



# Presentation of the 2019 Water and Wastewater Budget

Thursday December 6th , 2018

**Tracey Bailey,**  
General Manager, Financial Services/Treasurer

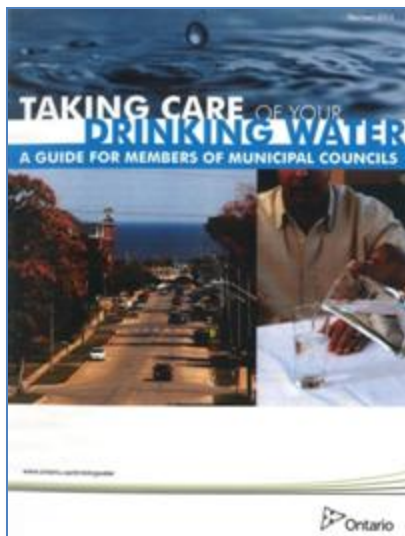
**John St. Marseille, M.Sc., P.Geo., P.Eng., FEC**  
General Manager, Infrastructure & Municipal Works

# Presentation Overview

- Compliance
- Infrastructure / Asset Management
- Water
- Wastewater
- Financial Planning
- Operating & Capital Budgets
- Long-Term Debt and Reserves
- Municipal Comparators
- Summary

# Compliance

- *Safe Drinking Water Act / Standard of Care*
- Municipal Drinking Water Licence
  - O.Reg. 453/07 *Water and Wastewater Financial Plan*




**City of Cornwall**

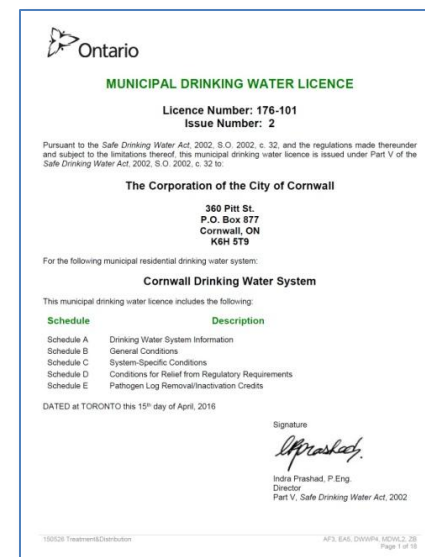
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**Water & Wastewater Financial Plans**

Presentation

November 9, 2015





# Infrastructure/Asset Management

## Sustainable Service Delivery

The objective of asset management is to maximize benefits, manage risk, and provide satisfactory levels of service to the public in a sustainable manner.

### Current Water and Wastewater Infrastructure:

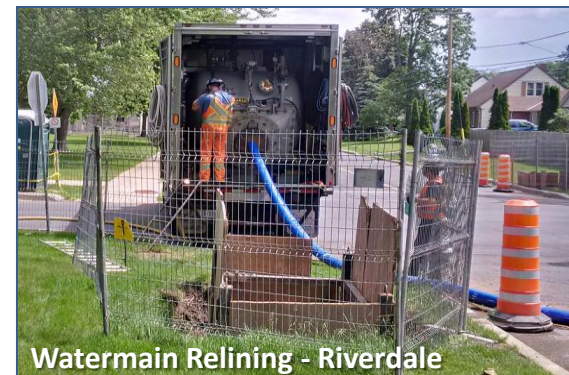
- ❑ 280km of watermains  
2016 estimated replacement value, \$135M  
Backlog \$41.2M
- ❑ 440km of wastewater pipes  
2016 estimated replacement value, \$321M  
Backlog \$6.8M
- ❑ Buildings and process equipment  
2016 estimated replacement value, \$223M  
Backlog \$1.2M



It is important to note that the 2019 proposed capital projects total \$8,547,000, which is only 1.26% of the estimated replacement values of these assets.

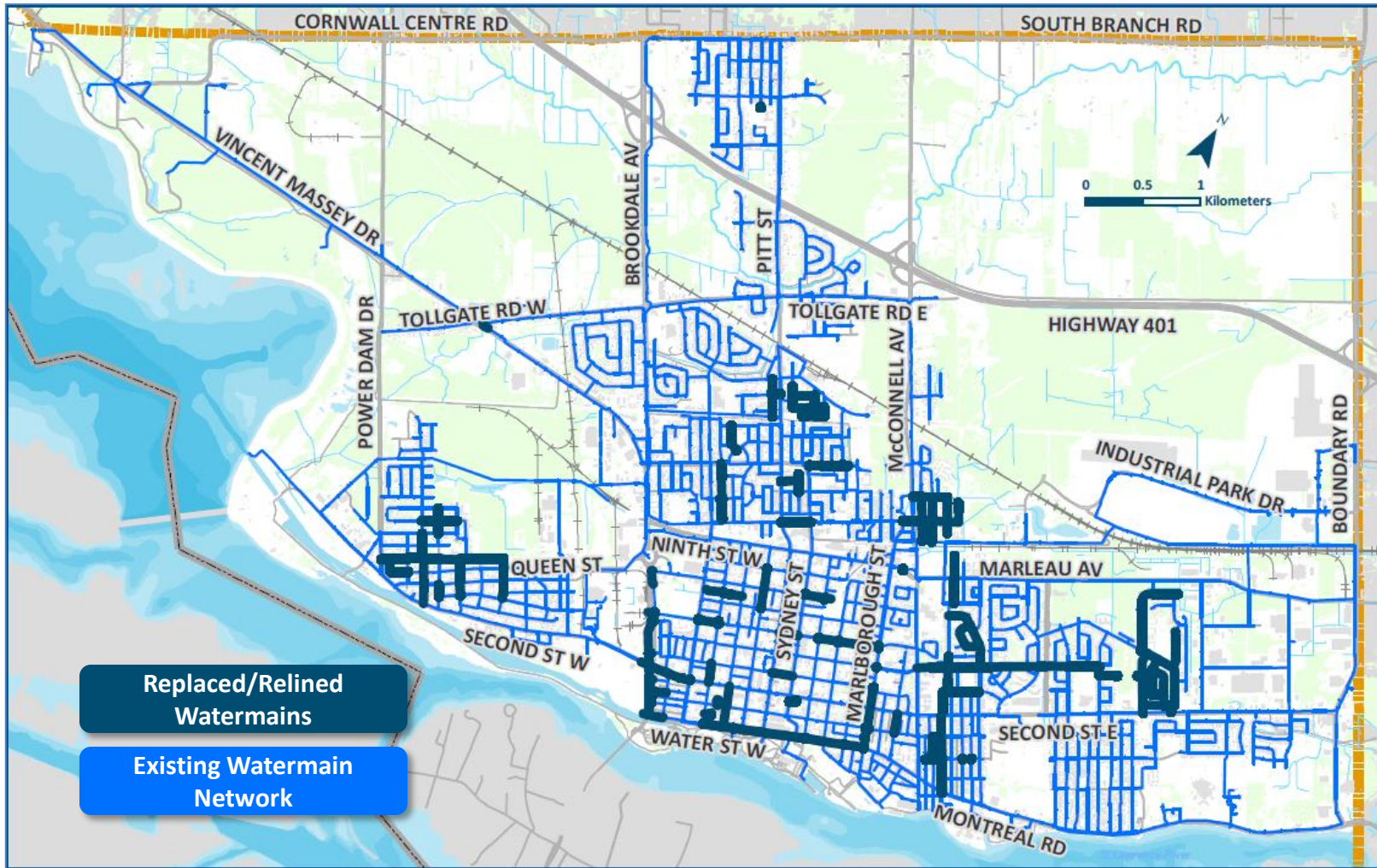
# Water Accomplishments

- Watermains replaced or relined
  - 4.0km, 2018
  - 3.7km, 2017
  - 4.0km, 2016
  - 5.7km, 2015
  - 2.3km, 2014
  - 2.5km, 2013
- Water bottle filling stations
- 100% Inspection Rating  
Ministry of the Environment  
(10 straight years)



# Water Distribution Network

## New & Relined Watermains (2013-2018)



- Replaced/Relined Watermains
- Existing Watermain Network

# Water System Challenges

- 54 Watermain breaks in 2018 YTD  
(Industrial, Brookdale, Vincent Massey, Tollgate)
- “Soft and Hard” Costs  
(repair, nuisance, unplanned disruptions)
- Taste and odour
- Blue-green algae, emerging contaminants (climate change)
- Financial sustainability
- Aging infrastructure
- Water / revenue losses
- Upper levels of government support



