

The Corporation of the County of Prince  
Edward

# **Water and Wastewater Services**

## **Operational Reports**

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### **Annual and Municipal Summary Reports**

For The

Ameliasburgh Hamlet Water Treatment Plant & Water Distribution  
System

Consecon/Carrying Place Water Distribution System

Peat's Point Subdivision Well Supply & Water Distribution System

Picton Water Treatment Plant & Water Distribution System

Rossmore/Fenwood Gardens Water Distribution System

Wellington Water Treatment Plant & Water Distribution System



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The Corporation of the  
County of Prince Edward  
**Water and Wastewater  
Services**



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# Operational Reports

## Annual and Summary Reports



## Ameliasburgh Water Treatment Plant & Water Distribution System



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## 2023 Annual Report

### Ameliasburgh Drinking Water System

Drinking-Water System Number: 220005697  
 Drinking-Water System Name: Ameliasburgh Hamlet Water Treatment Plant  
 Drinking-Water System Owner: The Corporation of the County of Prince Edward  
 Drinking-Water System Category: Small Municipal Residential System (SMRS)  
 Period being reported: January 01, 2023 - December 31, 2023

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u>	<u>Complete for all other Categories.</u>
<p>Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [ x ]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ x ] No [ ]</p> <p>Please visit <a href="http://www.pecounty.on.ca">www.pecounty.on.ca</a></p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Shire Hall 332 Main Street, Picton, ON K0K 2T0</p>	<p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Not Applicable to Ameliasburgh Hamlet Water Treatment Plant.	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [ ] No [ ] N/A [ x ]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit [www.pecounty.on.ca](http://www.pecounty.on.ca)
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

**Describe your Drinking-Water System.**

Source water for the Ameliasburgh Hamlet Water Treatment Facility is received from Roblin Lake, transmitted through a 200mm diameter polyethylene intake pipe which conveys water from Roblin Lake to the raw water well. A raw water sample line is installed at the raw-water pump discharge for monitoring and analysis. The plant; with a total rated capacity of 360 m<sup>3</sup>/day, operates as a dual train pressure filtration system. Operational processes include coagulation, clarification, filtration and disinfection by sodium hypochlorite chemical feed (see specifications below). The facility also houses a Supervisory Control and Data Acquisition (SCADA) system and continuous analyzers for monitoring purposes. Additionally, the plant is equipped with filter backwash and residue management capabilities and the associated valves and appurtenances. Sample hydrants and system maintenance hydrants exist throughout the distribution system. Based on operational limitations of the Ameliasburgh Hamlet Water Treatment Plant, fire protection is not provided by hydrants connected to the municipal water supply.

**List all water treatment chemicals used over this reporting period.**

- Sodium Hypochlorite 12%, NSF60
- Hyper-Ion 2021, NSF60
- Filter Media, NSF61

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred.**

- High lift pump maintenance, including packing glands and replacement of high lift pump 1 motor,
- Treated water flowmeter replacement,
- Upgrades to pneumatic air system, including line replacement and improved alarming capabilities,

Routine annual activities, including:

- Purchase and installation of regular consumable items,
- Regular annual maintenance to equipment at the water treatment plant including the backwash/supernatant tank, chlorine and turbidity analyzers,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,

- Annual inspection and cleaning of the raw water intake line,
- Generator inspection, regular service and repairs,
- Repairs, maintenance, and preventative maintenance kits for chemical metering pumps,
- Distribution system maintenance activities, and valve turning program, and soft meter replacement program,
- Purchase of parts/equipment to support distribution repair and maintenance activities.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
No Adverse Water Quality Incidents were experienced in the 2023 operational year.					

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Source	Number of Samples	Range of <i>E.coli</i> or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	13	0 - 340	1-520	Not Applicable	
Treated	Not Applicable				
Distribution	26	0	0	26	0 - 1

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of HPC Results (min – max)
Turbidity (Raw)	200	0.18 - 0.89 NTU
Turbidity (Filter Effluent 1)	8760	0.02 - 1.27 NTU
Turbidity (Filter Effluent 2)	8760	0.03 - 0.1 NTU
Chlorine (Treated)	8760	1.23 - 3.62 mg/L
Chlorine (Distribution)	104	0.56 - 2.52 mg/L
Fluoride	Not Applicable	

**Note:** Any values outside of normal operating ranges that resulted in reportable events or operational observation have been noted in the Adverse Water Quality Incident summary (above).

\*Values reported as 0.00NTU/mg/L or at top of range can be attributed to system maintenance and/or calibration of equipment.

**Note:** For continuous monitors 8760 is used as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable				

**Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.**

Location	# Grab Samples	Max Allowable Limit	Range of Results	Unit of Measure	Resample Required?
<b>Distribution</b> (Period 1: 15/12/2022 to 15/04/2023)	2	10 µg/L	0.01 - 0.07	µg/L	No
<b>Distribution</b> (Period 2: 15/06/2023 to 15/10/2023)	2	10 µg/L	0.01 - 0.20	µg/L	No

**Note:** All values represented have been tabulated using values from both sampling periods in the 2022/2023 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

**Summary of inorganic parameters tested during this reporting period or the most recent sample results.**

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	09/02/2021	<0.0009	mg/L	N
<b>Arsenic</b>	09/02/2021	0.0004	mg/L	N
<b>Barium</b>	09/02/2021	0.0196	mg/L	N
<b>Boron</b>	09/02/2021	0.013	mg/L	N
<b>Cadmium</b>	09/02/2021	0.000004	mg/L	N
<b>Chromium</b>	09/02/2021	0.00008	mg/L	N
<b>Lead</b>	See Summary			
<b>Mercury</b>	09/02/2021	0.00001	mg/L	N
<b>Selenium</b>	09/02/2021	0.00005	mg/L	N
<b>Sodium</b>	07/02/2023	12.4	mg/L	N
<b>Uranium</b>	09/02/2021	0.000055	mg/L	N
<b>Fluoride</b>	07/02/2023	<0.06	mg/L	N
<b>Nitrite</b>	10/01/2023	<0.003	mg/L	N
	04/04/2023	<0.003	mg/L	N
	12/07/2023	<0.003	mg/L	N
	04/10/2023	<0.003	mg/L	N
<b>Nitrate</b>	10/01/2023	0.314	mg/L	N
	04/04/2023	0.295	mg/L	N
	12/07/2023	0.054	mg/L	N
	04/10/2023	0.25	mg/L	N

Summary of organic parameters sampled during this reporting period or the most recent sample results.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Alachlor	09/02/2021	<0.02	µg/L	N
Atrazine + N-dealkylated metabolites	09/02/2021	<0.01	µg/L	N
Azinphos-methyl	09/02/2021	<0.05	µg/L	N
Benzene	09/02/2021	<0.32	µg/L	N
Benzo(a)pyrene	09/02/2021	<0.004	µg/L	N
Bromoxynil	09/02/2021	<0.33	µg/L	N
Carbaryl	09/02/2021	<0.05	µg/L	N
Carbofuran	09/02/2021	<0.01	µg/L	N
Carbon Tetrachloride	09/02/2021	<0.17	µg/L	N
Chlorpyrifos	09/02/2021	<0.02	µg/L	N
Desethyl Atrazine	09/02/2021	<0.01	µg/L	N
Diazinon	09/02/2021	<0.02	µg/L	N
Dicamba	09/02/2021	<0.20	µg/L	N
1,2-Dichlorobenzene	09/02/2021	<0.41	µg/L	N
1,4-Dichlorobenzene	09/02/2021	<0.36	µg/L	N
1,2-Dichloroethane	09/02/2021	<0.35	µg/L	N
1,1-Dichloroethylene(vinylidene chloride)	09/02/2021	<0.33	µg/L	N
Dichloromethane	09/02/2021	<0.35	µg/L	N
2-4 Dichlorophenol	09/02/2021	<0.15	µg/L	N
2,4-dichlorophenoxyacetic acid,(2,4-D)	09/02/2021	<0.19	µg/L	N
Diclofop-methyl	09/02/2021	<0.40	µg/L	N
Dimethoate	09/02/2021	<0.06	µg/L	N
Diquat	09/02/2021	<1	µg/L	N
Diuron	09/02/2021	<0.03	µg/L	N
Glyphosate	09/02/2021	<1	µg/L	N
Malathion	09/02/2021	<0.02	µg/L	N
Metolachlor	09/02/2021	<0.01	µg/L	N
Metribuzin	09/02/2021	<0.02	µg/L	N
Monochlorobenzene	09/02/2021	<0.3	µg/L	N
Paraquat	09/02/2021	<1	µg/L	N
Pentachlorophenol	09/02/2021	<0.15	µg/L	N
Phorate	09/02/2021	<0.01	µg/L	N
Picloram	09/02/2021	<1	µg/L	N
Polychlorinated Biphenyls(PCB)	09/02/2021	<0.04	µg/L	N
Prometryne	09/02/2021	<0.03	µg/L	N
Simazine	09/02/2021	<0.01	µg/L	N
2-Methyl-4-chlorophenoxy acetic acid (MCPA)	09/02/2021	<0.00012	mg/L	N



Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
THM (Latest annual average)	10/01/2023	42	µg/L	N
	04/04/2023			
	11/07/2023			
	03/10/2023			
HAA (Latest annual average)	10/01/2023	41.69	µg/L	N
	04/04/2023			
	11/07/2023			
	03/10/2023			
Terbufos	09/02/2021	<0.01	µg/L	N
Tetrachloroethylene	09/02/2021	<0.35	µg/L	N
2,3,4,6-Tetrachlorophenol	09/02/2021	<0.20	µg/L	N
Triallate	09/02/2021	<0.01	µg/L	N
Trichloroethylene	09/02/2021	<0.44	µg/L	N
2,4,6-Trichlorophenol	09/02/2021	<0.25	µg/L	N
Trifluralin	09/02/2021	<0.02	µg/L	N
Vinyl Chloride	09/02/2021	<0.17	µg/L	N

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable to the Ameliasburgh Hamlet Water Treatment Plant.			

**The Corporation of the County of Prince Edward**  
**Ameliasburgh Hamlet Water Treatment Plant, DWS No. 220005697**  
Municipal Summary Reports, 2023

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**Facility Specifications**

Drinking-Water System Number:	220005697
Drinking-Water System Name:	Ameliasburgh Hamlet Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Small Municipal Residential System (SMRS)
Period being reported:	January 1, 2023 – December 31, 2023

Ontario Regulation 170/03, Schedule 22

**Requirements of Summary Reports for Municipalities**

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per the regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at [www.pecounty.on.ca](http://www.pecounty.on.ca) or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

The following list details the contents of the Municipal Summary Report package provided to Municipal Council. Documents provided electronically are subject to change, and as such, to ensure currency, full working legislative documents can be reviewed at <https://www.ontario.ca/laws>, with support documentation available at the Ministry of the Environment, Conservation and Parks Drinking Water Ontario website, available at <https://www.ontario.ca/page/drinking-water>.

- Safe Drinking Water Act, 2002,
  - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
  - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
  - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
    - Ontario Regulation 242/05, Compliance and Enforcement
    - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario

- Drinking Water System Control Documents
  - Drinking Water Works Permit No. 162-206 Issue No. 3 (Issued - January 12, 2022.)
  - Municipal Drinking Water License No. 162-106 Issue No. 4 (Issued January 12, 2022. Expiry date January 11, 2027.)
  - Permit to Take Water No. 7705-9HANT3
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2022 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks (MECP). Non-compliance events sited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2022/2023			
<b>Inspection Date:</b>		April 24, 2023	
<b>Inspection Review Period:</b>		May 26, 2022 to April 24, 2023	
<b>Compliance Rating:</b>		100%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2022/2023 operational year. Please see the 2023 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

**Annual Flow Summary**

As required by Schedule 22-2(3) 1., an annual flow summary for 2023 raw and treated water flows have been included for the Ameliasburgh Hamlet Water Treatment Plant. As follows:

<b>Ameliasburgh DWS: Raw Water Flows 2023</b>				
<b>Month</b>	<b>Total Flow</b>	<b>Minimum Daily Flow</b>	<b>Average Daily Flow</b>	<b>Maximum Daily Flow</b>
	<b>m<sup>3</sup></b>	<b>m<sup>3</sup>/d</b>	<b>m<sup>3</sup>/d</b>	<b>m<sup>3</sup>/d</b>
January	1697.59	49.26	56.59	63.09
February	1566.76	49.95	55.96	61.28
March	1731.09	46.17	55.84	63.67
April	1682.70	50.04	56.09	61.52
May	1825.32	49.47	58.88	75.95
June	1633.41	45.96	54.45	64.92
July	1650.27	42.54	53.23	73.95
August	1552.09	40.69	50.07	63.36
September	1398.81	38.71	46.63	57.72
October	1445.45	40.26	46.63	54.48
November	1459.10	38.91	48.64	60.29
December	1413.71	37.72	45.60	53.40
<b>Annual</b>	<b>19056.30</b>	<b>37.72</b>	<b>52.38</b>	<b>75.95</b>

<b>Ameliasburgh DWS: Raw Water Flow Comparison</b>		
Max Daily Water Taking Volume as per PTTW	360 m <sup>3</sup>	<b>% of Maximum</b>
Actual Maximum Daily Water Taking	75.95 m <sup>3</sup>	<b>21.09 %</b>
Actual Mean Daily Water Taking	52.38 m <sup>3</sup>	<b>14.55 %</b>

<b>Ameliasburgh DWS: Treated Water Flows 2023</b>				
<b>Month</b>	<b>Total Flow</b>	<b>Minimum Daily Flow</b>	<b>Average Daily Flow</b>	<b>Maximum Daily Flow</b>
	<b>m<sup>3</sup></b>	<b>m<sup>3</sup></b>	<b>m<sup>3</sup></b>	<b>m<sup>3</sup></b>
January	1584.62	41.95	51.12	76.15
February	1408.84	33.49	50.32	60.67
March	1524.73	42.44	49.18	61.75
April	1310.77	37.89	43.69	59.47
May	1368.66	36.02	44.15	56.12
June	1479.87	42.00	49.33	63.30
July	1534.52	39.75	49.50	73.12
August	1483.07	39.08	47.84	63.57
September	1350.59	39.77	45.02	50.07
October	1479.37	40.09	47.72	55.89
November	1463.32	43.93	48.78	53.90
December	1590.27	47.00	51.30	60.60
<b>Annual</b>	<b>17608.21</b>	<b>33.67</b>	<b>48.26</b>	<b>71.52</b>

<b>Ameliasburgh DWS: Treated Water Flow Comparison</b>		
Rated Capacity as per MDWL/DWWP	360 m <sup>3</sup>	<b>% of Maximum</b>
Actual Maximum Daily Capacity	71.52	<b>19.86 %</b>
Actual Mean Daily Capacity	48.26	<b>13.40 %</b>

*Note: Rated capacity does not necessarily reflect operational capacity.*

# Operational Reports

## Annual and Summary Reports



### Consecon/Carrying Place Water Distribution System



**The County**  
PRINCE EDWARD COUNTY + ONTARIO



## 2023 Annual Report

### Consecon/Carrying Place Drinking Water System

Drinking-Water System Number: 260005099  
 Drinking-Water System Name: Consecon/Carrying Place Water Distribution System  
 Drinking-Water System Owner: The Corporation of the County of Prince Edward  
 Drinking-Water System Category: Large Municipal Residential System (LMRS)  
 Period being reported: January 1, 2023 - December 31, 2023

<u><b>Complete if your Category is Large Municipal Residential or Small Municipal Residential</b></u>	<u><b>Complete for all other Categories.</b></u>
<p>Does your Drinking-Water System serve more than 10,000 people?            Yes [ ] No [ x ]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet?            Yes [ x ] No [ ]</p> <p>Please visit <a href="http://www.pecounty.on.ca">www.pecounty.on.ca</a></p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Shire Hall            332 Main Street,            Picton, ON            K0K 2T0</p>	<p>Number of Designated Facilities served:  <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve?            Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?            Yes [ ] No [ ]</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Not Applicable to Consecon/Carrying Place Water Distribution System.	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [ ] No [ ] N/A [ x ]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit [www.pecounty.on.ca](http://www.pecounty.on.ca)
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

**Describe your Drinking-Water System.**

The Consecon/Carrying Place Water Distribution System is a standalone water distribution system that is owned and operated by The Corporation of the County of Prince Edward. Treated distribution water is supplied to the Consecon/Carrying Place Drinking Water System by the Trenton Drinking Water System (The Supplier), which is owned and operated by The City of Quinte West. By-law No. 1996-2007 (or as amended) specifies the terms and conditions of the Water Taking Agreement between The Supplier and The County. The Trenton Water Treatment System supplies treated water to the system through a transmission line beneath the Bay of Quinte to the County of Prince Edward. Water flows are recorded at a metering station in the Trenton Drinking Water System prior to connection to the Consecon/Carrying Place DWS, and confirmed against a flow meter located in Carrying Place. A Booster Station in Carrying Place houses three (3) in-line booster pumps to increase water pressure and supply the Consecon Tower, one (1) fire pump, re-chlorination equipment and continuous monitors for chlorine and pressure. All connections between the flow meter chamber and the booster station rely on the pressure from the Trenton Drinking Water System. From the Booster Station, water is distributed to consumers and the Consecon Water Storage Tower. The Consecon Water Tower also houses continuous chlorine and pressure monitoring equipment. All connections south of the Booster Station receive pressure from the Water Tower. The Booster Station and Water Storage Tower both contain distribution water sample points. Fire protection hydrants are located throughout the water distribution system.

**List all water treatment chemicals used over this reporting period.**

- Sodium Hypochlorite 12%, NSF 60
- Additional treatment chemicals applied at the Trenton Water Treatment Facility. Please see the Trenton Water Treatment Plant 2023 Annual Report for further information.

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred.**

- Response and repairs for distribution events including watermain breaks and service repairs,
- Repairs and improvements to the chemical containment system at the Carrying Place Booster Station,



- SCADAPak replacement at Consecon Tower following failure due to weather event (lightening strike),
- Various electrical improvements and repairs,

Routine annual activities, including:

- Purchase and installation of regular consumable items,
- Annual inspection of the Consecon Water Tower,
- Regular annual maintenance to equipment at the metering station including the chlorine and turbidity analyzers,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Generator inspection, regular service and repairs,
- Repairs, maintenance, and preventative maintenance kits for chemical metering pumps,
- Distribution system maintenance activities, hydrant flushing and valve turning programs, and soft meter replacement program,
- Purchase of parts/equipment to support distribution repair and maintenance activities.

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.**

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
12/08/2023	Failure to sample and test	Trend Loss for over 1 hour	N/A	In addition to regular secondary disinfection samples, extra secondary disinfection samples were collected. Chlorine residual checked at least twice daily until data logger was replaced. Grab samples ranged between 0.78-0.86 mg/L free chlorine residual for Aug 12th, and 0.79-0.83 free chlorine residual on Aug 13th.	14/08/2023

**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	Not Applicable				
Treated					
Distribution	132	0	0	60	0 - 1

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min – max)
<b>Turbidity</b>	Not Applicable	
<b>Chlorine</b> (Distribution)	530	0.38 - 2.20 mg/L
<b>Chlorine</b> (Carrying Place Booster Station) (AIT 132)	8760	0.79 - 4.18 mg/L
<b>Chlorine</b> (Consecon Tower) (AIT 203)	8760	0.72 - 2.39 mg/L
<b>Fluoride</b>	Not Applicable	

**Note:** Any values outside of normal operating ranges that resulted in reportable event or operational observation have been noted in the Adverse Water Quality Incident summary (above).

\*Values reported as 0.00NTU/mg/L or at top of range can be attributed to system maintenance and/or calibration of equipment.

**Note:** For continuous monitors 8760 is used as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable to the Consecon/Carrying Place Water Distribution System.				

Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.

