ANNUAL REPORT

Drinking-Water System Number:	**260024999**
Drinking-Water System Name:	South Chatham-Kent 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, 2020

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 PUC Office
325 Grand Ave E
Box 1191
Chatham, ON
N7M 5L8

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

Surface water for the South Chatham-Kent Drinking Water System is obtained from Lake Erie via an intake pipe and a raw water pumping station. The Kent County Raw Water Pumping Station supplies both the South Chatham-Kent Water Treatment Plant and the Chatham Water Treatment Plant with raw water. Raw water from the pumping station is pumped to the South Chatham-Kent Water Treatment Plant and is passed through microstrainers for fine particulate removal. Filtration is then provided by a dual train membrane filtration system equipped with hollow fiber membrane modules for 0.2 micron removal. Filtered water from the membrane units is then passed through granular activated carbon filters for taste and odour control. Filtered water is then disinfected with chlorine gas. Hydrofluosilicic acid is also added as an aid in the prevention of tooth decay. Filtered water is then discharged to the contact chambers and subsequently to the high lift pump well. Treated water from the high lift pump well is discharged by the high lift pumps to the distribution system. The distribution system for the South Chatham-Kent Drinking Water System also includes a reservoir/booster station and an elevated tank, both located in Blenheim, for the storage and supply of water to the system.

List all water treatment chemicals used over this reporting period

1. Chlorine Gas
2. 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

Membrane Modules Replacement	$ 120,000
Reservoir Pump Replacement	35,000
New Turbidity Meter	8,500
Low Lift #2 Pump Rebuild	6,000
Chlorine Probe Replacement	6,000

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
None					

Microbiological testing done under the Schedule 10 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 – 14	4 – 1300	0	
Treated	52	0 – 0	0 – 0	52	<10 – 20
Distribution	507	0 – 0	0 – 0	498	<10 – 90

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

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity Filters	8760	0.0001 – 0.991 NTU
Chlorine After Clearwell #2	8760	0.20 – 3.75 mg/L
Fluoride (Provided)	8760	0.014 – 1.071 mg/L

***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	Jan Result	Feb Result	Mar Result	Apr Result	May Result	Jun Result	Jul Result	Aug Result	Sept Result	Oct Result	Nov Result	Dec Result
Municipal Drinking Water License # 027-102 Pages 12 & 15 Tables 3 & 7 Annual Average Concentration Limit: 25 mg/L	Residue Management: Total Suspended Solids (mg/L)	18	14	18	9	9	6	26	13	14	21	16	22
		Annual Average: 15.5											

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

Parameter	Sample Date	Result Value	MAC Limit	Unit of Measure	Exceedance
Antimony	January 13	<0.50	6	ug/L	No
Arsenic	January 13	<1.0	10	ug/L	No
Barium	January 13	15	1000	ug/L	No
Boron	January 13	18	5000	ug/L	No
Cadmium	January 13	<010	5	ug/L	No
Chromium	January 13	<5.0	50	ug/L	No
***Lead**	See Schedule 15.1 Summary				
Mercury	January 13	<0.0001	0.001	mg/L	No
Selenium	January 13	<2.0	50	ug/L	No
Sodium	January 13	8.6	20	mg/L	No
Uranium	January 13	0.48	20	ug/L	No
Fluoride	Continuous Monitoring Required: See Operational Section				
Nitrite	October 19	<0.010	1	mg/L	No
Nitrate	October 19	0.13	10	mg/L	No
Nitrite + Nitrate	October 19	0.13	-	mg/L	No

Summary of lead testing under Schedule 15.1 during this reporting period

Location Type	Number of Samples	Range of Lead Results ug/L (min#) – (max #)	MAC Limit ug/L	Number of Exceedances / Adverses
Residential	0			
Non-Residential	0			
Distribution	8	<0.50 – 0.64	10	0

