WHITEWATER REGION

COUNCIL INFORMATION
WATER & WASTEWATER SYSTEMS

OCTOBER 2023

VERSION 2

OBJECTIVES

- Water Systems
- Wastewater System
- Cobden Wastewater Treatment Plant
- User Fees
- Next Steps (Advocacy/ Options)

TOWNSHIP WATER AND WASTEWATER SYSTEMS

Water Systems

- Beachburg Drinking Water System
- Cobden Drinking Water System
- Haley Drinking Water System

Wastewater Systems

- Cobden Wastewater System

MUNICIPAL DRINKING WATER LICENCES

In order to become licensed, a municipality must satisfy the following requirements as per section 44(1) of the Safe Drinking Water Act (SDWA), 2002, S.O. 2002, c. 32

- a drinking water works permit has been issued for the system
- the operational plans for the system satisfy the requirements in the Director's directions under Part III for the particular system or type of system
- the system will be operated by an accredited operating authority
- the financial plans for the system, if required, satisfy the requirements of SDWA
- a permit to take water has been issued under the *Ontario Water Resources Act*
- the Director is satisfied that the system will be operated in accordance with the requirements of the SDWA and the conditions in the licence.

BEACHBURG DRINKING WATER SYSTEM

- Licence Number: 203-102
- Licence Issue Date: September 24, 2020

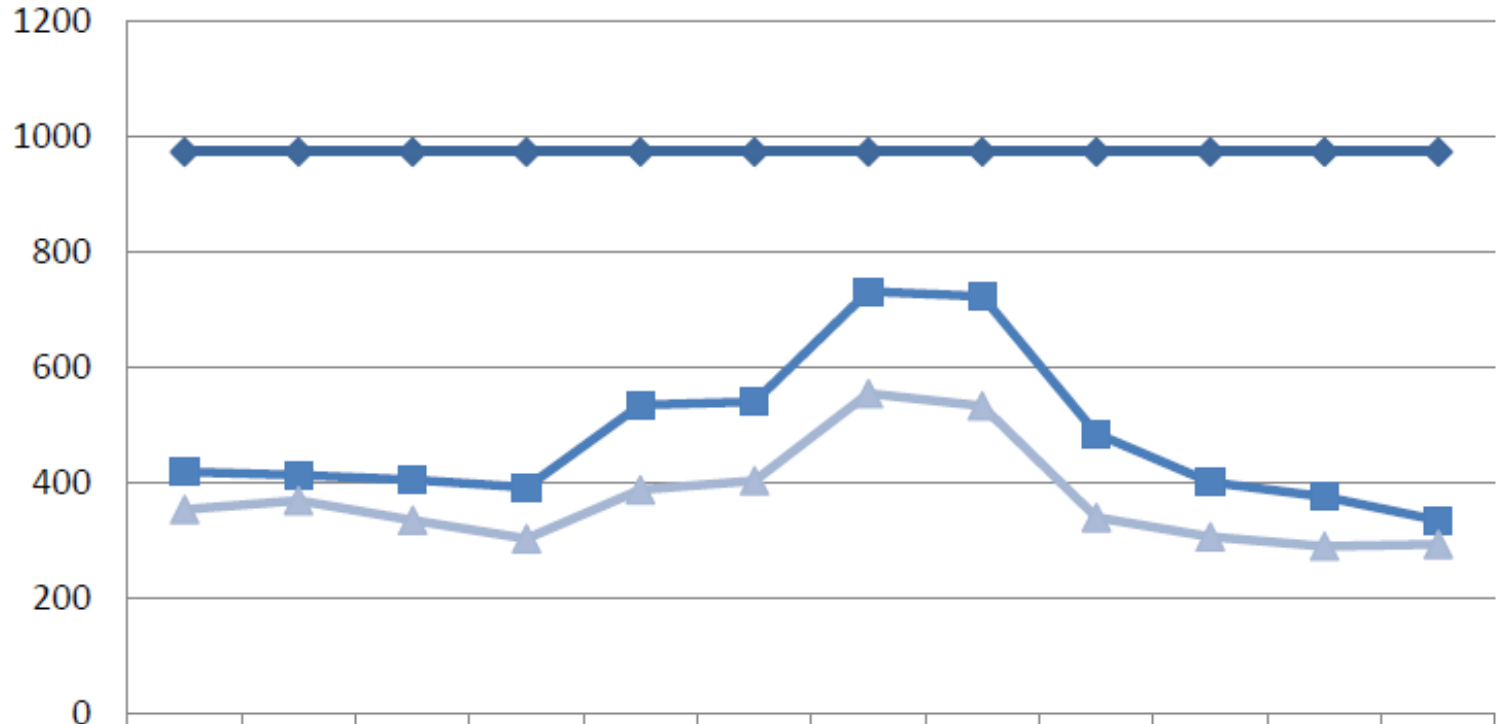
<u>Water Treatment Plant</u>

- Water Plant located at 31 Robertson Drive
- Water Source: 2 ground water wells
- Rated Capacity: 973 (m3/day)
- Class 2 Water Treatment

<u>Distribution System</u>

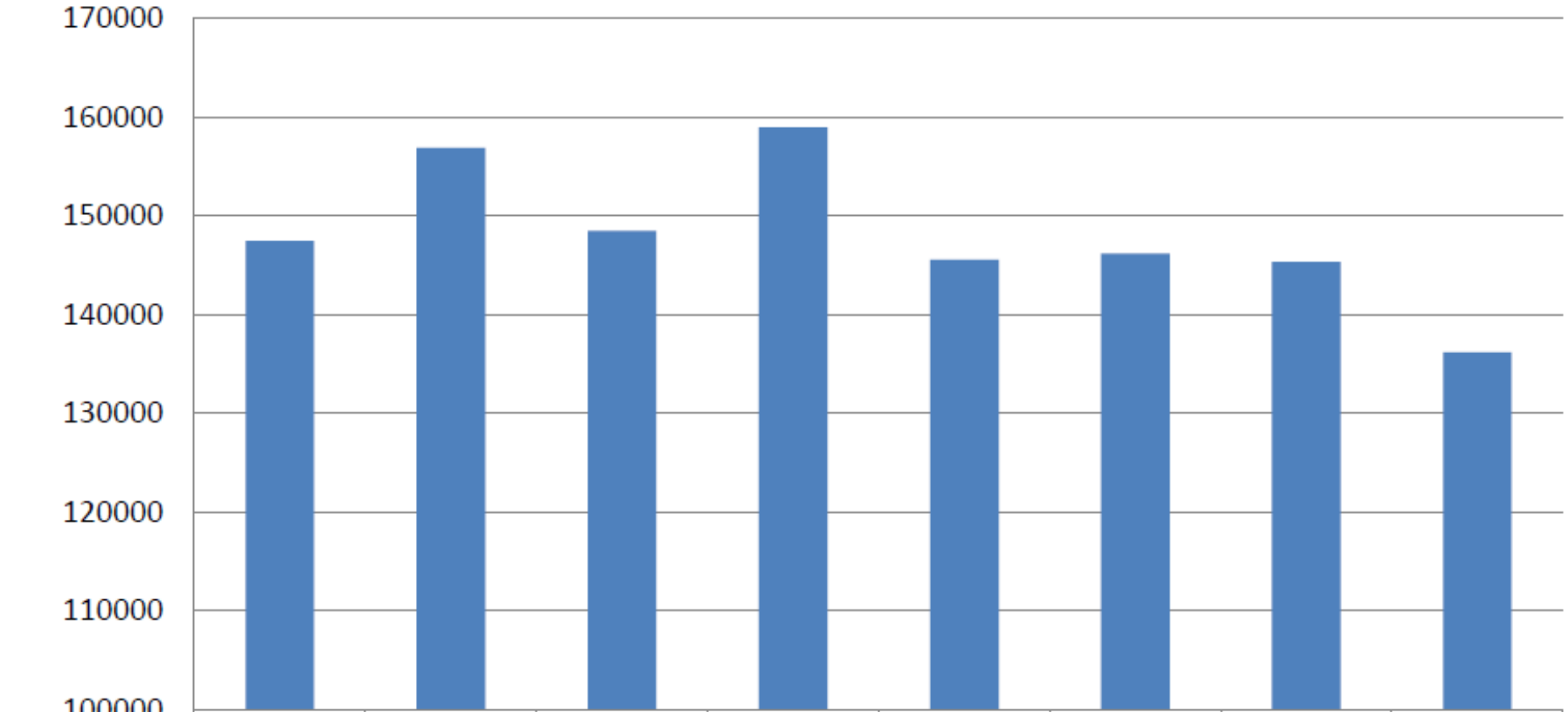
- Class 1 Water Distribution
- Approximately 10 km of watermains, and 64 fire hydrants.
- 458 users

BEACHBURG WATER TREATMENT PLANT – 2022 MONTHLY FLOWS



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m3/d)	973	973	973	973	973	973	973	973	973	973	973	973
Max Daily Flow (m3/d)	419	413	405	392	535	540	731	723	485	401	376	335
Avg (m3/d)	354	369	335	304	388	403	554	533	340	307	290	294

BEACHBURG WATER TREATMENT PLANT – ANNUAL TOTAL FLOW COMPARISON



	2015	2016	2017	2018	2019	2020	2021	2022
WTP (m3)	147416	156857	148472	158953	145547	146180	145318	136158

COBDEN DRINKING WATER SYSTEM

- Licence Number: 203-202
- Licence Issue Date: September 24, 2020

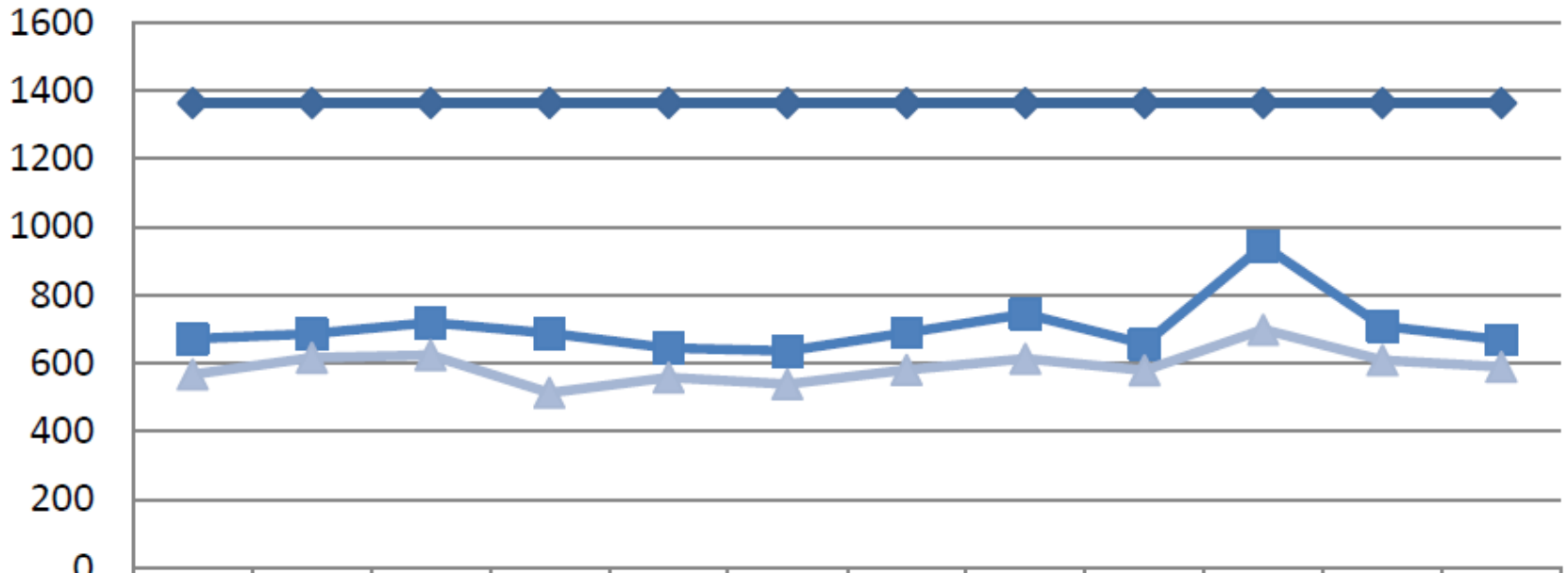
Water Treatment Plant

- Water Plant located at 28 Bonnechere Street
- Water Source: Muskrat Lake
- Rated Capacity: 1,364 (m3/day)
- Class 2 Water Treatment

