Attachment #1 to Report PW-02-24

Drinking Water Systems

Flow summary report 2023

Published March 2024

Halton REGION

Table of Contents

List of Acronyms and Definitions

Adverse	Adverse water results are listed in Schedule 16, O. Reg. 170/03. Examples of adverse water results: • An analytical result that exceeds a health-based water quality standard (O. Reg. 169/03) • Any evidence that disinfection may not have been effective • Low chlorine residuals
CFU	colony forming units
CT	contact time – used in determining level of disinfection treatment
DWWP	Drinking Water Works Permit
EC	E. coli
F3R	Form, Fit, Function, Reliability
GUDI	groundwater under the direct influence of surface water
KPI	Key Performance Indicators
L/s	litres per second
L/m	litres per minute
m^3/d	cubic metres per day
MDWL	Municipal Drinking Water Licence
MECP	Ministry of the Environment, Conservation and Parks (Ontario)
mg/L	milligrams per litre
mL	millilitre
ML/d	megalitres (million litres) per day (1 ML = 1,000 m^3)
MOH	Medical Officer of Health
O. Reg.	Ontario Regulation
PA	Presence/Absence
PTTW	Permit to Take Water
Rated Capacity	Volume of treated water that meets all applicable Ontario drinking water quality regulations including the aesthetic water quality objectives and that may be made available by the water treatment plant for delivery to the drinking water system in any 24-hour period
RCM	Reliability Centered Maintenance
R.R.O.	Revised Regulations Ontario (1990)
SCADA	Supervisory Control and Data Acquisition
SDWA	*Safe Drinking Water Act*, 2002
TC	total coliform
WTP	water treatment plant

1 Executive Summary

Halton Region is committed to providing reliable access to clean, safe drinking water to residents in Burlington, Halton Hills, Milton and Oakville. Halton Region operates 11 drinking water systems that are governed by four municipal drinking water licences and drinking water works permits issued by the Ministry of the Environment, Conservation and Parks (MECP).

Each year, a summary report for municipal drinking water systems is prepared and provided to Regional Council. The report addresses the regulatory requirements for Schedule 22 of the Drinking Water Systems Regulation (O. Reg. 170/03) under the *Safe Drinking Water Act, 2002*.

It includes information about the drinking water systems approvals, flow rates of the water supplied during the reporting period and a data comparison of the capacity of each system.

Key findings from the report include:

- Halton Region's water treatment and distribution facilities demonstrated excellent operational performance in 2023, achieving an overall average 100 per cent inspection rating.
- Halton Region's water systems produced just over 64,943 ML of drinking water in 2023. On average, Halton produced 178ML of treated water per day in 2023, which is the approximate volume of water that flows over Niagara Falls every minute daily.
- The Region continued with the Partnership for Safe Water program using it as a framework for continuous improvement and commitment to high quality drinkingwater and excellent customer service.
- Protecting the natural environment is a priority for the Region, and one of the ways we are doing this is by reducing the impact of climate change. Halton Region is working to maximize energy efficiencies and develop an improved maintenance program, which will help reduce greenhouse gas emissions generated through the water treatment process and ensure a reliable supply of drinking water for the future.
- The Region's Plant Maintenance "Reliability Centered Maintenance" Strategy continues to reduce water treatment asset risks through a combination of criticality analysis, tactical life-cycle asset management, adoption of advanced inspection technology and team based asset care activities.
- Over the past 4 years water plant assets have experienced a downward trend in failures and reactive costs. In fact, maintenance has been able to reinvest money that would have otherwise been spent on breakdown repairs and extend the useful life of plant assets with great success.

Through these programs and partnerships, Halton Region continues to reliably provide high-quality, safe drinking water, now and into the future.

To learn more about the Region's drinking water, you can visit **halton.ca**.

The structure of this report is as follows:

Section 2 lists legislation and regulations of significance to drinking water systems and outlines the reporting requirements of O. Reg. 170/03, Schedule 22.

Section 3 provides an overview of Halton's drinking water systems.

Section 4 provides a description of how data is compiled and analyzed for this report.

Sections 5 to 15 include descriptions of each drinking water system, flow data and summaries of adverse water quality incidents.

Section 16 summarizes the MECP drinking water system inspections.

Section 17 explains the reliability centered maintenance strategy and lists key performance indicators.

Section 18 concludes the report.

2 Legislated Requirements

In Ontario, water taking, drinking water treatment and distribution are governed by a number of acts and regulations. The owner/operator of each waterworks is required to follow additional legally-binding requirements laid out in various licenses, permits and approvals. Individual approvals issued by the MECP are site-specific, meaning the conditions of operation are tailored to a facility's characteristics, circumstances and the local environment.

Under Schedule 22 of the Drinking Water Systems Regulation (O. Reg. 170/03), annual summary reports are required to be prepared and distributed to owners of both small and large municipal residential systems. The summary report must be submitted no later than March 31 to members of Municipal Council. The contents must list the requirements of the *Safe Drinking Water Act*, 2002, the regulations, the system's approval and any applicable system orders for the reporting period where legislative requirements were not met along with the duration of these events and the resulting corrective measures.

In addition, the report must include a summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly averages and maximum daily flows. The summary must be compared to the rated capacity provided in each system's approval. The reporting requirements are identified in Table 2-1.

