	1.846	\$	1.544
	16-30 m3	\$	1.140	\$	1.486	\$	1.610	\$	1.996	\$	1.694
	31-45 m3	\$	1.290	\$	1.636	\$	1.760	\$	2.146	\$	1.844
	46 m3 and over	\$	1.440	\$	1.786	\$	1.910	\$	2.296	\$	1.994

# COMPARISON OF CALCULATED RATES – ANNUAL WASTEWATER CHARGE

## TOWN OF THE BLUE MOUNTAINS

*Annual Wastewater Charge for a Typical Single Dwelling Unit*

**2006 Existing Charge:** \$ 407 /unit

### 2007 Budget

#### Alternative 1 - Uniform Charge

Option 1: 2007 Town Budget \$ 413 /unit

Option 2 - 100% Asset Contribution \$ 482 /unit

Option 3 - 25% Asset Contribution \$ 428 /unit

#### Alternative 2 - Tiered Charges

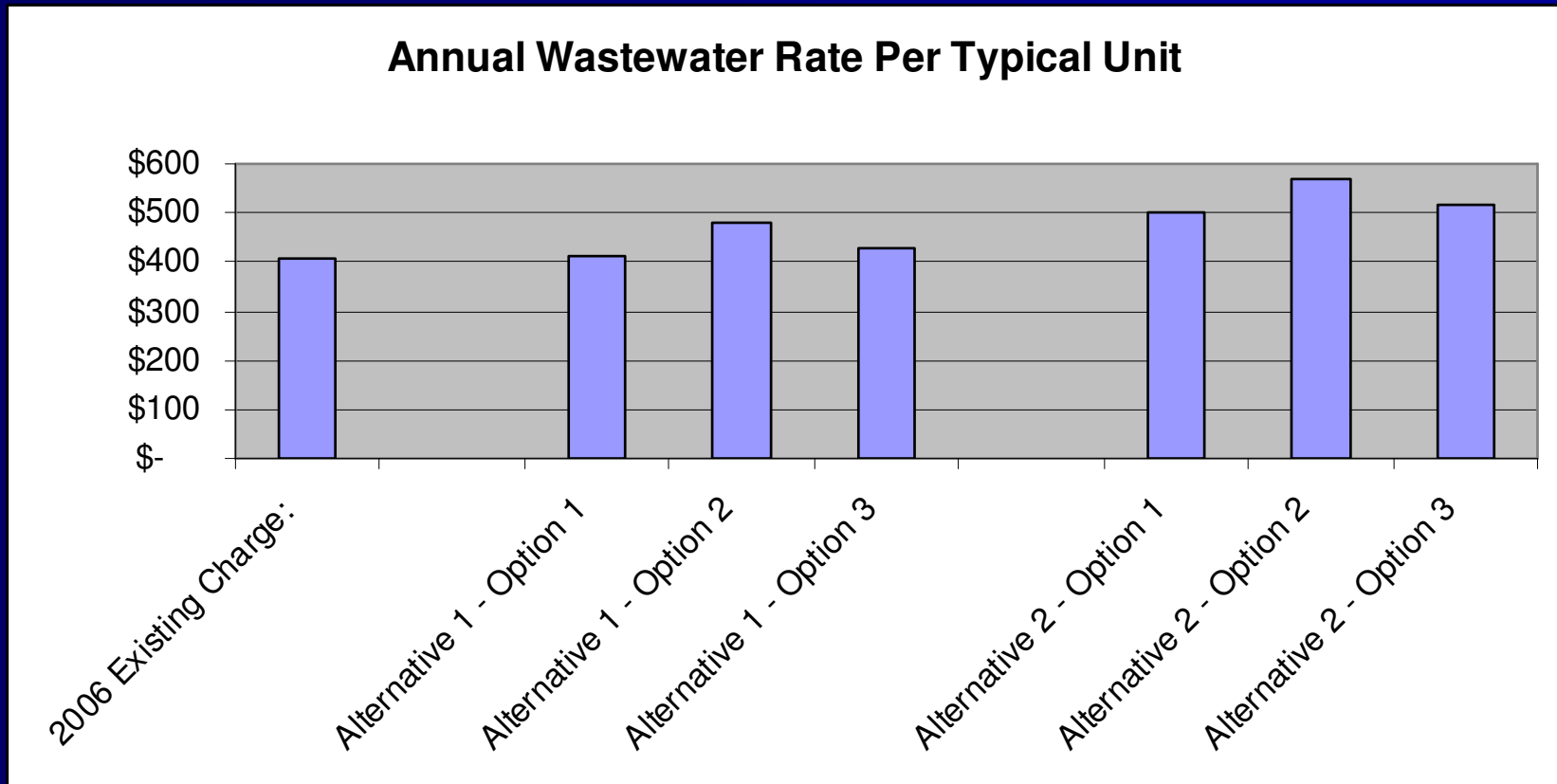
Option 1: 2007 Town Budget \$ 500 /unit

Option 2 - 100% Asset Contribution \$ 569 /unit

Option 3 - 25% Asset Contribution \$ 515 /unit

(1) Based on an average annual water demand of 178 m<sup>3</sup>.

# COMPARISON OF CALCULATED RATES – ANNUAL WASTEWATER CHARGE



# WASTEWATER RATE COMPARISON

## Comparison of Annual Wastewater Charge Typical Residential Unit <sup>(1)</sup>

Municipality	Charge (\$)
1. Barrie	\$ 163
2. New Tecumseth	\$ 231
3. Wasaga Beach	\$ 212
4. Midland	\$ 246
6. Bradford West Gwillimbury	\$ 495
5. Orangeville	\$ 217
7. Township of King (April 1, 2006)	\$ 329
8. Innisfil (2007 Rates)	\$ 236
9. Meaford Urban	\$ 372
Meaford Rural	\$ 406
10. Collingwood	\$ 512
11. Owen Sound Urban	\$ 332
Owen Sound Rural	\$ 664

(1) Based on an average annual water demand of 178 m<sup>3</sup>.

## TOWN OF THE BLUE MOUNTAINS

*Annual Wastewater Charge for a Typical Single Dwelling Unit*

**2006 Existing Charge:** \$ 407 /unit

### 2007 Budget

#### Alternative 1 - Uniform Charge

Option 1: 2007 Town Budget	\$ 413 /unit
Option 2 - 100% Asset Contribution	\$ 482 /unit
Option 3 - 25% Asset Contribution	\$ 428 /unit

#### Alternative 2 - Tiered Charges

Option 1: 2007 Town Budget	\$ 500 /unit
