OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	**220003341**
Drinking-Water System Name:	**Wallaceburg Drinking Water System**
Drinking-Water System Owner:	**Municipality of Chatham-Kent**
Drinking-Water System Category:	**Large Municipal Residential**
Period being reported:	**January 1 – December 31, 2017**

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

Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]

Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]

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

Chatham-Kent P.U.C. Office
325 Grand Ave., East
P.O. Box 1191
Chatham, Ontario
N7M 5L8

Complete for all other Categories.

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve?
Yes [ ] No [ ]

Number of Interested Authorities you report to: **N/A**

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?
Yes [ ] No [ ]

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
None	

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.

[X] Public access/notice via the web
[X] Public access/notice via Government Office
[ ] Public access/notice via a newspaper
[X] Public access/notice via Public Request
[X] Public access/notice via a Public Library
[ ] Public access/notice via other method

Describe your Drinking-Water System

The raw water supply for the Wallaceburg WTP originates from the Chenal Ecarte, which is fed by the St. Clair River.
The Ministry of Environment monitors the St. Clair River for various contaminants. In the event that a spill occurs upstream of the raw water intake, the Wallaceburg WTP staff is notified and the intake is shut down until the chemical plume has passed.
The coagulant Poly Aluminum Chloride PAX XL6 is used in the treatment process.
Chlorine is injected at the effluent of the pretreatment tanks, before the filters and at the point of entry to prevent bacterial growth in the Distribution System.
Fluoride is also added to help prevent tooth decay.
The treated water is stored in reservoirs and in the elevated tower, which has a capacity of 4.5 million litres.
The Distribution System supplies the Wallaceburg area.

List all water treatment chemicals used over this reporting period

Poly Aluminum Chloride PAX XL6
Chlorine Gas
Sodium Hypochlorite
Hydrofluosilicic Acid

Were any significant expenses incurred to?

[X] Install required equipment
[X] Repair required equipment
[X] Replace required equipment

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

SCADA upgrades	$1,200
Chlorine Probes for on-line analysers	$2,960
Highlift couplers	$2,982
Valve replacement	$3,800
Hypo pump replacement	$6,990
Highlift pump rebuild	$7,500
New on-line analyzer/turbidity meters	$9,300

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
May 16	Total Coliform in a distribution sample	1	cfu/100ml	Flush & Re-sample Results satisfactory	May 17
June 27	Total Coliform in a distribution sample	1	cfu/100ml	Flush & Re-sample Results satisfactory	June 28
Aug 15	Total Coliform in a distribution sample	1	cfu/100ml	Flush & Re-sample Results satisfactory	Aug 16

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

	Number of Samples	Range of E.Coli 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 – NDOGT	1 - NDOGT	0	
Point of Entry	52	0 – 0	0 – 0	52	1 - 60
Distribution	472	0 – 0	0 – 1	469	10 – 2900

* NDOGN – No Data Overgrown Non-Target Organisms
* NDOGT – No Data Overgrown Target Organisms

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

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity	8760	0.015 – 0.590
Chlorine	8760	1.46 – 1.76
Fluoride (If the DWS provides fluoridation)	730	0.31 – 0.82

***NOTE**: For continuous monitors use 8760 as the number of samples.*

***NOTE**: Record the unit of measure if it is **not** milligrams per litre.*

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
N/A				
N/A				

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

Parameter	Sample Date Jan 23/17	Sample Date Apr 10/17	Sample Date Jul 17/17	Sample Date Oct 23/17	Exceedance
Antimony – ug/L	ND	ND	ND	ND	NO
Arsenic - ug/L	ND	ND	ND	ND	NO
Barium - ug/L	14	18	15	14	NO
Boron - ug/L	15	16	16	15	NO
Cadmium ug/L	ND	ND	ND	ND	NO
Chromium – ug/L	ND	ND	ND	ND	NO
***Lead – ug/L**	N/A	N/A	N/A	N/A	NO
Mercury – mg/L	0.0002	ND	ND	ND	NO
Selenium – ug/L	ND	ND	ND	ND	NO
Sodium - ug/L	5800	7300	5800	5300	NO
Uranium – ug/L	ND	ND	ND	ND	NO
Fluoride - mg/L	0.57	N/A	N/A	N/A	NO
Nitrite - mg/L	ND	ND	ND	ND	NO
Nitrate - mg/L	0.62	2.80	0.34	0.27	NO

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems.