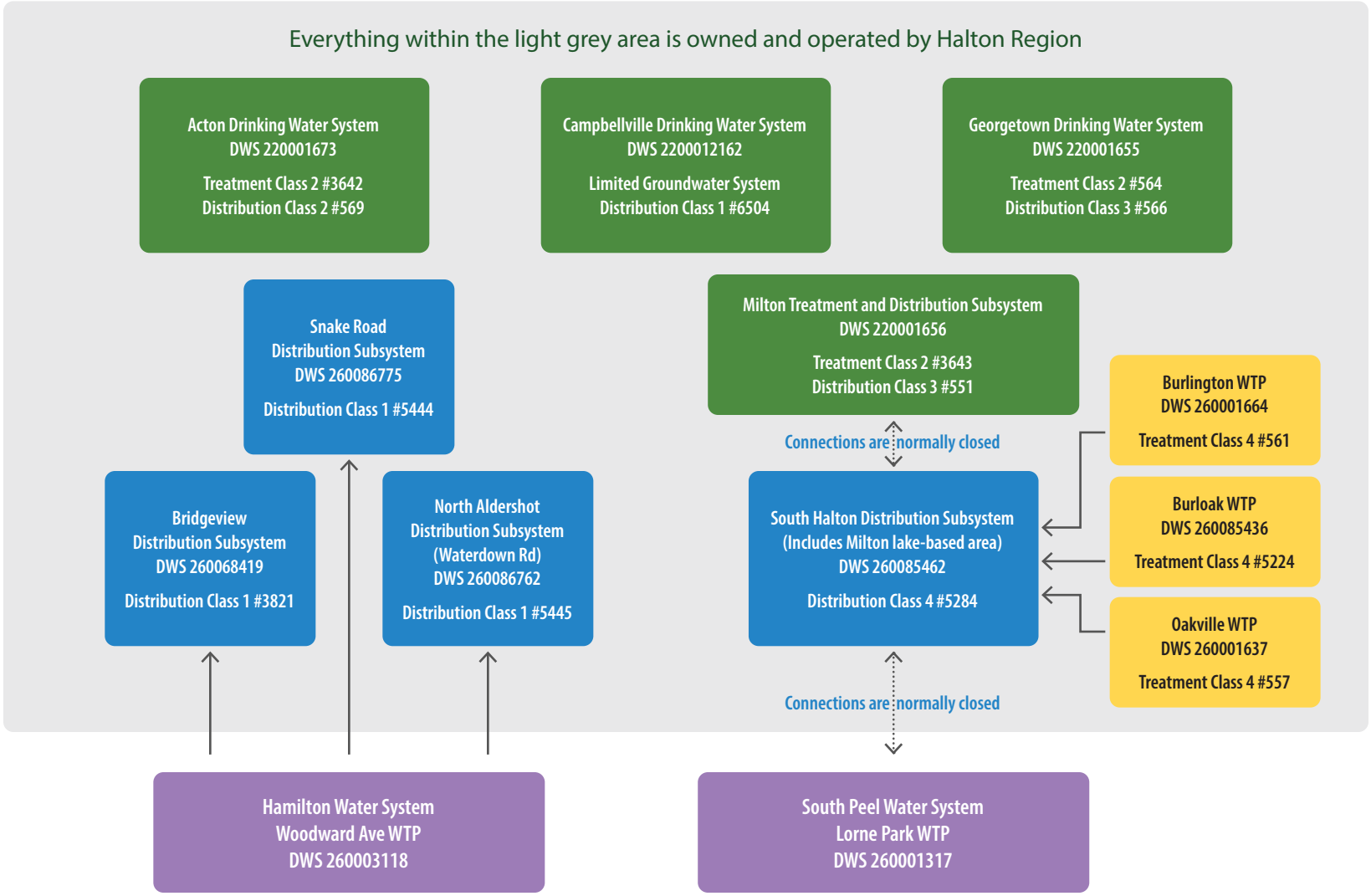
Table 2-1 Drinking Water System Annual Reports

Report Name	Description	Legislation or Regulation	Submitted to	Annual Due Date
Annual Flow Summary Report for Municipalities	• Summary of flows • Description of any failure to meet requirements of an Act, regulations or the system's approval	O. Reg. 170/03, Schedule 22	Regional Council; available to the public	March 31
Annual Water Quality Report	• Description of system • Water quality test results • Adverse test results and corrective action • Major expenses to repair, replace or install equipment	O. Reg. 170/03, Section 11	Posted on Halton's website	February 28
Water Taking and Transfer Report	• Electronic submission of water taking data	O. Reg. 387/04	MECP	March 31
Permit to Take Water Annual Report	• Reporting conditions set out in individual Permits to Take Water • Halton's groundwater systems only	Permits to Take Water issued under the *Ontario Water Resources Act*	MECP	March 31
Water Conservation Charges Report	• Names, addresses and water usage of industrial and commercial water customers which used 50,000 litres of water in a single day in the year	O. Reg. 450/07	MECP	March 31

3 Halton's Drinking Water Systems

Figure 1 shows Halton Region's operational drinking water systems.

Figure 1 Halton's Drinking Water Systems



4 Annual Water Data

Halton's Public Works Department manages all of Halton's drinking water treatment and distribution systems, including: surface water intakes; wells; reservoirs; elevated tanks; booster stations; and distribution systems. Staff's primary responsibilities are water taking, treatment and distribution in compliance with all applicable legislation and system approvals. Routine water quality testing and continuous monitoring of water quality and quantity is also conducted to ensure compliance.

A comprehensive maintenance program is in place that ensures continuous supply of safe and high-quality drinking water from reliable systems.

4.1 Water Quality Data

Raw and treated water is sampled and tested for chemical, physical and microbiological parameters in accordance with the requirements of O. Reg. 170/03 and individual system approvals. Sampling is also conducted in the distribution system primarily for bacteriological indicators and evidence of sustained chlorine residuals. Enhanced sampling programs are defined by Water Treatment Operations, System Operations and the Regional Laboratory for parameters beyond those mandated or, at a frequency greater than prescribed by the MECP. This level of water quality monitoring along with a proven "multi barrier" approach to water treatment helps protect public health and ensures public confidence in the water supply. As mandated, annual reports summarizing the water quality for each water system are posted on Halton's website for the public to review.

The majority of analysis is conducted by Halton's Regional Laboratory, with some specialized analyses contracted to other accredited laboratories. In accordance with Schedule 16 of O. Reg. 170/03, all notifications of adverse water quality incidents are provided to the Spills Action Centre and the Medical Officer of Health. Halton has an Adverse Water Quality Incidents Procedure in place that summarizes internal and external reporting requirements as well as ensuring that the appropriate corrective actions are implemented. A summary of notifications in 2023 for each system is provided in this report.

4.2 Flow Data

While water quality is of utmost priority, attention is also directed to flow measurement and data management. In Halton Region, continuous monitoring equipment is used for measuring flow, including the rate and volume of taking. The flow measuring devices are connected to the Supervisory Control and Data Acquisition (SCADA) system for monitoring, alarming and data storage. In addition, the devices are verified in accordance with the manufacturer's specifications, or at least once every year, to help ensure data reliability. The MECP is notified if the flow or volume exceeds a system approval or if there is a problem with any flow monitoring device.

This annual flow report is prepared through the retrieval of archived SCADA data and logbook entries. The archived data is then analyzed and used to compile a summary report. The raw water flows are compared to the Permits to Take Water (allowable volume of water to be taken). The treated water volumes are the amounts of water sent into the water distribution systems. These volumes are compared to the plant-rated capacities in each Municipal Drinking Water License. The reporting of treated water flows is required by the MECP "for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system" (O. Reg. 170/03, Schedule 22 (22-2(3)1)).

Halton Region's water systems produced just over 64,943 ML of drinking water in 2023. On average, Halton produced 178ML of treated water per day in 2023, which is the approximate volume of water that flows over Niagara Falls every minute daily.

5 Burlington Water Treatment Plant

5.1 Water System Description

The Burlington Water Treatment Plant (WTP) is located at 3249 Lakeshore Road in Burlington. The facility is a conventional filtration treatment plant with a process that consists of the sand ballasted clarification process (microsand-enhanced clarification), filtration, fluoridation, optional pH adjustment, ozonation (disinfection and taste and odour control) and chlorination (secondary disinfection). Seasonally, the water is chlorinated at the intake for zebra mussel control. The plant is controlled through a computerized SCADA system that is monitored 24 hours per day, seven days a week. The treated drinking water is pumped into the South Halton Water Distribution System.