Option 2 - 100% Asset Contribution	\$ 569 /unit
Option 3 - 25% Asset Contribution	\$ 515 /unit

(1) Based on an average annual water demand of 178 m<sup>3</sup>.

# TOTAL ANNUAL WATER & WASTEWATER RATE SUMMARY

	ALTERNATIVE 1: UNIFORM RATES			ALTERNATIVE 2: TIERED RATES			Current Charges 2006	
	OPTION 1	OPTION 2	OPTION 3	OPTION 1	OPTION 2	OPTION 3	Thornbury	Craigleith
	<u>Uniform Rate</u>	<u>Uniform Rate</u>	<u>Uniform Rate</u>	<u>Tiered Fee</u> w/ Tiered Rates	<u>Tiered Fee</u> w/ Tiered Rates	<u>Tiered Fee</u> w/ Tiered Rates		
Water								
Fixed Monthly Fee	-	-	-	\$ 15.00	\$ 15.00	\$ 15.00	\$ 23.44	\$ 23.44
Consumption Charge								
0 - 15 m <sup>3</sup>	\$ 2.021	\$ 2.618	\$ 2.102	\$ 1.240	\$ 1.836	\$ 1.350	-	-
16-30 m <sup>3</sup>	\$ 2.021	\$ 2.618	\$ 2.102	\$ 1.390	\$ 1.986	\$ 1.500	-	-
31-45 m <sup>3</sup>	\$ 2.021	\$ 2.618	\$ 2.102	\$ 1.540	\$ 2.136	\$ 1.650	-	-
46 m <sup>3</sup> and over	\$ 2.021	\$ 2.618	\$ 2.102	\$ 1.690	\$ 2.286	\$ 1.800	-	-
Total Water Charge	\$ 359.71	\$ 465.93	\$ 374.20	\$ 400.64	\$ 506.86	\$ 420.38	\$ 281.25	\$ 281.25
Sewer								
Fixed Monthly Fee	-	-	-	\$ 20.00	\$ 20.00	\$ 20.00	\$ 33.90	\$ 33.90
Consumption Charge								
0 - 15 m <sup>3</sup>	\$ 2.322	\$ 2.709	\$ 2.407	\$ 1.46	\$ 1.85	\$ 1.54		
16-30 m <sup>3</sup>	\$ 2.322	\$ 2.709	\$ 2.407	\$ 1.61	\$ 2.00	\$ 1.69		
31-45 m <sup>3</sup>	\$ 2.322	\$ 2.709	\$ 2.407	\$ 1.76	\$ 2.15	\$ 1.84		
46 m <sup>3</sup> and over	\$ 2.322	\$ 2.709	\$ 2.407	\$ 1.91	\$ 2.30	\$ 1.99		
Total Sewer Charge	\$ 413.39	\$ 482.18	\$ 428.38	\$ 499.84	\$ 568.64	\$ 514.83	\$ 406.80	\$ 406.80
<b>Total Annual Charge</b>	<b>\$ 773.10</b>	<b>\$ 948.11</b>	<b>\$ 802.58</b>	<b>\$ 900.48</b>	<b>\$ 1,075.50</b>	<b>\$ 935.22</b>	<b>\$ 688.05</b>	<b>\$ 688.05</b>
<b>CHANGE FROM 2006 RATES</b>	12%	38%	17%	31%	56%	36%		