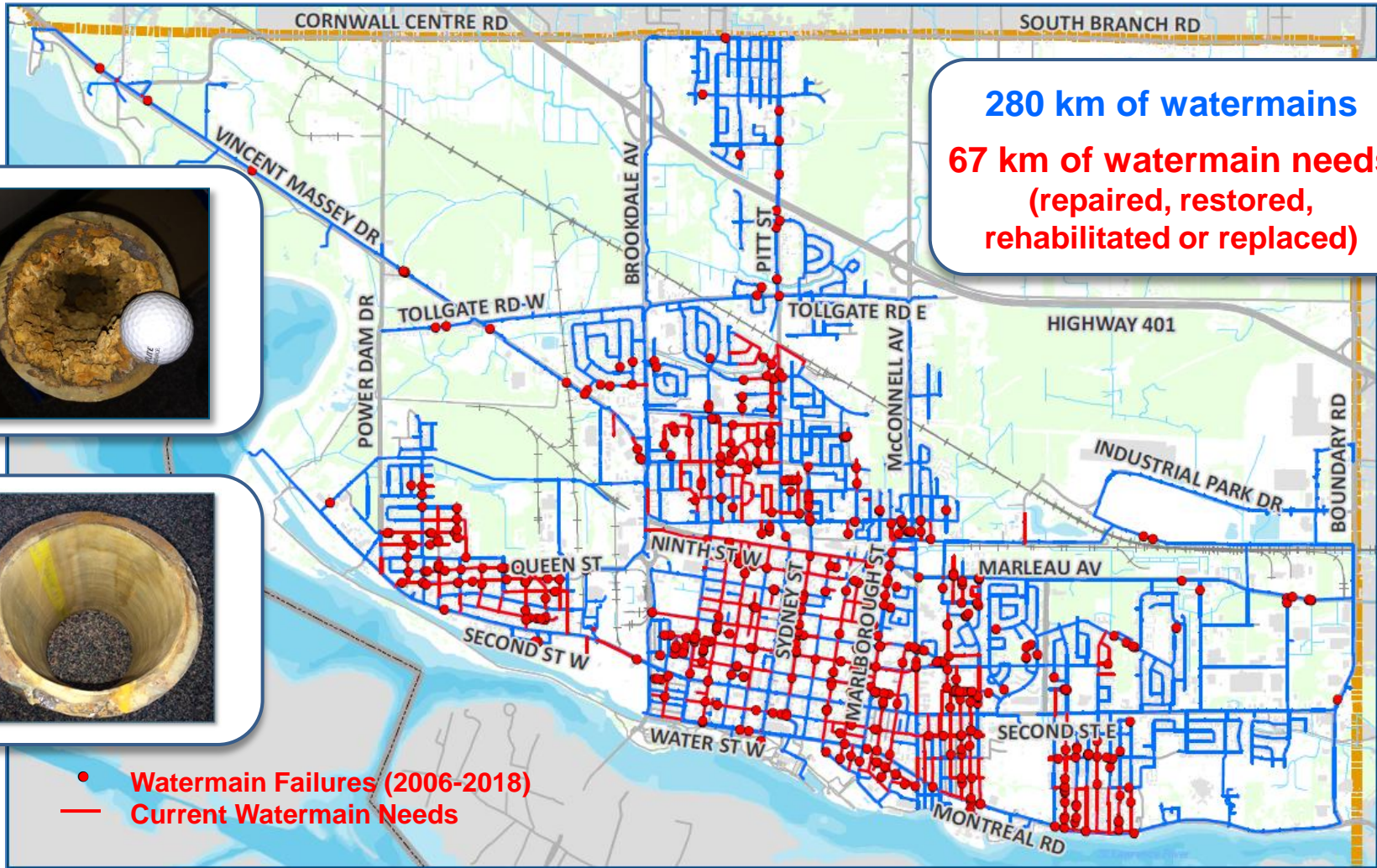
# Water Distribution Network

280 km of watermains

67 km of watermain needs  
(repaired, restored,  
rehabilitated or replaced)