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 Lead Results ug/L (min#) – (max #)	Number of Exceedances / Adverses
Residential	N/A		
Non-Residential	N/A		
Distribution	8	0.5 - 0.5	0

Summary of Organic parameters sampled during this reporting period or the most recent sample results. (Results measured in ug/L)

Parameter	Sample Date Jan 23/17	Sample Date Apr 10/17	Sample Date Jul 17/17	Sample Date Oct 23/17	Exceedance
Alachlor	ND	ND	ND	ND	NO
Atrazine + N-dealkylated metobolites	ND	ND	ND	ND	NO
Azinphos-methyl	ND	ND	ND	ND	NO
Benzene	ND	ND	ND	ND	NO

Benzo(a)pyrene	ND	ND	ND	ND	NO
Bromoxynil	ND	ND	ND	ND	NO
Carbaryl	ND	ND	ND	ND	NO
Carbofuran	ND	ND	ND	ND	NO
Carbon Tetrachloride	ND	ND	ND	ND	NO
Chlorpyrifos	ND	ND	ND	ND	NO
Diazinon	ND	ND	ND	ND	NO
Dicamba	ND	ND	ND	ND	NO
1,2-Dichlorobenzene	ND	ND	ND	ND	NO
1,4-Dichlorobenzene	ND	ND	ND	ND	NO
1,2-Dichloroethane	ND	ND	ND	ND	NO
1,1-Dichloroethylene	ND	ND	ND	ND	NO
Dichloromethane	ND	ND	ND	ND	NO
2-4 Dichlorophenol	ND	ND	ND	ND	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	ND	ND	ND	NO
Diclofop-methyl	ND	ND	ND	ND	NO
Dimethoate	ND	ND	ND	ND	NO
Diquat	ND	ND	ND	ND	NO
Diuron	ND	ND	ND	ND	NO
Glyphosate	ND	ND	ND	ND	NO
Haloacetic Acids (NOTE: show latest annual average) SS#12- 30107 St. Clair Parkway- Jan 23/17 SS#12- 30107 St. Clair Parkway- Apr 10/17 SS#6- Mount Pleasant - Jul 17/17 SS#3-Wallace West of Mitchell-Oct 23/17 **HAA Annual Average:**	12	45	17	7.2 20.3	NO
Malathion	ND	ND	ND	ND	NO
2 Methyl-4-chlorophenoxyacetic acid (MCPA) mg/L	ND	ND	ND	ND	NO
Metolachlor	ND	ND	ND	ND	NO
Metribuzin	ND	ND	ND	ND	NO
Monochlorobenzene	ND	ND	ND	ND	NO
Paraquat	ND	ND	ND	ND	NO
Pentachlorophenol	ND	ND	ND	ND	NO
Phorate	ND	ND	ND	ND	NO
Picloram	ND	ND	ND	ND	NO
Polychlorinated Biphenyls(PCB)	ND	ND	ND	ND	NO
Prometryne	ND	ND	ND	ND	NO
Simazine	ND	ND	ND	ND	NO
THM Dist. - Jan., Apr., Jul, Oct. **THM Annual Average**	20.4 34.3	40.7 39.1	51.1 39.3	39.9 38.0	NO
Terbufos	ND	ND	ND	ND	NO
Tetrachloroethylene	ND	ND	ND	ND	NO
2,3,4,6-Tetrachlorophenol	ND	ND	ND	ND	NO

Triallate	ND	ND	ND	ND	NO
Trichloroethylene	ND	ND	ND	ND	NO
2,4,6-Trichlorophenol	ND	ND	ND	ND	NO
Trifluralin	ND	ND	ND	ND	NO
Vinyl Chloride	ND	ND	ND	ND	NO

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
N/A			

Summary of additional voluntary testing and sampling on treated water.

