



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, 2017 to December 31, 2017

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></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;"> <p>Amherstburg Area Water Treatment Plant Town of Amherstburg</p> </div>	<p><u>Complete for all other Categories.</u></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 <input type="checkbox"/> No <input type="checkbox"/></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 <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 14900m³ 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)

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. Kent Compressor - Install New Oil/Air Cooler for Kaeser Pump | 1,580.33 |
| 2. Syntec Process Equipment - 4 Way Manifold Mount Solenoid For Control Valve | 319.02 |
| 3. Lekter Industrial Services Inc. – Install Bases for Safety Hoists | 1,377.32 |

Repaired:

- | | |
|---|----------|
| 1. First Choice - Replace Heating Vent Motor Cycle | 749.76 |
| 2. Sunset Enterprize - Weld Strip of Steel to Floor Frame | 145.29 |
| 3. Quinn Roofing Solution - Reseal Counter Flashing | 895.49 |
| 4. Lighthouse Electric - Fan Cover Repair | 1,282.31 |
| 5. Jacques Daoust Coating Management Inc. - Repair Clarifier Leak | 4,019.52 |



Replace:

1.	Hach Sales & Services Canada - New Lab Turbidimeter	2,960.19
2.	CB Automation - Alum Flow Meter	2,035.64
3.	First Choice - New Hot Water Tank	1,891.82
4.	ASL Roteq - Repair and Reinstall High Lift Pump and Connect VFD	37,858.79
5.	ASL Roteq - Repair and Reinstall Low Lift Pump and Connect VFD	29,721.04
6.	ASL Roteq - Disassemble & Inspected Low Lift Pump # 2 for 2016 Capital	24,870.14
7.	ASL Roteq - Install VFD for Low Lift # 2	4,329.89
8.	Electrozad Supply - Spare Pressure Transmitter for Filters	2,425.91
9.	G.D. MACkay Co. - Wall Mount retrieval System	8,726.94
10.	HALLER MECHANICAL CONTRACTORS INC - Valve Replacement	7,892.22
11.	HALLER MECHANICAL CONTRACTORS INC - Valve Replacement	1,736.75
12.	HALLER MECHANICAL CONTRACTORS INC - Valve Replacement	1,524.62
13.	HALLER MECHANICAL CONTRACTORS INC - Valve Replacement	1,382.21
14.	Hicks Electric Ltd. – Lighting for Carbon, Chemical Rooms, Work Shop and Pump Room	4,527.43
15.	Hicks Electric Ltd. – LED Lighting Retro-Fit in Compressor Room	4,517.64
16.	Hicks Electric Ltd. – Low Lift Room	3,342.82
17.	Syntec Process Equipment - 16" Valve Replacement Due to Life Cycle	7,849.77
18.	Syntec Process Equipment - 6" Pressure Relief Valve Due to Life Cycle	3,757.49
19.	Vollmer Inc - New Roof Mounted Exhaust Fan	4,976.06

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
March 24, 2017	Filter Effluent Turbidity	Increase in Filter Effluent Turbidity	NTU	<p>On March 30, 2017 - A complete review of the alum feed system with the operator involved in this matter which included;</p> <ul style="list-style-type: none"> - A review consisted of the alum storage facility and how the storage tanks are filled, emptied, switch over, alarm, venting and documentation. - A review of the alum pumping system and how the electrical is set up, the functions of the drive units, the main breaker, the local disconnect, the suction side piping and valves, the discharge side piping and valves, the calibration cylinder including proper draw down for dosage/feed verification checks and documentation. - A review of all legislative documents pertaining to the reasoning of a coagulant must be continuously fed. <p>Lastly a flow meter with detection alarm was installed to prevent future occurrences.</p>	March 30, 2017

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	8	820	10	2000	0	N/A	N/A
Treated Water	52	0	0	0	0	52	10	20
Distribution Water	416	0	0	0	0	208	10	240

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	0.92	221.9
Turbidity, In-House (NTU) - TW	365	0.02	1.09
Turbidity, On-Line (NTU) - Filt1	8760	0.019	0.555
Turbidity, On-Line (NTU) - Filt2	8760	0.021	1
Turbidity, On-Line (NTU) - Filt3	8760	0.022	0.517
Turbidity, On-Line (NTU) - Filt4	8760	0.023	0.496
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.88	1.36
Free Chlorine Residual, On-Line (mg/L) - PreD	8760	0	2.05
Free Chlorine Residual, TW Field (mg/L) Lab Upload - TW	17	1.05	1.26
Total Chlorine Residual, In-House (mg/L) - TW	365	0.072	1.65