\* Based on typical residential unit consumption of 178 m<sup>3</sup>

# COMPARISON OF TOTAL ANNUAL WATER & WASTEWATER RATES

Comparison of Annual Water Charge: Typical Residential Unit <sup>(1)</sup>

<u>Municipality</u>		<u>Water</u>	<u>Sewer</u>	<u>Total</u>
Blue Mountains	Current - Craigleith	\$ 281	\$ 407	\$ 688
	Current - Thornbury	\$ 281	\$ 407	\$ 688
<b>2007 Base Budget</b>				
	Option 1: Uniform Consumption Charge	\$ 378	\$ 434	\$ 812
	Option 2: Tiered Fees & Consumption	\$ 401	\$ 500	\$ 900
<b>2007 Budget Restated: Full Asset Replacement Contribution</b>				
	Option 1: Uniform Consumption Charge	\$ 466	\$ 482	\$ 948
	Option 2: Tiered Fees & Consumption	\$ 507	\$ 569	\$ 1,075
<b>2007 Budget : 25% of Asset Replacement Contribution</b>				
	Option 1: Uniform Consumption Charge	\$ 374	\$ 428	\$ 803
	Option 2: Tiered Fees & Consumption	\$ 420	\$ 515	\$ 935
Barrie		\$ 192	\$ 163	\$ 355
Wasaga Beach		\$ 224	\$ 217	\$ 442
New Tecumseth		\$ 232	\$ 212	\$ 444
Orangeville		\$ 210	\$ 246	\$ 456
Midland		\$ 230	\$ 231	\$ 461
Bradford West Gwillimbury		\$ 298	\$ 236	\$ 534
King		\$ 297	\$ 329	\$ 626
Innisfil		\$ 273	\$ 495	\$ 769
Meaford	Urban	\$ 265	\$ 372	\$ 637
	Rural	\$ 331	\$ 406	\$ 737
Owen Sound	Urban	\$ 359	\$ 332	\$ 691
	Rural	\$ 718	\$ 664	\$ 1,382
Collingwood		\$ 346	\$ 512	\$ 857

(1) Based on an average annual water demand of 178 m<sup>3</sup>.

