DRINKING WATER SYSTEMS ANNUAL WATER QUALITY AND SUMMARY REPORT

Ontario Regulation 170/03 Section 11 & Schedule 22

2023

Hamilton

TABLE OF CONTENTS

INTRODUCTION

A key priority for the City of Hamilton is to consistently provide a safe and high-quality drinking water supply to Hamilton residents. This report has been prepared in accordance with the Safe Drinking Water Act, Ontario Regulation 170/03, Section 11 and Schedule 22 for 2023.

The City of Hamilton is the owner of the following Drinking Water Systems:

Drinking Water System	Drinking Water System Number	Municipal Drinking Water Licence Number	Drinking Water Works Permit Number	Permit to Take Water Number (PTTW)
Hamilton Drinking Water System, Woodward Subsystem	220003118	005-101	005-201	2437-BCLNEJ
Hamilton Drinking Water System, Fifty Road Subsystem	260069173	005-101	005-201	N/A
Freelton Drinking Water System	220004117	005-102	005-202	4650-BB2HXG (FDF01 & FDF03)
Greensville Drinking Water System	220004126	005-103	005-203	2476-9F5KM6 (FDG01)
Carlisle Drinking Water System	220004108	005-104	005-204	2373-8F7MMJ 4347-BYPPG2 (FDC01 & FDC02)
				8228-AJZK9H (FDC03R)
				4207-AJZJ4L (FDC05)
Lynden Drinking Water System	250001830	005-105	005-205	0634-ASERU8 (FDL01 & FDL03)

INTRODUCTION (CONTINUED)

There were no Provincial Officer's Orders issued with regards to drinking water. All Adverse Water Quality Incidents were reported to the Ministry of the Environment, Conservation and Parks Spills Action Centre and Public Health Services. These findings are provided in this report. All water taking quantities and flow rates were within approved rated capacities and water taking limits with the exception of the Freelton Drinking Water System in October 2023.

The Ministry of the Environment, Conservation and Parks Inspection Cycle spans two calendar years from April 1 to March 31. Ratings are given upon completion of the Inspection and the issuance of the Inspection Report. Ratings for the two Inspection Cycles that occurred in 2023 are as follows:

2022 - 2023 INSPECTION CYCLE RATINGS (STATUS AS OF DECEMBER 31, 2023)

Drinking Water System	Inspection Status	Report Status	2022 - 2023 Inspection Rating
Hamilton Drinking Water System, Woodward Subsystem	Complete	Complete	95.40%
Hamilton Drinking Water System, Fifty Road Subsystem	Complete	Complete	100%
Freelton Drinking Water System	Complete	Complete	100%
Greensville Drinking Water System	Complete	Complete	99.23%
Carlisle Drinking Water System	Complete	Complete	100%
Lynden Drinking Water System	Complete	Complete	100%

2023 - 2024 INSPECTION CYCLE RATINGS (STATUS AS OF DECEMBER 31, 2023)

Drinking Water System	Inspection Status	Report Status	2023 - 2024 Inspection Rating
Hamilton Drinking Water System, Woodward Subsystem	Commenced	Pending	Pending
Hamilton Drinking Water System, Fifty Road Subsystem	Complete	Complete	98.15%
Freelton Drinking Water System	Commenced	Pending	Pending
Greensville Drinking Water System	Pending	Pending	Pending
Carlisle Drinking Water System	Complete	Complete	95.64%
Lynden Drinking Water System	Pending	Pending	Pending

ANNUAL REPORTS

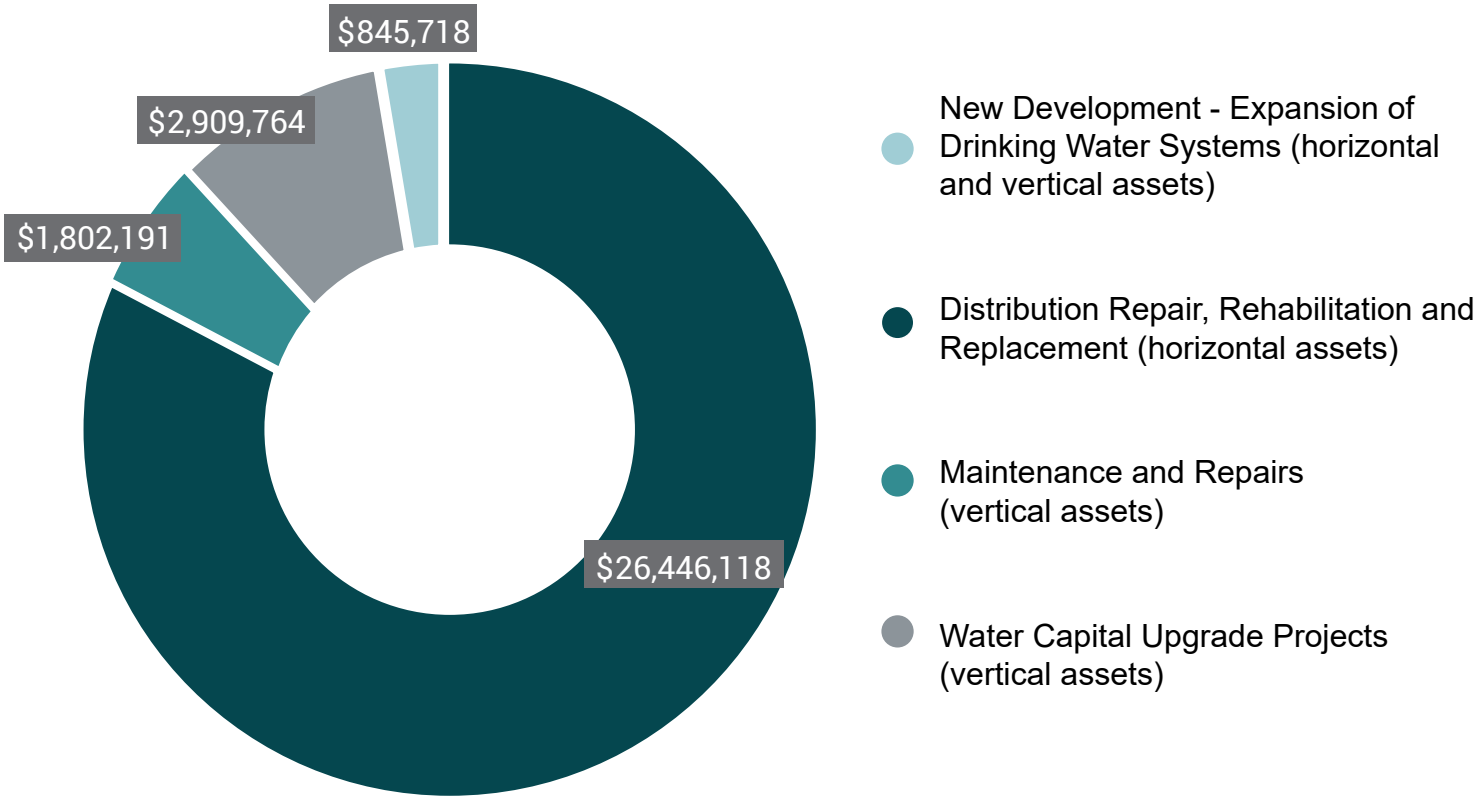
The Drinking Water Annual Report required under Ontario Regulation 170/03 Section 11 and Schedule 22 is available for the public to download at no charge at www.hamilton.ca/WaterQuality and in hardcopy at 700 Woodward Avenue, Administration Building, Compliance Support Group. A copy of this report can also be requested by contacting (905) 546-2489 or water@hamilton.ca.

WATER QUALITY AND OPERATIONAL TESTING

A summary of the water quality and operational testing results for each Drinking Water System is included as Appendix A.1 to this report.

SUMMARY OF MONETARY EXPENSES INCURRED IN 2023

In 2023, the following significant expenses were incurred to complete repairs, maintenance, upgrades and expansions to the Drinking Water Systems within the City of Hamilton:



HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM WATER QUALITY ANNUAL REPORT

Ontario Regulation 170/03 Section 11 & Schedule 22

2023

TABLE OF CONTENTS

GENERAL INFORMATION

The Hamilton Drinking Water System, Woodward Subsystem (Woodward Subsystem) is a large municipal residential system that supplies a significant portion of Hamilton's population with drinking water.

The population it serves is approximately 569,353 within Hamilton, Stoney Creek, Dundas, Ancaster, Waterdown and Glanbrook. The Woodward Subsystem also supplies treated water to parts of Haldimand County (Caledonia, York, and Cayuga) and parts of Halton Region.

The Woodward Avenue Water Treatment Plant has two raw water intake pipes in use (1.52 m and 2.44 m in diameter). The raw water is drawn from Lake Ontario at distances of 915 m and 945 m to begin the treatment process.

TREATMENT

- The raw water intake pipes have chlorine added for zebra mussel control.
- The low lift pumping station has three travelling screens where removal of debris takes place prior to the water being pumped to the Woodward Avenue Water Treatment Plant.
- At the pre-treatment stage, polyaluminum chloride is added to the water to coagulate suspended solids. Additional chlorine is also added at this stage to ensure disinfection.
- Clarification of the water is completed by flocculation and sedimentation followed by filtration using sand and granulated activated carbon media filters.
- Chlorine, ammonia, hydrofluorosilic acid (fluoride) and orthophosphate (phosphoric acid) are added before the treated water is sent to the distribution system. Chlorine is added as the primary means to ensure disinfection. Ammonia is added to convert the chlorine to mono-chloramine to help maintain stable chlorine residuals in the distribution system. Hydrofluorosilic acid (fluoride) is added to the drinking water to promote dental health and orthophosphate (phosphoric acid) is added to help reduce lead corrosion.
- Pumps within the high lift pumping station push the water from the Woodward Avenue Water Treatment Plant to the distribution system.

DISTRIBUTION

The Woodward Subsystem is comprised of 22 pumping stations, 10 reservoirs, four elevated storage tanks, one standpipe and approximately 2,130 kms of watermains.

SAMPLING & ANALYSIS

Continuous monitoring equipment such as chlorine analyzers, turbidity meters, fluoride and phosphate analyzers monitor the water 24/7 to ensure the maintenance of high-quality drinking water. Raw water is sampled and analyzed weekly and treated water is sampled and analyzed six days per week. Distribution water is sampled and analyzed five days per week with chlorine residual in the distribution system analyzed daily.

Drinking Water System Number	Drinking Water System Name	Drinking Water System Owner	Drinking Water System Category	Period Being Reported
220003118	Hamilton Drinking Water System, Woodward Subsystem	City of Hamilton	Large Municipal Residential	January 1, 2023 to December 31, 2023

CORROSION CONTROL PROGRAM

On November 8, 2018, the addition of orthophosphate (phosphoric acid) for corrosion control commenced in the Hamilton Drinking Water System, Woodward Subsystem. Corrosion control is a program mandated and approved by the Ministry of the Environment, Conservation and Parks. This program is intended to mitigate potential exposure to lead that may leach into drinking water from lead pipes, lead based fixtures and lead solder. It also includes a regulatory post-implementation sampling and monitoring plan to check the progress and effectiveness of the program for lead control.

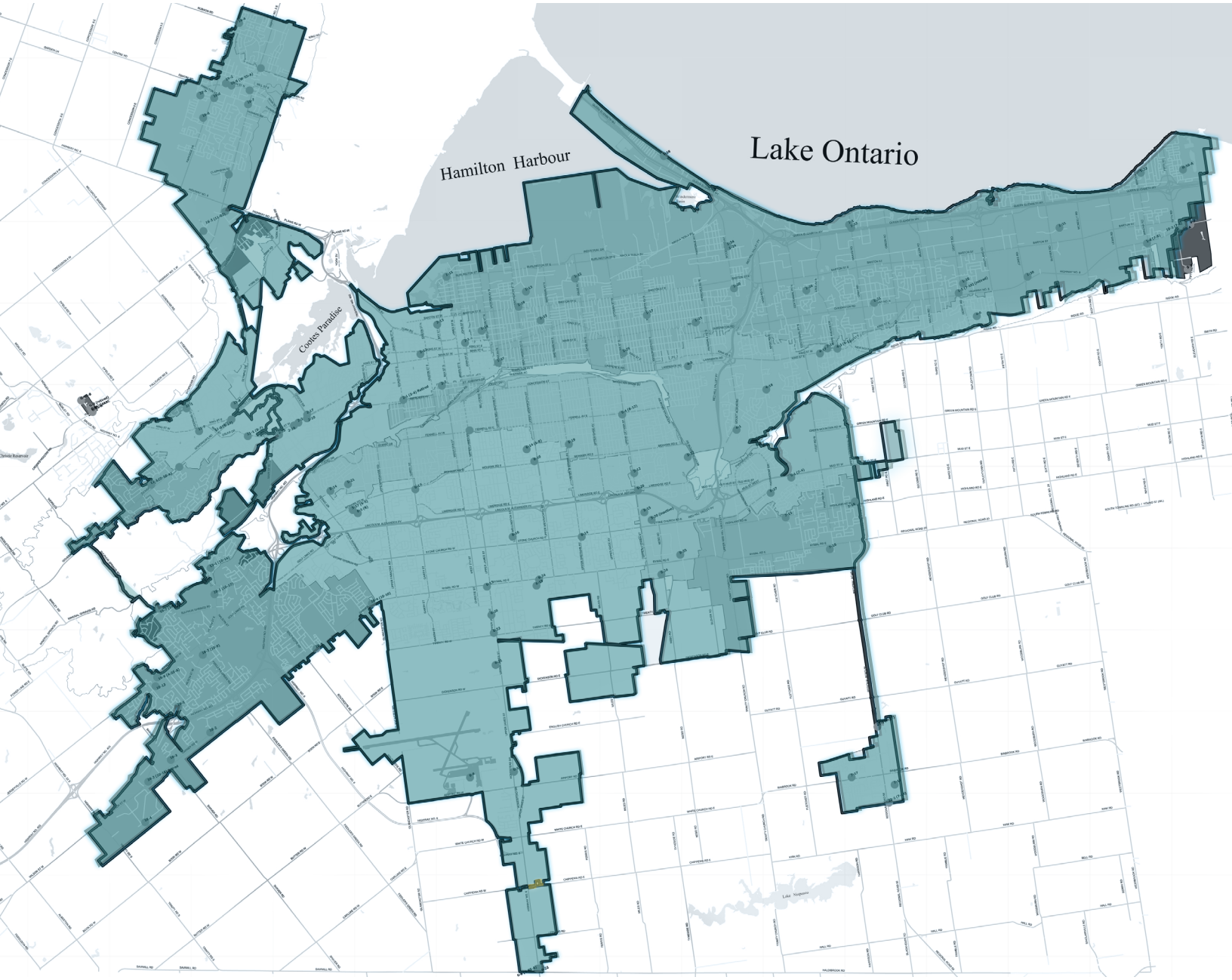
Since program implementation, 10 rounds of the legislated Community Lead Sampling Program required by Schedule 15.1 of Ontario Regulation 170/03 have taken place. The City of Hamilton received regulatory relief from sampling at residential taps during the COVID-19 pandemic. Community Lead Sampling resumed in summer 2022 and continued into 2023. The sampling results demonstrate a reduction in lead concentrations and a decreasing trend in the percentage of samples above the Maximum Acceptable Concentration (MAC) of 10 ug/L set by Ontario Regulation 169/03.

System-wide corrosion control sampling continued in 2023 and provides monitoring data beyond the regulatory requirements for the entire Woodward distribution system. This branch of the monitoring program allows for a system-wide surveillance of orthophosphate levels and potential secondary impacts. In the event of an observed anomaly, flushing and enhanced sampling is initiated to determine the cause so appropriate action can be taken.

The Plant Optimization dosing performance study that was placed on hold due to the regulatory relief from Schedule 15.1 Community Lead Sampling resumed in 2023. This study is ongoing with recommendations anticipated in 2024.

In March 2023, the Ministry of the Environment, Conservation and Parks received the 4th Corrosion Control Program Annual Report summarizing the program from 2022. Ongoing proactive flushing has been performed since the othorphosphate addition began. The City of Hamilton continues to meet the regulatory requirements of the corrosion control program and minimal secondary impacts have been observed. Continual improvement to the program includes reviewing industry best practices and recommendations from consultant technical reports.

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM MAP



PROVISION OF DRINKING WATER TO OTHER MUNICIPALITIES

The following is a list of municipal drinking water systems that receive drinking water from the Hamilton Drinking Water System, Woodward Subsystem:

Drinking Water System Name	Drinking Water System Number
Caledonia/Cayuga/York Water Distribution System	260004566
North Aldershot Water Distribution System	260086762
Snake Road Water Distribution System	260086775
Bridgeview Community Water Distribution System	260068419

WATER TREATMENT CHEMICALS USED DURING THIS REPORTING PERIOD

- polyaluminum chloride
- liquid chlorine
- aqueous ammonia
- fluoride (hydrofluorosilicic acid)
- orthophosphate (phosphoric acid)

A copy of this annual report is provided to all drinking water system owners that are connected to the system and to whom we provide drinking water.

Hamilton residents are notified through the local newspaper that the annual report is available online free of charge at www.hamilton.ca/WaterQuality. A copy of the report can also be requested by contacting (905) 546-2489 or water@hamilton.ca.

BREAKDOWN OF SIGNIFICANT MONETARY EXPENSES

Significant expenses that were incurred for installing, repairing and replacing required equipment in 2023.
Ferguson Avenue Pumping Station (HD002) Facility Upgrades - $1,476,910
Scenic Reservoir (HDR2A) Expansion Joint Repair - $519,464
Glancaster Road and Highway 53 Pumping Station (HD018) Facility Upgrades - $389,143
Woodward Avenue Water Treatment Plant Upgrades - $219,433
Binbrook Pumping Station (HD019) Capacity Upgrades - $103,829

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS

The following outlines 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 the Ministry of the Environment, Conservation and Parks Spills Action Centre.

Notification Date (y-m-d)	Location of Adverse	Adverse Water Quality Incident	Resolution
2023-02-23	Woodward Avenue Water Treatment Plant	Total Chlorine = 3.07 mg/L Free Chlorine = 0.03 mg/L Combined Chlorine = 3.04 mg/L (Regulatory requirement is maximum Combined Chlorine of 3.0 mg/L)	The chlorine readings at the highlift returned to normal after 30 minutes. Flushing occurred at the nearest hydrant and chlorine residuals were analyzed and found to be in the normal range.

...continued on next page

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS (CONTINUED)

Notification Date (y-m-d)	Location of Adverse	Adverse Water Quality Incident	Resolution
2023-03-07	Woodward Avenue Water Treatment Plant	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location and two downstream locations. All results passed.
2023-07-21	Bowman Scenic Reservoir	Lead = 0.0185 mg/L (Maximum Acceptable Concentration: 0.010 mg/L)	Resampled adverse location. Result passed.
2023-08-01	Hydrant HB62H028, 379 Talbot St.	Total Chlorine = 3.12 mg/L Free Chlorine = 0.08 mg/L Combined Chlorine = 3.04 mg/L (Regulatory requirement is maximum Combined Chlorine of 3.0 mg/L)	Watermain was flushed to restore chlorine.
2023-08-11	Stoney Creek Sampling Station 04, 415 MacIntosh Dr.	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location, one upstream and one downstream location. Result failed at the original adverse location which resulted in another AWQI on August 12.
2023-08-12	Stoney Creek Sampling Station 04, 415 MacIntosh Dr.	Total Coliforms = 13 MPN/100 mL (Regulatory requirement is Not Detectable)	Resampled original adverse location, one upstream and one downstream location. Two consecutive sets of samples were taken 24 to 48 hours apart. All results passed.
2023-09-01	Stoney Creek Sampling Station 04, 415 MacIntosh Dr.	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location, one upstream and one downstream location. All results passed.

...continued on next page

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS (CONTINUED)

Notification Date (y-m-d)	Location of Adverse	Adverse Water Quality Incident	Resolution
2023-09-08	Stoney Creek Sampling Station 04, 415 MacIntosh Dr.	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location, one upstream and one downstream location. All results passed.
2023-09-12	Ancaster Sampling Station 12, 237 Manitou Way	Total Chlorine = 0.22 mg/L Free Chlorine = 0.02 mg/L Combined Chlorine = 0.20 mg/L (Regulatory requirement is minimum Combined Chlorine of 0.25 mg/L or Free Chlorine of 0.05 mg/L)	Watermain was flushed to restore chlorine.
2023-09-18	Hydrant GF12H136, Fletcher Rd.	Total Chlorine = 0.19 mg/L Free Chlorine = 0.04 mg/L Combined Chlorine = 0.15 mg/L (Regulatory requirement is minimum Combined Chlorine of 0.25 mg/L or Free Chlorine of 0.05 mg/L)	Watermain was flushed to restore chlorine.
2023-09-19	Stoney Creek Sampling Station 04, 415 MacIntosh Dr.	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location, one upstream and one downstream location. Result failed at the original adverse location which resulted in another AWQI on September 20.
2023-09-20	Stoney Creek Sampling Station 04, 415 MacIntosh Dr.	Total Coliforms = 1 MPN/100 mL (Regulatory requirement is Not Detectable)	Resampled original adverse location, one upstream and one downstream location. Two consecutive sets of samples were taken 24 to 48 hours apart. All results passed for the first set of samples. For the second set of samples, results failed at the original adverse location resulting in another AWQI on September 22.

