



Town of The Blue Mountains

Water Section Operations Update May 1, 2024 to August 31, 2024

Introduction

Ensuring the safety and quality of the Town's drinking water system is not only the responsibility of the Water Operators who operate and maintain the system but also the Members of Municipal Council and Municipal Officials who exercise decision-making authority regarding the system.

The Safe Drinking Water Act, 2002 (SDWA) includes a statutory standard of care for individuals who have oversight responsibilities for municipal drinking water systems. The SDWA does not require Municipal Officials and Councillors to be experts in drinking water but does require officials to be informed.

The purpose of this report is to provide Council with a brief overview of the Town's drinking water system and to report on water quality issues for the period of May 1, 2024, to August 31, 2024.

This report will address the following:

- System Information
- Raw, Treated and Distribution Water Quality Data
- Staff Training
- Drinking Water Quality Management Standard Management Review
- Drinking Water Quality Management Standard Internal Audit
- Water Treatment Plant and Water Booster Station Maintenance Summary
- Distribution System Summary
- Summary of Plant Flows
- Watermain Break Summary
- Incidents of Adverse Water Quality
- Water Quality Concerns / Resident Complaints

System Information

Drinking Water System Number:	220001762
Drinking Water System Name:	The Blue Mountains Drinking Water System
Drinking Water System Owner:	Town of The Blue Mountains
Drinking Water System Category:	Large Municipal Residential
Water Treatment Subsystem Class:	Class 2 Certificate No. 1758
Water Distribution Subsystem Class:	Class 3 Certificate No. 1759
Municipal Drinking Water License:	111-101
Municipal Drinking Water Permit:	111-201

Raw, Treated and Distribution Water Quality Data

Ontario Regulation 170/03 specifies guidelines for the number of samples to be taken, the frequency of sampling and the actions to be taken if any of the sample results indicate adverse water quality.

Schedule 10 of Ontario Regulation 170/03 requires weekly sampling and testing for E. Coli, Total Coliform and Heterotrophic Plate Count (HPC).

Weekly samples are collected for raw and treated water from the WTP and analyzed by an accredited laboratory.

Overviews of the raw and treated sampling data for the period of May 1, 2024, to August 31, 2024 are presented in Tables 1 and 2 respectively.

Table 1 – Raw Water

Parameter	Result Range (Min-Max)	Parameter Limit
E. Coli	0 to 2	N/A
Total Coliform	0 to 49	N/A

Table 2 – Treated Water

Parameter	Result Range (Min-Max)	Parameter Limit
E. Coli	0	0
Total Coliform	0	0
HPC	0 to 1	N/A

Drinking water quality is further monitored throughout the distribution system by a comprehensive sampling and analysis program involving weekly sampling at designated sampling stations as well as reservoirs and booster stations.

An overview of the distribution sampling data for the period of May 1, 2024, to August 31, 2024 is presented in Table 3:

Table 3 – Distribution

Parameter	Number of Samples	Result Range (Min – Max)	Parameter Limit
E. Coli	176	0	0 cfu/100 mg/l
Total Coliform	176	0 to 3	0 cfu/100 mg/l
HPC	135	0 to 39	N/A

Staff Training

In accordance with Ontario Regulation 128/04, all water treatment and distribution Operators possess operating licenses appropriate to the class of the facility where they are employed. As the Town’s distribution system is a Class 3 subsystem, Operators are required to complete a minimum of 26 hours of on-the-job practical training and 14 hours of formal Continuing Education Units (CEU) training per year.

A summary of the courses attended from May 1, 2023, to August 31, 2023 by Operators is provided in Table 4:

Table 4 – Operator Training

Operator Name	Training Course Completed
Mike Boyd	<ul style="list-style-type: none"> Trenching Safety
Stephanie Cole	<ul style="list-style-type: none"> Mandatory Certificate Renewal (2024 – 2026) Chainsaw Training
Rob Gilchrist	<ul style="list-style-type: none"> Ontario Water For the Future Conference & Trade Show 2024
Jon Huber	<ul style="list-style-type: none"> Chainsaw Training
Dawson Thomson	<ul style="list-style-type: none"> Trenching Safety

Drinking Water Quality Management Standard Management Review

As part of the Municipal Drinking Water Licensing Program, the Town is required to establish a Drinking Water specific Quality Management System (QMS) based on the requirements set out in the Drinking Water Quality Management Standard (DWQMS).