Sample Date	Parameter		Nitrite + Nitrate	Unit of Measure
	Nitrite	Nitrate		
Jan 2	ND	0.57	0.57	mg/L
Jan 9	ND	0.29	0.29	mg/L
Jan 16	ND	0.59	0.59	mg/L
Jan 23	ND	0.62	0.62	mg/L
Jan 30	ND	0.32	0.32	mg/L
Feb 6	ND	0.27	0.27	mg/L
Feb 13	ND	0.59	0.59	mg/L
Feb 21	ND	0.30	0.30	mg/L
Feb 27	ND	0.35	0.35	mg/L
Mar 6	ND	1.98	1.98	mg/L
Mar 13	ND	0.30	0.30	mg/L
Mar 20	ND	0.34	0.34	mg/L
Mar 27	ND	0.42	0.42	mg/L
April 3	ND	4.14	4.14	mg/L
April 10	ND	2.63	2.63	mg/L
April 18	ND	0.35	0.35	mg/L
April 24	ND	0.48	0.48	mg/L
May 1	ND	0.37	0.37	mg/L
May 8	ND	4.16	4.16	mg/L
May 23	ND	0.36	0.36	mg/L
May 29	ND	0.46	0.46	mg/L
June 5	ND	0.36	0.36	mg/L
June 12	ND	0.44	0.44	mg/L
June 19	ND	0.31	0.31	mg/L
June 26	ND	0.48	0.48	mg/L
July 4	ND	0.30	0.30	mg/L

July 10	ND	0.32	0.32	mg/L
July 17	ND	0.32	0.32	mg/L
July 24	ND	0.32	0.32	mg/L
July 31	ND	0.31	0.31	mg/L
Aug 8	ND	0.34	0.34	mg/L
Aug 14	ND	0.25	0.25	mg/L
Aug 21	ND	0.28	0.28	mg/L
Aug 28	ND	0.28	0.28	mg/L
Sept 5	ND	0.25	0.25	mg/L
Sept 11	ND	0.29	0.29	mg/L
Sept 18	ND	0.24	0.24	mg/L
Sept 25	ND	0.26	0.26	mg/L
Oct 2	ND	0.24	0.24	mg/L
Oct 10	ND	0.27	0.27	mg/L
Oct 16	ND	0.25	0.25	mg/L
Oct 23	ND	0.27	0.27	mg/L
Oct 30	ND	0.27	0.27	mg/L
Nov 6	ND	0.30	0.30	mg/L
Nov 14	ND	0.29	0.29	mg/L
Nov 20	ND	0.50	0.50	mg/L
Nov 27	ND	0.32	0.32	mg/L
Dec 4	ND	0.27	0.27	mg/L
Dec 11	ND	0.25	0.25	mg/L
Dec 18	ND	0.29	0.29	mg/L
Dec 27	ND	0.32	0.32	mg/L

Parameter Microcystin	**Sample Date**	**Result: Raw – Before Treatment**	**Result: Point of Entry**	**Result: Distribution**	**Unit of Measure ug/L**
Microcystin	May 29	<0.150	<0.150	<0.150	ug/L
Microcystin	June 5	<0.150	<0.150	<0.150	ug/L
Microcystin	June 12	<0.150	<0.150	<0.150	ug/L
Microcystin	June 19	<0.150	<0.150	<0.150	ug/L
Microcystin	June 26	<0.150	<0.150	<0.150	ug/L
Microcystin	July 4	<0.150	<0.150	<0.150	ug/L
Microcystin	July 10	<0.150	<0.150	<0.150	ug/L
Microcystin	July 17	<0.150	<0.150	<0.150	ug/L
Microcystin	July 24	0.155	0.160	<0.150	ug/L
Microcystin	July 31	<0.150	<0.150	<0.150	ug/L
Microcystin	Aug 8	<0.150	<0.150	<0.150	ug/L
Microcystin	Aug 14	<0.150	<0.150	<0.150	ug/L
Microcystin	Aug 21	<0.150	<0.150	<0.150	ug/L

Microcystin	Aug 28	<0.150	<0.150	<0.150	ug/L
Microcystin	Sept 5	<0.150	<0.150	<0.150	ug/L
Microcystin	Sept 11	<0.150	<0.150	<0.150	ug/L
Microcystin	Sept 18	<0.150	<0.150	<0.150	ug/L
Microcystin	Sept 25	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 2	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 10	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 16	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 23	<0.150	<0.150	<0.150	ug/L
Microcystin	Oct 30	<0.150	<0.150	<0.150	ug/L
Microcystin	Nov 6	<0.150	<0.150	<0.150	ug/L
Microcystin	Nov 14	<0.150	<0.150	<0.150	ug/L
Microcystin	Nov20	<0.150	<0.150	<0.150	ug/L
Microcystin	Nov 27	<0.150	<0.150	<0.150	ug/L