...continued on next page

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS (CONTINUED)

Notification Date (y-m-d)	Location of Adverse	Adverse Water Quality Incident	Resolution
2023-09-22	Stoney Creek Sampling Station 04, 415 MacIntosh Dr.	Total Coliforms = 30 MPN/100 mL (Regulatory requirement is Not Detectable)	Replaced internal parts of sampling station and disinfected. Resampled original adverse location, one upstream and one downstream location. Results failed at the original adverse location which resulted in another AWQI on September 23.
2023-09-23	Stoney Creek Sampling Station 04, 415 MacIntosh Dr.	Total Coliforms = 1 MPN/100 mL (Regulatory requirement is Not Detectable)	Resampled original adverse location, one upstream and one downstream location. Two consecutive sets of samples were taken 24 to 48 hours apart. All results passed.
2023-09-22	Glancaster Road Reservoir	Lead = 0.0128 mg/L (Maximum Acceptable Concentration: 0.010 mg/L)	Resampled adverse location. Result passed.
2023-10-03	Ancaster Sampling Station 12, 237 Manitou Way	Total Chlorine = 0.21 mg/L Free Chlorine = 0.02 mg/L Combined Chlorine = 0.19 mg/L (Regulatory requirement is minimum Combined Chlorine of 0.25 mg/L or Free Chlorine of 0.05 mg/L)	Watermain was flushed to restore chlorine.
2023-10-06	Hamilton Sampling Station 16, 28 Hill St.	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location, one upstream and one downstream location. All results passed.

...continued on next page

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS (CONTINUED)

Notification Date (y-m-d)	Location of Adverse	Adverse Water Quality Incident	Resolution
2023-10-11	Hamilton Sampling Station 35, opposite 84 Parkside Dr.	Total Chlorine = 0.04 mg/L Free Chlorine = <0.02 mg/L Combined Chlorine = 0.04 mg/L (Regulatory requirement is minimum Combined Chlorine of 0.25 mg/L or Free Chlorine of 0.05 mg/L)	Watermain was flushed to restore chlorine.
2023-10-23	Hamilton Sampling Station 35, opposite 84 Parkside Dr.	Total Chlorine = 0.09 mg/L Free Chlorine = <0.02 mg/L Combined Chlorine = 0.09 mg/L (Regulatory requirement is minimum Combined Chlorine of 0.25 mg/L or Free Chlorine of 0.05 mg/L)	Watermain was flushed to restore chlorine.
2023-10-27	Autoflusher DN12FL01, Governor's Rd and Moss Blvd., Dundas	Total Chlorine = 0.06 mg/L Free Chlorine = 0.00 mg/L Combined Chlorine = 0.06 mg/L (Regulatory requirement is minimum Combined Chlorine of 0.25 mg/L or Free Chlorine of 0.05 mg/L)	Watermain was flushed to restore chlorine.

MECP INSPECTION FINDINGS AND SELF-DECLARED NON-COMPLIANCES

The following is a summary of findings that were either issued during a Ministry of the Environment, Conservation and Parks (MECP) inspection or self-declared during the 2023 calendar year.

The 2022-2023 inspection report was completed on January 13, 2023. The findings of non-compliance are reported in the table below.

The 2023-2024 inspection commenced and the report remained pending as of December 31, 2023.

MECP INSPECTION REPORT, JANUARY 13, 2023

#	Finding Type	Finding	Status
1	Non-compliance	Previously self-declared, watermains were put into service without prior approval as per the Drinking Water Works Permit.	Corrective actions complete
2	Non-compliance	Previously self-declared, as a result of the power failure blips, all steps required by AWWA C652 Disinfection of Water Storage Facilities, were not completed prior to water being discharged from a reservoir. Specifically, requirements to hold water within the reservoir for 24 hours and the subsequent collection of confirmatory bacteriological samples were not met prior to this release.	Corrective actions complete
3	Non-compliance	Previously self-declared, a private contractor hired by a customer (i.e., not hired by the City) performed a watermain wet tap without approval from Certified Operator.	Corrective actions complete

SELF-DECLARED NON-COMPLIANCES

#	Finding Type	Finding	Status
1	Self-declared Non-compliance	Contractor performed a watermain wet tap (January 16, 2023) without approval from a certified Operator.	Corrective actions complete

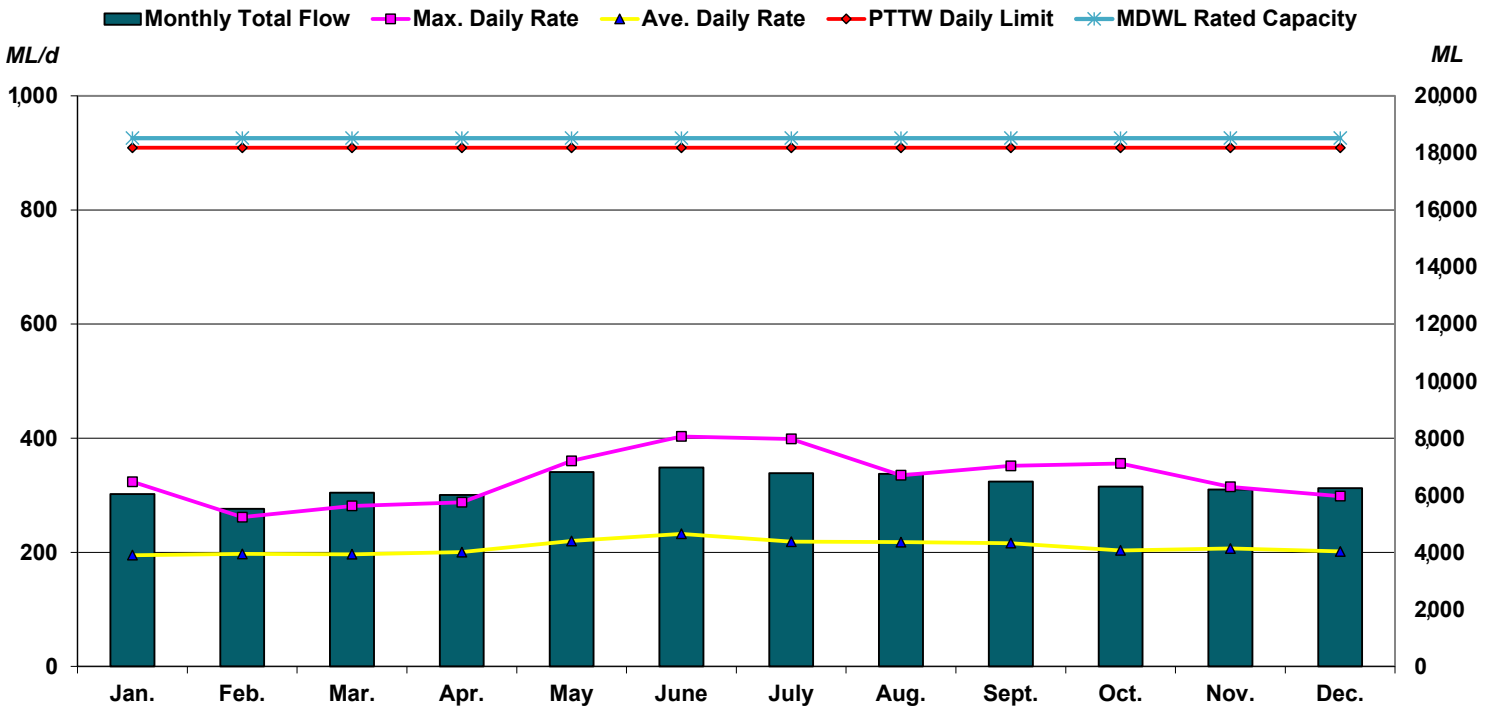
WATER PRODUCTION REPORTS - SUMMARY

The following provides a summary of daily flow rates and instantaneous peak flow rates in comparison to the capacity of the water works as identified in the Permit to Take Water (PTTW) and Municipal Drinking Water Licence (MDWL). This information is tabulated in the accompanying tables.

TABLE 1-1: WOODWARD TREATMENT PLANT - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	ML	6,043	5,523	6,094	6,010	6,815	6,974	6,778	6,752	6,484	6,304	6,203	6,252
Average Daily Rate	ML/d	195	197	197	200	220	232	219	218	216	203	207	202
Maximum Daily Rate	ML/d	324	262	281	288	360	403	399	335	351	356	315	299
PTTW Daily Limit	ML/d	909	909	909	909	909	909	909	909	909	909	909	909
MDWL Daily Rated Capacity	ML/d	926	926	926	926	926	926	926	926	926	926	926	926

FIGURE 1-1: WOODWARD TREATMENT PLANT - 2023 MONTHLY PRODUCTION (SUMMARY)



HAMILTON DRINKING WATER SYSTEM, FIFTY ROAD SUBSYSTEM WATER QUALITY ANNUAL REPORT

Ontario Regulation 170/03 Section 11 & Schedule 22

2023

TABLE OF CONTENTS

GENERAL INFORMATION

The municipal water supply for this area is supplied by the Town of Grimsby's water distribution system and serves a population of approximately 201 residents. Water is provided from Grimsby, west along Highway 8, then south on Fifty Road to Concession Road and to an underground, 1,100 m^3 storage reservoir operated by the City of Hamilton. The reservoir, located on Reservoir Park Road, supplies water to the residents.

TREATMENT

- The reservoir acts as a free chlorine contact chamber to ensure disinfection of the water. Chlorine residual in the reservoir is maintained by a rechlorination system.
- Fluoride and orthophosphate are not added to the water supplied by the Town of Grimsby.

DISTRIBUTION

A pump, running continuously, maintains the distribution system water pressure. Water pumped in excess of water system demand is circulated back to the reservoir.

SAMPLING & ANALYSIS

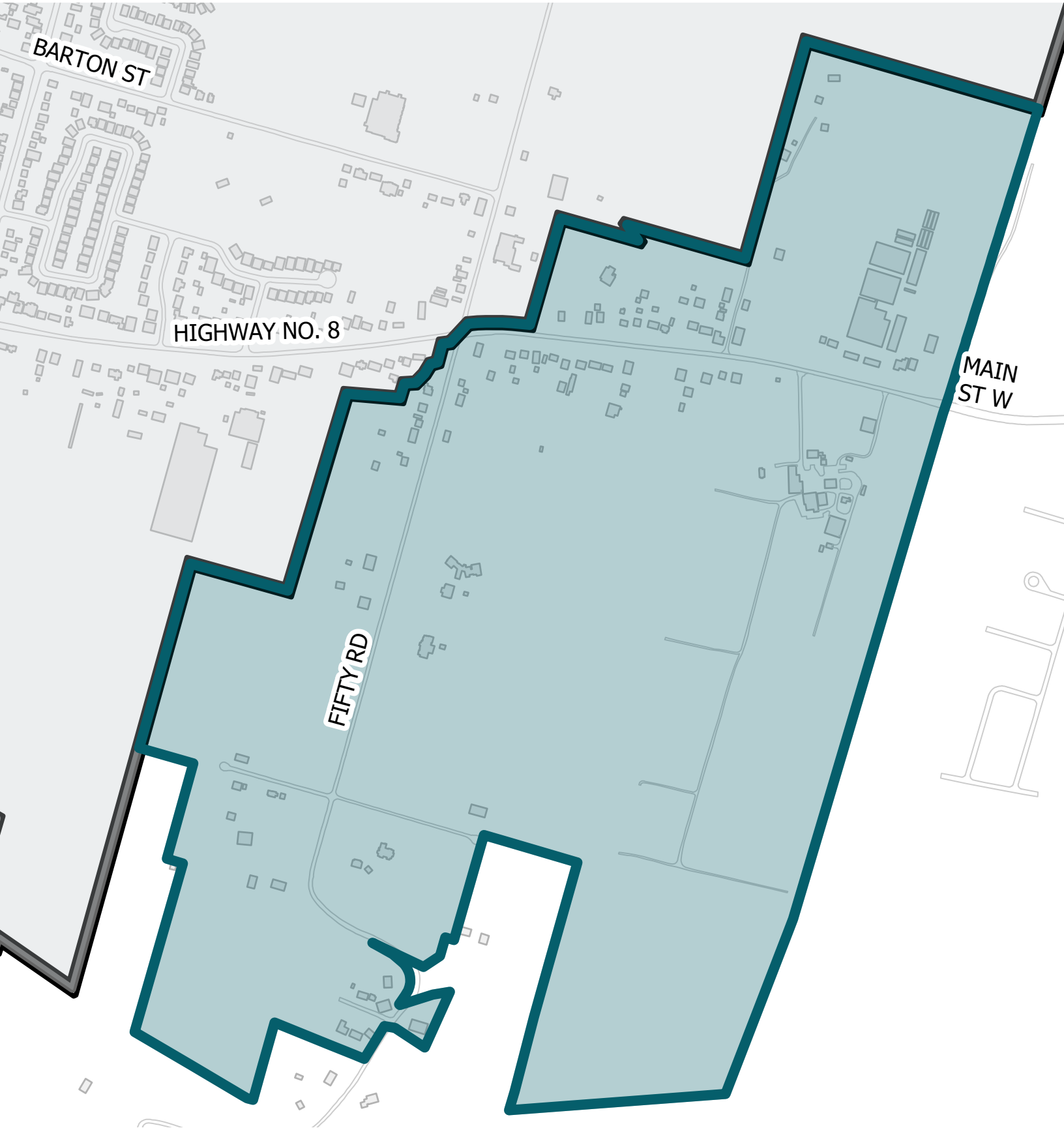
Water in the distribution system is sampled and analyzed one day per week. Chlorine residual in the distribution system is analyzed twice per week.

For more information on the Town of Grimsby's Quality Management System, Drinking Water Quality Management System Policy, Licenses/Permits, Operational Plan and Annual Drinking Water Quality Report, please visit:

www.grimsby.ca

Drinking Water System Number	Drinking Water System Name	Drinking Water System Owner	Drinking Water System Category	Period Being Reported
260069173	Hamilton Drinking Water System, Fifty Road Subsystem	City of Hamilton	Small Municipal Residential	January 1, 2023 to December 31, 2023

HAMILTON DRINKING WATER SYSTEM, FIFTY ROAD SUBSYSTEM MAP



PROVISION OF DRINKING WATER TO OTHER MUNICIPALITIES

There are no municipal drinking water systems that receive drinking water from the Hamilton Drinking Water System, Fifty Road Subsystem (Fifty Road Subsystem).

A copy of this annual report is provided to all drinking water system owners that are connected to the system and to whom we provide drinking water.

Hamilton residents are notified through the local newspaper that the annual report is available online free of charge at www.hamilton.ca/WaterQuality. A copy of the report can also be requested by contacting (905) 546-2489 or water@hamilton.ca.

WATER TREATMENT CHEMICALS USED DURING THIS REPORTING PERIOD

- sodium hypochlorite (chlorine)

BREAKDOWN OF SIGNIFICANT MONETARY EXPENSES

There were no significant expenses incurred for installing, repairing and replacing required equipment in 2023. There were no significant projects initiated or expenses to highlight for the Fifty Road Subsystem in 2023.

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS

There were no Adverse Water Quality Incidents for the period of January 1, 2023 to December 31, 2023.

MECP INSPECTION FINDINGS AND SELF-DECLARED NON-COMPLIANCES

The following is a summary of findings that were either issued during a Ministry of the Environment, Conservation and Parks (MECP) inspection or self-declared during the 2023 calendar year.

The 2022-2023 inspection was completed in July 2022 and there were no findings of non-compliance, as reported in the 2022 Drinking Water Annual Report.

There were no self-declared non-compliances reported in 2023.

The 2023-2024 inspection report was completed on November 17, 2023. The findings of non-compliance are reported in the table below.

MECP INSPECTION REPORT, NOVEMBER 17, 2023

#	Finding Type	Finding	Status
1	Non-compliance	Logbooks were not properly maintained and/or did not contain the required information.	Corrective action in process

WATER PRODUCTION REPORTS - SUMMARY

The Memorandum of Understanding between the Town of Grimsby and the City of Hamilton does not include a rated capacity. The City of Hamilton is working with the Town of Grimsby and the Niagara Region to negotiate a Water Supply Agreement.

FREELTON DRINKING WATER SYSTEM WATER QUALITY ANNUAL REPORT

Ontario Regulation 170/03 Section 11 & Schedule 22

2023

TABLE OF CONTENTS

GENERAL INFORMATION

The Freelton Drinking Water System consists of two wells, one elevated water storage tank, treatment as well as sampling and analysis. This system serves a population of approximately 804 residents. The municipal water source for the community of Freelton is ground water.

WATER WELLS

- Freelton Well FDF01 is a 250 mm diameter, approximately 21-metre-deep drilled ground water well.
- Freelton Well FDF03 is a 300 mm diameter, approximately 50-metre-deep drilled ground water well.

TREATMENT

- Sodium hypochlorite (chlorine) is used at each well location within a free chlorine contact chamber to ensure disinfection of the water prior to it entering the distribution system.
- Fluoride and orthophosphate are not added as part of the treatment process.

WATER STORAGE

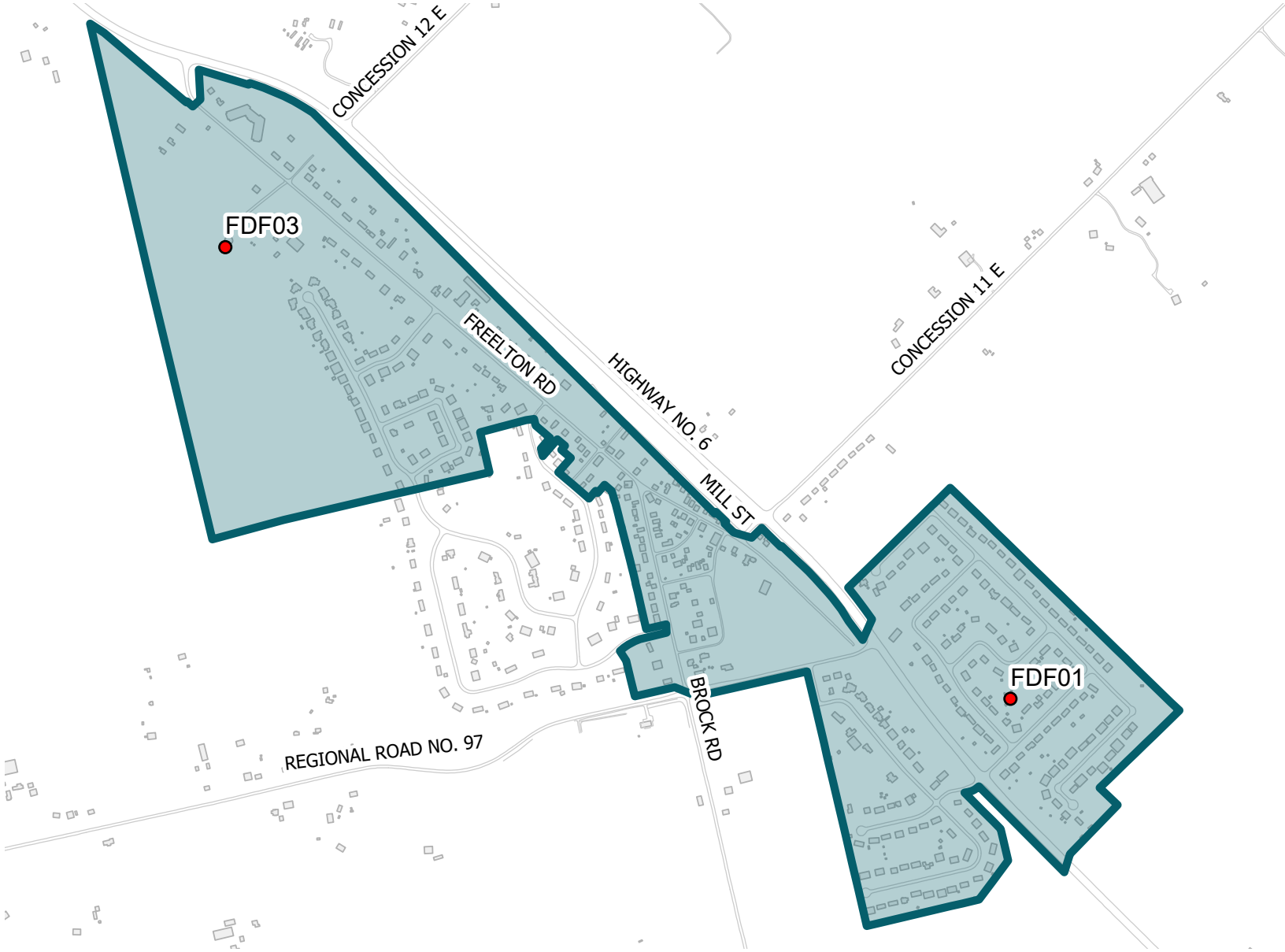
An elevated water storage tank with an operating capacity of 2,840 m³ is available for peak hour water demand equalization as well as fire and emergency storage.

