



**OPTIONAL ANNUAL REPORT TEMPLATE**

<b>Drinking-Water System Number:</b>	220003332
<b>Drinking-Water System Name:</b>	Wheatley Drinking Water System
<b>Drinking-Water System Owner:</b>	Municipality of Chatham-Kent
<b>Drinking-Water System Category:</b>	Large Municipal
<b>Period being reported:</b>	January 1 – December 31, 2015

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [X] No [ ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</b></p> <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;"> <p>Chatham-Kent P.U.C. 325 Grand Ave. East P.O. Box 1191 Chatham, ON N7M 5L8</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">N/A</div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">N/A</div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></p>
--	---

**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:**

<b>Drinking Water System Name</b>	<b>Drinking Water System Number</b>
3 <sup>rd</sup> &4 <sup>th</sup> Concession Waterline Association	260086203
Richardson Sideroad Waterline Association	260086190
Cedar Inn Waterline Association	260086177
Tecumseh Road Waterline Association	260086151
Tilbury Townline Waterline Association	260086164
3 <sup>rd</sup> Concession Waterline Association	260086125
KOA Waterline Association	260086138
Leamington (Wheatley) Distribution System	260087048
D & O Waterline Association	260091793
Mint Waterline Distribution System	260091767



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**

The Wheatley Water Treatment Plant draws raw water from Lake Erie. Large debris is screened out of the raw water as it is drawn into the treatment plant. Chlorine is added at the raw intake to control the growth of zebra mussels within the intake pipe. The raw water then passes through a 35 micron microstrainer to remove algae and other fine particles. Aluminum Sulphate and Polymer are added to achieve more effective settling in the clarifier. Activated carbon is added in the clarifier and is primarily used to remove dissolved organic matter that causes taste, odor and color in drinking water. The water then passes through the gravity filters into the clearwell, where it is disinfected with chlorine before being pumped into the distribution system. The distribution system pressure is regulated by an elevated storage tower in Wheatley, with a capacity of 1454 m3. The elevated storage tower in the community of Tilbury has a capacity of 6181 m3.

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

1. Chlorine Gas
2. Sodium Hypochlorite
3. Aluminum Sulphate
4. Activated Carbon
5. Betz Dearborn Klar-Aid IC1179 (Polymer).

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 VFD Upgrade	\$54,975
Chlorine Room Upgrades	\$26,895
Low Lift Pump Repairs/Replacement	\$17,961
High Lift Pump #3 Soft Start Repairs	\$ 5,368
Reservoir #1 Level Meter Replacement	\$ 1,889
Turbidity Meter Bulb/Light change outs	\$ 985
Chlorine Analyzer Replacements	\$ 610

**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
July 14/15	Total Coliform	4	Cfu/100ml	2 consecutive days of sampling with clear results.	July 16/15

**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 #)
<b>Raw</b>	52	0-NDOGN	0-NDOGN	0	0-0
<b>Treated</b>	52	0-0	0-0	52	<10-590
<b>Distribution</b>	427	0-0	0-4	337	<10-170

\*NDOGN – No Data Overgrown with Non Targeted 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 #)
<b>Turbidity</b>	8760	0.02-0.16
<b>Chlorine</b>	8760	1.59-2.30
<b>Fluoride</b> (If the DWS provides fluoridation)	N/A	N/A

***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
MDWL 027-102: Pg. 12 Residue Management Table 3 Avg Annual Limit: 25 mg/L	Total Suspended Solids	Jan	10	
		Feb	10	
		Mar	4	
		Apr	21	
		May	12	
		Jun	25	
		Jul	10	
		Aug	2	
		Sept	8	
		Oct	10	
		Nov	6	
		Dec	10	
		Annual Avg Concentration	11	

