

# **Water Services' Annual Report**

**January 1 to December 31, 2021**

## **Guelph Drinking Water System**

Corporation of the City of Guelph

## **Gazer Mooney Subdivision Distribution System**

Township of Guelph/Eramosa



**Water Services  
Environmental Services Department**

Last Revision: February 28<sup>th</sup>, 2022

This document is a Province of Ontario form.  
To request the information on this form in an accessible format, please contact (add the [waterservices@guelph.ca](mailto:waterservices@guelph.ca) or by calling 519-837-5627; TTY: 519-837-5688 or text 226-821-2132.as the information is our info, not belonging to the province.)

The Guelph Drinking Water System ANNUAL REPORT

Drinking Water System Number:	220000095
Drinking Water System Name:	Guelph Drinking Water System
Drinking Water System Owner:	The Corporation of the City of Guelph
Drinking Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2021 through December 31, 2021

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking Water System serve more than 10,000 people? Yes [ x ] No [ ]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ x ] No [ ]</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>An electronic copy of the Summary Report will be provided to MECP upon request.</p> </div>	<p><b><u>Complete for all other Categories</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="n/a"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to: <input type="text" value="n/a"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</p>
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List all Drinking Water Systems (if any), which receive all their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Gazer Mooney Subdivision Distribution System (Guelph Eramosa Township).	260057967

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 drinking water?  
 Yes [ x ] 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 \_\_\_\_\_

**City of Guelph Drinking Water System Description:**

All water provided to the Guelph Drinking Water System was treated via Water Services' 12 active water treatment Facilities for: primary disinfection using chlorine solution (10 sites) or ultraviolet irradiation (2 sites); secondary disinfection using chlorine solution for a free chlorine residual (12 sites); sequestration using sodium silicate for dissolved iron (2 sites); and manganese removal using green-sand filtration (1 site).

The City of Guelph has 15 active pumping stations; 3 elevated storage tanks; 4 major underground storage reservoirs; approximately 557.3 kilometres of underground water mains, and a population of approximately 131,794.

**Water treatment chemicals used over this reporting period:**

Sodium Hypochlorite (chlorine solution for disinfection).  
Sodium Silicate (for iron sequestration).

**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.**

Capital Projects - The following amounts relate to projects completed in 2021. These numbers do not include the normal operating and maintenance costs.

No.	Project Name	Description	Monetary Expense
1	Verney Tower Rehabilitation	Rehabilitation of the Verney Tower including recoating and repairs to the operational system. Warranty period closed in 2021.	\$5,126,208
2	Phase 1 of the F.M. Woods Upgrade Project-Pumping Station Engine House Renovation (Heritage Building)	Warranty period started in 2021 for the updates to the Heritage Building to office space at 29 Waterworks Place	\$3,565,375
3	Burkes Well Station Upgrades	Updates completed to include water treatment at the Burkes Well. Warranty period completed in 2021.	\$6,637,315
4	Aqueduct Laneway Phase 1	Creation of a laneway within the middle reach of the Aqueduct.	\$566,993
5	Guelph South Groundwater Supply Feasibility Assessment	Feasibility study complete to evaluate the potential for a new municipal drinking water supply within the Hanlon Creek Business Park as identified by the Water Supply Master Plan	\$892,690
7	Logan Well Reconstruction and Testing	Reconstruction and testing of an existing test well identified by the Water Supply Master Plan as a potential source of municipal drinking water complete.	\$571,795
8	Woods Pump 4 and 5 Discharge Replacement	Upgrades to replace P4 & 5 discharge piping and valves. Warranty period closed in 2021.	\$169,869
9	Stevenson St., N. Reconstruction (Eramosa Rd. to Bennett Ave.)	Watermain replacement.	\$317,680
10	Manitoba St. Reconstruction (Arthur St., S. to Huron St.)	Watermain replacement.	\$270,564

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.

**NOTE:** "Incident date" is the date adverse result was reported to MECP-SAC. "Corrective action date" is the date the location was resampled.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2021/02/18	Total Coliform	1	cfu	Resample. Results acceptable.	2021/02/18
2021/07/22	Secondary Disinfection Free Chlorine Residual	0.00	mg/L	Immediately flushed watermains. Results acceptable.	2021/07/22
2021/07/31	Secondary Disinfection Free Chlorine Residual	0.00	mg/L	Immediately flushed watermains. Results acceptable.	2021/07/31
2021/09/30	Secondary Disinfection Free Chlorine Residual	0.03	mg/L	Immediately flushed watermains. Results acceptable.	2021/09/30

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 Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	997	0-9	0-12	0	n/a
Treated	560	0 -0	0 -0	560	0 - 3900
Distribution	1619	0 -0	0-1	728	0 - 130

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 #)	Unit of Measure
Turbidity	958	0.03 - 0.58	NTU
Chlorine	1891	0.40 - 1.45	mg/L
Fluoride (If the DWS provides fluoridation)	n/a	n/a	n/a

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

The Micro Particulate Analysis (MPA) below is an ongoing assessment/confirmation of the water quality at the Arkell Collectors shallow groundwater infiltration system. The data is used to confirm adequate disinfection of this source water at F.M. Woods. In 2021 the Arkell Collector source water was fully disinfected and sampled/analyzed as per the Municipal Drinking Water Licence (MDWL 017-101 – 2021/07/06).