SAMPLING & ANALYSIS

On-line chlorine residual analyzers and turbidity analyzers continually monitor the treatment process and water quality. Raw, treated and distribution water is sampled and analyzed weekly. In addition, chlorine residual in the distribution system is analyzed daily.

Drinking Water System Number	Drinking Water System Name	Drinking Water System Owner	Drinking Water System Category	Period Being Reported
220004117	Freelton Drinking Water System FDF01, FDF03	City of Hamilton	Large Municipal Residential	January 1, 2023 to December 31, 2023

FREELTON DRINKING WATER SYSTEM MAP



PROVISION OF DRINKING WATER TO OTHER MUNICIPALITIES

There are no municipal drinking water systems that receive drinking water from the Freelton Drinking Water System.

A copy of this annual report is provided to all drinking water system owners that are connected to the system and to whom we provide drinking water.

Hamilton residents are notified through the local newspaper that the annual report is available online free of charge at www.hamilton.ca/WaterQuality. A copy of the report can also be requested by contacting (905) 546-2489 or water@hamilton.ca.

WATER TREATMENT CHEMICALS USED DURING THIS REPORTING PERIOD

- sodium hypochlorite (chlorine)

BREAKDOWN OF SIGNIFICANT MONETARY EXPENSES

There were no significant expenses incurred for installing, repairing and replacing required equipment in 2023. There were no significant projects initiated or expenses to highlight for the Freelton Drinking Water System in 2023.

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS

The following outlines 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 the Ministry of the Environment, Conservation and Parks (MECP) Spills Action Centre.

Notification Date (y-m-d)	Location of Adverse	Adverse Water Quality Incident	Resolution
2023-07-19	Freelton Sampling Station B	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location and two downstream locations. All results passed.
2023-07-19	Freelton Sampling Station C	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location and two downstream locations. All results passed.
2023-08-29	Freelton Sampling Station A	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location, one upstream and one downstream location. All results passed.

MECP INSPECTION FINDINGS AND SELF-DECLARED NON-COMPLIANCES

The following is a summary of findings that were either issued during a Ministry of the Environment, Conservation and Parks inspection or self-declared during the 2023 calendar year.

The 2022-2023 inspection was completed in October 2022 and was reported in the 2022 Drinking Water Annual Report.

The 2023-2024 inspection commenced and the report remained pending as of December 31, 2023.

A maximum daily pumping rate exceedance for Freelton wells FDF01 and FDF03 Permit to Take Water (PTTW) occurred in October 2023 and was reported to the MECP in February 2024.

SELF-DECLARED NON-COMPLIANCES

#	Finding Type	Finding	Status
1	Self-declared Non-compliance	In October 2023, the maximum daily pumping rate of 1,824 m^3/d for FDF01 and FDF03 exceeded the PTTW daily limit of 1,607 m^3/d.	Corrective action in process

WATER PRODUCTION REPORTS - SUMMARY

The following provides a summary of daily flow rates and instantaneous peak flow rates in comparison to the capacity of the water works as identified in the Permit to Take Water (PTTW) and Municipal Drinking Water Licence (MDWL). This information is tabulated in the accompanying tables.

TABLE 2-1: FREELTON WELL (FDF01) - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	m^3	5,944	8,337	5,764	6,927	8,650	7,912	8,357	7,435	7,219	7,995	5,865	5,401
Average Daily Rate	m^3/d	192	298	186	231	279	264	270	240	241	258	195	174
Maximum Daily Rate	m^3/d	622	701	638	631	693	700	700	702	698	651	674	645
PTTW Daily Rated Capacity	m^3/d	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584
MDWL Daily Rated Capacity	m^3/d	878	878	878	878	878	878	878	878	878	878	878	878

FIGURE 2-1: FREELTON WELL (FDF01) - 2023 MONTHLY PRODUCTION (SUMMARY)

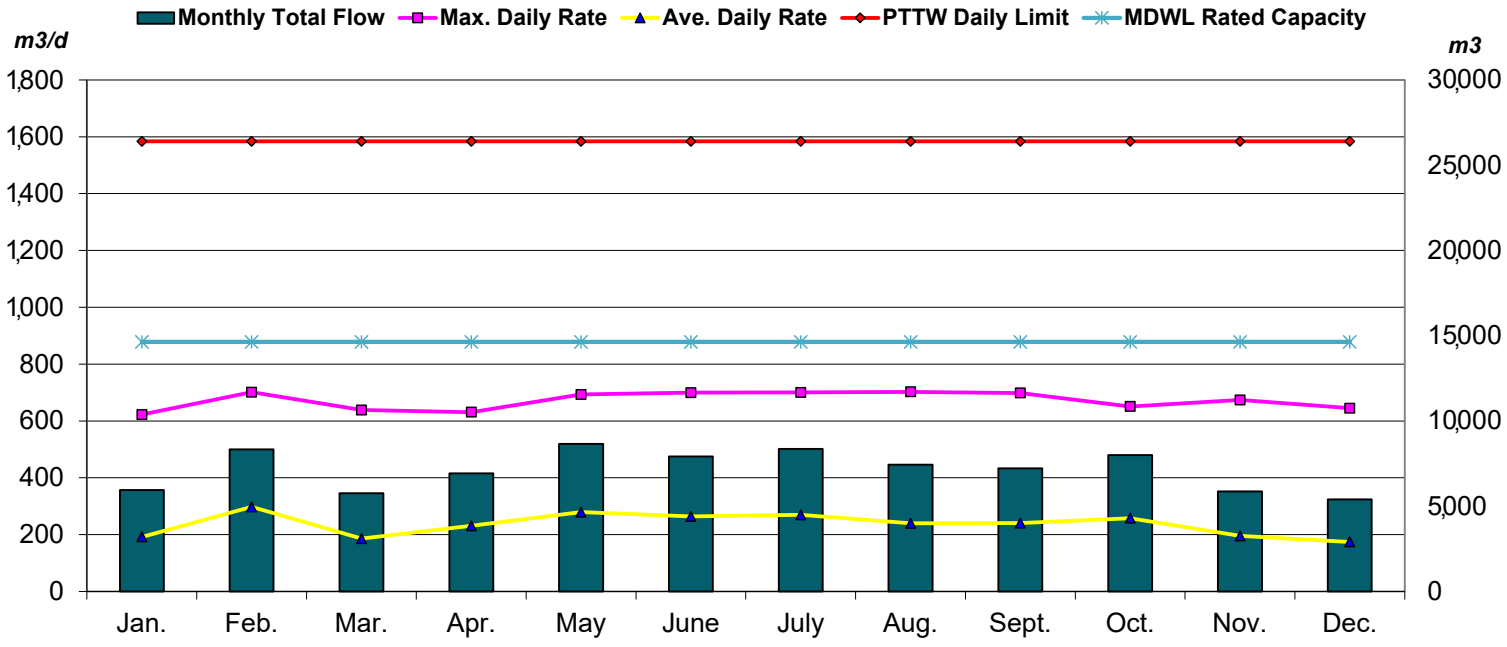


TABLE 2-2: FREELTON WELL (FDF03) - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	m^3	6,467	3,690	7,821	7,249	8,892	11,059	6,869	6,024	5,878	8,188	4,817	7,392
Average Daily Rate	m^3/d	209	132	252	242	287	369	222	194	196	264	161	238
Maximum Daily Rate	m^3/d	630	644	707	641	707	708	649	620	625	1173	593	707
PTTW Daily Limit	m^3/d	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607
MDWL Daily Rated Capacity	m^3/d	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607

FIGURE 2-2: FREELTON WELL (FDF03) - 2023 MONTHLY PRODUCTION (SUMMARY)

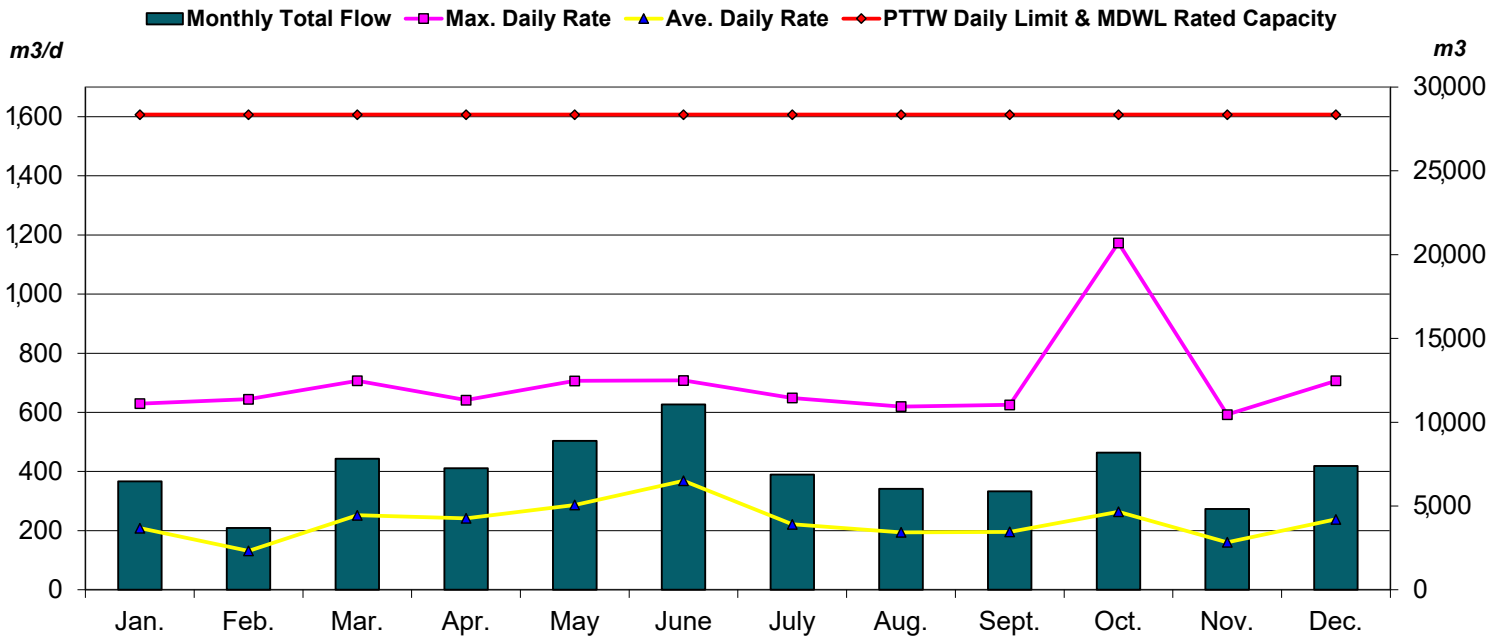
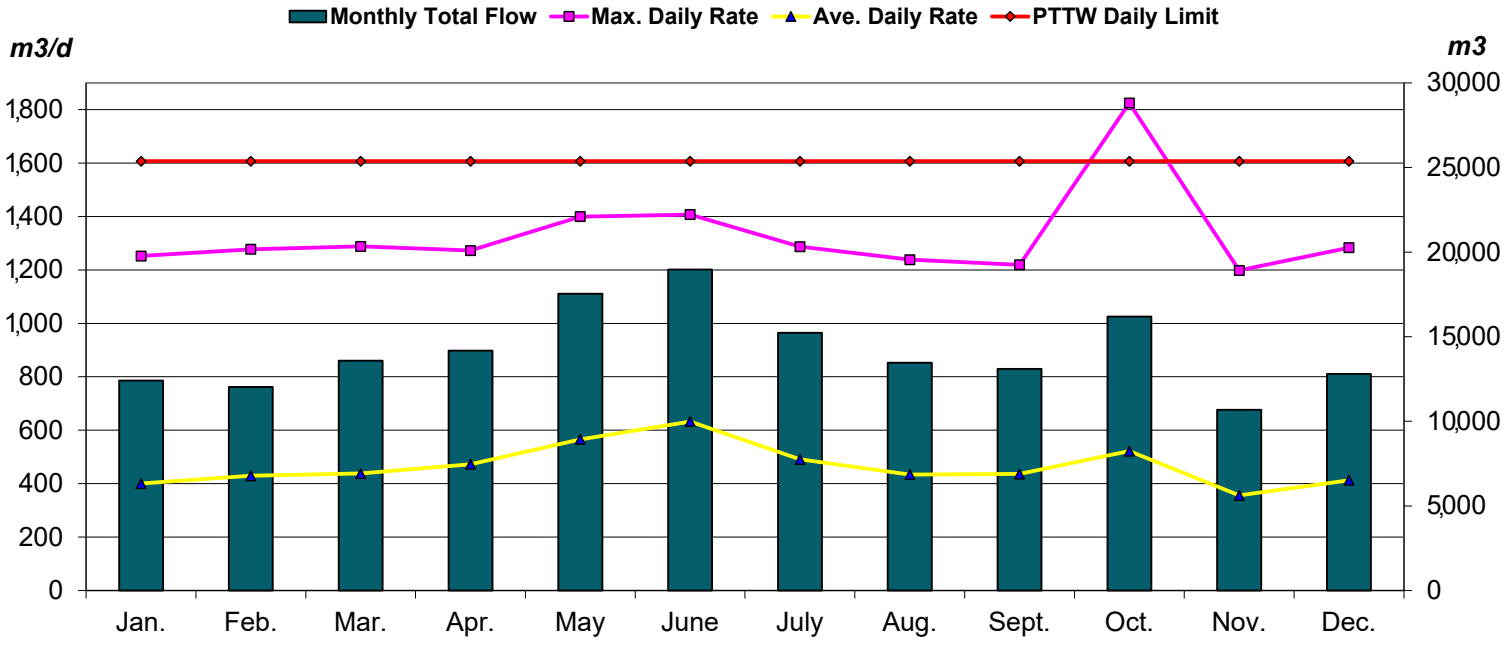


TABLE 2-3: FREELTON WELL (FDF01 & FDF03) - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	m^3	12,411	12,027	13,585	14,176	17,542	18,971	15,226	13,459	13,097	16,183	10,682	12,793
Average Daily Rate	m^3/d	400	430	438	473	566	632	491	434	437	522	356	413
Maximum Daily Rate	m^3/d	1,252	1,277	1,288	1,272	1,400	1,407	1,287	1,238	1,219	1,824*	1,198	1,283
PTTW Daily Limit	m^3/d	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607	1,607

*Note: See page 30 for the details on the combined PTTW limit exceedence noted in October 2023.

FIGURE 2-3: FREELTON WELL (FDF01 & FDF03) - 2023 MONTHLY PRODUCTION (SUMMARY)



GREENSVILLE DRINKING WATER SYSTEM WATER QUALITY ANNUAL REPORT

Ontario Regulation 170/03 Section 11 & Schedule 22

2023

TABLE OF CONTENTS

GENERAL INFORMATION

The Greensville Drinking Water System consists of one well, one treatment facility as well as sampling and analysis which serves a population of approximately 111 residents.

WATER WELL

- Greensville Well FDG01 is a 150 mm diameter, approximately 12-metre-deep drilled ground water well under the direct influence of surface water (GUDI).

TREATMENT

- Water passes through two-stage cartridge filters and is then disinfected using ultraviolet light and sodium hypochlorite (chlorine) prior to entering the distribution system.
- A free chlorine contact chamber is used to ensure disinfection of the water.
- Fluoride and orthophosphate are not added as part of the treatment process.
- Hydropneumatic pressure tanks are used to control system pressures.

SAMPLING & ANALYSIS

The treatment facility is equipped with on-line chlorine residual and turbidity analyzers that continually monitor the treated water quality. Raw, treated and distribution water is sampled and analyzed weekly. In addition, chlorine residual in the distribution system is analyzed daily.

Drinking Water System Number	Drinking Water System Name	Drinking Water System Owner	Drinking Water System Category	Period Being Reported
220004126	Greensville Drinking Water System FDG01	City of Hamilton	Small Municipal Residential	January 1, 2023 to December 31, 2023

GREENSVILLE DRINKING WATER SYSTEM MAP

PROVISION OF DRINKING WATER TO OTHER MUNICIPALITIES

There are no municipal drinking water systems that receive drinking water from the Greensville Drinking Water System.

A copy of this annual report is provided to all drinking water system owners that are connected to the system and to whom we provide drinking water.

Hamilton residents are notified through the local newspaper that the annual report is available online free of charge at www.hamilton.ca/WaterQuality. A copy of the report can also be requested by contacting (905) 546-2489 or water@hamilton.ca.

WATER TREATMENT CHEMICALS USED DURING THIS REPORTING PERIOD

- sodium hypochlorite (chlorine)

BREAKDOWN OF SIGNIFICANT MONETARY EXPENSES

There were no significant expenses incurred for installing, repairing and replacing required equipment in 2023. There were no significant projects initiated or expenses to highlight for the Greensville Drinking Water System in 2023.

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS

There were no Adverse Water Quality Incidents for the period of January 1, 2023 to December 31, 2023.

One instance of higher than usual free chlorine occurred in April 2023 and the system was flushed to restore chlorine to normal operating levels. Although this was reported as an Adverse Water Quality Incident, high free chlorine is not a reportable incident of adverse water quality.

MECP INSPECTION FINDINGS AND SELF-DECLARED NON-COMPLIANCES

The following is a summary of findings that were either issued during a Ministry of the Environment, Conservation and Parks (MECP) inspection or self-declared during the 2023 calendar year.

The 2022-2023 inspection report was completed on May 4, 2023. The findings of non-compliance are reported in the table below.

The 2023-2024 inspection remained pending as of December 31, 2023.

There were no self-declared non-compliances reported in 2023.

MECP INSPECTION REPORT, MAY 4, 2023

#	Finding Type	Finding	Status
1	Non-compliance	Logbooks were not properly maintained and/or did not contain the required information.	Corrective action in process

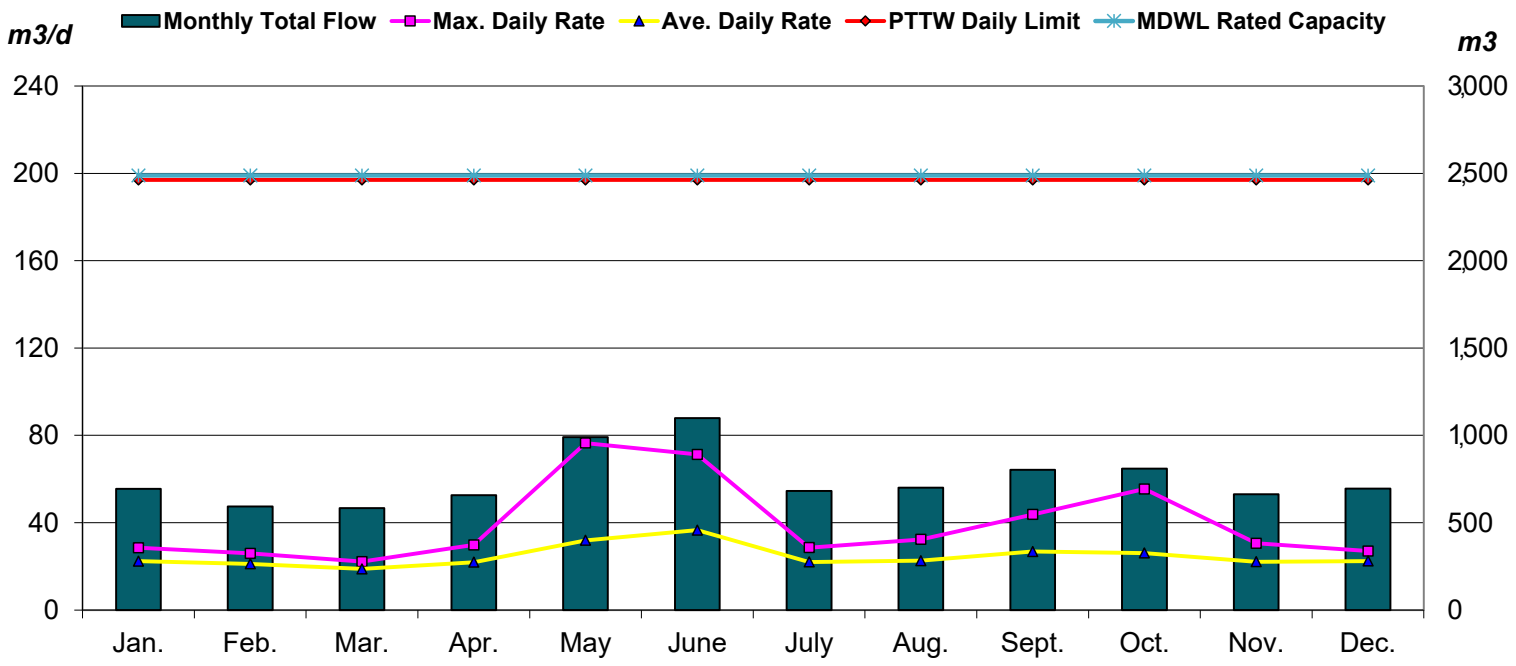
WATER PRODUCTION REPORTS - SUMMARY

The following provides a summary of daily flow rates and instantaneous peak flow rates in comparison to the capacity of the water works as identified in the Permit to Take Water (PTTW) and Municipal Drinking Water Licence (MDWL). This information is tabulated in the accompanying tables.