Table 5-1 Burlington WTP General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-104 (South Halton) 004-204
Drinking Water System Number	220001664
Classification	
Class Certificate Number	Treatment Class 4 561
Service Population	n/a – see South Halton Distribution System
Permit to Take Water	
Number Expiry Date Water Taking Permitted	P-300-6148187785 November 12, 2031 291,000 m^3/d or 202,083 L/min. (equivalent)
Rated Capacity	263,000 m^3/d

5.2 2023 Flow Summary

A summary of the flows in 2023 is provided in the following table (5-2). At the Burlington WTP, some water is used in the chemical feed systems and for backwashing filters; thus, the raw water flow may be greater than the treated water flow. The treatment plants are designed to handle peak hour flows and, as such, a comparison of maximum and average daily volumes to permitted levels is not always the most accurate representation of available capacity. The data presented in Table 5-3 complies with the reporting requirements of the regulation (O. Reg.170/03, Schedule 22).

Table 5-2 Burlington WTP Flow Summary 2023

Month	Raw Water Flow m^3/d		Treated Water Flow m^3/d	
	Maximum Day	Average Day	Maximum Day	Average Day
January	70,354	63,963	64,972	58,575
February	82,926	65,121	77,202	60,799
March	69,192	62,699	63,833	58,522
April	99,915	67,368	95,207	63,459
May	136,631	88,196	125,618	82,818
June	143,341	104,482	133,128	96,727
July	107,839	93,321	100,802	86,578
August	101,369	91,941	95,720	85,828
September	110,546	96,890	101,960	88,355
October	113,973	82,737	101,346	74,467
November	102,295	72,760	91,700	65,328
December	77,501	71,756	68,121	63,793
Annual Average Day		**80,103**		**73,771**

Note: The shaded blocks denote the annual maximum daily flows for 2023.

Table 5-3 Burlington WTP Flow Comparison to MDWL and PTTW

Burlington WTP	Raw Water		Treated Water	
	Maximum Day	Average Day	Maximum Day	Average Day
% PTTW	49%	28%		
% Rated Capacity			51%	28%

5.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and the Medical Officer of Health. In 2023, there were no adverse test results/incidents at the Burlington WTP.

Burlington WTP

6 Oakville Water Treatment Plant

6.1 Water System Description

The Oakville Water Treatment Plant (WTP) is located at 21 Kerr Street in Oakville. This facility is a conventional filtration treatment plant with a process that consists of the sand ballasted clarification process (microsand-enhanced clarification), filtration, fluoridation, ozonation (disinfection and taste and odour control) and chlorination (disinfection).

Seasonally, the water is chlorinated at the intake for zebra mussel control. The plant is controlled through a computerized SCADA system that is monitored 24 hours per day, seven days a week. The treated drinking water is pumped into the South Halton Water Distribution System.

Table 6-1 Oakville WTP General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-104 (South Halton) 004-204
Drinking Water System Number	220001637
Classification	
Class Certificate Number	Treatment Class 4 557
Service Population	n/a - see South Halton Distribution System
Permit to Take Water	
Number Expiry Date Water Taking Permitted	3760-AZ8PKN July 31, 2028 155,000 m^3/d or 107,639 L/min (equivalent)
Rated Capacity	109,000 m^3/d

6.2 2023 Flow Summary

A summary of the flows in 2023 is provided in the following table (6-2). At the Oakville WTP, some water is used in the chemical feed systems and for backwashing filters. Thus, the raw water flow is greater than the treated water flow. The treatment plants are designed to handle peak hour flows and, as such, a comparison of maximum and average daily volumes to permitted levels is not always the most accurate representation of available capacity. The data presented in Table 6-3 complies with the reporting requirements of the regulation (O. Reg.170/03, Schedule 22).

Table 6-2 Oakville WTP Flow Summary 2023

Month	Raw Water Flow m^3/d[1]		Treated Water Flow m^3/d	
	Maximum Day	Average Day	Maximum Day	Average Day
January	92,896	45,542	46,709	43,567
February	93,074	44,921	45,336	41,589
March	70,668	50,616	61,021	43,493
April	102,705	41,824	51,530	40,208
May	97,786	48,737	57,693	44,850
June	81,357	64,526	72,195	58,493
July	71,900	58,965	61,495	53,165
August	96,865	55,348	60,781	49,121
September	113,292	52,170	72,768	51,241
October	79,221	46,505	55,499	43,086
November	67,960	34,389	48,230	32,615
December	96,357	45,832	51,451	43,446
Annual Average Day		**49,115**		**45,406**

Note: The shaded blocks denote the annual maximum daily flows for 2023.

[1] During the course of a year the maximum raw flow may exceed the maximum treated flow due to facility shutdown and maintenance.

Table 6-3 Oakville WTP Flow Comparison to MDWL and PTTW

Oakville WTP	Raw Water		Treated Water	
	Maximum Day	Average Day	Maximum Day	Average Day
% PTTW	73%	32%		
% Rated Capacity			68%	42%

6.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and Medical Officer of Health. In 2023, there were 2 adverse test results/incidents at the Oakville WTP as summarized in Table 6-4.

Oakville WTP

Table 6-4 Adverse Test Results and Actions - Oakville WTP

Date	Location	Adverse Condition	Corrective Action	Notice of Issue Resolution
January 16, 2023	Treated	Sodium = 22.2 mg/L Duplicate Sodium = 22.4 mg/L (Reportable every 57 months)	Resamples collected, results within acceptable limits	January 18, 2023
April 10, 2023	Treated	Turbidity = 1.03 NTU Duplicate Turbidity = 1.01 NTU	Resampled, results within acceptable limits	April 11, 2023

7 Burloak Water Treatment Plant

7.1 Water System Description

The Burloak Water Treatment Plant (WTP) is located at 3380 Rebecca Street, Oakville. This facility is a membrane filtration plant with a process that consists of flocculation, ultra-filtration (via membranes), optional ultra-violet irradiation, ozonation (disinfection and taste and odour control), fluoridation and chlorination (disinfection). Seasonally, the raw water intake is chlorinated for zebra mussel control. The plant is controlled through a computerized SCADA system that is monitored 24 hours per day, seven days per week. The treated drinking water is pumped into the South Halton Water Distribution System.

