



# Ontario Drinking-Water Systems Regulation O. Reg. 170/03

Drinking-Water System Number:	210000149
Drinking-Water System Name:	Amherstburg Water Treatment Plant
Drinking-Water System Owner:	Corporation of the Town of Amherstburg
Drinking-Water System Category:	Large municipal residential system
Period being reported:	January 1, 2018 to December 31, 2018

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">       Amherstburg Area Water Treatment Plant        Town of Amherstburg     </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served:  <input style="width: 50px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Number of Interested Authorities you report to:  <input style="width: 50px; height: 20px;" 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 <input type="checkbox"/> No <input type="checkbox"/></p>
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**Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report**

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

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

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

- Public access/notice via the web
- 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 \_\_\_\_\_

**Describe your Drinking-Water System**

A surface water treatment plant, with a rated capacity of 18,184 cubic meters per day, consisting of:

1. An intake crib 155 meters into the Detroit River and connected through a 900mm pipe to the Low Lift Pumping Station.
2. A low lift pumping station equipped with wet well, three vertical turbine pumps, a coarse bar screen, an automatic traveling screen and two 50mm chlorine solution feed lines and a chlorine diffuser.
3. A solids-contact upflow clarifier with overflow chamber, chemical feed line, sludge blow off line, sludge scraper and recirculation system.
4. Four rapid sand filters with dual media of anthracite and silica sand including a backwash system.
5. A filter effluent clearwell with transfer conduit to the reservoir.
6. A 14900m<sup>3</sup> underground storage reservoir.
7. A high lift pumping station equipped with three vertical turbine pumps, a chlorine solution feed line/diffuser and a filter backwash pump.

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

1. Aluminum Sulphate
2. Powdered Activated carbon
3. Chlorine gas
4. Polymer (Nalco 8103)
5. Polymer (Nalco 7763)
6. Sodium Bisulphite

**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**

Installed:

- |  |             |
|--|-------------|
| 1. Electrozaad Supply Company – Filter #1 Wash and Control Valves  | \$3,591.48  |
| 2. Hicks Electric Ltd. – Upgrade Lighting for Carbon, Chemical Rooms, Work Shop and Pump Room LED Lighting Retro-Fit in Compressor Room, Low Lift Room | \$12,387.89 |



3. Hicks Electric Ltd. - Generator Room Lights Upgraded to LED	\$2,259.07
4. Hicks Electric Ltd. - Install Cable for Filter Control Valves	\$3,198.93
5. Phasor Industrial - Installed New Coupling and Gasket On High Lift Pump # 3	\$1,381.32
Repaired:	
6. Phasor Industrial - Align Gear Drive On Clarifier Motor + Service	\$1,248.59
7. Kent Compressors Co. - Air Compressor Service For Oil Leak, Repair air dryer	\$1339.06
8. Vollmer - Gas Heater Repair	\$1,222.69
Replaced:	
9. Evoqua Water Technology – Depolox Chlorine Analyzer	\$2,980.55
10. Fil Chem - Filter Media Anthracite & Sand Filter Media	\$5,342.40
11. Continental Carbon - Filter 1 Under drain replacement	\$176,760.48
12. JDCMI amount to – Filter 1	\$72,402
13. Continental Carbon - Filter 4 Under drain replacement	\$185,211.83
14. JDCMI amount to – Filter 4	\$70,491
15. Canadian Bearings - Carbon Feed Motor	\$1,064.18

**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
N/A					

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

	No. of Samples Collected for period being reported	Range of E.Coli Or Fecal Results		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Results	
		Minimum #	Maximum #	Minimum #	Maximum #		Minimum #	Maximum #
Raw Water	52	1	2000	39	4700	0	N/A	N/A
Treated Water	53	0	0	0	0	53	10	50
Distribution Water	417	0	0	0	0	209	10	40

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

	No. of Samples Collected for period being reported	Range of Results	
		Minimum	Maximum
Turbidity, In-House (NTU) - RW	365	1.7	147
Turbidity, In-House (NTU) - TW	365	0.02	0.5
Turbidity, On-Line (NTU) - Filt1	8760	0.018	1.774
Turbidity, On-Line (NTU) - Filt2	8760	0.020	2.01
Turbidity, On-Line (NTU) - Filt3	8760	0.022	2.001
Turbidity, On-Line (NTU) - Filt4	8760	0.023	2.003
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.76	3.56
Free Chlorine Residual, On-Line (mg/L) - PreD	8760	0.1	3.29
Free Chlorine Residual, TW Field (mg/L) Lab Upload - TW	27	1.12	1.29
Total Chlorine Residual, In-House (mg/L) - TW	365	1.13	1.56