TABLE 3-1: GREENSVILLE WELL (FDG01) - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	m^3	694	593	583	657	990	1,098	682	700	803	810	663	696
Average Daily Rate	m^3/d	22	21	19	22	32	37	22	23	27	26	22	22
Maximum Daily Rate	m^3/d	28	26	22	30	76	71	29	32	44	55	31	27
PTTW Daily Limit	m^3/d	197	197	197	197	197	197	197	197	197	197	197	197
MDWL Daily Rated Capacity	m^3/d	199	199	199	199	199	199	199	199	199	199	199	199

FIGURE 3-1: GREENSVILLE WELL (FDG01) - 2023 MONTHLY PRODUCTION (SUMMARY)



CARLISLE DRINKING WATER SYSTEM WATER QUALITY ANNUAL REPORT

Ontario Regulation 170/03 Section 11 & Schedule 22

2023

TABLE OF CONTENTS

GENERAL INFORMATION

The Carlisle Drinking Water System consists of four wells, one elevated water storage tank, two treatment facilities as well as sampling and analysis, which serves a population of approximately 1,833 residents. The municipal water source for the community of Carlisle is ground water.

WATER WELLS

- Carlisle Well FDC01 has a diameter of 157 mm and a depth of approximately 42 m.
- Carlisle Well FDC02 has a diameter of 300 mm at a depth of 2.6 m and a diameter of 250 mm to a depth of 36 m.
- Carlisle Well FDC03R has a diameter of 200 mm and a depth of approximately 33.5 m. It is a drilled ground water well under the influence of surface water (GUDI).
- Carlisle Well FDC05 has a diameter of 214 mm and a depth of approximately 28 m. It is a drilled ground water well under the influence of surface water (GUDI).

TREATMENT

- Within the treatment facility, wells FDC01 and FDC02 are joined to a common header for flow metering and disinfection. Sodium hypochlorite (chlorine) is added within a free chlorine contact chamber to disinfect the water.
- Within the treatment facility, wells FDC03R and FDC05 have separate flow metering, filtration and ultraviolet light disinfection streams. The flows are combined for treatment by sodium hypochlorite (chlorine) within a free chlorine contact chamber to ensure disinfection of the water prior to entering the distribution system.
- Fluoride and orthophosphate are not added as part of the treatment process.

WATER STORAGE

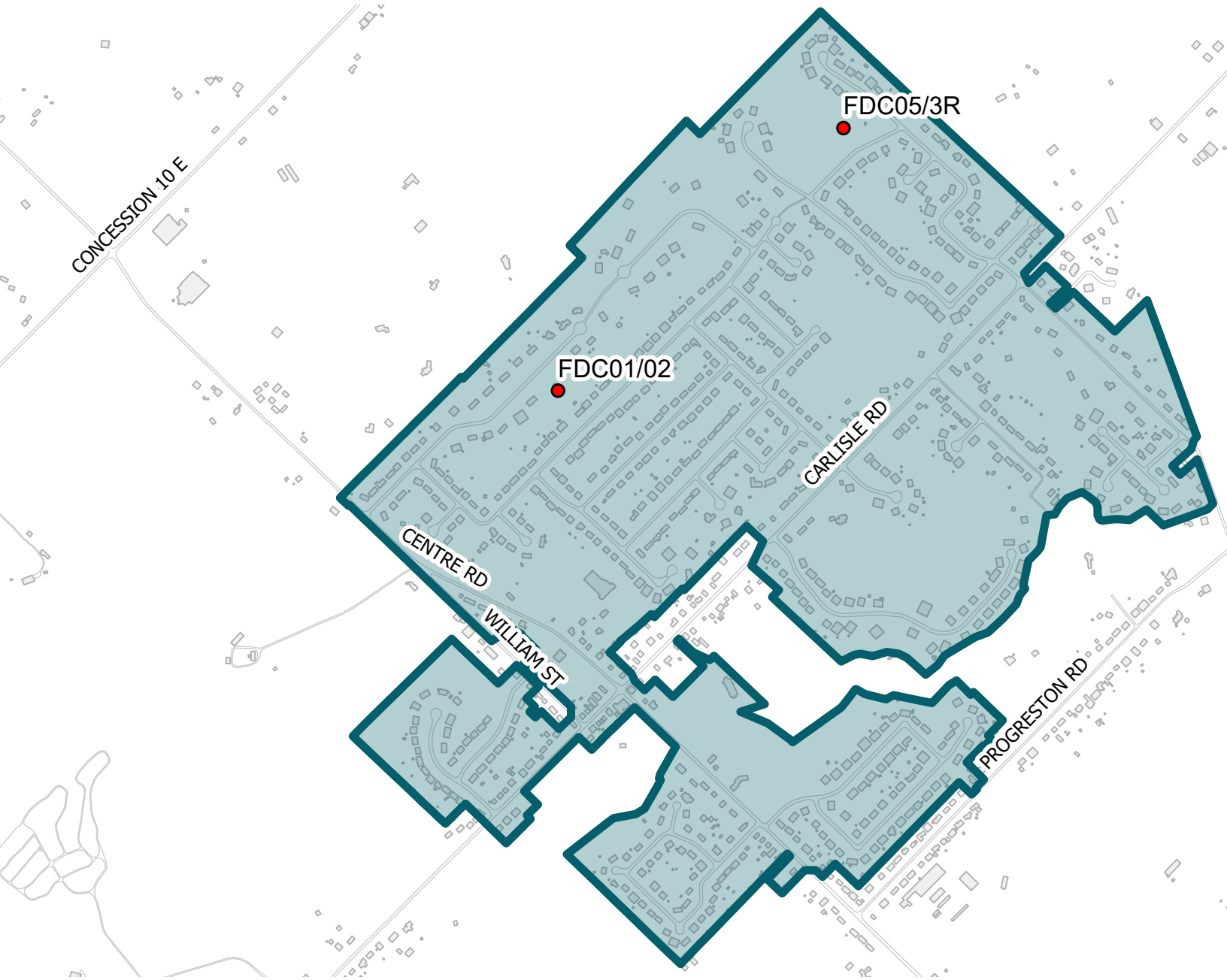
An elevated water storage tank is located at the same site as wells FDC01 and FDC02. The storage tank has an operating capacity of 1,400 m^3. It was designed for peak hour water demand equalization as well as fire and emergency storage.

SAMPLING & ANALYSIS

All treatment facilities are equipped with on-line chlorine residual and turbidity analyzers that continually monitor the treated water quality. Raw, treated and distribution water is sampled and analyzed weekly. In addition, chlorine residual in the distribution system is analyzed daily.

Drinking Water System Number	Drinking Water System Name	Drinking Water System Owner	Drinking Water System Category	Period Being Reported
220004108	Carlisle Drinking Water System FDC01, FDC02, FDC03R, FDC05	City of Hamilton	Large Municipal Residential	January 1, 2023 to December 31, 2023

CARLISLE DRINKING WATER SYSTEM MAP



PROVISION OF DRINKING WATER TO OTHER MUNICIPALITIES

There are no municipal drinking water systems that receive drinking water from the Carlisle Drinking Water System.

A copy of this annual report is provided to all drinking water system owners that are connected to the system and to whom we provide drinking water.

Hamilton residents are notified through the local newspaper that the annual report is available online free of charge at www.hamilton.ca/WaterQuality. A copy of the report can also be requested by contacting (905) 546-2489 or water@hamilton.ca.

WATER TREATMENT CHEMICALS USED DURING THIS REPORTING PERIOD

- sodium hypochlorite (chlorine)

BREAKDOWN OF SIGNIFICANT MONETARY EXPENSES

Significant expenses that were incurred for installing, repairing and replacing required equipment in 2023.
Carlisle Water Storage - Environmental Assessment and Conceptual Design - $183,800

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS

The following outlines 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 the Ministry of the Environment, Conservation and Parks Spills Action Centre.

Notification Date (y-m-d)	Location of Adverse	Adverse Water Quality Incident	Resolution
2023-07-05	Carlisle Sampling Station C	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location and two downstream locations. All results passed.

...continued on next page

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS (CONTINUED)

Notification Date (y-m-d)	Location of Adverse	Adverse Water Quality Incident	Resolution
2023-07-19	Carlisle Sampling Station B	Total Coliforms = Present (Regulatory requirement is Not Detectable)	Resampled adverse location and two downstream locations. All results passed.

MECP INSPECTION FINDINGS AND SELF-DECLARED NON-COMPLIANCES

The following is a summary of findings that were either issued during a Ministry of the Environment, Conservation and Parks inspection or self-declared during the 2023 calendar year.

The 2022-2023 inspection was completed in August 2022 and there were no findings of non-compliance, as reported in the 2022 Drinking Water Annual Report.

There were no self-declared non-compliances in 2023.

The 2023-2024 inspection report was completed on November 10, 2023. The findings of non-compliance are reported in the table below.

MECP INSPECTION REPORT, NOVEMBER 10, 2023

#	Finding Type	Finding	Status
1	Non-compliance	Logbooks were not properly maintained and/or did not contain the required information.	Corrective action in process
2	Non-compliance	Monthly UV summaries were not complete for the inspection period.	Corrective action complete
3	Non-compliance	Where required continuous monitoring equipment, used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person did not respond in a timely manner and/or did not take appropriate actions.	Corrective action complete

WATER PRODUCTION REPORTS - SUMMARY

The following provides a summary of daily flow rates and instantaneous peak flow rates in comparison to the capacity of the water works as identified in the Permit to Take Water (PTTW) and Municipal Drinking Water Licence (MDWL). This information is tabulated in the accompanying tables.

TABLE 4-1: CARLISLE WELLS (FDC01 & FDC02) - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	m^3	2,472	1,441	2,059	2,756	4,848	5,726	3,676	3,521	3,566	4,195	2,045	1,438
Average Daily Rate	m^3/d	80	51	66	92	156	191	119	114	119	135	68	46
Maximum Daily Rate	m^3/d	223	161	171	225	352	420	283	257	384	587	173	212
PTTW Daily Limit	m^3/d	1,702	1,702	1,702	1,702	1,702	1,702	1,702	1,702	1,702	1,702	1,702	1,702
MDWL Daily Rated Capacity	m^3/d	851	851	851	851	851	851	851	851	851	851	851	851

FIGURE 4-1: CARLISLE WELLS (FDC01 & FDC02) - 2023 MONTHLY PRODUCTION (SUMMARY)

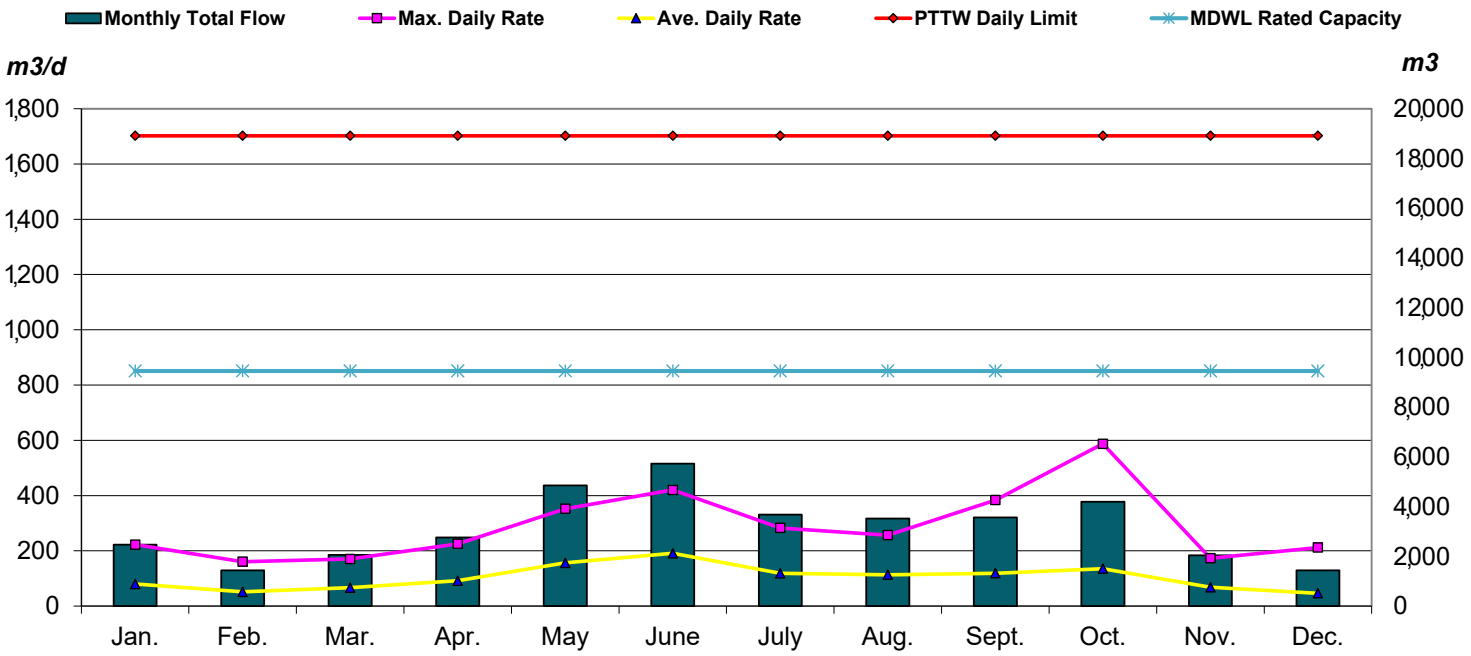


TABLE 4-2: CARLISLE WELL (FDC03R) - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	m^3	181	4,571	4,863	337	8,920	20,548	8,576	6,551	7,074	7,282	3,579	3,651
Average Daily Rate	m^3/d	6	163	157	11	288	685	277	211	236	235	119	118
Maximum Daily Rate	m^3/d	66	545	586	337	992	1341	767	721	772	1,062	471	566
PTTW Daily Limit	m^3/d	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160
Note: Carlisle DWS FDC03R and FDC05 have a combined MDWL rated capacity of 3,456m^3/day.													

FIGURE 4-2: CARLISLE WELL (FDC03R) - 2023 MONTHLY PRODUCTION (SUMMARY)

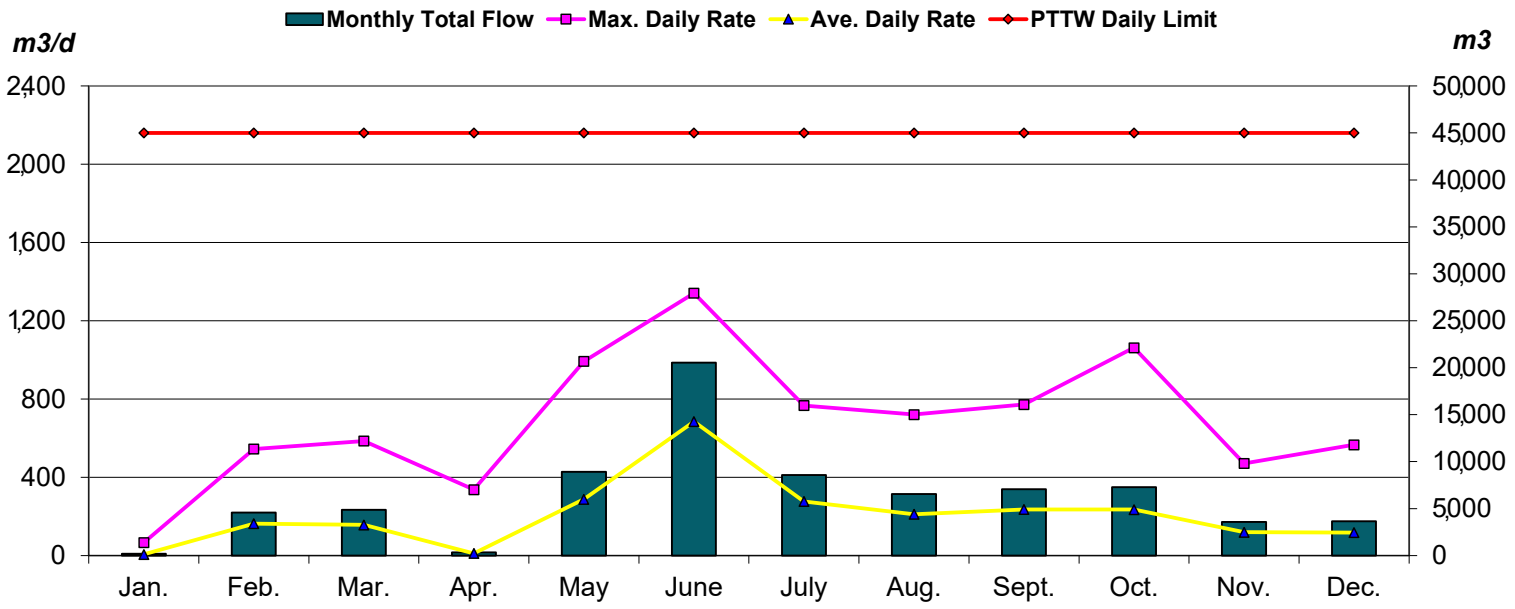


TABLE 4-3: CARLISLE WELL (FDC05) - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	m^3	11,695	5,819	4,854	10,313	13,687	13,978	13,094	12,535	13,729	6,004	6,442	7,932
Average Daily Rate	m^3/d	377	208	157	344	442	466	422	404	458	194	215	256
Maximum Daily Rate	m^3/d	580	716	467	529	721	805	835	727	854	664	520	593
PTTW Daily Limit	m^3/d	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296	1,296
Note: Carlisle DWS FDC03R and FDC05 have a combined MDWL rated capacity of 3,456m^3/day.													