Table 7-1 Burloak WTP General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-104 (South Halton) 004-204
Drinking Water System Number	260085436
Classification	
Class Certificate Number	Treatment Class 4 5224
Service Population	n/a - see South Halton Distribution System
Permit to Take Water	
Number Expiry Date Water Taking Permitted	7500-A4ZM5N December 31, 2025 64,000 m^3/d or 88,889 L/min
Rated Capacity	55,000 m^3/d

7.2 2023 Flow Summary

A summary of the flows in 2023 is provided in the following table (7-2). At the Burloak WTP, some water is used in the chemical feed systems and for backwashing filters and subsequently, the raw water flow is greater than the treated water flow. The treatment plants are designed to handle peak hour flows and, as such, a comparison of maximum and average daily volumes to permitted levels is not always the most accurate representation of available capacity. The data presented in Table 7-3 complies with the reporting requirements of the regulation (O. Reg.170/03, Schedule 22).

Table 7-2 Burloak WTP Flow Summary 2023

Month	Raw Water Flow m^3/d		Treated Water Flow m^3/d	
	Maximum Day	Average Day	Maximum Day	Average Day
January	41,926	37,610	37,383	33,132
February	50,739	38,453	45,552	34,004
March	41,728	37,647	36,834	33,081
April	51,736	39,511	46,704	34,709
May	56,501	43,247	52,608	38,527
June	54,223	39,656	49,202	35,994
July	53,049	42,475	49,295	38,347
August	46,760	38,869	42,391	35,097
September	52,948	40,889	48,092	37,265
October	56,146	40,423	51,137	36,201
November	51,390	40,830	46,514	36,442
December	41,121	33,756	36,567	29,603
Annual Average Day		**39,447**		**35,200**

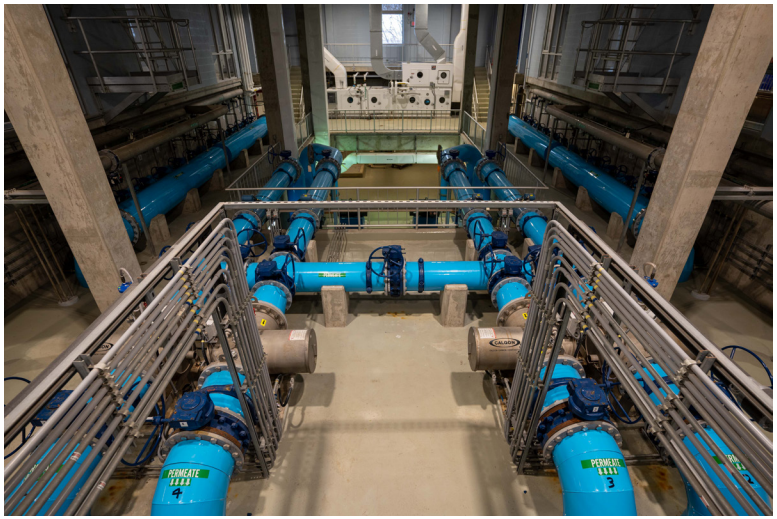
Note: The shaded blocks denote the annual maximum daily flows for 2023.

Table 7-3 Burloak WTP Flow Comparison to MDWL and PTTW

Burloak WTP	Raw Water		Treated Water	
	Maximum Day	Average Day	Maximum Day	Average Day
% PTTW	88%	62%		
% Rated Capacity			95%	64%

7.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and Medical Officer of Health. In 2023, there were no adverse test results/incidents at the Burloak WTP.



Burloak WTP

8 South Halton Distribution Subsystem

8.1 Water System Description

The South Halton Distribution Subsystem is supplied by the Burlington, Oakville and Burloak WTP's. The South Halton Distribution Subsystem serves Burlington, Oakville and parts of Milton and Halton Hills, and includes 16 reservoirs/storage tanks: Appleby Line, Ashgrove, Bailie, Beaufort, Tyandaga, Brant, Headon, Washburn, Waterdown, Kitchen, McCraney, Glenashton, Moore, Burnhamthorpe Tower, Third Line Reservoir and the Milton Tower. As the South Halton System is distribution only, it does not require a Permit to Take Water. Flows into the distribution system are reported under the three water treatment plants, which provided the treated water in 2023.

Table 8-1 South Halton Distribution Subsystem General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-104 (South Halton) 004-204
Drinking Water System Number	260085462
Classification	
Class Certificate Number	Distribution Class 4 5284
Service Population	539,176

8.2 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and the Medical Officer of Health. In 2023, there were 6 adverse test results/incidents in the South Halton Distribution Subsystem as summarized in Table 8-2.

Table 8-2 Adverse Test Results and Actions – South Halton Distribution System

Date	Location	Adverse Condition	Corrective Action	Notice of Issue Resolution
April 10, 2023	Distribution	Sodium = 20.4 mg/L/Duplicate = 20.3 mg/L Sodium = 26.8 mg/L Sodium = 21.7 mg/L (Reportable every 57 months)	Resamples collected and results within acceptable limits	April 11, 2023
July 13, 2023	Distribution	PA confirmed Total Coliform	Resamples collected and results within acceptable limits	July 15, 2023
July 24, 2023	Distribution	PA confirmed Total Coliform Duplicate also PA confirmed Total Coliform	Resamples collected, results within acceptable limits	July 26, 2023
July 25, 2023	Distribution	PA confirmed Total Coliform	Resamples collected, results within acceptable limits	July 27, 2023
August 1, 2023	Distribution	Watermain Failure	Repaired, disinfected and disinfection samples collected, results within acceptable limits	August 2, 2023
September 26, 2023	Distribution	PA confirmed Total Coliform	Resamples collected, results within acceptable limits	September 28, 2023

9 Milton Treatment and Distribution Subsystem

9.1 Water System Description

The Town of Milton is supplied with both groundwater and surface water. Treated surface (Lake Ontario) water from South Halton is pumped to the Steeles Avenue Water Tower. Under normal operating conditions, lake water and groundwater do not mix in Milton's distribution system.

The groundwater system consists of two well fields: Kelso and Walkers Line. There are four wells in the Kelso well field that pump raw water into the Kelso Water Treatment Plant. The treatment includes greensand filters for manganese removal and chlorination for disinfection. The water is pumped to the Milton Reservoir. From there, the water flows by gravity into the distribution system. The Walkers Line well field consists of one well with water being disinfected with chlorine and pumped to the Milton Surge Tank. The water flows by gravity from the surge tank to the distribution system. Fluoride is not added to the Milton groundwater system. The system is controlled through a computerized SCADA system that is monitored 24 hours per day, seven days a week.

