ANNUAL REPORT

HILLSBURGH
DRINKING WATER SYSTEM

FOR THE PERIOD:
JANUARY 1, 2021 – DECEMBER 31, 2021

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:	220007285
Drinking-Water System Name:	Hillsburgh 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, 2021 – December 31, 2021

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 Hillsburgh Drinking Water System is a Class 2 Water Distribution and Supply Subsystem and a Class 1 Water Treatment Subsystem. The water system serves a population of approximately 850 residential and commercial customers, located in the former Village of Hillsburgh. The distribution system has 7.2 km of water mains with 35 fire hydrants.

The water system is a ground water system supplied by two deep drilled wells, with a total rated capacity of 1,637 m^3/day. The Hillsburgh water distribution system is divided into two pressure zones. There is a pressure reducing valve chamber at the intersection of Barbour Drive and Orangeville Street. The upper pressure zone has primarily been supplied by Well No. H2. The lower pressure zone has primarily been supplied by Well No. H3. The Frank Smedley Booster Station was completed in 2014 and mainly delivers water from the lower pressure zone to the upper pressure zone.

Well No. H2 is located at 5929 Trafalgar Road, Hillsburgh at the Hillsburgh Heights (H22) Facility. It is an 88 m deep drilled groundwater well, constructed of steel casing of 200 mm diameter to a depth of 51 m. It is equipped with a submersible pump rated at 802 L/min at 52.7 m. It discharges through a 150 mm diameter line into a reservoir. A lead removal treatment system has been installed at the Hillsburgh Heights pumphouse.

Well No. H3 is located at Victoria Park, across the road from the Glendevon (H33) Pumphouse. It is a 57.9 m deep drilled groundwater well, constructed of steel casing of 200 mm diameter to a depth of 20.1 m. It is equipped with a submersible pump rated at 456 L/min. It is connected to a 75 mm diameter discharge line leading to the reservoir.

List all water treatment chemicals used over this reporting period

- Sodium Hypochlorite 12% NSF - Disinfection
- Ferric Chloride NSF – Lead Removal

Were any significant expenses incurred to?

	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 Systems Audit
- Glendevon Well Inspection
- Chlorine Analyzer Replacement
- Reservoir Level Transducer Replacement
- Glendevon Roof Repair
- Hillsburgh Heights Ferric Chlorine Pump Replacement
- Clay Valve/Singer Valve Repairs

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)
n/a	n/a	n/a	n/a	n/a	n/a

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 H2	52	0	0	0	0	-	-	-
Raw Water - Well H3	54*	0	0	0	0	-	-	-
Treated Water – H2	52	0	0	0	0	52	0	120
Treated Water – H3	52	0	0	0	0	52	0	41
Distribution	104	0	0	0	0	104	0	63

*2 Additional samples due to Well Inspection

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 H2 (NTU)	12	0.08	0.37
Turbidity, Well H3 (NTU)	12	0.04	0.52
Treated Water			
Free Chlorine Residual, TW H2 (mg/L)	8760	0.00*	1.65
Free Chlorine Residual, TW H3 (mg/L)	8760	0.00*	2.00
Distribution Water			
Free Chlorine Residual, DW (mg/L)	8760	0.00*	5.00**

NOTE: For continuous monitors, 8760 is used as the number of samples.

*Minimum chlorine residuals of 0 mg/L are due to analyzer calibrations, analyzer maintenance, pressure transmitter replacement and data logger install; actual readings at the time were well within regulatory requirements.