Location	# Grab Samples	Max Allowable Limit	Range of Results	Unit of Measure	Resample Required?
<b>Distribution</b> (Period 1: 15/12/2022 to 15/04/2023)	4	10 µg/L	0.04 - 0.06	µg/L	No
<b>Distribution</b> (Period 2: 15/06/2023 to 15/10/2023)	4	10 µg/L	0.06- 0.13	µg/L	No

**Note:** All values represented have been tabulated using values from both sampling periods in the 2022/2023 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

**Summary of inorganic parameters tested during this reporting period or the most recent sample results.**

*Please see the Trenton Water Treatment Plant 2023 Annual Report for all treated water inorganic parameter result values not listed here.*

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Antimony				
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
Lead*	See Summary			
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				
Nitrite				
Nitrate				

**Summary of organic parameters sampled during this reporting period or the most recent sample results.**

*Please see the Trenton Water Treatment Plant 2023 Annual Report for all treated water organic parameter result values not listed here.*

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Alachlor				
Aldicarb				
Aldrin + Dieldrin				
Atrazine + N-dealkylated metabolites				
Azinphos-methyl				
Bendiocarb				
Benzene				
Benzo(a)pyrene				
Bromoxynil				
Carbaryl				
Carbofuran				
Carbon Tetrachloride				
Chlordane (Total)				
Chlorpyrifos				
Cyanazine				
Diazinon				

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Dicamba				
1,2-Dichlorobenzene				
1,4-Dichlorobenzene				
Dichlorodiphenyltrichloroethane (DDT) + metabolites				
1,2-Dichloroethane				
1,1-Dichloroethylene (vinylidene chloride)				
Dichloromethane				
2-4 Dichlorophenol				
2,4-Dichlorophenoxy acetic acid (2,4-D)				
Diclofop-methyl				
Dimethoate				
Dinoseb				
Diquat				
Diuron				
Glyphosate				
Heptachlor + Heptachlor Epoxide				
Lindane (Total)				
Malathion				
Methoxychlor				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Parathion				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls (PCB)				
Prometryne				
Simazine				

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
THM (Latest annual average)	03/01/2023	58.68	µg/L	N
	07/02/2023			
	07/03/2023			
	04/04/2023			
	02/05/2023			
	06/06/2023			
	04/07/2023			
	01/08/2023			
	06/09/2023			
	03/10/2023			
	07/11/2023			
	05/12/2023			
HAA (Latest annual average)	03/01/2023	66.66	µg/L	N
	07/02/2023			
	07/03/2023			
	04/04/2023			
	02/05/2023			
	06/06/2023			
	04/07/2023			
	01/08/2023			
	06/09/2023			
	03/10/2023			
	07/11/2023			
	05/12/2023			
03/01/2023				
07/02/2023				
<b>Temephos</b>				
<b>Terbufos</b>				
<b>Tetrachloroethylene</b>				
<b>2,3,4,6-Tetrachlorophenol</b>				
<b>Triallate</b>				
<b>Trichloroethylene</b>				
<b>2,4,6-Trichlorophenol</b>				
<b>2,4,5-Trichlorophenoxy Acetic Acid (2,4,5-T)</b>				
<b>Trifluralin</b>				
<b>Vinyl Chloride</b>				

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable. Please see the Trenton Water Treatment Plant 2023 Annual Report for Further Information Regarding Inorganic and Organic Parameter Result Values.			

**The Corporation of the County of Prince Edward**  
**Consecon/Carrying Place Standalone Distribution System, DWS No. 250005099**  
Municipal Summary Reports, 2023

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**Facility Specifications**

Drinking-Water System Number:	260005099
Drinking-Water System Name:	Consecon/Carrying Place Water Distribution System
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Large Municipal Residential System (LMRS)
Period being reported:	January 1, 2023 – December 31, 2023

Ontario Regulation 170/03, Schedule 22

**Requirements of Summary Reports for Municipalities**

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per the regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at [www.pecounty.on.ca](http://www.pecounty.on.ca) or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

The following list details the contents of the Municipal Summary Report package provided to Municipal Council. Documents provided electronically are subject to change, and as such, to ensure currency, full working legislative documents can be reviewed at <https://www.ontario.ca/laws> with support documentation available at the Ministry of the Environment, Conservation and Parks Drinking Water Ontario website, available at <https://www.ontario.ca/page/drinking-water>.

- Safe Drinking Water Act, 2002,
  - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
  - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
  - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
    - Ontario Regulation 242/05, Compliance and Enforcement
    - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario

- Drinking Water System Control Documents
  - Drinking Water Works Permit No. 162-202 Issue No. 3 (Issued - January 12, 2022.)
  - Municipal Drinking Water License No. 162-102 Issue No. 4 (Issued January 12, 2022. Expiry date January 11, 2027.)
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2023 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks. Non-compliance events sited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2022/2023			
<b>Inspection Date:</b>		June 28, 2023	
<b>Inspection Review Period:</b>		July 13, 2022 to June 26, 2023	
<b>Compliance Rating:</b>		100%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2022/2023 operational year. Please see the 2023 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

**Annual Flow Summary**

As required by Schedule 22-2(3) 1., an annual flow summary for 2023 raw and treated water flows have been included for the Consecon/Carrying Place Distribution System. As follows:

<b>Consecon/Carrying Place DWS: Received Water Flows 2023</b>				
<b>Month</b>	<b>Total Flow</b>	<b>Minimum Daily Flow</b>	<b>Average Daily Flow</b>	<b>Maximum Daily Flow</b>
	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>
January	6893.86	34.35	222.38	378.40
February	6917.86	31.12	247.07	518.06
March	7446.46	31.37	240.21	433.44
April	4809.77	24.39	160.33	411.33
May	5932.93	29.02	191.38	383.30
June	5390.15	34.01	179.67	391.85
July	6736.71	45.68	217.31	509.57
August	7165.48	39.00	231.14	617.70
September	5470.94	38.08	182.36	372.45
October	4638.33	28.70	149.62	323.93
November	4386.68	26.12	146.22	598.39
December	4145.24	24.51	133.72	332.68
<b>Annual Total</b>	<b>69934.41</b>	<b>24.39</b>	<b>191.79</b>	<b>617.70</b>

As a standalone water distribution system, the Consecon/Carrying Place Water Distribution System does not have a rated capacity for treatment as the Trenton Water Treatment Plant supplies water to the system for distribution users. Despite this, a Water Service Agreement with the City of Quinte West outlines a maximum daily flow limit as outlined below. A summary comparison of Consecon/Carrying Place Water Distribution System flows to the Water Service Agreement can be reviewed as follows:

<b>Consecon/Carrying Place DWS: Received Water Flow Comparison</b>		
Mean Total Flow as per Service Water Agreement		187610 m <sup>3</sup>
Max Daily Flow as per Service Water Agreement		1262 m <sup>3</sup>
Mean Daily Volume as Per Service Water Agreement		514 m <sup>3</sup>
Actual Total Flow	69934.41 m <sup>3</sup>	<b>37.27 % of Mean Total Flow</b>
Actual Maximum Daily Flow	617.70 m <sup>3</sup>	<b>48.94 % of Maximum Daily Flow</b>
Actual Mean Daily Flow	191.79 m <sup>3</sup>	<b>37.31 % of Mean Daily Flow</b>

*Note: Rated capacity does not necessarily reflect operational capacity.*



# Operational Reports

## Annual and Summary Reports



### Peat's Point Subdivision Well Supply & Water Distribution System



**The County**  
PRINCE EDWARD COUNTY • ONTARIO



**Water and Wastewater Services**  
 The Corporation of the County of Prince Edward  
 Office: 37 Church Street, Picton, ON K0K 2T0  
 Mailing: 332 Picton Main Street, Picton, ON K0K 2T0  
 T: 613.476.2148 | F: 613.476.9120  
[compliance@pecounty.on.ca](mailto:compliance@pecounty.on.ca) | [www.thecounty.ca](http://www.thecounty.ca)

## 2023 Annual Report

Peat's Point Drinking Water System

Drinking-Water System Number: 220005704  
 Drinking-Water System Name: Peat's Point Subdivision Well System  
 Drinking-Water System Owner: The Corporation of the County of Prince Edward  
 Drinking-Water System Category: Small Municipal Residential System (SMRS)  
 Period being reported: January 1, 2023 to December 31, 2023

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u>	<u>Complete for all other Categories.</u>
<p>Does your Drinking-Water System serve more than 10,000 people?            Yes [ ] No [ x ]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet?            Yes [ x ] No [ ]</p> <p>Please visit <a href="http://www.pecounty.on.ca">www.pecounty.on.ca</a></p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Shire Hall            332 Main Street,            Picton, ON            K0K 2T0</p>	<p>Number of Designated Facilities served:  <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve?            Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?            Yes [ ] No [ ]</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Not Applicable to the Peat's Point Subdivision Well Supply System.	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [ ] No [ ] N/A [ x ]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit [www.pecounty.on.ca](http://www.pecounty.on.ca)
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

**Describe your Drinking-Water System.**

Source water at the Peat's Point Subdivision Well Supply is received from a 36.9m deep, 150mm diameter drilled GUDI well (Groundwater Under the Direct Influence of Surface Water) located inside a pump house and equipped with a submersible pump rated at 55.8L/min. Disinfection is provided by means of cartridge filtration (two (2); 1 duty, 1 standby), ultraviolet radiation supplied by two (2) (1 duty, 1 standby; both in service) ultraviolet disinfection units, and sodium hypochlorite chemical feed. Treated water undergoes chlorine contact in a 12m x 400mm diameter contact pipe, and pressure to the distribution system is provided by two (2) hydro-pneumatic pressure tanks. The pump house also houses a Supervisory Control and Data Acquisition (SCADA) system and continuous analytical equipment for regulative monitoring purposes. Sample hydrants are located throughout the looped distribution system. Based on operational limitations of the Peat's Point Subdivision Well Supply Water Treatment Facility, fire protection is not provided by means of municipal water supply.

**List all water treatment chemicals used over this reporting period.**

- Sodium Hypochlorite 12%, NSF60

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred.**

- UV disinfection improvements and annual maintenance activities,
- External 10 year Well Inspection and replacement of well pump,
- Generator repairs,

Routine annual activities, including:

- Purchase and installation of regular consumable items,
- Regular annual maintenance to equipment at the water treatment plant including the UV disinfection equipment, chlorine and turbidity analyzers,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Generator inspection, regular service and repairs,
- Repairs, maintenance, and preventative maintenance kits for chemical metering pumps,

- Distribution system maintenance activities, and valve turning program, and soft meter replacement program,
- Purchase of parts/equipment to support distribution repair and maintenance activities.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
07/02/2023	Sodium	31.8	mg/L	Resample and test at location giving rise to adverse water quality result. Resample result of 31.3 mg/L sodium confirmed initial sample. Communications sent to users of the system to inform those who may be on a low sodium diet.	27/02/2023

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min – max)
Raw	12	0	0	Not Applicable	
Treated	Not applicable for Small Municipal Residential Systems				
Distribution	28	0	0	28	0 - 2

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min – max)
Turbidity (Raw)	52	0.12 - 0.99 NTU
Turbidity (Filter Effluent)	8760	0.00 - 3.45 NTU
Chlorine (Treated)	8760	0.00 - 5.00 mg/L
Chlorine (Distribution)	104	1.02 - 2.72 mg/L
Fluoride	Not Applicable	

**Note<sub>1</sub>:** Any values outside of normal operating ranges that resulted in reportable event or operational observation have been noted in the Adverse Water Quality Incident summary (above).

\*Values reported as 0.00NTU/mg/L or at top of range can be attributed to system maintenance and/or calibration of equipment.

**Note<sub>2</sub>:** For continuous monitors 8760 is used as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable to Peat's Point Subdivision Well Supply System.				

**Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.**

Location	# Grab Samples	Max Allowable Limit	Result	Unit of Measure	Resample Required?
Distribution (Period 1: 15/12/2022 to 15/04/2023)	1	10 µg/L	0.23	µg/L	No
Distribution (Period 2: 15/06/2023 to 15/10/2023)	1	10 µg/L	0.82	µg/L	No

**Note:** All values represented have been tabulated using values from both sampling periods in the 2022/2023 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

**Summary of inorganic parameters tested during this reporting period or the most recent sample results.**

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Antimony	09/02/2021	<0.0009	mg/L	N
Arsenic	09/02/2021	<0.0002	mg/L	N
Barium	09/02/2021	0.287	mg/L	N
Boron	09/02/2021	0.070	mg/L	N
Cadmium	09/02/2021	0.000003	mg/L	N
Chromium	09/02/2021	<0.00008	mg/L	N
Lead*	See Summary			
Mercury	09/02/2021	<0.00001	mg/L	N
Selenium	09/02/2021	<0.00004	mg/L	N
Sodium	07/02/2023	31.8*	mg/L	Y
Uranium	09/02/2021	0.000339	mg/L	N
Fluoride	07/02/2023	0.18	mg/L	N
Nitrite	17/01/2023	<0.003	mg/L	N
	04/04/2023	<0.003	mg/L	N
	11/07/2023	<0.003	mg/L	N
	03/10/2023	<0.003	mg/L	N
Nitrate	17/01/2023	<0.006	mg/L	N
	04/04/2023	<0.006	mg/L	N
	11/07/2023	<0.006	mg/L	N
	03/10/2023	<0.006	mg/L	N

**\*Note:** Sample results indicated elevated sodium levels in the drinking water. Written notification was provided to system users and a sodium factsheet was provided. A resample taken on 14/02/2023 indicated a result of 31.3 mg/L. See AWQI summary for details.

Summary of organic parameters sampled during this reporting period or the most recent sample results.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Alachlor	09/02/2021	<0.02	µg/L	N
Atrazine + N-dealkylated metabolites	09/02/2021	<0.01	µg/L	N
Azinphos-methyl	09/02/2021	<0.05	µg/L	N
Benzene	09/02/2021	<0.32	µg/L	N
Benzo(a)pyrene	09/02/2021	<0.004	µg/L	N
Bromoxynil	09/02/2021	<0.33	µg/L	N
Carbaryl	09/02/2021	<0.05	µg/L	N
Carbofuran	09/02/2021	<0.01	µg/L	N
Carbon Tetrachloride	09/02/2021	<0.17	µg/L	N
Chlorpyrifos	09/02/2021	<0.02	µg/L	N
Diazinon	09/02/2021	<0.02	µg/L	N
Dicamba	09/02/2021	<0.20	µg/L	N
1,2-Dichlorobenzene	09/02/2021	<0.41	µg/L	N
1,4-Dichlorobenzene	09/02/2021	<0.36	µg/L	N
1,2-Dichloroethane	09/02/2021	<0.35	µg/L	N
1,1-Dichloroethylene (vinylidene chloride)	09/02/2021	<0.33	µg/L	N
Dichloromethane	09/02/2021	<0.35	µg/L	N
2-4 Dichlorophenol	09/02/2021	<0.15	µg/L	N
2,4-Dichlorophenoxy acetic acid (2,4-D)	09/02/2021	<0.19	µg/L	N
Diclofop-methyl	09/02/2021	<0.40	µg/L	N
Dimethoate	09/02/2021	<0.06	µg/L	N
Diquat	09/02/2021	<1	µg/L	N
Diuron	09/02/2021	<0.03	µg/L	N
Glyphosate	09/02/2021	<1	µg/L	N
Malathion	09/02/2021	<0.01	µg/L	N
2-Methyl-4-chlorophenoxy acetic acid (MCPA)	09/02/2021	<0.00012	mg/L	N
Metolachlor	09/02/2021	<0.02	µg/L	N
Metribuzin	09/02/2021	<0.02	µg/L	N
Monochlorobenzene	09/02/2021	<0.3	µg/L	N
Paraquat	09/02/2021	<1	µg/L	N
Pentachlorophenol	09/02/2021	<0.15	µg/L	N
Phorate	09/02/2021	<0.01	µg/L	N
Picloram	09/02/2021	<1	µg/L	N
Polychlorinated Biphenyls(PCB)	09/02/2021	<0.04	µg/L	N
Prometryne	09/02/2021	<0.03	µg/L	N
Simazine	09/02/2021	<0.01	µg/L	N
THM (Latest annual average)	10/01/2023	31.75	µg/L	N
	05/04/2023			
	11/07/2023			
	03/10/2023			

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
HAA (Latest annual average)	10/01/2023	7.5	µg/L	N
	04/04/2023			
	Sampling discontinued due to qualification of sampling exemption.			
Terbufos	09/02/2021	<0.01	µg/L	N
Tetrachloroethylene	09/02/2021	<0.35	µg/L	N
2,3,4,6-Tetrachlorophenol	09/02/2021	<0.20	µg/L	N
Triallate	09/02/2021	<0.01	µg/L	N
Trichloroethylene	09/02/2021	<0.44	µg/L	N
2,4,6-Trichlorophenol	09/02/2021	<0.25	µg/L	N
Trifluralin	09/02/2021	<0.02	µg/L	N
Vinyl Chloride	09/02/2021	<0.17	µg/L	N

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable to the Peat's Point Subdivision Well Supply System.			

**The Corporation of the County of Prince Edward**  
**Peat's Point Water Treatment Plant, DWS No. 220005704**  
Municipal Summary Reports, 2023

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**Facility Specifications**

Drinking-Water System Number:	220005704
Drinking-Water System Name:	Peat's Point Subdivision Well System
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Small Municipal Residential System (SMRS)
Period being reported:	January 1, 2023 - December 31, 2023

Ontario Regulation 170/03, Schedule 22

**Requirements of Summary Reports for Municipalities**

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- Safe Drinking Water Act, 2002,
  - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
  - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
  - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
  - Ontario Regulation 242/05, Compliance and Enforcement
  - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario,



- Drinking Water System Control Documents
  - Drinking Water Works Permit No. 162-205 Issue No. 3 (Issued - January 12, 2022.)
  - Municipal Drinking Water License No. 162-105 Issue No. 4 (Issued January 12, 2022. Expiry date January 11, 2027.)
  - Permit to Take Water No. 4752-9HDK9E
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2023 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks. Non-compliance events cited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2022/2023			
<b>Inspection Date:</b>		July 13, 2023	
<b>Inspection Review Period:</b>		August 24, 2022 to July 13, 2023	
<b>Compliance Rating:</b>		100%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2022/2023 operational year. Please see the 2023 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

## Annual Flow Summary

As required by Schedule 22-2(3) 1., an annual flow summary for 2023 raw and treated water flows have been included for the Peat's Point Water Treatment Plant. As follows:

<b>Peat's Point DWS: Well Pump Flows 2023</b>				
<b>Month</b>	<b>Total Flow</b>	<b>Minimum Daily Flow</b>	<b>Average Daily Flow</b>	<b>Maximum Daily Flow</b>
	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>
January	283.46	7.87	9.14	11.05
February	250.32	7.03	8.94	12.29
March	307.59	5.89	9.92	17.03
April	345.27	9.50	11.51	13.64
May	394.13	9.24	12.71	18.44
June	346.67	9.01	11.56	15.17
July	323.69	8.09	10.44	16.47
August	347.39	7.43	11.21	14.69
September	302.35	6.68	10.08	20.84
October	331.78	5.18	10.70	16.82
November	294.66	7.45	9.82	14.90
December	318.04	8.23	10.26	12.92
<b>Annual Total</b>	<b>3845.34</b>	<b>5.18</b>	<b>10.52</b>	<b>20.84</b>

<b>Peat's Point DWS: Flow Comparison to Maximum Water Taking Volume</b>		
Max Daily Water Taking Volume as per PTTW	80.40 m <sup>3</sup>	<b>% of Maximum</b>
Actual Maximum Daily Water Taking	20.84	<b>25.92 %</b>
Actual Mean Daily Water Taking	10.52	<b>13.08 %</b>

<b>Peat's Point DWS: Flow Comparison to Rated Capacity</b>		
Rated Capacity as per MDWL/DWWP	80.40m <sup>3</sup>	<b>% of Rated Capacity</b>
Actual Maximum Daily Capacity	20.84	<b>25.92 %</b>
Actual Mean Daily Capacity	10.52	<b>13.08 %</b>

*Note: Rated capacity does not necessarily reflect operational capacity.*

# Operational Reports

## Annual and Summary Reports



### Picton Water Treatment Plant & Water Distribution System



**The County**  
PRINCE EDWARD COUNTY • ONTARIO



## 2023 Annual Report

### Picton Drinking Water System

Drinking-Water System Number: 220000987  
 Drinking-Water System Name: Picton Water Treatment Plant  
 Drinking-Water System Owner: The Corporation of the County of Prince Edward  
 Drinking-Water System Category: Large Municipal Residential System (LMRS)  
 Period being reported: January 1, 2023- December 31, 2023

**Complete if your Category is Large Municipal Residential or Small Municipal Residential**

Does your Drinking-Water System serve more than 10,000 people?

Yes [ ] No [ x ]

Is your annual report available to the public at no charge on a web site on the Internet?

Yes [ x ] No [ ]

Please visit [www.pecounty.on.ca](http://www.pecounty.on.ca)

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Shire Hall  
332 Main Street,  
Picton, ON  
K0K 2T0

**Complete for all other Categories.**

Number of Designated Facilities served:

Did you provide a copy of your annual report to all Designated Facilities you serve?

Yes [ ] No [ ]

Number of Interested Authorities you report to:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?