Table 9-1 Milton Treatment and Distribution Subsystem General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-104 (South Halton) 004-204	
Drinking Water System Number	220001646	
Classification		
Class Certificate Number	Treatment Class 2 3643	Distribution Class 3 551
Service Population	17,441	
Permit to Take Water		
Number Expiry Date	87-P-3046 n/a	

Table 9-1 Continued

Water Taking Permitted Kelso	
Kelso Wells 3, 4, 5 and 6 combined Max.	13,635 m^3/d
combined for up to 5 days/year	22,730 m^3/d
combined for up to 10 days/year	20,457 m^3/d
combined for up to 30 days/year	18,184 m^3/d
combined for up to 60 days/year	15,911 m^3/d
Walkers Line	
Walkers Line Well 1	2,618 m^3/d or 1818 L/min (equivalent)
Walkers Line Well 2	2,946 m^3/d or 2046 L/min (equivalent)
Max. from Walkers Line 1 and 2	3,180 m^3/d
Emergency, combined	5,240 m^3/d for up to 10 days/year
Rated Capacity	
Kelso WTP	22,670 m^3/d
Walkers Line	5,240 m^3/d

9.2 2023 Flow Summary

A summary of the flows in 2023 is provided in the following table (9-2). At the Walkers Line site, the treated water flow is the same as the raw water flow. At the Kelso WTP, some water is used for backwashing filters and subsequently the raw water flow is greater than the treated water flow. However, due to rounding of flow data, the average treated water may be slightly higher than the average raw water taking in some reporting years. The treatment plants are designed to handle peak hour flows and, as such, a comparison of maximum and average daily volumes to permitted levels is not always the most accurate representation of available capacity. The data presented in Tables 9-3 and 9-4 complies with the reporting requirements of the regulation (O. Reg. 170/03, Schedule 22).

Table 9-2 Milton Treatment and Distribution Subsystem Summary 2023

Month	Milton Total Treated Flow m^3/d		Walkers Line m^3/d		Kelso Raw Water m^3/d		Kelso Treated m^3/d	
	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day
January	7,420	6,080	703	642	7,200	5,313	6,826	5,438
February	7,196	6,137	687	642	6,782	5,306	6,566	5,494
March	6,866	5,874	685	639	6,370	5,046	6,225	5,235
April	10,492	5,891	665	499	8,262	5,416	9,852	5,391
May	9,167	5,791	535	493	10,413	6,465	8,636	5,298
June	9,131	6,478	576	517	11,234	7,459	8,633	5,961
July	6,796	6,158	585	511	7,932	6,643	6,260	5,648
August	7,643	6,186	533	464	7,977	6,433	7,175	5,722
September	10,381	7,130	671	604	10,465	6,631	9,764	6,526
October	11,671	6,427	735	586	11,693	6,112	11,028	5,841
November	6,775	6,005	527	486	6,440	5,626	6,329	5,519
December	8,089	5,796	519	424	7,063	5,167	7,583	5,372
Annual Average Day		**6,163**		**542**		**5,968**		**5,620**

Note: The shaded blocks denote the annual maximum daily flows for 2023.

The following tables (9-3 and 9-4) show the maximum day and average day raw water volumes for 2023 in comparison to the permitted water taking (PTTW) and the rated capacity in the MDWL.

Table 9-3 Kelso WTP Flow Comparison to MDWL and PTTW

Kelso WTP	Raw Water		Treated Water	
	Maximum Day	Average Day	Maximum Day	Average Day
% PTTW	86%	44%		
% Rated Capacity			49%	25%

Table 9-4 Walkers Line Flow Comparison to MDWL and PTTW

Walkers Line Well	Maximum Day Flow	Average Day Flow
% PTTW	23%	17%
% Rated Capacity	17%	10%

In 2023, the maximum flows taken and pumped into the treatment systems were not greater than the values specified in the MDWL and the PTTW.

9.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and the Medical Officer of Health. In 2023, there were no adverse test results/incidents in the Milton Treatment and Distribution Subsystem.

10 Georgetown Drinking Water System

10.1 Water System Description

The Georgetown Drinking Water System draws groundwater from three well fields. There are four wells in the Cedarvale well field, three wells in the Princess Anne well field and two wells in the Lindsay Court well field.

The Georgetown WTP treats water from the four Cedarvale Wells with greensand filtration, ultraviolet light for primary disinfection, fluoridation, and chlorination for secondary disinfection. Water from the Princess Anne and Lindsay Court Wells receive treatment at the well sites with chlorination for disinfection and fluoridation. Together, these three sources pump water into the distribution system that includes 22 Side Road Reservoir, Moore Park Booster Station, Todd Road Tower and the Norval Standpipe under a water distribution Class III Certificate (# 566).

The Georgetown system is controlled through a computerized SCADA system that is monitored 24 hours per day, seven days a week.

Table 10-1 Georgetown Drinking Water System General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-101 004-201	
Drinking Water System Number	220001655	
Classification		
Class	Treatment Class 2	Distribution Class 3
Certificate Number	564	566
Service Population	46,959	
Permit to Take Water		
Number	0736-CBMSHT	
Expiry Date	February 14 , 2027	

Table 10-1 Continued

Water Taking Permitted Cedarvale Well 1A	
Cedarvale Well 1A	2,618 m^3/d
Cedarvale Well 3A	3,931 m^3/d
Cedarvale Well 4	7,854 m^3/d
Cedarvale Well 4A	5,890 m^3/d
Maximum Daily (Cedarvale Well Field)	12,500 m3/d
Annual Avg. Daily (Cedarvale Wells)	6,972 m^3/d
Princess Anne Well 5	4,582 m^3/d
Princess Anne Well 6	13,090 m^3/d
Princess Anne Well 6B	13,090 m^3/d
Annual Average for all 3 PA Wells	6,800 m^3/d
Lindsay Court Well 9 and 9B (Combined)	6,545 m^3/d or 5210 L/min (max. rate)
Rated Capacity	
Georgetown WTP	13,046 m^3/d
Princess Anne Well 5	4,582 m^3/d
Princess Anne Well 6	13,080 m^3/d
Princess Anne Well 6B	13,080 m^3/d
Lindsay Court Well 9A and/9B	6,540 m^3/d

10.2 2023 Flow Summary

A summary of the flows in 2023 is provided in Table 10-2 on the following page. At the Princess Anne and Lindsay Court wells, the treated water flow is the same as the raw water flow. At the Georgetown WTP (Cedarvale wells), some water is used in the chemical feed systems and for backwashing filters. Thus, the raw water flow is greater than the treated water flow. The treatment plants are designed to handle peak hour flows and, as such, a comparison of maximum and average daily volumes to permitted levels is not always the most accurate representation of available capacity. The data presented in Tables 10-3 and 10-4 complies with the reporting requirements of the regulation (O. Reg. 170/03, Schedule 22).