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

Parameter	Sample Date	Result Value	MAC Limits	Unit of Measure	Exceedance
Alachlor	January 13	<0.50	5	ug/L	No
Atrazine + N-dealkylated metabolites	January 13	<1.0	5	ug/L	No
Azinphos-methyl	January 13	<2.0	20	ug/L	No
Benzene	January 13	<0.10	1	ug/L	No
Benzo(a)pyrene	January 13	<0.0050	0.01	ug/L	No
Bromoxynil	January 13	<0.50	5	ug/L	No
Carbaryl	January 13	<5.0	90	ug/L	No
Carbofuran	January 13	<5.0	90	ug/L	No
Carbon Tetrachloride	January 13	<0.10	2	ug/L	No
Chlorpyrifos (Dursban)	January 13	<1.0	90	ug/L	No
Diazinon	January 13	<1.0	20	ug/L	No
Dicamba	January 13	<1.0	120	ug/L	No
1,2-Dichlorobenzene	January 13	<0.20	200	ug/L	No
1,4-Dichlorobenzene	January 13	<0.20	5	ug/L	No
1,2-Dichloroethane	January 13	<0.20	5	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	January 13	<0.10	14	ug/L	No
Dichloromethane	January 13	<0.50	50	ug/L	No
2-4 Dichlorophenol	January 13	<0.25	900	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	January 13	<1.0	100	ug/L	No
Diclofop-methyl	January 13	<0.90	9	ug/L	No
Dimethoate	January 13	<2.5	20	ug/L	No
Diquat	January 13	<7.0	70	ug/L	No
Diuron	January 13	<10	150	ug/L	No
Ethylbenzene	January 13	<0.10	140	ug/L	No
Glyphosate	January 13	<10	280	ug/L	No
Haloacetic Acids (HAA) **Running Annual Average:**	Jan 13 Jan 13 lab dup Apr 6 Jul 13 Oct 19	5.6 5.5 13 25 15 **14.6**	80	ug/L	No
Malathion	January 13	<5.0	190	ug/L	No
2 Methyl-4-chlorophenoxyacetic acid (MCPA)	January 13	<10	100	ug/L	No
Metolachlor	January 13	<0.50	190	ug/L	No
Metribuzin (Sencor)	January 13	<5.0	80	ug/L	No
Monochlorobenzene	January 13	<0.10	80	ug/L	No
Paraquat	January 13	<1.0	10	ug/L	No
Pentachlorophenol	January 13	<0.50	60	ug/L	No
Phorate	January 13	<0.50	2	ug/L	No
Picloram	January 13	<5.0	190	ug/L	No
Polychlorinated Biphenyls(PCB)	January 13	<0.05	3	ug/L	No
Prometryne	January 13	<0.25	1	ug/L	No
Simazine	January 13	<1.0	10	ug/L	No
Terbufos	January 13	<0.50	1	ug/L	No
Tetrachloroethylene	January 13	<0.10	10	ug/L	No
2,3,4,6-Tetrachlorophenol	January 13	<0.50	100	ug/L	No

Trihalomethanes (THM) **Running Annual Average:**	Jan 13 Apr 6 Jul 13 Oct 19	23 26.4 45.7 30.7 **31.5**	100	ug/L	No
Toluene	January 13	<0.20	60	ug/L	No
Triallate	January 13	<1.0	230	ug/L	No
Trichloroethylene	January 13	<0.10	5	ug/L	No
2,4,6-Trichlorophenol	January 13	<0.50	5	ug/L	No
Trifluralin	January 13	<1.0	45	ug/L	No
Vinyl Chloride	January 13	<0.20	1	ug/L	No
Xylenes	January 13	<0.10	90	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
None			

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

Parameter	Sample Date	Result: Raw – Before Treatment	Result: Point of Entry	Unit of Measure
Microcystin	May 25	<0.150	<0.150	ug/L
	Jun 01	<0.150	<0.150	
	Jun 08	<0.150	<0.150	
	Jun 15	<0.150	<0.150	
	Jun 22	<0.150	<0.150	
	Jun 29	<0.150	<0.150	
	Jul 06	<0.150	<0.150	
	Jul 13	<0.150	<0.150	
	Jul 20	<0.150	<0.150	
	Jul 27	<0.150	<0.150	
	Aug 04	<0.150	<0.150	
	Aug 10	<0.150	<0.150	
	Aug 17	<0.150	<0.150	
	Aug 24	<0.150	<0.150	
	Aug 31	<0.150	<0.150	
	Sept 08	<0.150	<0.150	
	Sept 14	<0.150	<0.150	
	Sept 21	<0.150	<0.150	
	Sept 28	<0.150	<0.150	
	Oct 05	<0.150	<0.150	
	Oct 13	<0.150	<0.150	
	Oct 19	<0.150	<0.150	
	Oct 26	<0.150	<0.150	