Yes [ ] No [ ]

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Macaulay Village Distribution System	260062712
Port Picton Distribution System	260097552

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [ x ] No [ ] N/A [ ]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit [www.pecounty.on.ca](http://www.pecounty.on.ca)
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

**Describe your Drinking-Water System.**

Source water for Picton Water Treatment Plant is received from the Bay of Quinte (Picton Bay) via a 91 m long, 400 mm diameter intake pipe, within which pre-chlorination is applied for zebra mussel control. The secondary intake pipe (north intake) is approximately 305 m long, 400 mm diameter steel pipe, but does not include a sample line or chlorine injection point for zebra mussel control. The north intake is not currently in-use, but available as a redundant measure in the event of intake failure. The plant operates as a conventional filtration system with a total rated capacity of 10,400 m<sup>3</sup>/day. Operational processes include coagulation, flocculation, filtration and disinfection by means of chlorine gas (see specifications below), as well as continuous analyzers for regulative monitoring and operational controls. Additionally, the plant is equipped with filter backwash and residue management capabilities and the associated valves and appurtenances. Fluoridation is also provided by means of a chemical feed system. Within the Picton Water Distribution System, the Picton High-Level Reservoir/Booster Station and the Bloomfield Water Tower exist as treated water storage and control facilities. Both sites include re-chlorination and additional continuous monitoring equipment utilized for operational checks. The Picton High-Level Reservoir also houses booster pumps to assist in distribution system pressure maintenance in the Macaulay Village subdivision. Fire protection and sample hydrants are located throughout the water distribution system.

**List all water treatment chemicals used over this reporting period.**

- Chlorine Gas, NSF 60
- Clar+Ion, NSF 60
- Granular Activated Carbon, NSF 61
- Hydrofluorosilicic Acid, NSF 60
- Calcium Thiosulphate (Captor), NSF 60

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred.**

- Replacement of granular activated carbon (GAC) filter media in Filters 2 and 3,
- Main Street reconstruction (including watermain replacement) between Spencer Street and Johnson Streets (ongoing 2024),
- Fire flow testing at selected locations in the Picton/Bloomfield distribution system,

**2023 Annual Reports: Picton Drinking Water System**

Issue Date: February 26, 2024

Revision Date: 0. February 26, 2024

- Support for installation of various new watermain tie-ins,
- Response and repairs for distribution events, including watermain breaks and service repairs,
- Purchase and installation of replacement chlorinator parts and annual service, and improvements to the chlorine gas air scrubber equipment,
- Purchase and installation of new pressure transmitter for clearwell level monitoring redundancy,
- Replacement of an actuator on the track-vac sludge removal system,
- Chemical pump maintenance at the Picton Heights Booster Station,
- Maintenance and replacement parts for singer valve at Mallory Road Station,

Routine annual activities, including:

- Purchase and installation of regular consumable items,
- Annual inspection of the Bloomfield Water Tower,
- Regular annual maintenance to equipment at the water treatment plant including the sedimentation basins, backwash/supernatant tank, track-vac system, chlorinators, chlorine leak detectors, chlorine and turbidity analyzers,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Annual inspection and cleaning of the raw water intake line,
- Generator inspection, regular service and repairs,
- Repairs, maintenance, and preventative maintenance kits for chemical metering pumps,
- Distribution system maintenance activities, hydrant flushing and valve turning programs, and soft meter replacement program,
- Purchase of parts/equipment to support distribution repair and maintenance activities.

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.**

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
29/06/2023	Loss of Pressure	Category 2 Watermain Break	n/a	Significant leak was located on private property. In consultation with property owner, water supply was shut off to the feed at the main. In response to category 2 watermain break, samples were collected. Results returned TC/EC=0CFU. No further corrective actions required.	05/07/2023

**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	52	0 - 20	0-1020	Not Applicable	
Treated	52	0	0	52	0 - 3
Distribution	311	0	0	120	0 - 22

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.**

Parameter	Number of Grab Samples	Range of Results (min - max)
<b>Turbidity</b> (Raw) (Sampled from Raw Well (AIT 108/109))	8760	0.23 - 40.01 NTU
<b>Turbidity</b> (Raw) (Sampled from Raw Water Intake Line)	153	0.39 - 4.79 NTU
<b>Turbidity</b> (Filter Effluent 1)	8760	0.01 - 0.19 NTU
<b>Turbidity</b> (Filter Effluent 2)	8760	0.001 - 0.53 NTU
<b>Turbidity</b> (Filter Effluent 3)	8760	0.01 - 1.98 NTU
<b>Turbidity</b> (Filter Effluent 4)	8760	0.02 - 0.91 NTU
<b>Chlorine</b> (Treated) (AIT186)	8760	0.12 - 3.70 mg/L
<b>Chlorine</b> (Distribution 1- Macaulay Village HLR and Booster Station) (AIT201)	8760	0.70 - 4.99 mg/L
<b>Chlorine</b> (Distribution 2 – Bloomfield Elevated Storage Tank) (AIT304)	8760	0.54 - 4.99 mg/L
<b>Fluoride</b>	8760	0.62 - 0.78 mg/L

**Note<sub>1</sub>:** Any values outside of normal operating ranges that resulted in reportable event or operational observation have been noted in the Adverse Water Quality Incident summary (above).

\*Values reported as 0.00NTU/mg/L or at top of range can be attributed to system maintenance and/or calibration of equipment.

**Note<sub>2</sub>:** For continuous monitors 8760 is used as the number of samples.

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

<b>Date of Legal Instrument Issued</b>	MDWL 162-104, Issue Number 4 Issue Date: January 12, 2022	
<b>Parameter</b>	Total Suspended Solids (TSS)	
<b>Annual Average Concentration Limit</b>	15 mg/L	
<b>Date Sampled (DD/MM/YYYY)</b>	<b>Result</b>	<b>Unit of Measure</b>
03/01/2023	6	mg/L
07/02/2023	13	mg/L
07/03/2023	10	mg/L
04/04/2023	8	mg/L
02/05/2023	5	mg/L
06/06/2023	5	mg/L
04/07/2023	4	mg/L
01/08/2023	4	mg/L
05/09/2023	3	mg/L
03/10/2023	4	mg/L
07/11/2023	3	mg/L
05/12/2023	12	mg/L
<b>Annual Average:</b>	<b>3</b>	<b>mg/L</b>

**Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.**

Distribution	# Grab Samples	Max Allowable Limit	Range of Results	Unit of Measure	Resample Required?
<b>Distribution</b> (Period 1: 15/12/2022 to 15/04/2023)	9	10 µg/L	0.02 - 0.25	µg/L	No
<b>Distribution</b> (Period 2: 15/06/2023 to 15/10/2023)	9	10 µg/L	0.03 - 0.49	µg/L	No

**Note:** All values represented have been tabulated using values from both sampling periods in the 2022/2023 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

**Summary of inorganic parameters tested during this reporting period or the most recent sample results.**

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>	02/02/2023	<0.06	µg/L	N
<b>Arsenic</b>	02/02/2023	0.4	µg/L	N
<b>Barium</b>	02/02/2023	33.9	µg/L	N
<b>Boron</b>	02/02/2023	11	µg/L	N
<b>Cadmium</b>	02/02/2023	<0.003	µg/L	N
<b>Chromium</b>	02/02/2023	0.27	µg/L	N
<b>Lead*</b>	See Summary			
<b>Mercury</b>	02/02/2023	<0.01	µg/L	N



Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Selenium	02/02/2023	0.14	µg/L	N
Sodium	07/02/2023	8.9	mg/L	N
Uranium	02/02/2023	0.139	µg/L	N
Fluoride	07/02/2023	0.61	mg/L	N
Nitrite	03/01/2023	<0.003	mg/L	N
	04/04/2023	<0.003	mg/L	N
	04/07/2023	<0.003	mg/L	N
	03/10/2023	<0.003	mg/L	N
Nitrate	03/01/2023	0.220	mg/L	N
	04/04/2023	0.510	mg/L	N
	04/07/2023	0.092	mg/L	N
	03/10/2023	0.102	mg/L	N

Summary of organic parameters sampled during this reporting period or the most recent sample results.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Alachlor	07/02/2023	<0.02	µg/L	N
Atrazine + N-dealkylated metabolites	07/02/2023	<0.01	µg/L	N
Azinphos-methyl	07/02/2023	<0.05	µg/L	N
Benzene	07/02/2023	<0.32	µg/L	N
Benzo(a)pyrene	07/02/2023	<0.004	µg/L	N
Bromoxynil	07/02/2023	<0.33	µg/L	N
Carbaryl	07/02/2023	<0.05	µg/L	N
Carbofuran	07/02/2023	<0.01	µg/L	N
Carbon Tetrachloride	07/02/2023	<0.17	µg/L	N
Chlorpyrifos	07/02/2023	<0.02	µg/L	N
Diazinon	07/02/2023	<0.02	µg/L	N
Dicamba	07/02/2023	<0.20	µg/L	N
1,2-Dichlorobenzene	07/02/2023	<0.41	µg/L	N
1,4-Dichlorobenzene	07/02/2023	<0.36	µg/L	N
1,2-Dichloroethane	07/02/2023	<0.35	µg/L	N
1,1-Dichloroethylene (vinylidene chloride)	07/02/2023	<0.33	µg/L	N
Dichloromethane	07/02/2023	<0.35	µg/L	N
2-4 Dichlorophenol	07/02/2023	<0.15	µg/L	N
2,4-Dichlorophenoxy acetic acid (2,4-D)	07/02/2023	<0.19	µg/L	N
Diclofop-methyl	07/02/2023	<0.40	µg/L	N
Dimethoate	07/02/2023	<0.06	µg/L	N
Diquat	07/02/2023	<1	µg/L	N
Diuron	07/02/2023	<0.03	µg/L	N
Glyphosate	07/02/2023	<1	µg/L	N

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Malathion	07/02/2023	<0.02	µg/L	N
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	07/02/2023	<0.00012	mg/L	N
Metolachlor	07/02/2023	<0.01	µg/L	N
Metribuzin	07/02/2023	<0.02	µg/L	N
Monochlorobenzene	07/02/2023	<0.3	µg/L	N
Paraquat	07/02/2023	<1	µg/L	N
Pentachlorophenol	07/02/2023	<0.15	µg/L	N
Phorate	07/02/2023	<0.01	µg/L	N
Picloram	07/02/2023	<1	µg/L	N
Polychlorinated Biphenyls (PCB)	07/02/2023	<0.04	µg/L	N
Prometryne	07/02/2023	<0.03	µg/L	N
Simazine	07/02/2023	<0.01	µg/L	N
THM (Latest annual average)	03/01/2023	98.17	µg/L	N
	07/02/2023			
	07/03/2023			
	04/04/2023			
	02/05/2023			
	06/06/2023			
	04/07/2023			
	01/08/2023			
	05/09/2023			
	03/10/2023			
	07/11/2023			
05/12/2023				
HAA (Latest annual average)	03/01/2023	71.56	µg/L	Y
	07/02/2023			
	07/03/2023			
	04/04/2023			
	02/05/2023			
	06/06/2023			
	04/07/2023			
	01/08/2023			
	05/09/2023			
	03/10/2023			
	07/11/2023			
05/12/2023				
Terbufos	07/02/2023	<0.01	µg/L	N
Tetrachloroethylene	07/02/2023	<0.35	µg/L	N
2,3,4,6-Tetrachlorophenol	07/02/2023	<0.20	µg/L	N
Triallate	07/02/2023	<0.01	µg/L	N
Trichloroethylene	07/02/2023	<0.44	µg/L	N
2,4,6-Trichlorophenol	07/02/2023	<0.25	µg/L	N
Trifluralin	07/02/2023	<0.02	µg/L	N
Vinyl Chloride	07/02/2023	<0.17	µg/L	N

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not applicable to the Picton Water Treatment Plant.			

**The Corporation of the County of Prince Edward**  
**Picton Water Treatment Plant, DWS No. 220000987**  
Municipal Summary Reports, 2023

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**Facility Specifications**

Drinking-Water System Number:	220000987
Drinking-Water System Name:	Picton Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Large Municipal Residential System (LMRS)
Period being reported:	January 1, 2023 - December 31, 2023

Ontario Regulation 170/03, Schedule 22

**Requirements of Summary Reports for Municipalities**

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per Regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at [www.pecounty.on.ca](http://www.pecounty.on.ca) or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

The following list details the contents of the Municipal Summary Report package provided to Municipal Council. Documents provided electronically are subject to change, and as such, to ensure currency, full working legislative documents can be reviewed at <https://www.ontario.ca/laws>, with support documentation available at the Ministry of the Environment, Conservation and Parks Drinking Water Ontario website, available at <https://www.ontario.ca/page/drinking-water>.

- Safe Drinking Water Act, 2002
  - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
  - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
  - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
    - Ontario Regulation 242/05, Compliance and Enforcement
    - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario

- Drinking Water System Control Documents
  - Drinking Water Works Permit No. 162-204 Issue No. 4 (Issued - January 12, 2022.)
  - Municipal Drinking Water License No. 162-104 Issue No. 4 (Issued January 12, 2022. Expiry date January 11, 2027.)
  - Permit to Take Water No. 6135-9HCPDY
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2023 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks (MECP). Non-compliance events sited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2022/2023			
<b>Inspection Date:</b>		November 1, 2023	
<b>Inspection Review Period:</b>		September 28, 2022 to November 1, 2023	
<b>Compliance Rating:</b>		100%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2022/2023 operational year. Please see the 2023 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

## Annual Flow Summary

As required by Schedule 22-2(3) 1., an annual flow summary for 2023 raw and treated water flows have been included for the Picton Water Treatment Plant. As follows:

<b>Picton DWS: Raw Water Flows 2023</b>				
<b>Month</b>	<b>Total Flow</b>	<b>Minimum Daily Flow</b>	<b>Average Daily Flow</b>	<b>Maximum Daily Flow</b>
	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>
January	72483.64	1265.79	2338.18	3314.98
February	58243.25	1728.18	2080.12	2642.67
March	61973.23	1476.00	1999.14	2679.92
April	65247.11	1732.16	2174.90	3362.75
May	80657.36	2063.44	2601.85	3492.01
June	88307.83	2137.87	2943.59	5429.30
July	93259.42	2311.05	3008.37	3617.59
August	89053.88	2096.75	2872.71	3538.09
September	91525.06	2539.01	3050.84	3890.36
October	79579.62	1935.17	2567.08	3246.07
November	70338.92	1886.27	2344.63	2752.48
December	71746.82	1579.28	2314.41	2965.05
<b>Annual Total</b>	<b>922416.13</b>	<b>1265.79</b>	<b>2524.65</b>	<b>5429.30</b>

<b>Picton DWS: Raw Water Flow Comparison</b>		
Max Daily Water Taking Volume as per PTTW	10400 m <sup>3</sup>	<b>% of Maximum</b>
Actual Maximum Daily Capacity	5429.30 m <sup>3</sup>	<b>52.20 %</b>
Actual Mean Daily Capacity	2524.65 m <sup>3</sup>	<b>24.28%</b>

**Note:** Rated capacity does not necessarily reflect operational capacity.

<b>Picton DWS: Treated Water Flows 2023</b>				
<b>Month</b>	<b>Total Flow</b>	<b>Minimum Daily Flow</b>	<b>Average Daily Flow</b>	<b>Maximum Daily Flow</b>
	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>
January	65279.50	1103.19	2105.79	3128.25
February	55053.71	1540.25	1966.20	2503.90
March	57144.74	1313.38	1843.38	2581.77
April	60396.31	1556.05	2013.21	3440.84
May	74468.93	1733.14	2402.22	3100.09
June	82282.84	1947.67	2742.76	5256.26
July	85567.50	2065.08	2760.24	3251.84
August	81733.88	1825.55	2636.58	3178.62
September	83006.37	2237.79	2766.88	3398.47
October	73130.73	1743.95	2359.06	2931.39
November	64007.10	1694.07	2133.57	2596.93
December	65092.37	1458.28	2099.75	2691.85
<b>Annual Total</b>	<b>847163.97</b>	<b>1103.19</b>	<b>2319.14</b>	<b>5256.26</b>

<b>Picton DWS: Treated Water Flow Comparison</b>		
Rated Capacity as per MDWL/DWWP	10400 m <sup>3</sup>	<b>% of Maximum</b>
Actual Maximum Daily Capacity	5256.26 m <sup>3</sup>	<b>50.54 %</b>
Actual Mean Daily Capacity	2319.14 m <sup>3</sup>	<b>22.29 %</b>

# Operational Reports

## Annual and Summary Reports



### Rossmore/Fenwood Gardens Water Distribution System



**The County**  
PRINCE EDWARD COUNTY + ONTARIO





## 2023 Annual Report

### Rossmore/Fenwood Gardens Drinking Water System

Drinking-Water System Number: 220005008  
 Drinking-Water System Name: Rossmore/Fenwood Gardens Water Distribution System  
 Drinking-Water System Owner: The Corporation of the County of Prince Edward  
 Drinking-Water System Category: Large Municipal Residential System (LMRS)  
 Period being reported: January 1, 2023 - December 31, 2023

<u><b>Complete if your Category is Large Municipal Residential or Small Municipal Residential</b></u>	<u><b>Complete for all other Categories.</b></u>
<p><b>Does your Drinking-Water System serve more than 10,000 people?</b> Yes [ ] No [ x ]</p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet?</b> Yes [ x ] No [ ]</p> <p>Please visit <a href="http://www.pecounty.on.ca">www.pecounty.on.ca</a></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <p>Shire Hall 332 Main Street, Picton, ON K0K 2T0</p>	<p><b>Number of Designated Facilities served:</b> <input type="text"/></p> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve?</b> Yes [ ] No [ ]</p> <p><b>Number of Interested Authorities you report to:</b> <input type="text"/></p> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?</b> Yes [ ] No [ ]</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Not Applicable to Rossmore/Fenwood Garden Water Distribution System.	

**Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?**

Yes [ ] No [ ] N/A [ x ]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit [www.pecounty.on.ca](http://www.pecounty.on.ca)
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

**Describe your Drinking-Water System.**

The Rossmore/Fenwood Gardens Water Distribution System is a standalone water distribution system. The System is owned and operated by The Corporation of the County of Prince Edward. Treated water is supplied via a transmission line beneath the Bay of Quinte to the Rossmore/Fenwood Gardens Drinking Water System by the Belleville Drinking Water System (The Supplier), which is owned and operated by The City of Belleville. By-law No. 3451-2014 (or as amended) specifies the terms and conditions of the Water Taking Agreement between The Supplier and The County. Water flows are recorded at the Belleville Water Treatment Plant and at the point of entry into the Rossmore/Fenwood Gardens Drinking Water System by a flowmeter within a valve chamber and instrumentation building located on Ridley Street. The building houses a flow meter, a pressure transmitter, a datalogger and a chlorine analyzer. Fire protection and sample hydrants are located throughout the water distribution system.

**List all water treatment chemicals used over this reporting period.**

- Not applicable; chemical application is carried out at the Belleville Water Treatment Plant. Please see the Belleville Water Treatment Plant 2023 Annual Report for further information.

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred.**

- Response and repairs for distribution events including watermain breaks and service repairs, including an emergency excavation and repair on the supply watermain from the Belleville DWS,

Routine annual activities, including:

- Purchase and installation of regular consumable items,
- Regular annual maintenance to equipment at the pumping station including the chlorine and turbidity analyzers,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Generator inspection, regular service and repairs,
- Distribution system maintenance activities, hydrant flushing and valve turning programs, and soft meter replacement program,
- Purchase of parts/equipment to support distribution repair and maintenance activities.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
No Adverse Water Quality Incidents were experienced in the 2023 operational year.					

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	Not Applicable				
Treated					
Distribution	155	0	0	61	0 - 49

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min - max)
Turbidity	Not Applicable	
Chlorine	520	0.42 - 1.91 mg/L
Fluoride	Not Applicable	
Station Analyser	1.41-2.91	

**Note<sub>1</sub>:** Any values outside of normal operating ranges that resulted in reportable event or operational observation have been noted in the Adverse Water Quality Incident summary (above).

\*Values reported as 0.00NTU/mg/L or at top of range can be attributed to system maintenance and/or calibration of equipment.