Table 10-2 Georgetown Drinking Water System Flow Summary 2023[2]

Month	Georgetown System Total Treated Flow m^3/d (GWTP Treated, PA 5, PA 6, 6B, LC)		Princess Anne Wells 5,6 and 6B m^3/d		Princess Anne 5 m^3/d		Princess Anne 6 m^3/d		Princess Anne 6B m^3/d		Lindsay Court 9 and 9B m^3/d		Lindsay Court Well 9 m^3/d		Lindsay Court Well 9B m^3/d		Cedarvale Wells (Georgetown WTP) Total Raw Flow m^3/d		Georgetown WTP Treated m^3/d	
	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day
January	14,789	12,986	8,932	6,926	1,673	826	8,778	3,454	8,642	2,646	5,693	4,157	5,693	3,257	3,895	895	4,579	2,006	4,339	1,908
February	14,063	13,275	6,097	5,122	2,388	1,423	3,582	1,581	6,097	2,117	3,461	3,120	3,460	1,402	3,457	1,714	5,357	5,280	5,188	5,038
March	15,343	13,053	5,616	4,932	2,384	1,489	3,706	1,719	5,616	1,723	3,466	3,259	3,465	1,459	3,466	1,803	5,270	5,094	5,026	4,860
April	15,017	13,286	7,651	5,440	2,466	1,088	6,702	2,309	5,246	2,043	5,605	3,621	4,742	1,594	5,605	2,068	6,013	4,405	5,856	4,184
May	19,269	15,230	7,775	5,732	3,211	917	7,775	2,680	6,712	2,135	5,954	4,929	6,032	2,759	5,858	2,215	7,776	4,979	6,758	4,525
June	20,428	17,106	10,746	7,105	3,186	1,307	6,796	2,252	9,216	3,545	6,035	5,482	6,035	3,028	5,603	2,426	6,912	4,977	6,043	4,548
July	17,224	14,799	7,882	5,848	3,434	2,107	6,550	2,024	6,826	1,717	5,607	5,252	5,607	2,362	5,175	2,890	4,013	3,832	3,925	3,700
August	15,953	14,710	7,475	5,924	3,411	2,073	5,982	2,028	5,197	1,823	5,181	5,009	5,178	2,809	5,181	2,188	3,999	3,929	3,989	3,789
September	18,626	15,533	9,737	6,735	2,690	1,609	7,753	2,537	9,492	2,589	5,183	4,967	5,183	3,689	4,752	1,293	4,010	3,973	4,004	3,816
October	16,849	13,797	9,289	5,394	3,005	2,204	5,722	1,781	5,273	1,409	5,177	4,615	5,177	3,906	4,305	709	4,022	3,961	3,972	3,789
November	14,120	13,113	9,075	5,352	3,372	2,206	6,719	1,577	6,718	1,569	4,784	3,947	4,703	2,057	4,311	1,916	4,230	4,009	4,006	3,789
December	13,973	13,143	5,804	4,968	3,019	2,289	4,227	4,227	4,331	4,331	4,841	4,327	4,841	2,396	4,310	1,903	4,147	4,088	3,975	3,876
Annual Average Day		**14,169**		**5,790**		**1,628**		**2,347**		**2,304**		**4,390**		**2,560**		**1,835**		**4,211**		**3,985**

Note: The shaded blocks denote the annual maximum daily flows for 2023.

[2] The use of variable frequency drive pumps, such as those used at both Princess Anne and the Lindsay Court Wells, allow for accurate and consistent flow rates. It is not uncommon to have the same maximum flow rate for several days over the course of the year. Flow meters measure to one decimal place and when rounded, as is the case for the Annual Flow Report, may contribute to similar flow values on several days.

The following tables (10-3 and 10-4) compare the maximum day and average day volumes for 2023 to the permitted water taking (PTTW) and the rated capacity.

Table 10-3 Georgetown WTP Flow Comparison to MDWL and PTTW

Georgetown WTP	Raw Water		Treated Water	
	Maximum Day	Average Day	Maximum Day	Average Day
% PTTW	62%	44%		
% Rated Capacity			52%	31%

Table 10-4 Princess Anne and Lindsay Court Well Flow Comparison to MDWL and PTTW[3]

Facility	Maximum Day Flow	Average Day Flow
Princess Anne Well 5		
% PTTW	75%	85% (Wells 5, 6 and 6B combined)
% Rated Capacity	75%	36%
Princess Anne Well 6		
% PTTW	67%	85% (Wells 5, 6 and 6B combined)
% Rated Capacity	67%	18%
Princess Anne Well 6B		
% PTTW	73%	85% (Wells 5, 6 and 6B combined)
% Rated Capacity	73%	18%
Lindsay Court Well 9		
% PTTW	92% (Wells 9 and 9B combined)	39%
% Rated Capacity	92%	39%
Lindsay Court Well 9B		
% PTTW	92% (Wells 9 and 9B combined)	28%
% Rated Capacity	90%	28%

[3] The current Georgetown PTTW contains specific conditions for water taking at the Princess Anne and Lindsay Court Well Fields. There is a combined maximum day water taking limit on the Lindsay Court Wells and a maximum annual average daily taking limit placed on the Princess Anne Wells. This has been reflected in the general information for the Georgetown Drinking Water System and the flow comparison chart.

In 2023, the maximum flows taken and pumped into the treatment systems were not greater than the values specified in the PTTW and the MDWL.

10.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and the Medical Officer of Health. In 2023, there were no adverse test results/incidents in the Georgetown Drinking Water System.

11 Acton Drinking Water System

11.1 Water System Description

The Acton Drinking Water System draws water from three well fields. There are two wells in each of the Davidson well field, the Fourth Line well field and the Prospect Park well field. All of the wells use ultraviolet (UV) light for primary disinfection with chlorination for secondary disinfection. Fluoride is added to the water from all three sources. Both the Davidson and Fourth Line well fields use preliminary and final cartridge filters.

The Prospect Park facility is equipped with greensand filters for the removal of manganese and iron from the water. Treated water from the three sites is pumped to the Churchill Reservoir and the Acton water distribution system. The Acton system is controlled through a computerized SCADA system that is monitored 24 hours per day, seven days a week.

Table 11-1 Acton Drinking Water System General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-102 004-202	
Drinking Water System Number	220001673	
Classification		
Class	Treatment Class 2	Distribution Class 2
Certificate Number	3642	569
Service Population	12,426	

Table 11-1 Continued

Permit to Take Water	
Number	6520-CB7STU
Expiry Date	December 31, 2031.
Water Taking Permitted	
Prospect Park Well 1	3,400 m^3/d
Prospect Park Well 2	3,400 m^3/d
Prospect Park Well 1 and 2 (Combined)	3,400 m^3/d
Davidson Well 1	1,250 m^3/d
Davidson Well 2	1,250 m^3/d
Fourth Line Well A	1,309 m^3/d
Fourth Line Well B	1,309 m^3/d
Fourth Line Well A and B (Combined)	1,711 m^3/d
Rated Capacity	
Prospect Park WTP	3,400 m^3/d
Davidson Wells 1 and 2	2,500 m^3/d
Fourth Line Wells (Wells A and B combined)	1,711 m^3/d

11.2 2023 Flow Summary

A summary of the flows in 2023 is provided in Table 11-2 on the following page. At the Prospect Park WTP, filter backwash water is withdrawn from the distribution system following the treated water flow meter; therefore, the metered treated water is the same as the raw water flow, but the actual volumes available to the distribution system are less than those shown.