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

\*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

	Sample Date Feb 17/15	Sample Date May 11/15	Sample Date Aug 17/15	Sample Date Nov 16/15	Exceedance
<b>Antimony – ug/L</b>			ND		No
<b>Arsenic – ug/L</b>			ND		No
<b>Barium – ug/L</b>			21		No
<b>Boron – ug/L</b>			18		No
<b>Cadmium – ug/L</b>			ND		No
<b>Chromium – ug/L</b>			ND		No
<b>Lead – ug/L</b>	See Schedule 15.1 Summary				
<b>Mercury – mg/L</b>			ND		No
<b>Selenium- ug/L</b>			ND		No
<b>Sodium – mg/L</b>	8.6	8.7	8.9	6.9	No
<b>Uranium – ug/L</b>			ND		No
<b>Fluoride – mg/L</b>	0.12	ND	ND	ND	No
<b>Nitrate – mg/L</b>	0.26	0.20	0.14	0.12	No
<b>Nitrite – mg/L</b>	ND	ND	ND	ND	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 Lead Results (min#) – (max #)	Number of Exceedances
Residential	NA		
Non Residential	NA		
Distribution	26	0.50-1.60	0

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

Parameter	Sample Date	Results Value	Units in ug/L	Exceedance
Alachlor	Aug 17/15	ND	Yes	No
Aldicarb	Aug 17/15	ND	Yes	No
Aldrin + Dieldrin	Aug 17/15	ND	Yes	No
Atrazine + N-dealkylated metabolites	Aug 17/15	ND	Yes	No
Azinphos - methyl	Aug 17/15	ND	Yes	No
Bendiocarb	Aug 17/15	ND	Yes	No
Benzene	Aug 17/15	ND	Yes	No
Benzo(a)pyrene	Aug 17/15	ND	Yes	No
Bromoxynil	Aug 17/15	ND	Yes	No
Carbaryl	Aug 17/15	ND	Yes	No
Carbofuran	Aug 17/15	ND	Yes	No
Carbon Tetrachloride	Aug 17/15	ND	Yes	No
Chlordane ( Total )	Aug 17/15	ND	Yes	No
Chloropyrifos	Aug 17/15	ND	Yes	No
Cyanazine	Aug 17/15	ND	Yes	No
Diazinon	Aug 17/15	ND	Yes	No
Dicamba	Aug 17/15	ND	Yes	No
1,2 - Dichlorobenzene	Aug 17/15	ND	Yes	No
1,4 - Dichlorobenzene	Aug 17/15	0.41	Yes	No
Dichlorodiphenyltrichloroethane - (DDT)	Aug 17/15	ND	Yes	No
1,2 - Dichloroethane	Aug 17/15	ND	Yes	No
1,1- Dichloroethylene (vinylidenechloride)	Aug 17/15	ND	Yes	No
Dichloromethane	Aug 17/15	ND	Yes	No
2,4 - Dichlorophenol	Aug 17/15	ND	Yes	No
2,4 - Dichlorophenoxy acetic acid	Aug 17/15	ND	Yes	No



(2,4 - D)				
Diclofop - methyl	Aug 17/15	ND	Yes	No
Dimethoate	Aug 17/15	ND	Yes	No
Dinoseb	Aug 17/15	ND	Yes	No
Diquat	Aug 17/15	ND	Yes	No
Diuran	Aug 17/15	ND	Yes	No
Glyphosate	Aug 17/15	ND	Yes	No
Heptachlor + Heptachlor Epoxide	Aug 17/15	ND	Yes	No
Lindane ( Total )	Aug 17/15	ND	Yes	No
Malathion	Aug 17/15	ND	Yes	No
Methoxychlor	Aug 17/15	ND	Yes	No
Metolachlor	Aug 17/15	ND	Yes	No
Metribuzin	Aug 17/15	ND	Yes	No
Monochlorobenzene (chlorobenzene )	Aug 17/15	ND	Yes	No
Paraquat	Aug 17/15	ND	Yes	No
Parathion	Aug 17/15	ND	Yes	No
Pentachlorophenol	Aug 17/15	ND	Yes	No
Phorate	Aug 17/15	ND	Yes	No
Picloram	Aug 17/15	ND	Yes	No
Polychlorinated Byphenyls (PCB)	Aug 17/15	ND	Yes	No
Prometryne	Aug 17/15	ND	Yes	No
Simazine	Aug 17/15	ND	Yes	No
Trihalomethanes – sampled quarterly	41.2 30.0 64.6 <u>55.1</u> 47.7		Yes	No
<b>Running Annual Average</b>				
Terbufos	Aug 17/15	ND	Yes	No
Tetrachloroethylene (perchloroethylene)	Aug 17/15	ND	Yes	No
2,3,4,6 - Tetrachlorophenol	Aug 17/15	ND	Yes	No
Triallate	Aug 17/15	ND	Yes	No
Trichloroethylene	Aug 17/15	ND	Yes	No
2,4,6 - Trichlorophenol	Aug 17/15	ND	Yes	No
2,4,5 - Trichlorophenoxy acetic acid (2,4,5-T)	Aug 17/15	ND	Yes	No
Trifluralin	Aug 17/15	ND	Yes	No
Vinyl Chloride	Aug 17/15	ND	Yes	No