**Note<sub>2</sub>:** For continuous monitors 8760 is used as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable.				

**Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.**

Location	# Grab Samples	Max Allowable Limit	Range of Results	Unit of Measure	Resample Required?
<b>Distribution</b> (Period 1: 15/12/2022 to 15/04/2023)	4	10 µg/L	0.05 - 0.07	µg/L	No
<b>Distribution</b> (Period 2: 15/06/2023 to 15/10/2023)	4	10 µg/L	0.03 - 0.12	µg/L	No

*Note: All values represented have been tabulated using values from both sampling periods in the 2022/2023 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.*

**Summary of inorganic parameters tested during this reporting period or the most recent sample results.**

*Please see the Belleville Water Treatment Plant 2023 Annual Report for all treated water inorganic parameter result values not listed here.*

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>Antimony</b>				
<b>Arsenic</b>				
<b>Barium</b>				
<b>Boron</b>				
<b>Cadmium</b>				
<b>Chromium</b>				
<b>Lead*</b>	See Summary			
<b>Mercury</b>				
<b>Selenium</b>				
<b>Sodium</b>				
<b>Uranium</b>				
<b>Fluoride</b>				
<b>Nitrite</b>				
<b>Nitrate</b>				

**Summary of organic parameters sampled during this reporting period or the most recent sample results.**

*Please see the Belleville Water Treatment Plant 2023 Annual Report for all treated water organic parameter result values not listed here.*

<b>Parameter</b>	<b>Sample Date (DD/MM/YYYY)</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
<b>Alachlor</b>				
<b>Aldicarb</b>				
<b>Aldrin + Dieldrin</b>				
<b>Atrazine + N-dealkylated metabolites</b>				
<b>Azinphos-methyl</b>				
<b>Bendiocarb</b>				
<b>Benzene</b>				
<b>Benzo(a)pyrene</b>				
<b>Bromoxynil</b>				
<b>Carbaryl</b>				
<b>Carbofuran</b>				
<b>Carbon Tetrachloride</b>				
<b>Chlordane (Total)</b>				
<b>Chlorpyrifos</b>				
<b>Cyanazine</b>				
<b>Diazinon</b>				
<b>Dicamba</b>				
<b>1,2-Dichlorobenzene</b>				
<b>1,4-Dichlorobenzene</b>				
<b>Dichlorodiphenyltrichloroethane (DDT) + metabolites</b>				
<b>1,2-Dichloroethane</b>				
<b>1,1-Dichloroethylene (vinylidene chloride)</b>				
<b>Dichloromethane</b>				
<b>2-4 Dichlorophenol</b>				
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>				
<b>Diclofop-methyl</b>				
<b>Dimethoate</b>				
<b>Dinoseb</b>				
<b>Diquat</b>				
<b>Diuron</b>				
<b>Glyphosate</b>				
<b>Heptachlor + Heptachlor Epoxide</b>				
<b>Lindane (Total)</b>				
<b>Malathion</b>				
<b>Methoxychlor</b>				
<b>Metolachlor</b>				

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Metribuzin				
Monochlorobenzene				
Paraquat				
Parathion				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
THM (Latest annual average)	03/01/2023	65.75	µg/L	N
	04/04/2023			
	04/07/2023			
	03/10/2023			
HAA (Latest annual average)	03/01/2023	53.38	µg/L	N
	04/04/2023			
	04/07/2023			
	03/10/2023			
Temephos				
Terbufos				
Tetrachloroethylene				
2,3,4,6-Tetrachlorophenol				
Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)				
Trifluralin				
Vinyl Chloride				

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable. Please see the Belleville Water Treatment Plant 2023 Annual Report for Further Information Regarding Inorganic and Organic Parameter Result Values.			

**The Corporation of the County of Prince Edward**  
**Rossmore/Fenwood Gardens Standalone Distribution System, DWS No. 220005008**  
Municipal Summary Reports, 2023

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**Facility Specifications**

Drinking-Water System Number:	220005008
Drinking-Water System Name:	Rossmore/Fenwood Gardens Water Distribution System
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Large Municipal Residential System (LMRS)
Period being reported:	January 1, 2023 - December 31, 2023

Ontario Regulation 170/03, Schedule 22

**Requirements of Summary Reports for Municipalities**

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per the regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at [www.pecounty.on.ca](http://www.pecounty.on.ca) or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

The following list details the contents of the Municipal Summary Report package provided to Municipal Council. Documents provided electronically are subject to change, and as such, to ensure currency, full working legislative documents can be reviewed at <https://www.ontario.ca/laws>, with support documentation available at the Ministry of the Environment, Conservation and Parks Drinking Water Ontario website, available at <https://www.ontario.ca/page/drinking-water>.

- Safe Drinking Water Act, 2002,
  - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
  - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
  - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
    - Ontario Regulation 242/05, Compliance and Enforcement
    - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario

- Drinking Water System Control Documents
  - Drinking Water Works Permit No. 162-201 Issue No. 3 (Issued - January 12, 2022.)
  - Municipal Drinking Water License No. 162-101 Issue No. 4 (Issued January 12, 2022. Expiry date January 11, 2027.)
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2023 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks Non-compliance events sited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2022/2023			
<b>Inspection Date:</b>		July 14, 2023	
<b>Inspection Review Period:</b>		October 19, 2022 to August 16, 2023	
<b>Compliance Rating:</b>		100%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2022/2023 operational year. Please see the 2023 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			



**Annual Flow Summary**

As required by Schedule 22-2(3) 1., an annual flow summary for 2023 raw and treated water flows have been included for the Rossmore/Fenwood Gardens Distribution System. As follows:

<b>Rossmore/Fenwood Gardens DWS: Received Water Flows 2023</b>				
<b>Month</b>	<b>Total Flow</b>	<b>Minimum Daily Flow</b>	<b>Average Daily Flow</b>	<b>Maximum Daily Flow</b>
	m <sup>3</sup>	m <sup>3</sup> /day	m <sup>3</sup> /day	m <sup>3</sup> /day
January	12630.00	370.00	407.42	440.00
February	11630.00	370.00	415.36	480.00
March	12440.00	270.00	401.29	530.00
April	9930.00	270.00	331.00	380.00
May	13010.00	320.00	419.68	590.00
June	15270.00	380.00	509.00	640.00
July	13650.00	280.00	440.32	740.00
August	10170.00	270.00	328.06	380.00
September	13520.00	320.00	450.67	1090.00
October	8860.00	220.00	285.81	380.00
November	7950.00	210.00	265.00	360.00
December	9040.00	260.00	291.61	360.00
<b>Annual Total</b>	<b>138100.00</b>	<b>210.00</b>	<b>378.77</b>	<b>1090.00</b>

*Note: Flows as measured at the Belleville Water Treatment Plant.*

As a standalone water distribution system, the Rossmore/Fenwood Gardens Water Distribution System does not have a rated capacity for treatment as the Belleville Water Treatment Plant supplies water to the system for distribution users. Despite this, a Water Service Agreement with the City of Belleville outlines a maximum daily flow limit as outlined below. A summary comparison of Rossmore/Fenwood Gardens Water Distribution System flows to the Water Service Agreement can be reviewed as follows:

<b>Rossmore/Fenwood Gardens DWS: Received Water Flow Comparison</b>		
Maximum Total Flow as per Service Water Agreement	328500 m <sup>3</sup>	
Maximum Daily Flow as per Service Water Agreement	2250 m <sup>3</sup>	
Actual Total Flow	138100.00 m <sup>3</sup>	<b>42.03 % of Mean Total Flow</b>
Actual Maximum Daily Flow	1090.00 m <sup>3</sup>	<b>48.44 % of Maximum Daily Flow</b>
Actual Mean Daily Flow	378.77m <sup>3</sup>	<b>16.83% of Maximum Daily Flow</b>

*Note: Rated capacity does not necessarily reflect operational capacity.*

# Operational Reports

## Annual and Summary Reports



### Wellington Water Treatment Plant & Water Distribution System



**The County**  
PRINCE EDWARD COUNTY + ONTARIO



**Water and Wastewater Services**  
 The Corporation of the County of Prince Edward  
 Office: 37 Church Street, Picton, ON K0K 2T0  
 Mailing: 332 Picton Main Street, Picton, ON K0K 2T0  
 T: 613.476.2148 | F: 613.476.9120  
[compliance@pecounty.on.ca](mailto:compliance@pecounty.on.ca) | [www.thecounty.ca](http://www.thecounty.ca)

## 2023 Annual Report

### Wellington Drinking Water System

Drinking-Water System Number: 220008729  
 Drinking-Water System Name: Wellington Water Treatment Plant  
 Drinking-Water System Owner: The Corporation of the County of Prince Edward  
 Drinking-Water System Category: Large Municipal Residential System (LMRS)  
 Period being reported: January 1, 2023 - December 31, 2023

<u><b>Complete if your Category is Large Municipal Residential or Small Municipal Residential</b></u>	<u><b>Complete for all other Categories.</b></u>
<p><b>Does your Drinking-Water System serve more than 10,000 people?</b>            Yes [ ] No [ x ]</p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet?</b>            Yes [ x ] No [ ]</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">Please visit <a href="http://www.pecounty.on.ca">www.pecounty.on.ca</a></div> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">           Shire Hall            332 Main Street,            Picton, ON            K0K 2T0         </div>	<p><b>Number of Designated Facilities served:</b>  <input style="width: 100px; height: 20px;" type="text"/></p> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve?</b>            Yes [ ] No [ ]</p> <p><b>Number of Interested Authorities you report to:</b> <input style="width: 100px; height: 20px;" type="text"/></p> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?</b>            Yes [ ] No [ ]</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Wellington on the Lake (WOTL Freehold Distribution System)	260085787

**Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?**

Yes [ x ] No [ ] N/A [ ]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit [www.pecounty.on.ca](http://www.pecounty.on.ca)
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

**Describe your Drinking-Water System.**

Source water for Wellington Water Treatment Plant is received from Lake Ontario via a 1,475 m long, 500 mm diameter intake pipe, within which pre-chlorination is applied for zebra mussel control. The plant operates as a direct filtration system with a total rated capacity of 2,488 m<sup>3</sup>/day. Operational processes include coagulation, flocculation, filtration, disinfection (sodium hypochlorite), and dechlorination. As well, continuous analyzers are used for monitoring purposes. Additionally, the plant is equipped with filter backwash and residue management capabilities and the associated valves and appurtenances. Within the Wellington Water Distribution System, the Wellington Water Tower exists as an above ground treated water storage facility which houses additional continuous monitoring equipment. Fire protection and sample hydrants are located throughout the water distribution system.

**List all water treatment chemicals used over this reporting period.**

- Sodium Hypochlorite 12%, NSF 60
- Clar+Ion A405P, NSF 60
- Calcium Thiosulphate (Captor), NSF 60
- Filter Media, NSF 61

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred.**

- New Water Tower and Bulk Water Hauling station Capital Improvement Project (upgrades ongoing into 2024),
- Rebuild of high lift pumps and new motors (ongoing into 2024),
- Rebuild of low lift pump,
- Inspection and cleaning of the treatment plant clearwell,
- Response and repairs for distribution events including watermain breaks and service repairs,

Routine annual activities, including:

- Purchase and installation of regular consumable items,
- Annual Inspection of the Wellington Water Tower,
- Regular annual maintenance to equipment at the water treatment plant including the backwash/supernatant tank, chlorine and turbidity analyzers,

**2023 Annual Reports: Wellington Drinking Water System**

Issue Date: February 26, 2024

Revision Date: 0. February 26, 2024

- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Biannual inspection and cleaning of the raw water intake line,
- Generator inspection, regular service and repairs,
- Repairs, maintenance, and preventative maintenance kits for chemical metering pumps,
- Distribution system maintenance activities, hydrant flushing and valve turning programs, and soft meter replacement program,
- Purchase of parts/equipment to support distribution repair and maintenance activities.

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.**

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
14/09/2023	Total Coliform	28	CFU	Resampled upstream, downstream and at the original sample location giving rise to the adverse water quality incident. Resample results returned TC/EC=0CFU. No further corrective actions required.	18/09/2023

**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	52	0 - 20	0 - 1020	Not Applicable	
Treated	52	0	0	52	0 - 3
Distribution	311	0	0	120	0 - 22

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.**

Parameter	Number of Grab Samples	Range of Results (min – max)
Turbidity (Raw)	223	0.13 - 52 NTU
Turbidity (Filter Effluent 1)	8760	0.02 - 0.83 NTU
Turbidity (Filter Effluent 2)	8760	0.02 - 0.98 NTU
Chlorine (Treated)	8760	1.72 - 4.13 mg/L
Chlorine (Distribution - Wellington Tower) (AIT701)	8760	1.13 - 3.16 mg/L
Chlorine (Distribution)	518	0.28-2.26 mg/L
Fluoride	Not Applicable	

**Note<sub>1</sub>:** Any values outside of normal operating ranges that resulted in reportable event or operational observation have been noted in the Adverse Water Quality Incident summary (above).

\*Values reported as 0.00NTU/mg/L or at top of range can be attributed to system maintenance and/or calibration of equipment.

**Note<sub>2</sub>:** For continuous monitors 8760 is used as the number of samples.

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

<b>Date of Legal Instrument Issued</b>	MDWL 162-103, Issue Number 4 Issue Date: 12/01/2022	
<b>Parameter</b>	Total Suspended Solids (TSS)	
<b>Annual Average Concentration Limit</b>	15 mg/L	
<b>Date Sampled (DD/MM/YYYY)</b>	<b>Result</b>	<b>Unit of Measure</b>
03/01/2023	4	mg/L
07/02/2023	5	mg/L
07/03/2023	5	mg/L
04/04/2023	5	mg/L
02/05/2023	<2	mg/L
06/06/2023	4	mg/L
04/07/2023	14	mg/L
01/08/2023	4	mg/L
05/09/2023	15	mg/L
03/10/2023	2	mg/L
07/11/2023	2	mg/L
05/12/2023	2	mg/L
<b>Annual Average:</b>	<b>5</b>	<b>mg/L</b>

**Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.**

<b>Location</b>	<b># Grab Samples</b>	<b>Max Allowable Limit</b>	<b>Range of Results</b>	<b>Unit of Measure</b>	<b>Resample Required?</b>
<b>Distribution</b> (Period 1: 15/12/2022 to 15/04/2023)	4	10 µg/L	0.01 - 0.20	µg/L	No
<b>Distribution</b> (Period 2: 15-Jun-2023 to 15/10/2023)	4	10 µg/L	0.02 - 0.26	µg/L	No

**Note:** All values represented have been tabulated using values from both sampling periods in the 2022/2023 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

**Summary of inorganic parameters tested during this reporting period or the most recent sample results.**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	07/02/2023	<0.6	µg/L	N
Arsenic	07/02/2023	0.8	µg/L	N
Barium	07/02/2023	22.6	µg/L	N
Boron	07/02/2023	23	µg/L	N
Cadmium	07/02/2023	0.005	µg/L	N
Chromium	07/02/2023	0.19	µg/L	N
Lead*	See Summary			
Mercury	07/02/2023	<0.01	µg/L	N
Selenium	07/02/2023	0.26	µg/L	N
Sodium	07/02/2023	17.6	mg/L	N
Uranium	07/02/2023	0.384	µg/L	N
Fluoride	07/02/2023	0.14	mg/L	N
Nitrite	03/01/2023	<0.003	mg/L	N
	04/04/2023	<0.003	mg/L	N
	04/07/2023	<0.003	mg/L	N
	03/10/2023	<0.003	mg/L	N
Nitrate	03/01/2023	0.388	mg/L	N
	04/04/2023	0.388	mg/L	N
	04/07/2023	0.259	mg/L	N
	03/10/2023	0.187	mg/L	N

**Summary of organic parameters sampled during this reporting period or the most recent sample results.**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	07/02/2023	<0.02	µg/L	N
Atrazine + N-dealkylated metabolites	07/02/2023	0.06	µg/L	N
Azinphos-methyl	07/02/2023	<0.05	µg/L	N
Benzene	07/02/2023	<0.32	µg/L	N
Benzo(a)pyrene	07/02/2023	<0.004	µg/L	N
Bromoxynil	07/02/2023	<0.33	µg/L	N
Carbaryl	07/02/2023	<0.05	µg/L	N
Carbofuran	07/02/2023	<0.01	µg/L	N
Carbon Tetrachloride	07/02/2023	<0.17	µg/L	N
Chlorpyrifos	07/02/2023	<0.02	µg/L	N
Diazinon	07/02/2023	<0.02	µg/L	N
Dicamba	07/02/2023	<0.20	µg/L	N
1,2-Dichlorobenzene	07/02/2023	<0.41	µg/L	N
1,4-Dichlorobenzene	07/02/2023	<0.36	µg/L	N
1,2-Dichloroethane	07/02/2023	<0.35	µg/L	N
1,1-Dichloroethylene (vinylidene chloride)	07/02/2023	<0.33	µg/L	N
Dichloromethane	07/02/2023	<0.35	µg/L	N

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
2-4 Dichlorophenol	07/02/2023	<0.15	µg/L	N
2,4-Dichlorophenoxy acetic acid (2,4-D)	07/02/2023	<0.19	µg/L	N
Diclofop-methyl	07/02/2023	<0.40	µg/L	N
Dimethoate	07/02/2023	<0.06	µg/L	N
Diquat	07/02/2023	<1	µg/L	N
Diuron	07/02/2023	<0.03	µg/L	N
Glyphosate	07/02/2023	<1.00	µg/L	N
Malathion	07/02/2023	<0.02	µg/L	N
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	07/02/2023	<0.00012	mg/L	N
Metolachlor	07/02/2023	<0.01	µg/L	N
Metribuzin	07/02/2023	<0.02	µg/L	N
Monochlorobenzene	07/02/2023	<0.3	µg/L	N
Paraquat	07/02/2023	<1	µg/L	N
Pentachlorophenol	07/02/2023	<0.15	µg/L	N
Phorate	07/02/2023	<0.01	µg/L	N
Picloram	07/02/2023	<1	µg/L	N
Polychlorinated Biphenyls(PCB)	07/02/2023	<0.04	µg/L	N
Prometryne	07/02/2023	<0.03	µg/L	N
Simazine	07/02/2023	<0.01	µg/L	N
THM (Latest annual average)	03/01/2023	45.25	µg/L	N
	04/04/2023			
	04/07/2023			
	03/10/2023			
HAA (Latest annual average)	03/01/2023	18.83	µg/L	N
	04/04/2023			
	04/07/2023			
	03/10/2023			
Terbufos	07/02/2023	<0.01	µg/L	N
Tetrachloroethylene	07/02/2023	<0.35	µg/L	N
2,3,4,6-Tetrachlorophenol	07/02/2023	<0.20	µg/L	N
Triallate	07/02/2023	<0.01	µg/L	N
Trichloroethylene	07/02/2023	<0.44	µg/L	N
2,4,6-Trichlorophenol	07/02/2023	<0.25	µg/L	N
Trifluralin	07/02/2023	<0.02	µg/L	N
Vinyl Chloride	07/02/2023	<0.17	µg/L	N

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable to the Wellington Water Treatment Plant.			



**The Corporation of the County of Prince Edward**  
**Wellington Water Treatment Plant, DWS No. 220008729**  
Municipal Summary Reports, 2023

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**Facility Specifications**

Drinking-Water System Number:	220008729
Drinking-Water System Name:	Wellington Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Large Municipal Residential System (LMRS)
Period being reported:	January 1, 2023 - December 31, 2023

Ontario Regulation 170/03, Schedule 22

**Requirements of Summary Reports for Municipalities**

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per the regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at [www.pecounty.on.ca](http://www.pecounty.on.ca) or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

The following list details the contents of the Municipal Summary Report package provided to Municipal Council. Documents provided electronically are subject to change, and as such, to ensure currency, full working legislative documents can be reviewed at <https://www.ontario.ca/laws>, with support documentation available at the Ministry of the Environment, Conservation and Parks Drinking Water Ontario website, available at <https://www.ontario.ca/page/drinking-water>.