FIGURE 4-3: CARLISLE WELLS (FDC05) - 2023 MONTHLY PRODUCTION (SUMMARY)

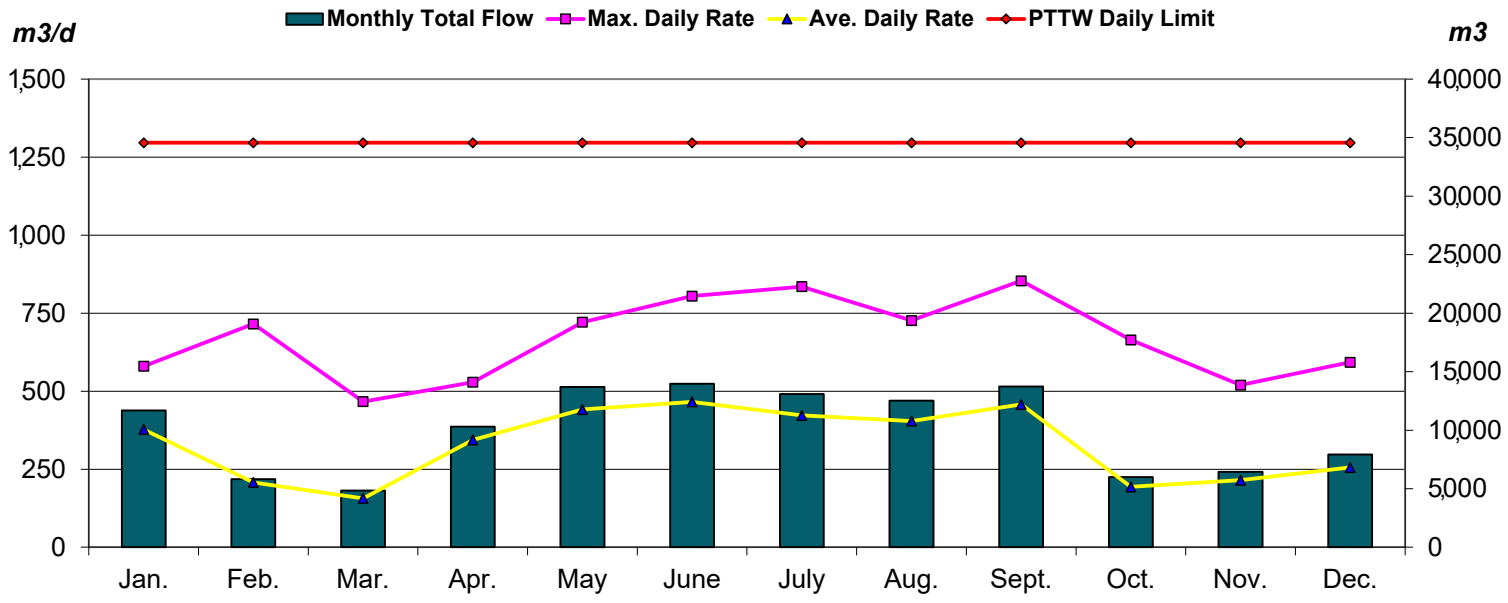
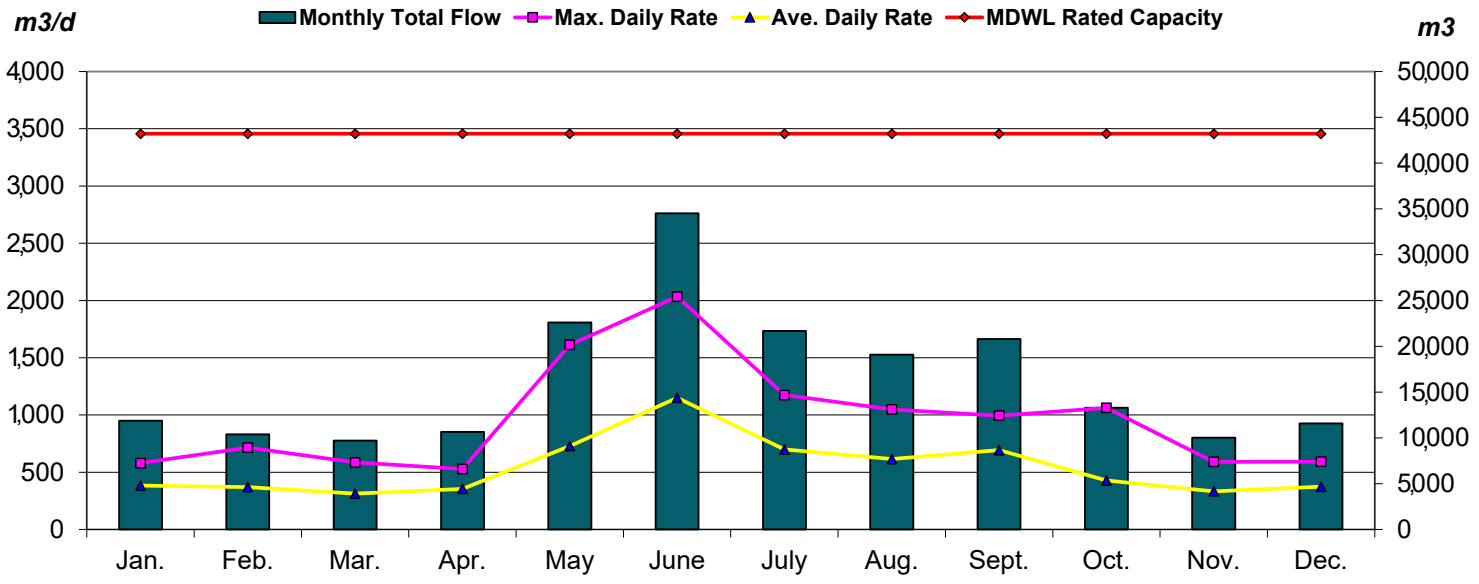


TABLE 4-4: CARLISLE WELL (FDC03R & FDC05) - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	m^3	11,876	10,390	9,718	10,650	22,606	34,526	21,670	19,086	20,803	13,287	10,021	11,583
Average Daily Rate	m^3/d	383	371	313	355	729	1,151	699	616	693	429	334	374
Maximum Daily Rate	m^3/d	580	716	586	529	1,613	2,034	1,175	1,049	995	1,062	591	593
MDWL Daily Rated Capacity	m^3/d	3,456	3,456	3,456	3,456	3,456	3,456	3,456	3,456	3,456	3,456	3,456	3,456

FIGURE 4-4: CARLISLE WELL (FDC03R & FDC05) - 2023 MONTHLY PRODUCTION (SUMMARY)



LYNDEN DRINKING WATER SYSTEM WATER QUALITY ANNUAL REPORT

Ontario Regulation 170/03 Section 11 & Schedule 22

2023

TABLE OF CONTENTS

GENERAL INFORMATION

The Lynden Drinking Water System consists of two wells, one reservoir, one treatment facility as well as sampling and analysis, which serves a population of approximately 393 residents. The municipal water source for the community of Lynden is ground water.

WATER WELLS

- Lynden Well FDL01 has a diameter of 200 mm and a depth of approximately 54.6 m. Lynden well FDL01 has been out of service since July 9, 2020. In 2024, FDL01 will be decommissioned and replaced with a new well, FDL1R.
- Lynden Well FDL03 has a diameter of 200 mm and a depth of 52 m.

TREATMENT

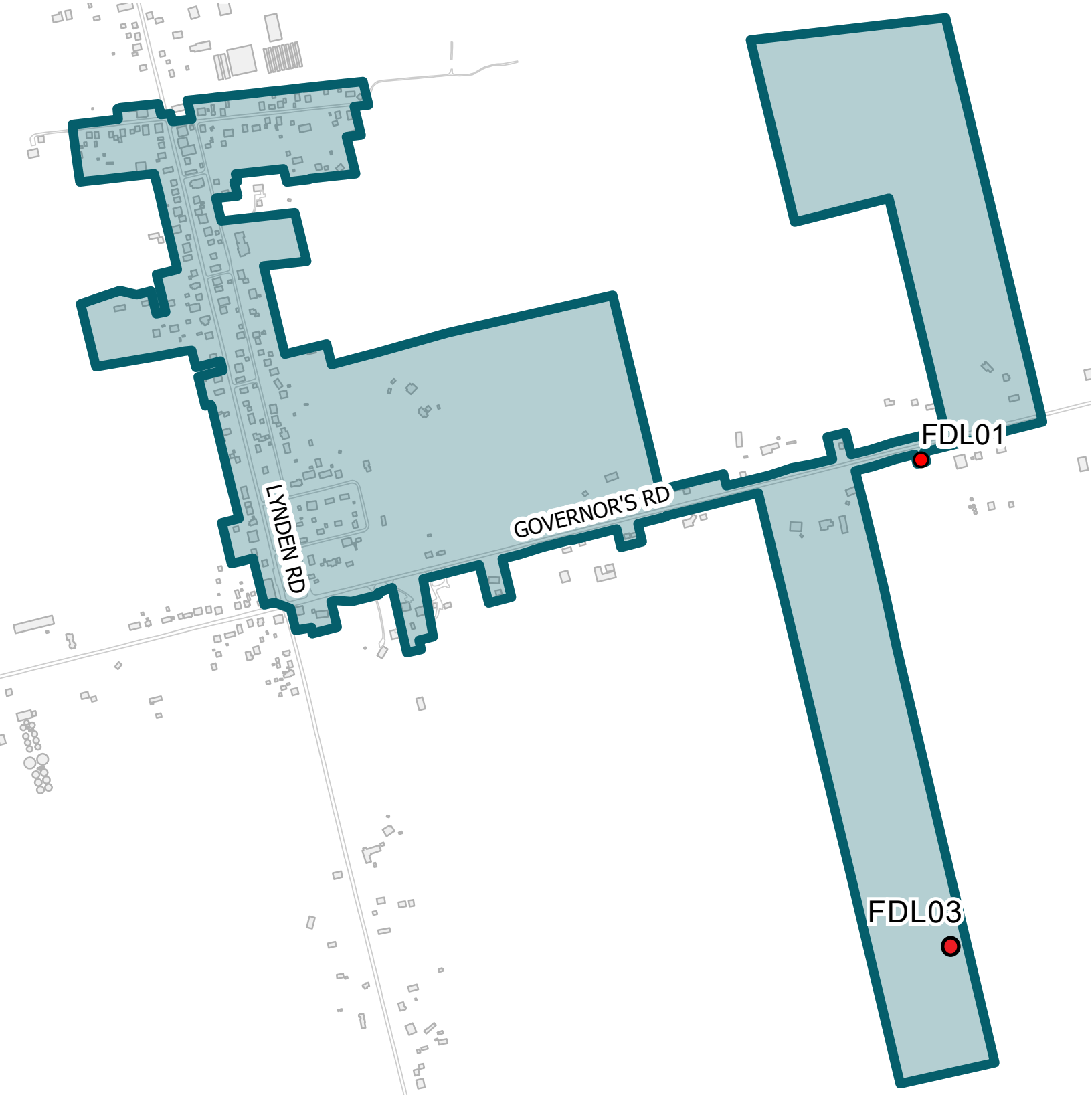
- The treatment facility includes an air stripper, transfer pumping, a cartridge filter and a carbon dioxide injection system for pH adjustment prior to the aeration tank. The reservoir acts as a free chlorine contact chamber to ensure disinfection of the water.
- Fluoride and orthophosphate are not added as part of the treatment process.

SAMPLING & ANALYSIS

The treatment facility is equipped with on-line chlorine residual and turbidity analyzers that continually monitor the treated water quality. Raw, treated and distribution water is sampled and analyzed weekly. In addition, chlorine residual in the distribution system is analyzed daily.

Drinking Water System Number	Drinking Water System Name	Drinking Water System Owner	Drinking Water System Category	Period Being Reported
250001830	Lynden Drinking Water System FDL03	City of Hamilton	Large Municipal Residential	January 1, 2023 to December 31, 2023

LYNDEN DRINKING WATER SYSTEM MAP



PROVISION OF DRINKING WATER TO OTHER MUNICIPALITIES

There are no municipal drinking water systems that receive drinking water from the Lynden Drinking Water System.

A copy of this annual report is provided to all drinking water system owners that are connected to the system and to whom we provide drinking water.

Hamilton residents are notified through the local newspaper that the annual report is available online free of charge at www.hamilton.ca/WaterQuality. A copy of the report can also be requested by contacting (905) 546-2489 or water@hamilton.ca.

WATER TREATMENT CHEMICALS USED DURING THIS REPORTING PERIOD

- sodium hypochlorite (chlorine)
- carbon dioxide

BREAKDOWN OF SIGNIFICANT MONETARY EXPENSES

There were no significant expenses incurred for installing, repairing and replacing required equipment in 2023. There were no significant projects initiated or expenses to highlight for the Lynden Drinking Water System in 2023.

ADVERSE TEST RESULTS AND REPORTABLE INCIDENTS

The following outlines 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 the Ministry of the Environment, Conservation and Parks (MECP) Spills Action Centre.

Notification Date (y-m-d)	Location of Adverse	Adverse Water Quality Incident	Resolution
2023-03-06	Lynden Drinking Water System	Loss of pressure due to power failure (Duty to report other observations)	Following a power loss, the treatment facility did not start up upon power restoration resulting in low pressure. Power was subsequently restored and the distribution system flushed.

MECP INSPECTION FINDINGS AND SELF-DECLARED NON-COMPLIANCES

The following is a summary of findings that were either issued during a Ministry of the Environment, Conservation and Parks inspection or self-declared during the 2023 calendar year.

The 2022-2023 inspection report was completed on January 20, 2023 and there were no findings of non-compliance.

The 2023-2024 inspection remained pending as of December 31, 2023.

There were no self-declared non-compliances reported for the Lynden Drinking Water System in 2023.

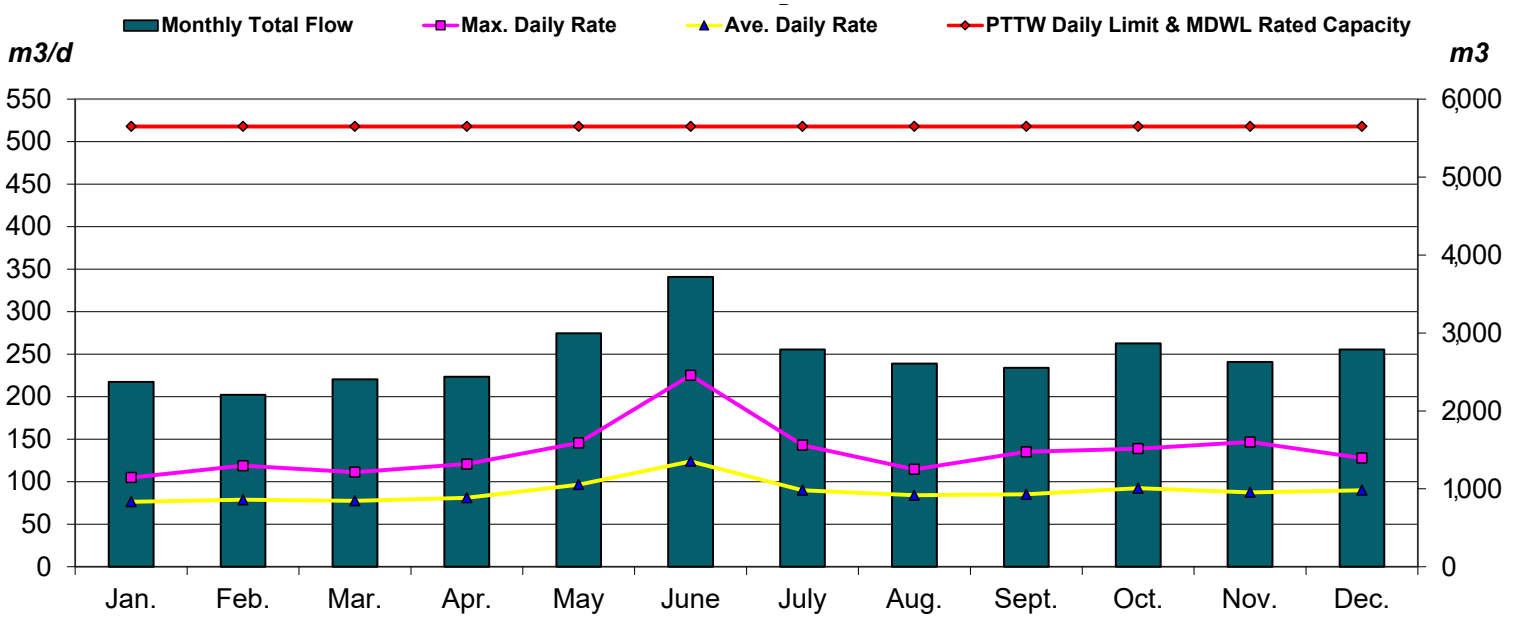
WATER PRODUCTION REPORTS - SUMMARY

The following provides a summary of daily flow rates and instantaneous peak flow rates in comparison to the capacity of the water works as identified in the Permit to Take Water (PTTW). This information is tabulated in the accompanying tables.

TABLE 5-1: LYNDEN WELL (FDL03) - 2023 MONTHLY PRODUCTION (SUMMARY)

Parameter	Units	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Monthly Total Flow	m^3	2,371	2,207	2,406	2,438	2,995	3,720	2,789	2,608	2,555	2,866	2,628	2,790
Average Daily Rate	m^3/d	76	79	78	81	97	124	90	84	85	92	88	90
Maximum Daily Rate	m^3/d	105	119	111	121	146	225	143	115	135	139	147	128
PTTW Daily Limit	m^3/d	518	518	518	518	518	518	518	518	518	518	518	518
MDWL Daily Rated Capacity	m^3/d	518	518	518	518	518	518	518	518	518	518	518	518

FIGURE 5-1: LYNDEN WELL (FDL03) - 2023 MONTHLY PRODUCTION (SUMMARY)



WATER QUALITY AND OPERATIONAL TESTING SUMMARY

Appendix A.1

TABLE OF CONTENTS

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM

Water Quality and Operational Testing Summary

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM

DEFINITIONS

AWQI: Adverse Water Quality Incident
CFU: Colony Forming Unit
MPN: Most Probable Number
mg/L: milligrams per litre
mL: millilitre
N/A: Not Applicable
NTU: Nephelometric Turbidity Unit
ug/L: microgram per litre
P/A: Present/Absent
CU: Colour Units
C: degrees Celcius

SUMMARY OF LEAD TESTING UNDER SCHEDULE 15.1 OF REGULATION 170/03 DURING THIS REPORTING PERIOD.

Parameter	Points Sampled	Samples Taken	Results Value Range	Unit of Measure	Lead AWQI	Lead Exceedances
Distribution						
Alkalinity	20	20	85 to 90	mg/L	N/A	N/A
Lead	20	20	<0.0001 to 0.0005	mg/L	0	N/A
pH - Field	20	20	7.21 to 7.59	pH	N/A	N/A
Plumbing Non-Residential						
Lead	10	20	<0.0001 to 0.0025	mg/L	N/A	0
pH - Field	10	10	7.24 to 7.45	pH	N/A	N/A
Plumbing Residential						
Lead	100	200	<0.0001 to 0.0205	mg/L	N/A	1
pH - Field	100	100	7.14 to 7.73	pH	N/A	N/A

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM

MICROBIOLOGICAL TESTING DONE UNDER SCHEDULE 10, 11, 12 AND 17, 18 OF REGULATION 170/03, DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Samples Taken	Result Value Range	Unit of Measure
Raw				
Escherichia coli	2023-01-03 to 2023-12-26	52	0 to 47	MPN/100mL
Total Coliform	2023-01-03 to 2023-12-26	52	0 to 1990	MPN/100mL
Treated				
Escherichia coli	2023-03-07	1	0	MPN/100mL
Escherichia coli	2023-01-01 to 2023-12-31	495	ALL ABSENT	P/A/100mL
Heterotrophic Plate Count	2023-01-01 to 2023-12-31	288	0 to 2	CFU/1mL
Total Coliform	2023-03-07	1	0	MPN/100mL
Total Coliform	2023-01-01 to 2023-12-31	495	1 DETECTION	P/A/100mL
Distribution				
Escherichia coli	2023-03-07 to 2023-10-06	38	0	MPN/100mL
Escherichia coli	2023-01-02 to 2023-12-29	1886	ALL ABSENT	P/A/100mL
Heterotrophic Plate Count	2023-01-02 to 2023-12-27	1192	0 to 1700	CFU/1mL
Total Coliform	2023-03-07 to 2023-10-06	38	0 to 30	MPN/100mL
Total Coliform	2023-01-02 to 2023-12-29	1886	5 DETECTIONS	P/A/100mL

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM

OPERATIONAL TESTING DONE UNDER SCHEDULE 7, 8 OR 9 OF REGULATION 170/03 DURING THE PERIOD COVERED BY THIS ANNUAL REPORT.

NOTE: If results are obtained from continuous monitors, then 8760 is reported as the number of samples.

