ANNUAL REPORT

ERIN

DRINKING WATER SYSTEM

FOR THE PERIOD:
JANUARY 1, 2020 – DECEMBER 31, 2020

Prepared for the Town of Erin
by the Ontario Clean Water Agency

TOWN OF ERIN

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Drinking-Water System Number:	220000013
Drinking-Water System Name:	Erin Drinking Water System
Drinking-Water System Owner:	The Corporation of the Town of Erin
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2020 – December 31, 2020

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.** Office of the Town of Erin 5684 Trafalgar Road Hillsburgh, Ontario N0B 1Z0	**Number of Designated Facilities served:** Not Applicable **Did you provide a copy of your annual report to all Designated Facilities you serve?** Not Applicable **Number of Interested Authorities you report to:** Not Applicable **Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?** Not Applicable

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
Not Applicable	*Not Applicable*

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?
Not applicable.

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
- [ ] Public access/notice via a Public Library
- [ ] Public access/notice via other method:

Describe your Drinking-Water System

The Erin Drinking Water System is a Class 3 Water Distribution and Supply Subsystem serving a population of approximately 3000 residential and commercial customers, located in the former Village of Erin. The distribution system has 26 km of water mains with 154 fire hydrants.

The water system is a ground water system supplied from two wells drilled into the fractured limestone bedrock, with a total rated capacity of 4,128 m^3/day. The pressure in most of the Erin Drinking Water System is maintained by a 1,703 m^3 water tower, however 65 residences in the Erin Heights Subdivision require a booster pump to maintain adequate pressure.

Well No. 7, located at 46 Shamrock Road (9555 Side Road 17), Erin, is a 260 mm diameter, 43m deep drilled ground water well, with casing to a depth of 19.1m. The well is located inside the pump house and is equipped with a submersible pump rated at 1,800 L/min. The neighboring land is used for both industrial and agricultural purposes. There is also undeveloped land in the vicinity of the Pumphouse.

Well No. 8, located on Lot 17, concession 8-9 (5555 Eighth Line), Erin, is a 200 mm diameter, 46 m deep drilled groundwater well, with double casing to depths of 6.7 m (outer casing) and 8.53 m (inner casing). The well is located approximately 4 m northwest of the pump house and is equipped with a submersible pump rated at 1,636 L/min. The neighboring land is used for both residential and agricultural purposes. A golf course runs adjacent to the Pumphouse along with undeveloped land.

List all water treatment chemicals used over this reporting period

- Gaseous Chlorine NSF, Disinfection

Were any significant expenses incurred to?

X	Install required equipment
X	Repair required equipment
X	Replace required equipment
	No significant expenses were incurred

Please provide a brief description of any significant expenses incurred

- Annual Flow Meter Calibrations
- Annual Generator Load Testing
- Annual Backflow Preventer Inspections
- DWQMS S1 Systems Audit
- Well E8 Well inspection and pump replacement
- Well E7 New radio for communication installed
- Well E7 Well pump inspection
- Well E7 and E8 Reservoir Cleaning/Inspection
- Hydrant repair and maintenance

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 (yyyy/mm/dd)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (yyyy/mm/dd)
2020/12/29	Loss of Communication	n/a	n/a	AWQI# 153334 - Communication failure on distribution chlorine analyzer caused a loss of continuous monitoring with 2 data points back to back to be below the regulation value of 0.05mg/L, thus making this a reportable event under the regulation. Communication failure lasted 5 minutes. Distribution chlorine analyzers were installed with an SD card backup for regulatory captures in the event there were communication drops to the SCADA from the PLC. It was recently discovered that there is a software issue with the analyzer from the manufacturer which allows the data backup to drop off randomly and not record on the SD card. – Data logger has been purchased and installed to provide a redundancy for the required regulatory data.	2021/02/08

Table 1. Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Location	Number of Samples	Range of E.coli Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Min.	Max.	Min.	Max.		Min.	Max.
Raw Water - Well E7	52	0	0	0	0	0	-	-
Raw Water - Well E8	53*	0	0	0	0	0	-	-
Treated Water – E7	52	0	0	0	0	52	0	1
Treated Water – E8	52	0	0	0	0	52	0	1
Distribution	212	0	0	0	0	212	0	22

*Additional sample for Well E8 raw water for recommissioning

Table 2. Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results	
		Minimum	Maximum
Raw Water			
Turbidity, Well E7 (NTU)	12	0.10	0.52
Turbidity, Well E8 (NTU)	12	0.06	0.42
Treated Water			
Free Chlorine Residual, TW E7 (mg/L)	8760	0.00*	1.62
Free Chlorine Residual, TW E8 (mg/L)	8760	0.00*	2.00
Distribution Water			
Free Chlorine Residual, DW (mg/L)	8760	0.00**	1.76

NOTE: For continuous monitors, 8760 is used as the number of samples.
*Minimum chlorine residuals of 0 mg/L are due to power outages and analyzer calibrations; actual readings at the time were well within regulatory requirements.
**Minimum chlorine residual of 0 mg/L due to distribution analyzer software issue; all treated water that was directed to users was within regulatory requirements.