Distribution System

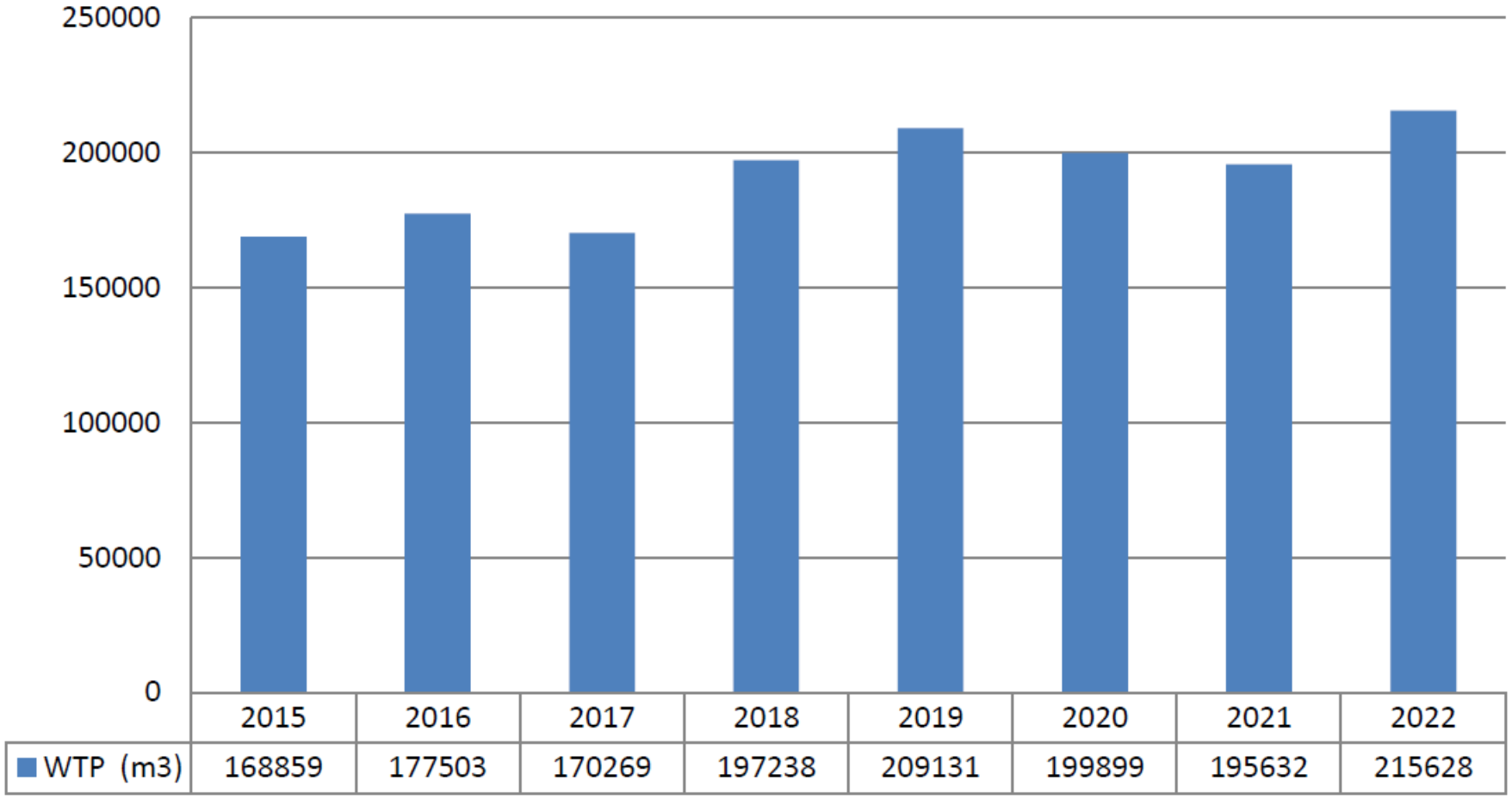
- Class 1 Water Distribution
- Approximately 9.2 km of watermains, and 61 fire hydrants.
- 900 m3 elevated water storage tank
- 455 users

COBDEN WATER TREATMENT PLANT – 2022 MONTHLY FLOWS



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m3/d)	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364
Max Daily Flow (m3/d)	672	687	719	688	644	636	690	744	656	945	709	668
Avg (m3/d)	567	617	624	513	558	538	581	613	580	699	609	589

COBDEN WATER TREATMENT PLANT – ANNUAL TOTAL FLOW COMPARISON



	2015	2016	2017	2018	2019	2020	2021	2022
WTP (m3)	168859	177503	170269	197238	209131	199899	195632	215628

HALEY DRINKING WATER SYSTEM

- Licence Number: 203-103
- Licence Issue Date: September 24, 2020

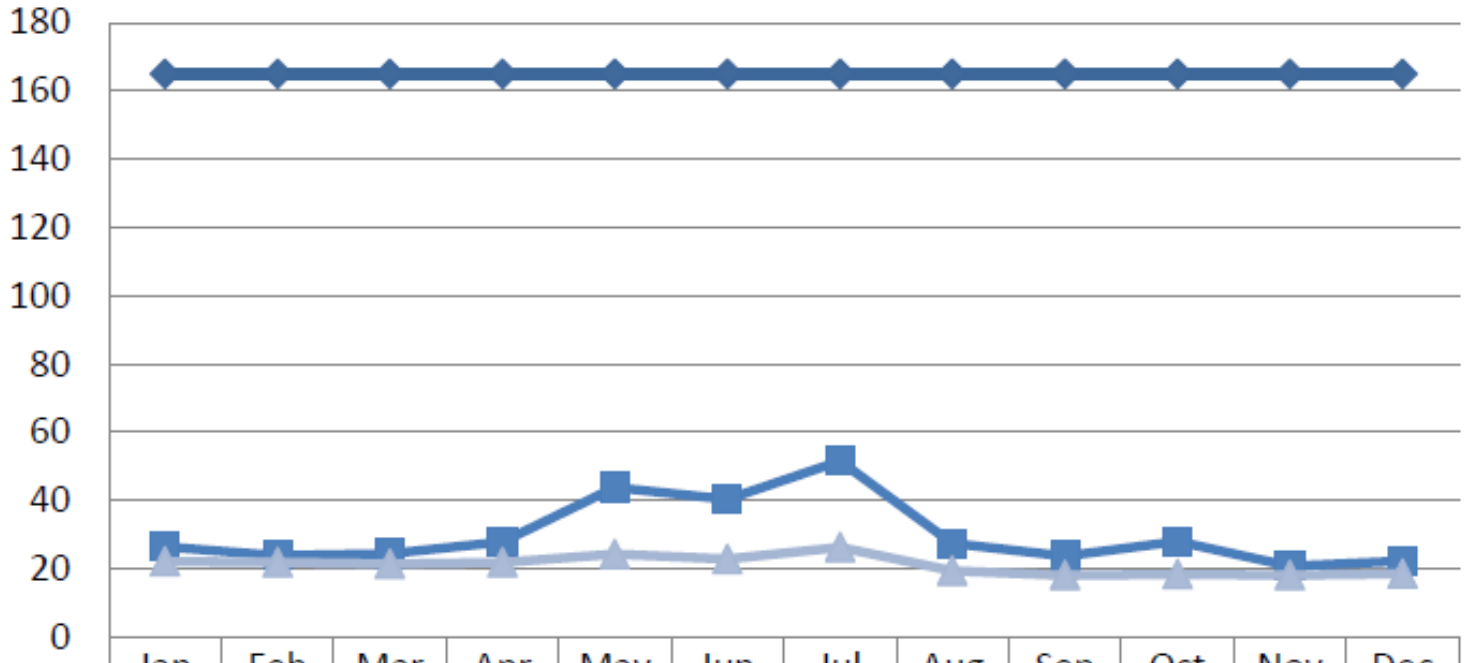
Water Treatment Plant

- Water Plant located at 565 Heather Place
- Water Source: 2 ground water wells
- Rated Capacity: 165 (m3/day)
- Class 2 Water Treatment