At the Davidson and Fourth Line wells, the raw water flow is the same as the treated water flow to the distribution system. The data presented in Table 11-3 complies with the reporting requirements of the regulation (O. Reg. 170/03, Schedule 22).

Table 11-2 Acton Drinking Water System 2023[4]

Month	Total Flow Acton m^3/d		Davidson Wells m^3/d		4th Line Well A m^3/d		4th Line Well B m^3/d[4]		4th Line Wells A and B m^3/d		Prospect Park WTP Raw Water m^3/d		Prospect Park WTP m^3/d	
	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day	Max. Day	Avg. Day
January	3,135	2,563	980	552	433	346	432	347	865	693	1,408	1,310	1,408	1,310
February	3,411	2,618	1,209	612	604	364	432	307	864	671	1,419	1,349	1,419	1,349
March	3,276	2,606	1,444	760	604	261	622	305	1,053	566	1,440	1,266	1,440	1,266
April	3,297	2,584	1,178	476	606	354	605	430	1,211	783	1,414	1,304	1,414	1,304
May	3,885	3,127	1,773	712	690	508	691	509	1,381	1,017	1,577	1,392	1,577	1,392
June	4,509	3,240	1,728	1,011	692	409	691	410	1,383	819	1,658	1,410	1,658	1,410
July	3,642	2,923	1,728	747	691	402	691	403	1,382	804	1,423	1,388	1,423	1,388
August	3,630	2,880	1,164	513	690	488	691	489	1,381	977	1,447	1,388	1,447	1,388
September	3,644	2,994	1,125	721	690	438	691	440	1,381	878	1,458	1,398	1,458	1,398
October	3,291	2,792	940	750	689	375	691	376	1,380	751	1,442	1,290	1,442	1,290
November	3,195	2,622	1,382	780	721	524	720	525	1,441	1,049	1,418	812	1,418	812
December	3,464	2,674	1,382	728	603	228	605	333	1,208	561	1,492	1,382	1,492	1,382
Annual Average Day		**2,802**		**697**		**391**		**406**		**798**		**1,308**		**1,308**

Note: The shaded blocks denote the annual maximum daily flows for 2023.

[4] The use of variable frequency drive pumps, such as those used at 4th Line Well B, allow for accurate and consistent flow rates. It is not uncommon to have the same maximum flow rate for several days over the course of the year. Flow meters measure to one decimal place and when rounded, as is the case for the Annual Flow Report, may contribute to similar flow values on several days.

Table 11-3 compares the maximum day and average day volumes for 2023 to the permitted water taking (PTTW) and the rated capacity.

Table 11-3 Acton Drinking Water System Flow Comparison to MDWL and PTTW[5]

Facility	Maximum Day Volume	Average Day Volume
Davidson Wells		
% PTTW	71%	28%
% Rated Capacity	71%	28%
Fourth Line Well A		
% PTTW	84% (Wells A and B combined)	30%
% Rated Capacity	84% (Wells A and B combined)	23%
Fourth Line Well B		
% PTTW	84% (Wells A and B combined)	31%
% Rated Capacity	84% (Wells A and B combined)	24%
Prospect Park		
% PTTW	49% (Wells 1 and 2 combined)	38%
% Rated Capacity	49% (Wells 1 and 2 combined)	38%

[5] The current Acton PTTW contains specific conditions for the Prospect Park and Fourth Line Well Fields. In addition to the water taking limits on the individual wells, there is also combined maximum day water taking limits stated for these sites. This has been reflected in the general information for the Acton Drinking Water System and the flow comparison chart.

11.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and Medical Officer of Health. In 2023, there were no adverse test results/incidents in the Acton Drinking Water System.

12 Campbellville Drinking Water System

12.1 Water System Description

The Campbellville Drinking Water System, located in the Town of Milton, services a residential development of approximately 35 households in the village of Campbellville. The supply consists of two wells and the water is disinfected with ultraviolet (UV) light and chlorination. Four pressure tanks provide a small amount of treated water storage and maintain pressure in the distribution system. The Campbellville system is controlled through a computerized SCADA system that is monitored 24 hours per day, seven days a week.

Table 12-1 Campbellville Drinking Water System General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-103 004-203
Drinking Water System Number	220012162
Classification	
Class Certificate Number	Limited Groundwater System Distribution Class 1 #6504
Service Population	140
Permit to Take Water	
Number Expiry Date	P-300-8039181501 June 30, 2029
Water Taking Permitted Campbellville Well 1 Campbellville Well 2A Total from both wells	524 m^3/d 524 m^3/d 524 m^3/d 524 m3/d
Rated Capacity	524 m^3/d

12.2 2023 Flow Summary

A summary of the flows in 2023 is provided in Table 12-2. In the Campbellville system, the treated water flow is the same as the raw water flow. The treatment plants are designed to handle peak hour flows and, as such, a comparison of maximum and average daily volumes to permitted levels is not the most accurate representation of available capacity. The data presented in Table 12-3 complies with the reporting requirements of the regulation (O. Reg. 170/03, Schedule 22).

Table 12-2 Campbellville Drinking Water System Flows 2023

Month	**Campbellville Flow m^3/d**	
	Maximum Day	Average. Day
January	24	21
February	26	21
March	24	19
April	33	22
May	61	32
June	73	35
July	34	22
August	31	25
September	39	28
October	37	25
November	29	22
December	25	22
Annual Average Day		**25**

Note: The shaded blocks denote the annual maximum daily flows for 2023.

Table 12-3 Campbellville Flow Comparison to MDWL and PTTW

Campbellville Wells	Raw Water		Treated Water	
	Maximum Day	Average Day	Maximum Day	Average Day
% PTTW	14%	5%		
% Rated Capacity			14%	5%

12.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and Medical Officer of Health. In 2023, there were no adverse test results/incidents.

13 Bridgeview Distribution Subsystem

13.1 Water System Description

The Bridgeview Distribution Subsystem is located at the west end of the City of Burlington, but it is not connected to the South Halton Water Distribution Subsystem. Water is supplied by the City of Hamilton through an interconnection to Hamilton's distribution system on Plains Road. There are approximately 70 homes and businesses in the Bridgeview system.

The City of Hamilton uses chloramination (a combination of chlorine and ammonia) for secondary disinfection in its drinking water system, and so the water in the Bridgeview Distribution Subsystem has a combined chlorine residual rather than a free chlorine residual.

In November 2018, the City of Hamilton implemented a new Corrosion Control Program (CCP), approved by the MECP by utilizing low concentrations of orthophosphate. A letter outlining Hamilton's CCP was delivered to all affected Halton residents and select members of Council ahead of the implementation date.