Table 3. 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
Not Applicable				

Table 4. Summary of Inorganic parameters tested during this reporting period or most recent sample results

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (µg/L) – TW E7	2018/05/09	<MDL 0.0005	6.0	No	No
Antimony: Sb (µg/L) – TW E8	2018/05/09	<MDL 0.0005	6.0	No	No
Arsenic: As (µg/L) - TW E7	2018/05/09	<MDL 0.0010	10.0	No	No
Arsenic: As (µg/L) – TW E8	2018/05/09	<MDL 0.0010	10.0	No	No
Barium: Ba (µg/L) - TW E7	2018/05/09	0.032	1000.0	No	No
Barium: Ba (µg/L) – TW E8	2018/05/09	0.046	1000.0	No	No
Boron: B (µg/L) - TW E7	2018/05/09	0.019	5000.0	No	No
Boron: B (µg/L) – TW E8	2018/05/09	0.013	5000.0	No	No
Cadmium: Cd (µg/L) - TW E7	2018/05/09	<MDL 0.0001	5.0	No	No
Cadmium: Cd (µg/L) – TW E8	2018/05/09	<MDL 0.0001	5.0	No	No
Chromium: Cr (µg/L) - TW E7	2018/05/09	<MDL 0.0050	50.0	No	No
Chromium: Cr (µg/L) – TW E8	2018/05/09	<MDL 0.0050	50.0	No	No
Mercury: Hg (µg/L) - TW E7	2018/05/09	<MDL 0.0001	1.0	No	No
Mercury: Hg (µg/L) – TW E8	2018/05/09	<MDL 0.0001	1.0	No	No
Selenium: Se (µg/L) - TW E7	2018/05/09	<MDL 0.0020	50.0	No	No
Selenium: Se (µg/L) – TW E8	2018/05/09	<MDL 0.04	50.0	No	No

Uranium: U (µg/L) - TW E7	2018/05/09	0.00038	20.0	No	No
Uranium: U (µg/L) - TW E8	2018/05/09	0.0001	20.0	No	No
Additional Inorganics					
Fluoride (mg/L) – TW E7	2018/05/09	0.20	1.5	No	No
Fluoride (mg/L) – TW E8	2018/05/09	0.26	1.5	No	No
Nitrite (mg/L) - TW7	2020/01/21	0.01	1.0	No	No
Nitrite (mg/L) - TW7	2020/04/15	0.01	1.0	No	No
Nitrite (mg/L) - TW7	2020/07/08	0.01	1.0	No	No
Nitrite (mg/L) - TW7	2020/10/20	0.01	1.0	No	No
Nitrite (mg/L) - TW8	2020/01/21	0.01	1.0	No	No
Nitrite (mg/L) - TW8	2020/04/15	0.01	1.0	No	No
Nitrite (mg/L) - TW8	2020/07/08	0.01	1.0	No	No
Nitrite (mg/L) - TW8	2020/10/20	0.01	1.0	No	No
Nitrate (mg/L) - TW7	2020/01/21	0.1	10.0	No	No
Nitrate (mg/L) - TW7	2020/04/15	0.1	10.0	No	No
Nitrate (mg/L) - TW7	2020/07/08	0.14	10.0	No	No
Nitrate (mg/L) - TW7	2020/10/20	0.11	10.0	No	No
Nitrate (mg/L) - TW8	2020/01/21	0.1	10.0	No	No
Nitrate (mg/L) - TW8	2020/04/15	0.1	10.0	No	No
Nitrate (mg/L) - TW8	2020/07/08	0.1	10.0	No	No
Nitrate (mg/L) - TW8	2020/10/20	0.1	10.0	No	No
Sodium: Na (mg/L) – TW E7	2018/05/09	6.7	20*	No	No
Sodium: Na (mg/L) – TW E8	2018/05/09	5.1	20*	No	No

*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

Table 5. 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	Number of Exceedances
		Minimum	Maximum		
Distribution - Lead Results (µg/L)	9	0.50	1.3	10	0
Distribution - Alkalinity (mg/L)	6	150	210	n/a	n/a
Distribution - pH In-House	6	7.5	8.0	n/a	n/a

The Erin Drinking Water Systems qualifies for plumbing exemption.