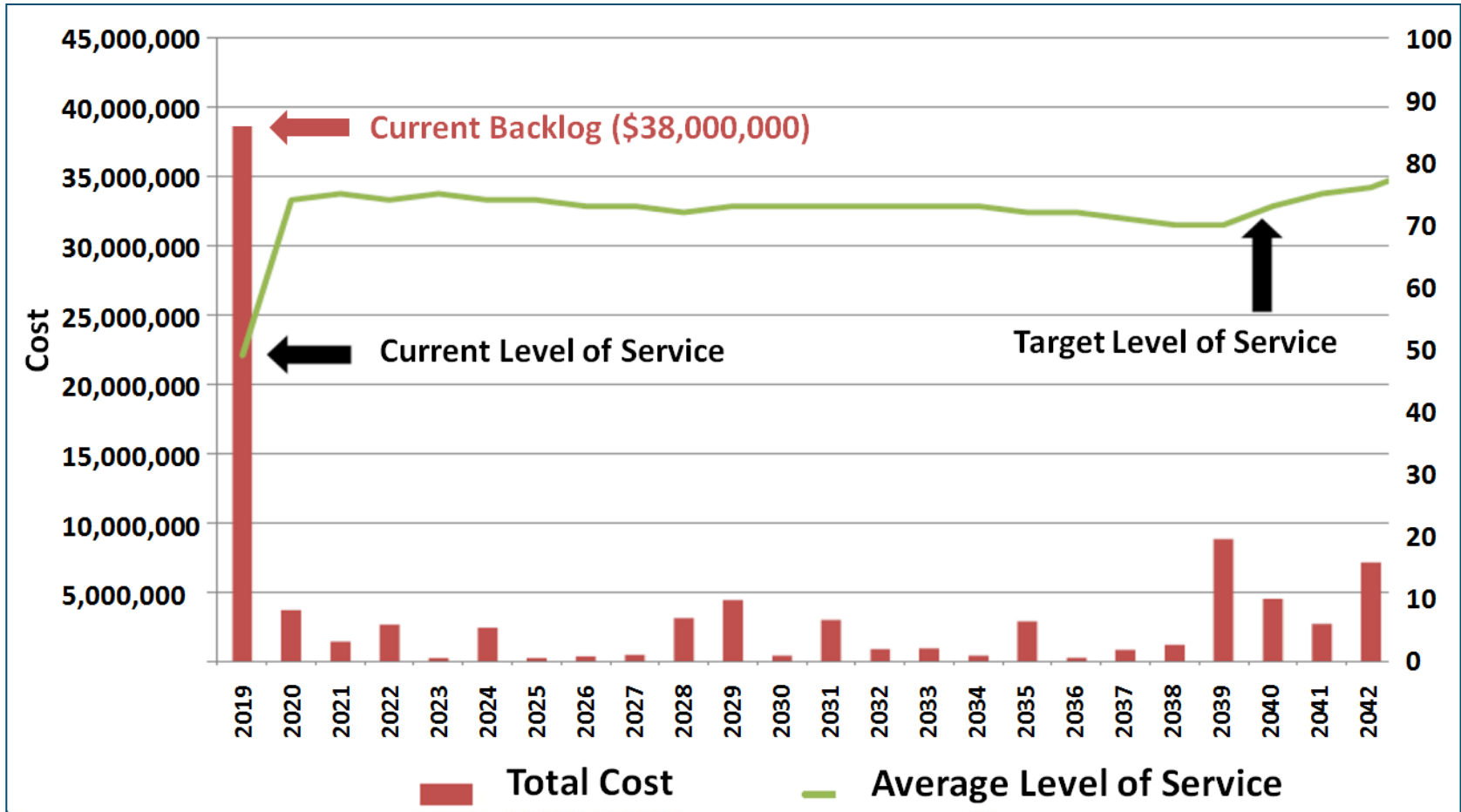


- Watermain Failures (2006-2018)
- Current Watermain Needs



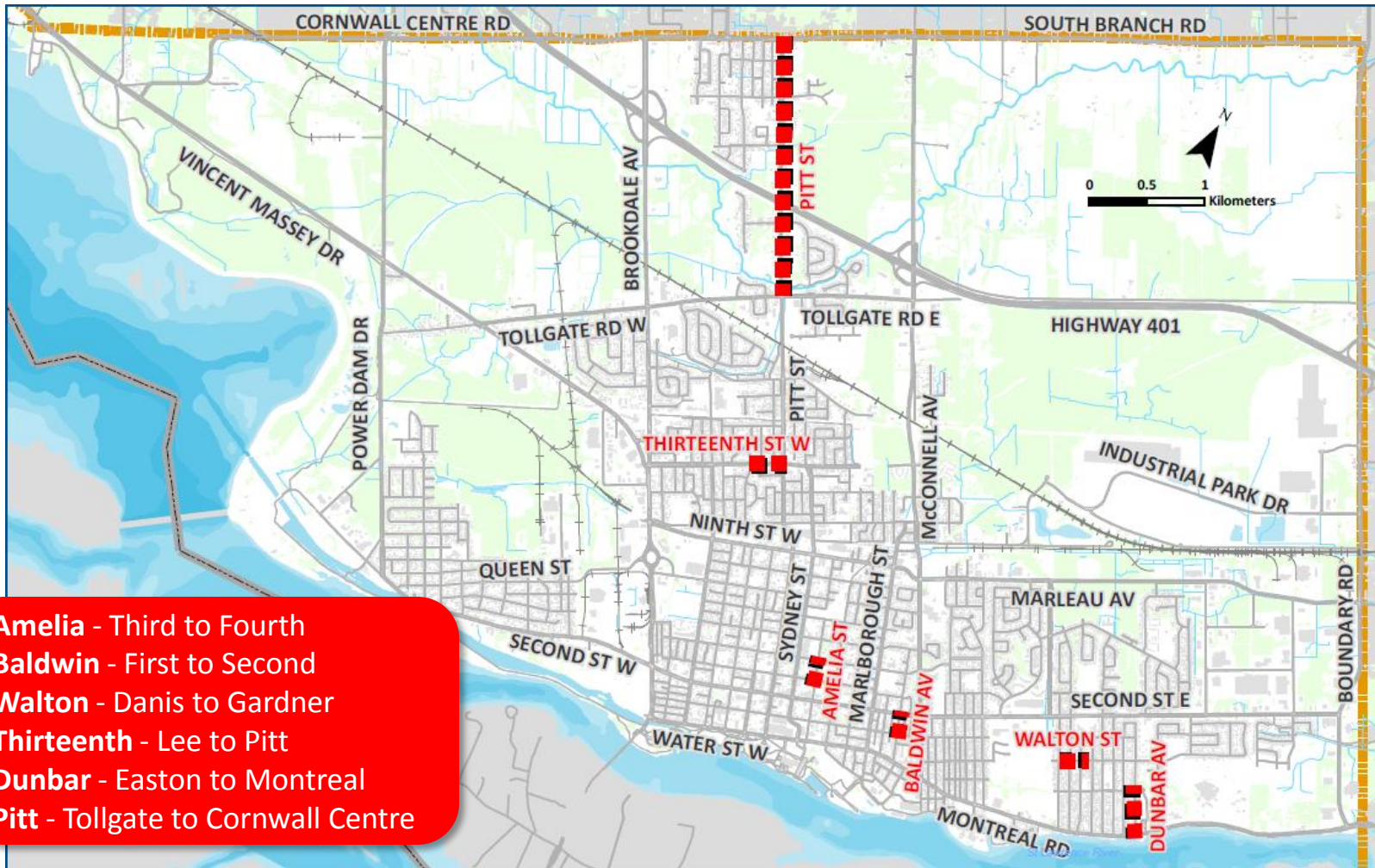
# Watermain Rehabilitation

## Water Network Budget and Level of Service



# Watermain Rehabilitation

## Various Locations



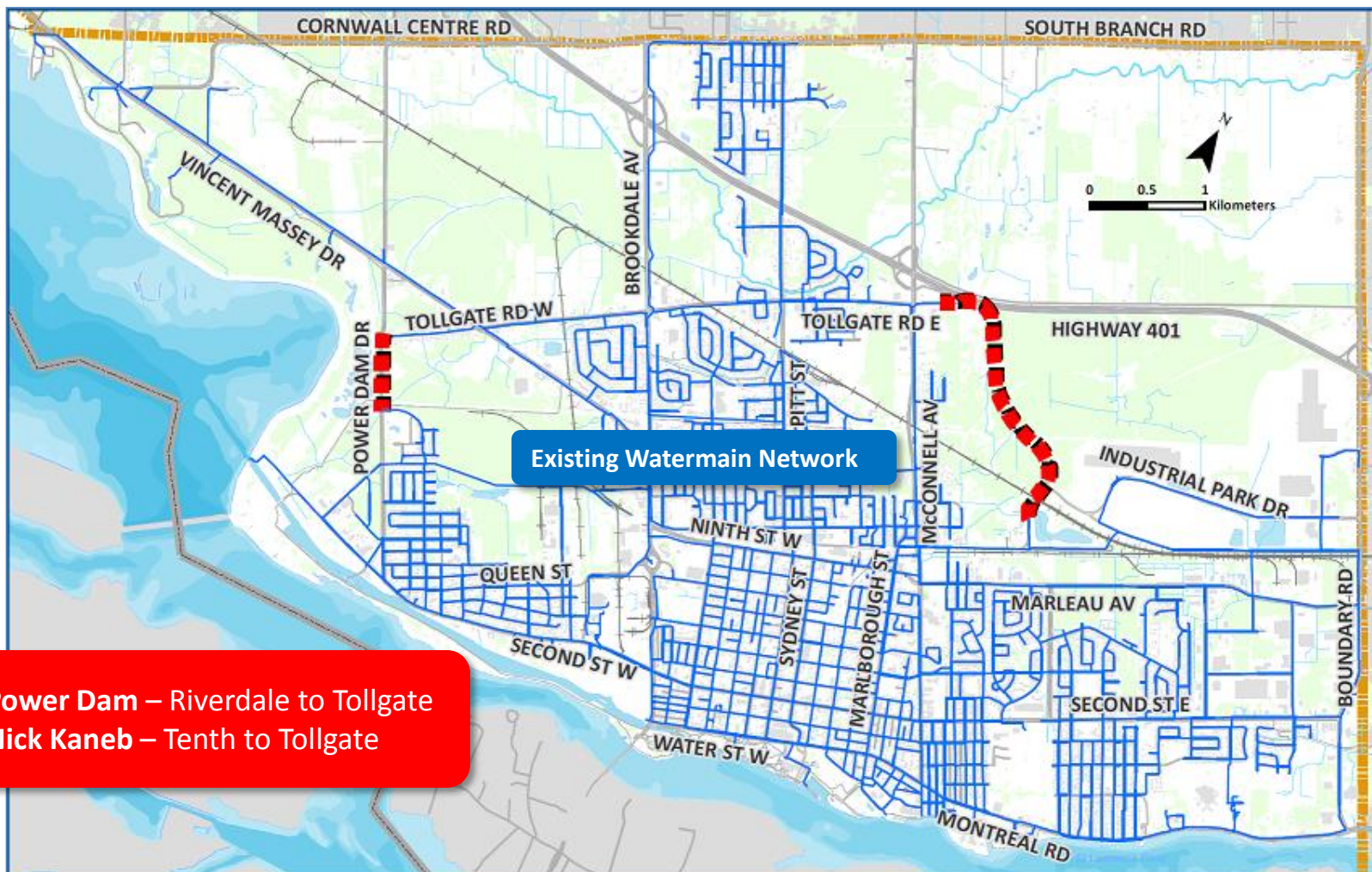
**Amelia** - Third to Fourth  
**Baldwin** - First to Second  
**Walton** - Danis to Gardner  
**Thirteenth** - Lee to Pitt  
**Dunbar** - Easton to Montreal  
**Pitt** - Tollgate to Cornwall Centre



The project information sheet can be found on pg 17 of the budget book.

# Watermains

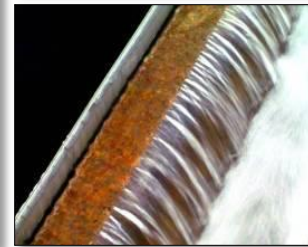
## System Growth & Critical Looping



The project information sheet can be found on pg 18 of the budget book.

# Water Purification Plant

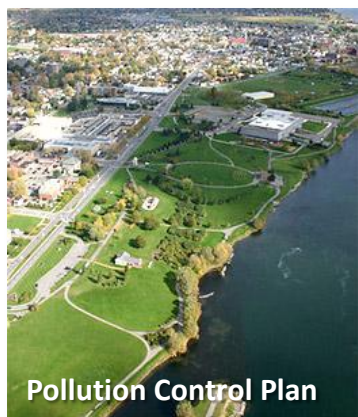
## Upgrades / Process Improvements



The project information sheet can be found on pg 19 of the budget book.

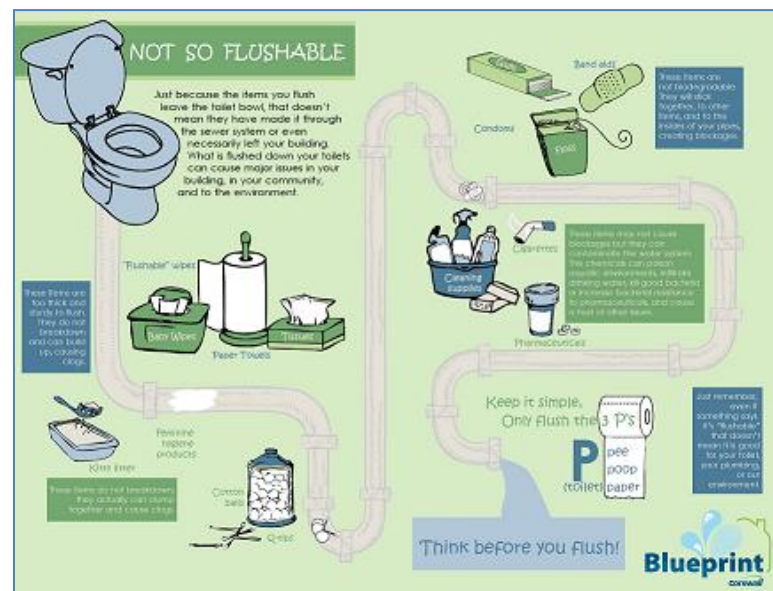
# Wastewater Accomplishments

- Ongoing optimization of enhanced secondary treatment plant (WWTP)
- Fewer combined sewer overflows (CSOs)
- Funding to update Pollution Control Plan
- Combined Sewer Separation
- Low Impact Development – 7<sup>th</sup> St. Bioswale

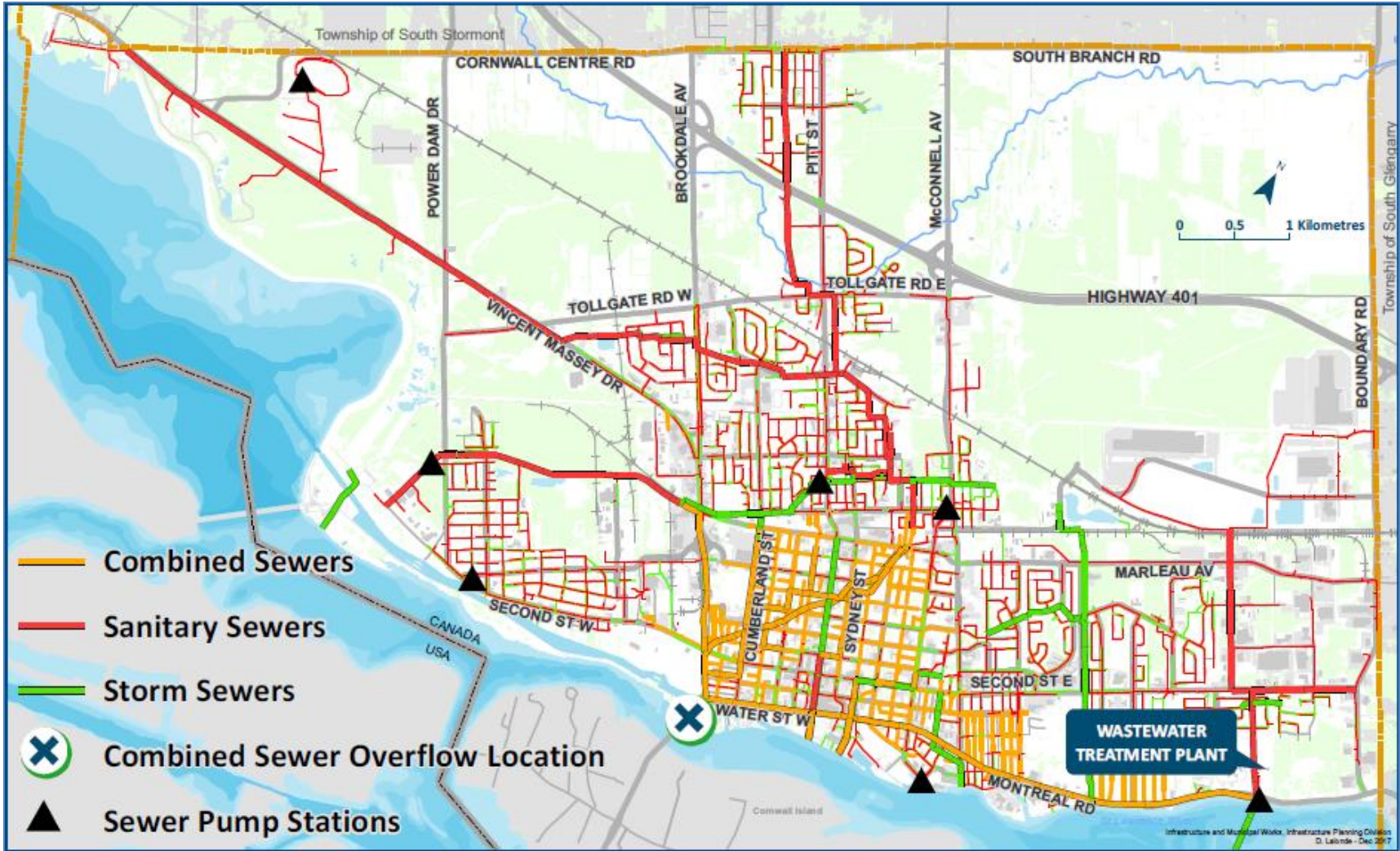


# Wastewater System Challenges

- Stormwater Management
- Combined sewer overflows (CSOs)
- Fats, oils, grease and flushables
- Emerging contaminants
- Climate change, flood risk reduction
- Financial sustainability
- Aging infrastructure
- Odour control
- Infiltration / inflow

