COLBORNE DRINKING WATER SYSTEM ANNUAL REPORT

Drinking-Water System Number:	220000790
Drinking-Water System Name:	Colborne Drinking Water System
Drinking-Water System Owner:	Corporation of The Township of Cramahe
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2018 to December 31, 2018

Complete if your Category is Large Municipal Residential or Small Municipal Residential	***Complete for all other Categories.***
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 []** **Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.** Lakefront Utility Services Inc. Office 207 Division St., Cobourg Ontario https://www.lakefrontutilities.on.ca/regulatory/water/	**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
N/A	N/A

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**
- **[X] Public access/notice via Government Office**
- **[ ] Public access/notice via a newspaper**
- **[X] 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 Colborne Well Supply delivers water to approximately 2000 residents. Water is taken from 2 wells located at the water plant on Purdy Road. The water is disinfected with sodium hypochlorite, and sodium silicate is added to sequester iron. After meeting the required contact time, the treated water reaches the distribution system, satisfying consumer demand and refilling the water tower located at the top end of the system north of Hwy. 401. A pressure sensor at the water tower determines the tower's water level and turns the well pumps on and off as required.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite
Sodium Silicate

Were any significant expenses incurred to?

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

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

PROJECT	ESTIMATED COST
Elgin St South Watermain Extension	$105,000
Watermain Replacement on Park St, Burnham St and Cedar St	$810,000
Well #2 Flowmeter Replacement at Colborne WTP	$4,000
Chlorine Injection Pump Replacement at Colborne WTP	$12,600

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 #1 – June 11, 2018

During the extension of a dead-end water main, a loss of positive pressure occurred during construction. There were three residential homes downstream of the failure, resulting in the Public Health Unit issued a boil water advisory. The watermain was repaired and flushed, a bacti sample (with HPC) was collected and results came back clear. The Public Health Unit rescinded the boil water advisory on June 19, 2018.

Incident #2 – August 9, 2018

During the connection of a newly commissioned watermain to an existing watermain, a construction error occurred allowing dirt/gravel to enter the watermain. The Public Health Unit issued a boil water advisory, flushing was completed and two consecutive bacti samples, with HPC, were taken. When the results of the tests came back clear the Public Health Unit rescinded the boil water advisory.

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	104	0 - 0	0 – 0	N/A	N/A
Treated	52	0 - 0	0 – 0	52	0 – 3
Distribution	156	0 - 0	0 – 0	104	0 – 14

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 (Treated)	12	0.08 – 0.58 NTU
Turbidity (Raw)	12	0.04 – 0.89 NTU
Chlorine	8760	0.00 – 5.00 mg/L

Note: 0.50 mg/L chlorine shuts the plant down and chlorine residual restored as per MOECC approved procedure. The numbers shown in the range represent instantaneous events in the system caused by power flickers, calibrations, and other operational anomalies. These numbers are not representative of normal operating conditions.

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				

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

Note: These samples are required once every three years for the Colborne Water System. They are due to be sampled again in 2019. Sodium and Fluoride are sampled every 5 years.

Parameter	Result Value	Standard	Unit of Measure	Exceedance	Sample Date
Antimony	0.02 <MDL	6	ug/l	**NO**	5-Jan-2016
Arsenic	.08	25	ug/l	NO	5-Jan-2016
Barium	141	1000	ug/l	NO	5-Jan-2016
Boron	8.1	5000	ug/l	NO	5-Jan-2016
Cadmium	0.003	5	ug/l	NO	5-Jan-2016
Chromium	0.30	50	ug/l	NO	5-Jan-2016
Mercury	0.01 <MDL	1	ug/l	NO	5-Jan-2016
Selenium	0.09	10	ug/l	NO	5-Jan-2016
Uranium	3.49	20	ug/l	NO	5-Jan-2016
Nitrite	<0.003	1.0	mg/l	NO	19-Nov-2018
Nitrate	1.48	10	mg/l	NO	13-Nov-2018
Sodium	6.86	20.0	mg/l	NO	26-Jan-2015
Fluoride	0.08	1.5	mg/l	NO	26-Jan-2015

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
Plumbing	11	0.01 <MDL - 2.07 ug/L	0
Distribution	4	0.01 <MDL - 0.31 ug/L	0

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

Note: These samples are required once every three years for the Colborne Water System. They are due to be sampled again in 2019.