Distribution System

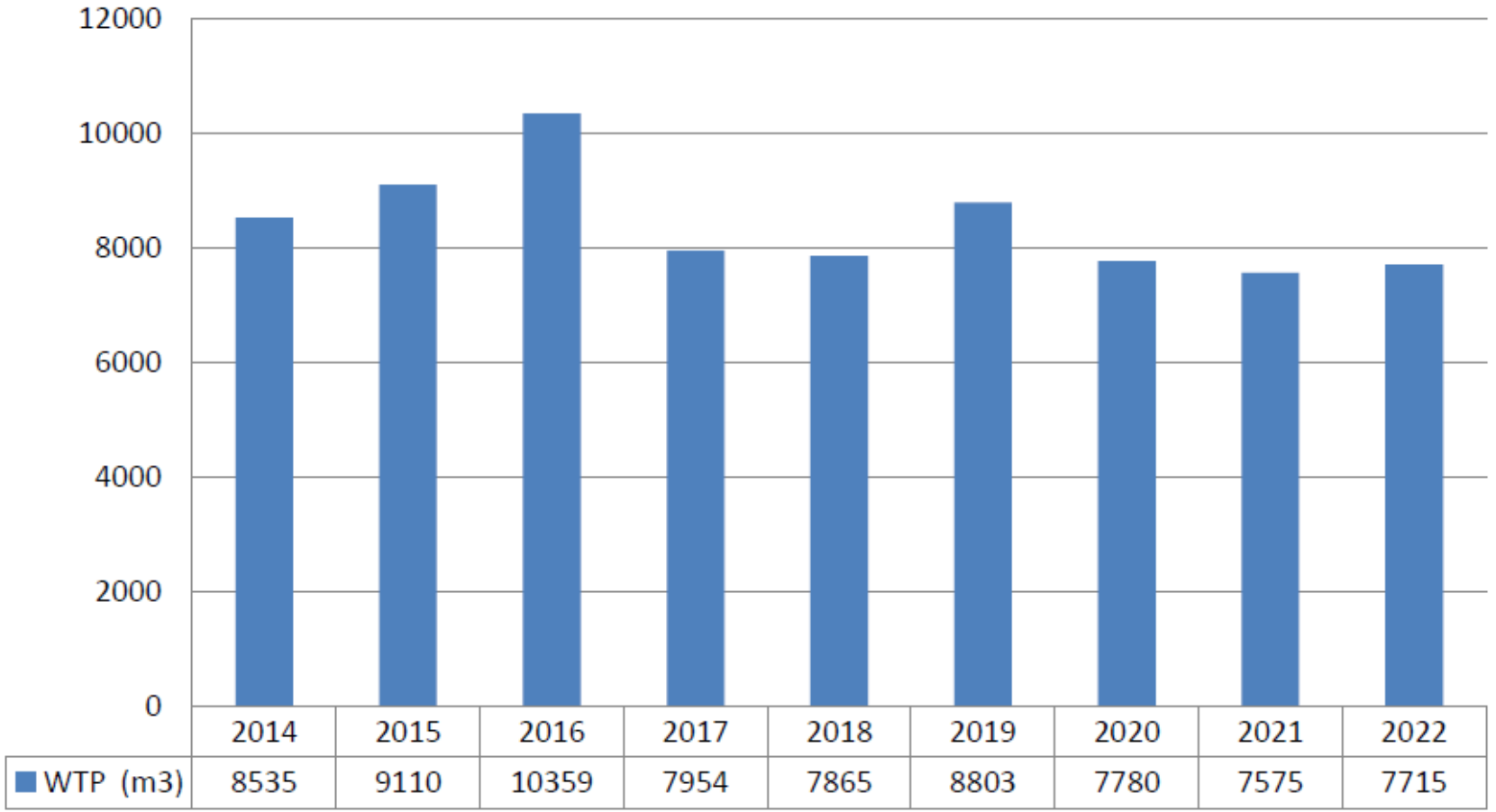
- Class 2 Water Distribution
- Approximately 2 km of watermains, and 0 fire hydrants.
- 34 users

HALEY WATER TREATMENT PLANT – 2022 MONTHLY FLOWS



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m3/d)	165	165	165	165	165	165	165	165	165	165	165	165
Max Flow (m3/d)	27	24	24	28	44	40	52	28	24	28	21	22
Avg (m3/d)	22	22	21	22	24	23	26	19	18	18	18	19

HALEY WATER TREATMENT PLANT – ANNUAL TOTAL FLOW COMPARISON



	2014	2015	2016	2017	2018	2019	2020	2021	2022
WTP (m3)	8535	9110	10359	7954	7865	8803	7780	7575	7715

COBDEN WASTEWATER SYSTEM

- Environmental Compliance Approval Number 4306-b2ykk4

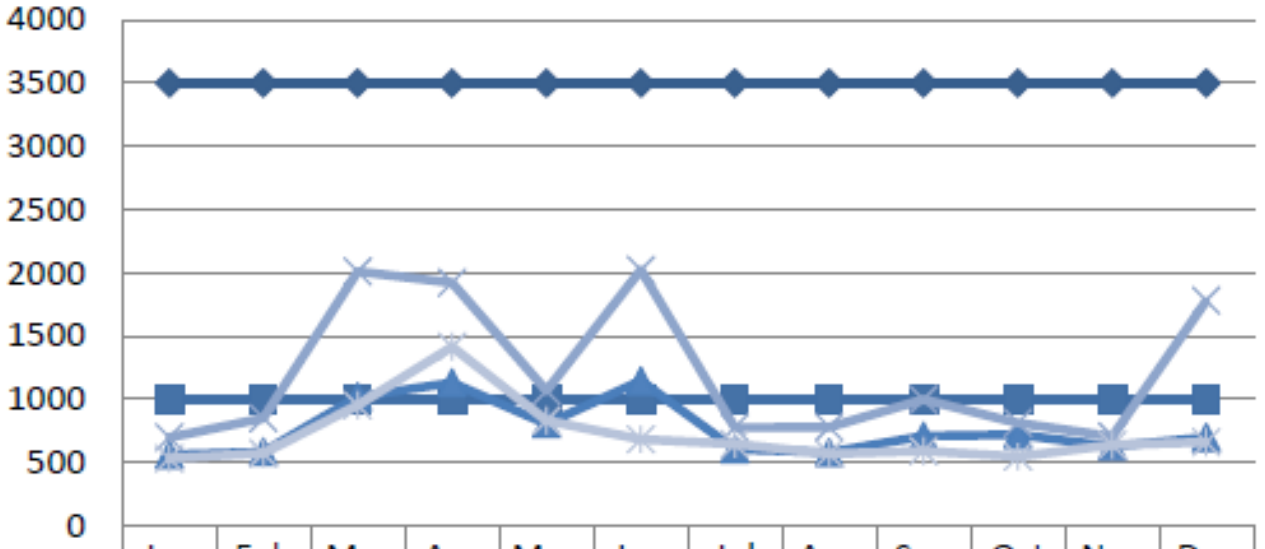
<u>Wastewater Treatment Plant</u>

- Wastewater Treatment Plant located at 1 Astrolabe Road
- Capacity
  - Average Daily Flow 1,000 (m3/day)
  - Maximum Daily Flow 3,500 (m3/day)
  - Peak Hourly Flow 5,000 (m3/day)
- Class 3 wastewater treatment

<u>Collection System</u>

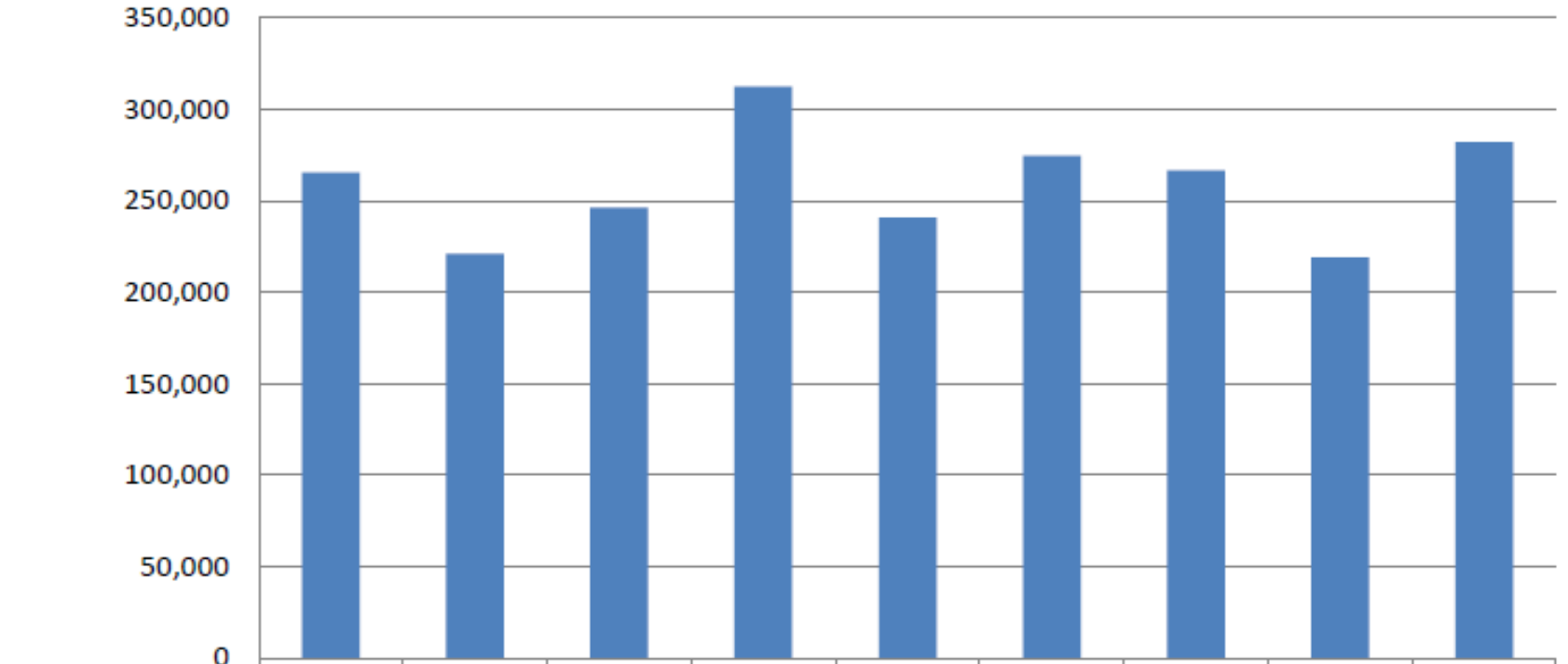
- Class 1 wastewater collection
- Approximately 9.2 km of watermains, and 61 fire hydrants.
- 1 pump station
- 425 users

COBDEN WASTEWATER TREATMENT PLANT – 2022 MONTHLY RAW FLOW



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Plant Max Design Flow (m3/d)	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
ECA Rated Capacity (m3/d)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Average Daily Flow (m3/d)	560	584	1020	1130	803	1146	606	580	709	719	627	697
Maximum Daily Flow (m3/d)	697	849	2008	1,921	1067	2022	775	780	995	811	705	1779
5 Year Average Flow (m3/d)	532	571	950	1414	831	681	646	568	590	545	639	660

COBDEN WASTEWATER TREATMENT PLANT – ANNUAL EFFLUENT FLOW COMPARISON



	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Annual Flow	265,269	220,942	246,123	312,466	240,620	274,432	266,303	218,875	281,830

Unit: m3

OLD COBDEN WASTEWATER TREATMENT PLANT (WWTP)

- The Cobden Wastewater Treatment Plant was constructed in 1979.
- 1991 Upgrade: chlorination system changed from gas chlorine to hypochlorite
- No Redundancy with one treatment system
- Rated capacity 696 (m3/day)
- Maximum hydraulic capacity: 2,280 (m3/day)