Table 13-1 Bridgeview Distribution Subsystem General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-104 (South Halton) 004-204
Drinking Water System Number	260068419
Classification	
Class Certificate Number	Distribution Class 1 3821
Service Population	235

13.2 2023 Flow Summary

The water flows in 2023 based on customer meter readings were as follows:

Total annual water consumption: 12,568 m^3

Average day consumption: 34 m^3

Since there is no flow limitation in the MDWL for this distribution system, a comparison of flow data with approvals is not required.

13.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and Medical Officer of Health. In 2023, there were no adverse test results/incidents in the Bridgeview Distribution Subsystem.

14 Snake Road Distribution Subsystem

14.1 Water System Description

The Snake Road Distribution Subsystem is located at the north end of the City of Burlington, but it is not connected to the South Halton Water Distribution Subsystem. Water is supplied by the City of Hamilton through an inter-connection to Hamilton's distribution system on Snake Road. There are approximately 24 homes and businesses in the Snake Road system.

The City of Hamilton uses chloramination (a combination of chlorine and ammonia) for secondary disinfection in its drinking water system, and so the water in the Snake Road Distribution Subsystem has a combined chlorine residual rather than a free chlorine residual.

In November 2018, the City of Hamilton implemented a new Corrosion Control Program (CCP), approved by the MECP by utilizing low concentrations of orthophosphate. A letter outlining Hamilton's CCP was delivered to all affected Halton residents and select members of Council ahead of the implementation date.

Table 14-1 Snake Road Distribution Subsystem General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-104 (South Halton) 004-204
Drinking Water System Number	260086775
Classification	
Class Certificate Number	Distribution Class 1 5444
Service Population	270

14.2 2023 Flow Summary

The water flows in 2023 based on customer meter readings were as follows:

Total annual water consumption: 16,759 m^3
Average day consumption: 46 m^3

Since there is no flow limitation in the MDWL for this distribution system, a comparison of flow data with approvals is not required.

14.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and Medical Officer of Health. In 2023, there were no adverse test results/incidents in the Snake Road Distribution Subsystem.

15 North Aldershot Distribution Subsystem

15.1 Water System Description

The North Aldershot Distribution Subsystem is located in the north end of the City of Burlington. The system is connected to the South Halton Water Distribution Subsystem; however, the connections are normally closed, thus isolating the two subsystems. Water is supplied by the City of Hamilton through an inter-connection to Hamilton's distribution system on Waterdown Road. There are approximately 105 homes and businesses in the North Aldershot system.

In November 2018, the City of Hamilton implemented a new Corrosion Control Program (CCP), approved by the MECP by utilizing low concentrations of orthophosphate. A letter outlining Hamilton's CCP was delivered to all affected Halton residents and select members of Council ahead of the implementation date.

Table 15-1 North Aldershot Distribution Subsystem General Information

Municipal Drinking Water Licence Drinking Water Works Permit	004-104 (South Halton) 004-204
Drinking Water System Number	260086762
Classification	
Class Certificate Number	Distribution Class 1 5445
Service Population	633

15.2 2023 Flow Summary

The water flows in 2023 based on customer meter readings were as follows:

Total annual water consumption: 38,725 m^3
Average day consumption: 106 m^3

Since there is no flow limitation in the MDWL for this distribution system, a comparison of flow data with approvals is not required.

15.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, notifications of adverse water quality incidents are provided to the Spills Action Centre and Medical Officer of Health. In 2023, there were no adverse test results/incidents in the North Aldershot Distribution Subsystem.

16 Drinking Water System Inspections

During the 2023 MECP inspection cycle, nine drinking water system inspections were completed. Schedule 22-2(2) of O. Reg. 170/03 stipulates that any cases where the requirements of the SDWA were not met are to be listed in the Flow Summary Report along with the resulting corrective actions. There were no occurrences of regulatory non-compliance identified in the Halton Region Drinking Water System inspections.

17 Reliability Centered Maintenance

The "reliability centered maintenance" strategy implemented by the treatment division continues to decrease water treatment asset risks through a combination of criticality analysis, tactical lifecycle asset management, reliability engineering, and advanced work planning and control activities. These efforts have resulted in a downward trend in failures over the past four years and have allowed maintenance to redirect resources from reactive work to proactive activities, thereby further increasing asset reliability.

The importance of effective maintenance and reliability practices cannot be overstated when it comes to ensuring the safe and high-quality production of water in treatment plants. In Canada, strict regulations are in place to guarantee the safety and quality of the water produced. The Region of Halton, in particular, has emerged as a leader in this field of work, utilizing and expanding its maintenance and reliability functions to meet the rigorous requirements with great success.

In summary, the "reliability centered maintenance" strategy, combined with best practices in maintenance and reliability, enables Halton to meet strict regulations for water quality and safety, increase the reliability of assets, and ensure that residents and communities have access to safe and clean water, while also demonstrating a commitment to environmental sustainability.

2023 – Reliability Maintenance KPI's

% Complete of Scheduled (All Work Types)	% Proactive of Total Complete	% Planned of Total Complete	% Water Quality PM Complete of Scheduled
88%	97%	91%	100%

Work Order Count Completed (All Work Types)	Total Scheduled Backlog Count	Total Backlog	Breakdown count as a per centage of all work types
5246	53	476	2%

18 Conclusions

Halton provides residents and businesses with reliable access to clean, safe drinking water. To ensure the Region is meeting or bettering the requirements of the *Safe Drinking Water Act, 2002* and other regulatory instruments, the MECP inspects the Region's drinking water systems annually. To maintain and demonstrate compliance, the Region has a robust SCADA system, professionally trained staff and regular reporting mechanisms which all fall within the scope of these inspections. In 2023, no regulatory compliance issues related to water quality were identified. The Region continues to utilize the Partnership for Safe Water program as a framework for operations to continually improve and go beyond the regulatory requirements. The program tools include detailed optimization processes that are implemented by our expert water treatment professionals allowing Halton to efficiently provide high quality drinking water to the communities they proudly serve. The Region's commitment to high-quality drinking water and treatment was recognized and rewarded by the AWWA in 2020 when Halton became the first municipality in Canada to receive the coveted Director's Awards under the Partnership for Safe Water program.

The Water and Wastewater Treatment Division has built a "one team" culture in day-to-day operations, bringing together maintenance, engineering and operations staff to work as one. This approach aligns with the Partnership for Safe Water and optimization program capable plant concept. Teamwork within Halton has been the catalyst for providing clean, safe and reliable drinking water and excellent customer service to our residents and businesses and, with the partnership firmly implanted in our strategic vision, this will continue well into the future.

As required under O. Reg. 170/03, this report was prepared and presented to members of Municipal Council prior to March 31. Copies of the report are available on Halton's website at **halton.ca**.