- Safe Drinking Water Act, 2002
  - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
  - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
  - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
    - Ontario Regulation 242/05, Compliance and Enforcement
    - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario

- Drinking Water System Control Documents
  - Drinking Water Works Permit No. 162-203 Issue No. 3 (Issued - January 12, 2022)
  - Municipal Drinking Water License No. 162-103 Issue No. 4 (Issued January 12, 2022. Expiry date January 11, 2027.)
  - Permit to Take Water No. 3640-9HDNF6
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2023 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks. Non-compliance events sited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2022/2023			
<b>Inspection Date:</b>		January 17, 2024	
<b>Inspection Review Period:</b>		December 12, 2022 to January 17, 2024	
<b>Compliance Rating:</b>		Awaiting Inspection Rating Record	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2022/2023 operational year. Please see the 2023 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

## Annual Flow Summary

As required by Schedule 22-2(3) 1., an annual flow summary for 2023 raw and treated water flows have been included for the Wellington Water Treatment Plant. As follows:

<b>Wellington DWS: Raw Water Flows 2023</b>				
<b>Month</b>	<b>Total Flow</b>	<b>Minimum Daily Flow</b>	<b>Average Daily Flow</b>	<b>Maximum Daily Flow</b>
	m <sup>3</sup>	m <sup>3</sup> /day	m <sup>3</sup> /day	m <sup>3</sup> /day
January	16051.84	417.31	517.80	823.85
February	15557.25	455.40	555.62	779.52
March	16131.98	393.11	520.39	608.01
April	15633.37	412.47	521.11	680.92
May	19925.82	492.18	642.77	867.55
June	24093.86	587.26	803.13	1093.92
July	24710.36	620.65	797.11	1039.10
August	21439.92	581.39	691.61	819.60
September	20627.15	537.11	687.57	860.32
October	21220.55	471.20	684.53	1071.01
November	15141.07	376.95	504.70	613.64
December	15423.34	434.75	497.53	593.69
<b>Annual Total</b>	<b>225956.49</b>	<b>376.95</b>	<b>618.66</b>	<b>1093.92</b>

<b>Wellington DWS: Raw Water Flow Comparison</b>		
Max Daily Water Taking Volume as per PTTW	2488 m <sup>3</sup>	<b>% of Maximum</b>
Actual Maximum Daily Water Taking	1093.92 m <sup>3</sup>	<b>43.96 %</b>
Actual Mean Daily Water Taking	618.66 m <sup>3</sup>	<b>24.86 %</b>

<b>Wellington DWS: Treated Water Flows 2023</b>				
<b>Month</b>	<b>Total Flow</b>	<b>Minimum Daily Flow</b>	<b>Average Daily Flow</b>	<b>Maximum Daily Flow</b>
	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>	m <sup>3</sup>
January	14741.19	383.05	475.52	760.80
February	14449.54	394.12	516.05	699.73
March	14953.25	396.60	482.36	561.35
April	14542.53	384.59	484.75	617.38
May	19252.31	431.00	621.04	852.98
June	23126.33	596.97	770.88	1014.85
July	23913.10	613.11	771.39	967.72
August	20716.46	573.20	668.27	807.04
September	19994.64	546.79	666.49	769.00
October	20258.14	421.14	653.49	1081.57
November	14523.78	373.74	484.13	591.51
December	14721.57	424.09	474.89	558.33
<b>Annual Total</b>	<b>215192.85</b>	<b>373.74</b>	<b>589.11</b>	<b>1081.57</b>

<b>Wellington DWS: Treated Water Flow Comparison</b>		
Rated Capacity as per MDWL/DWWP	2488 m <sup>3</sup>	<b>% of Maximum</b>
Actual Maximum Daily Capacity	1081.57 m <sup>3</sup>	<b>43.47 %</b>
Actual Mean Daily Capacity	589.11 m <sup>3</sup>	<b>23.67 %</b>

*Note: Rated capacity does not necessarily reflect operational capacity.*



The Corporation of the County of Prince  
Edward

# **Water and Wastewater Services**

**Operational Reports**

Reference Material



**TheCounty**  
PRINCE EDWARD COUNTY + ONTARIO



**The Corporation of the City of Belleville,  
Environmental Services Department**

## 2023 Summary and Annual Reports for Belleville and Point Anne Hamlet Drinking Water Systems

**January 1<sup>st</sup>, 2023 to December 31<sup>st</sup>, 2023**



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## 2023 Summary Report – Belleville

**Drinking Water System Number:** 220001628

**Drinking Water System Name:** Belleville Drinking Water System

**Drinking Water System Owner:** The Corporation of the City of Belleville

**Drinking Water System Category:** Large Municipal Residential

Ontario's Safe Drinking Water Act sets the framework for safe drinking water in the Province of Ontario. Further, Ontario Regulation 170 / 03 (O. Reg. 170 / 03) sets requirements for public waterworks for sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

This summary report has been prepared in accordance with Schedule 22 of Ontario Regulation 170 / 03. Free copies are available on our website and in person at the Water Operations Centre. We will post notice of availability on our website and / or through the local newspapers.

For further information about provincial drinking water requirements visit the [Ministry of Environment Conservation and Parks website](#) and select "Drinking Water".

## Ontario Regulation 170 / 03, Schedule 22 – Summary Reports for Municipalities

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**This section outlines the requirements of Schedule 22 and how we are achieving them.**

- **Section 22-1** states that this Schedule applies to both large and small municipal residential systems.
  - The Belleville Drinking Water System is a large municipal residential system and as such we will complete and submit a summary report. This summary report is prepared in accordance with Schedule 22 of O. Reg. 170 / 03.
- **Section 22-2 (1)** requires that we complete a Summary Report by March 31<sup>st</sup> of each year and submit it to council members.
  - Each year we prepare a Summary Report to fulfill this requirement. This report covers January 1<sup>st</sup> to December 31<sup>st</sup>, 2023 and was submitted to council prior to March 31<sup>st</sup>, 2024.
- **Section 22-2 (2) (a) and (b)** requires that we provide a list of any requirements that we did not meet at any time during the period covered by the annual report.
  - The Belleville Drinking Water System met all requirements for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2023.
  - O. Reg 170 / 03, Section 11 (6) (b) and (d) requires that we prepare any details about adverse water quality incidents and share this with the public. Details about adverse water quality incidents are included as part of every annual report.
- **Section 22-2 (3)** requires us to submit flow summaries and comparisons in relation to the rated flow capacities stated in the system approvals.
  - This report includes the flow summary and flow rate comparisons, found on page 10.
- **Section 22-2 (4)** requires us to provide a copy of this summary report to any municipality that the drinking water system supplies water to.

- The Belleville Drinking Water System supplies water to the Rossmore / Fenwood Gardens Distribution System (WW# 260005008) and we will provide a copy of this summary report to them.
- **Section 22-3** states that we do not have to submit a compliance report for any drinking water systems that comply with Section 22-2.
  - We are compliant with Section 22-2 and therefore, we have not submitted a compliance report.

## Quantities and Flow Rates of Water Taken and Supplied

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**Table 1: Raw Water**

Values in Mega Litres (M.L), unless otherwise noted

<b>Month</b>	<b>Total Monthly Volume</b>	<b>Average Daily Volume</b>	<b>Maximum Daily Value</b>	<b>Minimum Daily Value</b>	<b>Peak Instantaneous Flow Rate (M.L per day)</b>	<b>Peak Instantaneous Flow Rate (Litres per minute)</b>
<b>January</b>	757.470	24.435	26.570	22.640	47.040	32667
<b>February</b>	710.050	25.369	27.700	23.250	46.520	32306
<b>March</b>	795.190	25.651	28.180	24.250	45.300	31458
<b>April</b>	794.720	26.491	29.200	23.990	44.360	30806
<b>May</b>	890.660	28.731	33.400	23.800	45.480	31583
<b>June</b>	868.170	28.939	32.510	26.250	47.550	33021
<b>July</b>	843.290	27.203	29.750	23.560	43.630	30299
<b>August</b>	799.930	25.804	28.340	23.530	42.440	29472
<b>September</b>	809.470	26.982	29.630	25.510	52.030	36132

<b>Month</b>	<b>Total Monthly Volume</b>	<b>Average Daily Volume</b>	<b>Maximum Daily Value</b>	<b>Minimum Daily Value</b>	<b>Peak Instantaneous Flow Rate (M.L per day)</b>	<b>Peak Instantaneous Flow Rate (Litres per minute)</b>
<b>October</b>	778.560	25.115	26.490	23.190	49.560	34417
<b>November</b>	713.560	23.785	25.630	22.420	44.670	31021
<b>December</b>	768.320	24.785	32.180	20.310	55.180	38319

### **Annual Totals:**

- Total Annual Volume = 9529.390 (total sum of January to December values)
- Average Daily Volume overall = 26.107 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 33.400 (May)
- Minimum Daily Value reached = 20.310 (December)
- Highest Peak Instantaneous Flow Rate (M.L per day) reached = 55.180 (December)
- Highest Peak Instantaneous Flow Rate (Litres per minute) = 38319 (December)

## Table 2: Treated Water

Values in Mega Litres

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value
January	672.530	21.695	22.940	20.300
February	644.680	23.024	25.470	20.740
March	711.770	22.960	24.190	21.730
April	714.440	23.815	26.090	21.410
May	803.190	25.909	30.310	21.300
June	773.610	25.787	29.390	23.030
July	737.140	23.779	26.320	20.620
August	703.930	22.707	25.120	20.380
September	718.493	23.950	26.670	22.610
October	687.040	22.163	23.610	20.540
November	628.310	20.944	22.430	19.820
December	670.530	21.630	28.330	17.700

### Annual Totals:

- Total Annual Volume = 8465.663 (total sum of January to December values)
- Average Daily Volume overall = 23.197 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 30.310 (May)
- Minimum Daily Value reached = 17.700 (December)

## Water Flow Comparisons

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### Raw Water Comparisons

- Maximum daily volume allowed under the current Permit to Take Water (6883-9KRK5R) = **72.640 Mega Litres**
- Peak instantaneous flow rate allowed under the current Permit to Take Water (6883-9KRK5R) = **50444 Litres per minute**

The Belleville Drinking Water System Actuals for the Year 2023:

- Maximum daily volume = **33.400 Mega Litres**
- Peak instantaneous flow rate = **38319 Litres per minute**

**The Belleville Drinking Water System did not exceed the approved maximum daily volume or peak instantaneous flow rate stipulated in the current Permit to Take Water.**

### Treated Water Comparisons

- Maximum allowable daily volume entering the distribution system under Municipal Drinking Water License 151-101 = **72.700 Mega Litres**

The Belleville Drinking Water System Actuals for the Year 2023:

- Maximum daily volume = **30.310 Mega Litres**

**The Belleville Drinking Water System did not exceed the maximum daily plant volume stipulated in the Municipal Drinking Water License.**

# Belleville Drinking Water System 2023 Annual Report

**Waterworks number 220001628, January 1<sup>st</sup>, 2023 to December 31<sup>st</sup>, 2023**

This report is prepared in accordance with Section 11 of Ontario Regulation 170 / 03. O. Reg. 170 / 03 sets requirements for public waterworks with regards to sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

The Belleville Drinking Water System also supplies drinking water to the Rossmore / Fenwood Gardens Distribution System. In accordance with Section 11 (2.1) a copy of this report is provided to the Rossmore / Fenwood Gardens Operating Authority.

## Ontario Regulation 170/03, Section 11 – Annual Reports

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**This section outlines the requirements of Section 11 and how we are achieving them.**

- **Section 11 (1):** the owner of a drinking water system must ensure that an annual report is prepared in accordance with this section.
  - This annual report fulfils the requirements of Section 11.
- **Section 11 (2):** the owner of a drinking water system, other than a large municipal residential system or a small municipal residential system
  - The Belleville Drinking Water System is a large municipal residential system and therefore section 11 (2) does not apply to us.
- **Section 11 (2.1):** if a drinking water system is connected to and receives all of its water from another drinking water system, the owner of the system from which the water is obtained shall ensure



that, when the annual report for the system is prepared, a copy of the report is given to the owner of the system that obtains the water.

- The Belleville Drinking Water System supplies water to the Rossmore / Fenwood Gardens Distribution System (WW# 260005008). A copy of this annual report will be provided to them.
- **Section 11 (3):** as a large municipal residential drinking water system, our annual report must cover the period from January 1 to December 31 and be prepared not later than February 28 of the following year.
  - This annual report covers the period from January 1<sup>st</sup> – December 31<sup>st</sup>, 2023 and was prepared prior to February 28<sup>th</sup>, 2024.
- **Section 11 (4):** Applies to non-municipal seasonal residential systems and large non-municipal non-residential systems.
  - The Belleville Drinking Water System is classified as a large municipal residential system and therefore this subsection does not apply.
- **Section 11 (5):** Applies to small non-municipal non-residential systems
  - The Belleville Drinking Water System is classified as a large municipal residential system and therefore this subsection does not apply.
- **Section 11 (6)(a):** Our annual report must contain a brief description of the drinking water system, including a list of water treatment chemicals the system uses during the period covered by the report.
  - A description of the Belleville Drinking Water System can be found in this report beginning on page 16.
- **Section 11 (6)(b):** Our annual report must summarize any reports made to the Ministry under Section 18 (1) of the Act or Section 16-4 of Schedule 16 during the period covered by the report.
  - A chart showing all Adverse Water Quality Incidents and corrective actions can be found on page 21 of this report.

- **Section 11 (6)(c):** Our annual report must summarize the results of the tests required under this Regulation, an approval, or a municipal drinking water license or order (including an OWRA order) during the period covered by the report. If tests regularly required under this Regulation were not required during the current reporting period, summarize the most recent results of those tests.
  - Test results for the Belleville Drinking Water System can be found in this report beginning on page 22.
- **Section 11 (6)(d):** Our annual report must describe any corrective actions taken under Schedule 17 or 18 during the period covered by the report.
  - All corrective actions taken by the Belleville Drinking Water System under Schedule 17 can be found in the chart located on page 21.
- **Section 11 (6)(e):** Our annual report must describe any major expenses incurred during the period covered by the report to install, repair, or replace equipment.
  - A description of major expenses incurred during the period of this report can be found on page 32.
- **Section 11 (6)(f):** Our annual report must include a statement of where a report prepared under Schedule 22 will be available for inspection under Subsection 12 (4).
  - The Belleville Drinking Water System Summary Report, prepared under Schedule 22, can be found on-line at [www.belleville.ca](http://www.belleville.ca) and at the Water Operations Centre.
- **Section 11 (7):** The owner of a drinking water system shall ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy.
  - Copies of the Belleville Drinking Water System annual report are available to the public, upon request and free of charge, at the Water Operations Centre.
- **Section 11 (8):** If a drinking water system is connected to and receives all of its drinking water from another drinking water system, the owner of the system that obtains the water shall ensure that a copy

of an annual report for the system from which the water is obtained is given, without charge, to every person who requests a copy.

- The Rossmore / Fenwood Gardens Distribution System (WW# 260005008) obtains water from the Belleville Drinking Water System and as such is responsible for this subsection. A copy of the City of Belleville's report is provided to Prince Edward County in accordance with section 11 (2.1).
- **Section 11 (9): Subsections (7) and (8) do not apply to an annual report that is more than two years old.**
  - Annual reports dating back to 2008 for the Belleville Drinking Water System are available to the public, upon request and free of charge, by contacting the Water Operations Centre.
- **Section 11 (9.1):** Every time that an annual report is prepared for a drinking water system, the owner of the system shall ensure that effective steps are taken to advise the users of water from the system that copies are available, without charge, and how a copy may be obtained.
  - The Belleville Drinking Water System utilizes both, the local newspaper and the City of Belleville website ([www.belleville.ca](http://www.belleville.ca)) to inform the public when the annual report is available.
- **Section 11 (10):** If a large municipal residential system serves more than 10,000 people, the owner of the system shall ensure that a copy of every report prepared under this section is available to the public at no charge on a website on the Internet.
  - The Belleville Drinking Water System Annual and Summary Reports are available on-line at [www.belleville.ca](http://www.belleville.ca).
- **Section 11 (11):** Applies to designated facilities under subsection (2)
  - Subsection (2) does not apply to the Belleville Drinking Water System and therefore Section 11 (11) is also not applicable.
- **Section 11 (12) to (17) have been revoked.**

- **Section 11 (18):** If section 12 of Ontario Regulation 459/00 and Section 15 of Ontario Regulation 505/01 did not apply to the owner of a system to which Subsection (5) applies, no report is required to be prepared under Subsection (5) until May 31, 2006 and, despite that subsection, the report required to be prepared not later than May 31, 2006 shall cover the period from June 1, 2005 to March 31, 2006.
  - Subsection (5) does not apply to the Belleville Drinking Water System and therefore this section does not apply.
- **Section 11 (19) has been revoked.**

## **Belleville Plant Description and Water Treatment Process**

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### **Raw Water Intake Facilities**

The source of water for the City of Belleville is the Bay of Quinte south of Sidney Street. A 750mm diameter intake pipe extends 430 metres into the Bay, to a depth of 5.5 metres. A 900mm diameter intake pipe also extends 490 metres into the Bay, to a depth of 5.5 metres. Potassium permanganate is added in the intake for taste and odour control, and as a deterrent to zebra mussels.

### **Low Lift Pumping Station**

The raw water flows through the intake pipes to the traveling intake screen (10mm mesh) located in the raw water well. This removes large debris such as fish, weeds, and shells. Four low lift pumps (rated for 290 L/s) lift the water from the Bay level to the rapid mix tanks. From the rapid mix tanks, the water will flow by gravity through the various plant processes.

### **Pre-Treatment Facility**

The coagulant is mixed with the raw water flowing through the two trains of two-cell up-flow rapid mix tanks, each with a volume of 245 m<sup>3</sup> and a 5.6 kW propeller type mixer. From the rapid mix tanks, the water will flow by gravity to the coagulation / flocculation process. The pre-treatment process consists of 2 parallel trains.

### **Coagulation**

Aluminum sulphate (alum) is added at the rapid mix tanks, as a coagulant to form a 'floc'. This floc is made up of alum and suspended particles (dirt, colour, organics) which are found in raw water. This is the first stage of the coagulation/flocculation process.

The coagulated water/alum solution gently flows by gravity to the three-stage spiral up-flow flocculation tanks, each cell having a volume of 184 m<sup>3</sup>, to a common discharge channel. This water, with floc forming in it, flows by gravity to either the dissolved air flotation process (spring, summer, fall) or the sedimentation process (winter). The flocculation process consists of 3 parallel trains.

### **Dissolved Air Flotation Facility**

The Dissolved Air Flotation process is used when the Bay of Quinte is free of ice. Daily changing weather conditions, such as wind and rain, cause increases in raw water turbidity. Summer and fall weather promote organic growth, such as algae. The dissolved air flotation process handles these changing conditions very well, with minimal coagulant dose adjustment.

In this process, two separate two-cell dissolved air flotation tanks receive the water from the coagulation/flocculation process. Here, an aerated water solution is bubbled gently through this water, causing the floc to attach to air bubbles and rise to the surface. The cleaner water remains at the bottom of the tank. This cleaner water then flows, by gravity, to the filtration process. The 'float', or residual, is comprised of dirt, organics, some colour, bacteria, viruses, and other particulate. It is removed on a scheduled basis and pumped to the on-site waste treatment facility.

The aerated solution is produced on-site by forcing compressed air into treated water, in two 13.5 m<sup>3</sup> saturation tanks. The dissolved air flotation process consists of two parallel trains.

### **Sedimentation**

Sedimentation is used as an alternate to the dissolved air flotation process when the Bay is covered with ice. With ice cover, the raw water quality is relatively constant, and the normal sedimentation process works well. It is also less energy intensive than the dissolved air flotation process.

During the winter months, the flocculated water flows, by gravity, from the coagulation/flocculation process directly to two separate inclined plate settlers, where the floc adheres to the plates, and

eventually becomes heavy enough to slide down the plates as the volume of settled material increases. The cleaner water rises to the top of the plate settler and flows by gravity to the filtration process.

The settled material contains dirt, organics, some colour, bacteria, viruses, and other particulate. This waste material is slowly removed from the bottom by a vacuum and pumped to the on-site waste treatment facility.

The sedimentation process consists of two parallel trains.

### **Filtration**

The filtration process consists of twelve (12) parallel granular activated carbon (GAC) gravity filters. These filters receive the water from the dissolved air flotation or sedimentation process. This water arrives on the top of the filter, and then settles through the GAC and sand media by gravity, and any remaining particulate is trapped in this media. The GAC also removes tastes and odours by adsorption. The water settles through the sand media, into the underdrains, and then falls to the chlorine contact chamber. The filters operate in a parallel design and can each filter 6 Mega Litres (ML) of water per day. The filters each have a surface area of 38.5 m<sup>2</sup> and contain a layer of GAC over a layer of sand, supported by stainless steel or clay tile underdrains. The filters are monitored for effluent turbidity, head loss and flow. The filters are cleaned by backwashing every 48 hours using treated city water.

### **Disinfection**

Sodium hypochlorite (hypo) is used to post-disinfect the filtered water in the chlorine contact chamber. A very small amount of hypo is also added at the rapid mixers to maintain plant hygiene. Dosage varies based on the biological demand. This chlorinated water is held for a prescribed time to ensure thorough oxidation of any pathogens. The 'CT' free chlorine residual is monitored.

## **Fluoridation**

After disinfection, fluoride is added to the water to provide dental health protection for consumers.

## **High Lift Pumping Station**

At this point, the treatment process is complete, and the water is safe for consumer use.

Five vertical turbine-type high lift pumps, each rated at 240 L/s, pump the treated water to the consumer via the distribution system. Alternatively, two transfer pumps rated at 81 L/s can be used to pump treated water directly to the Water Treatment Plant Reservoir.

## **Waste Treatment Facility**

The water used to backwash filters, the 'float' from the dissolved air flotation process and the sediment from the plate settlers, is dewatered, and concentrated in the on-site waste treatment facility. The thickened sludge is pumped to the City sewage treatment plant for further treatment. The liquid residual, or supernatant, flows by gravity back to the Bay.

## **Computer/SCADA**

Computer technology is used to monitor operations and record data. A Supervisory Control and Data Acquisition (SCADA) system provides communication with, and control of, all plant and reservoir/pumping station operations. Experienced, certified water treatment operators use this technology to operate the Belleville Water Treatment facility.



## Distribution

The treated water pumped into the distribution system from the High Lift pumping station may go directly to a consumer, or may go to the elevated storage tower, or one of three storage reservoirs (Water Treatment Reservoir, North Park Reservoir, or Pine Street Reservoir).