Parameter - Sample Type	Samples Taken	Result Value Range	Unit of Measure
Turbidity - Treated – Filter 1	8760	0.02 to 0.16	NTU
Turbidity - Treated – Filter 2	8760	0.02 to 0.12	NTU
Turbidity - Treated – Filter 3	8760	0.02 to 0.15	NTU
Turbidity - Treated – Filter 4	8760	0.02 to 0.14	NTU
Turbidity - Treated – Filter 5	8760	0.02 to 0.13	NTU
Turbidity - Treated – Filter 6	8760	0.02 to 0.28	NTU
Turbidity - Treated – Filter 7	8760	0.02 to 0.21	NTU
Turbidity - Treated – Filter 8	8760	0.02 to 0.17	NTU
Turbidity - Treated – Filter 9	8760	0.02 to 0.17	NTU
Turbidity - Treated – Filter 10	8760	0.02 to 0.16	NTU
Turbidity - Treated – Filter 11	8760	0.02 to 0.18	NTU
Turbidity - Treated – Filter 12	8760	0.02 to 0.16	NTU
Turbidity - Treated – Filter 13	8760	0.02 to 0.14	NTU
Turbidity - Treated – Filter 14	8760	0.02 to 0.12	NTU
Turbidity - Treated – Filter 15	8760	0.02 to 0.14	NTU
Turbidity - Treated – Filter 16	8760	0.02 to 0.19	NTU
Turbidity - Treated – Filter 17	8760	0.02 to 0.13	NTU
Turbidity - Treated – Filter 18	8760	0.02 to 0.13	NTU
Turbidity - Treated – Filter 19	8760	0.02 to 0.17	NTU
Turbidity - Treated – Filter 20	8760	0.02 to 0.13	NTU
Turbidity - Treated – Filter 21	8760	0.04 to 0.09	NTU
Turbidity - Treated – Filter 22	8760	0.17 to 0.25	NTU
Turbidity - Treated – Filter 23	8760	0.02 to 0.16	NTU
Turbidity - Treated – Filter 24	8760	0.02 to 0.19	NTU
Combined Chlorine - Treated	8760	1.08 to 3.14	mg/L
Free Chlorine - Distribution	2043	<0.02 to 0.17	mg/L
Combined Chlorine - Distribution	2043	0.04 to 2.90	mg/L
Fluoride – Treated	8760	0.53 to 0.77	mg/L

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM

SUMMARY OF ADDITIONAL TESTING AND SAMPLING CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENT OF A LICENCE, APPROVAL, ORDER OR OTHER LEGAL INSTRUMENT.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Raw			
Microcystins	2023-01-10 to 2023-12-12	<0.15	ug/L
Treated			
Alkalinity	2023-05-01 to 2023-10-11	87 to 91	mg/L
Chloride	2023-01-10 to 2023-12-12	28.4 to 39.1	mg/L
Colour (apparent)	2023-01-23 to 2023-10-18	<2 to 2	CU
Copper	2023-01-23 to 2023-10-18	0.0002 to 0.0003	mg/L
Iron	2023-01-23 to 2023-10-18	<0.003	mg/L
Lead	2023-01-23 to 2023-10-18	<0.0001	mg/L
Microcystins	2023-06-06 to 2023-10-30	<0.15	ug/L
Sulphate	2023-01-10 to 2023-12-12	22.1 to 25.8	mg/L
Total Dissolved Solids	2023-01-23 to 2023-10-18	150 to 228	mg/L
Distribution			
Iron	2023-01-23 to 2023-10-17	<0.003 to 0.167	mg/L
o-Phosphate as PO4	2023-01-03 to 2023-12-28	1.49 to 7.80	mg/L
Temperature - Field	2023-01-03 to 2023-12-28	4.8 to 23.0	C
Turbidity - Field	2023-01-03 to 2023-12-28	0.05 to 2.29	NTU
Plumbing – Residential and Non-Residential			
Copper	2023-03-06 to 2023-09-29	0.0014 to 0.239	mg/L

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM

SUMMARY OF ADDITIONAL TESTING AND SAMPLING CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENT OF A LICENCE, APPROVAL, ORDER OR OTHER LEGAL INSTRUMENT.

NOTE: If results are obtained from continuous monitors, then 8760 is reported as the number of samples.

Parameter - Sample Type	Samples Taken	Result Value Range	Unit of Measure
Temperature – Raw	8760	0.45 to 20.89	C
pH – Treated	8760	7.06 to 7.56	pH
Orthophosphate – Treated	8760	0.74 to 2.86	mg/L
Orthophosphate – Treated	365	1.34 to 2.58	mg/L
Turbidity - Treated	8760	0.03 - 0.71	NTU

SUMMARY OF INORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Treated			
Antimony	2023-05-01 to 2023-10-11	0.0001	mg/L
Arsenic	2023-05-01 to 2023-10-11	0.0005 to 0.0006	mg/L
Barium	2023-05-01 to 2023-10-11	0.0171 to 0.0213	mg/L
Boron	2023-05-01 to 2023-10-11	0.026 to 0.031	mg/L
Cadmium	2023-05-01 to 2023-10-11	<0.0001	mg/L
Chromium	2023-05-01 to 2023-10-11	<0.0001	mg/L
Fluoride	2023-05-01 to 2023-10-11	0.63 to 0.66	mg/L
Mercury	2023-05-01 to 2023-10-11	<0.05	ug/L
Nitrate as N	2023-01-25 to 2023-10-11	0.34 to 0.51	mg/L
Nitrite as N	2023-01-25 to 2023-10-11	<0.01	mg/L
Selenium	2023-05-01 to 2023-10-11	0.0002	mg/L
Sodium	2023-05-01 to 2023-10-11	14.6 to 16.3	mg/L
Uranium	2023-05-01 to 2023-10-11	0.178 to 0.216	ug/L

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Treated			
1,1-Dichloroethylene	2023-05-01 to 2023-10-11	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-01 to 2023-10-11	<0.2	ug/L
1,2-Dichloroethane	2023-05-01 to 2023-10-11	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-01 to 2023-10-11	<0.2	ug/L
2,3,4,6-Tetrachlorophenol	2023-05-01	<0.20	ug/L
2,4,6-Trichlorophenol	2023-05-01	<0.25	ug/L
2,4-D	2023-05-01	<0.19	ug/L
2,4-Dichlorophenol	2023-05-01	<0.15	ug/L
Alachlor	2023-05-01	<0.02	ug/L
Atrazine + Desethyl-atrazine	2023-05-01	0.04	ug/L
Azinphos-methyl	2023-05-01	<0.05	ug/L
Benzene	2023-05-01 to 2023-10-11	<0.2	ug/L
Benzo[a]pyrene	2023-05-01	<0.004	ug/L
Bromoxynil	2023-05-01	<0.33	ug/L
Carbaryl	2023-05-01	<0.05	ug/L
Carbofuran	2023-05-01	<0.01	ug/L
Carbon Tetrachloride	2023-05-01 to 2023-10-11	<0.2	ug/L
Chlorobenzene	2023-05-01 to 2023-10-11	<0.3	ug/L
Chlorpyrifos (Dursban)	2023-05-01	<0.02	ug/L
Diazinon	2023-05-01	<0.02	ug/L
Dicamba	2023-05-01	<0.20	ug/L

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Treated (Continued)			
Dichloromethane	2023-05-01 to 2023-10-11	<0.5	ug/L
Diclofop-methyl	2023-05-01	<0.40	ug/L
Dimethoate	2023-05-01	<0.06	ug/L
Diquat	2023-05-01	<1	ug/L
Diuron	2023-05-01	<0.03	ug/L
Glyphosate	2023-05-01	2	ug/L
Malathion	2023-05-01	<0.02	ug/L
MCPA	2023-05-01	<0.00012	mg/L
Metolachlor	2023-05-01	<0.01	ug/L
Metribuzin (Sencor)	2023-05-01	<0.02	ug/L
Paraquat	2023-05-01	<1	ug/L
PCBs Total	2023-05-01	<0.04	ug/L
Pentachlorophenol	2023-05-01	<0.15	ug/L
Phorate	2023-05-01	<0.01	ug/L
Picloram	2023-05-01	<1	ug/L
Prometryne	2023-05-01	<0.03	ug/L
Simazine	2023-05-01	<0.01	ug/L
Terbufos	2023-05-01	<0.01	ug/L
Tetrachloroethylene	2023-05-01 to 2023-10-11	<0.2	ug/L

HAMILTON DRINKING WATER SYSTEM, WOODWARD SUBSYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Treated (Continued)			
Triallate	2023-05-01	<0.01	ug/L
Trichloroethylene	2023-05-01 to 2023-10-11	<0.2	ug/L
Trifluralin	2023-05-01	<0.02	ug/L
Vinyl Chloride	2023-05-01 to 2023-10-11	<0.2	ug/L
Distribution			
Haloacetic Acids*	Running annual average for the last four quarters.	<5.3	ug/L
Total Trihalomethanes*	Running annual average for the last four quarters.	21.4	ug/L
*The Maximum Acceptable Concentration for Trihalomethanes and Haloacetic Acids in the distribution system is based on a running average of the results from all sampling events in the past four quarters. This running average can be found in the result value range column.			

PARAMETERS EXCEEDING PRESCRIBED HALF-STANDARD

There were no Schedule 23 or 24 parameters that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards (O.Reg. 169/03).

HAMILTON DRINKING WATER SYSTEM, FIFTY ROAD SUBSYSTEM

Water Quality and Operational Testing Summary

HAMILTON DRINKING WATER SYSTEM, FIFTY ROAD SUBSYSTEM

DEFINITIONS

AWQI: Adverse Water Quality Incident
CFU: Colony Forming Unit
MPN: Most Probable Number
HPC: Heterotrophic Plate Count
mg/L: milligrams per litre
mL: millilitre
N/A: Not Applicable
ug/L: microgram per litre
P/A: Present/Absent

SUMMARY OF LEAD TESTING UNDER SCHEDULE 15.1 OF REGULATION 170/03 DURING THIS REPORTING PERIOD.

Parameter	Points Sampled	Samples Taken	Results Value Range	Unit of Measure	Lead AWQI	Lead Exceedances
Distribution						
Alkalinity	2	2	88	mg/L	N/A	N/A
Lead	2	2	<0.0001 to 0.0002	mg/L	0	N/A
pH - Field	2	2	7.38 to 7.50	pH	N/A	N/A

MICROBIOLOGICAL TESTING DONE UNDER SCHEDULE 10, 11, 12 AND 17, 18 OF REGULATION 170/03, DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Samples Taken	Result Value Range	Unit of Measure
Distribution				
Escherichia coli	2023-07-13	1	0	MPN/100mL
Escherichia coli	2023-01-02 to 2023-12-26	104	ALL ABSENT	P/A/100mL
Heterotrophic Plate Count	2023-01-02 to 2023-12-26	106	0 to 6	CFU/1mL
Total Coliform	2023-07-13	1	0	MPN/100mL
Total Coliform	2023-01-02 to 2023-12-26	104	ALL ABSENT	P/A/100mL

HAMILTON DRINKING WATER SYSTEM, FIFTY ROAD SUBSYSTEM

OPERATIONAL TESTING DONE UNDER SCHEDULE 7, 8 OR 9 OF REGULATION 170/03 DURING THE PERIOD COVERED BY THIS ANNUAL REPORT.

Parameter - Sample Type	Samples Taken	Result Value Range	Unit of Measure
Free Chlorine - Distribution	159	0.41 to 1.59	mg/L

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Distribution			
Haloacetic Acids*	Running annual average for the last four quarters.	30.2	ug/L
Total Trihalomethanes*	Running annual average for the last four quarters.	28.4	ug/L
*The Maximum Acceptable Concentration for Trihalomethanes and Haloacetic Acids in the distribution system is based on a running average of the results from all sampling events in the past four quarters. This running average can be found in the result value range column.			

PARAMETERS EXCEEDING PRESCRIBED HALF-STANDARD

There were no Schedule 23 or 24 parameters that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards (O.Reg. 169/03).

FREELTON DRINKING WATER SYSTEM

Water Quality and Operational Testing Summary

FREELTON DRINKING WATER SYSTEM

DEFINITIONS

AWQI: Adverse Water Quality Incident
CFU: Colony Forming Unit
MPN: Most Probable Number
HPC: Heterotrophic Plate Count
mg/L: milligrams per litre
mL: millilitre
N/A: Not Applicable
NTU: Nephelometric Turbidity Unit
ug/L: microgram per litre
P/A: Present/Absent

SUMMARY OF LEAD TESTING UNDER SCHEDULE 15.1 OF REGULATION 170/03 DURING THIS REPORTING PERIOD.

Parameter	Points Sampled	Samples Taken	Results Value Range	Unit of Measure	Lead AWQI	Lead Exceedances
Distribution						
Alkalinity	4	4	305 to 316	mg/L	N/A	N/A
Lead	4	4	<0.0001 to 0.0002	mg/L	0	N/A
pH - Field	4	4	7.20 to 7.78	pH	N/A	N/A

FREELTON DRINKING WATER SYSTEM

MICROBIOLOGICAL TESTING DONE UNDER SCHEDULE 10, 11, 12 AND 17, 18 OF REGULATION 170/03, DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Samples Taken	Result Value Range	Unit of Measure
Freelton Well Raw FDF01				
Escherichia coli	2023-01-02 to 2023-12-26	52	0	MPN/100mL
Total Coliform	2023-01-02 to 2023-12-26	52	0 to 10	MPN/100mL
Freelton Well Raw FDF03				
Escherichia coli	2023-01-03 to 2023-12-25	52	0	MPN/100mL
Total Coliform	2023-01-03 to 2023-12-25	52	0	MPN/100mL
Freelton Well Treated FDF01				
Escherichia coli	2023-01-02 to 2023-12-26	52	ALL ABSENT	P/A/100ML
Heterotrophic Plate Count	2023-01-02 to 2023-12-26	53	0 to 24	CFU/1ML
Total Coliform	2023-01-02 to 2023-12-26	52	ALL ABSENT	P/A/100ML
Freelton Well Treated FDF03				
Escherichia coli	2023-01-03 to 2023-12-25	52	ALL ABSENT	P/A/100ML
Heterotrophic Plate Count	2023-01-03 to 2023-12-25	52	0	CFU/1ML
Total Coliform	2023-01-03 to 2023-12-25	52	ALL ABSENT	P/A/100ML
Distribution				
Escherichia coli	2023-07-19 to 2023-08-29	9	0	MPN/100ML
Escherichia coli	2023-01-02 to 2023-12-26	156	ALL ABSENT	P/A/100ML
Heterotrophic Plate Count	2023-01-02 to 2023-12-26	207	0 to 3	CFU/1ML
Total Coliform	2023-07-19 to 2023-08-29	9	0	MPN/100ML
Total Coliform	2023-01-02 to 2023-12-26	156	3 DETECTIONS	P/A/100ML

FREELTON DRINKING WATER SYSTEM

OPERATIONAL TESTING DONE UNDER SCHEDULE 7, 8 OR 9 OF REGULATION 170/03 DURING THE PERIOD COVERED BY THIS ANNUAL REPORT.

NOTE: If results are obtained from continuous monitors, then 8760 is reported as the number of samples.

Parameter - Sample Type	Samples Taken	Result Value Range	Unit of Measure
Turbidity – Raw - FDF01	53	0.05 to 0.39	NTU
Turbidity – Raw - FDF03	53	0.08 to 0.70	NTU
Free Chlorine – Treated FDF01	8760	0.84 to 2.82	mg/L
Free Chlorine – Treated FDF03	8760	1.05 to 2.61	mg/L
Free Chlorine – Distribution	365	1.07 to 2.61	mg/L

SUMMARY OF INORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Freelton Well Treated FDF01			
Antimony	2023-05-02 to 2023-10-11	0.0001	mg/L
Arsenic	2023-05-02 to 2023-10-11	0.0001 to 0.0005	mg/L
Barium	2023-05-02 to 2023-10-11	0.0641 to 0.0675	mg/L
Boron	2023-05-02 to 2023-10-11	0.019 to 0.026	mg/L
Cadmium	2023-05-02 to 2023-10-11	<0.0001	mg/L
Chromium	2023-05-02 to 2023-10-11	<0.0001	mg/L
Fluoride	2023-05-02 to 2023-10-11	0.08 to 0.15	mg/L
Mercury	2023-05-02 to 2023-10-11	<0.05	ug/L
Nitrate as N	2023-01-23 to 2023-10-11	0.37 to 2.39	mg/L
Nitrite as N	2023-01-23 to 2023-10-11	<0.01	mg/L
Selenium	2023-05-02 to 2023-10-11	0.0001 to 0.0003	mg/L
Sodium	2023-05-02 to 2023-10-11	48.2 to 57.4	mg/L
Uranium	2023-05-02 to 2023-10-11	0.308 to 0.317	ug/L

FREELTON DRINKING WATER SYSTEM

SUMMARY OF INORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Freelton Well Treated FDF03			
Antimony	2023-05-02 to 2023-10-11	0.0002	mg/L
Arsenic	2023-05-02 to 2023-10-11	0.0004 to 0.0006	mg/L
Barium	2023-05-02 to 2023-10-11	0.0704 to 0.0715	mg/L
Boron	2023-05-02 to 2023-10-11	0.018 to 0.019	mg/L
Cadmium	2023-05-02 to 2023-10-11	<0.0001	mg/L
Chromium	2023-05-02 to 2023-10-11	<0.0001	mg/L
Fluoride	2023-05-02 to 2023-10-11	0.16	mg/L
Mercury	2023-05-02 to 2023-10-11	<0.05	ug/L
Nitrate as N	2023-01-23 to 2023-10-11	0.06 to 0.25	mg/L
Nitrite as N	2023-01-23 to 2023-10-11	<0.01	mg/L
Selenium	2023-05-02 to 2023-10-11	<0.0001	mg/L
Sodium	2023-05-02 to 2023-10-11	52.2 to 64.5	mg/L
Uranium	2023-05-02 to 2023-10-11	0.337 to 0.342	ug/L

FREELTON DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Freelton Well Treated FDF01			
1,1-Dichloroethylene	2023-05-02 to 2023-10-11	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-02 to 2023-10-11	<0.2	ug/L
1,2-Dichloroethane	2023-05-02 to 2023-10-11	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-02 to 2023-10-11	<0.2	ug/L
2,3,4,6-Tetrachlorophenol	2023-05-02	<0.20	ug/L
2,4,6-Trichlorophenol	2023-05-02	<0.25	ug/L
2,4-D	2023-05-02	<0.19	ug/L
2,4-Dichlorophenol	2023-05-02	<0.15	ug/L
Alachlor	2023-05-02	<0.02	ug/L
Atrazine + Desethyl-atrazine	2023-05-02	<0.01	ug/L
Azinphos-methyl	2023-05-02	<0.05	ug/L
Benzene	2023-05-02 to 2023-10-11	<0.2	ug/L
Benzo[a]pyrene	2023-05-02	<0.004	ug/L
Bromoxynil	2023-05-02	<0.33	ug/L
Carbaryl	2023-05-02	<0.05	ug/L
Carbofuran	2023-05-02	<0.01	ug/L
Carbon Tetrachloride	2023-05-02 to 2023-10-11	<0.2	ug/L
Chlorobenzene	2023-05-02 to 2023-10-11	<0.3	ug/L
Chlorpyrifos (Dursban)	2023-05-02	<0.02	ug/L
Diazinon	2023-05-02	<0.02	ug/L
Dicamba	2023-05-02	<0.20	ug/L

FREELTON DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Freelton Well Treated FDF01 (Continued)			
Dichloromethane	2023-05-02 to 2023-10-11	<0.5	ug/L
Diclofop-methyl	2023-05-02	<0.40	ug/L
Dimethoate	2023-05-02	<0.06	ug/L
Diquat	2023-05-02	<1	ug/L
Diuron	2023-05-02	<0.03	ug/L
Glyphosate	2023-05-02	<1	ug/L
Malathion	2023-05-02	<0.02	ug/L
MCPA	2023-05-02	<0.00012	mg/L
Metolachlor	2023-05-02	<0.01	ug/L
Metribuzin (Sencor)	2023-05-02	<0.02	ug/L
Paraquat	2023-05-02	<1	ug/L
PCBs Total	2023-05-02	<0.04	ug/L
Pentachlorophenol	2023-05-02	<0.15	ug/L
Phorate	2023-05-02	<0.01	ug/L
Picloram	2023-05-02	<1	ug/L
Prometryne	2023-05-02	<0.03	ug/L
Simazine	2023-05-02	<0.01	ug/L
Terbufos	2023-05-02	<0.01	ug/L
Tetrachloroethylene	2023-05-02 to 2023-10-11	<0.2	ug/L

FREELTON DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Freelton Well Treated FDF01 (Continued)			
Triallate	2023-05-02	<0.01	ug/L
Trichloroethylene	2023-05-02 to 2023-10-11	<0.2	ug/L
Trifluralin	2023-05-02	<0.02	ug/L
Vinyl Chloride	2023-05-02 to 2023-10-11	<0.2	ug/L
Freelton Well Treated FDF03			
1,1-Dichloroethylene	2023-05-02 to 2023-10-11	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-02 to 2023-10-11	<0.2	ug/L
1,2-Dichloroethane	2023-05-02 to 2023-10-11	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-02 to 2023-10-11	<0.2	ug/L
2,3,4,6-Tetrachlorophenol	2023-05-02	<0.20	ug/L
2,4,6-Trichlorophenol	2023-05-02	<0.25	ug/L
2,4-D	2023-05-02	<0.19	ug/L
2,4-Dichlorophenol	2023-05-02	<0.15	ug/L
Alachlor	2023-05-02	<0.02	ug/L
Atrazine + Desethyl-atrazine	2023-05-02	<0.01	ug/L
Azinphos-methyl	2023-05-02	<0.05	ug/L
Benzene	2023-05-02 to 2023-10-11	<0.2	ug/L
Benzo[a]pyrene	2023-05-02	<0.004	ug/L
Bromoxynil	2023-05-02	<0.33	ug/L
Carbaryl	2023-05-02	<0.05	ug/L

FREELTON DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Freelton Well Treated FDF03 (Continued)			
Carbofuran	2023-05-02	<0.01	ug/L
Carbon Tetrachloride	2023-05-02 to 2023-10-11	<0.2	ug/L
Chlorobenzene	2023-05-02 to 2023-10-11	<0.3	ug/L
Chlorpyrifos (Dursban)	2023-05-02	<0.02	ug/L
Diazinon	2023-05-02	<0.02	ug/L
Dicamba	2023-05-02	<0.20	ug/L
Dichloromethane	2023-05-02 to 2023-10-11	<0.5	ug/L
Diclofop-methyl	2023-05-02	<0.40	ug/L
Dimethoate	2023-05-02	<0.06	ug/L
Diquat	2023-05-02	<1	ug/L
Diuron	2023-05-02	<0.03	ug/L
Glyphosate	2023-05-02	<1	ug/L
Malathion	2023-05-02	<0.02	ug/L
MCPA	2023-05-02	<0.00012	mg/L
Metolachlor	2023-05-02	<0.01	ug/L
Metribuzin (Sencor)	2023-05-02	<0.02	ug/L
Paraquat	2023-05-02	<1	ug/L
PCBs Total	2023-05-02	<0.04	ug/L
Pentachlorophenol	2023-05-02	<0.15	ug/L
Phorate	2023-05-02	<0.01	ug/L

FREELTON DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Freelton Well Treated FDF03 (Continued)			
Picloram	2023-05-02	<1	ug/L
Prometryne	2023-05-02	<0.03	ug/L
Simazine	2023-05-02	<0.01	ug/L
Terbufos	2023-05-02	<0.01	ug/L
Tetrachloroethylene	2023-05-02 to 2023-10-11	<0.2	ug/L
Triallate	2023-05-02	<0.01	ug/L
Trichloroethylene	2023-05-02 to 2023-10-11	<0.2	ug/L
Trifluralin	2023-05-02	<0.02	ug/L
Vinyl Chloride	2023-05-02 to 2023-10-11	<0.2	ug/L
Distribution			
Haloacetic Acids*	Running annual average for the last four quarters.	<5.3	ug/L
Total Trihalomethanes*	Running annual average for the last four quarters.	13.2	ug/L

*The Maximum Acceptable Concentration for Trihalomethanes and Haloacetic Acids in the distribution system is based on a running average of the results from all sampling events in the past four quarters. This running average can be found in the result value range column.

