

February 25, 2021

Mike Thompson  
411 Greenfield St.  
Petrolia, ON N0N 1R0

**Re: Annual Municipal Summary Report**

Dear Mr. Thompson;

Attached is the 2020 Summary Report for the Petrolia Drinking Water System. This report is completed in accordance with Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act.

This Summary Report is to be provided to the members of council. Please ensure this distribution by March 31<sup>st</sup>, 2021.

Attached is also copy of the 2020 Annual Report for the Petrolia Drinking Water System required under Section 11 of O. Reg. 170/03. Section 12 of O. Reg. 170/03, requires both the Summary Report and the Annual Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the municipality, or at a location that is reasonably convenient to the users of the water system.

Please feel free to contact me should you require any additional information regarding these reports. I can be reached at 519-312-0847.

Sincerely,



Terri-Lynn Thomson  
Process and Compliance Technician  
Ontario Clean Water Agency

cc. Dale LeBritton, Regional Hub Manager (OCWA)  
Sam Smith, Senior Operations Manager (OCWA)  
Cindy Sigurdson, Safety, Process and Compliance Manager (OCWA)  
Mandi Pearson, Deputy/Operations Clerk (Petrolia)



**Ontario Clean Water Agency  
Agence Ontarienne Des Eaux**

**Annual Summary Report  
For the  
Petrolia Drinking Water System  
2020**

**Prepared for the Corporation of the Town of Petrolia**

**By the Ontario Clean Water Agency**

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## **SECTION 1: Overview**

This is a summary report for the Petrolia Drinking Water System and is published in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation for the reporting period of January 1, 2020 to December 31, 2020. The Petrolia Drinking Water System is categorized as a Large Municipal Residential Drinking Water System.

The Petrolia Drinking Water System operated in accordance with the Municipal Drinking Water License 034-101, Drinking Water Works Permit 034-201 and Permit to Take Water 3431-98DKSC (Issued June 27<sup>th</sup>, 2013).

This report was prepared by The Ontario Clean Water Agency on behalf of the Corporation of the Town of Petrolia.

## **SECTION 2: Compliance**

The Petrolia Drinking Water System was operated and maintained in such a manner that the treated water supplied to the consumers serviced by the system satisfied Ontario Drinking Water Quality Standards. However, some of the regulatory requirements were not met as identified below.

The Petrolia Drinking Water System was inspected on January 29, 2020 by Jill Wales of the MECP for the reporting year 2019-2020. The report received an overall inspection rating of 92.29%.

The Petrolia Drinking Water System was also inspected on November 17, 2020 by Jill Wales of the MECP for the reporting year 2020-2021. The report received an overall inspection rating of 95.88%.

The following regulatory requirements were not met in 2020:

- A Form 1 was prepared on February 11, 2020 for the replacement of a 150 mm watermain on Ernest Street and Kells Street in the Town of Petrolia. This watermain was replaced and commissioned in August 2019. Condition 3.3.1, Schedule B of DWWP 034-201 requires a watermain replacement to be recorded on a Form 1, Record of Watermains Authorized as a Future Alteration, prior to the watermain being placed into service.
- A provisional AWQI was received for a sample taken August 24, 2020 with 1cfu/100mL of Total Coliform.
- Record review indicated that disinfection of the new watermain on Wingfield Street occurred in August 2020. Using the Tablet/Continuous Feed disinfection method, the initial chlorine residual in the new watermain was 200 mg/L and the final chlorine residual in the watermain, after 24 hours, was 130 mg/L. The maximum allowed decrease in free chlorine concentration in the watermain would be 50 mg/L since 40% of 200 mg/L is greater than the allowable maximum decrease of 50 mg/L. Record review indicated the decrease in free chlorine concentration over the 24 hour contact time was 70 mg/L, greater than the maximum 50 mg/L allowed. The two sets of microbiological samples collected after disinfection of the new watermain were clear ensuring the sanitary integrity of the watermain prior to permanent connection to the distribution system.

### **SECTION 3: Corrective Action**

- In response to the non-compliance, an SOP was created to address all three Forms that are required when making an alteration to the drinking water system. This SOP provides guidance on which form to use, requirements for disinfection and Director Notification. It also references two other SOPs that are to be used depending on the alteration to the drinking water system. If the alternation involves a new watermain then SOP#PET-14 is to be followed for the watermain commissioning. If the alteration is a minor modification to the drinking water system then SOP#PET-56 is to be followed for the minor modification. These procedures were sent to the Owner of the system. Training was also provided on April 15th, 2020 to the Operators of the system
- The AWQI required corrective action to be taken. Resamples were obtained upstream, downstream and at the source where the adverse occurred for two consecutive days after receiving notification of the adverse result. The results were in compliance limits of 0cfu/100mL for total coliform and e.Coli. All required notifications to the owner, health unit and MECP were conducted in accordance with requirements in O. Reg. 170/03. Investigation completed by the lab showed that a laboratory contamination incident resulted in the provisional adverse sample.
- In response to the issue with disinfectant residual during a watermain commissioning training was provide to the operators on January 21, 2021. This training focused on the requirements of the Ontario Watermain Disinfection Procedure dated August 1, 2020 and it addressed applicable site specific procedures (eg. In-house Standard Operating Procedures, forms)

### **SECTION 4: Summary and Discussion of Quantity of Water Supplied**

In accordance with Schedule 22-2(3) find a summary and discussion of the quantity of water supplied during the reporting period compared to the rated capacity specified in the MDWL, DWWP and Permit to Take Water, including monthly average and maximum daily flows.