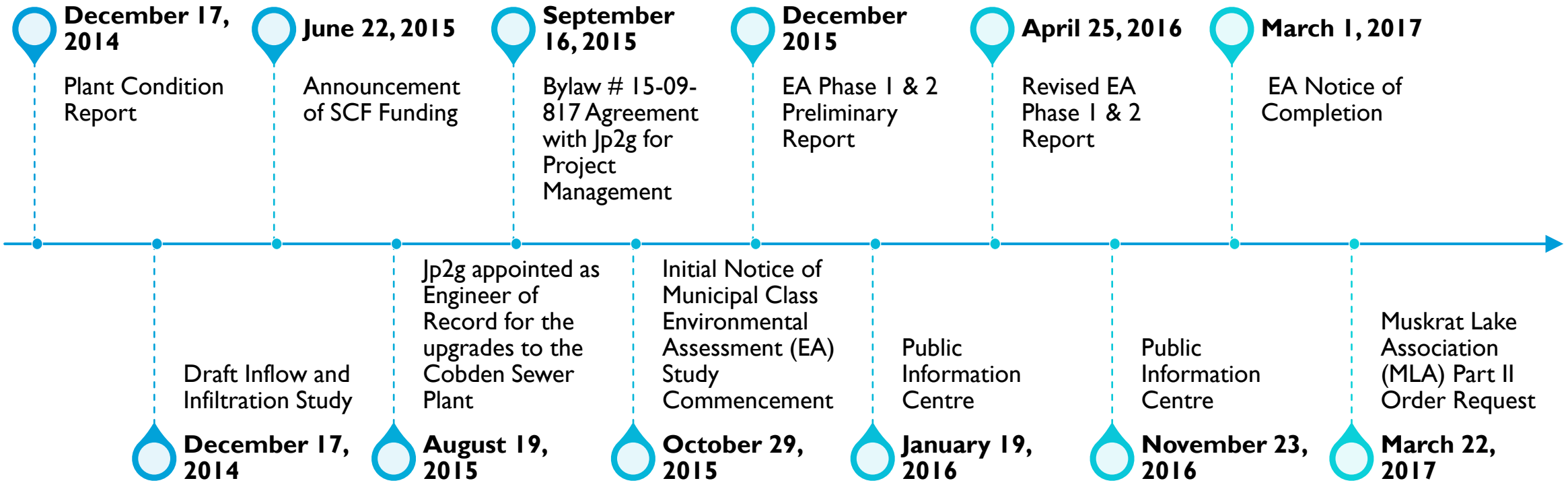
FUNDING

- New Building Canada Fund Small Communities Fund (SCF)
  - Expression of Interest submitted September 2014
  - Application submitted December 2014
  - Announcement of Funding June 22, 2015
  - 15-08-810 passed on August 19, 2015
    - Being a By-Law to authorize the Mayor and CAO to execute a New Building Canada Fund (NBCF) – Small Communities Fund (SCF) Agreement with the Ministry of Agriculture, Food and Rural Affairs
  - Provincial Funding 3,136,477.00
  - Federal Funding 3,136,477.00
  - TOTAL $ 6,272,954.00

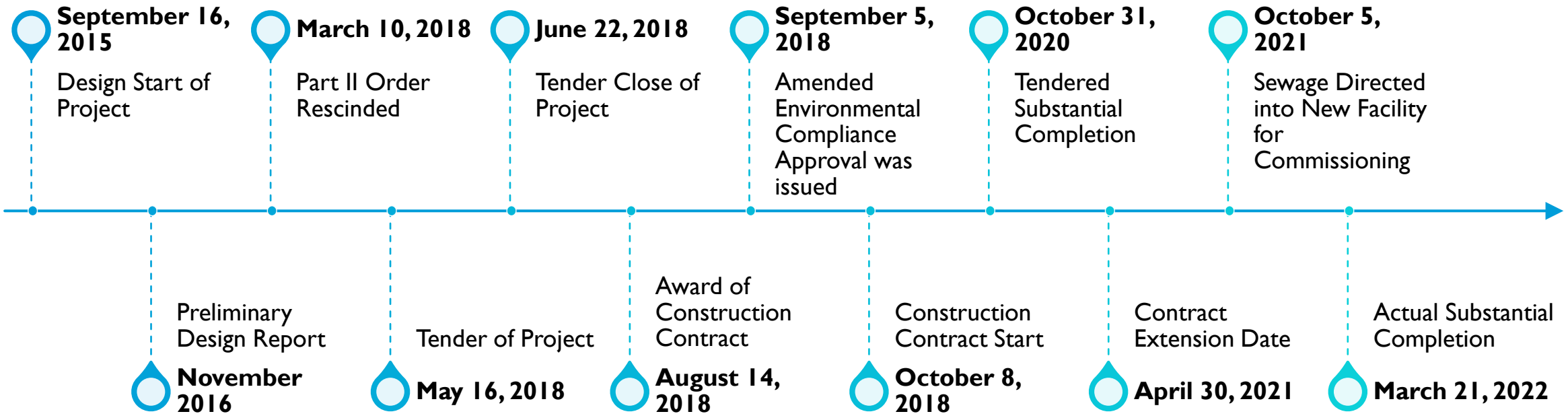
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

- The Municipal Class Environmental Assessment Process for expansion of the rated treatment capacity of a Wastewater Treatment Plant was a Schedule C project and contain five (5) phases.
- Schedule C projects include construction of new facilities or major expansions of existing facilities. Projects of this nature have the potential for significant environmental effects and must proceed through the prescribed planning and documentation procedures specified in the EA process. If concerns are raised that cannot be resolved, the project may be "bumped-up" by a Part II order to an individual EA.
- The Class EA process for the Wastewater Treatment Plant had five (5) phases:
  - Phase 1: Identification of the problem or opportunity.
  - Phase 2: Identification of the alternative solutions and selection of a preferred solution
  - Phase 3: Identification of the alternative design concepts for the preferred solution and selection of the preferred design concept.
  - Phase 4: Preparation of the Environmental Study Report and review.
  - Phase 5: Detailed design of preferred design concept, construction, and project management.

COBDEN WASTE WATER TREATMENT PLANT UPGRADE FUNDING & ENVIRONMENTAL ASSESSMENT TIMELINE



COBDEN WASTE WATER TREATMENT PLANT UPGRADE DESIGN & CONSTRUCTION TIMELINE



PART II ORDER REQUEST

- The Muskrat Lake Association (MLA) made Part II Order Request on March 22, 2017,
- Wednesday, September 6th, 2017, members of MLA and staff from Jp2g and the Township toured the Port Carling sewage plant
- Muskrat Lake Association rescind the Part II Order Request on March 10, 2018
  - "The Muskrat Lake Association believes from what the MOECC has confirmed that the proposed Cobden WPCP will be designed to greatly reduce the potential for bypasses of the plant."
- On March 14, 2018, the Township received a letter from the Ministry of the Environment and Climate Change indicating that the Township could proceed with the project.

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT - ALTERNATIVES

Alternatives	Description	Cost (Class D)	EA Ranking
1	Do Nothing and Limit Growth	$0	7
2	Reduce extraneous flows to Wastewater Treatment Plant	$14,660.800.00	5
3	Upgrade the existing Cobden WWTP and add tertiary level treatment and sludge storage	$4,142,000.00	4
4	Upgrade existing Cobden WWTP with new parallel treatment unit(s) including tertiary treatment and sludge storage	4A. Upgrade WWTP Mechanical $8,601,000.00 4B Upgrade WWTP Lagoon $7,991,000.00	1 3
5	Decommission existing WWTP, Construct new mechanical treatment systems including tertiary treatment and sludge storage	$10,004,000.00	2
6	Septage Management	$1,005,000.00	6

EA Recommended Option

Alternative 4A – Upgrade Existing WWTP, Construct New Mechanical Treatment Systems including tertiary treatment and sludge storage, in conjunction with Alternative 2 – Reduce Extraneous Flows to the WWTP

TENDERING PHASE

- Tender 2018-32 closed on June 22, 2018 and were publicly opened at the Township of Whitewater Region Municipal Office.
- Twelve (12) tender packages were picked up and the Township received five bids

Bidder	Amount	Corrected Amount
Baseline Constructors Inc.	$10,980,000.00	
J.C. Sulpher Construction Ltd.	$11,716,758.00	
M. Sullivan & Son Ltd.	$11,905,000.00	$11,904,830.00
ASCO Construction Ltd.	$14,105,563.00	
Black & McDonald	$15,492,860.00	$15,196,860.00

- On July 4, 2018, Council That Physical Services Committee recommend Council of the Township of Whitewater Region enact a by-law to award the Cobden Wastewater Treatment Plant Upgrades to Baseline Constructors Inc. in the tendered amount of $10,980,000.00 (not including HST); and, authorize the Mayor and CAO/Clerk-Treasurer to enter into the necessary agreement.

COBDEN WWTP UPGRADE FINANCIAL

- Original Construction Contract: $10,980,000.00
- Change Orders: $187,701.56
- Total Construction Contract: $11,167,701.56

- EA, Design, Contract Administration: $1,725,163.99
- Other (Hydro and Advertising): $23,575.57

- Sub-total Project Cost: $12,717,970.93
- Total Project inclusive of non-refundable H.S.T.: $12,941,807.21

Note: All balances include HST

WATER & WASTEWATER UNIT BY CATEGORY (2023)

RESIDENTIAL UNIT (1.0 Weighting Factor)
- Water: 892 units
- Wastewater: 387 units

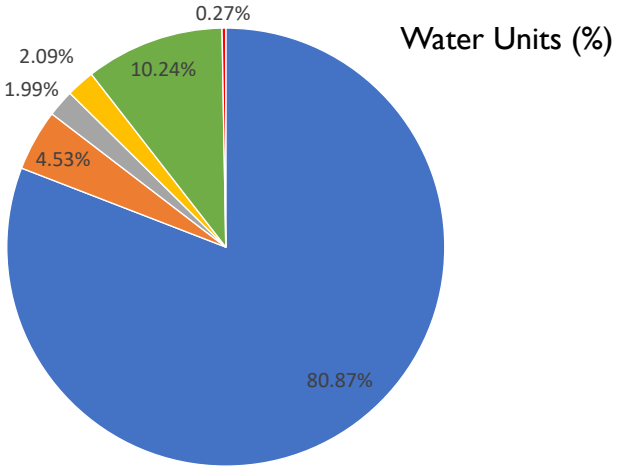
SMALL COMMERCIAL UNIT (1.0 Weighting Factor)
- Water: 50 units
- Wastewater: 36.5 units

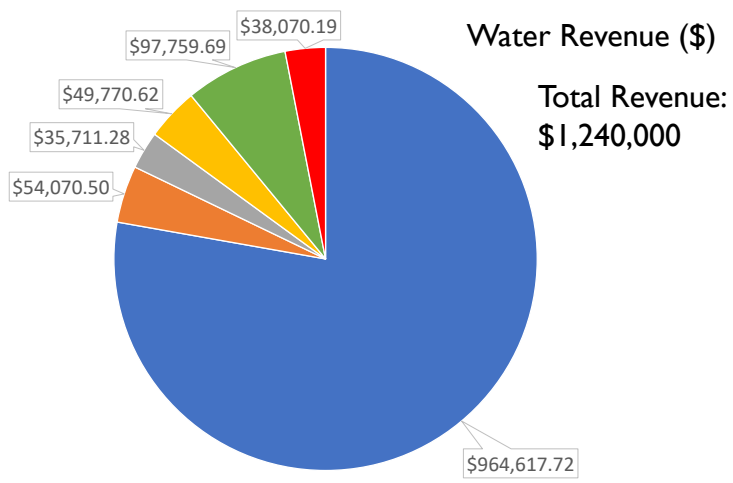
MEDIUM COMMERCIAL UNIT (1.5 Weighting Factor)
- Water: 22 units
- Wastewater: 14 units