The Distribution System is comprised of approximately 224 kilometers of water main, 1264 hydrants, 13,794 service connections and 1,235 ICI customers.

The City of Belleville also supplies water to the County of Prince Edward for the Rossmore / Fenwood Gardens Distribution System (DWSN# 260005008).

## Chemicals Used During This Reporting Period

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- Sodium Hypochlorite
- Aluminum Sulphate
- Hydrofluorosilicic Acid
- Potassium Permanganate
- Sodium Bisulphite

## O. Reg. 170 / 03 Compliance Tests and Reports - Belleville

### Notifications and Corrective Actions – Belleville

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In accordance with Schedule 16 and Schedule 17 (O. Reg 170 / 03).

<b>Incident Date</b>	<b>Parameter</b>	<b>Result</b>	<b>Unit of Measure</b>	<b>Corrective Action</b>	<b>Corrective Action Date</b>
January 9 <sup>th</sup> 2023 AWQI 161117	Sodium	24.9	mg/L	Resample was taken on January 9 <sup>th</sup> 2023	January 12 <sup>th</sup> 2023

## Operational Testing – Belleville

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In accordance with Schedule 7 (O. Reg. 170 / 03).

### Notes:

- 8760 denotes results from continuous monitoring
- N.T.U refers to Nephelometric Turbidity Units
- mg/L represents milligrams per litre

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results (minimum to maximum)</b>	<b>Unit of Measure</b>
Turbidity	8760	0.02 to 0.48	N.T.U
Free Chlorine at CT Location	8760	1.92 to 3.05	mg/L
Free Chlorine in Distribution	8760	0.07 to 2.70	mg/L
Fluoride	8760	0.03 to 1.40	mg/L

## Microbiological Testing – Belleville

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In accordance with Schedules 10 and 17 (O. Reg. 170 / 03) and with the Belleville Municipal Drinking Water License.

<b>Water Type</b>	<b>Number of Samples</b>	<b>Range of E. Coli or Fecal Results (minimum to maximum)</b>	<b>Range of Total Coliform Results (minimum to maximum)</b>	<b>Number of H.P.C Samples</b>	<b>Range of H.P.C Results (minimum to maximum)</b>
Raw	52	0 to 127	2 to 420	52	50 to greater than 2000
Treated	52	0 to 0	0 to 0	52	Less than 10 to 70
Distribution	927	0 to 0	0 to 0	412	Less than 10 to 160

**Note:** H.P.C. refers to heterotrophic plate count

## Chemical Testing – Belleville

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In accordance with Schedule 13 (O. Reg. 170 / 03). Sample results for Schedule 23 and Schedule 24 can be found on starting on page 26 of this report.

### Notes:

- µg/L represents micrograms per litre
- mg/L represents milligrams per litre

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results (minimum to maximum)</b>	<b>Unit of Measure</b>
Trihalomethane	4	44 to 83	µg/L
Haloacetic Acids	4	33.0 to 65.0	µg/L
Nitrate and Nitrite	4	less than 0.1 to 0.52	mg/L
Sodium	5	12.7 to 24.9	mg/L

## Lead Testing Summary – Belleville

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In accordance with Schedule 15.1 (O. Reg. 170 / 03).

<b>Location Type</b>	<b>Number of Samples</b>	<b>Range of Results (minimum to maximum)</b>	<b>Number of Exceedances</b>
Lead - Plumbing	0	Not Applicable	0
Lead - Distribution	0	Not Applicable	0
Alkalinity - Distribution	8	86 to 98	0
pH - Plumbing	0	Not Applicable	0
pH - Distribution	8	7.04 to 7.18	0

The Belleville Drinking Water System has reached exemption status regarding the Lead Sampling Program. Following the Winter Lead Sampling Period (December 2012 to April 2013) the Belleville Drinking Water System satisfied the requirements of Sections 15.1 to 15.5(9) of Ontario Regulation 170 / 03, and as such began sampling in accordance with Sections 15.1 to 15.5(10).

## Inorganic Testing – Belleville

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In accordance with Schedule 23 (O. Reg. 170 / 03)

### Notes:

- µg/L represents micrograms per litre

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	June 6 <sup>th</sup> 2023	less than 0.06	µg/L	No
Arsenic	June 6 <sup>th</sup> 2023	0.2	µg/L	No
Barium	June 6 <sup>th</sup> 2023	30.3	µg/L	No
Boron	June 6 <sup>th</sup> 2023	9	µg/L	No
Cadmium	June 6 <sup>th</sup> 2023	less than 0.003	µg/L	No
Chromium	June 6 <sup>th</sup> 2023	0.13	µg/L	No
Mercury	June 6 <sup>th</sup> 2023	less than 0.001	µg/L	No
Selenium	June 6 <sup>th</sup> 2023	0.05	µg/L	No
Uranium	June 6 <sup>th</sup> 2023	0.030	µg/L	No

## Organic Testing – Belleville

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In accordance with Schedule 24 (O. Reg. 170 / 03).

### Notes:

- µg/L represents micrograms per litre
- mg/L represent milligrams per litre
- < represents “less than” the value that follows it

<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Alachor	June 6 <sup>th</sup> 2023	<0.02	µg/L	No
Atrazine + N-dealkylated metabolites	June 6 <sup>th</sup> 2023	<0.01	µg/L	No
Azinphos-methyl	June 6 <sup>th</sup> 2023	<0.05	µg/L	No
Benzene	June 6 <sup>th</sup> 2023	<0.32	µg/L	No
Benzo(a)pyrene	June 6 <sup>th</sup> 2023	<0.004	µg/L	No
Bromoxynil	June 6 <sup>th</sup> 2023	<0.33	µg/L	No
Carbaryl	June 6 <sup>th</sup> 2023	<0.05	µg/L	No
Carbofuran	June 6 <sup>th</sup> 2023	<0.01	µg/L	No



<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Carbon Tetrachloride	June 6 <sup>th</sup> 2023	<0.17	µg/L	No
Chlorpyrifos	June 6 <sup>th</sup> 2023	<0.02	µg/L	No
Diazinon	June 6 <sup>th</sup> 2023	<0.02	µg/L	No
Dicamba	June 6 <sup>th</sup> 2023	<0.20	µg/L	No
1,2-Dichlorobenzene	June 6 <sup>th</sup> 2023	<0.41	µg/L	No
1,4-Dichlorobenzene	June 6 <sup>th</sup> 2023	<0.36	µg/L	No
1,2-Dichloroethane	June 6 <sup>th</sup> 2023	<0.35	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	June 6 <sup>th</sup> 2023	<0.33	µg/L	No
Dichloromethane	June 6 <sup>th</sup> 2023	<0.35	µg/L	No
2,4-Dichlorophenol	June 6 <sup>th</sup> 2023	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	June 6 <sup>th</sup> 2023	<0.19	µg/L	No
Diclofop-methyl	June 6 <sup>th</sup> 2023	<0.40	µg/L	No
Dimethoate	June 6 <sup>th</sup> 2023	<0.06	µg/L	No

<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Diquat	June 6 <sup>th</sup> 2023	<1	µg/L	No
Diuron	June 6 <sup>th</sup> 2023	<0.03	µg/L	No
Glyphosate	June 6 <sup>th</sup> 2023	<1	µg/L	No
Malathion	June 6 <sup>th</sup> 2023	<0.02	µg/L	No
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	June 6 <sup>th</sup> 2023	<0.00012	mg/L	No
Metolachlor	June 6 <sup>th</sup> 2023	<0.01	µg/L	No
Metribuzin	June 6 <sup>th</sup> 2023	<0.02	µg/L	No
Monochlorbenzene	June 6 <sup>th</sup> 2023	<0.3	µg/L	No
Paraquat	June 6 <sup>th</sup> 2023	<1	µg/L	No
Pentachlorophenol	June 6 <sup>th</sup> 2023	<0.15	µg/L	No
Phorate	June 6 <sup>th</sup> 2023	<0.01	µg/L	No
Picloram	June 6 <sup>th</sup> 2023	<1	µg/L	No
Polychlorinated Biphenyls (PCB)	June 6 <sup>th</sup> 2023	<0.04	µg/L	No

<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Prometryne	June 6 <sup>th</sup> 2023	<0.03	µg/L	No
Simazine	June 6 <sup>th</sup> 2023	<0.01	µg/L	No
Terbufos	June 6 <sup>th</sup> 2023	<0.01	µg/L	No
Tetrachloroethylene	June 6 <sup>th</sup> 2023	<0.35	µg/L	No
2,3,4,6-Tetrachlorophenol	June 6 <sup>th</sup> 2023	<0.20	µg/L	No
Triallate	June 6 <sup>th</sup> 2023	<0.01	µg/L	No
Trichloroethylene	June 6 <sup>th</sup> 2023	<0.44	µg/L	No
2,4,6-Trichlorophenol	June 6 <sup>th</sup> 2023	<0.25	µg/L	No
Trifluralin	June 6 <sup>th</sup> 2023	<0.02	µg/L	No
Vinyl Chloride	June 6 <sup>th</sup> 2023	<0.17	µg/L	No

## Inorganic or Organic Parameters – Belleville

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Inorganic or organic parameters that exceeded half the standard prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards.

Based on quarterly samples taken January 16<sup>th</sup>, April 18<sup>th</sup>, July 17<sup>th</sup>, and October 24<sup>th</sup> 2023, our annual average concentration for Trihalomethane is 56.0 µg/L. This exceeds one-half of the Schedule 2 standard, but does not exceed the regulated limit of 100 µg/L.

Based on quarterly samples taken January 16<sup>th</sup>, April 18<sup>th</sup>, July 17<sup>th</sup>, and October 24<sup>th</sup> 2023, our annual average concentration for Haloacetic acids is 43.9 µg/L. This exceeds one-half of the Schedule 2 standard, but does not exceed the regulated limit of 80 µg/L.

## Wastewater Sampling – Belleville

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**As per Municipal Drinking Water License 151-101.**

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results (minimum to maximum)</b>	<b>Unit of Measure</b>	<b>Average</b>
Total Suspended Solids	12	less than 3 to 9	mg/L	5.58
BOD5	12	less than 3 to 4	mg/L	3.08
Total Phosphorus	12	Less than 0.01 to 0.05	mg/L	0.02

## Monetary Expenses – Belleville

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Significant monetary expenditures in 2022 include:

- Replacement of granular activated carbon in 3 Filters
- Intake inspections
- Work on the water treatment plant generator
- Purchased replacement actuator and parts for process valving

W.D water main replacement projects (with our Engineering department):

- Albion Street Phase 2
- Murney Street Phase 1
- Orchard Drive Phase 2

W.D subdivision water main installation projects (with our Engineering department):

- Canniff Mills Phase 12
- Riverstone Phase 4

Site Plan Large water service installation projects (greater than 50 mm and water main extensions):

- 640 College Street East
- 2 Millenium Parkway
- 840 Wallbridge Loyalist Road
- 290 Bridge Street West

Water main relining projects:

- None in 2023

## 2023 Summary Report – Point Anne

**Drinking Water System Number:** 220004359

**Drinking Water System Name:** Point Anne Hamlet Drinking Water System

**Drinking Water System Owner:** The Corporation of the City of Belleville

**Drinking Water System Category:** Small Municipal Residential

Ontario's Safe Drinking Water Act sets the framework for safe drinking water in the Province of Ontario. Further, Ontario Regulation 170 / 03 (O. Reg. 170 / 03) sets requirements for public waterworks for sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

This summary report has been prepared in accordance with Schedule 22 of Ontario Regulation 170 / 03. Free copies are available on our website and in person at the Water Operations Centre. We will post notice of availability on our website and / or through the local newspapers.

For further information about provincial drinking water requirements visit the Ministry of Environment, [Conservation and Parks website](#) And select "Drinking Water".

## Ontario Regulation 170/03, Schedule 22 – Summary Reports for Municipalities

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**This section outlines the requirements of Schedule 22 and how we are achieving them.**

- **Section 22-1** states that this Schedule applies to both large and small municipal residential systems.
  - The Point Anne Hamlet Drinking Water System is a small municipal residential system and as such we will complete and submit a summary report. This summary report is prepared in accordance with Schedule 22 of O. Reg. 170 / 03.
- **Section 22-2 (1)** requires a Summary Report to be completed by March 31<sup>st</sup> of each year and given to members of council.
  - This summary report covers the period from January 1<sup>st</sup> to December 31<sup>st</sup>, 2023 and was prepared and submitted to council prior to March 31<sup>st</sup>, 2024.
- **Section 22-2 (2) (a) and (b)** requires us to provide a list of any requirements that we did not meet any time during the period covered by this report.
  - The Point Anne Hamlet Drinking Water System met all requirements for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2023.
  - As per O. Reg 170 / 03 Section 11(6) (b) and (d), details on adverse water quality incidents can be found in the Point Anne Hamlet Drinking Water System Annual Report.
- **Section 22-2 (3)** requires that we submit a flow summaries and comparisons of flow to rated capacities stated in system approvals.
  - The required flow information can be found beginning on page 37 of this report.
  - The comparison of flow rates versus approved rated capacities can be found on page 42.
- **Section 22-2 (4)** requires that a copy of this summary report be given to any municipality that the Drinking Water System supplies water.

- The Point Anne Hamlet Drinking Water System does not supply water to any other system.
- **Section 22-3** states that compliance reports are not required for drinking water systems that comply with Section 22-2.
  - We are compliant with Section 22-2 and therefore, we have not submitted a compliance report.



## Quantities and Flow Rates of Water Taken and Supplied

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**Table 1: Raw Water**

Values in Cubic Metres (C.M), unless otherwise noted

<b>Month</b>	<b>Total Monthly Volume</b>	<b>Average Daily Volume</b>	<b>Maximum Daily Value</b>	<b>Minimum Daily Value</b>	<b>Peak Instantaneous Flow Rate (C.M per day)</b>	<b>Peak Instantaneous Flow Rate (Litres per minute)</b>
<b>January</b>	501.80	16.19	22.97	11.66	34.08	23.67
<b>February</b>	418.82	14.96	17.94	12.75	30.72	21.33
<b>March</b>	443.50	14.31	16.61	12.16	31.90	22.15
<b>April</b>	405.73	13.52	18.24	11.90	29.52	20.50
<b>May</b>	437.96	14.13	18.82	12.58	33.12	23.00
<b>June</b>	434.14	14.47	17.30	11.87	59.52	41.33
<b>July</b>	476.21	15.87	19.47	12.56	32.88	22.83
<b>August</b>	493.22	15.91	19.26	12.89	34.08	23.67
<b>September</b>	417.22	13.91	17.29	11.38	31.44	21.83

<b>Month</b>	<b>Total Monthly Volume</b>	<b>Average Daily Volume</b>	<b>Maximum Daily Value</b>	<b>Minimum Daily Value</b>	<b>Peak Instantaneous Flow Rate (C.M per day)</b>	<b>Peak Instantaneous Flow Rate (Litres per minute)</b>
<b>October</b>	396.95	12.80	18.63	9.48	31.44	21.83
<b>November</b>	344.90	11.50	14.56	8.42	30.72	21.33
<b>December</b>	331.70	10.70	14.32	8.32	47.04	32.67

### **Annual Totals:**

- Total Annual Volume = 5102.15 (total sum of January to December values)
- Average Daily Volume overall = 14.02 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 22.97 (January)
- Minimum Daily Value reached = 8.32 (December)
- Highest Peak Instantaneous Flow Rate (M.L per day) reached = 59.52 (June)
- Highest Peak Instantaneous Flow Rate (Litres per minute) = 41.33 (June)

**Table 2: Filtered Water**

Values in Cubic Metres (C.M), unless otherwise noted

<b>Month</b>	<b>Total Monthly Volume</b>	<b>Average Daily Volume</b>	<b>Maximum Daily Value</b>	<b>Minimum Daily Value</b>	<b>Peak Instantaneous Flow Rate (C.M per day)</b>	<b>Peak Instantaneous Flow Rate (Litres per minute)</b>
<b>January</b>	466.34	15.04	20.73	10.97	27.60	19.17
<b>February</b>	391.35	13.98	16.49	11.71	27.12	18.83
<b>March</b>	430.12	13.87	16.09	11.84	26.40	18.33
<b>April</b>	386.52	12.88	17.67	11.36	26.40	18.33
<b>May</b>	404.42	13.05	17.72	11.57	25.92	18.00
<b>June</b>	337.09	11.24	14.72	8.74	28.32	19.67
<b>July</b>	340.61	11.35	13.51	9.18	28.08	19.50
<b>August</b>	367.31	11.85	14.85	9.49	28.08	19.50
<b>September</b>	328.47	10.95	12.93	9.24	28.80	20.00
<b>October</b>	331.47	10.69	15.13	8.09	28.08	19.50

<b>Month</b>	<b>Total Monthly Volume</b>	<b>Average Daily Volume</b>	<b>Maximum Daily Value</b>	<b>Minimum Daily Value</b>	<b>Peak Instantaneous Flow Rate (C.M per day)</b>	<b>Peak Instantaneous Flow Rate (Litres per minute)</b>
<b>November</b>	287.21	9.57	11.55	7.18	28.56	19.83
<b>December</b>	298.84	9.64	12.39	8.06	30.24	21.00

**Annual Totals:**

- Total Annual Volume = 4369.75 (total sum of January to December values)
- Average Daily Volume overall = 12.01 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 20.73 (January)
- Minimum Daily Value reached = 7.18 (November)
- Highest Peak Instantaneous Flow Rate (M.L per day) reached = 30.24 (December)
- Highest Peak Instantaneous Flow Rate (Litres per minute) = 21.00 (December)

### Table 3: Treated Water

All values in Cubic Metres

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value
January	191.34	6.17	11.94	3.10
February	140.60	5.02	6.82	3.62
March	147.56	4.76	7.02	3.01
April	113.01	3.77	8.07	2.58
May	121.74	3.93	8.41	3.01
June	101.29	3.38	4.95	2.17
July	120.63	4.02	5.44	2.54
August	156.36	5.04	8.09	3.86
September	101.97	3.40	6.27	2.28
October	94.14	3.04	4.15	1.98
November	84.64	2.82	4.20	2.30
December	94.63	3.05	4.25	2.22

#### Annual Totals:

- Total Annual Volume = 1467.91 (total sum of January to December values)
- Average Daily Volume overall = 4.03 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 11.94 (January)
- Minimum Daily Value reached = 1.98 (October)

## Water Flow Comparisons

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### Raw Water Comparisons

- Maximum daily volume allowed under the current Permit to Take Water (6206-AVJR89) = **108.00 Cubic Metres**
- Peak instantaneous flow rate allowed under the current Permit to Take Water (6206-AVJR89) = **91.00 Litres per minute**

The Point Anne Hamlet Drinking Water System Actuals for the Year 2023:

- Maximum daily volume = **22.97 Cubic Metres**
- Peak instantaneous flow rate = **41.33 Litres per minute**

**The Point Anne Hamlet Drinking Water System did not exceed the approved maximum daily volume or peak instantaneous flow rate stipulated in the current Permit to Take Water.**

### Treated Water Comparisons

- Maximum allowable daily volume entering the distribution system under Municipal Drinking Water License 151-102 = **108 Cubic Metres**

The Point Anne Hamlet Drinking Water System Actuals for the Year 2023:

- Maximum daily volume = **11.94 Cubic Metres**

**The Point Anne Hamlet Drinking Water System did not exceed the maximum daily volume stipulated in the Municipal Drinking Water License.**

## Filtered Water Comparisons

- Maximum allowable flow rate entering the Package Treatment Plant Subsystem Component under Municipal Drinking Water License 151-102 = **75.00 Litres per Minute**
- Maximum allowable flow rate entering the Cartridge Filters Subsystem Component under Municipal Drinking Water License 151-102 = **24.30 Litres per Minute**

The Point Anne Hamlet Drinking Water System Actuals for the Year 2023:

- Package Treatment Plant Maximum Flow Rate = **21.00 Litres per Minute**
- Cartridge Filters Maximum Flow Rate = **19.17 Litres per Minutes**

**The Point Anne Hamlet Drinking Water System did not exceed the maximum flow rates stipulated in the Municipal Drinking Water License.**

# Point Anne Hamlet Drinking Water System 2023 Annual Report

**Waterworks number 220004359, January 1<sup>st</sup>, 2023 to December 31<sup>st</sup>, 2023**

This report has been prepared in accordance with Section 11 of Ontario Regulation 170 / 03. Regulation 170 / 03 sets requirements for public waterworks with regards to sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

## **Ontario Regulation 170 / 03, Section 11 – Annual Reports**

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**This section outlines the requirements of Section 11 and how we are achieving them.**

- **Section 11 (1)** requires the owner of a drinking water system to prepare an annual report in accordance with this section.
  - This annual report fulfils the requirements of Section 11.
- **Section 11 (2):** “The owner of a drinking water system, other than a large municipal residential system or a small municipal residential system . . .”
  - The Point Anne Hamlet Drinking Water System is a small municipal residential system and therefore Section 11 (2) does not apply.
- **Section 11 (2.1)** states that if a drinking water system is connected to and receives all of its water from another drinking water system, the owner of the system from which the water is obtained shall ensure that, when the annual report for the system is prepared, a copy of the report is given to the owner of the system that obtains the water.
  - There are no drinking water systems connected to the Point Anne Hamlet Drinking Water System.



