



Township of Oro-Medonte Drinking Water Compliance Report 2021

Carley Hall Well Supply

Annual Report

(Prepared in accordance with Section 11 of Ontario Regulation 170/03)

Period Covering: January 1 to December 31, 2021

February 23, 2022

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1 Introduction

The Township of Oro-Medonte has prepared this report to satisfy the requirements of Section 11: Annual Report of Ontario Regulation (O.Reg.) 170/03.

This report covers the period of January 1 to December 31, 2021, and applies to the following municipally-owned and operated drinking water system:

- Carley Hall Well Supply (DWS #260097565)

The Carley Hall Drinking Water System (DWS) was previously considered a small drinking water system under O. Reg. 319/08, regulated by the Ministry of Health and Long-Term Care (MHLTC). In Fall 2021, the Township of Oro-Medonte (Township) and Brookstone Academy entered into a facility rental agreement to use Carley Hall (Hall) as home to a private school (Kindergarten through Grade 8). This change in use makes the drinking water system a 'designated facility' under O. Reg. 170/03 and the drinking water system category to change to a 'Small Municipal Non-Residential' system that is regulated by the Ministry of the Environment, Conservation and Parks (MECP). The details of this report will reflect only the months in operation as a Small Municipal Non-Residential Drinking Water System.

2 Reporting Requirements

2.1 Requirements under Section 11: Annual Report

Section 11 of O. Reg 170/03 requires that the Owner of a drinking water system shall ensure that an annual report, covering the period from January 1 to December 31 in a year, be prepared no later than February 28 of the following year. The report must include the following information relating to the period covered by the report:

- Contain a brief description of the drinking water system, including a list of water treatment chemicals used by the system;
- Describe any major expenses incurred to install, repair or replace required equipment;
- Summarize any reports made to the Ministry of Environment, Conservation and Parks (MECP) for Adverse Water Quality Incidents (AWQIs);
- Summarize the results of tests required under O.Reg. 170/03, or under an approval, municipal drinking water licence or order, including an Ontario Water Resources Act order, if tests required under this Regulation in respect of a parameter were not required during that period, summarize the most recent results of tests of that parameter; and,
- Describe any corrective actions taken.

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3 Compliance Reporting Requirement

3.1 Availability of the Drinking Water Compliance Report

In accordance with Section 11 of O.Reg. 170/03, a copy of the report is available to the public, free of charge from the following outlets:

- Township of Oro-Medonte's website (www.oro-medonte.ca); and,
- Public request at the Municipal Office, located at 148 Line 7 South, Oro-Medonte.

The public is advised of the report's availability and how to obtain a copy, without charge, on the Township of Oro-Medonte's website and social media by February 28th, 2022.

4 Carley Hall Well Supply



CARLEY HALL WELL SUPPLY

Drinking Water System Number: 260097565

Raw Water Source: Groundwater

**Drinking Water System Category:
Small Municipal Non-Residential System**

**Drinking Water System Classification:
Designated Facility (under O.Reg 170)**

Population Served: Approx. 30 persons

4.1 Municipal Drinking Water System Description

The Carley Hall Well Supply (DWS #260097565) is located at 396 Warminster Sideroad, Oro-Medonte. The facility is owned and operated by the Corporation of the Township of Oro-Medonte in accordance with the 2021 Engineer's Evaluation Report.

The Carley Hall DWS has one drilled groundwater well. Since it serves a single building, with no external water distribution pipes, only primary disinfection is required.

Primary disinfection is achieved through ultraviolet (UV) disinfection with a treatment unit capable of applying a minimum UV dose of 40mJ/cm², as specified in the MECP Procedure for Disinfection of Water in Ontario. Filtration is also provided upstream of the UV unit to ensure any particles from the well water are filtered out prior to the UV treatment unit, to aid and ensure proper disinfection.

Monitoring of the drinking water system's operation is performed through weekly operational checks conducted by certified drinking water operators in Environmental Services, who are deemed the 'Operating Authority' through a Water Operations Agreement with Brookstone Academy.

To support disinfection control, the UV unit emits visual and audible alarms and is equipped with a solenoid valve that automatically closes in the event of a general power failure, UV system failure or if the UV dose drops below 40 mJ/cm². This ensures that only water that has been adequately disinfected is supplied to those in attendance at the Hall. Brookstone Academy staff are also able to notify Environmental Services when a UV unit failure occurs and Environmental Services staff will respond immediately.

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4.2 Water Treatment Chemicals

No water treatment chemicals were utilized during the reporting period due to treatment being provided by UV.

4.3 Major Expenses Incurred within the Drinking Water System

The Township of Oro-Medonte has determined expenses over \$25,000 to be considered a 'major expense'. A brief summary of the major or notable expenses incurred or during the reporting period to install, repair, or replace required equipment, and the value of each is included in the table below.

Table 1: Major or Notable Expense Summary

Expense	Cost Incurred
n/a	n/a

4.4 Ontario Regulation (O.Reg) 170/03: Operational Checks, Sampling and Testing

O.Reg. 170/03 outlines specific operational checks and sampling requirements for drinking water systems, while O.Reg. 169/03 specifies drinking water quality standards and maximum allowable concentrations of analytical parameters.