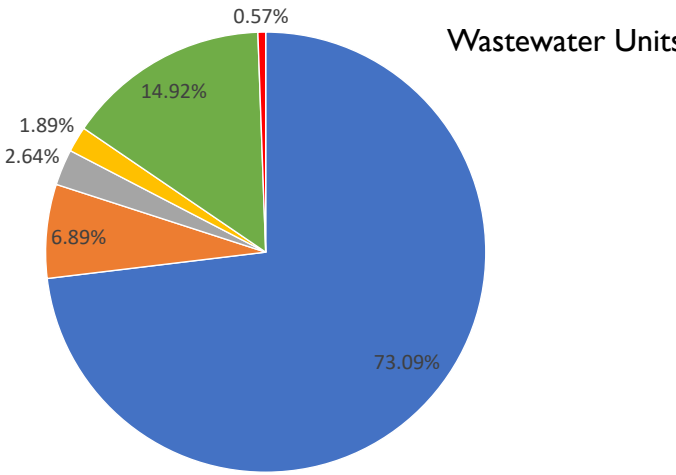
HIGH COMMERCIAL UNIT (2.0 Weighting Factor)
- Water: 23 units
- Wastewater: 10 units

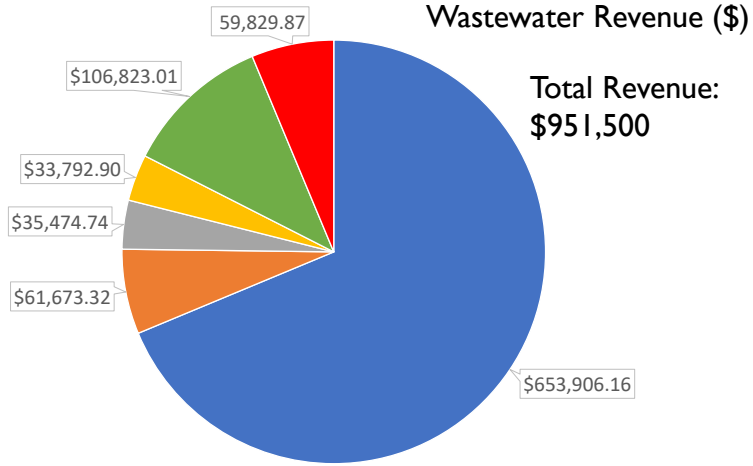
MUL TI RESIDENTIAL (0.8 Weighting Factor)
- Water: 113 units
- Wastewater: unit

Metered
- Water: 3 units
- Wastewater: 3 units









WATER & WASTEWATER RATE CATEGORIES

RESIDENTIAL UNIT (1.0 Weighting Factor)

- Self Contained Residential Units including Apartments, Churches

SMALL COMMERCIAL UNIT (1.0 Weighting Factor)

- Commercial Operations consisting of Office Space, Retail Space, Repair Shop, Service Station
- Less Than 1000 sq. ft. of Floor Area
- Laundromat (1 unit per four machines)
- Carwash (1 unit per bay)

MEDIUM COMMERCIAL UNIT (1.5 Weighting Factor)

- Commercial Operation consisting of Office Space, Retail Space over 1000 sq. ft. of Floor Area
- Commercial Operations requiring water as a process for their operation excluding Washroom Facilities
  - Eating Establishment Take Out and Full Service Under 1000 sq. ft.
  - Food/Convenience Store under 1000 sq. ft.
  - Bed and Breakfast
  - Funeral Home
  - Hairdressing Shop

HIGH COMMERCIAL UNIT (2.0 Weighting Factor)

- Commercial Operations consisting of large grocery, Food Retail and multiple business development over 1000 sq. ft. of Floor Area
- Commercial Operations requiring water as a process for their operation excluding Washroom facilities
  - Eating Establishment Take out and Full Service over 1000 sq. ft.
  - Food/Convenience Store over 1000 sq. ft.
- Motel Facility
- Industrial Type Business
- Cleaning Type Business
- Medical, Dental and Physician Type facilities (less than 1000 sq. ft. - 1 unit - Over 1000sq. ft. - 2 Units)

MUL Tl RESIDENTIAL (0.8 Weighting Factor)

- Apartment building consisting of more than one Residential Dwelling shall have one Residential Unit followed by 80% of the Residential unit rate of all other Residential dwellings within the building

WATER & WASTEWATER RATE DEFINITIONS OF SUB-RATES

FARM

- 1/2 Small Commercial for Hobby Farm using water for animals - 5 head and under
- Small Commercial - Farm Operation – No livestock and/or using water
- Medium Commercial for Farm using water for animals - 40 head and under
- High Commercial for Farm using water for animals - over 41 head

HOME OCCUPATION

- 1/2 Residential - Commercial operation which is carried on as an accessory use within a dwelling

HALLS (Single Purpose)

- 1/2 Small Commercial - Halls without kitchen/ server facilities

HALLS (with a Kitchen/ Servery)

- Small Commercial - Maximum Seating capacity of 200 people or less
- High Commercial - Maximum Seating capacity of 201 people or more

GEOTHERMAL

- Structures using municipal water as its heat, A/C source shall be applied a Standard Commercial Unit

MISCELLANEOUS

- Curling Club - Medium Commercial Unit
- Royal Canadian Legion including Hall - Small Commercial
- Covered Arenas and all associated operations - 3 Units of High Commercial
- School - 6 Units of High Commercial
- Small Commercial - Attached Hall in excess of 1500 sq. ft.

VACANCY

- Units unoccupied for a period of at least two (2) consecutive calendar months with water service maintained are eligible for the vacancy rate (20% of regular water & sewer rates). The vacancy rate will take affect in the 3rd month of the vacancy period.
- Regular charges will begin for the full month when occupancy is resumed part way through a month.
- This applies to commercial rate categories only.

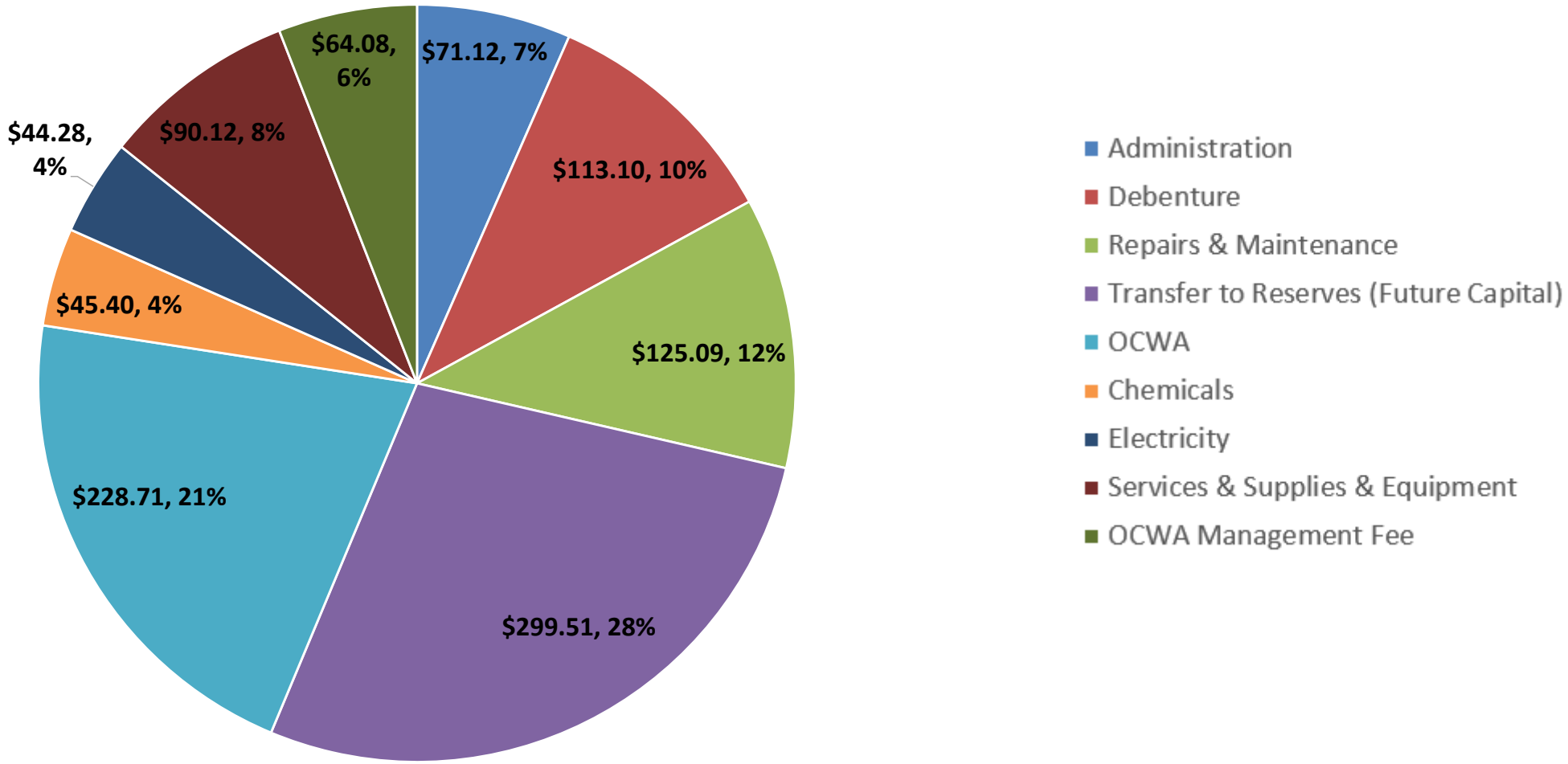
NOTE: Municipality reserves all rights to make any necessary adjustments to all rates based on:

- Factors not currently addressed in policy
- Adjustment to rates based on volume content and nature of use of water
- Units unoccupied for a period of at least two