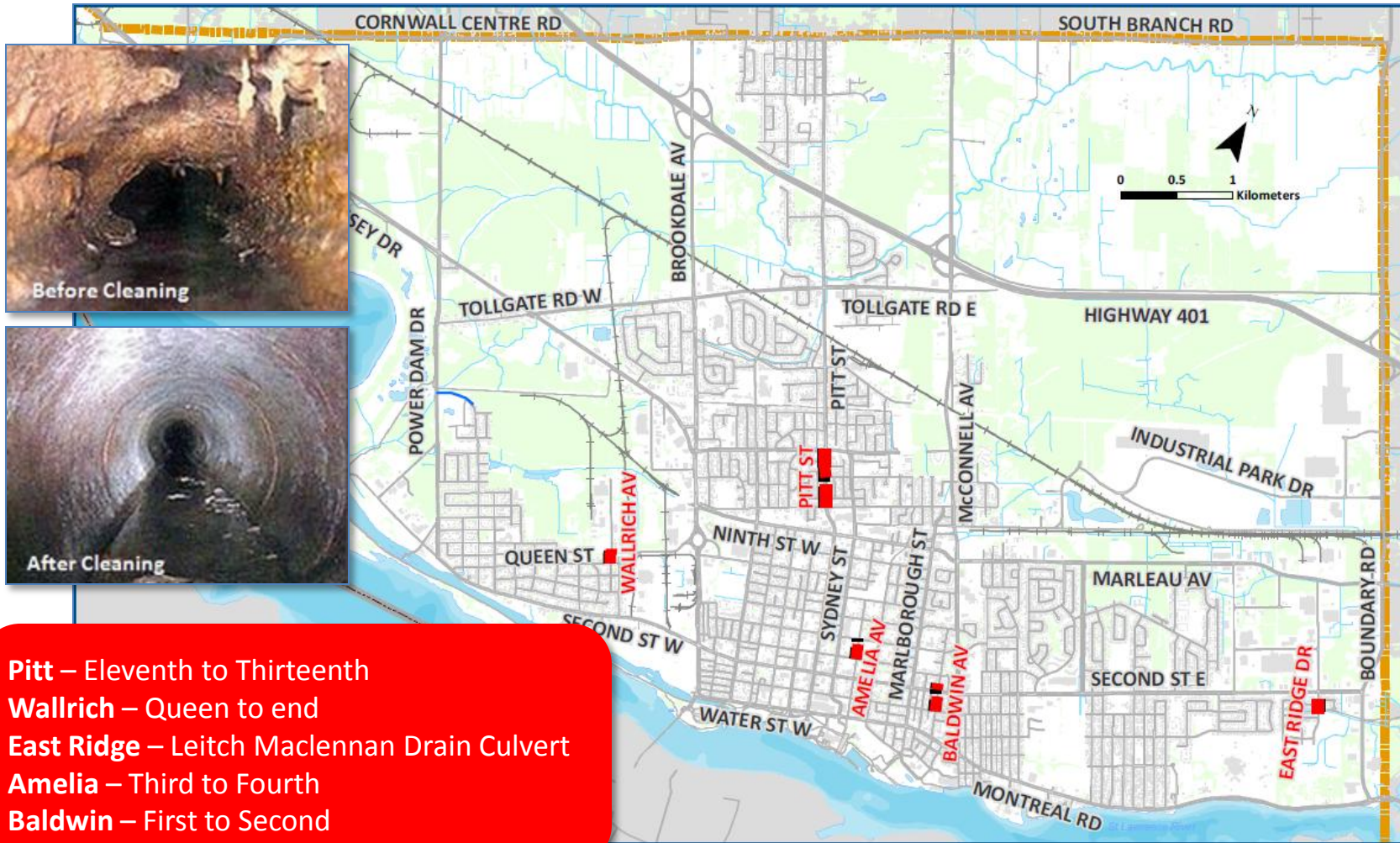


# Wastewater Collection Network



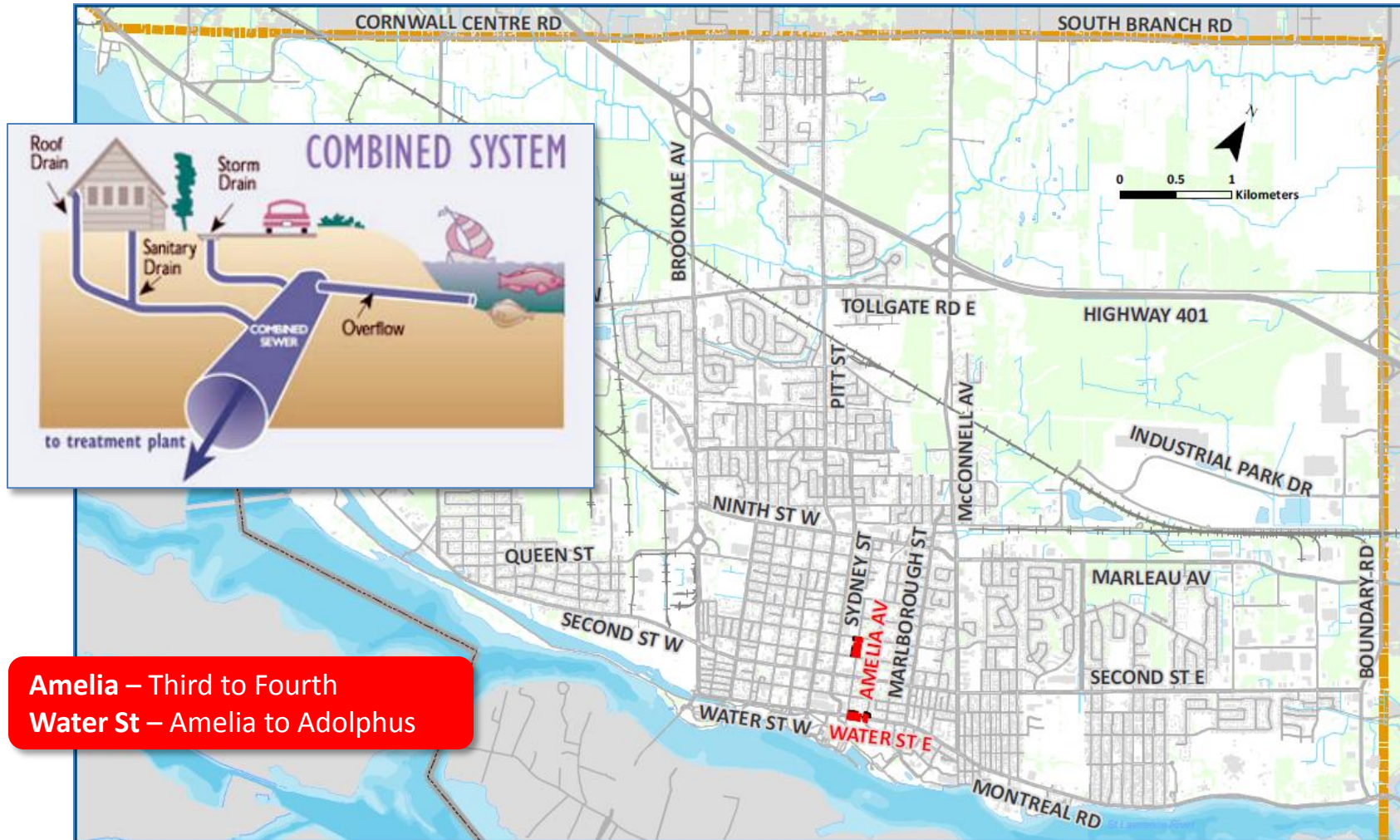
# Sewer Network Improvements

## Various Locations



The project information sheet can be found on pg 20 of the budget book.

# Combined Sewer Separation Various Locations



**Amelia – Third to Fourth  
Water St – Amelia to Adolphus**



The project information sheet can be found on pg 21 of the budget book.