# Appendix: Detailed Tables

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# WATER SYSTEM COSTS

WATER SYSTEM COSTS	2005 Budget	2006 Budget	2007 Budget	2007 Budget 100% Asset Replacement	2007 Budget 25% Asset Replacement
<b>OPERATING COSTS</b>					
<b>1. CCCL Water Supply Allocation &amp; Distribution</b>					
1.1 Expenditures Net of Capital & Transfers	720,416	824,154	1,017,880	1,017,880	1,017,880
1.2 Transfers to Capital	87,650	458,500	565,062	565,062	565,062
1.3 Interfunctional Transfers	55,166	114,704	134,457	134,457	134,457
1.4 Asset Replacement Reserve	84,318	200,175	77,131	566,300	141,575
1.5 Transfers to/from Other Reserves	-	(563,500)	-	-	-
1.6 Transfer to Thornbury System	-	254,208	-	-	-
<b>Total CCCL Water Supply Allocation &amp; Distribution</b>	<b>947,550</b>	<b>1,288,241</b>	<b>1,794,530</b>	<b>2,283,699</b>	<b>1,858,974</b>
<b>2. Thornbury Water Supply Allocation &amp; Distribution</b>					
2.1 Expenditures Net of Capital & Transfers	419,729	424,942	449,990	449,990	449,990
2.2 Transfers to Capital	57,850	266,500	309,278	309,278	309,278
2.3 Interfunctional Transfers	27,834	56,592	61,573	61,573	61,573
2.4 Asset Replacement Reserve	-	-	-	242,700	60,675
2.5 Transfers to/from Other Reserves	(179,025)	(51,986)	(230,841)	(230,841)	(230,841)
2.6 Transfer from CCCL System	-	(254,208)	-	-	-
<b>Total Thornbury Water Supply Allocation &amp; Distribution</b>	<b>326,388</b>	<b>441,840</b>	<b>590,000</b>	<b>832,700</b>	<b>650,675</b>
<b>3. Rate Stabilization Reserve Contribution</b>	5%	-	82,415	150,000	125,500
<b>TOTAL OPERATING COSTS</b>	<b>\$ 1,273,938</b>	<b>\$ 1,812,496</b>	<b>\$ 2,534,530</b>	<b>\$ 3,272,199</b>	<b>\$ 2,635,149</b>
<i>% Change from 2006 Budget</i>			<b>40%</b>	<b>81%</b>	<b>45%</b>

# ALTERNATIVE 1: UNIFORM WATER RATE

UNIFORM WATER RATE CALCULATION	2005 Budget	2006 Budget	2007 Town Budget Option 1	2007 Restated Budget Option 2	2007 Restated Budget Option 3
<b><u>Expenditures</u></b>					
Annual Gross Expenditures	\$ 1,273,938	\$ 1,812,496	\$ 2,534,530	\$ 3,272,199	\$ 2,635,149
Non-User Rate Revenues	\$ 64,300	\$ 53,500	\$ 36,450	\$ 36,450	\$ 36,450
<b>Net Expenditures - Rate Funded</b>	<b>\$ 1,209,638</b>	<b>\$ 1,758,996</b>	<b>\$ 2,498,080</b>	<b>\$ 3,235,749</b>	<b>\$ 2,598,699</b>
<b><u>Projected Water Demands</u></b>					
# of Connections:	6,150	6,450	6,611	6,611	6,611
Average Day Production (m <sup>3</sup> /day) :	4,608	4,608	4,838	4,838	4,838
Total Annual Water Production (m <sup>3</sup> ):	1,570,705	1,681,859	1,765,952	1,765,952	1,765,952
Non-metered Water (m <sup>3</sup> )					
	<b>% Non-billing</b>				
	<b>30%</b>				
<b>Annual Metered Water Demand (m<sup>3</sup>)</b>	<b>1,099,494</b>	<b>1,177,301</b>	<b>1,236,166</b>	<b>1,236,166</b>	<b>1,236,166</b>
<b>Average Annual Demand Net Non-Billing per Connection (m<sup>3</sup>)</b>	<b>179</b>	<b>183</b>	<b>187</b>	<b>187</b>	<b>187</b>
<b><u>Rates</u></b>					
Uniform Rate (m <sup>3</sup> ):	\$ 1.100	\$ 1.494	\$ 2.021	\$ 2.618	\$ 2.102
<b>% Change from 2006 Budget</b>			<b>35%</b>	<b>75%</b>	<b>41%</b>
Note: Option 2 = 100% of the fully calculated asset replacement reserve contribution. Option 3 = 25% of the fully calculated asset reserve contribution					