During the reporting period, the required operational checks were completed and drinking water samples were collected in accordance with O.Reg. 170/03. All accredited laboratory results for analyzed samples met the requirements and did not exceed the applicable standards stipulated in O.Reg. 169/03.

No additional testing and sampling were required in 2021 due to any requirements of an approval, order, or other legal instruments.

4.4.1 Schedule 12: Microbiological Sampling and Testing (O.Reg 170/03)

Raw and distribution water samples were collected and analyzed for microbiological parameters specified in Section 12-2, 12-3, and 12-4 of O.Reg. 170/03. All accredited laboratory results for samples analyzed for microbiological parameters met the requirements and did not exceed the applicable standards stipulated in O.Reg. 169/03, unless otherwise stated in Section 4.6.1 'Schedule 16: Reporting of Adverse Test Results and Other Problems' of this report.

Raw and distribution drinking water samples were analyzed for bacteriological health-related parameters including E.coli, total coliform, background bacteria (background), and heterotrophic plate count (HPC). The presence of HPC and background bacteria indicates that when measured in counts greater than 200 CFU per 100 mL, it may indicate a deterioration in water quality within the drinking water system and initiate additional maintenance activities, such as changing filter cartridges and/or flushing. The

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results for microbiological and bacteriological parameters during this reporting period are summarized below for reference.

Table 2: Schedule 12 Microbiological Sampling and Testing Summary

Source	Sample Count	E.coli (CFU/100 mL)	Total Coliform (CFU/100 mL)	Background (CFU/100 mL)	HPC (CFU/1 mL)
		(min-max)	(min-max)	(min-max)	(min-max)
Raw	12	0	0	0	n/a
Distribution	12	0	0	0	<10 - 40

4.4.2 Schedule 15: Chemical Testing (O.Reg 170/03)

Drinking water samples were collected from the drinking water system and analyzed for all parameters in accordance with O.Reg. 170/03, Schedule 15. All samples analyzed met the requirements and did not exceed the applicable standards stipulated in O.Reg. 169/03.

If chemical analysis under O.Reg. 170/03 was not required during this reporting period; the most recent analytical results for that parameter have been summarized in the tables below for reference, in accordance with O.Reg. 170/03, Section 12. Under Section 15-2, sampling requirements for inorganics and organics are once every 60 months and tested for every parameter listed in O.Reg 170/03, Schedules 23 and 24. Results indicated that all parameters were below half the maximum allowable concentration in Schedule 2 in the Ontario Drinking Water Quality Standards. The most recent chemical parameters results are summarized in the table below for reference.

Table 3: Schedule 23 Inorganic and Schedule 24 Organic Results Summary

Parameter	Date Sampled	Results	Units	Exceedance
Schedule 23: Inorganics				
Antimony	2021/12/22	0.6<MDL	ug/L	No
Arsenic	2021/12/22	0.7	ug/L	No
Barium	2021/12/22	109	ug/L	No
Boron	2021/12/22	37	ug/L	No
Cadmium	2021/12/22	0.003	ug/L	No
Chromium	2021/12/22	0.20	ug/L	No
Mercury	2021/12/22	0.01<MDL	ug/L	No
Selenium	2021/12/22	0.04<MDL	ug/L	No
Uranium	2021/12/22	0.188	ug/L	No
Schedule 24: Organics				
Alachlor	2021/12/22	0.02<MDL	ug/L	No

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Atrazine + N-dealkylated metabolites	2021/12/22	0.01<MDL	ug/L	No
Azinphos-methyl	2021/12/22	0.05<MDL	ug/L	No
Benzene	2021/12/22	0.32<MDL	ug/L	No
Benzo(a)pyrene	2021/12/22	0.004<MDL	ug/L	No
Bromoxynil	2021/12/22	0.33<MDL	ug/L	No
Carbaryl	2021/12/22	0.05<MDL	ug/L	No
Carbofuran	2021/12/22	0.01<MDL	ug/L	No
Carbon Tetrachloride	2021/12/22	0.17<MDL	ug/L	No
Chlorpyrifos	2021/12/22	0.02<MDL	ug/L	No
Diazinon	2021/12/22	0.02<MDL	ug/L	No
Dicamba	2021/12/22	0.20<MDL	ug/L	No
1,2-Dichlorobenzene	2021/12/22	0.41<MDL	ug/L	No
1,4-Dichlorobenzene	2021/12/22	0.36<MDL	ug/L	No
1,2-Dichloroethane	2021/12/22	0.35<MDL	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	2021/12/22	0.33<MDL	ug/L	No
Dichloromethane	2021/12/22	0.35<MDL	ug/L	No
2,4-Dichlorophenol	2021/12/22	0.15<MDL	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2021/12/22	0.19<MDL	ug/L	No
Diclofop-methyl	2021/12/22	0.40<MDL	ug/L	No
Dimethoate	2021/12/22	0.06<MDL	ug/L	No
Diquat	2021/12/22	1<MDL	ug/L	No
Diuron	2021/12/22	0.03<MDL	ug/L	No
Glyphosate	2021/12/22	1<MDL	ug/L	No
Malathion	2021/12/22	0.02<MDL	ug/L	No
Metolachlor	2021/12/22	0.01<MDL	ug/L	No
Metribuzin	2021/12/22	0.02<MDL	ug/L	No
Monochlorobenzene	2021/12/22	0.3<MDL	ug/L	No
MCPA	2021/12/22	0.00012<MDL	mg/L	No
Paraquat	2021/12/22	1<MDL	ug/L	No
Pentachlorophenol	2021/12/22	0.15<MDL	ug/L	No
Phorate	2021/12/22	0.01<MDL	ug/L	No
Picloram	2021/12/22	1<MDL	ug/L	No
Polychlorinated Biphenyls (PCB)	2021/12/22	0.04<MDL	ug/L	No
Prometryne	2021/12/22	0.03<MDL	ug/L	No
Simazine	2021/12/22	0.01<MDL	ug/L	No
Terbufos	2021/12/22	0.01<MDL	ug/L	No
Tetrachloroethylene	2021/12/22	0.35<MDL	ug/L	No
2,3,4,6-Tetrachlorophenol	2021/12/22	0.20<MDL	ug/L	No
Triallate	2021/12/22	0.01<MDL	ug/L	No
Trichloroethylene	2021/12/22	0.44<MDL	ug/L	No