The DWQMS requires the Town to have an Operational Plan detailing how the Town is complying with the PLAN, DO, CHECK, and IMPROVE components of the DWQMS. The Town’s

Operational Plan is comprised of 21 Elements. Element # 20, entitled “Management Review” outlines the requirements and processes involved in performing the Town’s QMS Management Review.

As Council has the overall responsibility and authority to ensure the Town meets all legislative and regulatory requirements and provides infrastructure and QMS resources, as required, it is imperative that this type of information is provided to Council for review.

Element # 20 of the Town’s Operational Plan requires that a Management Review of the Town’s QMS be conducted every calendar year. These reviews are to be used to evaluate the continuing suitability, adequacy, and effectiveness of the QMS.

On June 12, 2024, a Management Review was conducted with the Town’s Chief Administrative Officer, the Director of Operations, the Manager of Water & Wastewater Services, the Water Supervisor, and the Compliance & Efficiency Coordinator.

The action items arising from the 2024 Management Review Meeting are summarized below:

- Condominium Water Distribution Systems – Water Group to investigate how other municipalities are managing possible liability challenges for accessing infrastructure for maintenance and repairs. **Outstanding**
- Irrigation Registration System – Director of Operations to explore lawn irrigation system registration opportunity with Finance and IT Department **Outstanding**
- Record Drawings – CAO to follow-up with Development Engineering as to the status of outstanding Development Record Drawings **On-going**
- Water Financial Plan – Water Group to investigate the use of a Third Party to prepare the Financial Plan, including cost. **Complete**
- Watermain Breaks / Contractor Damage – Manager of Water & Wastewater Services to review with Capital Coordinators the inclusion of daylighting provision in future capitals tenders **On-going**
- Closed Session Report
- After Hours Support – Water Group to investigate internal and external after-hour support opportunities **On-going**

Drinking Water Quality Management Standard Internal Audit

Element # 19 of the DWQMS requires an internal audit be completed at least once every calendar year. An on-site internal audit of the Town’s DWQMS was completed by AET Group Inc. on June 24, 2024. The objective of the audit was to determine if the Town’s QMS conformed with the requirements of the DWQMS. The audit included document review and site visits to the Water Treatment Plant and Happy Valley Booster Station. Interviews were conducted with the Manager of Water and Wastewater Services, Water Supervisor, Compliance and Efficiency Coordinator and both a Senior Water Operator and a Water Operator.

The following aspects of the Quality Management System were noted as being well executed during the audit:

- Town of The Blue Mountains’ Information Technology staff members held an in-depth discussion with Operations staff surrounding cyber security during the risk assessment

- Staff displayed a good awareness of the relevance of their roles in supporting the QMS
- Weekly staff meetings were used effectively to discuss ongoing issues in the water systems including reference to relevant components of the QMS
- Good communication channels between staff at the Town of The Blue Mountains and the Town of Collingwood regarding water quality and capital planning
- Ensuring staff feedback is incorporated into capital planning through the infrastructure review and from daily operations staff meeting
- Town of The Blue Mountains has undertaken extensive infrastructure maintenance, rehabilitation and renewal programs to maintain their assets
- The Operating Authority's review of Best Management Practices by attending water conferences and speaking with other municipalities about emerging trends in the industry

The audit concluded with (1) one minor non-conformance and (1) one opportunity for improvement.

The non-conformance identified related to an expired calibration standard for the free chlorine test kit. The standard within the kit expired in February 2024. A replacement standard has since been received and is in use.

The opportunity for improvement suggested ensuring discussion of previous findings is included in the Internal Audit Report.

Staff have addressed the minor non-conformance and considered the opportunity for improvement.

Water Treatment Plant and Water Booster Station Maintenance Summary

The following provides a breakdown of the maintenance performed at the Water Treatment Plant and Distribution Facilities from May 1, 2024, to August 31, 2024.