Table 6. 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 (µg/L) - TW E7	2018/05/09	<MDL 0.50	5.00	No	No
Alachlor (µg/L) - TW E8	2018/05/09	<MDL 0.50	5.00	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW E7	2018/05/09	<MDL 0.50	5.00	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW E8	2018/05/09	<MDL 0.50	5.00	No	No
Azinphos-methyl (µg/L) - TW E7	2018/05/09	<MDL 2.0	20.00	No	No
Azinphos-methyl (µg/L) - TW E8	2018/05/09	<MDL 2.0	20.00	No	No
Benzene (µg/L) - TW E7	2018/05/09	<MDL 0.10	1.00	No	No
Benzene (µg/L) - TW E8	2018/05/09	<MDL 0.10	1.00	No	No
Benzo(a)pyrene (µg/L) - TW E7	2018/05/09	<MDL 0.0090	0.01	No	No
Benzo(a)pyrene (µg/L) - TW E8	2018/05/09	<MDL 0.0090	0.01	No	No
Bromoxynil (µg/L) - TW E7	2018/05/09	<MDL 0.50	5.00	No	No
Bromoxynil (µg/L) - TW E8	2018/05/09	<MDL 0.50	5.00	No	No
Carbaryl (µg/L) - TW E7	2018/05/09	<MDL 5.0	90.00	No	No
Carbaryl (µg/L) - TW E8	2018/05/09	<MDL 5.0	90.00	No	No
Carbofuran (µg/L) - TW E7	2018/05/09	<MDL 5.0	90.00	No	No
Carbofuran (µg/L) - TW E8	2018/05/09	<MDL 5.0	90.00	No	No
Carbon Tetrachloride (µg/L) - TW E7	2018/05/09	<MDL 0.10	2.00	No	No
Carbon Tetrachloride (µg/L) - TW E8	2018/05/09	<MDL 0.10	2.00	No	No
Chlorpyrifos (µg/L) - TW E7	2018/05/09	<MDL 1.0	90.00	No	No
Chlorpyrifos (µg/L) - TW E8	2018/05/09	<MDL 1.0	90.00	No	No
Diazinon (µg/L) - TW E7	2018/05/09	<MDL 1.0	20.00	No	No
Diazinon (µg/L) - TW E8	2018/05/09	<MDL 1.0	20.00	No	No
Dicamba (µg/L) - TW E7	2018/05/09	<MDL 1.0	120.00	No	No
Dicamba (µg/L) - TW E8	2018/05/09	<MDL 1.0	120.00	No	No
1,2-Dichlorobenzene (µg/L) - TW E7	2018/05/09	<MDL 0.20	200.00	No	No
1,2-Dichlorobenzene (µg/L) - TW E8	2018/05/09	<MDL 0.20	200.00	No	No
1,4-Dichlorobenzene (µg/L) - TW E7	2018/05/09	<MDL 0.20	5.00	No	No
1,4-Dichlorobenzene (µg/L) - TW E8	2018/05/09	<MDL 0.20	5.00	No	No
1,2-Dichloroethane (µg/L) - TW E7	2018/05/09	<MDL 0.20	5.00	No	No
1,2-Dichloroethane (µg/L) - TW E8	2018/05/09	<MDL 0.20	5.00	No	No
1,1-Dichloroethylene (µg/L) - TW E7	2018/05/09	<MDL 0.10	14.00	No	No
1,1-Dichloroethylene (µg/L) - TW E8	2018/05/09	<MDL 0.10	14.00	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW E7	2018/05/09	<MDL 0.50	50.00	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW E8	2018/05/09	<MDL 0.50	50.00	No	No
2,4-Dichlorophenol (µg/L) - TW E7	2018/05/09	<MDL 0.25	900.00	No	No
2,4-Dichlorophenol (µg/L) - TW E8	2018/05/09	<MDL 0.25	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW E7	2018/05/09	<MDL 1.0	100.00	No	No