Attached as Appendix A, find a summary of the raw flows for the Petrolia Water Treatment Plant including total, average, and maximum daily flows, and peak flow rates for the reporting period. As well, a comparison of flows to the Permit to Take Water limits is provided. The Permit to Take Water (PTTW) specifies flow rates and total water takings that are permitted. For the Petrolia Water Treatment Plant the maximum flow rate limit is 10,824L/min. The total daily water taking is 15,586m<sup>3</sup>/day. There were no PTTW exceedances in 2020. The Petrolia WTP is at 32.6% capacity of the total water taking limit. The flows have decreased by 2.3% when comparing raw water takings in 2020 to 2019.

Attached as Appendix B, find a summary of treated water flows from the Petrolia Water Treatment Plant to the Mandaumin Booster Station including total, average, and maximum daily flows for the reporting period. As well, a comparison of flows to the Municipal Drinking Water Licence (MDWL) rated capacities is provided. The rated capacity of the plant is 12,000m<sup>3</sup>/day of treated water as specified in the MDWL. The daily average flow for the reporting period was 3,624m<sup>3</sup>/day. The maximum daily flow for the reporting period was 6,574 m<sup>3</sup>/day. The plant is operating at 30.2% of its rated capacity. The flows have increased by 6.1% when comparing treated water flows in 2020 to 2019.

Attached as Appendix C, find a summary of flows including total, average, and maximum flows from LAWSS which was supplied during emergency situations at the Petrolia WTP in 2020. In the event of an emergency or scheduled maintenance that renders the Petrolia Water Treatment Plant unable to supply potable water, the Lambton Area Water Supply System is an alternate source. In 2020 an alternate source of water was needed once, with a total of 695m<sup>3</sup> taken.

The Petrolia Drinking Water System is capable of meeting its current uses for the system. It is operating below the limits set out in the Permit to Take Water and the design capacity for the plant.

## APPENDIX A

Raw Flows for the Petrolia WTP compared to the specified limits in the Permit to Take Water. The maximum flow rate specified is 10,824 L/min (180L/s) with a total water taking of 15,586,000L/day (15,586 m<sup>3</sup>/d).

Month	Total Flow (m <sup>3</sup> )	Average Day Flow (m <sup>3</sup> )	% of PTTW Limit	Max Day Flow (m <sup>3</sup> )	% of PTTW Limit	Max Day Flow Rates (L/s)	% of PTTW Limit
January	147,064.65	4744.02	30.4	7,166	46.0	121.48	67.5
February	131,690.05	4541.04	29.1	7,384	47.4	117.85	65.5
March	156,320.69	5042.6	32.4	7,716	49.5	109.02	60.6
April	142,044.26	4,735	30.4	7,431	47.7	131	72.8
May	167,224.75	5,394	34.6	6,997	44.9	108.55	60.3
June	170,310.17	5,677	36.4	6,952	44.6	146.7	81.5
July	167,569.36	5,405	34.7	6,869	44.1	152.11	84.5
August	184,363.25	5,947	38.2	9,711	62.3	161.7	89.8
September	138,936.89	4,631	29.7	8,069	51.8	161.82	89.9
October	153827.39	4,962	31.8	8,526	54.7	160.65	89.3
November	163892.6	5,463	35.1	8,201	52.6	160.21	89.0
December	134421.8	4,336	27.8	6,704	43.0	141.28	78.5
<b>Total</b>	1,857,665.86						
<b>Average</b>		5,073	32.6				
<b>Maximum</b>				9,711	62	162	90

**APPENDIX B**

**Treated flows for the Petrolia WTP compared to the specified rated capacity of 12,000m<sup>3</sup>/day in the Municipal Drinking Water Licence.**

<b>Month</b>	<b>Total Flow (m<sup>3</sup>)</b>	<b>Average Day Flow (m<sup>3</sup>)</b>	<b>% of Rated Capacity</b>	<b>Max Day Flow (m<sup>3</sup>)</b>	<b>% of Rated Capacity</b>
January	92,281	2,977	24.8	4,450	37.1
February	85,499	2,948	24.6	5,183	43.2
March	93,137	3,004	25.0	5,046	42.1
April	95,940	3,084	25.7	4,862	40.5
May	123,969	3,999	33.3	5,219	43.5
June	137,050	4,568	38.1	6,134	51.1
July	143,063	4,615	38.5	6,097	50.8
August	128,545	4,147	34.6	6,574	54.8
September	112,981	3,766	31.4	6,040	50.3
October	108,998	3,516	29.3	4,983	41.5
November	103,226	3,441	28.7	4,844	40.4
December	106,079	3,422	28.5	5,091	42.4
<b>Total</b>	<b>1,330,767</b>				
<b>Average</b>		<b>3,624</b>	<b>30.2</b>		
<b>Maximum</b>				<b>6,574</b>	<b>55</b>



### APPENDIX C

In the event of an emergency or scheduled maintenance that renders the Petrolia Brights Grove Water Plant unable to supply potable water, the Lambton Area Water Supply System is an alternate source. The following table outlines the flow received from LAWSS:

Month	Total Flow (m <sup>3</sup> )	Average Day Flow (m <sup>3</sup> )	Max Day Flow (m <sup>3</sup> )
January	-	-	-
February	695	23.97	695
March	-	-	-
April	-	-	-
May	-	-	-
June	-	-	-
July	-	-	-
August	-	-	-
September	-	-	-
October	-	-	-
November	-	-	-
December	-	-	-
<b>Total</b>	695.00		
<b>Average</b>		23.97	
<b>Maximum</b>			695.00