# Wastewater Treatment Plant

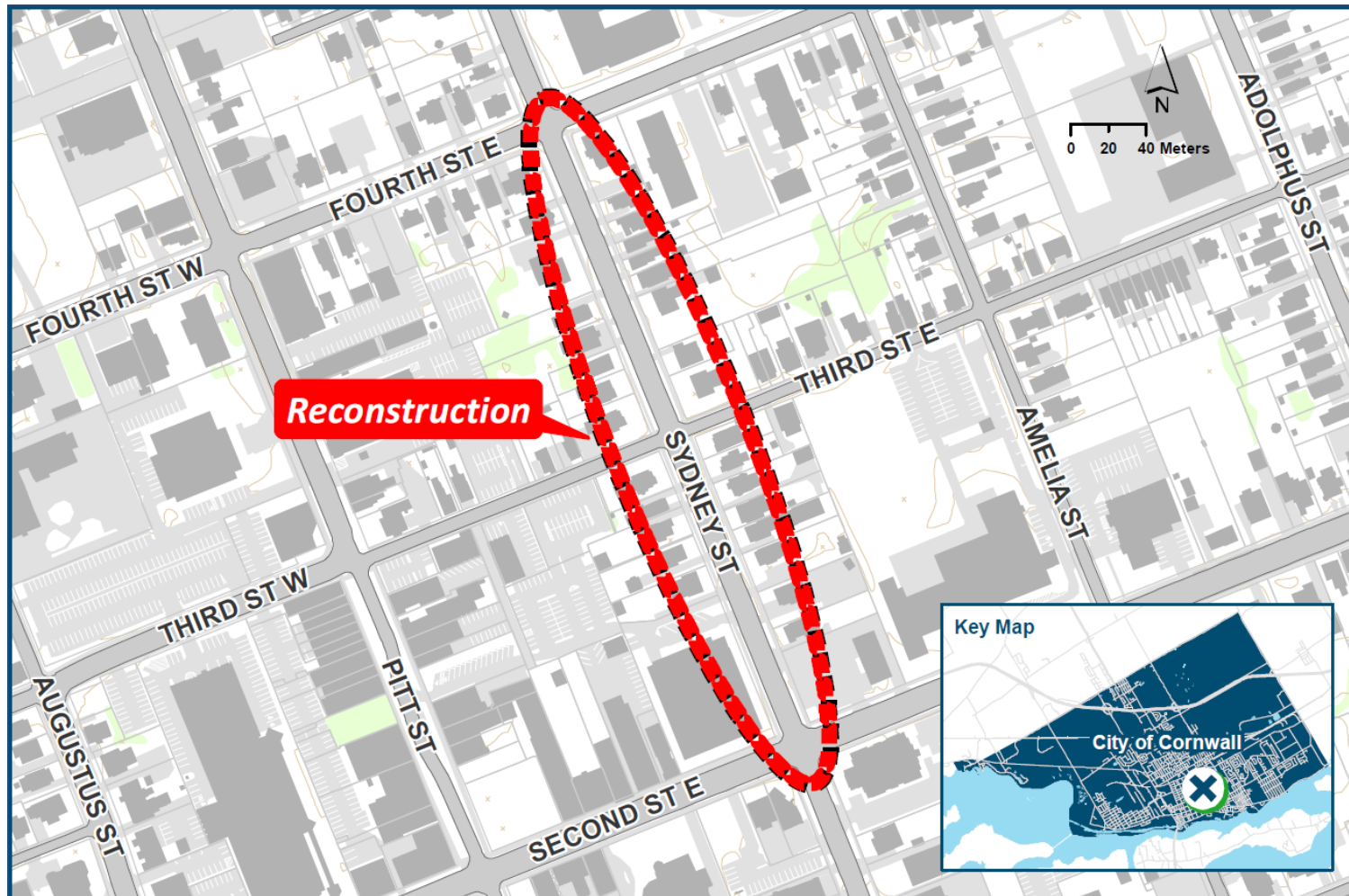
## Upgrades / Process Improvements



The project information sheet can be found on pg 22 of the budget book.

# Joint Infrastructure

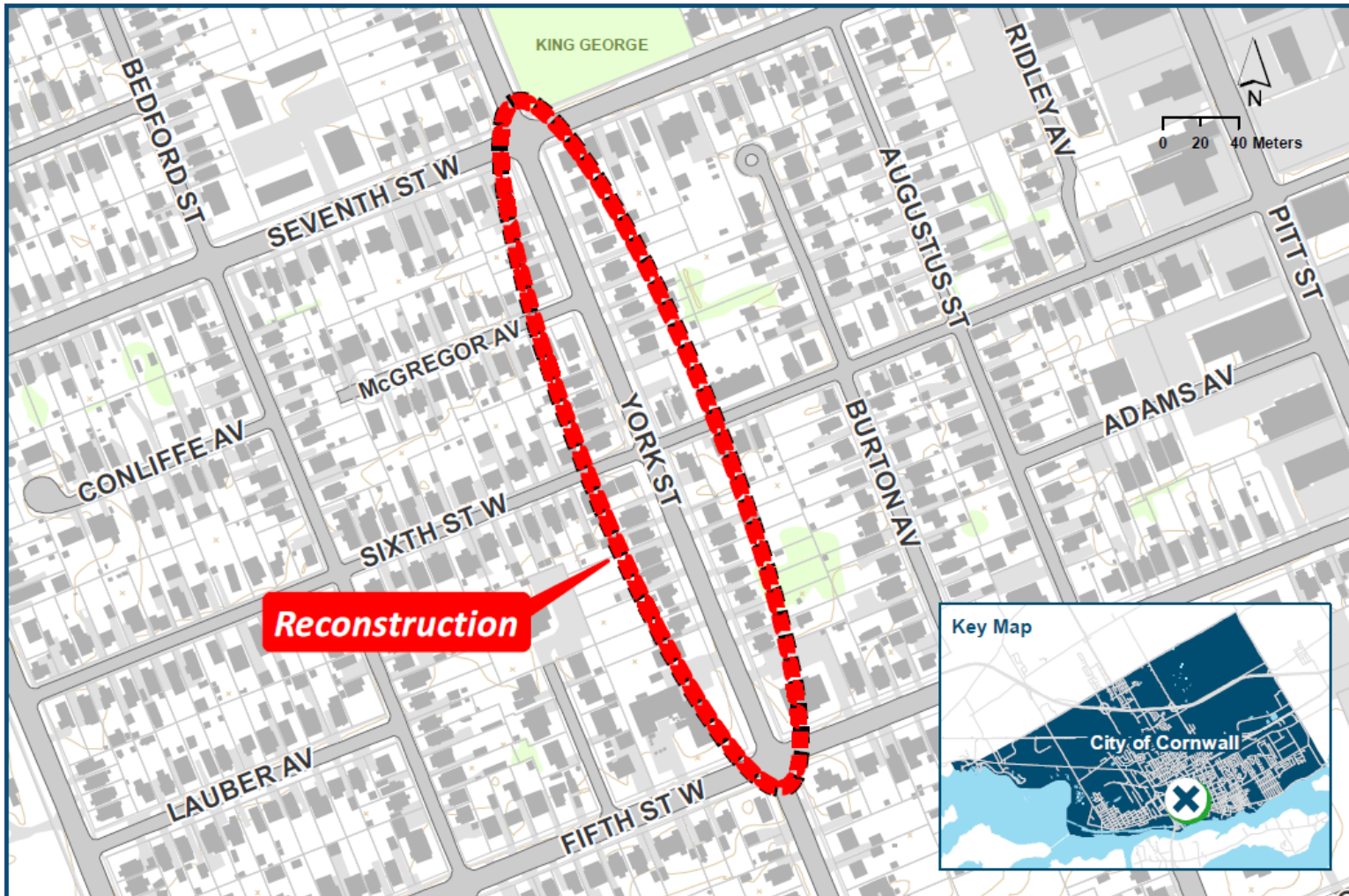
## Sydney St. Reconstruction (Second to Fourth)



The project information sheet can be found on pg 23 of the budget book.

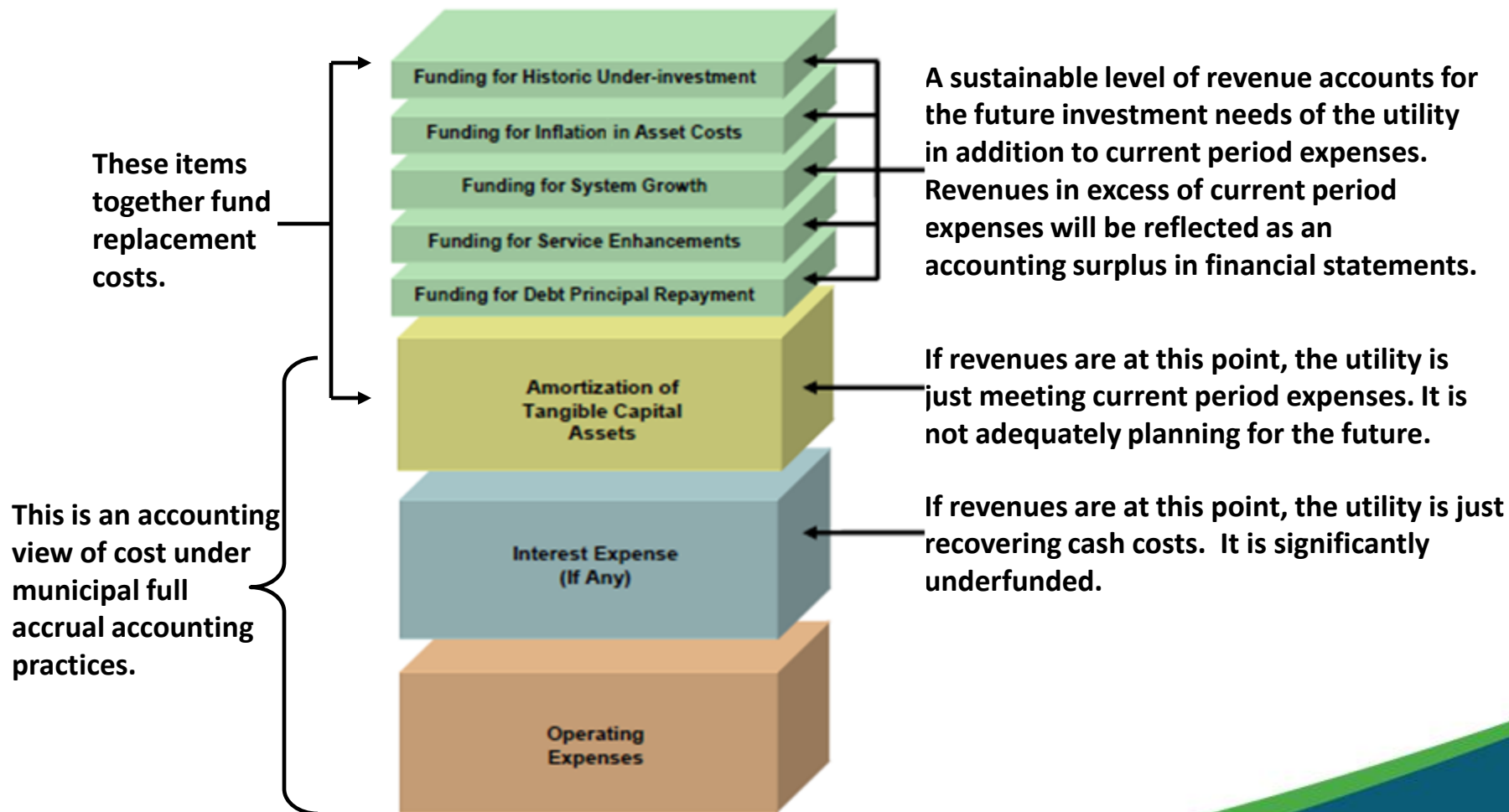
# Joint Infrastructure

## York St. Reconstruction (Fifth to Seventh)



The project information sheet can be found on pg 24 of the budget book.