*NOTE: For continuous monitors use 8760 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
License Number 026-101 Issued on 03/02/2015	Backwash/wastewater Suspended Solid	12/13/2018	890	mg/L
	Free Chlorine	12/13/2018	0.13	mg/L
	Backwash/wastewater Suspended Solid	11/05/2018	1050	mg/L
	Free Chlorine	11/05/2018	0.03	mg/L
	Backwash/wastewater Suspended Solid	10/02/2018	95	mg/L
	Free Chlorine	10/02/2018	0.28	mg/L

	Backwash/wastewater Suspended Solid	09/04/2018	909	mg/L
	Free Chlorine	09/04/2018	0.06	mg/L
	Backwash/wastewater Suspended Solid	08/10/2018	443	mg/L
	Free Chlorine	08/10/2018	0.16	mg/L
	Backwash/wastewater Suspended Solid	07/03/2018	740	mg/L
	Free Chlorine	07/03/2018	0.04	mg/L
	Backwash/wastewater Suspended Solid	06/03/2018	99	mg/L
	Free Chlorine	06/03/2018	0.07	mg/L
	Backwash/wastewater Suspended Solid	05/06/2018	512	mg/L
	Free Chlorine	05/06/2018	0.05	mg/L
Backwash/wastewater Suspended Solid	04/10/2018	825	mg/L	
Free Chlorine	04/10/2018	0.04	mg/L	
Backwash/wastewater Suspended Solid	03/06/2018	541	mg/L	
Free Chlorine	03/06/2018	0.05	mg/L	
Backwash/wastewater Suspended Solid	02/12/2018	261	mg/L	
Free Chlorine	02/12/2018	0.09	mg/L	
Backwash/wastewater Suspended Solid	01/05/2018	254	mg/L	
Free Chlorine	01/05/2018	0.06	mg/L	

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

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2018/07/10	0.11	6.0	No	No
Arsenic: As (ug/L) - TW	2018/07/10	0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2018/07/10	13.3	1000.0	No	No
Boron: B (ug/L) - TW	2018/07/10	15.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2018/07/10	0.005	5.0	No	No
Chromium: Cr (ug/L) - TW	2018/07/10	0.2	50.0	No	No
Mercury: Hg (ug/L) - TW	2018/07/10	0.02	1.0	No	No
Selenium: Se (ug/L) - TW	2018/07/10	0.13	50.0	No	No
Uranium: U (ug/L) - TW	2018/07/10	0.014	20.0	No	No
Additional Inorganics					

Fluoride (mg/L) - TW	2018/07/10	0.08	1.5	No	No
Nitrite (mg/L) - TW	2018/01/02	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/04/10	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/07/10	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/10/02	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2018/01/02	0.444	10.0	No	No
Nitrate (mg/L) - TW	2018/04/10	0.463	10.0	No	No
Nitrate (mg/L) - TW	2018/07/10	0.215	10.0	No	No
Nitrate (mg/L) - TW	2018/10/02	0.259	10.0	No	No
Sodium: Na (mg/L) - TW	2018/07/10	6.23	20*	No	No

### Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Results		MAC (ug/L)	No. Exceeded
		Minimum	Maximum		
Distribution Water - Lead Results (ug/L)	9	0.25	1.45	10	0
Distribution Water - Alkalinity (mg/L)	11	66	75	n/a	n/a

### Summary of Organic parameters sampled during this reporting period or the most recent sample results

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (ug/L) - TW	2018/07/10	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2018/07/10	0.04	5.00	No	No
Azinphos-methyl (ug/L) - TW	2018/07/10	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2018/07/10	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2018/07/10	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2018/07/10	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2018/07/10	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2018/07/10	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2018/07/10	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2018/07/10	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2018/07/10	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2018/07/10	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2018/07/10	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2018/07/10	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2018/07/10	<MDL 0.35	5.00	No	No

1,1-Dichloroethylene (ug/L) - TW	2018/07/10	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2018/07/10	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2018/07/10	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2018/07/10	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2018/07/10	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2018/07/10	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2018/07/10	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2018/07/10	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2018/07/10	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2018/07/10	<MDL 0.02	190.00	No	No
Metolachlor (ug/L) - TW	2018/07/10	0.03	50.00	No	No
Metribuzin (ug/L) - TW	2018/07/10	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2018/07/10	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2018/07/10	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2018/07/10	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2018/07/10	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2018/07/10	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2018/07/10	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2018/07/10	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2018/07/10	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2018/07/10	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2018/07/10	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2018/07/10	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2018/07/10	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2018/07/10	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2018/07/10	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2018/07/10	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2018/07/10	<MDL 0.17	1.00	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2018/01/01	23.75	100.00	No	No
HAA Total (ug/L) Annual Average - DW	2018/01/01	8.425		N/A	N/A

**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
None			