# ALTERNATIVE 2 WATER RATE: TIERED FEES WITH TIERED RATES

WATER USER RATE - TIERED FEES W/ TIERED RATE:		2005 Budget	2006 Budget	2007 Town Budget Option 1	2007 Restated Budget Option 2	2007 Restated Budget Option 3
<b>Expenditures</b>						
Annual Gross Expenditures		\$ 1,273,938	\$ 1,812,496	\$ 2,534,530	\$ 3,272,199	\$ 2,635,149
Non-User Rate Revenues		\$ 64,300	\$ 53,500	\$ 36,450	\$ 36,450	\$ 36,450
<b>Net Expenditures - Rate Funded</b>		<b>\$ 1,220,438</b>	<b>\$ 1,776,046</b>	<b>\$ 2,498,080</b>	<b>\$ 3,235,749</b>	<b>\$ 2,635,149</b>
Total Annual Water Production (m <sup>3</sup> ):		1,570,705	1,681,859	1,765,952	1,765,952	1,765,952
Non-metered Water (m <sup>3</sup> )	<b>% Non-billing</b> 30%	471,212	504,558	529,786	529,786	529,786
<b>Total Average Annual Demand (Res. &amp; Non-Res.)</b>						
	w/ upto 15 m <sup>3</sup>	640,495	685,821	720,111	720,111	720,111
	16 - 30 m <sup>3</sup>	89,336	95,658	100,441	100,441	100,441
	31 - 45 m <sup>3</sup>	17,620	18,866	19,810	19,810	19,810
	above 45 m <sup>3</sup>	352,044	376,956	395,804	395,804	395,804
<b>Required Funding</b>		<b>\$ 1,220,438</b>	<b>\$ 1,776,046</b>	<b>\$ 2,498,080</b>	<b>\$ 3,235,749</b>	<b>\$ 2,635,149</b>
<b>Rates</b>						
Total Revenue from Monthly Charge per Year:		\$ 725,101	\$ 749,189	\$ 766,644	\$ 766,644	\$ 766,644
Net Expenditures Consumption Charge:		\$ 495,337	\$ 1,026,858	\$ 1,731,436	\$ 2,469,105	\$ 1,868,505
Rate Charge (per m <sup>3</sup> ):						
	<b>From</b>	<b>To</b>	<b>Increments (\$)</b>			
	0	15	\$ 0.289	\$ 1.240	\$ 1.836	\$ 1.350
	16	30	\$0.15	\$ 1.390	\$ 1.986	\$ 1.500
	31	45	\$0.15	\$ 1.540	\$ 2.136	\$ 1.650
	Over 46		\$0.15	\$ 1.690	\$ 2.286	\$ 1.800

# WASTEWATER SYSTEM COSTS

	2005 Budget	2006 Budget	2007 Town Budget	2007 Budget 100% Asset Replacement	2007 Budget 25% or Budget Asset Replacement	
<b>SEWER SYSTEM COSTS</b>						
<b>1. Craigleith Sewage System</b>						
1.1 Expenditures Net of Capital & Transfers	573,343	592,817	696,470	696,470	696,470	
1.2 Transfers to Capital	80,800	238,450	247,811	247,811	247,811	
1.3 Interfunctional Transfers	44,750	56,740	110,823	110,823	110,823	
1.4 Asset Replacement Reserve	407,997	476,146	443,959	605,500	443,959	
1.5 Transfers to/from Other Reserves	-	-	-	-	-	
1.6 Transfer from Thornbury System	-	(10,907)	-	-	-	
<b>Total Craigleith Sewage System</b>	<b>1,106,890</b>	<b>1,353,246</b>	<b>1,499,063</b>	<b>1,660,604</b>	<b>1,499,063</b>	
<b>2. Thornbury Sewage System</b>						
2.1 Expenditures Net of Capital & Transfers	301,590	308,932	391,530	391,530	391,530	
2.2 Transfers to Capital	59,200	109,550	156,129	156,129	156,129	
2.3 Interfunctional Transfers	29,750	41,740	83,553	83,553	83,553	
2.4 Asset Replacement Reserve	100,775	179,521	136,429	259,500	136,429	
2.5 Transfers to/from Other Reserves	-	-	-	-	-	
2.6 Transfer to CCCL System	-	10,907	-	-	-	
<b>Total Thornbury Sewage System</b>	<b>491,315</b>	<b>650,650</b>	<b>767,641</b>	<b>890,712</b>	<b>767,641</b>	
<b>3. Rate Stabilization Reserve Contribution</b>	5%	-	45,713	30,000	127,600	113,300
<b>TOTAL SEWER SYSTEM COSTS</b>	<b>1,598,205</b>	<b>2,049,609</b>	<b>2,296,704</b>	<b>2,678,916</b>	<b>2,380,004</b>	
<i>% Change from 2006 Budget</i>			<b>12%</b>	<b>31%</b>	<b>16%</b>	