**Maximum chlorine residual of 5 mg/L due to analyzer calibrations/maintenance; actual readings at the time were well 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
November 2, 2020 - MDWL	Lead	2021/01/05	Raw – 8.2 Treated – 5.6	µg/L
November 2, 2020 - MDWL	Lead	2021/04/23	Raw – 7.8 Treated – 3.4	µg/L
November 2, 2020 - MDWL	Lead	2021/07/06	Raw – 8.1 Treated – 3.7	µg/L
November 2, 2020 - MDWL	Lead	2021/10/13	Raw – 10 Treated – 4.8	µg/L
November 2, 2020 - MDWL	Lead - Gross α	2019/01/14	0.28	Bq/L
November 2, 2020 - MDWL	Lead – Gross β	2019/01/14	<MDL 0.10	Bq/L

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	Exceedances – Yes/No	
				MAC	1/2 MAC
Antimony: Sb (µg/L) – TW H2	2021/05/18	0.5	6.0	No	No
Antimony: Sb (µg/L) – TW H3	2021/05/18	0.5	6.0	No	No
Arsenic: As (µg/L) - TW H2	2021/05/18	1.0	10.0	No	No
Arsenic: As (µg/L) – TW H3	2021/05/18	1.1	10.0	No	No
Barium: Ba (µg/L) - TW H2	2021/05/18	50.0	1000.0	No	No
Barium: Ba (µg/L) – TW H3	2021/05/18	21.0	1000.0	No	No
Boron: B (µg/L) - TW H2	2021/05/18	18.0	5000.0	No	No
Boron: B (µg/L) – TW H3	2021/05/18	31.0	5000.0	No	No
Cadmium: Cd (µg/L) - TW H2	2021/05/18	0.09	5.0	No	No
Cadmium: Cd (µg/L) – TW H3	2021/05/18	0.09	5.0	No	No
Chromium: Cr (µg/L) - TW H2	2021/05/18	5.0	50.0	No	No
Chromium: Cr (µg/L) – TW H3	2021/05/18	5.0	50.0	No	No
Mercury: Hg (µg/L) - TW H2	2021/05/18	0.1	1.0	No	No
Mercury: Hg (µg/L) – TW H3	2021/05/18	0.1	1.0	No	No
Selenium: Se (µg/L) - TW H2	2021/05/18	2.0	50.0	No	No
Selenium: Se (µg/L) – TW H3	2021/05/18	2.0	50.0	No	No
Uranium: U (µg/L) - TW H2	2021/05/18	2.9	20.0	No	No
Uranium: U (µg/L) - TW H3	2021/05/18	0.68	20.0	No	No
Additional Inorganics					
Fluoride (mg/L) – TW H2	2018/05/09	0.87	1.5	No	No
Fluoride (mg/L) – TW H3	2018/05/09	0.60	1.5	No	No
Nitrite (mg/L) – TW H2	2021/01/05	0.01	1.0	No	No
Nitrite (mg/L) – TW H2	2021/04/23	0.01	1.0	No	No
Nitrite (mg/L) – TW H2	2021/07/06	0.01	1.0	No	No
Nitrite (mg/L) – TW H2	2021/10/13	0.01	1.0	No	No
Nitrite (mg/L) – TW H3	2021/01/05	0.01	1.0	No	No
Nitrite (mg/L) - TW H3	2021/04/23	0.01	1.0	No	No
Nitrite (mg/L) - TW H3	2021/07/06	0.01	1.0	No	No
Nitrite (mg/L) - TW H3	2021/10/13	0.01	1.0	No	No
Nitrate (mg/L) – TW H2	2021/01/05	1.14	10.0	No	No
Nitrate (mg/L) - TW H2	2021/04/23	1.11	10.0	No	No
Nitrate (mg/L) - TW H2	2021/07/06	1.16	10.0	No	No
Nitrate (mg/L) - TW H2	2021/10/13	1.01	10.0	No	No
Nitrate (mg/L) - TW H3	2021/01/05	0.1	10.0	No	No
Nitrate (mg/L) - TW H3	2021/04/23	0.14	10.0	No	No
Nitrate (mg/L) - TW H3	2021/07/06	0.14	10.0	No	No
Nitrate (mg/L) - TW H3	2021/10/13	0.11	10.0	No	No

