

OWEN SOUND

**WATERMAIN A** - PAID FOR BY INDIAN RIVER SOUTH, MT. PLEASANT, 30TH ST. WEST AND POTTAWATOMI VILLAGE (APPROX. 71 CURRENT CONNECTIONS) (±\$1,660,000)

**BOOSTER STATION** - PAID FOR BY TOWNSHIP(50%), 30TH ST WEST AND POTTAWATOMI VILLAGE (±\$470,000)

**WATERMAIN B** - PAID FOR BY TOWNSHIP (50%), 30TH ST WEST AND POTTAWATOMI VILLAGE (±\$875,000)

**WATERMAIN C** - PAID FOR BY 30TH ST WEST/EDMONSTONE ST (APPROX. 74 CURRENT CONNECTIONS) (±\$640,000)

WATER STANDPIPE DEFERRED

**CONNECT TO EAST LINTON SYSTEM**

**ALTERNATIVE 1A**

**LARGE SIZE WATERMAIN EXPANSION FROM EAST LINTON. PROVIDES FIRE FLOWS WHEN STANDPIPE IS CONSTRUCTED.**

**EST. CAPITAL COST - \$6,703,000 (INCLUDING 30% ENGINEERING AND CONTINGENCY COST.)**

HOMES CONNECTED TO OWEN SOUND WATER SYSTEM IN THIS AREA TO REMAIN ON CITY WATER SYSTEM.

**WATERMAIN D** - PAID FOR BY TOWNSHIP (±\$855,000)

WATERMAIN DOES NOT CONNECT WITH VLA WATERMAIN IN THIS AREA.

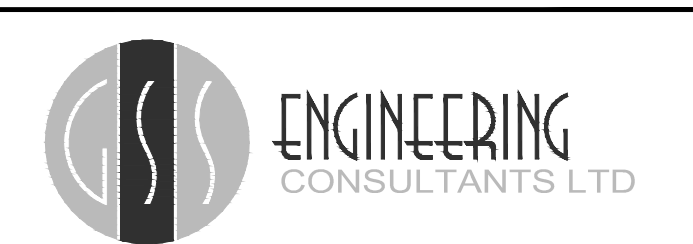
**WATERMAIN E** - PAID FOR BY POTTAWATOMI VILLAGE (APPROX. 25 CURRENT CONECTIONS) (±\$656,000)

**NOTE: ADDITIONAL COST TO UPGRADE EXISTING 75mmØ WATERMAIN TO 200mmØ WATERMAIN. (±\$200,000)**

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

22/02/18	DRAWING 1A-1 PREPARED
DDMMYY	DESCRIPTION
	REVISION / ISSUE

Seal not valid unless signed and dated



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Title: **ALTERNATIVE 1A - COST DETAIL LARGE SIZE WATERMAIN EXPANSION FROM BALMY BEACH TO POTTAWATOMI VILLAGE. PROVIDES FUTURE FIRE FLOWS.**

Client: **TOWNSHIP OF GEORGIAN BLUFFS**

Design:	JTG	Scale:	1:10,000
Drawn:	BLC	Approved:	Design Engineer
Checked:	JTG		
Date:	AUG. 2017		

Drawing No. 17-024-1A-1

PLOTTED: Wednesday, May 2, 2018 4:14:27 PM

Component	Total Cost		Cost Contribution					Total
	Cost after %50 Grant	Township Cost	Grey Rd 1 and Mt. Pleasant Dr.	30th St. West and Edmonstone St.	Pottawatomi Village			
Watermain A	\$ 1,660,000	\$ 830,000	\$ -	\$346,700	\$361,300	\$122,000	\$830,000	
Watermain B	\$ 875,000	\$ 437,500	\$ 219,000	\$0	\$163,300	\$55,200	\$437,500	
Watermain C	\$ 640,000	\$ 320,000		\$0	\$320,000	\$0	\$320,000	
Watermain D	\$ 855,000	\$ 427,500	\$ 427,500	\$0	\$0	\$0	\$427,500	
Watermain E	\$ 656,000	\$ 328,000				\$328,000	\$328,000	
Booster Station	\$ 470,000	\$ 235,000	\$ 115,000		\$89,700	\$30,300	\$235,000	
Net Cost	\$ 5,156,000	\$ 2,578,000	\$ 761,500	\$ 346,700	\$ 934,300	\$ 535,500	\$2,578,000	
Add 30% Eng. And Contingencies	\$ 1,546,800	\$ 773,400	\$ 228,450	\$ 104,010	\$ 280,290	\$ 160,650	\$773,400	
<b>Total Revised Cost</b>	<b>\$ 6,702,800</b>	<b>\$ 3,351,400</b>	<b>\$ 989,950</b>	<b>\$ 450,710</b>	<b>\$ 1,214,590</b>	<b>\$ 696,150</b>	<b>\$3,351,400</b>	
	Number of Existing Connections		71	74	25	170		
	Initial Cost per Ex. Connection		\$6,348	\$16,413	\$27,846			
	Add \$6,000 connection and \$700 plumbing fee		\$13,048	\$23,113	\$34,546			
	Rounded cost per current connection		\$13,100	\$23,200	\$34,600			

Note - the number of estimated total connections in subject areas (excluding VLA area and south end of Grey Rd 1) is 272 units over 20 years. These include homes facing on to Somers St between 30th Street and Grey Rd 17B. So potentially additional 102 units (272 - 170) assumed over next 20 years. However, if non mandatory connection policy, assume 75 homes (75%) connect over 20 years.