PARAMETERS EXCEEDING PRESCRIBED HALF-STANDARD

There were no Schedule 23 or 24 parameters that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards (O.Reg. 169/03).

GREENSVILLE DRINKING WATER SYSTEM

Water Quality and Operational Testing Summary

GREENSVILLE DRINKING WATER SYSTEM

DEFINITIONS

AWQI: Adverse Water Quality Incident
CFU: Colony Forming Unit
MPN: Most Probable Number
HPC: Heterotrophic Plate Count
mg/L: milligrams per litre
mL: millilitre
N/A: Not Applicable
NTU: Nephelometric Turbidity Unit
ug/L: microgram per litre
P/A: Present/Absent
CU: Colour Units

SUMMARY OF LEAD TESTING UNDER SCHEDULE 15.1 OF REGULATION 170/03 DURING THIS REPORTING PERIOD.

Parameter	Points Sampled	Samples Taken	Results Value Range	Unit of Measure	Lead AWQI	Lead Exceedances
Distribution						
Alkalinity	2	2	359 to 361	mg/L	N/A	N/A
Lead	2	2	<0.0001	mg/L	0	N/A
pH - Field	2	2	7.12 to 7.30	pH	N/A	N/A

GREENSVILLE DRINKING WATER SYSTEM

MICROBIOLOGICAL TESTING DONE UNDER SCHEDULE 10, 11, 12 AND 17, 18 OF REGULATION 170/03, DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Samples Taken	Result Value Range	Unit of Measure
Greensville Well Raw FDG01				
Escherichia coli	2023-01-04 to 2023-12-27	52	0 to 1	MPN/100mL
Total Coliform	2023-01-04 to 2023-12-27	52	0 to 248	MPN/100mL
Greensville Well Treated FDG01				
Escherichia coli	2023-01-04 to 2023-12-27	52	ALL ABSENT	P/A/100mL
Heterotrophic Plate Count	2023-01-04 to 2023-12-27	52	0 to 2	CFU/1ML
Total Coliform	2023-01-04 to 2023-12-27	52	ALL ABSENT	P/A/100ML
Distribution				
Escherichia coli	2023-01-04 to 2023-12-27	52	ALL ABSENT	P/A/100ML
Heterotrophic Plate Count	2023-01-04 to 2023-12-27	52	0 to 3	CFU/1ML
Total Coliform	2023-01-04 to 2023-12-27	52	ALL ABSENT	P/A/100ML

OPERATIONAL TESTING DONE UNDER SCHEDULE 7, 8 OR 9 OF REGULATION 170/03 DURING THE PERIOD COVERED BY THIS ANNUAL REPORT.

NOTE: If results are obtained from continuous monitors, then 8760 is reported as the number of samples.

Parameter - Sample Type	Samples Taken	Result Value Range	Unit of Measure
Turbidity – Treated – FDG01	8760	0.04 – 0.35	NTU
Free Chlorine - Treated	8760	1.17 – 3.50	mg/L
Free Chlorine - Distribution	365	1.17 – 2.68	mg/L

GREENSVILLE DRINKING WATER SYSTEM

SUMMARY OF INORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Greensville Well Treated FDG01			
Antimony	2023-05-03 to 2023-10-10	<0.0001	mg/L
Arsenic	2023-05-03 to 2023-10-10	<0.0001	mg/L
Barium	2023-05-03 to 2023-10-10	0.139 to 0.151	mg/L
Boron	2023-05-03 to 2023-10-10	0.039 to 0.046	mg/L
Cadmium	2023-05-03 to 2023-10-10	<0.0001	mg/L
Chromium	2023-05-03 to 2023-10-10	0.0002	mg/L
Fluoride	2023-05-03 to 2023-10-10	0.10 to 0.11	mg/L
Mercury	2023-05-03 to 2023-10-10	<0.05	ug/L
Nitrate as N	2023-01-04 to 2023-12-06	5.34 to 7.43	mg/L
Nitrite as N	2023-01-04 to 2023-12-06	<0.01	mg/L
Selenium	2023-05-03 to 2023-10-10	0.0003	mg/L
Sodium	2023-05-03 to 2023-10-10	139 to 168	mg/L
Uranium	2023-05-03 to 2023-10-10	0.633 to 0.671	ug/L

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Greensville Well Treated FDG01			
1,1-Dichloroethylene	2023-05-03 to 2023-10-10	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-03 to 2023-10-10	<0.2	ug/L
1,2-Dichloroethane	2023-05-03 to 2023-10-10	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-03 to 2023-10-10	<0.2	ug/L

GREENSVILLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Greensville Well Treated FDG01 (Continued)			
2,3,4,6-Tetrachlorophenol	2023-05-03	<0.20	ug/L
2,4,6-Trichlorophenol	2023-05-03	<0.25	ug/L
2,4-D	2023-05-03	<0.19	ug/L
2,4-Dichlorophenol	2023-05-03	<0.15	ug/L
Alachlor	2023-05-03	<0.02	ug/L
Atrazine + Desethyl-atrazine	2023-05-03	<0.01	ug/L
Azinphos-methyl	2023-05-03	<0.05	ug/L
Benzene	2023-05-03 to 2023-10-10	<0.2	ug/L
Benzo[a]pyrene	2023-05-03	<0.004	ug/L
Bromoxynil	2023-05-03	<0.33	ug/L
Carbaryl	2023-05-03	<0.05	ug/L
Carbofuran	2023-05-03	<0.01	ug/L
Carbon Tetrachloride	2023-05-03 to 2023-10-10	<0.2	ug/L
Chlorobenzene	2023-05-03 to 2023-10-10	<0.3	ug/L
Chlorpyrifos (Dursban)	2023-05-03	<0.02	ug/L
Diazinon	2023-05-03	<0.02	ug/L
Dicamba	2023-05-03	<0.20	ug/L
Dichloromethane	2023-05-03 to 2023-10-10	<0.5	ug/L
Diclofop-methyl	2023-05-03	<0.40	ug/L
Dimethoate	2023-05-03	<0.06	ug/L
Diquat	2023-05-03	<1	ug/L

GREENSVILLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Greensville Well Treated FDG01 (Continued)			
Diuron	2023-05-03	<0.03	ug/L
Glyphosate	2023-05-03	<1	ug/L
Malathion	2023-05-03	<0.02	ug/L
MCPA	2023-05-03	<0.00012	mg/L
Metolachlor	2023-05-03	<0.01	ug/L
Metribuzin (Sencor)	2023-05-03	<0.02	ug/L
Paraquat	2023-05-03	<1	ug/L
PCBs Total	2023-05-03	<0.04	ug/L
Pentachlorophenol	2023-05-03	<0.15	ug/L
Phorate	2023-05-03	<0.01	ug/L
Picloram	2023-05-03	<1	ug/L
Prometryne	2023-05-03	<0.03	ug/L
Simazine	2023-05-03	<0.01	ug/L
Terbufos	2023-05-03	<0.01	ug/L
Tetrachloroethylene	2023-05-03 to 2023-10-10	<0.2	ug/L
Triallate	2023-05-03	<0.01	ug/L
Trichloroethylene	2023-05-03 to 2023-10-10	<0.2	ug/L
Trifluralin	2023-05-03	<0.02	ug/L
Vinyl Chloride	2023-05-03 to 2023-10-10	<0.2	ug/L

GREENSVILLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Distribution			
Haloacetic Acids*	Running annual average for the last four quarters.	6.1	ug/L
Total Trihalomethanes*	Running annual average for the last four quarters.	19.5	ug/L
*The Maximum Acceptable Concentration for Trihalomethanes and Haloacetic Acids in the distribution system is based on a running average of the results from all sampling events in the past four quarters. This running average can be found in the result value range column.			

PARAMETERS EXCEEDING PRESCRIBED HALF-STANDARD

There were no Schedule 23 or 24 parameters that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards (O.Reg. 169/03).

CARLISLE DRINKING WATER SYSTEM

Water Quality and Operational Testing Summary

CARLISLE DRINKING WATER SYSTEM

DEFINITIONS

AWQI: Adverse Water Quality Incident
CFU: Colony Forming Unit
MPN: Most Probable Number
HPC: Heterotrophic Plate Count
mg/L: milligrams per litre
mL: millilitre
N/A: Not Applicable
NTU: Nephelometric Turbidity Unit
ug/L: microgram per litre
P/A: Present/Absent

SUMMARY OF LEAD TESTING UNDER SCHEDULE 15.1 OF REGULATION 170/03 DURING THIS REPORTING PERIOD.

Parameter	Points Sampled	Samples Taken	Results Value Range	Unit of Measure	Lead AWQI	Lead Exceedances
Distribution						
Alkalinity	4	4	324 to 331	mg/L	N/A	N/A
Lead	4	4	<0.0001	mg/L	0	N/A
pH - Field	4	4	7.23 to 7.41	pH	N/A	N/A

CARLISLE DRINKING WATER SYSTEM

MICROBIOLOGICAL TESTING DONE UNDER SCHEDULE 10, 11, 12 AND 17, 18 OF REGULATION 170/03, DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Samples Taken	Result Value Range	Unit of Measure
Carlisle Well Raw FDC01				
Escherichia coli	2023-01-03 to 2023-12-25	52	0	MPN/100mL
Total Coliform	2023-01-03 to 2023-12-25	52	0 to 1	MPN/100mL
Carlisle Well Raw FDC02				
Escherichia coli	2023-03-08 to 2023-12-25	43	0	MPN/100mL
Total Coliform	2023-03-08 to 2023-12-25	43	0 to 3	MPN/100ML
Carlisle Well Raw FDC03R				
Escherichia coli	2023-01-14 to 2023-12-26	45	0	MPN/100ML
Total Coliform	2023-01-14 to 2023-12-26	45	0	MPN/100ML
Carlisle Well Raw FDC05				
Escherichia coli	2023-01-02 to 2023-12-26	51	0	MPN/100ML
Total Coliform	2023-01-02 to 2023-12-26	51	0 to 11	MPN/100ML
Carlisle Well Treated FDC01				
Escherichia coli	2023-01-03 to 2023-12-25	52	ALL ABSENT	P/A/100ML
Heterotrophic Plate Count	2023-01-03 to 2023-12-25	52	0 to 1	CFU/1ML
Total Coliform	2023-01-03 to 2023-12-25	52	ALL ABSENT	P/A/100ML
Carlisle Well Treated FDC02				
Escherichia coli	2023-03-08 to 2023-12-25	43	ALL ABSENT	P/A/100ML
Heterotrophic Plate Count	2023-03-08 to 2023-12-25	43	0 to 2	CFU/1ML
Total Coliform	2023-03-08 to 2023-12-25	43	ALL ABSENT	P/A/100ML

CARLISLE DRINKING WATER SYSTEM

MICROBIOLOGICAL TESTING DONE UNDER SCHEDULE 10, 11, 12 AND 17, 18 OF REGULATION 170/03, DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Samples Taken	Result Value Range	Unit of Measure
Carlisle Well Treated FDC03R				
Escherichia coli	2023-01-14 to 2023-12-26	45	ALL ABSENT	P/A/100mL
Heterotrophic Plate Count	2023-01-14 to 2023-12-26	45	0 to 1	CFU/1mL
Total Coliform	2023-01-14 to 2023-12-26	45	ALL ABSENT	P/A/100mL
Carlisle Well Treated FDC05				
Escherichia coli	2023-01-02 to 2023-12-26	51	ALL ABSENT	P/A/100mL
Heterotrophic Plate Count	2023-01-02 to 2023-12-26	52	0 to 1	CFU/1ML
Total Coliform	2023-01-02 to 2023-12-26	51	ALL ABSENT	P/A/100ML
Distribution				
Escherichia coli	2023-07-05 to 2023-07-19	6	0	MPN/100ML
Escherichia coli	2023-01-02 to 2023-12-26	156	ALL ABSENT	P/A/100ML
Heterotrophic Plate Count	2023-01-02 to 2023-12-26	207	0 to 2	CFU/1ML
Total Coliform	2023-07-05 to 2023-07-19	6	0	MPN/100ML
Total Coliform	2023-01-02 to 2023-12-26	156	2 DETECTIONS	P/A/100ML

CARLISLE DRINKING WATER SYSTEM

OPERATIONAL TESTING DONE UNDER SCHEDULE 7, 8 OR 9 OF REGULATION 170/03 DURING THE PERIOD COVERED BY THIS ANNUAL REPORT.

NOTE: If results are obtained from continuous monitors, then 8760 is reported as the number of samples.

Parameter - Sample Type	Samples Taken	Result Value Range	Unit of Measure
Turbidity – Raw – FDC01	52	0.04 to 0.37	NTU
Turbidity – Raw – FDC02	43	0.06 to 0.31	NTU
Turbidity – Treated – FDC03R	8760	0.03 to 0.58	NTU
Turbidity – Treated – FDC05	8760	0.02 to 0.34	NTU
Free Chlorine – Treated – FDC01 and FDC02	8760	1.31 to 3.02	mg/L
Free Chlorine – Treated – FDC03R and FDC05	8760	1.57 to 2.57	mg/L
Free Chlorine – Distribution	365	1.19 to 2.13	mg/L

SUMMARY OF INORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC01			
Antimony	2023-05-02 to 2023-10-18	<0.0001	mg/L
Arsenic	2023-05-02 to 2023-10-18	0.0001 to 0.0002	mg/L
Barium	2023-05-02 to 2023-10-18	0.0869 to 0.0997	mg/L
Boron	2023-05-02 to 2023-10-18	0.016 to 0.026	mg/L
Cadmium	2023-05-02 to 2023-10-18	<0.0001	mg/L
Chromium	2023-05-02 to 2023-10-18	<0.0001 to 0.0002	mg/L
Fluoride	2023-05-02 to 2023-10-18	0.06 to 0.07	mg/L
Mercury	2023-05-02 to 2023-10-18	<0.05	ug/L
Nitrate as N	2023-01-23 to 2023-10-18	0.49 to 3.60	mg/L
Nitrite as N	2023-01-23 to 2023-10-18	<0.01	mg/L
Selenium	2023-05-02 to 2023-10-18	0.0002 to 0.0003	mg/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF INORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC01 (Continued)			
Sodium	2023-05-02 to 2023-10-18	16.8 to 33.6	mg/L
Uranium	2023-05-02 to 2023-10-18	0.444 to 0.455	ug/L
Carlisle Well Treated FDC02			
Antimony	2023-05-17 to 2023-10-18	<0.0001	mg/L
Arsenic	2023-05-17 to 2023-10-18	0.0002	mg/L
Barium	2023-05-17 to 2023-10-18	0.0866 to 0.0932	mg/L
Boron	2023-05-17 to 2023-10-18	0.016 to 0.021	mg/L
Cadmium	2023-05-17 to 2023-10-18	<0.0001	mg/L
Chromium	2023-05-17 to 2023-10-18	0.0001	mg/L
Fluoride	2023-05-17 to 2023-10-18	0.06	mg/L
Mercury	2023-05-17 to 2023-10-18	<0.05	ug/L
Nitrate as N	2023-03-22 to 2023-10-18	1.30 to 3.41	mg/L
Nitrite as N	2023-03-22 to 2023-10-18	<0.05	mg/L
Selenium	2023-05-17 to 2023-10-18	0.0002 to 0.0003	mg/L
Sodium	2023-05-17 to 2023-10-18	22.0 to 29.1	mg/L
Uranium	2023-05-17 to 2023-10-18	0.406 to 0.435	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF INORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC03R			
Antimony	2023-05-17 to 2023-10-18	0.0002	mg/L
Arsenic	2023-05-17 to 2023-10-18	0.0004	mg/L
Barium	2023-05-17 to 2023-10-18	0.0804 to 0.0809	mg/L
Boron	2023-05-17 to 2023-10-18	0.025 to 0.027	mg/L
Cadmium	2023-05-17 to 2023-10-18	<0.0001	mg/L
Chromium	2023-05-17 to 2023-10-18	<0.0001	mg/L
Fluoride	2023-05-17 to 2023-10-18	0.06 to 0.07	mg/L
Mercury	2023-05-17 to 2023-10-18	<0.05	ug/L
Nitrate as N	2023-02-06 to 2023-10-18	0.12 to 0.35	mg/L
Nitrite as N	2023-02-06 to 2023-10-18	<0.01	mg/L
Selenium	2023-05-17 to 2023-10-18	<0.0001	mg/L
Sodium	2023-05-17 to 2023-10-18	51.9 to 54.0	mg/L
Uranium	2023-05-17 to 2023-10-18	0.671 to 0.688	ug/L
Carlisle Well Treated FDC05			
Antimony	2023-05-02 to 2023-10-18	<0.0001	mg/L
Arsenic	2023-05-02 to 2023-10-18	0.0006 to 0.0007	mg/L
Barium	2023-05-02 to 2023-10-18	0.0754 to 0.0757	mg/L
Boron	2023-05-02 to 2023-10-18	0.025	mg/L
Cadmium	2023-05-02 to 2023-10-18	<0.0001	mg/L
Chromium	2023-05-02 to 2023-10-18	<0.0001 to 0.0004	mg/L
Fluoride	2023-05-02 to 2023-10-18	0.07 to 0.08	mg/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF INORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC05 (Continued)			
Mercury	2023-05-02 to 2023-10-18	<0.05	ug/L
Nitrate as N	2023-01-23 to 2023-10-18	<0.02 to 0.19	mg/L
Nitrite as N	2023-01-23 to 2023-10-18	<0.01	mg/L
Selenium	2023-05-02 to 2023-10-18	<0.0001	mg/L
Sodium	2023-05-02 to 2023-10-18	50.9 to 54.1	mg/L
Uranium	2023-05-02 to 2023-10-18	0.425 to 0.429	ug/L