Sodium: Na (mg/L) – TW H2	2021/05/18	16.0	20*	No	Yes
Sodium: Na (mg/L) – TW H3	2021/05/18	12.0	20*	No	Yes

*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)	n/a	n/a	n/a	10	n/a
Distribution - Alkalinity (mg/L)	6	190	220	n/a	n/a
Distribution - pH In-House	6	7.3	7.6	n/a	n/a

Distribution lead samples are taken every 36 months, last set of lead sampling was completed in September 2019. Next set of lead sampling is scheduled for January 2022

The Hillsburgh 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	Exceedances – Yes/No	
				MAC	1/2 MAC
Alachlor (ug/L) - TW2	2021/05/18	0.5	5.0	No	No
Alachlor (ug/L) - TW3	2021/05/18	0.5	5.0	No	No
Azinphos-methyl (ug/L) - TW2	2021/05/18	2.0	20.0	No	No
Azinphos-methyl (ug/L) - TW3	2021/05/18	2.0	20.0	No	No
Benzene (ug/L) - TW2	2021/05/18	0.1	1.0	No	No
Benzene (ug/L) - TW3	2021/05/18	0.1	1.0	No	No
Benzo(a)pyrene (ug/L) - TW2	2021/05/18	0.005	0.01	No	No
Benzo(a)pyrene (ug/L) - TW3	2021/05/18	0.005	0.01	No	No
Bromoxynil (ug/L) - TW2	2021/05/18	0.5	5.0	No	No
Bromoxynil (ug/L) - TW3	2021/05/18	0.5	5.0	No	No
Carbaryl (ug/L) - TW2	2021/05/18	5.0	90.0	No	No
Carbaryl (ug/L) - TW3	2021/05/18	5.0	90.0	No	No
Carbofuran (ug/L) - TW2	2021/05/18	5.0	90.0	No	No
Carbofuran (ug/L) - TW3	2021/05/18	5.0	90.0	No	No
Carbon Tetrachloride (ug/L) - TW2	2021/05/18	0.1	2.0	No	No
Carbon Tetrachloride (ug/L) - TW3	2021/05/18	0.1	2.0	No	No
Chlorpyrifos (ug/L) - TW2	2021/05/18	1.0	90.0	No	No
Chlorpyrifos (ug/L) - TW3	2021/05/18	1.0	90.0	No	No

Diazinon (ug/L) - TW2	2021/05/18	1.0	20.0	No	No
Diazinon (ug/L) - TW3	2021/05/18	1.0	20.0	No	No
Dicamba (ug/L) - TW2	2021/05/18	1.0	120.0	No	No
Dicamba (ug/L) - TW3	2021/05/18	1.0	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW2	2021/05/18	0.2	200.0	No	No
1,2-Dichlorobenzene (ug/L) - TW3	2021/05/18	0.2	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW2	2021/05/18	0.2	5.0	No	No
1,4-Dichlorobenzene (ug/L) - TW3	2021/05/18	0.2	5.0	No	No
1,2-Dichloroethane (ug/L) - TW2	2021/05/18	0.2	5.0	No	No
1,2-Dichloroethane (ug/L) - TW3	2021/05/18	0.2	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW2	2021/05/18	0.1	14.0	No	No
1,1-Dichloroethylene (ug/L) - TW3	2021/05/18	0.1	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW2	2021/05/18	0.5	50.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW3	2021/05/18	0.5	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW2	2021/05/18	0.25	900.0	No	No
2,4-Dichlorophenol (ug/L) - TW3	2021/05/18	0.25	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW2	2021/05/18	1.0	100.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW3	2021/05/18	1.0	100.0	No	No
Diclofop-methyl (ug/L) - TW2	2021/05/18	0.9	9.0	No	No
Diclofop-methyl (ug/L) - TW3	2021/05/18	0.9	9.0	No	No
Dimethoate (ug/L) - TW2	2021/05/18	2.5	20.0	No	No
Dimethoate (ug/L) - TW3	2021/05/18	2.5	20.0	No	No
Diquat (ug/L) - TW2	2021/05/18	7.0	70.0	No	No
Diquat (ug/L) - TW3	2021/05/18	7.0	70.0	No	No
Diuron (ug/L) - TW2	2021/05/18	10.0	150.0	No	No
Diuron (ug/L) - TW3	2021/05/18	10.0	150.0	No	No
Glyphosate (ug/L) - TW2	2021/05/18	10.0	280.0	No	No
Glyphosate (ug/L) - TW3	2021/05/18	10.0	280.0	No	No
Malathion (ug/L) - TW2	2021/05/18	5.0	190.0	No	No
Malathion (ug/L) - TW3	2021/05/18	5.0	190.0	No	No
Metolachlor (ug/L) - TW2	2021/05/18	0.5	50.0	No	No
Metolachlor (ug/L) - TW3	2021/05/18	0.5	50.0	No	No
Metribuzin (ug/L) - TW2	2021/05/18	5.0	80.0	No	No
Metribuzin (ug/L) - TW3	2021/05/18	5.0	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW2	2021/05/18	0.1	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW3	2021/05/18	0.1	80.0	No	No
Paraquat (ug/L) - TW2	2021/05/18	1.0	10.0	No	No
Paraquat (ug/L) - TW3	2021/05/18	1.0	10.0	No	No
PCB (ug/L) - TW2	2021/05/18	0.05	3.0	No	No