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	12/04/2017	329	mg/L
	Free Chlorine	12/04/2017	0.10	mg/L
	Backwash/wastewater Suspended Solid	11/05/2017	359	mg/L
	Free Chlorine	11/05/2017	0.27	mg/L
	Backwash/wastewater Suspended Solid	10/03/2017	532	mg/L
	Free Chlorine	10/03/2017	0.38	mg/L

	Backwash/wastewater Suspended Solid	09/07/2017	791	mg/L
	Free Chlorine	09/07/2017	0.12	mg/L
	Backwash/wastewater Suspended Solid	08/01/2017	355	mg/L
	Free Chlorine	08/01/2017	0.08	mg/L
	Backwash/wastewater Suspended Solid	07/11/2017	322	mg/L
	Free Chlorine	07/11/2017	0.12	mg/L
	Backwash/wastewater Suspended Solid	06/05/2017	1040	mg/L
	Free Chlorine	06/05/2017	0.59	mg/L
	Backwash/wastewater Suspended Solid	05/01/2017	491	mg/L
	Free Chlorine	05/01/2017	0.20	mg/L
	Backwash/wastewater Suspended Solid	04/03/2017	995	mg/L
	Free Chlorine	04/03/2017	0.10	mg/L
	Backwash/wastewater Suspended Solid	03/07/2017	83	mg/L
	Free Chlorine	03/07/2017	0.031	mg/L
	Backwash/wastewater Suspended Solid	02/06/2017	261	mg/L
	Free Chlorine	02/06/2017	0.06	mg/L
	Backwash/wastewater Suspended Solid	01/09/2017	63	mg/L
	Free Chlorine	01/09/2017	0.05	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	2017/07/04	0.59	6.0	No	No
Arsenic: As (ug/L) - TW	2017/07/04	0.3	25.0	No	No
Barium: Ba (ug/L) - TW	2017/07/04	15.7	1000.0	No	No
Boron: B (ug/L) - TW	2017/07/04	17.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2017/07/04	0.006	5.0	No	No
Chromium: Cr (ug/L) - TW	2017/07/04	0.08	50.0	No	No
Mercury: Hg (ug/L) - TW	2017/07/04	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2017/07/04	0.2	50.0	No	No
Uranium: U (ug/L) - TW	2017/07/04	0.022	20.0	No	No
Additional Inorganics					

Fluoride (mg/L) - TW	2017/07/04	0.08	1.5	No	No
Nitrite (mg/L) - TW	2017/01/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2017/04/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2017/07/04	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2017/10/02	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2017/01/03	0.458	10.0	No	No
Nitrate (mg/L) - TW	2017/04/03	0.961	10.0	No	No
Nitrate (mg/L) - TW	2017/07/04	0.385	10.0	No	No
Nitrate (mg/L) - TW	2017/10/02	0.214	10.0	No	No
Sodium: Na (mg/L) - TW	2017/07/04	5.5	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)	1	0.97	0.97	10	0
Distribution Water - Alkalinity (mg/L)	8	61	78	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	2017/07/04	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2017/07/04	0.02	5.00	No	No
Azinphos-methyl (ug/L) - TW	2017/07/04	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2017/07/04	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2017/07/04	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2017/07/04	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2017/07/04	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2017/07/04	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2017/07/04	<MDL 0.16	2.00	No	No
Chlorpyrifos (ug/L) - TW	2017/07/04	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2017/07/04	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2017/07/04	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2017/07/04	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2017/07/04	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2017/07/04	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2017/07/04	<MDL 0.33	14.00	No	No

Dichloromethane (Methylene Chloride) (ug/L) - TW	2017/07/04	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2017/07/04	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2017/07/04	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2017/07/04	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2017/07/04	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2017/07/04	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2017/07/04	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2017/07/04	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2017/07/04	<MDL 0.02	190.00	No	No
Metolachlor (ug/L) - TW	2017/07/04	0.01	50.00	No	No
Metribuzin (ug/L) - TW	2017/07/04	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2017/07/04	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2017/07/04	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2017/07/04	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2017/07/04	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2017/07/04	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2017/07/04	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2017/07/04	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2017/07/04	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2017/07/04	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2017/07/04	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2017/07/04	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2017/07/04	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2017/07/04	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2017/07/04	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2017/07/04	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2017/07/04	<MDL 0.17	1.00	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2017/01/01	25.75	100.00	No	No
HAA Total (ug/L) Annual Average - DW	2017/01/01	5.775		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			