Thornbury Water Treatment Plant

- Third Party Contractor completed maintenance on boilers
- Clean in Place (CIP) completed on all racks
- Third Party Contractor completed air quality testing
- Technical Safety Standards Association (TSSA) inspection on air tanks
- Troubleshooting high turbidity spikes on Rack # 2
- Town's IT Department replaced UPS
- Firewall replacement
- Third Party Contractor completed annual maintenance on Ultra Violet (UV) System
- Calibrated Rack 1 FCV 1001
- Firewall update
- Third Party Contractor replaced panel and side door
- Third Party Contractor completed annual backflow testing at WTP and Booster Stations
- UV # 3 Lamp failed and replaced
- Enhanced Flux Maintenance (EFM) completed

- Third Party Contractor completed annual inspection of raw water intake line
- Monthly Maintenance

10th Line Booster Station

- Third Party Contractor completed semi annual maintenance on generator
- Chlorine leak repaired on discharge line
- Third Party Electrical Contractor rewired Pump # 3 and placed back online
- Third Party Contractor completed roof replacement
- Monthly Maintenance

Thornbury Reservoir

- High lift Pump # 1 and # 3 tripped on overload faults
- New chlorine tanks installed
- Monthly Maintenance

Camperdown Reservoir

- Yard maintenance completed around hatches and vents
- Leak repaired on chlorine pump # 1 and # 3
- New chlorine check valves installed
- Annual flushing of upper zone completed
- Monthly Maintenance

Arrowhead Road Booster Station

- Data logger installed by Third Party Contractor
- Vent screens cleaned
- (2) Two check valves installed
- Monthly Maintenance

Happy Valley Booster Station

- Day tank cleaned, drained and chemical added
- New injector check valve installed
- Monthly Maintenance

Mountain Road Booster Station

- Chamber maintenance completed
- Monthly Maintenance

Swiss Meadows Standpipe

- Third party inspection completed

Distribution System Summary

The following table provides a breakdown of the Water Meter Field Service calls for May 1, 2024, to August 31, 2024:

Table 6 – Water Meter Field Services Summary

Nature of Call	Number of Calls
Replace Old Meters (jammed, remote errors)	40
Repair Meter Other (leaks, reversed, etc.)	12
Water Meter Inspections (re-inspections, renovations, new construction)	43
Billing Verification, Hand Deliveries, Datalogs (notices, bills)	44
Install/Repair Radio Units	6
Customer Meetings (usage, pressure, complaints, etc.)	8
Closing Readings	151
Water Turn On	12
Plumbing Inspections	3
Meetings with Contractors, Business Owners, Site Management (Backflow requirements, unauthorized connections, losses etc.)	10

The following table provides a breakdown of the Water Distribution Work Orders completed for May 1, 2024, to August 31, 2024.

Table 7 – Distribution Work Orders

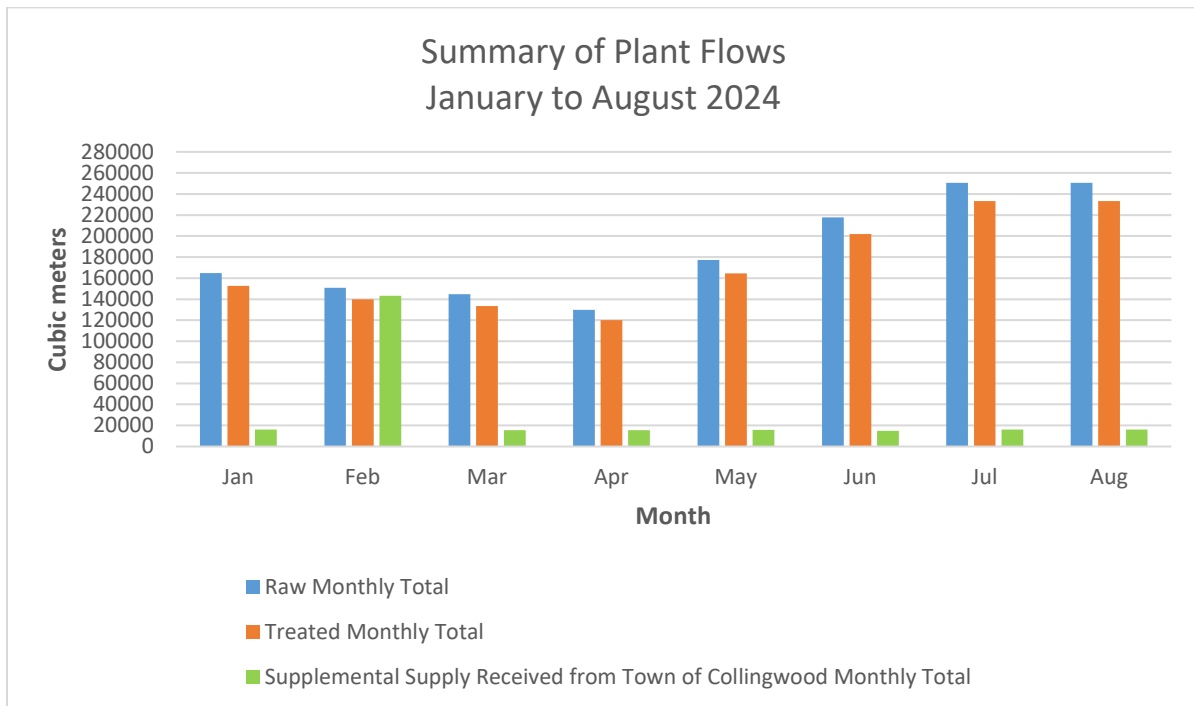
Work Order Description	Number Completed
Watermain Repair	2
Watermain Dig Site Clean up	6
Watermain / Service Connection Repairs	5