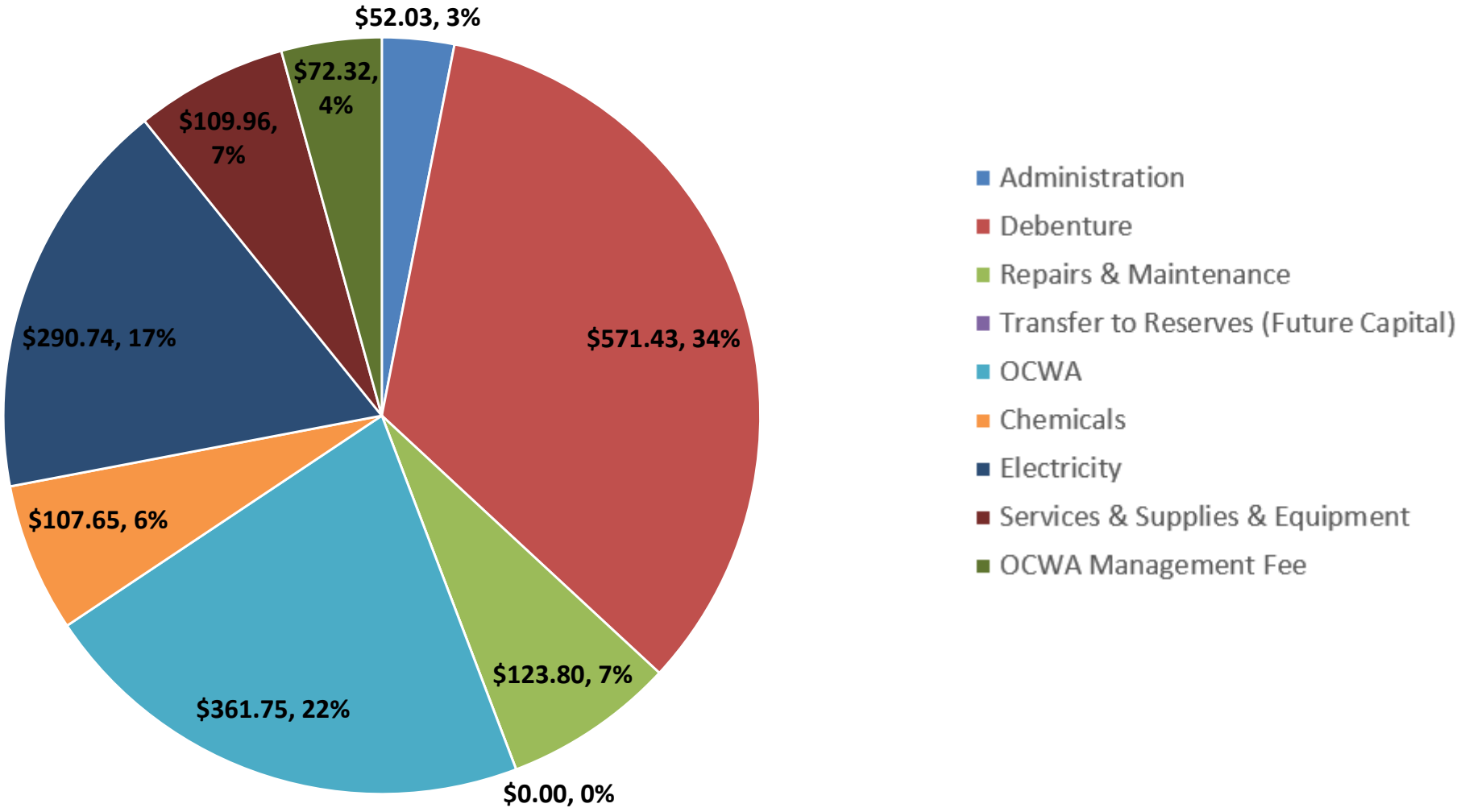
WATER & WASTEWATER BILLING HISTORY

- The 2019 Water and Wastewater Rate Study prepared by Watson & Associates Economists Ltd. recommended that the Township move from three separate area rates, to one combined flat rate while maintaining the volume rate (with minimum charge) for metered customers.
- During 2020 budget deliberations, a harmonized water rate was introduced to combine all water systems operating and capital.
- The Tax Billing & Collection Policy was updated in December 2019 for utility charges will be billed every other month. The change in billing frequency assisted the Township will have consistent cash inflow from utilities and assist in lowering arrears.
- 2019 water and wastewater arrears were $103,188.97
- Current water and wastewater arrears are $33,912.97

WATER RESIDENTIAL FLAT RATE FEE STRUCTURE ($1,081.41)



WASTEWATER RESIDENTIAL FLAT RATE FEE STRUCTURE ($1,689.68)



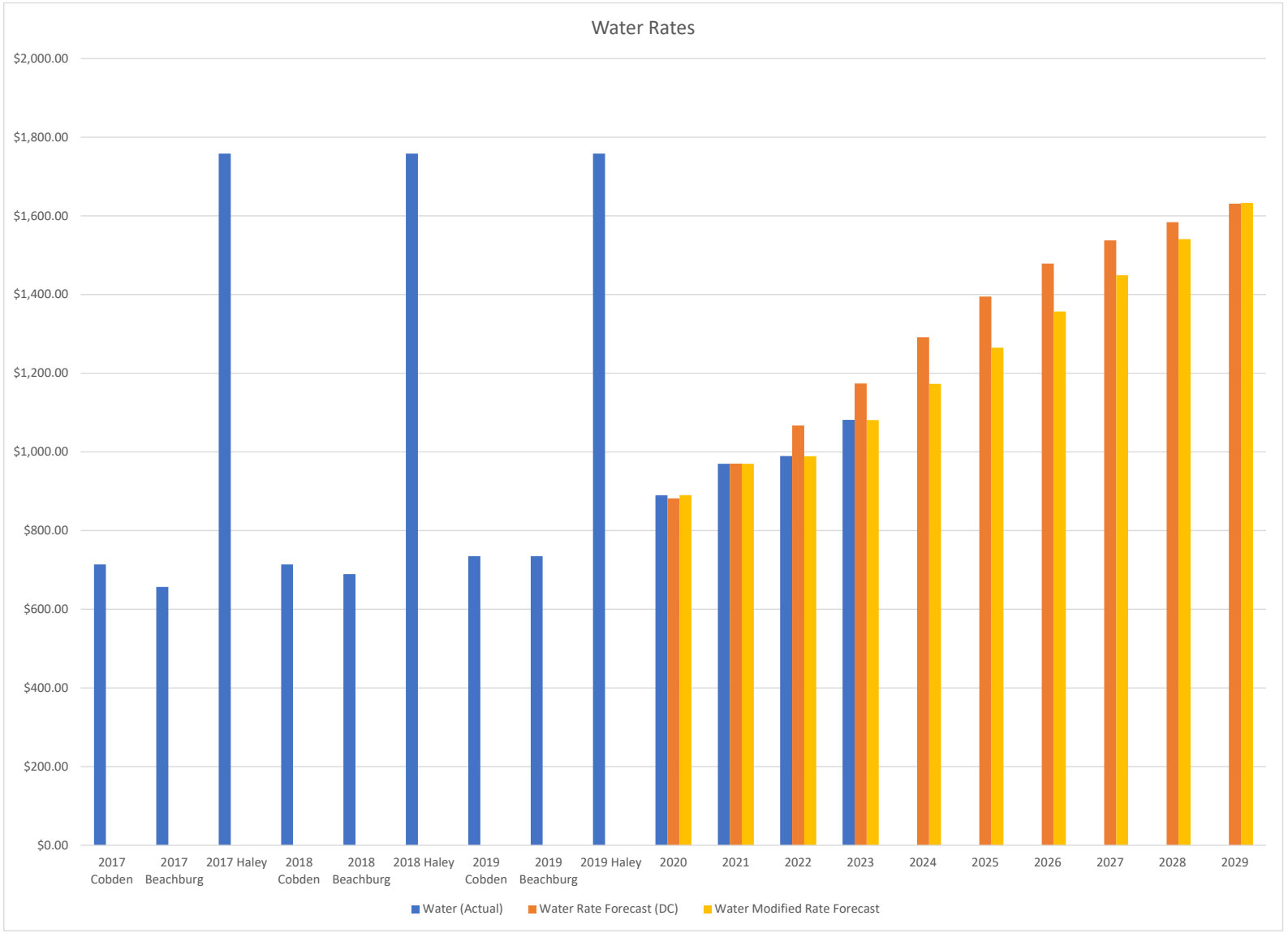
WATER & WASTEWATER RATE BILLING HISTORY

Water Rates

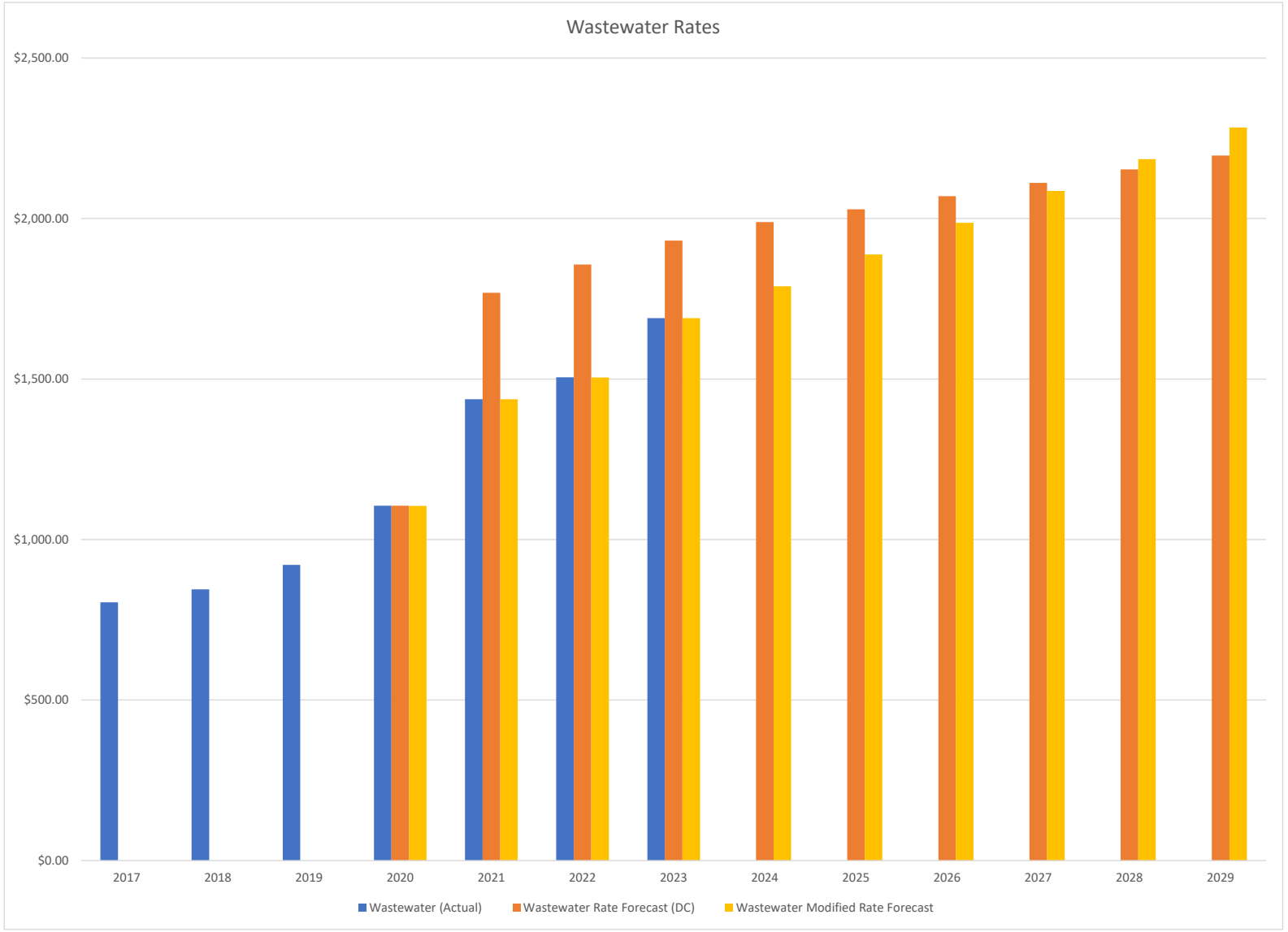
	2020	2021	2022	2023
Actual Increase	21%	9%	2%	9%
Rate Study Recommended	20%	10%	10%	10%