Date of legal instrument issued	Parameter	Date Sampled	Result (counts)	Result (adjusted to reflect 100L of original sample volume)	*Relative Risk Factor
MDWL 017-101 2021/07/06	cryptosporidium	21/04/05	0	0	Due to the 5 counts of giardia detected, the <b>Relative Risk Factor is 20 (high risk).</b>
	giardia	21/04/05	5		
	diatoms	21/04/05		0	
	other algae	21/04/05		0	
	insects/larvae	21/04/05		0	
	rotifers	21/04/05		0	
	plant debris	21/04/05		0	
MDWL 017-101 2021/07/06	cryptosporidium	21/04/19	0		Due to non-detects for all parameters, the <b>Relative Risk Factor is 0 (low risk).</b>
	giardia	21/04/19	0		
	diatoms	21/04/19	0	0	
	other algae	21/04/19	0	0	
	insects/larvae	21/04/19	0	0	
	rotifers	21/04/19	0	0	
	plant debris	21/04/19	0	0	
MDWL 017-101 2021/07/06	cryptosporidium	21/05/10	0	0	Due to the 6 counts of giardia detected and rotifers at 0.62/100L, the <b>Relative Risk Factor is 21 (high risk).</b>
	giardia	21/05/10	6		
	diatoms	21/05/10		0	
	other algae	21/05/10		0	
	insects/larvae	21/05/10		0	
	rotifers	21/05/10		0.62	
	plant debris	21/05/10		0	
MDWL 017-101 2021/07/06	cryptosporidium	21/10/18	0		Due to non-detects for all parameters, the <b>Relative Risk Factor is 0 (low risk).</b>
	giardia	21/10/18	0		
	diatoms	21/10/18		0	
	other algae	21/10/18		0	
	insects/larvae	21/10/18		0	
	rotifers	21/10/18		0	
	plant debris	21/10/18		0	

\*Relative Risk Factor of surface water contamination as per the USEPA Consensus Method (1992, EPA 910/9-92-029)

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

Under O.Reg. 170/03; Schedule 13-2, treated groundwater sources are assessed on a 3-year sampling schedule and last sampled in 2019; treated GUDI sources are on an annual schedule and last sampled in 2021. Sampling/analysis occurred as required with value results covering both source characterizations, below:

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

Parameter	Sample Date	Result Value (min.) - (max.)	Unit of Measure	Exceedance
Antimony	Jan 2019 - Dec 2021	0 – 0.00096	mg/L	No
Arsenic	Jan 2019 - Dec 2021	0.0002 – 0.0043	mg/L	No
Barium	Jan 2019 - Dec 2021	0.035 – 0.11	mg/L	No
Boron	Jan 2019 - Dec 2021	0.011 – 0.043	mg/L	No
Cadmium	Jan 2019 - Dec 2021	0 – 0.00013	mg/L	No
Chromium	Jan 2019 - Dec 2021	0.0008 – 0.015	mg/L	No
Mercury	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Lead	Jan 2019 - Dec 2021	0 – 0.0014	mg/L	No
Selenium	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Sodium	Jan 2019 - Dec 2021	23 - 170	mg/L	No
Uranium	Jan 2019 - Dec 2021	0 – 0.0017	mg/L	No
Fluoride	Jan 2019 - Dec 2021	0 – 0.73	mg/L	No
Nitrite	Jan 2021 - Dec 2021	0 – 0.024	mg/L	No
Nitrate	Jan 2021 - Dec 2021	0 – 2.16	mg/L	No

**Summary of lead testing under MDWL 017-101 – Lead Regulatory Relief during this reporting period .**

The table below includes all samples/analysis required by the MDWL 017-101, Lead Reduction Plan.

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

Number of Locations	Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
11	Private Plumbing	12	0 – 0.0075	mg/L	1
10	Distribution	20	0 - 0	mg/L	0

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

Under O.Reg. 170/03; Schedule 13-4, treated groundwater sources are assessed on a 3-year sampling schedule and last sampled in 2019; treated GUDI sources are on an annual schedule and last sampled in 2021. Sampling/analysis occurred as required with value results covering both source characterizations, below.