**ADDITIONAL**

<b>Parameter- POINT OF ENTRY</b>	<b>Sample Date Feb 17/15</b>	<b>Sample Date May 11/15</b>	<b>Sample Date Aug 17/15</b>	<b>Sample Date Nov 16/15</b>
pH	7.57	7.02	7.43	7.34
HARDNESS – mg/L	120	110	120	110
ALKALINITY – mg/L	82	87	74	71
COLOUR - TCU	ND	ND	ND	ND
FLUORIDE – mg/L	0.12	ND	ND	ND
ALUMINUM –mg/L	0.013	0.029	0.026	0.017

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

<b>Parameter</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Date of Sample</b>

**Summary of additional voluntary sampling and testing during this reporting period.**

<b>Parameter</b>	<b>Date Sampled</b>	<b>Results Value Raw</b>	<b>Results Value Point of Entry</b>	<b>Results Value Distribution</b>	<b>Units</b>
Microcystin	June 15/15	0.17	<0.14	Not sampled	ppb
Microcystin	June 22/15	<0.14	<0.14	Not sampled	ppb
Microcystin	June 29/15	<0.14	<0.14	Not sampled	ppb
Microcystin	July 6/15	<0.14	<0.14	Not sampled	ppb
Microcystin	July 13/15	<0.14	<0.14	Not sampled	ppb
Microcystin	July 20/15	<0.14	<0.14	Not sampled	ppb
Microcystin	July 27/15	<0.17	0.15	Not sampled	ppb
Microcystin	Aug 4/15	0.33	<0.14	Not sampled	ppb
Microcystin	Aug 10/15	<0.14	<0.14	Not sampled	ppb
Microcystin	Aug 17/15	<0.14	<0.14	Not sampled	ppb
Microcystin	Aug 24/15	<0.14	<0.14	Not Sampled	ppb
Microcystin	Aug 31/15	0.27	<0.14	Not Sampled	ppb
Microcystin	Sept 8/15	0.65	<0.14	Not Sampled	ppb
Microcystin	Sept 14/15	<0.14	<0.14	<0.14	ppb
Microcystin	Sept 21/15	<0.14	<0.14	<0.14	ppb
Microcystin	Sept 28/15	0.26	<0.14	<0.14	ppb
Microcystin	Oct 5/15	<0.14	<0.14	<0.14	ppb
Microcystin	Oct 13/15	<0.14	<0.14	Not Sampled	ppb
Microcystin	Oct 19/15	<0.14	<0.14	Not Sampled	ppb
Microcystin	Oct 26/15	0.31	<0.14	Not Sampled	ppb
Microcystin	Nov 2/15	<0.14	<0.14	Not Sampled	ppb
Microcystin	Nov 9/15	<0.14	<0.14	Not Sampled	ppb
Microcystin	Nov 16/15	<0.14	<0.14	Not Sampled	ppb
Microcystin	Nov 23/15	<0.14	<0.14	Not Sampled	ppb
Microcystin	Nov 30/15	<0.14	<0.14	Not Sampled	ppb