- **Section 11 (3)** as a small municipal residential drinking water system, our annual report must cover the period from January 1 to December 31 and be prepared not later than February 28 of the following year.
  - This annual report covers the period from January 1<sup>st</sup> – December 31<sup>st</sup>, 2023 and was prepared prior to February 28<sup>th</sup>, 2024
- **Section 11 (4)** : “In the case of non-municipal seasonal residential systems and large non-municipal non-residential systems . . . ”
  - The Point Anne Hamlet Drinking Water System is classified as a small municipal residential system and therefore this section does not apply.
- **Section 11 (5)**: “In the case of small non-municipal non-residential systems . . . ”
  - The Point Anne Hamlet Drinking Water System is classified as a small municipal residential system and therefore this section does not apply.
- **Section 11 (6)(a)** requires our annual report to contain a brief description of the drinking water system, including a list of water treatment chemicals the system uses during the period covered by the report.
  - A description of the Point Anne Hamlet Drinking Water System can be found in this report beginning on page 49.
- **Section 11 (6)(b)** requires our annual report to include summaries of any reports we made to the Ministry under Section 18 (1) of the Act or Section 16 (4) of Schedule 16 during the period covered by the report.
  - A chart showing all Adverse Water Quality Incidents and corrective actions can be found on page 54 of this report.
- **Section 11 (6)(c)** requires our annual report to include summaries of the test results that are required under this Regulation, an approval, or a municipal drinking water licence or order (including

an OWRA order) during the period covered by the report. If tests required under this Regulation were not required during the reporting period, we must summarize the most recent results of tests of that parameter.

- Required test results for the Point Anne Hamlet Drinking Water System can be found in this report beginning on page 55.
- **Section 11 (6)(d)** states that our annual report must describe any corrective actions taken under Schedule 17 or 18 during the period covered by the report.
  - All corrective actions taken by the Point Anne Hamlet Drinking Water System under Schedule 18 can be found in the chart located on page 54.
- **Section 11 (6)(e)** states that our annual report must describe any major expenses incurred during the period covered by the report to install, repair, or replace equipment.
  - A description of major expenses incurred during the period of this report can be found on page 66.
- **Section 11 (6)(f)** requires that, in the case of a large or small municipal residential system, the annual report must include a statement of where a report prepared under Schedule 22 will be available for inspection under Subsection 12(4).
  - The Point Anne Hamlet Drinking Water System Summary Report, prepared under Schedule 22, is available on our website or at the Water Operations Centre.
- **Section 11 (7)** requires the owner of a drinking water system to ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy.
  - Copies of the Point Anne Hamlet Drinking Water System annual report are available to the public, upon request and free of charge, at the Water Operations Centre.
- **Section 11 (8)** states that if a drinking water system is connected to and receives all of its drinking water from another drinking water system, the owner of the system that obtains the water shall ensure

that a copy of an annual report for the system from which the water is obtained is given, without charge, to every person who requests a copy.

- There are no drinking water systems connected to the Point Anne Hamlet Drinking Water System.
- **Section 11 (9)** states that Subsections (7) and (8) do not apply to an annual report that is more than two years old.
  - Annual Reports dating back to 2008 for the Point Anne Hamlet Drinking Water System are available to the public by contacting the Water Operations Centre.
- **Section 11 (9.1)** states that every time an annual report is prepared for a drinking water system, the owner of the system shall ensure that effective steps are taken to advise users of water from that system that copies are available, without charge, and how a copy may be obtained.
  - The Point Anne Hamlet Drinking Water System utilizes both the local newspaper and the City of Belleville website ([www.belleville.ca](http://www.belleville.ca)) to inform the public of Annual Report availability.
- **Section 11 (10)** states that if a large municipal residential system serves more than 10,000 people, the owner of the system shall ensure that a copy of every report prepared under this section is available to the public at no charge on a website on the Internet.
  - Although the Point Anne Hamlet Drinking Water System serves less than 10,000 people, our Annual and Summary Reports are available on our website.
- **Section 11 (11)** “The obligation to ensure that a report be given to the interested authority for a designated facility under Subsection (2) . . .”
  - Subsection (2) does not apply to the Point Anne Hamlet Drinking Water System and therefore Section 11 (11) does not apply.
- **Section 11 (12) to (17) have been revoked.**
- **Section 11 (18)** states that if Section 12 of Ontario Regulation 459 / 00 and Section 15 of Ontario Regulation 505 / 01 did not apply to the owner of a system to which Subsection (5) applies, no report

is required under Subsection (5) until May 31, 2006. Further, despite Subsection (5), the report required not later than May 31, 2006 shall cover the period from June 1, 2005 to March 31, 2006.

- Subsection (5) does not apply to the Point Anne Hamlet Drinking Water System and therefore this section does not apply.

- **Section 11 (19) has been revoked.**

## **Point Anne Hamlet Plant Description and Water Treatment Process**

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### **Raw Water Intake**

The source of water for the Point Anne system is a combination of surface water and groundwater.

The surface water is taken from the Bay of Quinte south of the water treatment plant. A 100mm diameter pipe extends approximately 105m from the raw water intake well into the Bay of Quinte at a depth of approximately 2m below the water surface. Water flows by gravity from the Bay into the raw water intake well. Flow of surface water is controlled with a flow control valve on the intake pipe within the raw water intake well.

Groundwater is able to enter the raw well through an opening that is controlled by a 100mm flow control valve.

With these flow control valves, the source water may be groundwater, surface water or a combination of both. Groundwater may also infiltrate the raw well through uncontrolled cracks or joints.

### **Low Lift Pumping**

Two submersible pumps (each rated at 1.26 L/s) located in the raw water intake well along with associated piping deliver water to either the Package Treatment Unit (Waterboy Unit) or the Cartridge Filter System. Back-up pumps are stored at the Belleville Water Treatment Plant.

### **Cartridge Filter System - Filtration**

The cartridge filter system consists of three roughing filters and one finishing filter. All four filters operate in series. The first filter has a pore-size range of 20 to 1 micron rated for 90% removal. The next two filters have a pore-size range of 1.0 to 0.5 microns rated for 99% removal. The finishing filter is certified to NSF 53 and has an effective pore-size of 1.0 micron and a removal rating of 99.9%.

Pressure sensors and gauges are located on the influent and effluent lines for each cartridge canister. These are used to determine the pressure differential across the filter media allowing operators to monitor the life of the filters.

Water exiting the finishing filter can either go to waste or can go to the chlorine contact tank. The effluent from this process is monitored for turbidity with alarms and controls set to divert to waste if turbidity climbs above operational set points.

The rated capacity for this process is 24.3 L/min.

### **Package Treatment Unit - Coagulation**

A chemical feed system consisting of a 150L storage tank and two flow-paced metering pumps feed aluminum sulphate (alum) to the bottom of the rapid mixer tank. Here, the alum mixes with raw water, by means of a mechanical mixer, to begin the formation of floc.

This is the first of the 2-stage coagulation/flocculation process.

### **Package Treatment Unit - Flocculation**

The coagulated water/alum solution flows through a notched weir into the slow mixer/flocculation tank. Here, a mechanical mixer stirs the water slowly to further the formation of the floc.

This floc consists of alum and suspended particles (dirt, colour, organics) that are found in the raw water.

This is the second of the 2-stage coagulation/flocculation process.

### **Package Treatment Unit - Sedimentation**

The flocculated water flows through piping to the bottom of inclined plate settlers. Here, the floc adheres to the plates, and eventually becomes heavy enough to slide down the plates, as the volume of settled

material increases. The cleaner water rises to the top of the plate settler and flows hydraulically to the filtration process. The settled material, containing dirt, organics, colour, bacteria, viruses, and other particulate, is removed during filter backwashing.

### **Package Treatment - Filtration**

The mixed media filter is used to further remove particulate from the water. The filter consists of sand and anthracite media and is equipped with an under drain system that is connected to two (2) pumps. The first pump is used to deliver water to the chlorine contact tank or to the waste stream. The effluent from this process is monitored for turbidity with alarms and controls set to divert to waste if turbidity climbs above operational set points. The second pump is used to backwash the filter.

### **Disinfection**

Sodium hypochlorite is used to post-disinfect the filtered water in the chlorine contact tank.

The sodium hypochlorite chemical feed system consists of a 20L storage tank and two (2) flow-paced metering pumps, with automatic switch over, to feed hypochlorite to the filtered water as it enters the contact tank. Dosage varies based on the biological demand.

The chlorine contact tank consists of an inlet diffuser, baffles and an overflow effluent collector. The tank volume is 2.2 m<sup>3</sup>. Here, the chlorinated water is held for a prescribed time period to ensure inactivation of any pathogens. The initial and "CT" free chlorine residuals are monitored and recorded.

### **High Lift Storage**

The high lift clear well is a finished water storage area and has a total volume of 23 m<sup>3</sup>. This well receives water from the chlorine contact tank and provides a flooded suction for the high lift pumps.

## **High Lift Pumping**

At this point the treatment process is complete and the water is ready for consumer use.

Two (2) high lift pumps, each capable of delivering approximately 27m<sup>3</sup>/day, deliver water through a common header to the distribution system.

These pumps provide constant positive pressure to the distribution system with the use of controls and automatic starts that are based on pressure control set points.

Controls and measures are in place to provide power, such as Uninterrupted Power Supply (UPS) power, in the event of a power failure.

## **Computer/SCADA**

Computer technology is used to monitor operations and record data. A Supervisory Control and Data Acquisition (SCADA) system provides communication among, and control of, all plant operations. The SCADA system also communicates with the Belleville Water Treatment Plant allowing experienced, certified water treatment operators to monitor and control the Point Anne Water Treatment Plant.

## **Wastewater**

The water used to backwash the filter and the sediment from the plate settlers is discharged overland through a 100mm diameter discharge pipe to a point approximately 15m from the Bay of Quinte shoreline.

## **Distribution System**

The treated water is delivered directly to the consumer through the distribution system from the high lift pumps. The distribution system is comprised of approximately 208m of 100mm diameter water main. It is



a linear network with no looping. There are currently five (5) service connections to the network that supply twelve residential properties. There are no non-residential properties located on the system.

### **Chemicals used over this Reporting Period**

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- Sodium Hypochlorite
- Aluminum Sulphate

## O. Reg. 170 / 03 Compliance Tests and Reports – Point Anne

### Notifications and Corrective Actions – Point Anne

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In accordance with Schedule 16 and Schedule 18 (O. Reg 170 / 03)

The Point Anne Drinking Water System did not make any reports to the Ministry under Schedule 16 and Schedule 18 (O. Reg 170 / 03)

## Operational Testing – Point Anne

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In accordance with Schedule 7 (O. Reg 170 / 03).

### Notes:

- 8760 denotes results from continuous monitoring
- NTU refers to Nephelometric Turbidity Units
- mg/L represent milligrams per litre

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results (minimum to maximum)</b>	<b>Unit of Measure</b>
Turbidity	8760	0.02 to 0.29	NTU
Free Chlorine at C.T Location	8760	0.97 to 2.91	mg/L
Free Chlorine in Distribution	252	0.37 to 1.43	mg/L
Fluoride	0	No fluoridation	Not Applicable

## Microbiological Testing – Point Anne

---

In accordance with Schedule 11 (O. Reg 170 / 03)

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of E. Coli or Fecal Results (minimum to maximum)</b>	<b>Range of Total Coliform Results (minimum to maximum)</b>	<b>Number of HPC Samples</b>	<b>Range of HPC Results (minimum to maximum)</b>
Raw	57	0 to 33	2 to 428	57	60 to more than 2000
Treated	57	0 to 0	0 to 0	57	less than 10 to 270
Distribution	52	0 to 0	0 to 0	52	less than 10 to 40

## Chemical Testing – Point Anne

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In accordance with Schedule 13 (O. Reg 170 / 03). Sample results for Schedule 23 and Schedule 24 can be found starting on page 59 of this report.

### Notes:

- µg/L represents micrograms per litre
- mg/L represents milligrams per litre

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results (minimum to maximum)</b>	<b>Unit of Measure</b>
Trihalomethane	4	56 to 104	µg/L
Haloacetic Acids	4	46.8 to 80.0	µg/L
Nitrate and Nitrite	4	less than 0.05 to 3.0	mg/L
Sodium	4	11.7 to 32.5	mg/L

## Lead Testing Summary – Point Anne

---

In accordance with Schedule 15.1 (O. Reg 170 / 03)

### Notes:

- mg/L represent milligrams per litre

<b>Location Type</b>	<b>Number of Samples</b>	<b>Range of Results (minimum to maximum)</b>	<b>Unit of Measure</b>	<b>Number of Exceedances</b>
Lead – Plumbing	0	Not Applicable	mg/L	0
Lead – Distribution	1	0.00033	mg/L	0
Alkalinity – Distribution	2	81 to 230	mg/L	Not Applicable
pH – Plumbing	0	Not Applicable	Not Applicable	0
pH – Distribution	2	7.32 to 7.63	Not Applicable	0

The Point Anne Hamlet Drinking Water System has reached exemption status in the Lead Sampling Program. Following the Winter Lead Sampling Period (December 2011 to April 2012), the Point Anne

Hamlet Drinking Water System satisfied the requirements of Section 15.1-5 (9) of Ontario Regulation 170 / 03 and as such began sampling in accordance with Section 15.1-5 (10).

## **Inorganic Testing – Point Anne**

---

In accordance with Schedule 23 (O. Reg 170 / 03)

### **Notes:**

- µg/L represents micrograms per litre
- < indicates that the results was “less than” the value that follows it

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Antimony	2	< 0.9 to 1.0	µg/L	No
Arsenic	2	0.4 to 0.8	µg/L	No
Barium	2	37.7 to 51.3	µg/L	No
Boron	2	10 to 53	µg/L	No
Cadmium	2	0.004 to 0.010	µg/L	No
Chromium	2	0.65 to 0.75	µg/L	No
Mercury	2	< 0.01	µg/L	No
Selenium	2	0.06 to 1.12	µg/L	No
Uranium	2	0.063 to 0.449	µg/L	No

As per Section 13-2 (3) of Ontario Regulation 170 / 03, small municipal residential systems are required to be sampled and tested for Schedule 23 parameters at least once every 60 months. As such, the next sampling and testing for Schedule 23 parameters for the Point Anne Hamlet Drinking Water System will occur prior to June 7<sup>th</sup>, 2026.

## Organic Testing – Point Anne

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In accordance with Schedule 24 (O. Reg 170 / 03)

### Notes:

- µg/L represents micrograms per litre
- < indicates that the results was “less than” the value that follows it

Parameter	Number of Samples	Range of Results	Unit of Measure	Exceedance
Alachor	2	<0.02	µg/L	No
Atrazine + N-dealkylated metabolites	2	<0.01 to 0.01	µg/L	No
Azinphos-methyl	2	<0.05	µg/L	No
Benzene	2	<0.32	µg/L	No



<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Benzo(a)pyrene	2	<0.004	µg/L	No
Bromoxynil	2	<0.33	µg/L	No
Carbaryl	2	<0.05	µg/L	No
Carbofuran	2	<0.01	µg/L	No
Carbon Tetrachloride	2	<0.16	µg/L	No
Chlorpyrifos	2	<0.02	µg/L	No
Diazinon	2	<0.02	µg/L	No
Dicamba	2	<0.20	µg/L	No
1,2-Dichlorobenzene	2	<0.41	µg/L	No

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
1,4-Dichlorobenzene	2	<0.36	µg/L	No
1,2-Dichloroethane	2	<0.35	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	2	<0.33	µg/L	No
Dichloromethane	2	<0.35	µg/L	No
2,4-Dichlorophenol	2	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2	<0.19	µg/L	No
Diclofop-methyl	2	<0.40	µg/L	No
Dimethoate	2	<0.03	µg/L	No
Diquat	2	<1	µg/L	No

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Diuron	2	<0.03	µg/L	No
Glyphosate	2	<1	µg/L	No
Malathion	2	<0.02	µg/L	No
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	2	<0.00012	mg/L	No
Metolachlor	2	<0.01	µg/L	No
Metribuzin	2	<0.02	µg/L	No
Monochlorbenzene	2	<0.3	µg/L	No
Paraquat	2	<1	µg/L	No
Pentachlorophenol	2	<0.15	µg/L	No

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Phorate	2	<0.01	µg/L	No
Picloram	2	<1	µg/L	No
Polychlorinated Biphenyls (PCB)	2	<0.04	µg/L	No
Prometryne	2	<0.03	µg/L	No
Simazine	2	<0.01	µg/L	No
Terbufos	2	<0.01	µg/L	No
Tetrachloroethylene	2	<0.35	µg/L	No
2,3,4,6-Tetrachlorophenol	2	<0.20	µg/L	No
Triallate	2	<0.01	µg/L	No

<b>Parameter</b>	<b>Number of Samples</b>	<b>Range of Results</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Trichloroethylene	2	<0.44	µg/L	No
2,4,6-Trichlorophenol	2	<0.25	µg/L	No
Trifluralin	2	<0.02	µg/L	No
Vinyl Chloride	2	<0.17	µg/L	No

As per Section 13-4 (3) of Ontario Regulation 170 / 03, small municipal residential systems are required to be sampled and tested for Schedule 24 parameters at least once every 60 months. As such, the next sampling and testing for Schedule 24 parameters for the Point Anne Hamlet Drinking Water System will occur prior to June 7<sup>th</sup>, 2026.

## **Inorganic or Organic Parameters – Point Anne**

---

Inorganic or organic parameters that exceeded half the standard prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards.

Based on quarterly samples taken January 30<sup>th</sup>, April 18<sup>th</sup>, July 17<sup>th</sup>, and October 24<sup>th</sup> 2023, our annual average concentration for Trihalomethane is 73.0 µg / L. This exceeds one-half of the Schedule 2 standard, but does not exceed the regulated limit of 100 µg / L.

Based on quarterly samples taken January 30<sup>th</sup>, April 18<sup>th</sup>, July 17<sup>th</sup>, and October 24<sup>th</sup> 2023, our annual average concentration for Haloacetic acids is 56.5 µg / L. This exceeds one-half of the Schedule 2 standard, but does not exceed the regulated limit of 80 µg / L.

## **Monetary Expenses – Point Anne**

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Relatively significant monetary expenditures in 2023 include:

1. Intake inspection and cleaning
  2. Instrumentation calibration
  3. Filter performance testing
- Each of these expenditures was included in approved operating or capital budgets.
  - No distribution monetary expenditures occurred in 2023.

Corporation of the City of Quinte West

# Quinte West Drinking Water System (Trenton Service Area)

2023 Annual & Summary Drinking Water System Report

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**A Natural Attraction**

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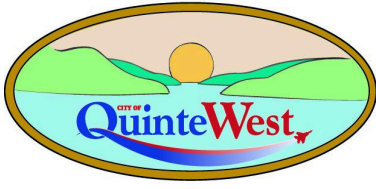


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**The Corporation of the City of Quinte West**  
 Public Works and Environmental Services  
 Water/Wastewater Division  
**2023 Annual Drinking Water System Report**  
**(Trenton Service Area)**

<b>2023 Annual Drinking Water System Report</b>	<b>4</b>
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Does your Drinking Water System service more than 10,000 people?	4
Is your Annual Report available to the public at no charge on a website	4
Location where Summary Report required under O.Reg.170/03 Schedule 22 will be available for inspection	4
List all Drinking Water Systems (if any), that receive all of their Drinking Water from your System:	4
Indicate how you notified system users that your annual report is available, and is free of charge.	5
Description of the Drinking Water System	5
List all water treatment chemical used over this Reporting Period:	6
Were any significant expenses incurred to:	6
Provide a brief description, and a breakdown of monetary expenses incurred to facilitate equipment upgrades:	6
Notices submitted in accordance with subsection 18(1) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg. 170/03 and reported to Spills Action Centre during this Reporting Period:	7
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Summary of Inorganic parameters tested during this Reporting Period or the most recent Sample Results:	10
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Water/Wastewater Division  
**2023 Annual Drinking Water System Report**  
**(Trenton Service Area)**

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**The Corporation of the City of Quinte West**  
Public Works and Environmental Services  
Water/Wastewater Division  
**2023 Annual Drinking Water System Report**  
**(Trenton Service Area)**

## 2023 Annual Drinking Water System Report

### Drinking Water System Information

Drinking Water System Number:	220001619
Drinking Water System Name:	Trenton Drinking Water System
Drinking Water System Owner:	The Corporation of the City of Quinte West
Drinking Water System Category:	Large Municipal-Residential System
Period being Reported:	January 1, 2023 through December 31, 2023

### Does your Drinking Water System service more than 10,000 people?

Yes.