2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW E8	2018/05/09	<MDL 1.0	100.00	No	No
Diclofop-methyl (µg/L) - TW E7	2018/05/09	<MDL 0.90	9.00	No	No
Diclofop-methyl (µg/L) - TW E8	2018/05/09	<MDL 0.90	9.00	No	No
Dimethoate (µg/L) - TW E7	2018/05/09	<MDL 2.5	20.00	No	No
Dimethoate (µg/L) - TW E8	2018/05/09	<MDL 2.5	20.00	No	No
Diquat (µg/L) – TW E7	2018/05/09	<MDL 14.0	70.00	No	No
Diquat (µg/L) – TW E8	2018/05/09	<MDL 14.0	70.00	No	No
Diuron (µg/L) – TW E7	2018/05/09	<MDL 10.0	150.00	No	No
Diuron (µg/L) – TW E8	2018/05/09	<MDL 10.0	150.00	No	No
Glyphosate (µg/L) – TW E7	2018/05/09	<MDL 10.0	280.00	No	No
Glyphosate (µg/L) – TW E8	2018/05/09	<MDL 10.0	280.00	No	No
Malathion (µg/L) - TW E7	2018/05/09	<MDL 5.0	190.00	No	No
Malathion (µg/L) - TW E8	2018/05/09	<MDL 5.0	190.00	No	No
Metolachlor (µg/L) - TW E7	2018/05/09	<MDL 5.0	50.00	No	No
Metolachlor (µg/L) - TW E8	2018/05/09	<MDL 5.0	50.00	No	No
Metribuzin (µg/L) - TW E7	2018/05/09	<MDL 5.0	80.00	No	No
Metribuzin (µg/L) - TW E8	2018/05/09	<MDL 5.0	80.00	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW E7	2018/05/09	<MDL 0.10	80.00	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW E8	2018/05/09	<MDL 0.10	80.00	No	No
Paraquat (µg/L) - TW E7	2018/05/09	<MDL 2.0	10.00	No	No
Paraquat (µg/L) - TW E8	2018/05/09	<MDL 2.0	10.00	No	No
PCB (µg/L) - TW E7	2018/05/09	<MDL 0.05	3.00	No	No
PCB (µg/L) - TW E8	2018/05/09	<MDL 0.05	3.00	No	No
Pentachlorophenol (µg/L) - TW E7	2018/05/09	<MDL 0.50	60.00	No	No
Pentachlorophenol (µg/L) - TW E8	2018/05/09	<MDL 0.50	60.00	No	No
Phorate (µg/L) - TW E7	2018/05/09	<MDL 0.50	2.00	No	No
Phorate (µg/L) - TW E8	2018/05/09	<MDL 0.50	2.00	No	No
Picloram (µg/L) - TW E7	2018/05/09	<MDL 5.0	190.00	No	No
Picloram (µg/L) - TW E8	2018/05/09	<MDL 5.0	190.00	No	No
Prometryne (µg/L) - TW E7	2018/05/09	<MDL 0.25	1.00	No	No
Prometryne (µg/L) - TW E8	2018/05/09	<MDL 0.25	1.00	No	No
Simazine (µg/L) - TW E7	2018/05/09	<MDL 1.0	10.00	No	No
Simazine (µg/L) - TW E8	2018/05/09	<MDL 1.0	10.00	No	No
Terbufos (µg/L) - TW E7	2018/05/09	<MDL 0.50	1.00	No	No
Terbufos (µg/L) - TW E8	2018/05/09	<MDL 0.50	1.00	No	No
Tetrachloroethylene (µg/L) - TW E7	2018/05/09	<MDL 0.10	10.00	No	No
Tetrachloroethylene (µg/L) - TW E8	2018/05/09	<MDL 0.10	10.00	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW E7	2018/05/09	<MDL 0.50	100.00	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW E8	2018/05/09	<MDL 0.50	100.00	No	No
Triallate (µg/L) - TW E7	2018/05/09	<MDL 1.0	230.00	No	No
Triallate (µg/L) - TW E8	2018/05/09	<MDL 1.0	230.00	No	No

Trichloroethylene (µg/L) - TW E7	2018/05/09	<MDL 0.10	5.00	No	No
Trichloroethylene (µg/L) - TW E8	2018/05/09	<MDL 0.10	5.00	No	No
2,4,6-Trichlorophenol (µg/L) - TW E7	2018/05/09	<MDL 0.50	5.00	No	No
2,4,6-Trichlorophenol (µg/L) - TW E8	2018/05/09	<MDL 0.50	5.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW E7	2018/05/09	<MDL 10.0	100.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW E8	2018/05/09	<MDL 10.0	100.00	No	No
Trifluralin (µg/L) - TW E7	2018/05/09	<MDL 1.0	45.00	No	No
Trifluralin (µg/L) - TW E8	2018/05/09	<MDL 1.0	45.00	No	No
Vinyl Chloride (µg/L) - TW E7	2018/05/09	<MDL 0.20	1.00	No	No
Vinyl Chloride (µg/L) - TW E8	2018/05/09	<MDL 0.20	1.00	No	No
Distribution Water					
Trihalomethane: Total (µg/L) Annual Average - DW	2020 (Quarterly)	4.288	100.00	No	No
HAA Total (µg/L) Annual Average - DW	2020 (Quarterly)	5.00	80.00	No	No

Table 7. List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards. (Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non-municipal year round residential, large non municipal non-residential)

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable			

The Erin Drinking Water System was last inspected by the Ministry of the Environment, Conservation, and Parks on December 17, 2020.