Work Order Description	Number Completed
Service Connection Curb Stop Repairs – Dig	3
Service Connection Curb Stop Repairs – Vacuum Unit	10
Valves operated (Curb Stop Valves, Main Valves and Hydrant Valves)	886
Valves Repaired	1
Valves Replaced / New	3
Dead End Flushing – Number of Hydrants Flushed	238
Automatic Flushing Repairs	1
Annual Flushing Program	695
Fire Hydrant Repairs from Inspections	33
GPS Unit – Marking Curb Stops	16
Water and Sewer locates completed	394
Watermain Commissioning / New Construction	4
Leak Detection	6 locations
Chamber Inspections	128
Chamber Repairs	2
Confined Space Entries	27

Summary of Plant Flows

A summary of the WTP Raw, Treated and supplemental flow supply received from the Town of Collingwood is presented in Graph 1:

Graph 1:



Watermain Break Summary

Watermain breaks are typically reported by the public, Town Staff or discovered during visual inspections by Operators. In most instances, watermain breaks are repaired by Operators and, at times, with the assistance of outside contractors or Staff from the Town’s Roads Department.

For the period of May 1, 2024, to August 31, 2024, there were no watermain breaks.

Incidents of Adverse Water Quality

This section describes all Adverse Water Quality Incidents (AWQI). This term refers to any treated water test result that does not meet a provincial water quality standard or a situation where disinfection of the Town’s drinking water may be compromised. A single AWQI does not necessarily mean that the system’s drinking water is unsafe – it indicates that, on at least one occasion, a water quality standard was not met.

The Town’s drinking water system is operated in accordance with Ontario Regulation 170/03 and Operators follow the direction of this regulation when dealing with incidents of adverse drinking water. There was (1) one incident of adverse water quality incidents for the period of May 1, 2024, to August 31, 2024.

On July 24, 2024, Operators received notification from our accredited laboratory that a drinking water sample collected on July 22, 2024 tested positive for (3) three Total Coliforms. The sample was taken from the Stone Zack area. Staff followed all required protocols as per Ontario Regulation 170/03 which included flushing and collecting (2) two sets of consecutive samples, twenty-four apart.

On July 29, 2024, both sets of resamples came back clear from the lab and Water Operators completed the Notice of Issue Resolution and submitted to the Grey Bruce Owen Sound Health Unit and the Spills Action Centre of the Ministry of the Environment, Conservation and Parks.

Water Quality Concerns / Resident Complaints

Staff record information relating to the water quality issues on the Resident Water Quality Concern Form. If required, Operators attend the location of concern to collect samples or assess the nature of the concern.

The ongoing analysis of the water quality data is useful in determining if the water quality is changing throughout the distribution system over time. As an example, taste and odor complaints may indicate that the watermain in an area is deteriorating.

A summary of the water quality concerns from residents received during the period of May 1, 2024, to August 31, 2024 is included in Table 8 below:

Table 8 – Water Quality Concerns

Water Quality Concern	Date(s)	Number of Occurrences	Resolution / Comment
Low Water Pressure	May 17, 2024	1	<ul style="list-style-type: none"> • Pressure checked and found within acceptable range
Pressure Fluctuations	May 14, 2024 August 30, 2024	2	<ul style="list-style-type: none"> • Internal PRV required adjustment • Internal plumbing
Taste	May 24, 2024	1	<ul style="list-style-type: none"> • Bacteriological sample collected and results returned within acceptable range. pH was within normal range.