# ALTERNATIVE 1: UNIFORM WASTEWATER RATE

SEWER SYSTEM COSTS	2005 Budget	2006 Budget	2007 Town Budget Option 1	2007 Budget Option 2	2007 Budget Option 3
<b><u>Expenditures</u></b>					
Annual Gross Expenditures	\$ 1,598,205	\$ 2,049,609	\$ 2,296,704	\$ 2,678,916	\$ 2,380,004
Non-User Rate Revenues	\$ 58,340	\$ 37,000	\$ -	\$ -	\$ -
<b>Net Expenditures - Rate Funded</b>	<b>\$ 1,539,865</b>	<b>\$ 2,012,609</b>	<b>\$ 2,296,704</b>	<b>\$ 2,678,916</b>	<b>\$ 2,380,004</b>
<b><u>Projected Water Demands</u></b>					
# of Connections: Water & Wastewater Services	6,150	6,450	6,611	6,611	6,611
Share only receiving wastewater services	80%	80%	80%	80%	80%
# of Connections:	4,920	5,160	5,289	5,289	5,289
Average Day Production (m <sup>3</sup> /day) :	255	261	267	267	267
Total Annual Water Production (m <sup>3</sup> ):	1,256,564	1,345,487	1,412,762	1,412,762	1,412,762
Non-metered Water (m <sup>3</sup> )	<b>30%</b> 376,969	403,646	423,828	423,828	423,828
<b>Annual Metered Water Demand (m<sup>3</sup>)</b>	<b>879,595</b>	<b>941,841</b>	<b>988,933</b>	<b>988,933</b>	<b>988,933</b>
<b>Average Annual Demand Net Non-Billing per Connecti</b>	<b>179</b>	<b>183</b>	<b>187</b>	<b>187</b>	<b>187</b>
<b><u>Rates</u></b>					
Uniform Rate (m <sup>3</sup> of water consumption):	\$ 1.751	\$ 2.137	\$ 2.322	\$ 2.709	\$ 2.407
<b>% Change from 2006 Budget</b>			<b>9%</b>	<b>27%</b>	<b>13%</b>

# ALTERNATIVE 2 WASTEWATER RATE: TIERED FEES WITH TIERED RATES

WASTEWATER SERVICES		2005 Budget	2006 Budget	2007 Town Budget Option 1	2007 Restated Budget Option 2	2007 Restated Budget Option 3
<b>Expenditures</b>						
Annual Gross Expenditures		\$ 1,598,205	\$ 2,049,609	\$ 2,296,704	\$ 2,678,916	\$ 2,380,004
Non-User Rate Revenues		\$ 58,340	\$ 37,000	\$ -	\$ -	\$ -
<b>Net Expenditures - Rate Funded</b>		<b>\$ 1,656,545</b>	<b>\$ 2,086,609</b>	<b>\$ 2,296,704</b>	<b>\$ 2,678,916</b>	<b>\$ 2,380,004</b>
Total Annual Water Production (m <sup>3</sup> ):		1,256,564	1,345,487	1,412,762	1,412,762	1,412,762
Non-metered Water (m <sup>3</sup> )	<b>% Non-billing 30%</b>	376,969	403,646	423,828	423,828	423,828
<b>Total Average Annual Demand (Res. &amp; Non-Res.)</b>						
	w/ upto 15 m <sup>3</sup>	512,396	548,656	576,089	576,089	576,089
	16 - 30 m <sup>3</sup>	71,469	76,526	80,353	80,353	80,353
	31 - 45 m <sup>3</sup>	14,096	15,093	15,848	15,848	15,848
	above 45 m <sup>3</sup>	281,635	301,565	316,643	316,643	316,643
<b>Required Funding</b>		<b>\$ 1,656,545</b>	<b>\$ 2,086,609</b>	<b>\$ 2,296,704</b>	<b>\$ 2,678,916</b>	<b>\$ 2,380,004</b>
<b>Rates</b>						
Total Revenue from Monthly Charge per Year:		\$ 643,766	\$ 676,132	\$ 693,780	\$ 693,780	\$ 693,780
Net Expenditures Consumption Charge:		\$ 1,012,779	\$ 1,410,477	\$ 1,602,924	\$ 1,985,136	\$ 1,686,224
Rate Charge (per m <sup>3</sup> ):						
	<b>From</b>	<b>To</b>	<b>Increments (\$)</b>			
	0	15	\$ 0.990	\$ 1.336	\$ 1.460	\$ 1.846
	16	30	\$ 0.15	\$ 1.486	\$ 1.610	\$ 1.996
	31	45	\$ 0.15	\$ 1.636	\$ 1.760	\$ 2.146
	Over 46		\$ 0.15	\$ 1.786	\$ 1.910	\$ 2.296