# Sustainable Financial Planning



(Source: Ontario Ministry of Environment, 2007, Toward Financially Sustainable Drinking Water and Wastewater Systems)

# 2019 Water and Wastewater

## Objectives and Goals of Financial Sustainability Plan

### Realizing Operational Excellence

Provide clean and safe drinking water to over 47,000 residents

Keep \$679M of capital infrastructure in good condition

Comply with complex provincial environmental regulations

Minimize system losses



**EFFECTIVE  
DELIVERY OF  
WATER AND  
WASTEWATER  
SERVICES**

### Moving Towards Financial Sustainability

Set rates for cost recovery

Build reserves for future capital rehabilitation and replacement

Establish rate stabilization reserves

Accounting for system revenue losses

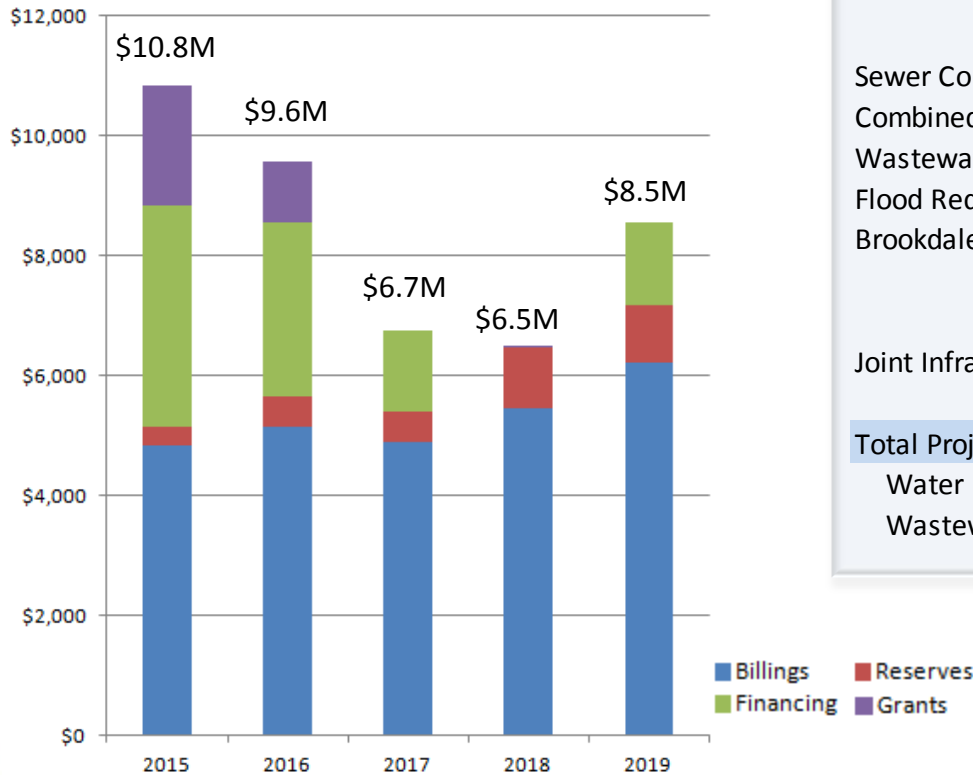
# Operating and Capital Financial Summary



	2018	2019	\$	%	Plan		
	Budget	Submission	Variance	Variance	2020	2021	2022
<b>EXPENDITURES</b>							
Salaries and Benefits	\$4,245,411	\$4,274,482	\$29,071	0.68%	\$4,418,544	\$4,529,008	\$4,642,233
Purchase of Goods	\$2,773,118	\$2,674,690	(\$98,428)	(3.55%)	\$2,701,437	\$2,728,451	\$2,755,736
Services & Rent	\$1,975,103	\$2,049,626	\$74,523	3.77%	\$2,111,115	\$2,174,448	\$2,239,682
Financial	\$230,068	\$231,635	\$1,567	0.68%	\$239,822	\$245,576	\$251,503
Contribution to Reserves	<u>\$250,000</u>	<u>\$250,000</u>	\$0	0.00%	<u>\$250,000</u>	<u>\$250,000</u>	<u>\$650,000</u>
<b>Total Expenditures</b>	<b>\$9,473,700</b>	<b>\$9,480,433</b>	<b>\$6,733</b>	<b>0.07%</b>	<b>\$9,720,918</b>	<b>\$9,927,483</b>	<b>\$10,539,154</b>
<b>REVENUE</b>							
User Fees & Misc Revenue	<u>\$265,300</u>	<u>\$253,200</u>	(\$12,100)	(4.56%)	<u>\$258,264</u>	<u>\$263,429</u>	<u>\$268,698</u>
<b>Net Operating Expenditures</b>	<b>\$9,208,400</b>	<b>\$9,227,233</b>	<b>\$18,833</b>	<b>0.20%</b>	<b>\$9,462,654</b>	<b>\$9,664,054</b>	<b>\$10,270,456</b>
Financing LTD Principal & Interest	1,842,801	1,742,138	(\$100,663)	(5.46%)	1,971,667	2,169,248	2,159,517
Corporate Costs	\$967,750	\$1,035,842	\$68,092	7.04%	\$1,056,559	\$1,077,690	\$1,099,244
Insurance Premiums	\$179,780	\$163,637	(\$16,143)	(8.98%)	\$166,910	\$170,248	\$173,653
<b>Operating Water &amp; Wastewater Billings</b>	<b><u>\$12,198,731</u></b>	<b><u>\$12,168,850</u></b>	<b><u>(\$29,881)</u></b>	<b><u>(0.24%)</u></b>	<b><u>\$12,657,789</u></b>	<b><u>\$13,081,240</u></b>	<b><u>\$13,702,870</u></b>
Gross Capital	\$6,511,000	\$8,547,000	\$2,036,000	31.27%	\$7,675,000	\$7,640,000	\$7,335,000
Capital Funding							
Government Grants	\$40,000	\$0	(\$40,000)	(100.00%)	\$0	\$0	\$0
Financing	\$0	\$1,384,000	\$1,384,000	100.00%	\$0	\$0	\$0
Development Charges	\$0	\$250,000	\$250,000	100.00%	\$550,000	\$250,000	\$0
Water Works Reserve	\$690,000	\$454,000	(\$236,000)	(34.20%)	\$550,000	\$650,000	\$250,000
Wastewater Works Reserve	<u>\$320,000</u>	<u>\$250,000</u>	<u>(\$70,000)</u>	<u>(21.88%)</u>	<u>\$150,000</u>	<u>\$0</u>	<u>\$200,000</u>
<b>Capital Water &amp; Wastewater Billings</b>	<b><u>\$5,461,000</u></b>	<b><u>\$6,209,000</u></b>	<b><u>\$748,000</u></b>	<b><u>13.70%</u></b>	<b><u>\$6,425,000</u></b>	<b><u>\$6,740,000</u></b>	<b><u>\$6,885,000</u></b>
<b>WATER AND WASTEWATER BILLINGS</b>	<b><u>\$17,659,731</u></b>	<b><u>\$18,377,850</u></b>	<b><u>\$718,119</u></b>	<b><u>4.07%</u></b>	<b><u>\$19,082,789</u></b>	<b><u>\$19,821,240</u></b>	<b><u>\$20,587,870</u></b>
					<b>3.84%</b>	<b>3.87%</b>	<b>3.87%</b>

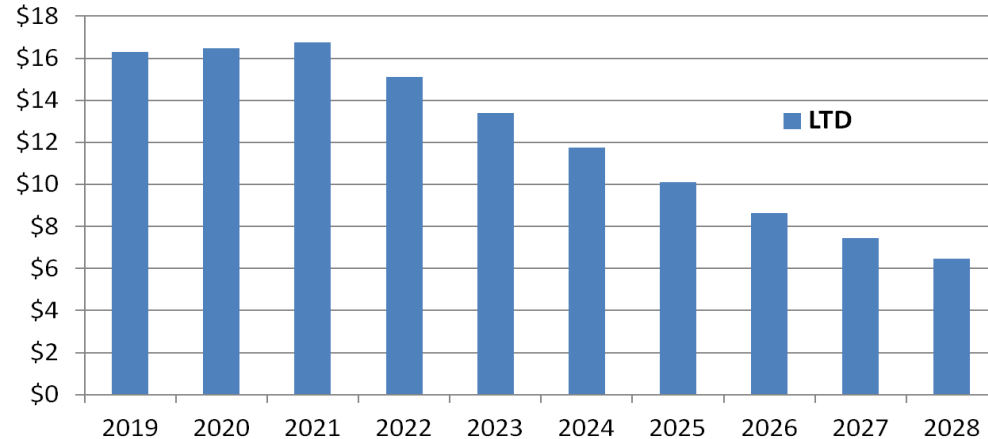
# 2019 Capital Budgets

The following charts illustrate capital funding allocations (in the thousands of dollars) from the 2015, 2016, 2017, 2018 Budgets compared to the 2019 Submission.

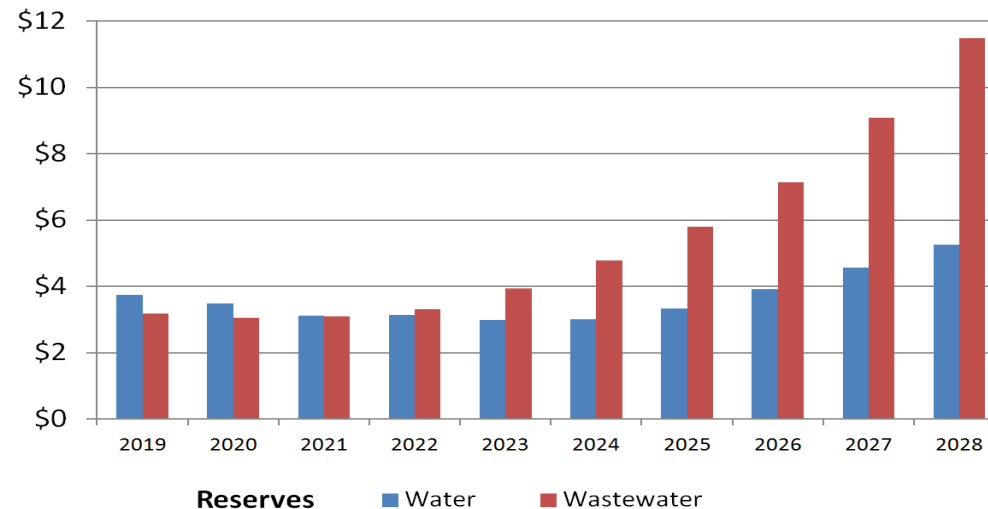


	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Water Distribution	\$2,790	\$2,530	\$1,560	\$2,250	\$2,130
Water Purification Plant	<u>950</u>	<u>650</u>	<u>650</u>	<u>880</u>	<u>904</u>
	<b>\$3,740</b>	<b>\$3,180</b>	<b>\$2,210</b>	<b>\$3,130</b>	<b>\$3,034</b>
Sewer Collection Program	\$810	\$850	\$800	\$800	\$1,005
Combined Sewer Separation	335	335	335	675	470
Wastewater Treatment Plant	550	550	550	890	820
Flood Reduction Initiatives	4,030	1,130	200	200	0
Brookdale N. Channel Bridge	<u>0</u>	<u>2,000</u>	<u>1,350</u>	<u>0</u>	<u>0</u>
	<b>\$5,725</b>	<b>\$4,865</b>	<b>\$3,235</b>	<b>\$2,565</b>	<b>\$2,295</b>
Joint Infrastructure Projects	<u>\$1,382</u>	<u>\$1,515</u>	<u>\$1,300</u>	<u>\$816</u>	<u>\$3,218</u>
<b>Total Project Costs</b>	<b>\$10,847</b>	<b>\$9,560</b>	<b>\$6,745</b>	<b>\$6,511</b>	<b>\$8,547</b>
Water Project Costs	\$4,431	\$3,938	\$2,860	\$3,836	\$4,333
Wastewater Project Costs	\$6,416	\$5,622	\$3,885	\$2,675	\$4,214