Parameter	Sample Date	Result Value	Standard	Unit of Measure	Exceedance
Benzene [ug/L]	5-Jan-2016	0.32 <MDL	5	ug/l	NO
Carbon tetrachloride [ug/L]	5-Jan-2016	0.16 <MDL	5	ug/l	NO
2-Dichlorobenzene [ug/L]	5-Jan-2016	0.41 <MDL	200	ug/l	NO
4-Dichlorobenzene [ug/L]	5-Jan-2016	0.36 <MDL	5	ug/l	NO
1-Dichloroethylene (vinylidene chloride) [ug/L]	5-Jan-2016	0.33 <MDL	14	ug/l	NO
2-Dichloroethane [ug/L]	5-Jan-2016	0.35 <MDL	5	ug/l	NO
Dichloromethane [ug/L]	5-Jan-2016	0.35 <MDL	50	ug/l	NO
Monochlorobenzene `[ug/L]	5-Jan-2016	0.3 <MDL	80	ug/l	NO
Tetrachloroethylene (perchloroethylene) [ug/L]	5-Jan-2016	0.35 <MDL	30	ug/l	NO
Trichloroethylene [ug/L]	5-Jan-2016	0.44 <MDL	5	ug/l	NO
Vinyl Chloride [ug/L]	5-Jan-2016	0.17 <MDL	2	ug/l	NO
Diquat [ug/L]	5-Jan-2016	1 <MDL	70	ug/l	NO
Paraquat [ug/L]	5-Jan-2016	1 <MDL	10	ug/l	NO
Glyphosate [ug/L]	5-Jan-2016	1 <MDL	280	ug/l	NO
Polychlorinated Biphenyls (PCBs) - Total [ug/L]	5-Jan-2016	0.04 <MDL	3	ug/l	NO
Benzo(a)pyrene [ug/L]	5-Jan-2016	0.004 <MDL	0.01	ug/l	NO
Alachlor [ug/L]	5-Jan-2016	0.02 <MDL	5	ug/l	NO
Atrazine + N-dealkylated metabolites [ug/L]	5-Jan-2016	0.01 <MDL	5	ug/l	NO
Atrazine [ug/L]	5-Jan-2016	0.01 <MDL	-	ug/l	NO
Desethyl atrazine [ug/L]	5-Jan-2016	0.01 <MDL	-	ug/l	NO
Azinphos-methyl [ug/L]	5-Jan-2016	0.05 <MDL	20	ug/l	NO
Carbaryl [ug/L]	5-Jan-2016	0.05 <MDL	90	ug/l	NO
Carbofuran [ug/L]	5-Jan-2016	0.01<MDL	90	ug/l	NO
Chlorpyrifos [ug/L]	5-Jan-2016	0.02 <MDL	90	ug/l	NO
Diazinon [ug/L]	5-Jan-2016	0.02 <MDL	20	ug/l	NO
Dimethoate [ug/L]	5-Jan-2016	0.03 <MDL	20	ug/l	NO
Diuron [ug/L]	5-Jan-2016	0.03 <MDL	150	ug/l	NO
Malathion [ug/L]	5-Jan-2016	0.02 <MDL	190	ug/l	NO
Metolachlor [ug/L]	5-Jan-2016	0.01 <MDL	50	ug/l	NO
Metribuzin [ug/L]	5-Jan-2016	0.02 <MDL	80	ug/l	NO
Phorate [ug/L]	5-Jan-2016	0.01 <MDL	2	ug/l	NO
Prometryne [ug/L]	5-Jan-2016	0.03 <MDL	1	ug/l	NO
Simazine [ug/L]	5-Jan-2016	0.01 <MDL	10	ug/l	NO
Terbufos [ug/L]	5-Jan-2016	0.01 <MDL	1	ug/l	NO
Triallate [ug/L]	5-Jan-2016	0.01 <MDL	230	ug/l	NO
Trifluralin [ug/L]	5-Jan-2016	0.02 <MDL	45	ug/l	NO
4-dichlorophenoxyacetic acid (24-D) [ug/L]	5-Jan-2016	0.19 <MDL	100	ug/l	NO
Bromoxynil [ug/L]	5-Jan-2016	0.33 <MDL	5	ug/l	NO
Dicamba [ug/L]	5-Jan-2016	0.20 <MDL	120	ug/l	NO
Diclofop-methyl [ug/L]	5-Jan-2016	0.40 <MDL	9	ug/l	NO
MCPA [mg/L]	5-Jan-2016	0.00012 <MDL	-	ug/l	NO
Picloram [ug/L]	5-Jan-2016	1 <MDL	190	ug/l	NO

4-dichlorophenol [ug/L]	5-Jan-2016	0.15 <MDL	900	ug/l	NO
6-trichlorophenol [ug/L]	5-Jan-2016	0.25 <MDL	5	ug/l	NO
6-tetrachlorophenol [ug/L]	5-Jan-2016	0.20 <MDL	100	ug/l	NO
Pentachlorophenol [ug/L]	5-Jan-2016	0.15 <MDL	60	ug/l	NO
THM: Annual Average	19-Nov-2018	3.82	100	ug/l	NO
HAA: Annual Average	19-Nov-2018	5.3 <MDL	80	ug/l	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			