### Is your Annual Report available to the public at no charge on a website

Yes, please visit [www.quintewest.ca](http://www.quintewest.ca)

### Location where Summary Report required under O.Reg.170/03 Schedule 22 will be available for inspection

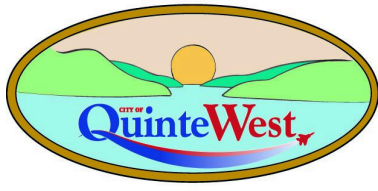
Water/Wastewater Services Administration Office

25 Couch Crescent

Trenton, ON, K8V 1G8

### List all Drinking Water Systems (if any), that receive all of their Drinking Water from your System:

Carrying Place/Consecon Water Distribution System, DWS number 260005099



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Public Works and Environmental Services  
Water/Wastewater Division  
**2023 Annual Drinking Water System Report**  
**(Trenton Service Area)**

**Indicate how you notified system users that your annual report is available, and is free of charge.**

- Public access/notice via City website
- Public access/notice via Government Office
- Public access/notice via newspaper
- Public access/notice via City social media platform(s)
- Public access/notice via a Public Library
- Public access/notice via other method:

### **Description of the Drinking Water System**

The Trenton Water Treatment Plant draws water from the Trent River upstream of Dam No. 1 through two intake pipes; one 53 m long, 400 mm diameter raw water intake pipe, and a second, 18 m long, 600 mm diameter intake. This conventional, chemically assisted filtration plant has a rated capacity of 35,800 cu.m/day. Processes used at the filtration plant include flocculation, sedimentation, and Granular Activated Carbon Filtration. Chlorine gas is applied as a disinfectant before filtered water enters two interconnected baffled clearwells with a combined capacity of 5,454 cu.m. The potable (drinkable) water is then pumped into the distribution system through a set of four (4) highlift pumps. There are two elevated water storage tanks in service. The first is the 2nd Dug Hill Road Water Tower; capacity 2,273 cu.m, the second is the Oak Street Water Tower; capacity 2,273 cu.m. Five Booster Pumping Stations are located within the Trenton WDS; they are Catherine Street Booster Pumping Station, Mount Pelion Booster Pumping Station, Telephone Road Booster Pumping Station, Youngs Cove Fire Booster Pumping Station and Frankford Booster Pumping Station. These stations are used to boost system pressure, supply water into areas at the extremities of the system and at higher elevation than the Water Treatment Plant.



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**The Corporation of the City of Quinte West**  
Public Works and Environmental Services  
Water/Wastewater Division  
**2023 Annual Drinking Water System Report**  
**(Trenton Service Area)**

The Trenton distribution system services approximately 27,800 people in the Trenton community, in addition to part of CFB Trenton. The Trenton Water Treatment plant also supplies all drinking water to the Carrying Place and Consecon Water Distribution System in Prince Edward County.

In 2015 the City installed a watermain along Old Hwy 2 that effectively connected the Trenton Water Distribution System (WDS) to the Bayside WDS. Additionally, in May of 2022 the City commissioned the Frankford Booster Station and a watermain along Glen Miller Road connecting the Trenton WDS and Frankford WDS. On June 20, 2023, the Trenton/Bayside Drinking Water Systems (DWS) and Frankford/Batawa DWS, previously governed by their own Drinking Water Works Permit (DWWP) and Municipal Drinking Water Licence (MDWL), were consolidated under one DWWP # 163-202, and one MDWL # 163-102, the Quinte West DWS. Each system is still assigned a separate DWS number by the Ministry of Environment, Conservation and Parks (MECP).

**List all water treatment chemical used over this Reporting Period:**

- ✓ Aluminum Sulfate (Trade Name: Alum)
- ✓ Chlorine Gas

**Were any significant expenses incurred to:**

- ✓ Install Required Equipment?
- ✓ Repair Required Equipment?
- ✓ Replace Required Equipment?

**Provide a brief description, and a breakdown of monetary expenses incurred to facilitate equipment upgrades:**



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 Public Works and Environmental Services  
 Water/Wastewater Division  
**2023 Annual Drinking Water System Report**  
**(Trenton Service Area)**

Preventative Maintenance (PM) activities for lubrication, inspections, testing and cleaning of equipment is scheduled and completed routinely, along with other lifecycle replacement needs. In addition to the PM activity, the following Capital expenditures were incurred this Reporting Period:

Temporary Watermain Repair & New Liner Installation	~ \$1.2 million
Water Meter Automation and Replacement	~ \$480,000 (combined with all Drinking Water Systems)
Heber Street Watermain Replacement	~ \$368,000
Filter Underdrain Replacement	~ \$70,000
Floc Tank Mixer Replacements	~ \$39,500
Install rebuilt motor Highlift Pump 4, replaced coupler	~ \$6,500

**Notices submitted in accordance with subsection 18(1) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg. 170/03 and reported to Spills Action Centre during this Reporting Period:**

<b>Incident Date</b> (DD-MMM-YY)	<b>Parameter</b>	<b>Result</b>	<b>Unit of Measure</b>	<b>Corrective Action</b>	<b>Corrective Action Date</b> (DD-MMM-YY)
17-JUL-23	<i>Distribution Pressure, Boil Water Advisory</i>	Break in main crossing the Trent River	NA	Break temporarily repaired	20-JUL-23



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**Microbiological Testing completed in accordance with Schedule 10, 11, or 12 of Regulation 170/03 during this Reporting Period:**

	<b>Number of Samples</b>	<b>Range of E.Coli (min - max)</b>	<b>Range of Total Coliform (min - max)</b>	<b>Number of Heterotrophic Plate Count Samples</b>	<b>Range of HPC results (min - max)</b>
Raw	52	0 - 100	20 - 1340	NA	NA
Treated	52	0 - 0	0 - 0	52	0 - 5
Distribution	470	0 - 0	0 - 0	192	0 - 117

**Operational Testing completed in accordance with Schedule 7, 8, or 9 of O.Reg.170/03 during this Reporting Period:**

<b>Parameter</b>	<b>Number of Grab Samples</b>	<b>Range of Results (min-max)</b>
Turbidity, (NTU)	8760	0.026 - 0.325
Primary Disinfection FAC <sup>1</sup> , (mg/L)	8760	1.13 - 3.13
Secondary Disinfection FAC <sup>2</sup> , (mg/L)	8760	0.77 - 4.41 <sup>3</sup>

**Summary of additional testing and sampling carried out in accordance with the requirement of an Approval, Order, or other Legal Instrument:**

<sup>1</sup> Free Available Chlorine. Defined as the free amount of chlorine available in water.

<sup>2</sup> Secondary monitoring location Youngs Cove Booster Station

<sup>3</sup> Isolated incident, occurred while priming new Cl2 inspection line on January 19, 2023



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In accordance with Schedule C Condition 5.0 of MDWL #163-102, monthly samples must be collected and tested for Total Suspended Solids, and Total Residual Chlorine<sup>4</sup>, from the following waste streams that may impact the natural environment:

- Waste Residual Management Sedimentation Tank - Clear Water Discharge

Condition 1.5 of the MDWL outlines the maximum annual average concentration for each of these parameters. Outlined below are the sample results obtained throughout the year.

<b>Monitoring Month</b>	<b>Total Flow (cu.m)</b>	<b>Total Suspended Solids (mg/L)</b>	<b>Total Residual Chlorine (mg/L)</b>
January	7249	6	0.01
February	8125	9	0.01
March	9101	6	0.02
April	9094	9	0.04
May	8872	2	0.01
June	11810	3	0.01
July	10950	4	0.02
August	11104	3	0.03
September	10029	3	0.02
October	10071	3	0.00
November	9448	2	0.02
December	9957	4	0.02
<b>Annual Average</b>	<b>9,957</b>	<b>4.5</b>	<b>0.012</b>

<sup>4</sup> Total Residual Chlorine. Defined as the total amount of chlorine available in water.



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**Summary of Inorganic parameters tested during this Reporting Period  
 or the most recent Sample Results:**

<b>Inorganic Compound Results</b>				
<b>Parameter</b>	<b>Sample Date (dd/mmm/yy)</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance?</b>
Antimony	04-JAN-23	< 0.6	ug/L	No
Arsenic	04-JAN-23	< 0.2	ug/L	No
Barium	04-JAN-23	29.5	ug/L	No
Boron	04-JAN-23	35	ug/L	No
Cadmium	04-JAN-23	< 0.003	ug/L	No
Chromium	04-JAN-23	<0.08	ug/L	No
Mercury	04-JAN-23	< 0.01	ug/L	No
Selenium	04-JAN-23	0.12	ug/L	No
Sodium	04-JAN-23	9.58	mg/L	No
Fluoride	04-JAN-23	< 0.06	mg/L	No
Uranium	04-JAN-23	0.049	ug/L	No
Nitrate	04-JAN-23 04-APR-23 05-JUL-23 04-OCT-23	0.645 0.601 0.104 0.046	mg/L	No
Nitrite	04-JAN-23 04-APR-23 05-JUL-23 04-OCT-23	< 0.003 < 0.003 < 0.003 < 0.003	mg/L	No





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**Summary of Lead Testing under Schedule 15.1 during this Reporting Period:**

<b>Lead Sampling Results</b>				
<b>Sampling Period</b>	<b>Location Type</b>	<b>Number of Samples</b>	<b>Range of Lead Results (ug/L), 'min-max'</b>	<b>Number of Exceedances</b>
Winter Sampling Period <sup>5</sup>	Drinking Water System exempt from sampling in accordance with Section 15.1-5(9) under Schedule 15 of O.Reg.170/03. Sampling and testing for Lead are not required until the 2025 winter sampling period.			
Summer Sampling Period <sup>6</sup>	Drinking Water System exempt from sampling in accordance with Section 15.1-5(9) under Schedule 15 of O.Reg.170/03. Sampling and testing for Lead are not required until the 2025 summer sampling period.			

**Summary of Organic parameters sampled during this Reporting Period:**

<b>Organic Compound Results</b>				
<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
Alachlor	04-JAN-23	< 0.02	ug/L	No
Atrazine + N-dealkylated metabolites	04-JAN-23	< 0.01	ug/L	No

<sup>5</sup> Winter Sampling Period runs from December 15 - April 15. The last sample collected in accordance with the Regulation was sampled on February 11, 2022.

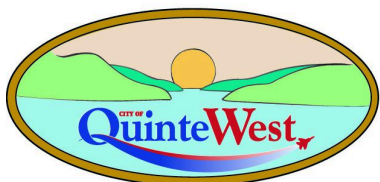
<sup>6</sup> The Summer Sampling Period runs from June 15 - October 15. The last sample collected in accordance with the Regulation was sampled on October 11, 2022.



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Azinphos-methyl	04-JAN-23	< 0.05	ug/L	No
Benzene	04-JAN-23	< 0.32	ug/L	No
Benzo(a)pyrene	04-JAN-23	< 0.004	ug/L	No
Bromoxynil	04-JAN-23	< 0.33	ug/L	No
Carbaryl	04-JAN-23	< 0.05	ug/L	No
Carbofuran	04-JAN-23	< 0.01	ug/L	No
Carbon Tetrachloride	04-JAN-23	< 0.17	ug/L	No
Chlorpyrifos	04-JAN-23	< 0.02	ug/L	No
Diazinon	04-JAN-23	< 0.02	ug/L	No
Dicamba	04-JAN-23	< 0.20	ug/L	No
1,2-Dichlorobenzene	04-JAN-23	< 0.41	ug/L	No
1,4-Dichlorobenzene	04-JAN-23	< 0.36	ug/L	No
1,2-Dichloroethane	04-JAN-23	< 0.35	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	04-JAN-23	< 0.33	ug/L	No
Dichloromethane	04-JAN-23	< 0.35	ug/L	No



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2-4 Dichlorophenol	04-JAN-23	< 0.15	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	04-JAN-23	< 0.19	ug/L	No
Diclofop-methyl	04-JAN-23	< 0.40	ug/L	No
Dimethoate	04-JAN-23	< 0.06	ug/L	No
Diquat	04-JAN-23	< 1	ug/L	No
Diuron	04-JAN-23	< 0.03	ug/L	No
Glyphosate	04-JAN-23	< 1	ug/L	No
Malathion	04-JAN-23	< 0.02	ug/L	No
2 methyl-4-chlorophenoxyacetic acid (MCPA)	04-JAN-23	< 0.00012	mg/L	No
Metolachlor	04-JAN-23	< 0.01	ug/L	No
Metribuzin	04-JAN-23	< 0.02	ug/L	No
Monochlorobenzene	04-JAN-23	< 0.3	ug/L	No
Paraquat	04-JAN-23	< 1	ug/L	No
Pentachlorophenol	04-JAN-23	< 0.15	ug/L	No
Phorate	04-JAN-23	< 0.01	ug/L	No



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Picloram	04-JAN-23	< 1	ug/L	No
Polychlorinated Biphenyls (PCB)	04-JAN-23	< 0.04	ug/L	No
Prometryne	04-JAN-23	< 0.03	ug/L	No
Simazine	04-JAN-23	< 0.01	ug/L	No
Trihalomethanes (THMs) (Running annual average)	04-OCT-23	62.00	ug/L	No
Haloacetic acids (HAAs) (Running annual average)	04-OCT-23	50.80	ug/L	No
Terbufos	04-JAN-23	< 0.01	ug/L	No
Tetrachloroethylene	04-JAN-23	< 0.35	ug/L	No
2,3,4,6-Tetrachlorophenol	04-JAN-23	< 0.20	ug/L	No
Triallate	04-JAN-23	< 0.01	ug/L	No
Trichloroethylene	04-JAN-23	< 0.44	ug/L	No
2,4,6-Trichlorophenol	04-JAN-23	< 0.25	ug/L	No
Trifluralin	04-JAN-23	< 0.02	ug/L	No
Vinyl Chloride	04-JAN-23	< 0.17	ug/L	No



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**Inorganic or Organic parameter(s) that have exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards:**

None.



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## **2023 Summary Report to Council**

In accordance with Schedule 22 requirements outlined in Ontario Regulation 170/03, a Summary Report shall be prepared no later than March 31 for the preceding year, and supplied to members of municipal council.

The Report shall list the requirements of the Act, Regulations, Drinking Water Works Permit, Municipal Drinking Water Licence, and any Orders applicable to the system that were not met at any time during the period covered by the Report.

The Report must also include a summary of the quantities and flow rates of potable water (water intended for human consumption), supplied during the Reporting Period, including monthly average and maximum daily flows. A comparison of these flows to the rated capacity and flow rates approved in the system Drinking Water Works Permit, and Municipal Drinking Water Licence, must also be provided.

### **Prescribed Instruments applicable to the Trenton DWS**

The Trenton DWS is governed by, and must operate their DWS primarily in accordance with, the following Acts and Regulations at minimum:

- Safe Drinking Water Act, 2002;
- O. Reg. 128/04 – Certification of Drinking Water System Operators and WQA
- O. Reg. 170/03 – Drinking Water Systems
- O. Reg. 169/03 – Ontario Drinking Water Quality Standards
- Environmental Protection Act, where applicable;
- Clean Water Act, where applicable;
- Municipal Drinking Water Licence 163-102;
- Drinking Water Works Permit 163-202;
- Permit to Take Water 1007-9HJP6L, expires April 30, 2024.



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Councillors wishing to obtain a copy of any Act or Regulation are welcome to contact the Compliance Coordinator at [collette.kingdon@quintewest.ca](mailto:collette.kingdon@quintewest.ca) to obtain a current consolidated copy and interpretation of the legislation.

## **Compliance with Prescribed Instruments, Acts and Regulations**

### **Safe Drinking Water Act**

In addition to the single Adverse Water Quality event detailed in section [Notices submitted in accordance with subsection 18\(1\) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg. 170/03 and reported to Spills Action Centre during this Reporting Period](#), the following noteworthy activities occurred throughout the Reporting Period.

NSF International conducted a Surveillance Audit from October 12-13, 2023. The intent of the audit is to confirm continued conformance to the Drinking Water Quality Management Standard. The City received its Re-Accreditation, with no Non-Conformances identified in the Audit Report. Four (4) Opportunities for Improvement (OFI) were identified.

At the time this report was prepared the City was amidst its 2023/24 MECP Compliance Inspection. Of note, during the 2022 MECP Compliance Inspection the City received a 100% Inspection Rating.

### **Clean Water Act**

The Source Protection Plan was approved by the Minister of Environment, Conservation and Parks, and came into effect on January 1, 2015. The City has put the necessary internal processes in place with the Planning, Building, and Public Works Departments to screen applications and ensure compliance with the Source Protection Plan. In 2023 there were seven (7) applications submitted to the Risk Management Official for review and approval



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specific to the Trenton system. In general the screening, application, and approval processes implemented by staff seem to be working reasonably well. Throughout the screening and verification process it has been determined that currently there are three (3) Risk Management Plans (RMPs) required for affected properties in the Intake Protection Zone surrounding the Trenton Intake. In 2023, two (2) RMPs were completed, finalizing the RMP requirements.

### **Permit to Take Water**

The City operates its Trenton Water Treatment Plant in accordance with Permit to Take Water (PTTW) number 1007-9JHP6L which expires on April 30, 2024. This Permit allows the City to take 35,800 cu.m/day from the Trent River watershed at a maximum flow rate of 530.4 L/s. The maximum recorded daily taking was 24,834 cu.m/day on July 17, 2023. The maximum recorded flow rate was 545.30 L/s on May 31, 2023.

For a detailed summary of water quantities and flow rates, see [2023 Water Quantity and Flow Rates \(Raw Water Assessment\)](#).

### **Drinking Water Works Permit/Municipal Drinking Water Licence**

The Trenton/Bayside DWS is governed by Issue Number: 6 of Municipal Drinking Water Licence number 163-102, and Issue Number: 9 of Drinking Water Works Permit number 163-202. The Municipal Drinking Water Licence will expire September 28, 2025.

In accordance with Condition 1.1 of the MDWL, the Trenton Water Treatment Plant has a rated capacity to treat and distribute 35,800 cu.m/day. Over the Reporting Period the maximum daily volume of treated water distributed to the distribution system was 23,079 cu.m/day on July 17, 2023. The Annual Average Daily Flow pumped to the Distribution





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System was 9,543 cu.m/day. For a detailed summary of treated water quantities and flow rates, see [2023 Water Quantity and Flow Rates \(Treated Water Assessment\)](#).

**2023 Water Quantity and Flow Rates (Raw Water Assessment):**

<b>Raw Water Flow: PTTW Limit = 35,800 cu.m/d</b>			
<b>Month</b>	<b>Average Daily Flow (cu.m/d)</b>	<b>Maximum Daily Flow (cu.m/d)</b>	<b>Total Monthly Flow (cu.m/month)</b>
January	10251	13554	317768
February	10339	11750	289501
March	9888	10535	306515
April	9713	10842	291403
May	10459	13924	324236
June	11194	13496	335823
July	13212	24834	409559
August	10643	11639	329944
September	10543	12088	316275
October	10141	13243	314356
November	9797	11090	293903
December	9641	10781	298863
<b>Total Raw Water Flow =</b>			<b>3,828,147</b>



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**2023 Water Quantity and Flow Rates (Treated Water Assessment):**

<b>Treated Water Flow: Facility Rated Capacity = 35,800 cu.m/day</b>			
<b>Month</b>	<b>Average Daily Flow (cu.m/d)</b>	<b>Maximum Daily Flow (cu.m/d)</b>	<b>Total Monthly Flow (cu.m/month)</b>
January	9276	12496	287549
February	9188	10347	257276
March	8779	9341	272147
April	8796	9624	263873
May	9637	12896	298732
June	10205	12639	306150
July	12206	23079	378381
August	9752	11302	302327
September	9660	11028	289792
October	9314	12147	288725
November	8860	9917	265788
December	8845	9813	274210
<b>Total Treated Water Flow =</b>			<b>3,484,950</b>

- Annual Average Daily (Treated Water) Flow = 9,543 cu.m/day. This accounts for 27% of the facility Rated Capacity.
- Maximum Daily (Treated Water) Flow = 23,079 cu.m/day. This accounts for 69% of the facility Rated Capacity during record peak daily flow conditions. This peak occurred during the main break of the Trent River crossing.



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## Historical Flow Comparison

The 5-year ADF of Treated Water is calculated to be 9,690 cu.m/day, accounting for just 27% of the facility rated capacity. During the 2023 calendar year the Trenton DWS supplied 131,396 cu.m of treated water to the Frankford/ Batawa DWS. While the Bayside DWS supplied 424,089 cu.m of treated water to the Trenton DWS.