# Long-Term Debt and Reserves



This chart shows the ten-year (2019-2028) forecasted balance of Long-Term Debt. The City has borrowed for the Flood Reduction Initiative and for the Secondary WWTP. It is proposed to finance the remaining capital works for the York St. project. Water Services is debt free.

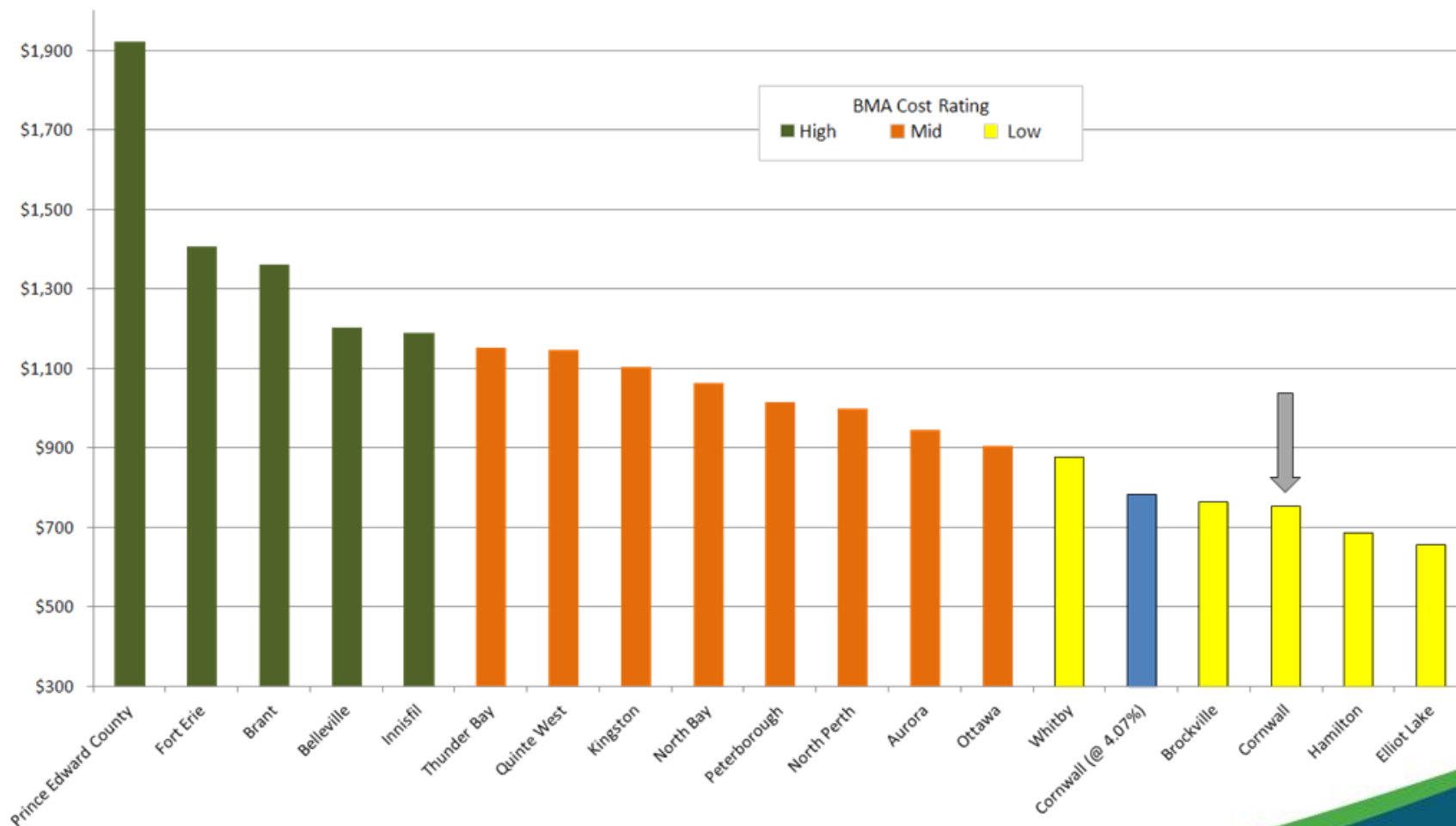


This chart shows the ten-year (2019-2028) forecasted balance for the Waterworks and the Wastewater Works Reserves based on the City's Long-Term Financial Plan.

\*Dollars rounded to millions

# Municipal Comparators

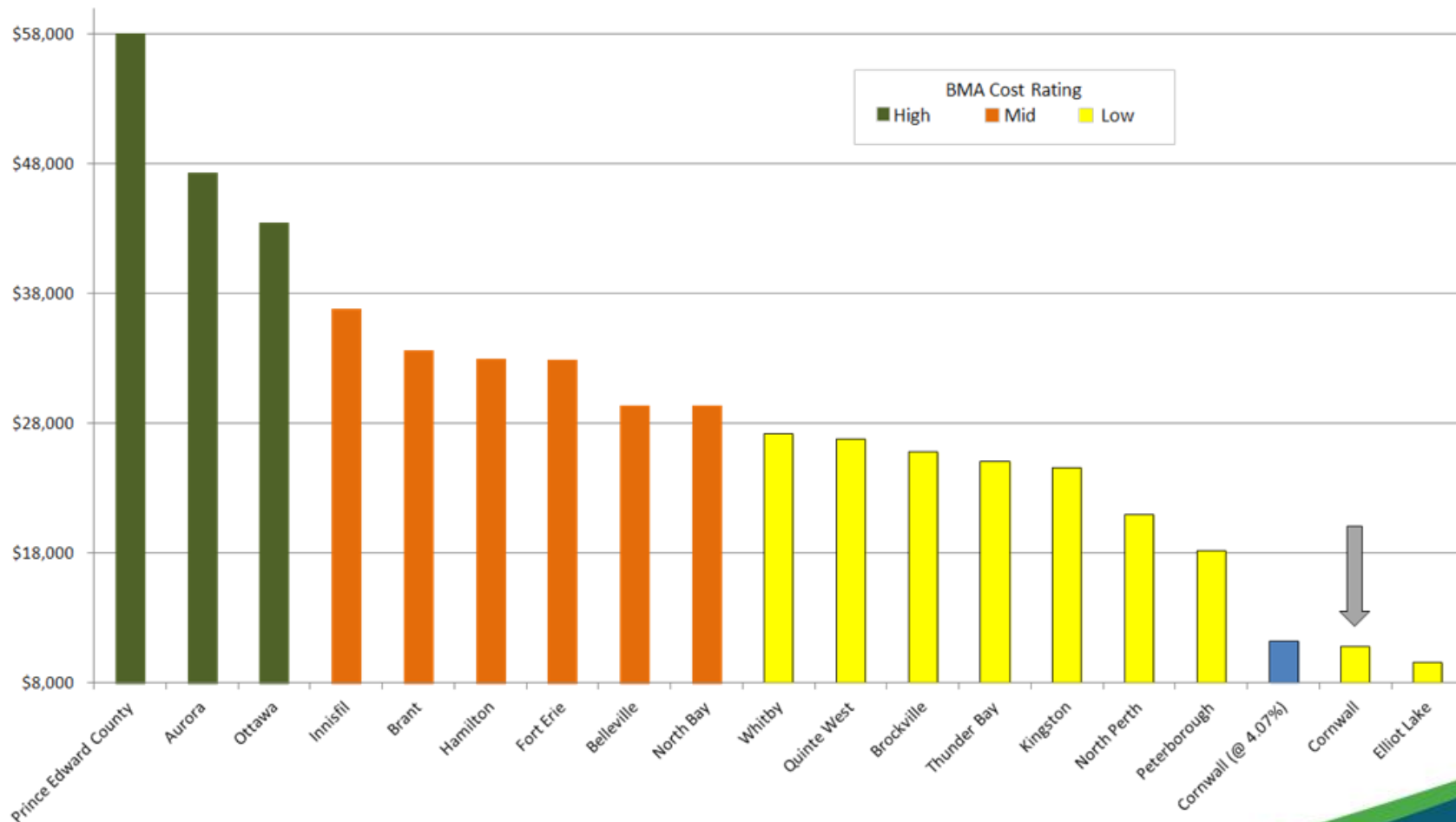
Residential Water / Wastewater Costs per 200m<sup>3</sup>



\* Source: 2018 BMA Study (see Appendix A)

# Municipal Comparators

Commercial Water / Wastewater Costs per 10,000m<sup>3</sup>



\* Source: 2018 BMA Study (see Appendix B)

# Budget Overview

- The 2019 budget has been prepared with an overall increase of 4.07% to the utility bill.
  - Water billings represent an 3.88% increase (\$304,620)
  - Wastewater billings represent a 4.22% increase (\$413,499)
  
- Net Operating decreased by \$29,881 or 0.24%.
  
- Net Capital increased by \$748,000 or 13.70%.