PCB (ug/L) - TW3	2021/05/18	0.05	3.0	No	No
Pentachlorophenol (ug/L) - TW2	2021/05/18	0.5	60.0	No	No
Pentachlorophenol (ug/L) - TW3	2021/05/18	0.5	60.0	No	No
Phorate (ug/L) - TW2	2021/05/18	0.5	2.0	No	No
Phorate (ug/L) - TW3	2021/05/18	0.5	2.0	No	No
Picloram (ug/L) - TW2	2021/05/18	5.0	190.0	No	No
Picloram (ug/L) - TW3	2021/05/18	5.0	190.0	No	No
Prometryne (ug/L) - TW2	2021/05/18	0.25	1.0	No	No
Prometryne (ug/L) - TW3	2021/05/18	0.25	1.0	No	No
Simazine (ug/L) - TW2	2021/05/18	1.0	10.0	No	No
Simazine (ug/L) - TW3	2021/05/18	1.0	10.0	No	No
Terbufos (ug/L) - TW2	2021/05/18	0.5	1.0	No	No
Terbufos (ug/L) - TW3	2021/05/18	0.5	1.0	No	No
Tetrachloroethylene (ug/L) - TW2	2021/05/18	0.1	10.0	No	No
Tetrachloroethylene (ug/L) - TW3	2021/05/18	0.1	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW2	2021/05/18	0.5	100.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW3	2021/05/18	0.5	100.0	No	No
Triallate (ug/L) - TW2	2021/05/18	1.0	230.0	No	No
Triallate (ug/L) - TW3	2021/05/18	1.0	230.0	No	No
Trichloroethylene (ug/L) - TW2	2021/05/18	0.1	5.0	No	No
Trichloroethylene (ug/L) - TW3	2021/05/18	0.1	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW2	2021/05/18	0.5	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW3	2021/05/18	0.5	5.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW2	2021/05/18	10.0	100.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW3	2021/05/18	10.0	100.0	No	No
Trifluralin (ug/L) - TW2	2021/05/18	1.0	45.0	No	No
Trifluralin (ug/L) - TW3	2021/05/18	1.0	45.0	No	No
Vinyl Chloride (ug/L) - TW2	2021/05/18	0.2	1.0	No	No
Vinyl Chloride (ug/L) - TW3	2021/05/18	0.2	1.0	No	No
Distribution Water					
Trihalomethane: Total (µg/L) Annual Average – DW	2021 (Quarterly)	11.247	100.00	No	No
HAA Total (µg/L) Annual Average – DW	2021 (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			