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC01			
1,1-Dichloroethylene	2023-05-02 to 2023-10-18	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-02 to 2023-10-18	<0.2	ug/L
1,2-Dichloroethane	2023-05-02 to 2023-10-18	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-02 to 2023-10-18	<0.2	ug/L
2,3,4,6-Tetrachlorophenol	2023-05-02	<0.20	ug/L
2,4,6-Trichlorophenol	2023-05-02	<0.25	ug/L
2,4-D	2023-05-02	<0.19	ug/L
2,4-Dichlorophenol	2023-05-02	<0.15	ug/L
Alachlor	2023-05-02	<0.02	ug/L
Atrazine + Desethyl-atrazine	2023-05-02	<0.01	ug/L
Azinphos-methyl	2023-05-02	<0.05	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC01 (Continued)			
Benzene	2023-05-02 to 2023-10-18	<0.2	ug/L
Benzo[a]pyrene	2023-05-02	<0.004	ug/L
Bromoxynil	2023-05-02	<0.33	ug/L
Carbaryl	2023-05-02	<0.05	ug/L
Carbofuran	2023-05-02	<0.01	ug/L
Carbon Tetrachloride	2023-05-02 to 2023-10-18	<0.2	ug/L
Chlorobenzene	2023-05-02 to 2023-10-18	<0.3	ug/L
Chlorpyrifos (Dursban)	2023-05-02	<0.02	ug/L
Diazinon	2023-05-02	<0.02	ug/L
Dicamba	2023-05-02	<0.20	ug/L
Dichloromethane	2023-05-02 to 2023-10-18	<0.5	ug/L
Diclofop-methyl	2023-05-02	<0.40	ug/L
Dimethoate	2023-05-02	<0.06	ug/L
Diquat	2023-05-02	<1	ug/L
Diuron	2023-05-02	<0.03	ug/L
Glyphosate	2023-05-02	0	ug/L
Malathion	2023-05-02	<0.02	ug/L
MCPA	2023-05-02	<0.00012	mg/L
Metolachlor	2023-05-02	<0.01	ug/L
Metribuzin (Sencor)	2023-05-02	<0.02	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC01 (Continued)			
Paraquat	2023-05-02	<1	ug/L
PCBs Total	2023-05-02	<0.04	ug/L
Pentachlorophenol	2023-05-02	<0.15	ug/L
Phorate	2023-05-02	<0.01	ug/L
Picloram	2023-05-02	<1	ug/L
Prometryne	2023-05-02	<0.03	ug/L
Simazine	2023-05-02	<0.01	ug/L
Terbufos	2023-05-02	<0.01	ug/L
Tetrachloroethylene	2023-05-02 to 2023-10-18	<0.2	ug/L
Triallate	2023-05-02	<0.01	ug/L
Trichloroethylene	2023-05-02 to 2023-10-18	<0.2	ug/L
Trifluralin	2023-05-02	<0.02	ug/L
Vinyl Chloride	2023-05-02 to 2023-10-18	<0.2	ug/L
Carlisle Well Treated FDC02			
1,1-Dichloroethylene	2023-05-17 to 2023-10-18	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-17 to 2023-10-18	<0.2	ug/L
1,2-Dichloroethane	2023-05-17 to 2023-10-18	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-17 to 2023-10-18	<0.2	ug/L
2,3,4,6-Tetrachlorophenol	2023-05-17	<0.20	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC02 (Continued)			
2,4,6-Trichlorophenol	2023-05-17	<0.25	ug/L
2,4-D	2023-05-17	<0.19	ug/L
2,4-Dichlorophenol	2023-05-17	<0.15	ug/L
Alachlor	2023-05-17	<0.02	ug/L
Atrazine + Desethyl-atrazine	2023-05-17	<0.01	ug/L
Azinphos-methyl	2023-05-17	<0.05	ug/L
Benzene	2023-05-17 to 2023-10-18	<0.2	ug/L
Benzo[a]pyrene	2023-05-17	<0.004	ug/L
Bromoxynil	2023-05-17	<0.33	ug/L
Carbaryl	2023-05-17	<0.05	ug/L
Carbofuran	2023-05-17	<0.01	ug/L
Carbon Tetrachloride	2023-05-17 to 2023-10-18	<0.2	ug/L
Chlorobenzene	2023-05-17 to 2023-10-18	<0.3	ug/L
Chlorpyrifos (Dursban)	2023-05-17	<0.02	ug/L
Diazinon	2023-05-17	<0.02	ug/L
Dicamba	2023-05-17	<0.20	ug/L
Dichloromethane	2023-05-17 to 2023-10-18	<0.5	ug/L
Diclofop-methyl	2023-05-17	<0.40	ug/L
Dimethoate	2023-05-17	<0.06	ug/L
Diquat	2023-05-17	<1	ug/L
Diuron	2023-05-17	<0.03	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC02 (Continued)			
Glyphosate	2023-05-17	<1	ug/L
Malathion	2023-05-17	<0.02	ug/L
MCPA	2023-05-17	<0.00012	mg/L
Metolachlor	2023-05-17	<0.01	ug/L
Metribuzin (Sencor)	2023-05-17	<0.02	ug/L
Paraquat	2023-05-17	<1	ug/L
PCBsTotal	2023-05-17	<0.04	ug/L
Pentachlorophenol	2023-05-17	<0.15	ug/L
Phorate	2023-05-17	<0.01	ug/L
Picloram	2023-05-17	<1	ug/L
Prometryne	2023-05-17	<0.03	ug/L
Simazine	2023-05-17	<0.01	ug/L
Terbufos	2023-05-17	<0.01	ug/L
Tetrachloroethylene	2023-05-17 to 2023-10-18	<0.2	ug/L
Triallate	2023-05-17	<0.01	ug/L
Trichloroethylene	2023-05-17 to 2023-10-18	<0.2	ug/L
Trifluralin	2023-05-17	<0.02	ug/L
Vinyl Chloride	2023-05-17 to 2023-10-18	<0.2	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC03R			
1,1-Dichloroethylene	2023-05-17 to 2023-10-18	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-17 to 2023-10-18	<0.2	ug/L
1,2-Dichloroethane	2023-05-17 to 2023-10-18	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-17 to 2023-10-18	<0.2	ug/L
2,3,4,6-Tetrachlorophenol	2023-05-17	<0.20	ug/L
2,4,6-Trichlorophenol	2023-05-17	<0.25	ug/L
2,4-D	2023-05-17	<0.19	ug/L
2,4-Dichlorophenol	2023-05-17	<0.15	ug/L
Alachlor	2023-05-17	<0.02	ug/L
Atrazine + Desethyl-atrazine	2023-05-17	<0.01	ug/L
Azinphos-methyl	2023-05-17	<0.05	ug/L
Benzene	2023-05-17 to 2023-10-18	<0.2	ug/L
Benzo[a]pyrene	2023-05-17	<0.004	ug/L
Bromoxynil	2023-05-17	<0.33	ug/L
Carbaryl	2023-05-17	<0.05	ug/L
Carbofuran	2023-05-17	<0.01	ug/L
Carbon Tetrachloride	2023-05-17 to 2023-10-18	<0.2	ug/L
Chlorobenzene	2023-05-17 to 2023-10-18	<0.3	ug/L
Chlorpyrifos (Dursban)	2023-05-17	<0.02	ug/L
Diazinon	2023-05-17	<0.02	ug/L
Dicamba	2023-05-17	<0.20	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC03R (Continued)			
Dichloromethane	2023-05-17 to 2023-10-18	<0.5	ug/L
Diclofop-methyl	2023-05-17	<0.40	ug/L
Dimethoate	2023-05-17	<0.06	ug/L
Diquat	2023-05-17	<1	ug/L
Diuron	2023-05-17	<0.03	ug/L
Glyphosate	2023-05-17	<1	ug/L
Malathion	2023-05-17	<0.02	ug/L
MCPA	2023-05-17	<0.00012	mg/L
Metolachlor	2023-05-17	<0.01	ug/L
Metribuzin (Sencor)	2023-05-17	<0.02	ug/L
Paraquat	2023-05-17	<1	ug/L
PCBsTotal	2023-05-17	<0.04	ug/L
Pentachlorophenol	2023-05-17	<0.15	ug/L
Phorate	2023-05-17	<0.01	ug/L
Picloram	2023-05-17	<1	ug/L
Prometryne	2023-05-17	<0.03	ug/L
Simazine	2023-05-17	<0.01	ug/L
Terbufos	2023-05-17	<0.01	ug/L
Tetrachloroethylene	2023-05-17 to 2023-10-18	<0.2	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC03R (Continued)			
Triallate	2023-05-17	<0.01	ug/L
Trichloroethylene	2023-05-17 to 2023-10-18	<0.2	ug/L
Trifluralin	2023-05-17	<0.02	ug/L
Vinyl Chloride	2023-05-17 to 2023-10-18	<0.2	ug/L
Carlisle Well Treated FDC05			
1,1-Dichloroethylene	2023-05-02 to 2023-10-18	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-02 to 2023-10-18	<0.2	ug/L
1,2-Dichloroethane	2023-05-02 to 2023-10-18	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-02 to 2023-10-18	<0.2	ug/L
2,3,4,6-Tetrachlorophenol	2023-05-02	<0.20	ug/L
2,4,6-Trichlorophenol	2023-05-02	<0.25	ug/L
2,4-D	2023-05-02	<0.19	ug/L
2,4-Dichlorophenol	2023-05-02	<0.15	ug/L
Alachlor	2023-05-02	<0.02	ug/L
Atrazine + Desethyl-atrazine	2023-05-02	<0.01	ug/L
Azinphos-methyl	2023-05-02	<0.05	ug/L
Benzene	2023-05-02 to 2023-10-18	<0.2	ug/L
Benzo[a]pyrene	2023-05-02	<0.004	ug/L
Bromoxynil	2023-05-02	<0.33	ug/L
Carbaryl	2023-05-02	<0.05	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC05 (Continued)			
Carbofuran	2023-05-02	<0.01	ug/L
Carbon Tetrachloride	2023-05-02 to 2023-10-18	<0.2	ug/L
Chlorobenzene	2023-05-02 to 2023-10-18	<0.3	ug/L
Chlorpyrifos (Dursban)	2023-05-02	<0.02	ug/L
Diazinon	2023-05-02	<0.02	ug/L
Dicamba	2023-05-02	<0.20	ug/L
Dichloromethane	2023-05-02 to 2023-10-18	<0.5	ug/L
Diclofop-methyl	2023-05-02	<0.40	ug/L
Dimethoate	2023-05-02	<0.06	ug/L
Diquat	2023-05-02	<1	ug/L
Diuron	2023-05-02	<0.03	ug/L
Glyphosate	2023-05-02	0	ug/L
Malathion	2023-05-02	<0.02	ug/L
MCPA	2023-05-02	<0.00012	mg/L
Metolachlor	2023-05-02	<0.01	ug/L
Metribuzin (Sencor)	2023-05-02	<0.02	ug/L
Paraquat	2023-05-02	<1	ug/L
PCBs Total	2023-05-02	<0.04	ug/L
Pentachlorophenol	2023-05-02	<0.15	ug/L
Phorate	2023-05-02	<0.01	ug/L

CARLISLE DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Carlisle Well Treated FDC05 (Continued)			
Picloram	2023-05-02	<1	ug/L
Prometryne	2023-05-02	<0.03	ug/L
Simazine	2023-05-02	<0.01	ug/L
Terbufos	2023-05-02	<0.01	ug/L
Tetrachloroethylene	2023-05-02 to 2023-10-18	<0.2	ug/L
Triallate	2023-05-02	<0.01	ug/L
Trichloroethylene	2023-05-02 to 2023-10-18	<0.2	ug/L
Trifluralin	2023-05-02	<0.02	ug/L
Vinyl Chloride	2023-05-02 to 2023-10-18	<0.2	ug/L
Distribution			
Haloacetic Acids*	Running annual average for the last four quarters.	<5.3	ug/L
Total Trihalomethanes*	Running annual average for the last four quarters.	11.2	ug/L

*The Maximum Acceptable Concentration for Trihalomethanes and Haloacetic Acids in the distribution system is based on a running average of the results from all sampling events in the past four quarters. This running average can be found in the result value range column.

PARAMETERS EXCEEDING PRESCRIBED HALF-STANDARD

There were no Schedule 23 or 24 parameters that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards (O.Reg. 169/03).

LYNDEN DRINKING WATER SYSTEM

Water Quality and Operational Testing Summary

LYNDEN DRINKING WATER SYSTEM

DEFINITIONS

AWQI: Adverse Water Quality Incident
CFU: Colony Forming Unit
MPN: Most Probable Number
HPC: Heterotrophic Plate Count
mg/L: milligrams per litre
mL: millilitre
N/A: Not Applicable
NTU: Nephelometric Turbidity Unit
ug/L: microgram per litre
P/A: Present/Absent

SUMMARY OF LEAD TESTING UNDER SCHEDULE 15.1 OF REGULATION 170/03 DURING THIS REPORTING PERIOD.

Parameter	Points Sampled	Samples Taken	Results Value Range	Unit of Measure	Lead AWQI	Lead Exceedances
Distribution						
Alkalinity	2	2	109 to 111	mg/L	N/A	N/A
Lead	2	2	<0.0001	mg/L	0	N/A
pH - Field	2	2	8.97 to 9.06	pH	N/A	N/A

LYNDEN DRINKING WATER SYSTEM

MICROBIOLOGICAL TESTING DONE UNDER SCHEDULE 10, 11, 12 AND 17, 18 OF REGULATION 170/03, DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Samples Taken	Result Value Range	Unit of Measure
Lynden Well Raw FDL03				
Escherichia coli	2023-01-04 to 2023-12-27	52	0	MPN/100mL
Total Coliform	2023-01-04 to 2023-12-27	52	0	MPN/100mL
Lynden Well Treated FDL03				
Escherichia coli	2023-01-04 to 2023-12-27	52	ALL ABSENT	P/A/100mL
Heterotrophic Plate Count	2023-01-04 to 2023-12-27	52	0 to 2	CFU/1ML
Total Coliform	2023-01-04 to 2023-12-27	52	ALL ABSENT	P/A/100ML
Distribution				
Escherichia coli	2023-01-04 to 2023-12-27	156	ALL ABSENT	P/A/100ML
Heterotrophic Plate Count	2023-01-04 to 2023-12-27	156	0 to 2	CFU/1ML
Total Coliform	2023-01-04 to 2023-12-27	156	ALL ABSENT	P/A/100ML

OPERATIONAL TESTING DONE UNDER SCHEDULE 7, 8 OR 9 OF REGULATION 170/03 DURING THE PERIOD COVERED BY THIS ANNUAL REPORT.

NOTE: If results are obtained from continuous monitors, then 8760 is reported as the number of samples.

Parameter - Sample Type	Samples Taken	Result Value Range	Unit of Measure
Turbidity – Raw – FDL03	52	0.29 to 2.68	NTU
Free Chlorine - Treated	8760	1.46 to 4.92	mg/L
Free Chlorine - Distribution	365	0.41 to 3.13	mg/L

LYNDEN DRINKING WATER SYSTEM

SUMMARY OF INORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Lynden Well Treated FDL03			
Antimony	2023-05-03 to 2023-10-10	<0.0001	mg/L
Arsenic	2023-01-25 to 2023-10-10	0.0004	mg/L
Barium	2023-01-25 to 2023-10-10	0.339 to 0.358	mg/L
Boron	2023-05-03 to 2023-10-10	0.476 to 0.487	mg/L
Cadmium	2023-05-03 to 2023-10-10	<0.0001	mg/L
Chromium	2023-05-03 to 2023-10-10	<0.0001 to 0.0009	mg/L
Fluoride	2023-05-03 to 2023-10-10	0.69 to 0.70	mg/L
Mercury	2023-05-03 to 2023-10-10	<0.05	ug/L
Nitrate as N	2023-01-25 to 2023-10-10	<0.02	mg/L
Nitrite as N	2023-01-25 to 2023-10-10	<0.01	mg/L
Selenium	2023-05-03 to 2023-10-10	<0.0001	mg/L
Sodium	2023-05-03 to 2023-10-10	57.0 to 57.8	mg/L
Uranium	2023-05-03 to 2023-10-10	0.022 to 0.028	ug/L

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Lynden Well Treated FDL03			
1,1-Dichloroethylene	2023-05-03 to 2023-10-10	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-03 to 2023-10-10	<0.2	ug/L
1,2-Dichloroethane	2023-05-03 to 2023-10-10	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-03 to 2023-10-10	<0.2	ug/L

LYNDEN DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Lynden Well Treated FDL03 (Continued)			
1,1-Dichloroethylene	2023-05-03 to 2023-10-10	<0.2	ug/L
1,2-Dichlorobenzene	2023-05-03 to 2023-10-10	<0.2	ug/L
1,2-Dichloroethane	2023-05-03 to 2023-10-10	<0.2	ug/L
1,4-Dichlorobenzene	2023-05-03 to 2023-10-10	<0.2	ug/L
2,3,4,6-Tetrachlorophenol	2023-05-03	<0.20	ug/L
2,4,6-Trichlorophenol	2023-05-03	<0.25	ug/L
2,4-D	2023-05-03	<0.19	ug/L
2,4-Dichlorophenol	2023-05-03	<0.15	ug/L
Alachlor	2023-05-03	<0.02	ug/L
Atrazine + Desethyl-atrazine	2023-05-03	<0.01	ug/L
Azinphos-methyl	2023-05-03	<0.05	ug/L
Benzene	2023-05-03 to 2023-10-10	<0.2	ug/L
Benzo[a]pyrene	2023-05-03	<0.004	ug/L
Bromoxynil	2023-05-03	<0.33	ug/L
Carbaryl	2023-05-03	<0.05	ug/L
Carbofuran	2023-05-03	<0.01	ug/L
Carbon Tetrachloride	2023-05-03 to 2023-10-10	<0.2	ug/L
Chlorobenzene	2023-05-03 to 2023-10-10	<0.3	ug/L
Chlorpyrifos (Dursban)	2023-05-03	<0.02	ug/L
Diazinon	2023-05-03	<0.02	ug/L
Dicamba	2023-05-03	<0.20	ug/L

LYNDEN DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Lynden Well Treated FDL03 (Continued)			
Dichloromethane	2023-05-03 to 2023-10-10	<0.5	ug/L
Diclofop-methyl	2023-05-03	<0.40	ug/L
Dimethoate	2023-05-03	<0.06	ug/L
Diquat	2023-05-03	<1	ug/L
Diuron	2023-05-03	<0.03	ug/L
Glyphosate	2023-05-03	<1	ug/L
Malathion	2023-05-03	<0.02	ug/L
MCPA	2023-05-03	<0.00012	mg/L
Metolachlor	2023-05-03	<0.01	ug/L
Metribuzin (Sencor)	2023-05-03	<0.02	ug/L
Paraquat	2023-05-03	<1	ug/L
PCBs Total	2023-05-03	<0.04	ug/L
Pentachlorophenol	2023-05-03	<0.15	ug/L
Phorate	2023-05-03	<0.01	ug/L
Picloram	2023-05-03	<1	ug/L
Prometryne	2023-05-03	<0.03	ug/L
Simazine	2023-05-03	<0.01	ug/L
Terbufos	2023-05-03	<0.01	ug/L
Tetrachloroethylene	2023-05-03 to 2023-10-10	<0.2	ug/L

LYNDEN DRINKING WATER SYSTEM

SUMMARY OF ORGANIC PARAMETERS REQUIRED BY REGULATION 170/03 AND TESTED DURING THIS REPORTING PERIOD.

Parameter	Sample Date(s)	Result Value Range	Unit of Measure
Lynden Well Treated FDL03 (Continued)			
Triallate	2023-05-03	<0.01	ug/L
Trichloroethylene	2023-05-03 to 2023-10-10	<0.2	ug/L
Trifluralin	2023-05-03	<0.02	ug/L
Vinyl Chloride	2023-05-03 to 2023-10-10	<0.2	ug/L
Distribution			
Haloacetic Acids*	Running annual average for the last four quarters.	6.9	ug/L
Total Trihalomethanes*	Running annual average for the last four quarters.	64.5	ug/L

*The Maximum Acceptable Concentration for Trihalomethanes and Haloacetic Acids in the distribution system is based on a running average of the results from all sampling events in the past four quarters. This running average can be found in the result value range column.

PARAMETERS EXCEEDING PRESCRIBED HALF-STANDARD

There were no Schedule 23 or 24 parameters that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards (O.Reg. 169/03).