**Note - the above Costs for Pottawatomi Village do not include new watermain within subdivision. Cost to replace 500 m of 75 mm dia with new 200 mm dia in PV is estimated to be \$200,000 for watermain only - or additional \$8,000 per existing connection.**

**TABLE 1 - UPDATED**

**ERU EVALUATION**

**WATER SERVICE AREAS**

**EVALUATION OF MUNICIPAL WATER SUPPLY – CLASS EA**

September, 2017 (Updated February 28, 2018)

17-024

<b>AREA</b>	<b>CURRENT NO. OF ERU'S (JULY, 2017)</b>	<b>ESTIMATED, 20 YR NO. OF ERU'S</b>
EXISTING SERVICED AREA NORTH OF INDIAN RIVER	464 *	1,100
SOUTH BALMY BEACH (UNSERVICED)	56	65
<b>SUBTOTAL – AREA NORTH OF INDIAN RIVER</b>	<b>520</b>	<b>1,165</b>
INDIAN RIVER SOUTH AND MOUNT PLEASANT AREA	+/- 71	110**
30 <sup>TH</sup> STREET WEST AND EDMONSTONE STREET AREA	+/- 74	+/- 78
VLA SUBDIVISION AREA	DO NOT INCLUDE***	DO NOT INCLUDE***
POTTAWATOMI VILLAGE AREA	25	33
ADD EX. HOMES ALONG SOMERS ST AND NICOLS GULLY RD/AITKENS	DEFER	+/- 51 NOW
<b>SUBTOTAL – ERU'S IN STUDY AREA</b>	<b>170</b>	<b>272</b>
<b>TOTAL</b>	<b>690 ERU'S</b>	<b>+/- 1,437 ERU'S</b>

NOTES: ERU – Equivalent Residential Unit

Above estimate of future ERU's assumes minimal lot severances as no expansion of sanitary sewer system outside of Cobble Beach assumed over next 20 years.

Total connected ERU's as of July, 2017 \*. 20 year estimate (1,100 ERU's) includes 400 ERU's in Cobble Beach. Currently, 87 ERU's connected in Cobble Beach (March, 2018).

Water users at south end of Grey Rd 1 connected to Owen Sound water system not included in future connections\*\*

Existing water users in VLA subdivision not included as assumed they will stay on City of Owen Sound water system. \*\*\*

Rated, Maximum Day Treatment Plant capacity is 2,600 m<sup>3</sup>/d.

**TABLE 2**  
**CAPACITY SUMMARY – EXISTING EAST LINTON**  
**WATER TREATMENT PLANT**  
**EVALUATION OF MUNICIPAL WATER SUPPLY – CLASS EA**

September, 2017 (Updated March, 2018)

17-024

	2016/2017*	2017**
EXISTING, RATED TREATMENT PLANT CAPACITY	2,600 M <sup>3</sup> /D	2,600 M <sup>3</sup> /D
CURRENT, AVERAGE WATER DEMAND	386 M <sup>3</sup> /D	367 M <sup>3</sup> /D
CURRENT, MAXIMUM DAY DEMAND	688 M <sup>3</sup> /D	± 800 M <sup>3</sup> /D
CURRENT NUMBER OF ERU'S SERVICED NORTH OF INDIAN RIVER (2017 VALUE AS OF MARCH, 2018).	464 ERU'S	472 ERU'S
CURRENT MAXIMUM DAY DEMAND PER ERU (688 M <sup>3</sup> /D ÷ 464 ERU'S FOR 2016/2017). SAME FOR FULL 2017.	1.5 M <sup>3</sup> /D PER ERU	1.7 M <sup>3</sup> /D PER ERU
TOTAL ERU'S THAT CAN BE SERVICED (2,600 M <sup>3</sup> /D ÷ 1.5 M <sup>3</sup> /D FOR 2017). DIVIDE BY 1.7 M <sup>3</sup> /D FOR 2018.	1,733 ERU'S (1,700 ERU'S)	1,529 ERU'S (1,500 ERU'S)
TOTAL ESTIMATED 20 YEAR (2037) NO. OF ERU'S INCLUDING APPROX. 272 ERU'S IN STUDY AREA SOUTH OF INDIAN RIVER***.	1,437 ERU'S	1,437 ERU'S
ESTIMATED, ADDITIONAL ERU'S THAT CAN BE SERVICED AFTER 20 YEARS	263 ADDITIONAL ERU'S	63 ADDITIONAL ERU'S
ESTIMATED, 20 YEAR MAXIMUM DAY FLOW (1,437 ERU'S X 1.5 M <sup>3</sup> /D / 1.7 M <sup>3</sup> /D)	2,156 M <sup>3</sup> /D	2,443 M <sup>3</sup> /D

\* Based on review of water consumption records from July 2016 to June 2017. \*\* Based on OCWA Annual Report – 2017

NOTE – Major leaks experienced in July, November, and December, 2016. Increased average water demand between July, 2016 and December, 2016. Once leaks repaired, average flows in first 6 months of 2017 were 344 m<sup>3</sup>/d

\*\*\* Currently, there are 87 ERU's in Cobble Beach (66 actual connections). This is estimated to increase to 400 ERU's in Cobble Beach over 20 years. Total ERU's in 20 years estimated to be 400 in Cobble Beach, 272 ERU's in the Study Area and an additional 765 ERU's in existing service area north of Indian River. Total 1,437 ERU's.