Wastewater Rates

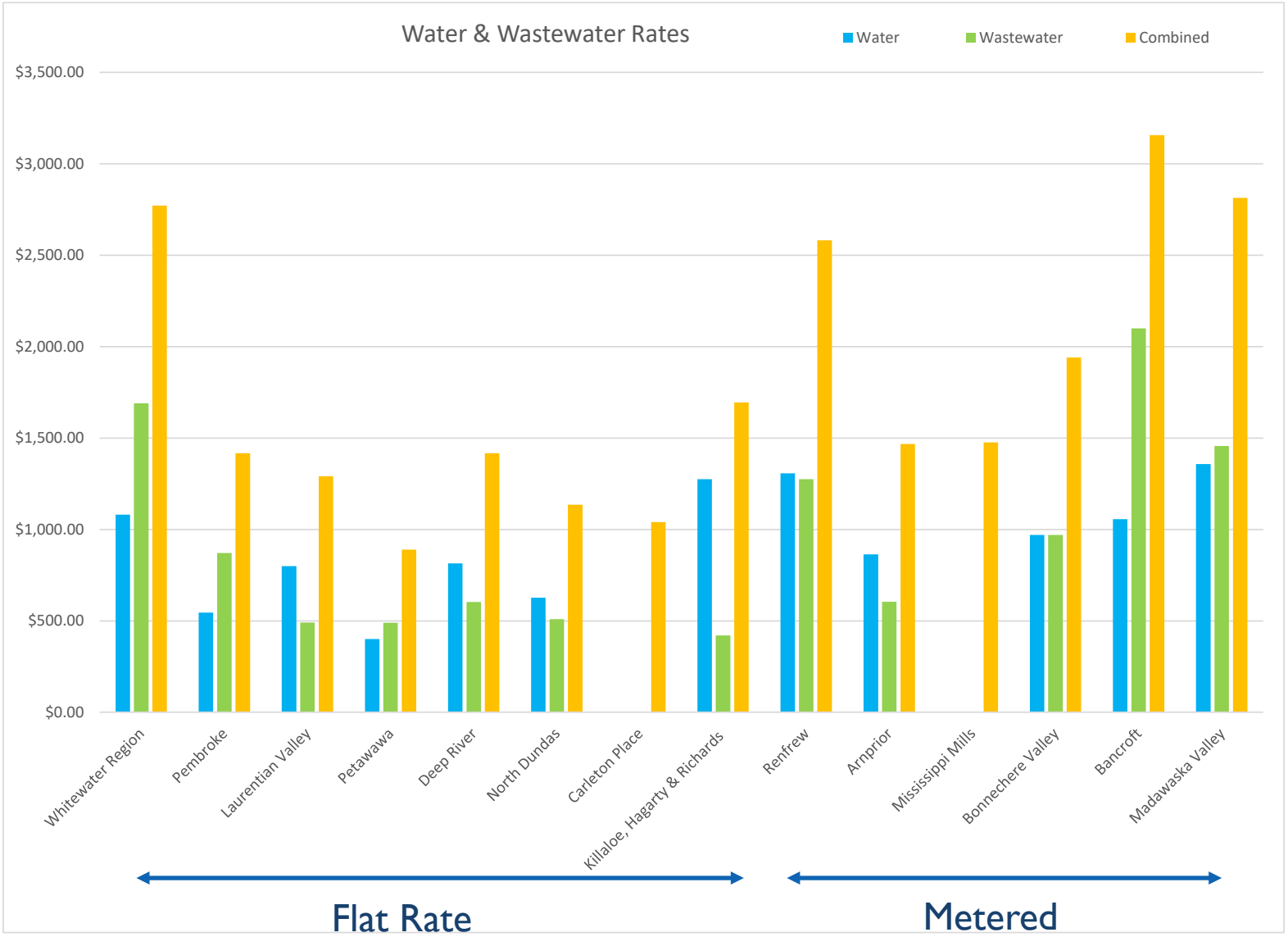
	2020	2021	2022	2023
Actual Increase	20%	30%	5%	12%
Rate Study Recommended	20%	60%	5%	4%


Water Rates
$2,000.00
$1,800.00
$1,600.00
$1,400.00
$1,200.00
$1,000.00
$800.00
$600.00
$400.00
$200.00
$0.00
2017 Cobden
2017 Beachburg
2017 Haley
2018 Cobden
2018 Beachburg
2018 Haley
2019 Cobden
2019 Beachburg
2019 Haley
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
Water (Actual)
Water Rate Forecast (DC)
Water Modified Rate Forecast

WATER RATES



WASTEWATER RATES



WATER & WASTEWATER COMPARISON

Metered rate
Calculated litres per person per day (Statistics Canada)

Laurentian Valley: Wastewater calculated on assessment

WATER DEBENTURES

Project	Principal	Water %	Water Principal	Rate	Loan Term	Start Date	End Date	2023 Interest	2023 Principal	2023 Total Payment	2023 Ending Balance
Haley WTP & Cobden WTP	$ 1,321,747.98	100%	$ 1,321,747.98	4.94%	30.00	2010-06-01	2040-06-01	$ 48,334.98	$ 36,607.48	$ 84,942.46	$ 950,873.58
Haley Distribution	$ 189,104.04	100%	$ 189,104.04	3.90%	30.00	2011-12-01	2041-12-02	$ 5,538.63	$ 5,210.33	$ 10,748.96	$ 138,095.76
Beachburg Distribution	$ 12,090.98	100%	$ 12,090.98	3.59%	20.00	2011-12-01	2031-12-01	$ 3,030.29	$ 8,297.67	$ 11,327.96	$ 78,167.53
Truelove, John & Crawford	$ 1,600,000.00	20%	$ 320,000.00	3.39%	20.00	2019-08-15	2039-02-15	$ 9,327.45	$ 12,835.02	$ 22,162.47	$ 265,492.79
Total Approved Debt			$ 1,842,943.00					$ 66,231.35	$ 62,950.50	$ 129,181.85	$ 1,432,629.66

Rehabilitation of Cameron Street, Earl Street and Vera Crescent (Estimated for 2024)

- Rate: 5.05%
- Loan Term: 10 years
- Water portion of project: 20%
- Water principal: $500,000.00.
- 2024 total payment: $64,298.71
- 2024 principal payment: $39,541.70
- 2024 interest: $24,757.01

Total Amount for Water Debenture (Estimated for 2024)

- 2024 total payment: $193,450.56
- 2024 principal payment: $105,237.48
- 2024 interest: $88,213.08

WASTE WATER DEBENTURES

Project	Principal	Wastewater %	Wastewater Principal	Rate	Loan Term	Start Date	End Date	2023 Interest	Principal	Total Payment	2023 Ending Balance
Cobden Sewer (Highway 17)	$ 280,751.58	100%	$ 280,751.58	3.59%	20.00	2011-12-01	2031-12-01	$ 2,265.09	$ 6,202.37	$ 8,467.46	$ 58,428.73
Truelove, John & Crawford	$ 1,600,000.00	5%	$ 80,000.00	3.39%	20.00	2019-08-15	2039-02-15	$ 2,331.86	$ 3,208.75	$ 5,540.62	$ 66,373.20
Sewer	$ 6,000,000.00	100%	$ 6,000,000.00	2.98%	30.00	2021-04-15	2051-10-15	$ 174,082.83	$ 129,855.49	$ 303,938.32	$ 5,744,073.91
Total Approved Debt								$ 178,679.78	$ 139,266.61	$ **317,946.40**	$ **5,868,875.84**

CURRENT WATER PROJECTS

- Beachburg Water Treatment Plant Renewal and Optimization
  - Total Estimated Project Costs: $2,062,593.60
  - Funding: Investing in Canada Infrastructure Program (ICIP) Green Stream Funding Intake II
  - Federal: (40.00%) $825,037.44, Provincial: (33.33%) $687,462.45, Whitewater Region: (26.67%) $550,093.71
  - Construction: March 2024 to March 2025
  - Township portion funded by water reserve

FUTURE PROJECTS (TO BE CONSIDERED)

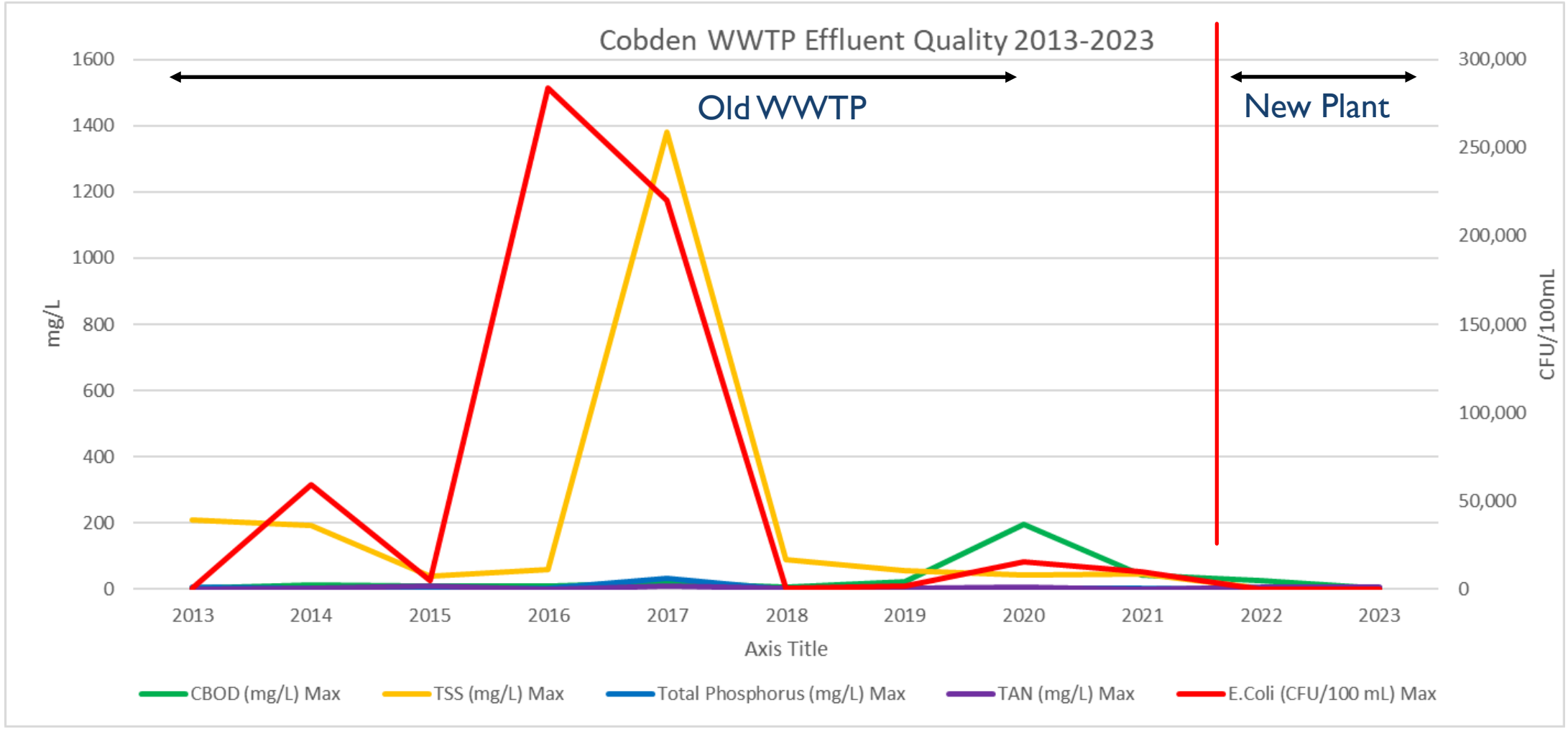
- Cobden WWTP Membrane Replacement
  - Cost: $880,000
  - Timeline: 2029 – 2032
  - Not part of 2019 Financial Plan
- Cobden Water Treatment Plant Filter #1 Replacement/ Upgrade
  - Cost: $1,900,000/ $500,000
  - Engineering proposed: 2024
- Crawford Street
  - Total Cost: $1,420,000
  - Water portion: $210,000
- Hume Street
  - Total Cost: $650,000
  - Water portion: $250,000
- Simpson Street
  - Total Cost: $715,000
  - Wastewater portion: $280,000
- Master Servicing Plan
  - Total Cost: $300,000
  - Water portion: $150,000
  - Sanitary portion: $80,000
- Beachburg Water Tower
  - Total Cost: 4,000,000
  - Financial Plan estimated: 1,732,000
- Financial Plan/ Rate Study
  - Cost: $50,000
  - Timeline: 2024
  - Funded by Development Charges