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Atrazine + N-dealkylated metabolites	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Azinphos-methyl	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Benzene	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Benzo(a)pyrene	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Bromoxynil	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Carbaryl	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Carbofuran	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Carbon Tetrachloride	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Chlorobenzene	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Chlorpyrifos	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Diazinon	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Dicamba	Jan 2019 - Dec 2021	0 - 0	mg/L	No
1,2-Dichlorobenzene	Jan 2019 - Dec 2021	0 - 0	mg/L	No
1,4-Dichlorobenzene	Jan 2019 - Dec 2021	0 - 0	mg/L	No
1,2-Dichloroethane	Jan 2019 - Dec 2021	0 - 0	mg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Jan 2019 - Dec 2021	0 - 0	mg/L	No



Dichloromethane	Jan 2019 - Dec 2021	0 - 0	mg/L	No
2-4 Dichlorophenol	Jan 2019 - Dec 2021	0 - 0	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Diclofop-methyl	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Dimethoate	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Diquat	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Diuron	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Glyphosate	Jan 2019 - Dec 2021	0 - 0	mg/L	No
HAAs (Note: show latest running annual average)	Jan 2019 - Dec 2021	0.013	mg/L	No
Malathion	Jan 2019 - Dec 2021	0 - 0	mg/L	No
2-methyl-4-chlorophenoxyacetic acid / MCPA	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Metolachlor	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Metribuzin	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Paraquat	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Pentachlorophenol	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Phorate	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Picloram	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Polychlorinated Biphenyls(PCB)	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Prometryne	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Simazine	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Terbufos	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Tetrachloroethylene (perchloroethylene)	Jan 2019 - Dec 2021	0 – 0.00011	mg/L	No
2,3,4,6-Tetrachlorophenol	Jan 2019 - Dec 2021	0 - 0	mg/L	No
THMs (Note: show latest running annual average)	Jan 2019 - Dec 2021	0.031	mg/L	No

Triallate	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Trichloroethylene	Jan 2019 - Dec 2021	0 – 0.00167	mg/L	No
2,4,6-Trichlorophenol	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Trifluralin	Jan 2019 - Dec 2021	0 - 0	mg/L	No
Vinyl Chloride	Jan 2019 - Dec 2021	0 - 0	mg/L	No

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

There were no instances of organic parameter sample results exceeding half the standard from January 2019 through December 2021.

Parameter	Result Value	Unit of Measure	Date of Sample
n/a	n/a	n/a	n/a

**The Gazer Mooney Subdivision Distribution System ANNUAL REPORT**

Drinking Water System Number:	260057967
Drinking Water System Name:	Gazer Mooney Subdivision Distribution System
Drinking Water System Owner:	The Corporation of the Township of Guelph/Eramosa
Drinking Water System Category:	Small Municipal Residential
Period being reported:	January 1, 2021 through December 31, 2021

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking Water System serve more than 10,000 people? Yes [ ] No [ x ]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [ x ] No [ ]</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>An electronic copy of the Summary Report will be provided to MECP upon request.</p> </div>	<p><b><u>Complete for all other Categories</u></b></p> <p>Number of Designated Facilities served: <input type="text" value="n/a"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to: <input type="text" value="n/a"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</p>
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**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 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 drinking water? Yes [ x ] 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 \_\_\_\_\_

**Gazer-Mooney Subdivision Drinking Water System**

The Gazer Mooney Subdivision has approximately 72 fully metered water service connections; 2 kilometres of underground watermains, and an approximate population of 209 people.

All water provided to the Gazer Mooney Subdivision Distribution System is supplied by the City of Guelph Drinking Water System.

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

Treated drinking water was supplied in its entirety from the Guelph Drinking Water System. Please refer to the Guelph Drinking Water System Annual Report for a list of water treatment chemicals used in the drinking water treatment process.

**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:**

No significant expenses were incurred in 2021 to maintain the Gazer Mooney Subdivision Distribution System.

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:

In 2021, there were no Adverse Water Quality Incidents (AWQIs) in the Gazer Mooney Subdivision DWS.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

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 Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	n/a	n/a	n/a	n/a	n/a
Treated	n/a	n/a	n/a	n/a	n/a
Distribution	52	0 -0	0 -0	52	0 - 2

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 #)	Unit of Measure
Turbidity	n/a	n/a	n/a
Chlorine	106	0.83 – 1.22	mg/L
Fluoride (If the DWS provides fluoridation)	n/a	n/a	n/a

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	n/a	n/a	n/a	n/a

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

Please refer to the Guelph Drinking Water System Annual Report for treated drinking water summary inorganic water quality results.

**Summary of lead testing under “Approved Relief” during this reporting period:**

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Distribution	2	0 - 0	mg/L	0

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

**NOTE:** A result of zero indicates that the result obtained was below the method detection/reporting limit.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
<b>HAAs</b> (Note: show latest running annual average)	Jan - Dec 2021	0	mg/L	0
<b>THMs</b> (Note: show latest running annual average)	Jan - Dec 2021	0.022	mg/L	0

The above table are sample results from the Gazer Mooney Subdivision DWS. For organic water quality results from the Guelph DWS, please refer to the Guelph Drinking Water System Annual Report; in 2021, there were no exceedances related to organic parameters in the Guelph DWS.

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

There were no instances of organic parameter sample results exceeding half the standard from January 2019 through December 2021 in the Guelph Drinking Water System.