### Comparison of Water/Wastewater Costs—Residential (sorted lowest to highest)

Volume Meter Size	Residential 200 m <sup>3</sup> 5/8"	Residential 200 m <sup>3</sup> Ranking
Caledon	\$ 463	Low
Mississauga	\$ 463	Low
Brampton	\$ 463	Low
Elliot Lake	\$ 657	Low
Hamilton	\$ 687	Low
Pelham	\$ 748	Low
Cornwall	\$ 753	Low
Toronto	\$ 761	Low
Brockville	\$ 764	Low
Stratford	\$ 772	Low
Sault Ste. Marie	\$ 779	Low
Markham	\$ 829	Low
Vaughan	\$ 831	Low
Orillia	\$ 840	Low
Milton	\$ 842	Low
Burlington	\$ 842	Low
Oakville	\$ 842	Low
Halton Hills	\$ 842	Low
Brantford	\$ 849	Low
London	\$ 861	Low
Midland	\$ 864	Low
Waterloo	\$ 870	Low
St. Catharines	\$ 875	Low
Timmins	\$ 876	Low
Pickering	\$ 877	Low
Brock	\$ 877	Low
Whitby	\$ 877	Low
Oshawa	\$ 877	Low
Clarington	\$ 877	Low
Tillsonburg	\$ 879	Low
Whitchurch-Stouffville	\$ 881	Low
Richmond Hill	\$ 882	Low
Strathroy-Caradoc	\$ 888	Low
Barrie	\$ 899	Low

Volume Meter Size	Residential 200 m <sup>3</sup> 5/8"	Residential 200 m <sup>3</sup> Ranking
Ottawa	\$ 906	Mid
North Stormont	\$ 907	Mid
Niagara Falls	\$ 916	Mid
Guelph	\$ 921	Mid
St. Thomas	\$ 930	Mid
Brockton	\$ 945	Mid
Aurora	\$ 946	Mid
Kincardine	\$ 967	Mid
St. Marys	\$ 979	Mid
Saugeen Shores	\$ 983	Mid
North Perth	\$ 999	Mid
Thorold	\$ 1,001	Mid
Samia	\$ 1,006	Mid
Peterborough	\$ 1,014	Mid
Lincoln	\$ 1,019	Mid
Kitchener	\$ 1,031	Mid
Orangeville	\$ 1,038	Mid
Haldimand	\$ 1,043	Mid
Georgina	\$ 1,049	Mid
Chatham-Kent	\$ 1,056	Mid
West Lincoln	\$ 1,059	Mid
Wilmot	\$ 1,060	Mid
North Bay	\$ 1,063	Mid
Cambridge	\$ 1,086	Mid
Niagara-on-the-Lake	\$ 1,098	Mid
Kingston	\$ 1,104	Mid
Quinte West	\$ 1,146	Mid
Thunder Bay	\$ 1,151	Mid
Windsor	\$ 1,153	Mid
Newmarket	\$ 1,157	Mid
North Middlesex	\$ 1,163	Mid
Norfolk	\$ 1,167	Mid
King	\$ 1,172	Mid

Volume Meter Size	Residential 200 m <sup>3</sup> 5/8"	Residential 200 m <sup>3</sup> Ranking
Wellesley	\$ 1,174	High
North Dumfries	\$ 1,174	High
Collingwood	\$ 1,176	High
Innisfil	\$ 1,189	High
Greater Sudbury	\$ 1,189	High
Woolwich	\$ 1,194	High
Grey Highlands	\$ 1,197	High
Espanola	\$ 1,199	High
Belleville	\$ 1,203	High
Welland	\$ 1,210	High
Centre Wellington	\$ 1,217	High
Ingersoll	\$ 1,218	High
Wellington North	\$ 1,222	High
Gravenhurst	\$ 1,243	High
Huntsville	\$ 1,243	High
Bracebridge	\$ 1,243	High
Owen Sound	\$ 1,252	High
Guelph-Eramosa	\$ 1,290	High
Mapleton	\$ 1,351	High
Port Colborne	\$ 1,355	High
Springwater	\$ 1,357	High
Brant	\$ 1,360	High
Parry Sound	\$ 1,367	High
Fort Erie	\$ 1,408	High
East Gwillimbury	\$ 1,414	High
Lambton Shores	\$ 1,415	High
Minto	\$ 1,464	High
Kenora	\$ 1,584	High
Central Elgin	\$ 1,610	High
Greenstone	\$ 1,625	High
Meaford	\$ 1,670	High
Tay	\$ 1,674	High
Middlesex Centre	\$ 1,725	High
Prince Edward County	\$ 1,922	High
Bancroft	\$ 2,090	High
<b>Average</b>	<b>\$ 1,075</b>	
<b>Median</b>	<b>\$ 1,040</b>	

**Comparison of Water/Wastewater Costs—Commercial (sorted lowest to highest)**

Volume Meter Size	Commercial 10,000 m <sup>3</sup> 2"	Commercial 10,000 m <sup>3</sup> Ranking
Elliot Lake	\$ 9,626	Low
Cornwall	\$ 10,825	Low
Sarnia	\$ 15,238	Low
Collingwood	\$ 16,900	Low
Grey Highlands	\$ 17,386	Low
Peterborough	\$ 18,184	Low
Kincardine	\$ 18,384	Low
North Perth	\$ 20,960	Low
Windsor	\$ 23,025	Low
Pelham	\$ 23,596	Low
Brockton	\$ 24,000	Low
St. Thomas	\$ 24,492	Low
Kingston	\$ 24,580	Low
Mississauga	\$ 24,700	Low
Brampton	\$ 24,700	Low
Caledon	\$ 24,700	Low
Niagara Falls	\$ 24,996	Low
Thunder Bay	\$ 25,107	Low
Tillsonburg	\$ 25,222	Low
London	\$ 25,223	Low
Chatham-Kent	\$ 25,560	Low
Brockville	\$ 25,859	Low
Saugeen Shores	\$ 26,078	Low
Ingersoll	\$ 26,369	Low
Niagara-on-the-Lake	\$ 26,551	Low
Quinte West	\$ 26,824	Low
Stratford	\$ 27,162	Low
Pickering	\$ 27,198	Low
Clarington	\$ 27,198	Low
Brock	\$ 27,198	Low
Whitby	\$ 27,198	Low
Oshawa	\$ 27,198	Low
Port Colborne	\$ 28,130	Low

Volume Meter Size	Commercial 10,000 m <sup>3</sup> 2"	Commercial 10,000 m <sup>3</sup> Ranking
Oakville	\$ 28,477	Mid
Milton	\$ 28,477	Mid
Halton Hills	\$ 28,477	Mid
Burlington	\$ 28,477	Mid
Thorold	\$ 29,254	Mid
North Bay	\$ 29,389	Mid
Belleville	\$ 29,416	Mid
Sault Ste. Marie	\$ 30,017	Mid
Timmins	\$ 30,096	Mid
Kenora	\$ 31,534	Mid
Haldimand	\$ 31,672	Mid
Midland	\$ 32,025	Mid
St. Catharines	\$ 32,244	Mid
Toronto	\$ 32,330	Mid
St. Marys	\$ 32,656	Mid
Fort Erie	\$ 32,908	Mid
Hamilton	\$ 33,016	Mid
West Lincoln	\$ 33,087	Mid
Strathroy-Caradoc	\$ 33,276	Mid
Orillia	\$ 33,307	Mid
Brant	\$ 33,646	Mid
Norfolk	\$ 34,334	Mid
Owen Sound	\$ 36,508	Mid
Innisfil	\$ 36,881	Mid
North Middlesex	\$ 37,127	Mid
Guelph	\$ 37,429	Mid
Mapleton	\$ 37,675	Mid
Greater Sudbury	\$ 38,136	Mid
Barrie	\$ 38,804	Mid
Minto	\$ 39,034	Mid
Brantford	\$ 39,768	Mid
Newmarket	\$ 40,128	Mid
Markham	\$ 41,442	Mid
Vaughan	\$ 41,567	Mid

Volume Meter Size	Commercial 10,000 m <sup>3</sup> 2"	Commercial 10,000 m <sup>3</sup> Ranking
Waterloo	\$ 41,774	High
Orangeville	\$ 42,217	High
Ottawa	\$ 43,480	High
Wilmot	\$ 43,802	High
Whitchurch-Stouffville	\$ 44,058	High
Richmond Hill	\$ 44,115	High
Wellington North	\$ 45,004	High
Huntsville	\$ 45,008	High
Gravenhurst	\$ 45,008	High
Bracebridge	\$ 45,008	High
Welland	\$ 45,608	High
Woolwich	\$ 45,612	High
Cambridge	\$ 45,869	High
Lincoln	\$ 46,482	High
Aurora	\$ 47,300	High
Meaford	\$ 47,300	High
Centre Wellington	\$ 48,400	High
Georgina	\$ 49,069	High
North Dumfries	\$ 49,292	High
Wellesley	\$ 49,292	High
Kitchener	\$ 51,567	High
East Gwillimbury	\$ 52,118	High
Guelph-Eramosa	\$ 52,305	High
Springwater	\$ 52,342	High
King	\$ 53,803	High
Parry Sound	\$ 55,089	High
Lambton Shores	\$ 56,566	High
Central Elgin	\$ 57,764	High
Prince Edward County	\$ 58,029	High
Greenstone	\$ 60,588	High
Tay	\$ 62,000	High
Middlesex Centre	\$ 68,191	High
Bancroft	\$ 86,527	High
<b>Average</b>	<b>\$ 36,036</b>	
<b>Median</b>	<b>\$ 33,052</b>	

# “Cornwall Blueprint”

Comprehensive Cornwall urban water brand to address key pillars of the Strategic Plan:  
**Quality of Life, Economic and Financial, as well as Environment**

- Urban Water Brand
- Basement Flooding Mitigation
- Sewer Extraneous (I/I) Flow Control
- Education, Outreach and Engagement
- Homeowner Rebate (Policy Development)

# “Cornwall Blueprint”

Comprehensive Cornwall urban water brand to address key pillars of the Strategic Plan:  
**Quality of Life, Economic and Financial, as well as Environment**

- Environmental, Water and Infrastructure Awareness
- Demonstration Projects and Innovation
- Fund Leveraging and Partnerships
- Climate Change Planning / Adaptation
- Water Demand Management