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2,4,6-Trichlorophenol	2021/12/22	0.25<MDL	ug/L	No
Trifluralin	2021/12/22	0.02<MDL	ug/L	No
Vinyl Chloride	2021/12/22	0.17<MDL	ug/L	No

*Note: '<MDL' indicates analysis did not meet the minimum reportable concentration for the parameter.

Under Schedule 15, there aren't any sampling requirements for trihalomethanes (THMs) and haloacetic acids (HAAs). However, Environmental Services collected samples for analysis to check results and all were under the external lab's method detection limits.

The 2021 THMs and HAAs results are summarized in the table below for reference.

Table 4: Trihalomethanes and Haloacetic Acids Results Summary

Parameter	Running Annual Average (RAA)	Unit	Exceedance
Trihalomethanes (THMs)	0.37<MDL	ug/L	No
Haloacetic Acid (HAAs)	5.3<MDL	ug/L	No

*Note: '<MDL' indicates analysis did not meet the minimum reportable concentration for the parameter.

Under Section 15-4, sampling requirements for nitrate and nitrite are quarterly. The 2021 nitrate and nitrite results are summarized in the table below for reference.

Table 5: Nitrate and Nitrite Results Summary

Parameter	Date Sampled	Results	Unit	Exceedance
Nitrate	2021/11/25	0.037	mg/L	No
Nitrite	2021/11/25	0.003<MDL	mg/L	No

*Note: '<MDL' indicates analysis did not meet the minimum reportable concentration for the parameter.

Under Section 15-5 and 15-6, sampling requirements for sodium and fluoride are once every 60 months. The most recent sodium and fluoride results are summarized in the table below for reference.

Table 6: Sodium and Fluoride Results Summary

Parameter	Date Sampled	Results	Unit	Exceedance
Sodium	2021/12/22	10.8	mg/L	No
Fluoride	2021/12/22	0.19	mg/L	No

4.5 Lead Testing (O.Reg 243/07)

When a designated facility is a school, lead sampling is governed by O. Reg 243/07: Schools, Private Schools and Child Care Centres rather than O. Reg 170: Drinking Water Systems under the Safe Drinking Water Act. Lead samples as outlined in O.Reg 243/07 must be collected at least once annually during the prescribed sampling period of May 1 to October 31.

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The lead sampling results are summarized in the table below for reference.

Table 7: Lead Sampling Results Summary

Location Type	Sample Count	Date Sampled	Lead (ug/L)	Exceedance
Plumbing	2	2021/10/30	0.56 – 1.38	No
	2	2021/10/30	0.20 – 0.32	No

4.6 Reporting and Corrective Actions

4.6.1 Schedule 16: Reporting of Adverse Test Results and Other Problems

In accordance with O. Reg 170/03, Schedule 16, notifications of adverse water quality incidents and other observations that indicate the potential of improperly disinfected water has been directed to users are provided to the MECP Spills Action Centre (SAC), local Medical Officer of Health (Simcoe Muskoka District Health Unit (SMDHU)), and the Owner of Brookstone Academy. There were zero (0) incidents or occurrences in the drinking water system during this reporting period.

4.6.2 Schedule 18: Corrective Actions

Due to the non-occurrence of any adverse test or other observations requiring reporting to the MECP, there were no corrective actions required.

Table 8: Adverse Water Quality Incidents (AWQIs) & Corrective Actions Summary

AWQI Number:	
	There were no AWQIs to report during this reporting period.
Incident Details:	
	N/A
Corrective Action:	
	N/A

5 Conclusion

This report satisfies the requirements of Section 11 of O.Reg. 170/03. Any questions regarding this report should be directed to Environmental Services.