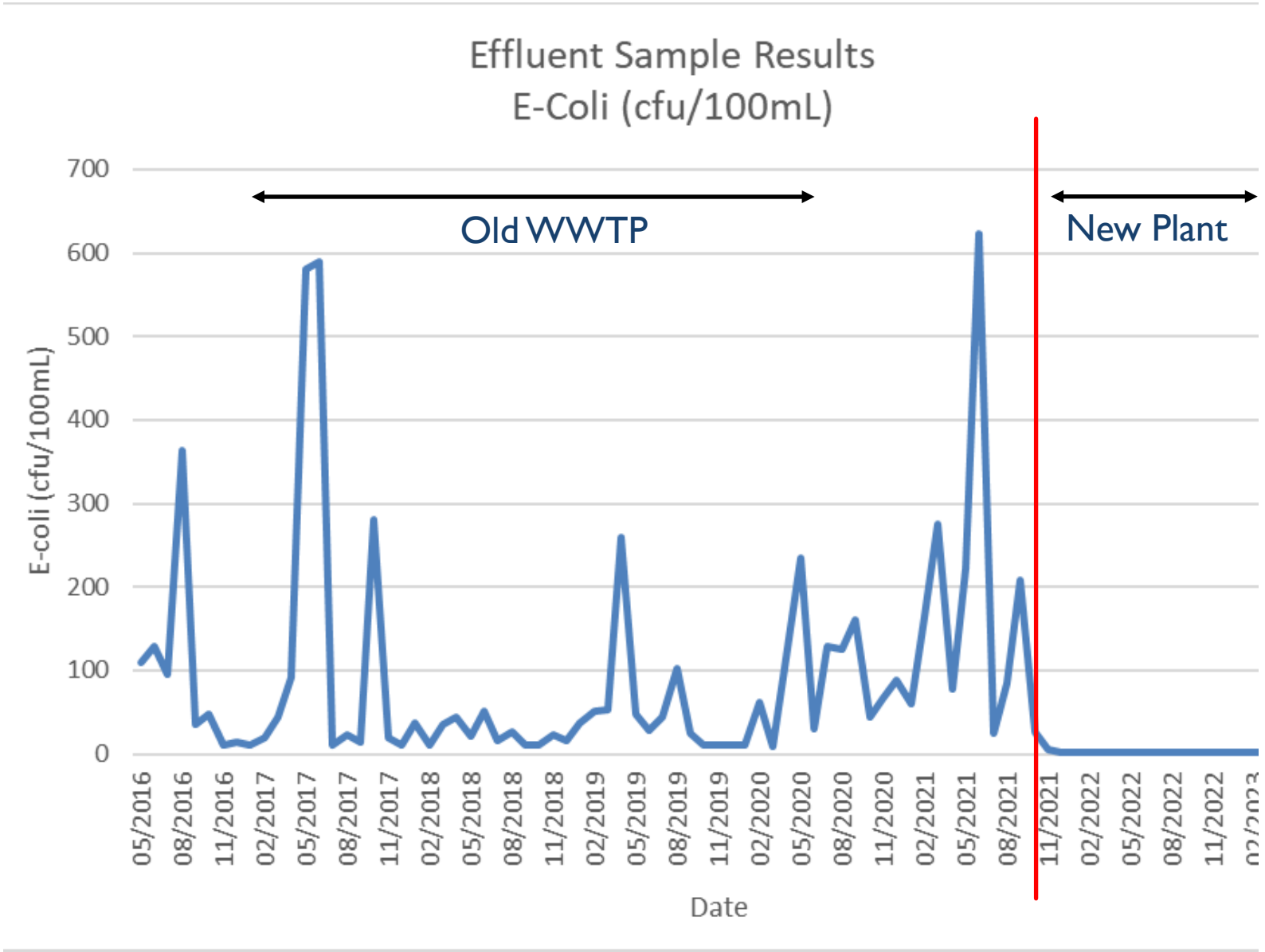
WATER AND WASTEWATER RESERVES

As of December 31, 2022

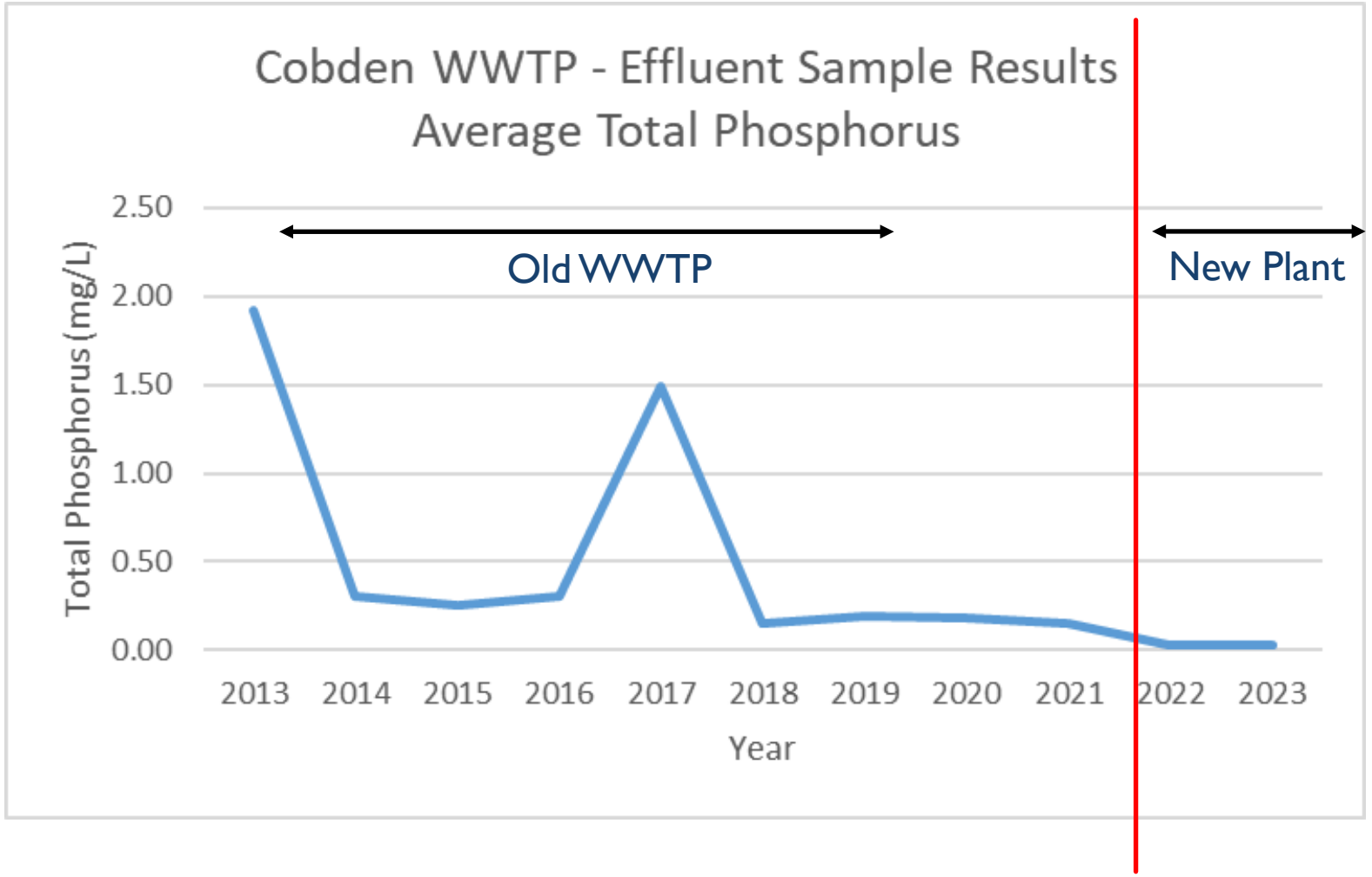
- Sewage System Debenture Reserve Fund
  - $26,437.10
- Reserve for Sewer Upgrading
  - $333,967.63
- Reserve for Water
  - $352,423.55
- Development Charges Water Reserve
  - $15,000
- Development Charges Wastewater Reserve
  - $12,000

COBDEN WWTP EFFLUENT QUALITY





COBDEN WWTP EFFLUENT QUALITY - E-COLI



COBDEN WWTP EFFLUENT QUALITY - PHOSPHORUS

NEXT STEPS

It is recommended that Council consider the following areas for implementation as next steps:

1. Issuance of letters to the Association of Municipalities of Ontario (AMO) and the Rural Ontario Municipal Association (ROMA) outlining the affordability challenges relating to Whitewater Region's water and wastewater rates.
2. Request a joint meeting with Cheryl Gallant, MP - Renfrew - Nipissing - Pembroke, John Yakabuski, MPP - Renfrew - Nipissing - Pembroke, and County of Renfrew Warden Peter Emon outlining the affordability challenges relating to Whitewater Region's water and wastewater rates.
    1. Issue a request via Cheryl Gallant to request a delegation of the Minister of Infrastructure Canada requesting additional funding to subsidize the total cost of wastewater treatment plant reconstruction.
    2. Issue a request via MPP John Yakabuski for a joint or individual delegations with the Hon. Kinga Surma, Minister of Infrastructure, and Hon. Andrea Khanjin, Minister of Environment, Conservation and Parks, requesting additional funding to subsidize the total cost of wastewater treatment plant reconstruction.
3. Direct staff to provide a report on options relating to efficiencies and/or revenue generation (i.e., water meters, septage treatment, funding model, OCWA Optimization, etc.)